EAA 20

BURGH CASTLE: EXCAVATIONS BY CHARLES GREEN, 1958-61.

East Anglian Archaeology 20

Norfolk Archaeological Unit, Norfolk Museums Service, 1983

EAST ANGLIAN ARCHAEOLOGY

Frontispiece: Charles Green c. 1965.

Burgh Castle, Excavations by Charles Green 1958-61

by Stephen Johnson

with contributions from
Carolyn Dallas,
Annie Grant,
Michael Hammerson
and Donald H. Harden

East Anglian Archaeology
Report No. 20, 1983

Norfolk Archaeological Unit
Norfolk Museums Service

EAST ANGLIAN ARCHAEOLOGY
REPORT No. 20

Published by
The Norfolk Archaeological Unit
Union House
Gressenhall
Dereham
Norfolk NR20 4DR

in conjunction with
The Scole Archaeological Committee Ltd.

Editor: Peter Wade-Martins

Scole Editorial Sub-Committee:
Alan Carter, Director, Norwich Survey
John Hedges, County Archaeologist, Essex Planning Department
Peter Wade-Martins, County Field Archaeologist, Norfolk Museums Service
Stanley West, County Archaeological Officer, Suffolk Planning Department

Typed by Joan Daniells
Printed by Witley Press, Hunstanton

ISSN 0307 2460

For details of *East Anglian Archaeology,* see last page

This volume is published with the aid of a grant from
the Department of the Environment

Cover Illustration Aerial view of fort from the east.
Photo: D.A. Edwards, Norfolk Archaeological Unit, 8 July 1976
(Ref. TG4704/AY/AFS16)

CONTENTS

BURGH CASTLE EXCAVATIONS BY CHARLES GREEN 1958-61

LIST OF PLATES

LIST OF FIGURES

LIST OF TABLES

CONTRIBUTORS

Carolyn Dallas, B.A., Dip.Arch.,
Research Officer, Norfolk Archaeological Unit

Annie Grant, M.A.,
Danebury Archaeological Trust, Institute of Archaeology, Oxford

Michael Hammerson,
Archaeologist, Southwark and Lambeth Archaeological Unit

Donald H. Harden, C.B.E., M.A., Ph.D., F.S.A.,
Formerly Director, The London Museum

Stephen Johnson, M.A., D.Phil., F.S.A.,
Inspector of Ancient Monuments, Department of the Environment

EDITORIAL

Between 1958 and 1961 the late Charles Green carried out excavations within the fort at Burgh Castle after plough damage became evident. However, he died in 1972 without producing a report.

In 1970 Stephen Johnson began a D.Phil. thesis on late Roman fortifications in the Western Empire and, anxious for information about the site, visited Green at his home in 1971 at Ormesby St.Margaret, where they spent an afternoon together discussing the excavations. The two men never met again before Green died. After Johnson joined the Inspectorate of Ancient Monuments in 1973 he offered to take on the task of writing the report, originally as a joint venture with Green's daughter, Barbara, who by then had become Keeper of Archaeology at Norwich Castle Museum. During 1975 and 1976 Johnson completed work on the Roman phases and then took over the preparation of the rest of the text from Barbara Green since it had become impossible to treat the different phases of the site separately. The whole report was in draft by 1980, minus the report on the skeletal material, due to be written by Calvin Wells, and unfinished at the time of his death in July 1978.

The excavation records, from which this report has been compiled, are by no means comprehensive. All elements - plans, section drawings, and site notebooks - display a considerable degree of interpretation and hypothesis. Some of the features illustrated on plans or sections were never described in the notebooks. There is no series of phased plans of any part of the site at various levels, and, while the notebooks describe the layers encountered in most of the trenches, the lack of sketch plans or diagrams makes the information hard to follow. Only when sections were drawn is there clear record of the relationships between different layers or of the depths of the deposits. One area where such information is particularly lacking is the cemetery; though graves clearly overlapped, and in some cases overlay each other, no record of the relative depths of the burials, nor even of the outlines of the graves survives. There are relatively few site photographs, and these cover only a small number of selected features.

In some parts of the fort where Green dug, he apparently did little more than take off topsoil; in the area of Building I for example (Fig.3), the excavations only reached any depth along some section lines. From this rather slender evidence, outlines of Romano-British and Middle Saxon structures were apparently extrapolated.

At the time, Green and Rainbird Clarke were aware of the work being carried out on various sites in Suffolk by Basil Brown who found Anglo-Saxon huts which he invariably considered to be circular or oval. Indeed, Clarke published one such plan of a hut at Grimston End, Pakenham in East Anglia (Clarke 1960, fig.33) from a version prepared by Stanley West from Brown's records. Knowing the excavations and the appalling conditions that Brown worked under, West had reservations about the plan even then. Subsequently his excavations at West Stow have shown that circular Anglo-Saxon huts would be most unlikely.

With the idea of circular Anglo-Saxon huts being current in East Anglia at the time, and possibly with the notion of Irish 'bee-hive' monastic cells in mind, it is hardly surprising that Green interpreted some rather indistinct features as foundations for oval structures. It is by no means certain that he would have maintained the same interpretation today. The nature and date of these 'Middle Saxon' structures remain unclear.

Although by present standards the excavation record is incomplete, it is, nevertheless, very important that what information we do have on the site is published to show the basis for the claims made at the time by Green. Many questions remain and they will only be answered one day by further excavation.

Finally, we must acknowledge the hard work, enthusiasm and scholarship which Green devoted to his studies of Burgh Castle, Caister-on-Sea, the origins of the Yarmouth sandspit and the Broads. His pioneering work did so much to increase our knowledge of this area.

Peter Wade-Martins
November, 1982

I. SUMMARY

Three seasons of excavation, between 1958 and 1961, directed by Charles Green and funded by the Ministry of Works, were undertaken because of a threat to the buried remains of Burgh Castle by continual ploughing. Two main areas - the north-east angle and the south-west portion (the site of a levelled motte) - were examined, but smaller soundings were carried out elsewhere, in particular in the north-west corner, the site of a postern gate on the north wall of the fort and in other sample areas within the fort.

The results of the excavations can be summarised as follows. For the Roman period, evidence was discovered to show that the north wall of the fort was removed and its foundations deepened as it approached the (now lost) north-west corner. Indications of the original site of the west wall of the fort at the top of the hill-slope, and of the positioning of the north-west corner bastion were gained. It seemed likely that the north-west corner bastion had toppled down the hill-slope to the marshland fairly soon after the abandonment of the fort. A postern gate just west of the main central bastion on the north wall was examined. It was a single passageway no more than 1.60 m wide; no trace of the arch survived, and only the lowest courses of the footings and foundation of the opening were traced.

Traces of two internal turrets abutting on to the fort wall were located, one in the curve of the north-east angle, the other on the south side of the fort. At the north-east corner, the evidence for the existence of a turret is less than comprehensive, and the claim that the presence of this turret is indicative of an earlier Roman design of fort converted to a later Roman style by the demolition of the internal turret and the addition of external bastions needs to be treated circumspectly. The turret against the south fort wall had been disturbed by later activity on the site, but had clearly been in use during the life of the fort. It may have formed part of a series of buildings which leant against the south wall.

The excavation produced firm results to show the length of the occupation of the fort during the Roman period. Two buildings with mortar floors and wattle-and-daub walls were diagnosed, one against the east wall of the fort near the north angle, the other freestanding but nearby. A large amount of pottery, coins and destruction debris came from layers above these buildings, particularly from the one next to the fort wall, the majority of it of a date within or around the second quarter of the fourth century. Only random sections were cut through the deposits in these areas. Against the south wall of the fort, there were indications, though nowhere near as strong, that a similar dating might be applied to the use and destruction of the buildings there.

Post-Roman activity was traced in most of the areas sampled. At the north-west corner, it was found that a large earthen bank was piled against the wall to secure the corner after the Roman bastion had fallen. This also blocked the postern gate. At the north-east angle, a fifth-century hoard of glassware found buried within an iron-bound bucket and a bronze bowl could not be associated with any late or post-Roman structures. In this area, however, the upper levels produced a considerable scatter of Middle Saxon wares, which may have been associated with a series of oval 'huts', the sleeper-beam trenches for which were located.

In the south-west portion of the fort interior was the main concentration of post-Roman activity. A cemetery of graves all aligned roughly east-to-west and without grave-goods was confirmed by three random radiocarbon tests to be of Middle Saxon date (seventh-to-tenth centuries). It was bounded to the south by a clay floor which

seemed to overlie the remains of Roman buildings next to the fort wall. Detailed analysis of the individuals in the cemetery has yet to be undertaken.

In the eleventh century, an earthen motte was raised over the site of this cemetery in the south-west corner of the site. Substructures for a timber tower were located and a wide ditch was dug to encircle the motte, breaking through the south wall of the fort in the process. The motte was levelled during the course of the nineteenth century and the ditch filled up, leaving this part of the site in a very disturbed state.

II. THE EXCAVATIONS: GENERAL INTRODUCTION

The parish of Burgh Castle lies in the north-west corner of Lothingland, a tongue of high ground formerly in north-east Suffolk (now in Norfolk) bounded on the east by the North Sea and on north and west by alluvial flatlands. Through these lands run the rivers Yare and Waveney which meet below Burgh Castle to enter the residual estuary called Breydon Water. At this point, the top of the Lothingland tongue (on which the site of Burgh Castle stands) is about 40 ft above the flats below. The basic subsoil is a boulder clay with intercalated sands, capped in places by glacial outwash sands and gravels. In the excavated area, the boulder clay is covered with sand to a depth of a few feet.

The principal feature of the site (O.S. Grid ref. TG 474 045) at present is the standing walling of the late Roman fort of Burgh Castle, commonly equated with the Gariannonum which is found in the list of commands belonging to the Count of the Saxon Shore according to the Notitia Dignitatum (Johnson 1978, 7). Three sides of the enclosure of Roman walls still stand almost to their original height. It has also been commonly supposed that the site of the Roman fort was that of the Cnobheresburg mentioned by Bede as having been given by Sighebert, King of the East Angles, to the Irish Saint Fursey for the foundation of his monastery in c. 630. Surer ground is provided by the Norman occupation of the site: according to Domesday, the site of 'Burgh' was, in 1066, the possession of a knight, Ralph Ballistarius. The three standing Roman walls were used to enclose the outer bailey of a castle, and a motte was thrown up in the south-west corner. Its plan was a rough oval, and although it was levelled in agricultural operations in 1837 to restore something like the original ground surface in this corner of the site, aerial photographs still reveal the dark scar of the motte ditch, which has also left a slight indentation in the ground in places.

The site is, thus, a potentially fruitful one for excavation and when the opportunity presented itself it was readily seized. With the permission of the owner, Mr.R.L.I. McLeod, excavation was undertaken at several sites within the walls of the Roman fort in three seasons in 1958, 1960, and 1961. Ploughing of the interior of the fort in 1957/58 had brought up painted wall plaster in the north-east corner of the fort and had also exposed human bones to the south-west of the enclosed area, near the site of the levelled Norman motte.

Of the three seasons of excavation, two took place largely in the northern third of the fort and one, that of 1960, concentrated on the area in the south-west corner. For the purpose of establishing a site grid, the area inside the fort was parcelled out into notional squares of 20 ft, those running east to west given the letters A to R (less I), and those from north to south given a Roman numeral I to XXXIV (on these published plans, and within the text of this report, these will be given arabic numerals 1 to 34 for convenience). It is, thus, possible, in a fashion similar to that used by the National Grid, to denote any 20 ft square within the fort by reference to its letters A1, A2, B1, B2, and so on. Much of the excavation was done by up to twenty labourers at a time, the only archaeological supervision and recording carried out by Charles Green and his wife.

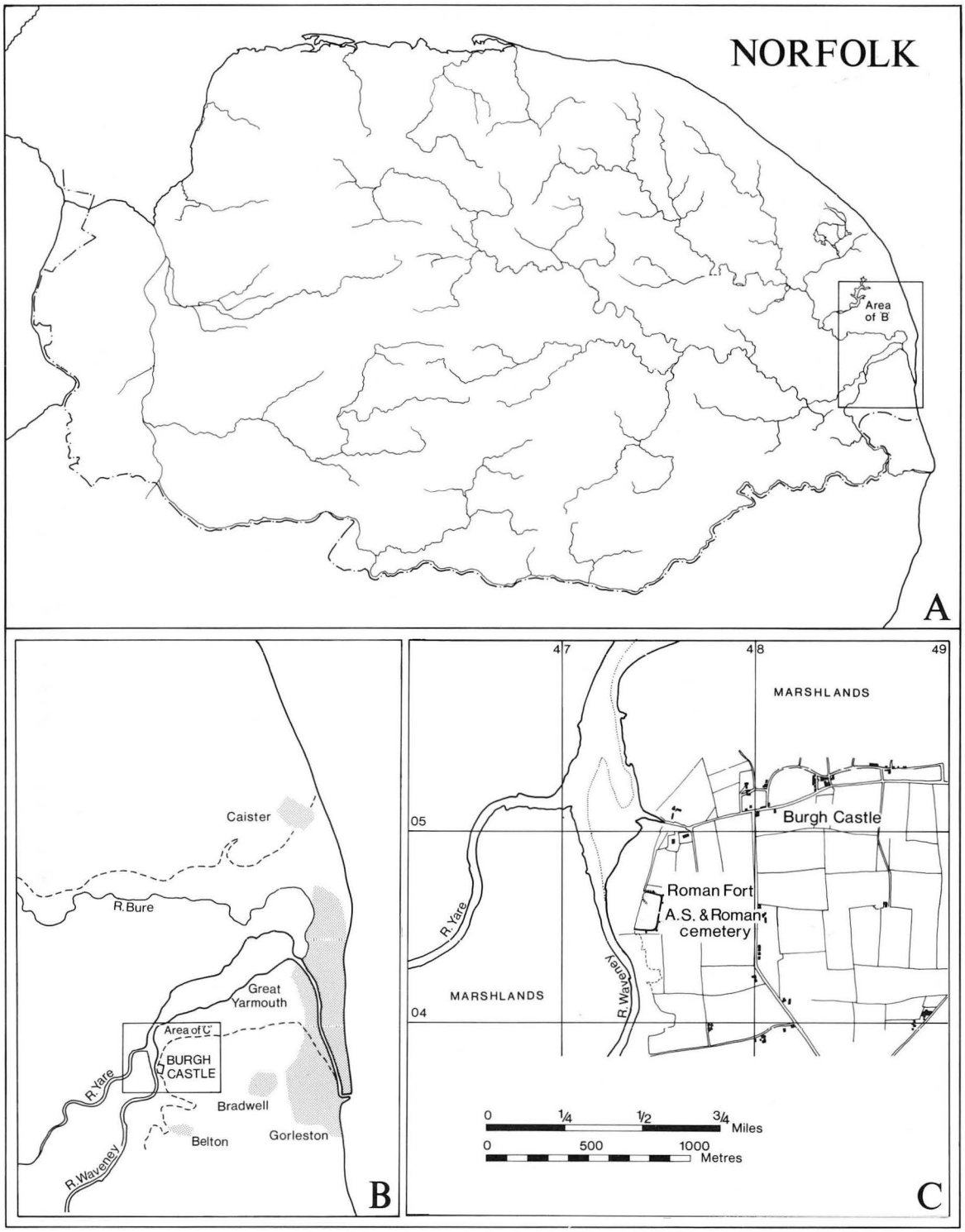


Fig.1. Burgh Castle - site location.

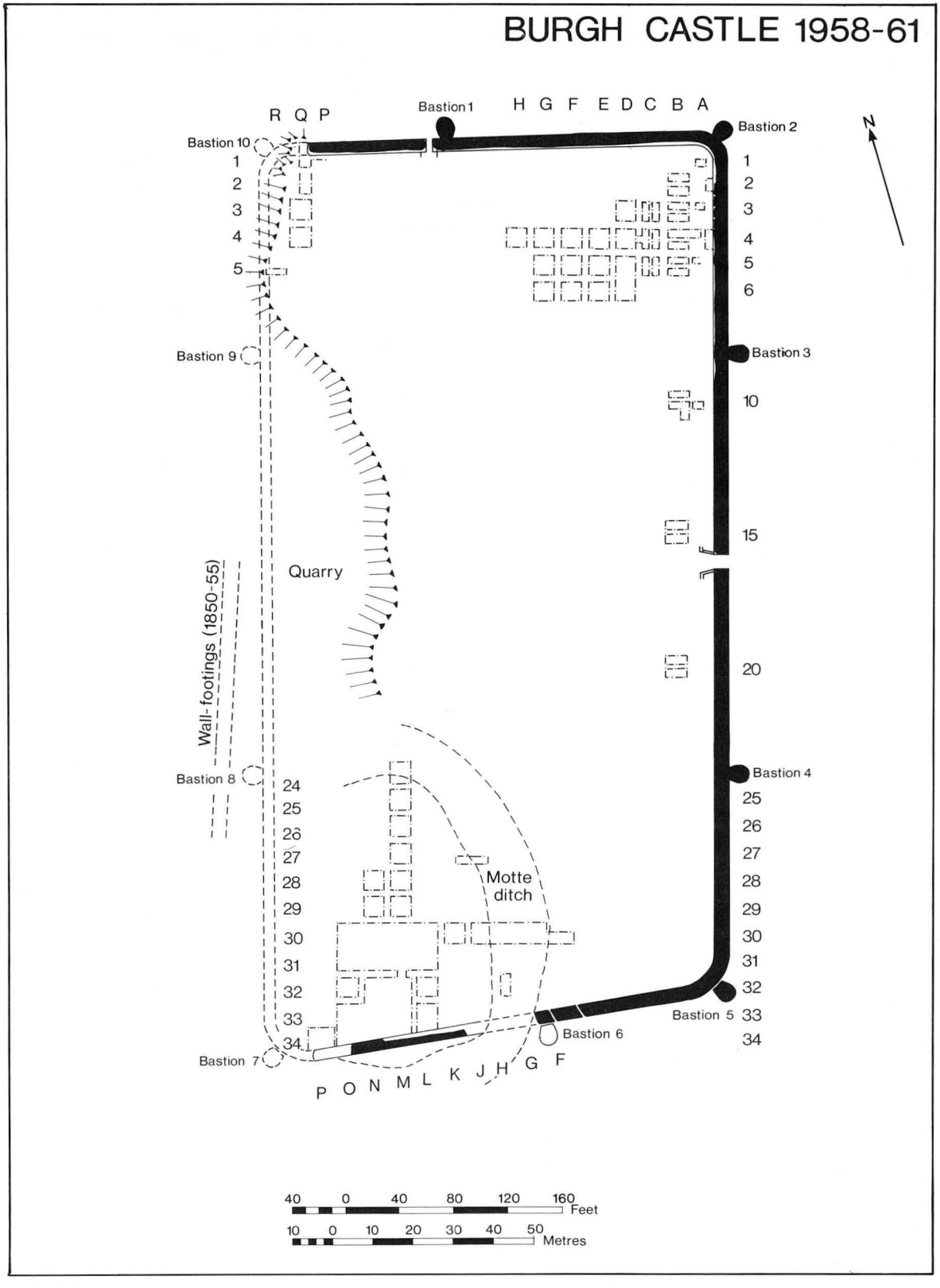


Fig.2. Areas excavated 1958-61. Scale 1:1, 500.

The Excavations: General Introduction

In 1958, excavations were carried out in squares A1, A3-5, B2-5 and C3-5, an area which incorporated the spot where painted plaster had been found (this was c. 85 ft inside the north wall and 20 ft inside the east wall). In addition, trial trenches were sunk at B10, B15 and B20. The base line for setting out the trenches was that between squares B and C, a notional line running parallel to the east wall of the fort and 55 ft from it. This line lay at 23° east of magnetic north. Pegging out the 20 ft squares began next to the fort wall along this datum line, the first 20 ft being square 1 and so on. In most of the grid squares so formed, a pair of trenches of dimensions 16 by 7 ft were opened: these were so sited as to leave a baulk of 2 ft between the excavated area and the grid lines all round, and a further 2 ft baulk between the pair of trenches. In grid row B, these trenches were aligned (in all cases 'grid') east to west, the northerly member of the pair was given the denomination B2a, the southerly one B2b. In grid row C, the trenches were aligned north to south: here the eastern member was called 'x', and the western one 'y'. Smaller trenches in row A were also employed.

The second season's work, in 1960, was devoted to the area of the Norman motte. There, while the same 20 ft grid system was used, a slightly different method of laying out trenches was employed. Instead of pairs of excavated trenches, each grid square (still 20 ft) contained only one square excavation of 17 ft, laid out with a baulk of 2 ft to the grid line on west and south, and only 1 ft on east and north, thus producing in a series of these trenches a number of 17 ft squares divided by baulks of 3 ft. The area covered by the 1960 layout included as the main area of concentration the wide area L-P 30-34, much of which was excavated as an 'area', with the baulks largely removed. There were also sections planned across the motte ditch along grid line M, and along line 30, but only the latter was completed. One or two other small trenches dug to confirm the position of the lip of the motte ditch (J27, H32) were also cut.

In the final season, 1961, work resumed in the north-east corner in an area largely west of that covered in 1958, using the 17 ft trench system from the previous season. Additional trenches were sunk at A2 and A4 to interleave with the earlier work; these lay against the fort wall. Otherwise the main concentration of work was in D3-6, E-G 4-6 and H4. The defences of the north-west corner were also examined (P1, Q1-4 and R5) and there was a small excavation also at L1, the site of a postern gate lying west of the central slumped bastion on the north wall.

The excavation record

Three notebooks and a number of plans and sections and photographs preserve the record of the excavation. The notebooks, the most valuable feature of what survives, are written in diary form, and each grid square has a page or a number of pages with a description of the action taking place within that area in a dated sequence. This description is seldom accompanied by a detailed plan and there are only rare sketch-plans to be found within the notebooks themselves. Nor is the description of the layers encountered often more than extremely sketchy: 'dark earth' or 'brick pack' is a common description, and the designation 'south' or 'north end' may give all the indication there is for when a particular layer was encountered. The finds, however, are dealt with in a little more detail and show that Charles Green and his wife had a keen eye for the unusual.

One final point must be made before beginning to disentangle the excavation report. The piece of wall plaster found in 1957-58 was believed by Charles Green to be 'mid-Saxon' in date. He fully believed, then, that when he stuck the spade into the ground he would discover the remains of St Fursey's Monastery. Often, therefore, within the notebooks of the excavation, certain layers were given no description other than 'Fursey', to signify, normally, what was probably a rich, dark occupation layer with Middle Saxon pottery. Whilst it has been the intention of the present writer to try to present the

discoveries at Burgh Castle in as historically colourless a fashion as possible, the analysis of such a subjective (but not necessarily incorrect) initial assessment has often made that task difficult.

It is, perhaps, too easy to be critical after the event: the writing-up of another excavator's material, however well documented, is by no means a simple task. There must have been observations, ideas and coincidences which were never recorded on paper and, thus, a compilation such as this can only be a poor substitute for Charles Green's own excavation report. There is a very real sense, too, of interloping upon his private preserves, for although the excavation notebooks record work funded by the then Ministry of Works, they are also documents which reveal the excavator's personal view of his site.

III. THE FORT WALLS [1]

Much of the original walling of the fort still stands. The land was bought in 1846 by Sir John P. Boileau to prevent its destruction by the former owner and in 1929 his descendant placed the walls, though not the enclosed land, in the guardianship of the Office of Works (now the Department of the Environment). Most of the north wall, the whole of the east wall and considerable portions of the south wall are still more or less erect. In addition, fragments of the south wall, now fallen out of position, lie on the slope of what was the Norman fosse. Nothing remains of the west wall.

Also still standing are a number of solid external bastions. They are: No.1 near the centre of the north wall, No.2 at the north-east angle, No.3 between No.2 and the east gate, No.4 between the east gate and the south-east angle where No.5 stands. No.6, which stood in situ until c.1770 (Ives 1774, 24), now lies on the slope of the ditch close by; the wall-fragment to which it was once attached was pulled out of the vertical and its upper part detached, presumably by the weight of the falling bastion. The bastion on the north wall has also torn away from the wall, the upper part of which lies in fragments at its feet, and stands tilted but held in position by the Norman mound.

In conjunction with the excavation, a very close survey of the walls was made. The exposure of the inner wall face down to the foundations at various points, together with careful plumbing of the external face where facing flints remain, has enabled their width at the wall base to be measured with accuracy and the amount of outward tilt in different sections to be calculated. A survey of the wall levels was also made by Mr J.N.Hutchinson [2]. The results of this survey have shown that none of the published descriptions of the walls is adequate [3].

The fort walls consist of a core of building rubble compacted with hard mortar and a facing of split, squared flints and tile - or brick courses. Much of the lower portions of the wall facing has been robbed away and portions of the topmost courses were until recently covered with ivy and other creepers, thus preserving their facing. The groups of flint and brick courses in the facing alternate, usually with the bricks in triple rows, and the flints in groups of four courses. There is one exception to this, at about a height of 8 ft (2.6 m) from ground level where there are five courses of split flints between groups of bricks. The bricks are of two types, by far the most common being the flat lateres, on average measuring 9½ in x 14 in (24 x 36 cm) and 2 in (5 cm) thick, and tegulae or roofing tiles, used both end on (so that one can see the side flanges in section) and with the flange side only exposed.

Examination of the wall in detail shows clearly the construction method. Normally one course's depth of the inner and outer facing of the fort wall was first bedded and rubble was stacked in the resulting 'trough'. This was then capped by a liquid mor-

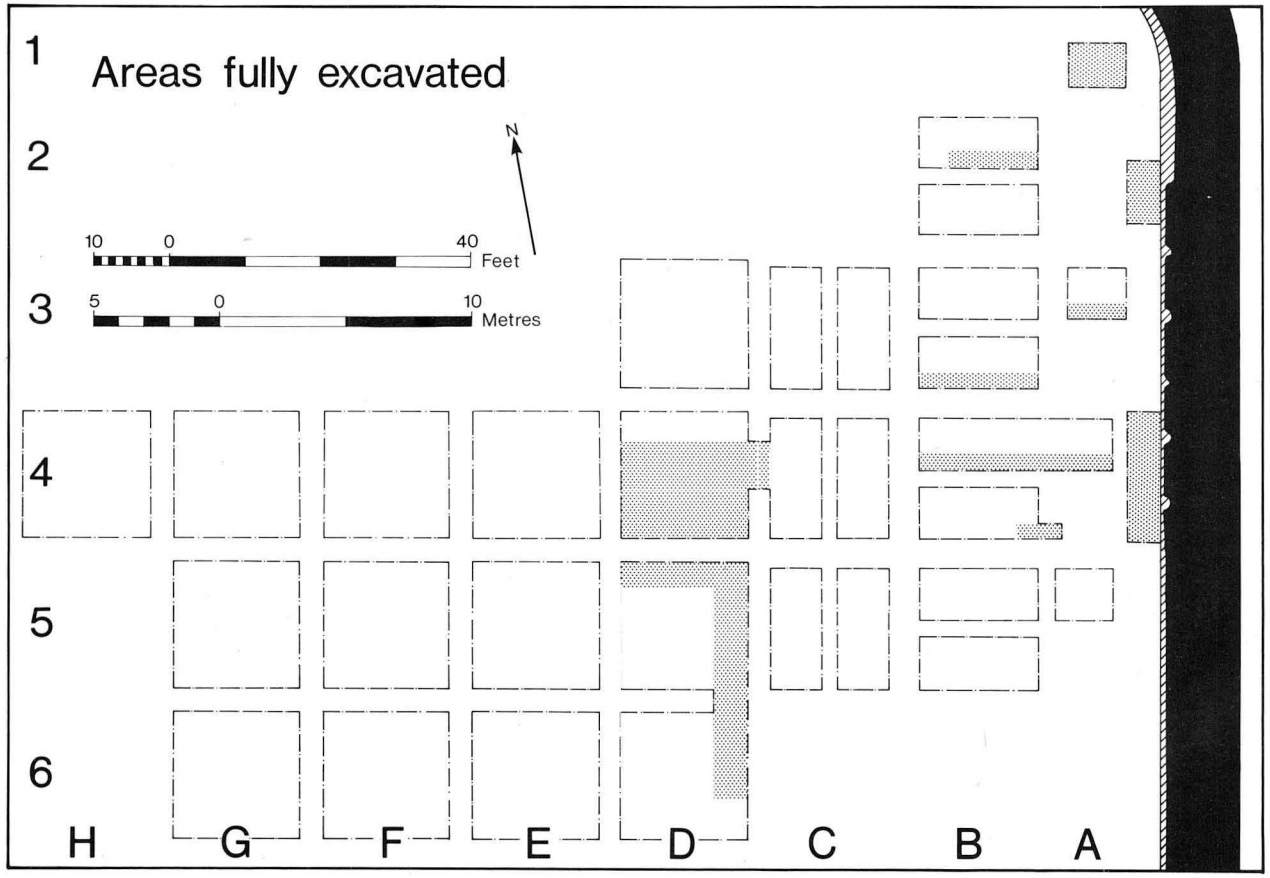


Fig.3. Excavations 1958 and 1961: areas completely excavated shown in tone. Scale 1:300.

tar mix which bound the whole structure together and formed the level platform on which the next course could be laid in the same fashion. In places along the walls it is possible to see clearly some horizontal layering of mortars of the interior core of the wall where the facing stones have come away. Because it was not always easy to match the colour of earlier mortars, these layers often show some slight colour variation. The brick courses, normally two bricks deep only, project further into the core of the wall than do the flints and are probably intended partly to aid the cohesion of the core and the facing and also serve as levelling courses.

The mortar of the wall core is of a sandy yellow colour, while the pointing mix applied to the outer surface of the walls is of a much pinker colour because of the addition of crushed tile. In many late Roman fortifications whose defences have survived, it is possible to make out the sections built by various building gangs by the (often very slight) lack of correspondence between courses at the points where different gangs' work meets. This is, however, not possible at Burgh Castle, partly because the facing stones have largely been removed from the lower areas (which often seems most diagnostic) and partly because the construction technique seems on the whole to be so homogeneous. A number of vertical cracks caused by creeper-roots within the walls have in the past been mistaken for building-section breaks, but this is not so: examination of the wall behind these cracks shows that the layered mortars of the wall core continue uninterrupted through them.

The wall has generally been described as about 11 ft (3.2 m) thick at the base, reduced by a series of internal offsets to about 5 ft (c. 1.5 m) thick at its top, which stands about 15 ft (4.57 m) above original ground level. It is generally agreed that this, apart from a protective parapet, was the original height. The presence of sockets in the smooth tops of the bastions, whether used to key ballistae in position or for some structural covering for the tower, confirms this. The internal stepping, it has generally been thought, has pointed to the presence of an internal rampart, though the existence of this has not been proved.

The wall foundations on the inner side were examined in several places, notably at the west end of the north wall, at the break in the north wall, in two places close to the north end of the east wall and along the whole of the detached piece of the south wall. This last exposure was continued westwards across an apparent gap to the point where a small fragment of the wall still shows above the surface; in the gap the footings were continuous throughout, though the masonry wall above has fallen away. Finally, tests were made on the west side near the north end where the internal area is today at its widest and the bordering scarp steepest. Three exposures showed significant differences in the wall thickness at its base and in its foundation structure.

To begin with the east wall, the width at the wall base is approximately 10 ft 6 in (3.2 m). As its present thickness, as exposed, varies with the rise or fall of the inner ground surface, this is probably the true thickness throughout its length. The curving angles, with an external radius of some 25 ft 3 in (7.7 m), are also probably of the same basal thickness. To the west of the central tilted bastion on the north wall, a postern gate 5 ft (1.52 m) wide was located, though the evidence for it lay wholly buried. In the middle of this opening the wall base was no more than 9 ft 5 in (2.87 m) thick. Furthermore, at this point a change in the internal base line was clearly visible and at the broken west end the wall base was only 7 ft 3 in (2.21 m) thick; the external face was straight throughout. The north wall, therefore, tapers slightly in its eastern part and then more sharply until it registers a thickness of only 7 ft (2.14 m) at its western angle. The curve of this probably began some 8 ft (2.44 m) beyond the recorded remains.

The south wall, though much damaged and less easy to examine, was also revealed to taper. From the south-east angle to the central bastion, it maintained its thickness

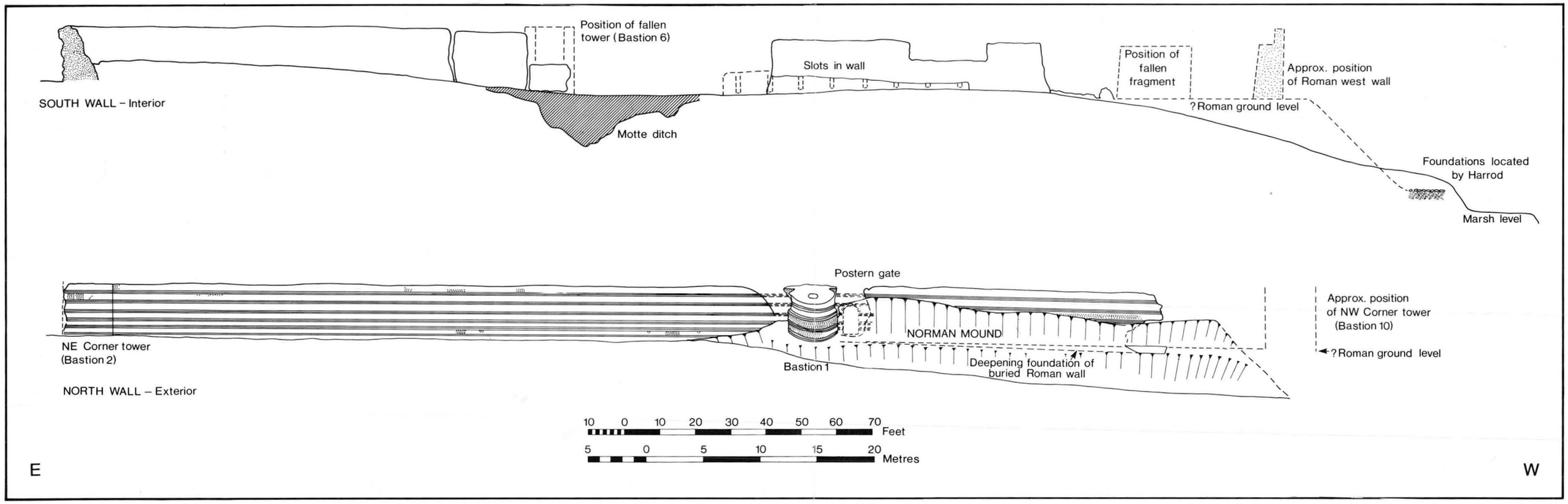


Fig.4. East-to-west profiles through the fort, drawn looking south. Scale 1:400.

and may even have been slightly thickened to nearly 11 ft (3.35 m). But west of this bastion and the gap caused by the construction of the Norman motte ditch, tapering began. At the east end of the large detached fragment the wall width at its base is c. 9 ft 3 in (2.82 m) and at its west end, 8 ft 3 in (2.52 m). If one continues this line to the inferred extreme end, it would produce a thickness of 7 ft (2.14 m) at the beginning of the angle-curve. This reduction in wall width was achieved by tapering the internal face only: the external face lay on a straight line. It is clear that both the north and south walls were deliberately lightened as they approached the original western scarp. The west wall, therefore, must have been no more than 7 ft (2.14 m) thick.

A section across the enclosure to the marsh level was recorded in 1960 on the line of the east-to-west section through the Norman fosse (Fig.4, top). This shows the position of the west wall in relation to the scarp and the foundations found by Harrod (Harrod 1856) on the west marsh edge and makes clear the need for a lightened structure on the slippery clay subsoil. The figure also shows the impossibility of Harrod's foundations being those of the west wall in situ, a conclusion fully confirmed by the fracture at the west end of the north wall (p. 43). This extensive fracture was made by the 150-ton bastion rolling down the scarp [4]. Moreover, the present position of this bastion, well beyond the modern path at the scarp-base, could not have been reached had it merely fallen over from the level of Harrod's low-lying foundations.

The fallen north-west bastion was encountered by Mr R.L.I.MacLeod while extending the north end of the path-side dyke in the winter of 1960-1; this extension had to be foregone because of the difficulty of breaking the obstacle. Lieut-Colonel Malcolm Castle probed this mass of flint-concrete and showed that it must be the missing bastion, virtually intact. It had rolled straight down the scarp in a westerly direction to its present resting place on the silt-covered hard bottom of the valley. It may also be expected that the south-west bastion and perhaps two or more intermediate ones are lying buried in the marsh pasture close to the path.

That the debris of the west wall is here is certain. In winter, when the reed growth is cleared and the water level not too high, a long line of wall flints may be seen in the dyke-side a little below the surface. Many more lie scattered on the pasture a little beyond the dyke; these were deposited in the winter of 1960-1 when this dyke was cleared and the dredgings dumped on the west side. With the flints were also brick fragments and some mortar rubble. Later in 1961, many lorry-loads of these flints were carted away, but many more were left. After this pasture was ploughed in 1963, the line of debris was exposed parallel with the dyke. The collapse probably occurred soon after the Roman evacuation and had certainly happened before the Norman occupation.

Near the north-west corner where the inner face of the north wall is most deeply covered, its exposure down to foundation level showed in profile (Fig.5) that there was a vertical outer face and internally a smooth face tapering slightly towards the top to give a thickness here of some 5 ft (1.5 m). But there was no evidence whatever of any offsets. The wall had certainly been faced with a smooth surface of squared flints which were somewhat less carefully graded in size than those of the outer face. The surface had originally been rendered with a thin skin of mortar. In other places where the lower face of the walls was exposed, though there were differences of detail, there were similar smooth faces, except where near the west end of the south wall there was evidence for an internal turret. Here the inner face of the wall is vertical, apparently for the width of the turret only.

Inspection of the present visible inner face of the wall makes it clear that this smooth face must originally have been present throughout. In all portions of the inner face are still to be seen remnants of brick courses, frequently no more than an inch or so deep in the mortar. More frequently, bricks are represented by a slight indentation

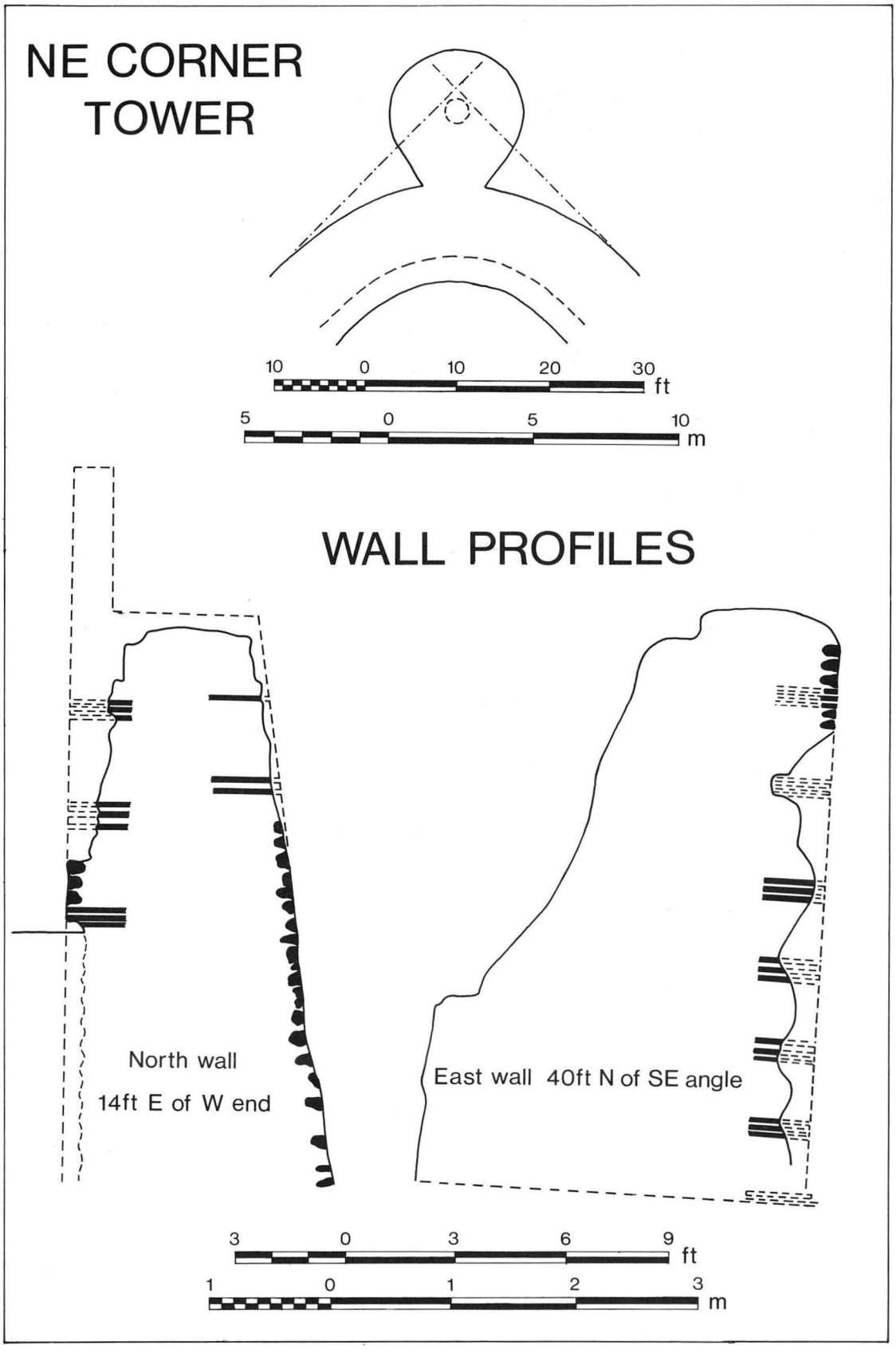


Fig.5. Plan of north-east corner tower and profiles through fort wall. Scale 1:50.

in the mortar, showing their former bedding line. If these bricks had been the normal size of those more fully recorded, e.g. in the postern where they were some 20 in (0.5 m) wide, their outer edges would have been in line with this inferred sloping interior face. It is likely, therefore, that the inner wall face, now robbed, was not built with rough steps but had a smooth face, presumably rendered throughout. This makes the presence of a permanent inner earthen rampart most unlikely.

What is more, as will be described below, both the north end of the east wall and the south wall have been shown to have had buildings leaning against them, which would have made such a rampart an impossibility here. Further confirmation was found at the west end of the north wall where the present internal deposits are deepest, for all these were seen to be of later date. All the evidence, therefore, points to the absence of any internal bank. The foundations seen by Harrod on either side of the east gate, inferred by him to have been the kerbs of a rampart, are much more probably, as Morris (1947, 107) suggested, the remains of guard-houses.

Ives (1774, 25) described the foundations as 'a deep bed of chalk and lime, firmly compacted and strongly beat down, and the whole covered with a layer of earth and sand ... the immediate foundation being thus formed, they covered it in every place with oaken planks near two inches thick, some of which are perceptible at this day: to these succeeded a bed of very coarse mortar on which, in an irregular manner, were spread the first stones of the fabric.' Ives, Bushe-Fox (1932, 63), Rumbelow (1928) and Morris (1947, 105) all drew attention to the indentation made by timber in the base of the fallen south bastion - which is still visible - and to the outer ends of timber-holes below the eastern half of the north wall. Rumbelow's measurements show these to be roughly 6 ft (1.83 m) apart. Morris also mentions that 'other reports give the foundations as being of puddled clay and flints' and goes on to say that 'in 1930, the Ministry of Works shored up the leaning section of the south wall (and) a hole was dug through under the base of it.' Rumbelow, who examined this, stated that in his opinion no evidence of preparation of the ground was to be seen and that it appeared that the wall stood on the original land surface with no trenching. 'There is, however', Morris concludes, 'a strong case for the statement that timber was used for the construction of at least some parts of the walls.' (Morris 1947, 104-5)

Most of this confusion may now be dismissed. The excavations showed that, where exposed on the north and south side, the footings consisted of a few inches of rammed chalk resting on a bed of clay laid over the natural sand in a shallow trench. On this chalk rested flint concrete to ground level capped on the outer face by a plinth-course of two brick courses. At somewhat irregular intervals - certainly not continuously as Ives said - timbers had been laid at right angles across the line of the wall. They were embedded in the clay and had chalk packed against their sides. In one hole on the south side, remnants suggested that the timbering might have been of faggoted sticks, but it is much more likely that these remains were of more recent roots of the climbing vegetation which was stripped when the Ministry accepted the walls into guardianship. This is confirmed by the very regular sides of the genuine timber holes, which suggest that solid baulks - not two-inch planks - were used. Nowhere was any evidence seen of the timber-framing described by Bushe-Fox (1932, 61-2, fig.8) at Pevensey, or by Cunliffe (1975, 14-15) at Portchester.

These timbers cannot have formed a significant 'structural' part of the foundations, for they seem to bear no relationship to changes in the subsoil or the superstructure. They are best interpreted as levels laid down to mark the height to which the prepared chalk was to be laid. In places these footing layers and the timbers project a little beyond the base of the wall, notably along the west part of the south wall where, in places, they project by more than 1 ft (0.31 m). Only at one point on the north wall were these footings absent. In the strip exposed near the broken west end, the footings trench

deepened. The section at the east end of this cutting (Fig.18, p. 42) showed a detached fragment of the chalk bedding, which doubtless existed just beyond, but within a few feet to the west, the foundation of the wall curved boldly downwards and consisted of a concrete base resting on flints and dark earth with an occasional cross-timber.

The west wall also must have had chalk and clay footings. In a test trench on the west side (in area R5, p. 43) though the wall itself had fallen away, fragments of the chalk and clay were lying in broken patches where a slight break in the natural sand was inferred to be the remnant of the inner lip of the footings trench.

The heavier east wall, built well away from the scarp, showed no trace of these prepared footings. Here a trench some 2 ft deep had been dug into the natural sand. Flint concrete was laid at its base and built up until, at surface level, a brick plinth was laid on the outer face. This consisted of two courses of brick, unlike the bands higher up the wall which were of three (Fig.5 and Pl.II). But the bricks of this base course were thicker than those used higher in the wall. They formed an external stepped plinth which projected slightly beyond the vertical flint face above, though the robbing of the flints and the damage to the bricks make it difficult to measure this.

These variations in foundation structure form a definite pattern. The heavy east wall, built on almost level ground, had its concrete base resting in a substantial trench. But where the north and south walls began to be lightened by tapering, a lighter substructure was deemed sufficient. The footings trench was shallower and the carefully levelled clay and chalk took the place of the concrete footings of the east side. Only at the vulnerable north-west angle, where the great weight of the bastion near the edge of the scarp made deeper foundation necessary, was there a departure from this pattern.

One remarkable feature became apparent when the true external face-alignments were surveyed. At the north-east angle, the hole for the '<u>ballista</u>-mounting' in the bastion top lies entirely within the point of intersection of north and east face-lines (Fig.5, top). It was, therefore, impossible to enfilade the walls completely with a <u>ballista</u> mounted in this socket, for the field of fire of the angle-bastion included no more than the outer part of its two adjacent bastions, while at its foot there was space on either side not under the cover of its neighbours' fire. The same fault occurs at the south-east angle, though the present outward tilt of the bastion tends to obscure it. If the two missing angle-bastions from the west side were exactly similar in dimensions and the position of the sockets, the same fault would be found, the bastion at the south-west angle being incapable of covering even the outer part of the intermediate south-wall bastion.

The fact that, if <u>ballistae</u> were mounted in these holes in the tops of the bastions, they would be unable to enfilade the walls prompts a wider consideration of these holes and of the bastions themselves (Pl.II). The bastions are basically cylindrical, but are keyed into the wall by a projection between two tangential lines to form a 'pear-shape'. Up to a height of between 7 and 8 ft (2.1-2.4 m) this tongue of masonry is not keyed into the wall, although its courses closely follow those of the curtain wall. The plinth course of the bastion is stepped over the brick plinth course of the walls. The facing courses of the wall continue behind the bastions (this can be seen at the example in the south-east corner, where the bastion has moved sufficiently away from the wall for the facing in the angle-curve of the wall behind it to be clearly visible). Above the fourth band of brickwork from the base, however, the flintwork of the bastion-root is taken back into the body of the wall in an arching curve. This is visible in all the bastions but the fallen one, whose back appears to be straight, but in none more clearly than bastion 1, near the centre of the north wall, where the tilt of the bastion has brought part of the upper portion of the wall with it, exposing the curved mortar surface of the bastion which arched over a corresponding smooth mortared surface in the wall.

It has been suggested that these external bastions were added to an earlier wall, but the close (though not exact) correspondence between the facing of the bastions and the curtain wall suggests that they were built at or about the same time. The tongue of masonry which ties in the bastion to the wall occupies the same area of walling where there is a band of five rather than four flint courses (Pl.IV) in the wall and bastion facing (indeed, bastion 3 has a band of six flints at this height). The curved mortar surface occupies the whole of these five flint courses and the consistent presence throughout the walls of this wider course of flints (it is found wherever there are patches of masonry at the correct height) suggests that this course was irregular precisely because of the presence of the curved mortar surface behind the bastions. If the smoothed-off surface represented the end of one season's campaign of construction of the walls, it might be that when building resumed, it was found not possible, because of the height of the capped wall top, to put a levelling brick course in its correct position, and an extra flint course was added.

Whatever the explanation of this peculiar phenomenon, it is likely that the projecting bastions were added after the wall top (then only 7 or 8 ft (2.1-2.4 m) high) had been consolidated in this way. The curved mortar surface only appears in the wall behind and in the close vicinity of the towers.

Near bastion 5, on the south wall, the piece of wall which is leaning heavily shows this curved mortar surface most clearly in the broken section of walling (Pl.V). It is most probable that a 'V'-shaped tongue (laid on its side) of tapering masonry keyed the bastion to the curtain wall at this height: near both towers on the straight east wall are signs of layers within the wall core (visible in tiles used in the core rubble) which follow the upward slope of this keying masonry (Pl.VI).

Thus, it can be inferred that the bastions were an integral part of the design of the walls or a very early modification of them, for provision for their construction and addition was made before the walls were completed. Several alternative reasons for this might be suggested. Their addition may have been an early unforeseen change of military design for the fort, a suggestion otherwise strengthened by the fact that the bastions do not adequately enfilade the walls (see p. 14). Other explanations for their later addition might be of a more structural nature: the weight of the walls and bastions may have been expected to be different and, thus, differential settling may have occurred. This is unlikely, however, to be the reason for their separate construction since the way in which the bastions were built over the projecting plinth course of the walls would have resulted in a breakage of the plinth course if the bastions had settled more. A third possibility for the later addition of the bastions may have been to facilitate the laying out of the fort in straight sighting-lines, though this implies a surprising degree of ineptitude on the part of the Roman military engineers.

The function of the holes in the top of the bastions may be briefly discussed. It has been assumed that the cylindrical holes 2 ft (0.61 m) in diameter and approximately the same depth carried a heavy stock on which a ballista was mounted. The arguments against this view are considerable. First, as has been shown, a machine of this type mounted on the corner bastions would be unable properly to enfilade the walls. Second, the type of light cheiroballista used by the late Roman army would be most unlikely to need mounting in a fixed stock of such large proportions. Third, a spring gun mounted on the top of a tower in this way would lose much of its mobility through being pegged in a single arc: there is no evidence that the Romans regarded this type of artillery as 'ack-ack' guns. Fourth, the spring force of a larger weapon mounted on the tower would tend to crack and split the post on which the mounting was carried - even supposing that such a mounting on a single post could be effected. Add to this the extremely restricted room on the top of the bastions and the additional need for covering any torsion artillery stored on the tower with a roof, and it appears likely that the holes in the tops of the

bastions did no more than carry a support for a tower superstructure and roof, all of timber. There is, admittedly, little evidence elsewhere in the Roman world for wooden superstructures capping a masonry tower. At Burgh Castle, however, the space on the tops of walls and towers seems remarkably constricted for further masonry structures, and a wooden wall-walk at this height and fighting chambers on the bastion tops (which could actually project slightly beyond the outside face of the bastion) are by no means impossibilities.

IV. THE POSTERN GATE (TRENCH L1)
(Fig.6)

Excavation to expose the remains of the postern gate revealed by Harrod's digging in the 1850s, took place in grid square L1, at the point where the modern path crosses through the north wall immediately west of bastion 5. Though this is not so evident from the interior of the fort, there is a substantial bank of material piled against both inner and outer faces of the north wall at this point. The curved mortar surface behind the bastion, which has toppled forward, lies at modern ground level (indeed one can walk between this surface and the wall at one point), suggesting that the levels here have been radically altered and that original Roman ground level lay some 8 ft (2.44 m) lower, this being roughly the normal height of the junction between wall and bastion.

The size of the excavated trench was 10 x 5 ft, spanning this opening, but for reasons of convenience, space and access to further features, it was extended in several directions. The main discovery of the excavation at this point was that the remains of the flanking walls of the postern passageway remained in fragmentary condition. The passageway itself had been filled with a deposit of earth up to 9 ft (2.74 m) deep, a substantial upper portion of which had been disturbed (and replaced) by Harrod. The exact extent of his trench was not planned, but the layers which butted up against the interior of the fort wall to east and west of this gateway appeared to be undisturbed, so it is unlikely to have extended much inside the fort.

Harrod's backfilled trench contained dark earth with a good many flints and this filling was removed to a depth of some 7 ft (2.13 m) before there were signs of undisturbed layers. At threshold level, traces of both sides of the opening were discovered. On the east, the actual jamb of the passageway was located: the bottommost flint facing courses of this survived, but the majority of the jamb was formed of brickwork. On the west there was a thin seam of mortar spilling out across the passageway but not reaching the east face. The jamb line of the gate was not traced on the west side, though the presence of extra tile courses within the core of the wall indicates its presence.

Below this mortar spill were traces of a chalk and mortar bedding within the gate passage, possibly for the paving stones of the gate passage or its threshold; a circular break in this bedding was noted on the west side - possibly a post setting for the hanging of the gate, though this is more likely to have lain nearer the outer face of the curtain wall, and probably on hinges set into the wall itself. Excavation continued within the passageway in portions where there was no chalk footing for the walls, and where all trace of mortar had been removed. The final section against the north face of the trench (at a point roughly half-way through the passageway) is shown in Fig.6. Though this is nowhere described in the notebooks (it is clear that Green intended a lengthy set of observations on this postern gate, for several blank pages are reserved within his notebook for description of it), it shows a layer of clay of average thickness of some 7 in (0.18 m) acting as the foundation course of the walls with, apparently underlying it, the traces of a timber plank which was just not long enough to appear in the section, although its position is marked on the section drawing (Fig.6). Above the clay is a thin (5-6 in/ 0.14 m) layer of crushed chalk. This is covered by a double layer of dark stony earth

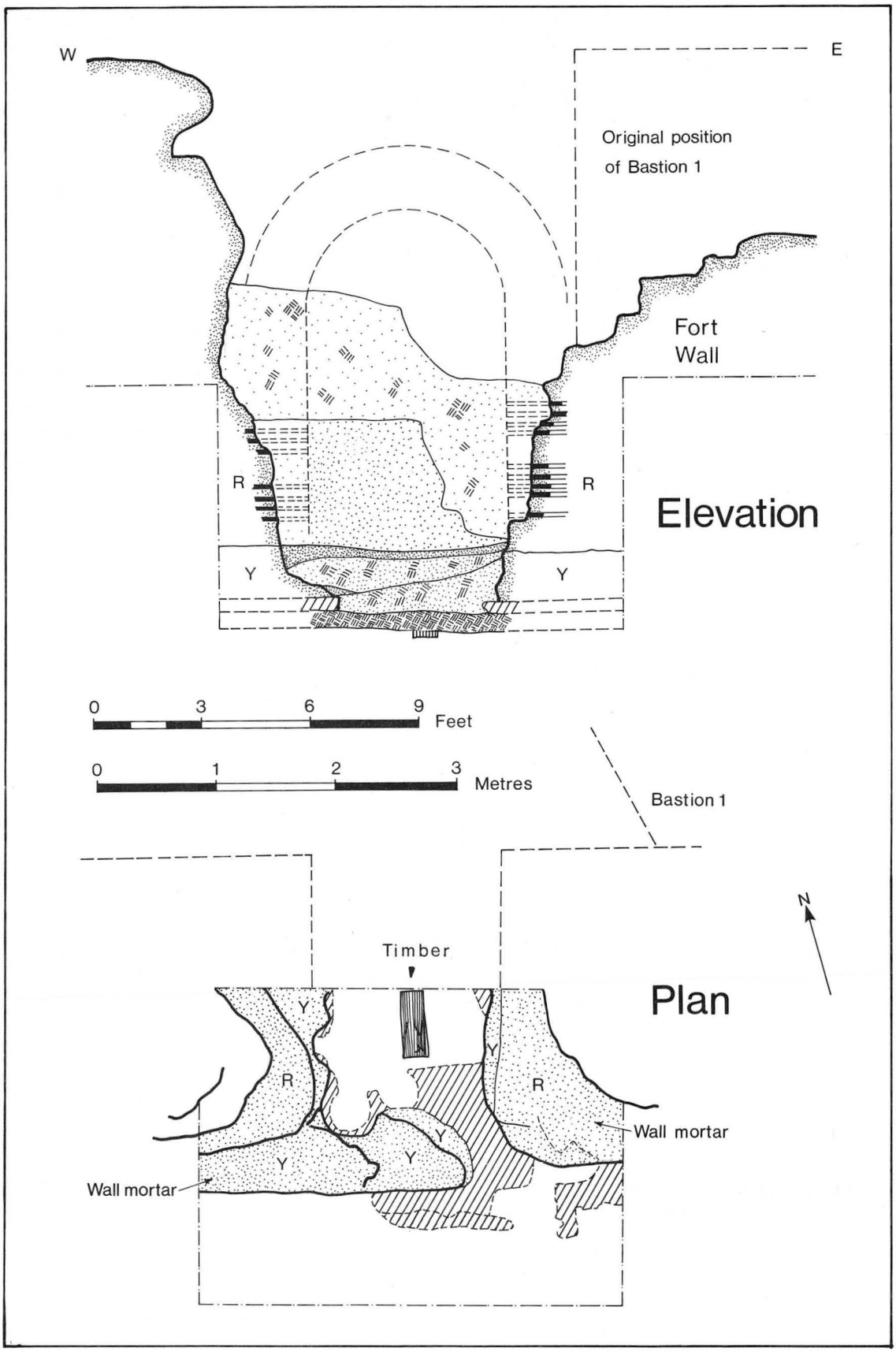


Fig.6. Postern gate (Area L1): plan of excavated area and suggested internal elevation of gate passage. Scale 1:50.

which actually cuts into the chalk layer quite substantially. The tongue of mortar shown trailing slightly off the west wall-footings suggests that at the time of deposition of this layer the mortar face of the west jamb was already beginning to crumble. A further deposition of this layer followed, then a further, rather thicker layer of mortar, which is nowhere described in the notebook, but which seals the whole of this portion of the passageway. Above this come the mixed layers attributed to Harrod. This mortar line does not appear from the photographic record to have been very substantial: it scarcely resembles a floor surface laid down through the postern gate - it is more likely to be the crumbled remains of the fragmentary wall mortar on the western side of the passageway - or even the trampled surface on the bottom of Harrod's trench! From the dark earth beneath this surface came a sherd of pottery described by Green as 'Thetford' ware.

Green suggested (in his reconstruction drawing) that the gate passage was some 5 ft (1.52 m) wide and this would be substantially correct. The maximum height of wall facing surviving intact above threshold level on the eastern side is 2 ft 3 in (0.69 m) and this gives one clear line of the gate passage. It runs very slightly obliquely to the wall and would have emerged 4 ft 6 in (1.38 m) west of the bastion on the outer wall face, a common position for a postern gate in late Roman fortification. The addition of extra tile courses within the passage walls is also a common feature, and it is probable that the walls of the gate passage were faced with more tile than flint. Doubtless the roof of the passage would have had a running barrel vault of tiles.

There was no suggestion from the excavation that the passageway cut through the wall at this point was a secondary feature. Two colours of mortar were noted - the core of the wall and the lowest courses being surrounded by yellow mortar, but the upper portions being bonded with a redder mix (marked 'R' and 'Y' in Fig.6). Nor was there any indication of a Roman bank of earth against the inside of the fort wall: the height at which the postern gate gave access to the fort would suggest that if there had been a bank it would here have needed retaining walls. The bank of earth cut through by the excavation was mainly formed of mixed earth and clay. This may well be due to the activities of Harrod, but clearly the pile-up of material against the walls was there before he began digging.

When the nearby bastion (No.1) toppled forwards, it seems to have brought a portion of the wall behind it slightly forward as well. Underneath the wall on the eastern side was found a mass of dark soil which had slipped into a void thus caused. This soil contained a sherd of Ipswich Ware. These indications do not afford a secure dating for the collapse of the postern gate nor for the date of the accumulation of the bank against the walls at this point.

V. THE NORTH-EAST CORNER: ROMAN FEATURES
(Figs.7 and 8)

Green's excavations in the north-east corner of the fort, though apparently covering a fairly extensive area (Fig.7) were not, in reality, so thorough. The topsoil and its underlying layer of 'dark' or 'dark earth' was removed over much of the area marked as 'excavated', but thereafter only final sections usually 4 ft wide, were cut through the underlying layers down to natural. These produced the profiles through the area shown in Fig.10. Thus, only a very small part of this area was completely excavated and Roman floor levels and wall trenches were encountered only at isolated points (Fig.3). Green intended to publish these levels in three parts, dealing with the three Roman buildings which he distinguished: the corner turret and 'buildings 1 and 2'. This report will attempt to follow the same lines.

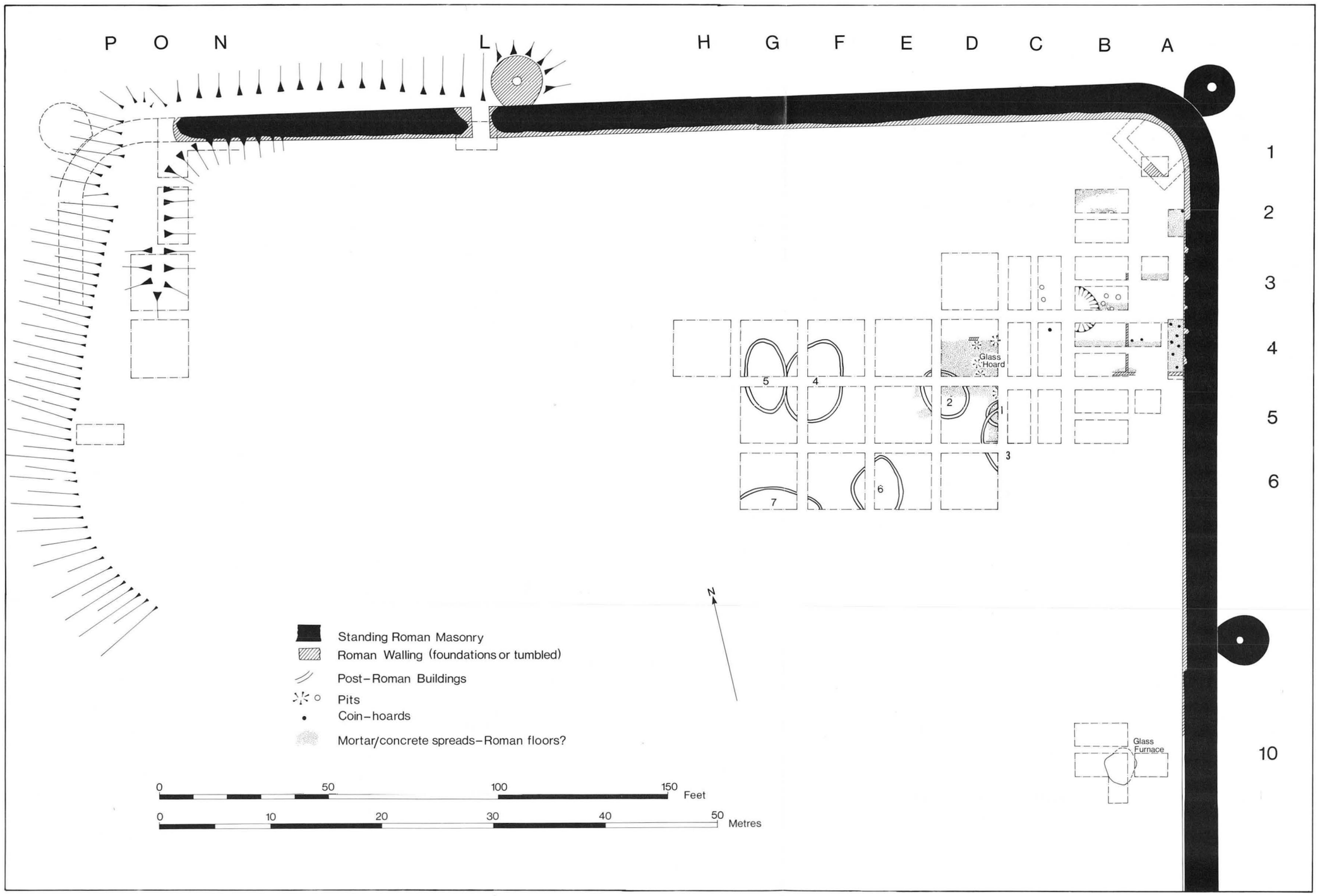


Fig.7. Burgh Castle 1958 and 1961: plan of northern third of fort. Scale 1:400.

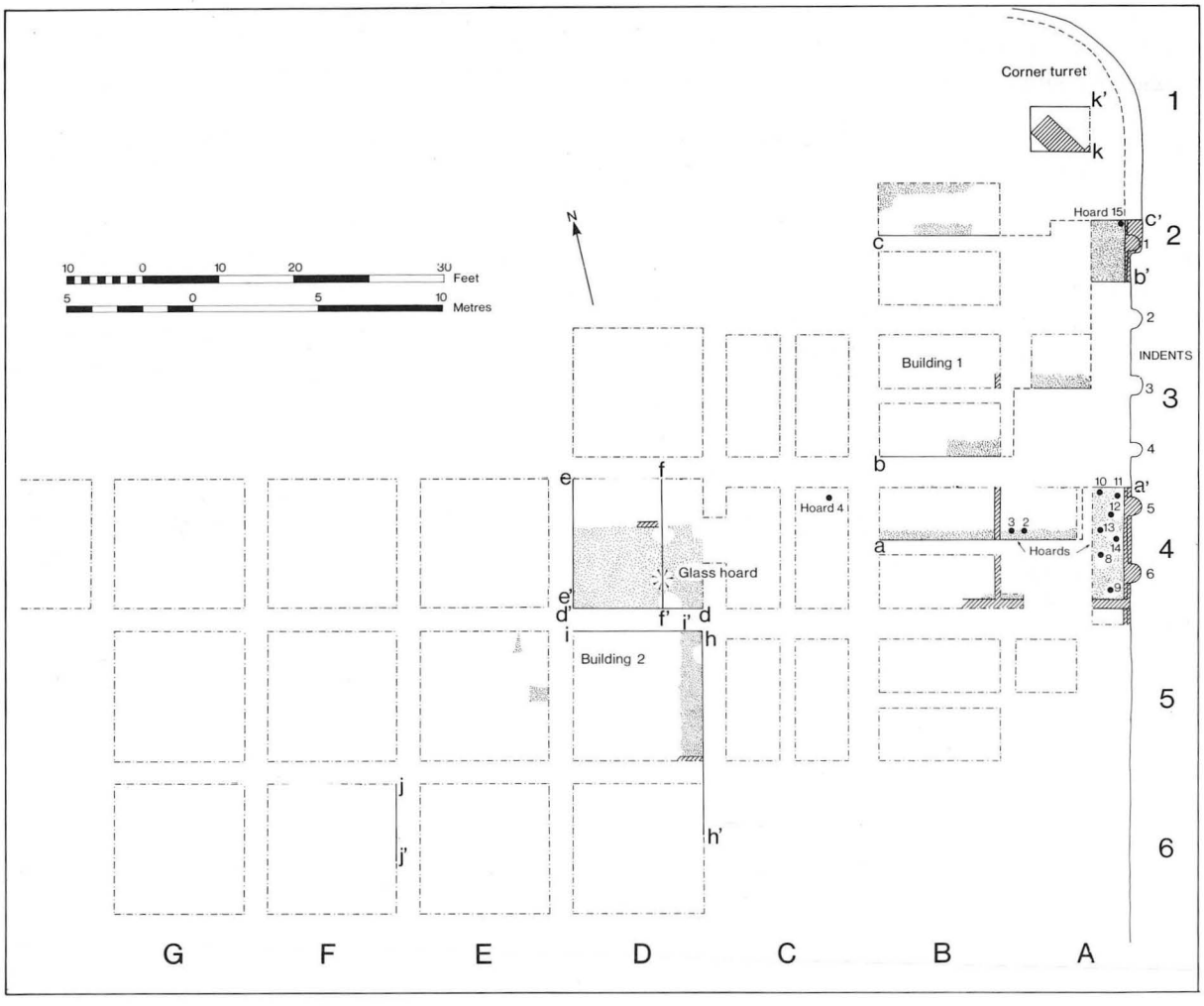


Fig.8. North-east corner of fort: Roman features. Scale 1:300.

THE CORNER TURRET
(Fig.9)

A small trench, A1, only 10 x 6 ft was taken down all over to the natural subsoil. Under a number of layers (somewhat confusingly described) many of which contained substantial amounts of roofing tile and plaster fragments and were covered by a layer of clay, there was the suggestion of a spread of brick rubble overlying the natural sand. This may have formed a floor foundation which was seen to rest on and against a strip of flint and mortar rubble set in clay. This was apparently set shallowly into the subsoil and ran north-west to south-east, though it was interrupted before reaching the section at the north-west angle of the trench. For this reason, it is very difficult to relate the recorded plan with the drawn section. At the south-east corner of thc trench there were indications of an angle where the footings line was irregular. The line of footings was planned: it was roughly 3 ft 6 in (1.06 m) wide, but the depth is nowhere stated. The only record photograph of the trench shows only a very vague line in the otherwise flat subsoil at the point where the foundations were planned by Green.

This footing was interpreted as the bottommost remains of a turret set against the interior of the fort wall at the north-east angle. If reconstructed as shown on Fig.11 this turret will have had external dimensions of some 22 x 8 ft (4.6 x 2.5 m), producing a room of some 16 x 8 ft (4.8 x 2.5 m) tucked into the angle of the fort. This explanation of the feature seems to have been adopted by Green on the grounds that this arrange-

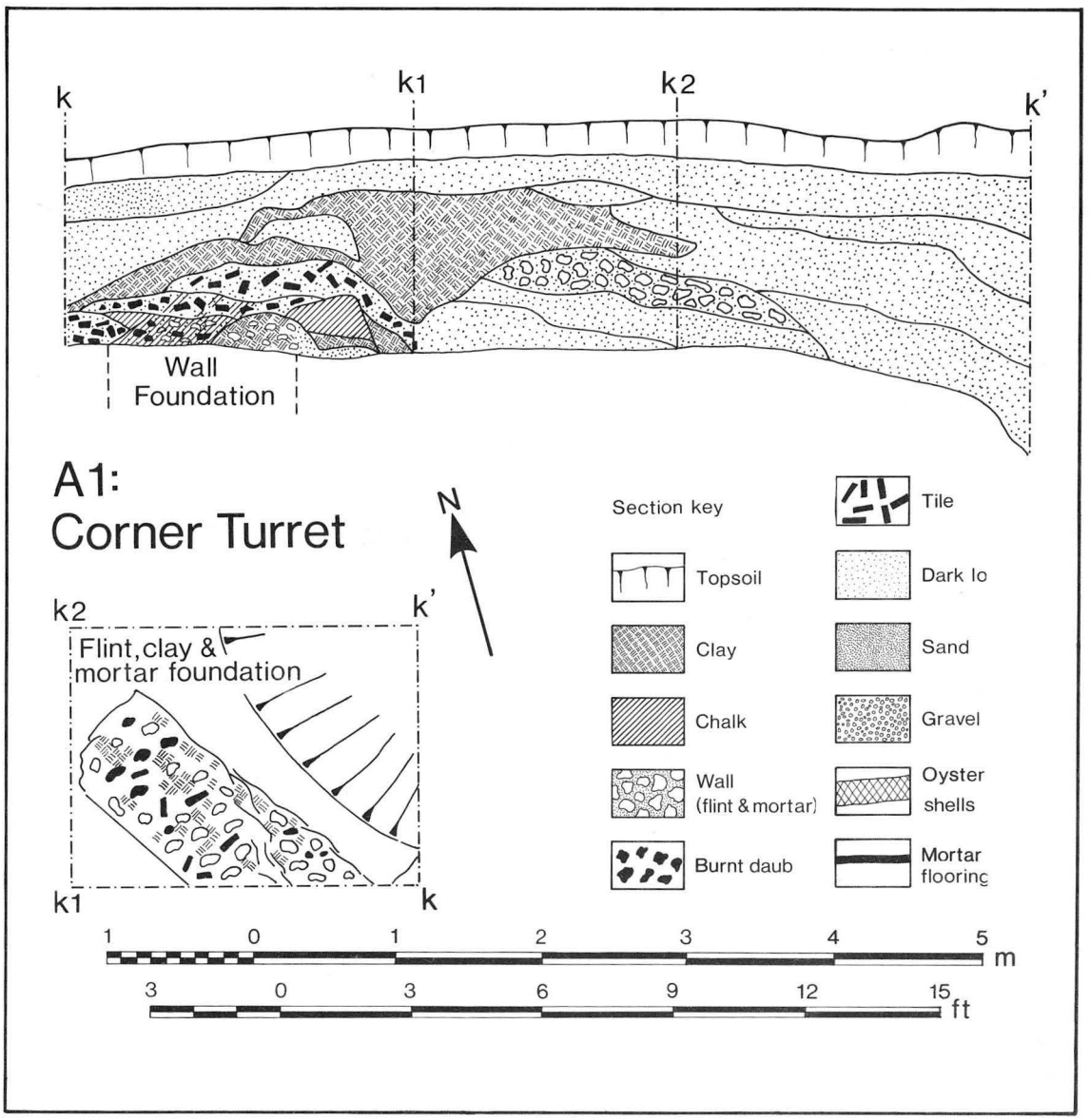


Fig.9. Plan of trench A2 and section drawing, and key to section drawing. Scale 1:50.

ment when plotted on the plan produces a reasonable-sized turret. It was also claimed that the interior slope of the fort wall at the point where the turret would have been bonded into the wall itself was here not at a raking angle as elsewhere, but vertical, suggesting the presence of an interior room. This, however, is difficult to see in the standing wall at present, for there is little surviving internal facing stone surviving on the fort wall in this area.

Interpretation and comment

There are several grave doubts over the interpretation of this feature, quite apart from the fact that there is no photograph surviving which clearly shows something so important. First, the depth of the footing itself, which is minimal; it does not appear in any coherent form on the drawing of the south face of A1 (Fig.9 K1-K) even though the 'corner' of the turret must have underlain the section. The fact that the line of this footing tailed off as it progressed in a north-westerly direction also suggests that it was not very deep. But even so, there should have been a robber trench or some such linear

feature also discernible on its line, either at the point where the footing appears to give out, or above it elsewhere, especially in the section drawing.

Second, there is the problem of the shape of the tower itself. If there was a flimsy footing of this nature at this point, is it certain that it turned through a right-angle in the south-east corner of the trench? The evidence for this seems to be confined to such a cramped area and is so open to misinterpretation that it cannot be claimed that this configuration is conclusive. The area in which the footing was seen to change its course lay in the very corner, no more than a foot or so square, of the trench.

Third, despite the apparent slightness of the evidence, this foundation was readily claimed as a corner turret without any examination of the point at which the corner turret walls would have touched on the fort walls. This relationship, probably still in situ, is vital to the proper interpretation of this feature. Green remarks in the notebooks that 'the footings trench cannot have been as deep as that of the wall': the construction, therefore, needs examination in more detail to see if indeed it does have a relationship with the curtain wall.

Fourth and lastly, there seems to have been no archaeological fill between the wall footings and the collapsed rubble above them. One would expect footings to be set into the ground and, thus for there to be some trace of floor-levels between them and any debris from the collapsed buildings whose walls occupied the footings. Of this, or of occupation layers (for example) above a beaten earth floor, there was apparently no trace. For this reason, it might be suggested that the turret had been thoroughly dismantled and the rubble, tile and plaster found above it belonged to other buildings similar to those further south against the fort walls.

It is not the intention here to claim that evidence for this internal corner turret does not exist at all. The fragmentary traces found in the excavations may indeed be what Green claimed, those of a corner turret. From the excavator's account of his findings, however, it is hard to be certain whether his discoveries warrant the assurance of interpretation which has been placed upon them (e.g. Summary 1961a, 183).

BUILDING I
(Fig.8)

Against the east wall of the fort, starting some 30 ft from the corner, there is a series of post-holes cut into the wall base. This area was selected as being of particular interest for it suggested that a building of some type leant against the interior of the wall at this point. The campaign of 1958, therefore, concentrated on this area, which also included the point at which a fragment of painted wall plaster, thought to have been of 'Saxon' date had been found in the recent past.

The method of excavation needs stressing once again. The drawn sections (Fig.10) across the site of this building against the east fort wall come from the trial sections cut across the lower layers discovered in the area. Within the sections, one can see that there are several post-holes, features cut from a higher level through the lower levels. These, in general, were not spotted at a high level during excavation: if they belonged, for example, to the Norman or to a Saxon phase of occupation, finds from them might have been unknowingly mixed with those from layers further down. In addition there is a large pit, within B3b, which contained a sherd of Ipswich Ware: this pit was recognised at the time of excavation. There may, however, have been other later post-holes within other parts of the site (excavated areas which do not impinge upon the sections) which were also not noticed at the time of excavation and which have escaped detection altogether.

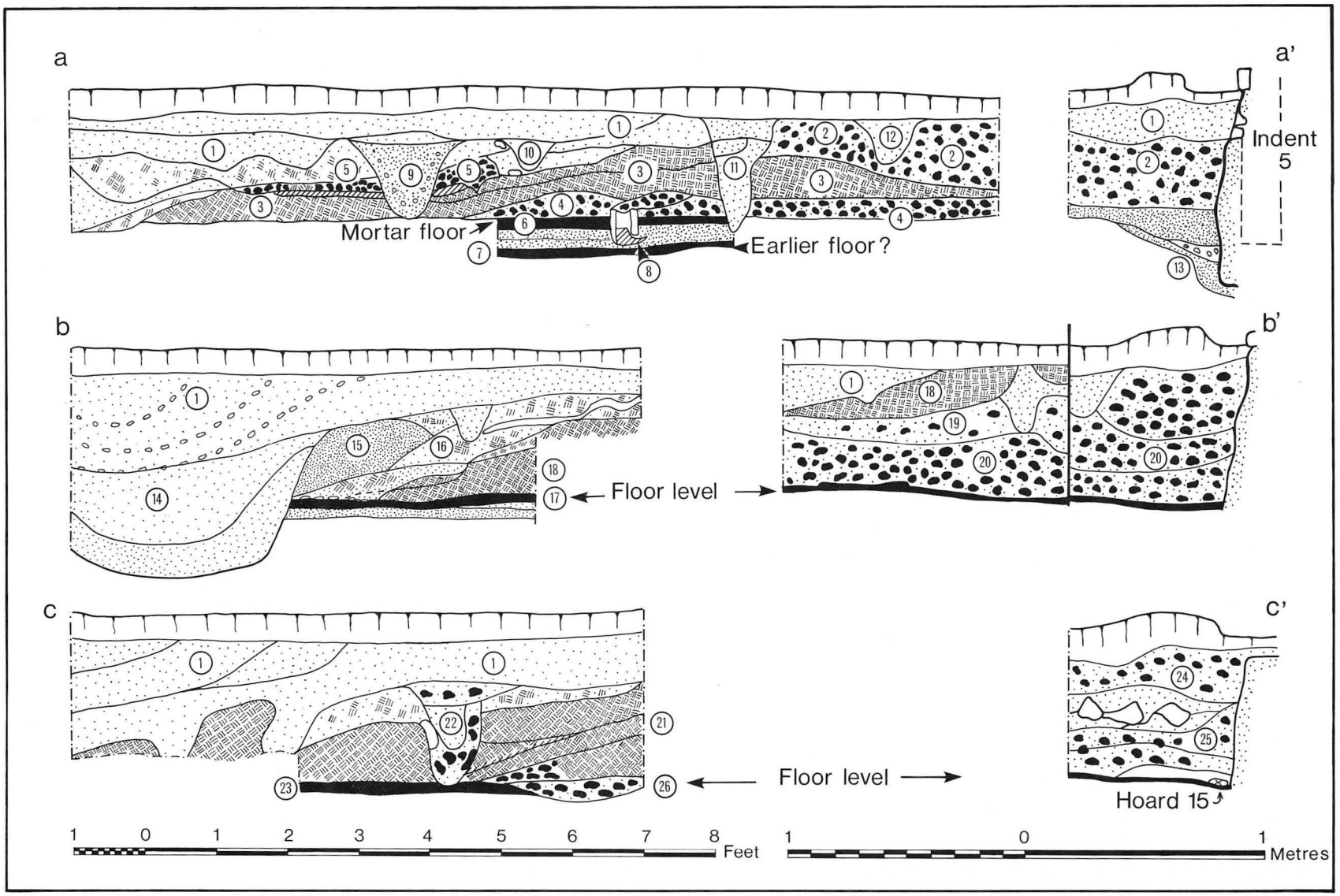


Fig.10. Sections across Roman building I: for locations of sections see Figs.7 and 8 (p.18-19). For key to drawings see p.20. Scale 1:25.

The North-East Corner: Roman Features

Immediately under the topsoil over most of the area was a layer of black loamy soil (Fig.10, sections, no.'1') which covered substantial deposits of brick rubble intermixed with a large and varied amount of pottery, daub, tile and plaster (Fig.10, a-a', no.'2'). In one of the sections across these buildings, there are two main layers of this building debris, interleaved by a substantial dump of clay (Fig.10, a-a', the clay '3' and lower debris '4'). Next to the fort walls themselves, on the whole, there was no layer of dumped clay, merely an extra thickness of rubble (a-a', b-b').

The only structural remains which went with these layers were located at the very bottom of the trial trenches where a skim mortar floor was in places found to be lying just above the natural sand (e.g. a-a', no.'6'). There were traces of burning immediately above this floor, and many of the sherds of pottery found in the area were extremely burnt. The richness and profuseness of Roman pottery finds from this area, together with large amounts of burnt daub and wall plaster suggest strongly that whatever the form of these structures, they were of Roman date. Frequent finds of carbonised wood and charcoal strengthen the impression that they met an end through burning, though it may not have been the final end of Roman occupation of the site.

The form of the buildings was harder to determine, since the positioning of the trenches first opened located only the skim mortar floor (patchy in places) and failed to locate any definite edges which might be wall lines. Accordingly one baulk was removed, (between A4a and B4a) and a small eastward extension to B4b was also opened. At the base of the deposited layers within the baulk between A4a and B4a, the lowest fragment of a wall was exposed, after the removal of upper floor levels. The wall, running north to south, was a wattle-and-daub structure faced on both sides. A sleeper beam lay in a trench, and wattling had been erected within this frame (the section a-a', no.8). It was not certain that the beam continued to the north, for it was disturbed some 18 in (0.45 m) from the south face of the trench section.

The section drawing a-a' shows the south face of trench A4a-B4a, including the area of the removed baulk. From it can be seen the four later post-holes (9, 10, 11 and 12), two of which cut deep into the mixed layers of daub, rubble debris and clay which overlie the Roman floor levels (Nos.2-5). Under this debris was a patch of mortar floor (No.6), thicker (according to the drawing) west of the remains of the wattle-and-daub wall (No.8) than east of it. Underneath the remains both of this wall and of the associated floor levels, there was a thick layer of sand, which overlay another skim mortar floor (No.7), itself overlying the natural sand and unbroken by any wall trench running north to south.

Two further sections through similar layers against the fort wall are also shown in Fig.10, b-b' and c-c', and the positioning of the drawn profiles can be judged from Fig.7. It will be seen that in no case does the profile form a straight section across the buildings represented by the layers against the fort wall and, thus, the reading of the evidence in this area is, of necessity, confused and confusing. This is also compounded by the fact that the east end of all these three trenches was dug and drawn in a totally different excavation campaign from the west portions.

The west end of the section b-b' (Fig.10) exhibits a profile similar to that of a-a', except that the western extremity of the trench is taken up with the section of a large and deep pit (14) which contained Middle Saxon material. Otherwise the upper layers are of a mixed loamy clay consistency (15) and cover the west end of a hump of dumped clay (16) which, in turn, overlies traces of a mortar floor (17). At this point there is no trace of burnt material.

At the west end of c-c', under the mixed loamy layer (1) which is recorded as having some very curious configurations with underlying layers at its western end, there is a similar dump of clay (21), also apparently rising towards the fort walls. This is cut

through by what appears to be a substantial post-hole (22). Under the clay, there lies a mortar floor (23) at approximately similar level to the floors discovered in a-a' and b-b'. Here, as in the latter section, there is scant trace of burnt material under the clay layer and above the mortar floor.

In neither section drawing can any trace of the wall line located in section a-a' be seen. If this wall was running parallel to the line of the fort wall, it ought to have been observed and recorded in section c-c'. Instead, at the expected point, this section drawing shows a patch of wattle-and-daub, and an apparent slight hollow in the mortar floor. In section b-b' (the south face of B2b), this crucial area remained unexcavated according to the section drawing and no wall was encountered. However, plans of the neighbouring trench, B2a, show the line of this wattle-and-daub wall was picked up in the south-east corner, even though the site notebooks make no mention of this fact and despite the proximity of this wall line to the east face of the trench.

Further evidence for this building was sought and gained in the excavations of 1961, when two further trenches against the fort wall itself were opened (A2, A4). Under the topsoil layers, these trenches produced unusually heavy concentrations of rubble and burnt daub, inmixed with which was a particularly fine group of Roman pottery, including two complete unbroken vessels and many fragments of others in an uneroded state. The portions of the three section drawings which lie next to the curtain walls show three different profiles: within all three, however, there is a slight suggestion that the mortar floor ran through and abutted on the curtain wall. In section b-b' (A2, south end layer '20'), and c-c' (A2, north end layers 24-5), excavation ceased at this level, having removed only rubble debris, carbonised wood and other finds from demolished buildings above. In a-a', however, (A4, north end) excavation was continued through this mortar floor level which was extremely thin at this point. Dug into the natural underlying sand were traces of an irregular trench containing mainly discoloured sand, but some traces of a trickle of mortar, suggesting that this was the construction trench for the curtain walls (No.13).

The mortar floor was found to be consistent over the whole area of trench A2. In A4, however, at its south end, something of a change was noticed, and the south end of the trench was extended to accommodate this. The buried part of the curtain wall had an inner facing of 'plaster' (elsewhere called a 'mortar rendering') which concealed the facing stones. At the south end of A4, this rendered surface projected at right angles in a small flange, to the south of which was a remnant of the south wall of the building which had leant against the wall. This line coincided with a building line spotted running east to west within the south-east corner of B4b, not described in detail in the notebook but drawn on several of the plans. Beyond this wall line, to the south, there was no further trace of the mortar floor, but there can have been no substantial traces of wall footings, since the only structural element encountered was a post-hole which lay immediately south of the footings line. In the footings trench itself, however, the foundations underneath the mortar floor were seen to be of rubble and burnt daub, layers which produced a single coin of the House of Constantine (no.1194). The odd nature of this suggests that at the time of construction of this lean-to building against the curtain wall the Roman builders themselves levelled off the site and built their mortar floor on a levelled platform of rubble.

The holes (labelled indents 1-6), cut through the inner face of the curtain wall foundation in this area, were the subject of keen examination. Indents 5 and 6 (counting from north to south) lay within the area of trench A4. Though the tops of these were filled with modern rubbish, lower down they were filled with collapsed infill of burnt daub and mortar. The depth of No.5 (shown dotted on section a-a') reached some 4 ft (1.22 m) from present ground level and slightly below the level of the mortar floors encountered against the inner face of the wall. The indents themselves, cut into the wall,

(the notebooks do not reveal whether they were actually 'indents' or whether they were in fact post-holes cut into the thickness of the wall) were not dated, but were supposed by Green to belong to a Roman building built against the curtain wall at this point.

As well as the mass of Roman pottery from the debris layers uncontaminated by sherds of Ipswich or other later Wares, there was a large number of coins found on and pressed into the mortar floor. In trench A4, seven conglomerations of such coins in all were found, their exact locations not readily discernible from the site notebooks, but all of them given a 'hoard' numbering. They are hoards Nos.8 to 14 inclusive, all of them containing coins of the House of Constantine, to a total number of 128. In addition, in the north-east corner of Trench A2 a further hoard came to light, found among the collapsed debris and resting on the mortar floor. This was hoard 15 containing 590 coins.

Interpretation and comment

The interpretation of Green's results from excavation within this area presents several problems, not least that of the relationship of one fully excavated portion to another. Shaded on Fig.3 is shown the exact extent (as far as can be determined) of this area completely excavated down to the natural sand. Comparison of the three reconstructed profiles drawn east to west through the area will show clearly that the overlying layers encountered by the excavator were not everywhere consistent, but were largely composed of layers of building debris inmixed with clay. The Roman date of these deposits, because of the apparently uncontaminated and extensive Roman finds particularly within the debris layer, cannot seriously be questioned. The jumbled nature of the clay and the building debris strongly suggests, however, that these laycrs have been subject to some disturbance, possibly even in the post-Roman period.

The mortar floor, encountered in several places in the area, as the bottommost feature, was not of uniform thickness, nor was it always found to be present: it is often described as being 'patchy'. In particular it was very thin where it abutted the curtain wall in section a-a'. The curtain wall foundation trench, however, encountered in that section, showed without doubt that the mortar skim had been laid down after the construction of the wall. This confirmed the observations made in A4 that the building against the interior of the curtain wall was built as a lean-to. There seems no reason to suppose, however, that the mortar 'floor' was actually the floor of the building which was actually trodden. It is, perhaps, more likely that the building had a wooden floor raised on joists slightly above this level, under which the remarkable numbers of coins found in both A4 and the hoard in A2 may have been deposited (or through which they may have dropped). It seems most probable that the seven coin hoards in A4 were in fact a single group of coins dispersed in this way - perhaps when the building met its end by fire, as it seems to have done. Such an explanation that it was, in fact, deposited under the floor-boards would also account for the findspot of hoard 15 which was lying actually above this mortar surface (see section c-c').

It seems remarkable that walls or wall trenches for the construction of this building were encountered in so few places and that any reconstruction of the size or extent of the building draws its edges largely outside the lines of the trenches actually cut (Fig.11). The only traces of walls ran not only parallel to the setting-out line of the excavator's trenches, but also so near to the edges of the trenches opened that a wall line might easily have been missed or mistakenly interpreted. The fact that in the one place where the evidence is fully available (on the line of the baulk between A4 and B4), the mortar 'floor' was found to lie both sides of the wall trench, suggests further problems of interpretation of where the building actually lay: Green suggested (on his plans only) that this north-to-south wall was a partition wall between two halves of a rectangular building measuring some 34 ft (10 m) east to west and 51 ft (15.5 m) north to south lying against the curtain wall (Fig.11). The west wall line for such a building lies, as yet undiscover-

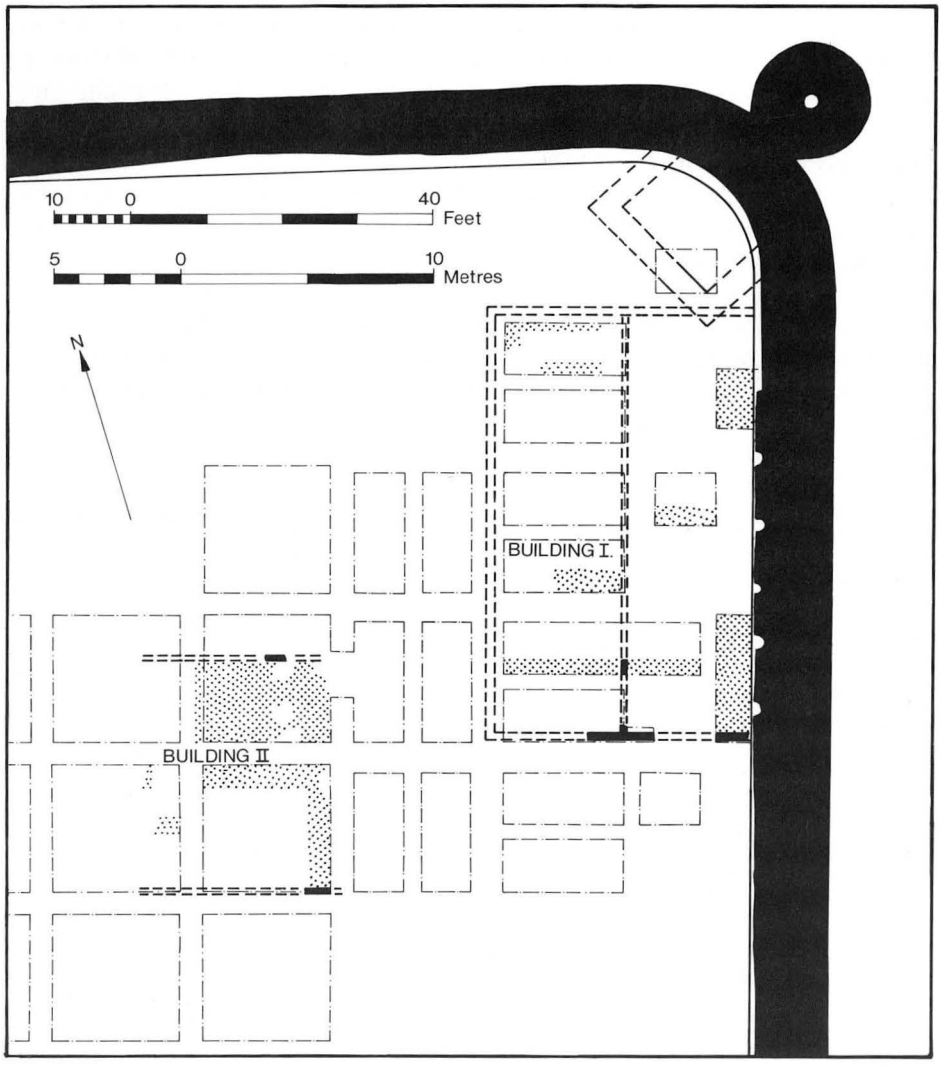


Fig.11. North-east corner of fort: Green's reconstruction of Roman buildings. Scale 1:300.

ed, along the line of the baulk between B and C, but the north wall ought to have been picked up in trench B2a which was excavated fairly thoroughly, but which produced no such trace.

The indents cut into the base of the curtain wall at this point also cause some problems. While the excavations showed that they were indeed to hold posts, it seems an excessive waste of effort for Roman builders to have cut through such a thickness of wall if their only concern was the construction of a wooden-framed 'lean-to' building. This would have been easier to construct by using the interior face of the curtain wall only and supporting any roof structure in holes cut directly into the masonry at the correct level, rather than inserting what appears to be a complete range of timber-framing into the wall itself. If the structure next to the wall was free standing, it was wasteful of effort to place it so near to the curtain wall that this had actually to be cut through. It is possible that these holes are in fact Norman in origin, cut at a time when the upper portions of the Roman walls were considered too fragmentary for use for keying-in corbels to support a roof, or at a time when the lowest levels of the Roman wall were buried so deeply that the builders realised only too late that they were committed to cutting through Roman walling.

The depth of the mortar 'floor' was, in general, found to be at least some 3 or 4 ft

(0.91-1.22 m) below present ground surface. In no case where it was touched upon did the interior face of the curtain wall have a vertical inner face, yet there were traces of an interior facing of plaster or mortar which were suggested (by inference only) to have been the interior rendering of the walls of the building in this position. At the site of the corner tower, however, it was claimed that the inner face of the wall was vertical, although elsewhere it was sloping. In grid squares A2-4, however, despite the 'upright' timber framing, no attempt seems to have been made at these lowest levels at any rate, to create a vertical face to the east wall of the lean-to building.

An assessment of the distribution of finds over this area is important since Green claimed that much of the wall plaster found in this area was of Saxon date. The point has already been made (p. 21), that because of the method of excavation it might not be possible to tell whether 'Roman' layers in the area of A/B grid lines were accidentally contaminated with later finds: indeed, the likelihood must be that these layers were contaminated. As an exercise, therefore, the relative distributions of building debris - wall plaster, painted or plain, and burnt daub - and Middle Saxon pottery were plotted. The results are to be seen in Figs.12 and 13 and they show in a remarkable way that the chief concentration of recorded building debris lies in an area tightly close up to the fort walls (mainly in the layers, some of them deep ones, within grid lines A and B). The distribution of Ipswich Wares, however, is mainly to be found in grid squares B-H (largely within the upper layers) and is almost totally absent from the A grid line. The point of greatest overlap - the grid line B - is precisely that in which there is the greatest evidence of unrecognised later features reaching down into the deeper layers: the finds of Middle Saxon pottery from this area are small in number, amounting to only one or two sherds within the deeper layers (i.e. those numbered 3 or 4) in the B grid line. The contrasting mass of building debris seems more naturally to belong with the mass of large sherds of Roman pottery from this area, and not with these small-scale Saxon finds.

To outline the definite conclusions to be drawn from the Roman layers in this area is by no means easy. That the rubble layers indicate the presence of a deposit, possibly the debris from a building of Roman date, is clear. Less clear are the form or the extent of this structure and how the actual layers next to the curtain walls were deposited. The general impression gained from reading the site notebooks is that the broad band of clay, which might have been thought to represent a later floor level above the Roman rubble debris, is itself in places covered by such material. It may be, therefore, that there were two phases of Roman building on this spot. The date of the destruction of the earlier buildings is suggested by the remarkable numbers of coins found within the debris over the mortar floor levels. All these coins, with the rare earlier exception, were of the House of Constantine. Thus, the building would have burnt down within the decade 340-350. Whether all the pottery found within the area belongs to this date is a matter for discussion, but it is not easy from the notebooks to correlate pottery finds with layers on the section drawings. This is particularly unfortunate since it is of great importance to amass more information about fourth-century pottery, and if this sizeable group of material could with certainty be linked to a date of c. 350, it would be a significant advance.

The possibility must remain, however, that the layers of dumped clay, burnt daub and its associated pottery and building debris, do not represent buildings burnt in situ, but are a deposit of material brought from elsewhere and dumped against the fort wall. The fact that the burnt daub and carbonised layers do not appear to be of consistent thickness over the whole of the postulated extent of the mortar floors lying underneath these layers (for example the section b-b', Fig.10, where there is no burnt material at the western end) gives some substance to this suggestion. The problems which this interpretation poses are that there is no clear explanation of the mortar floors and the fragmentary walls discovered underneath these deposited layers. If none of the burnt

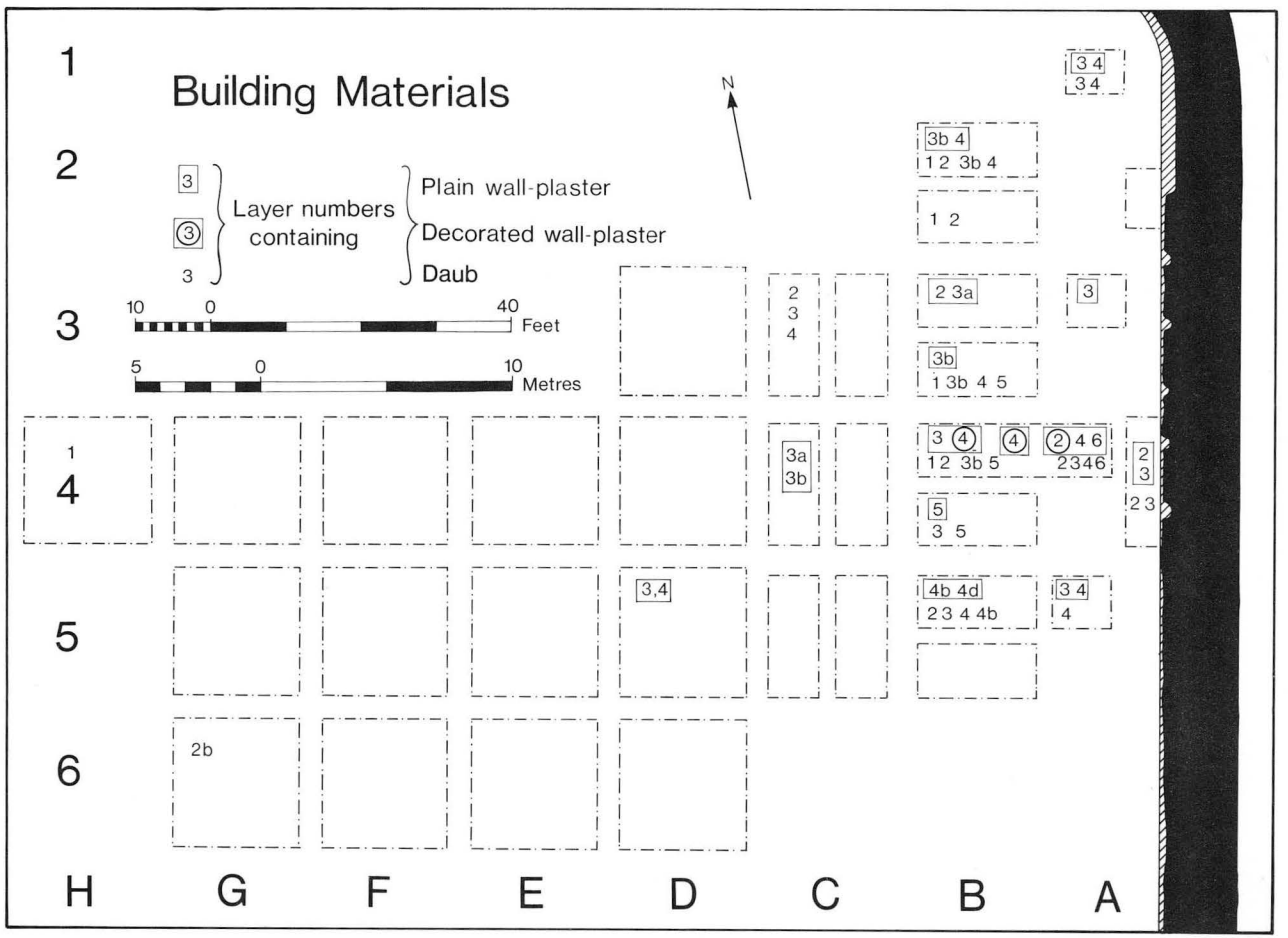


Fig.12. North-east corner of fort: distribution (by area and layer number) of building materials. Scale 1:300.

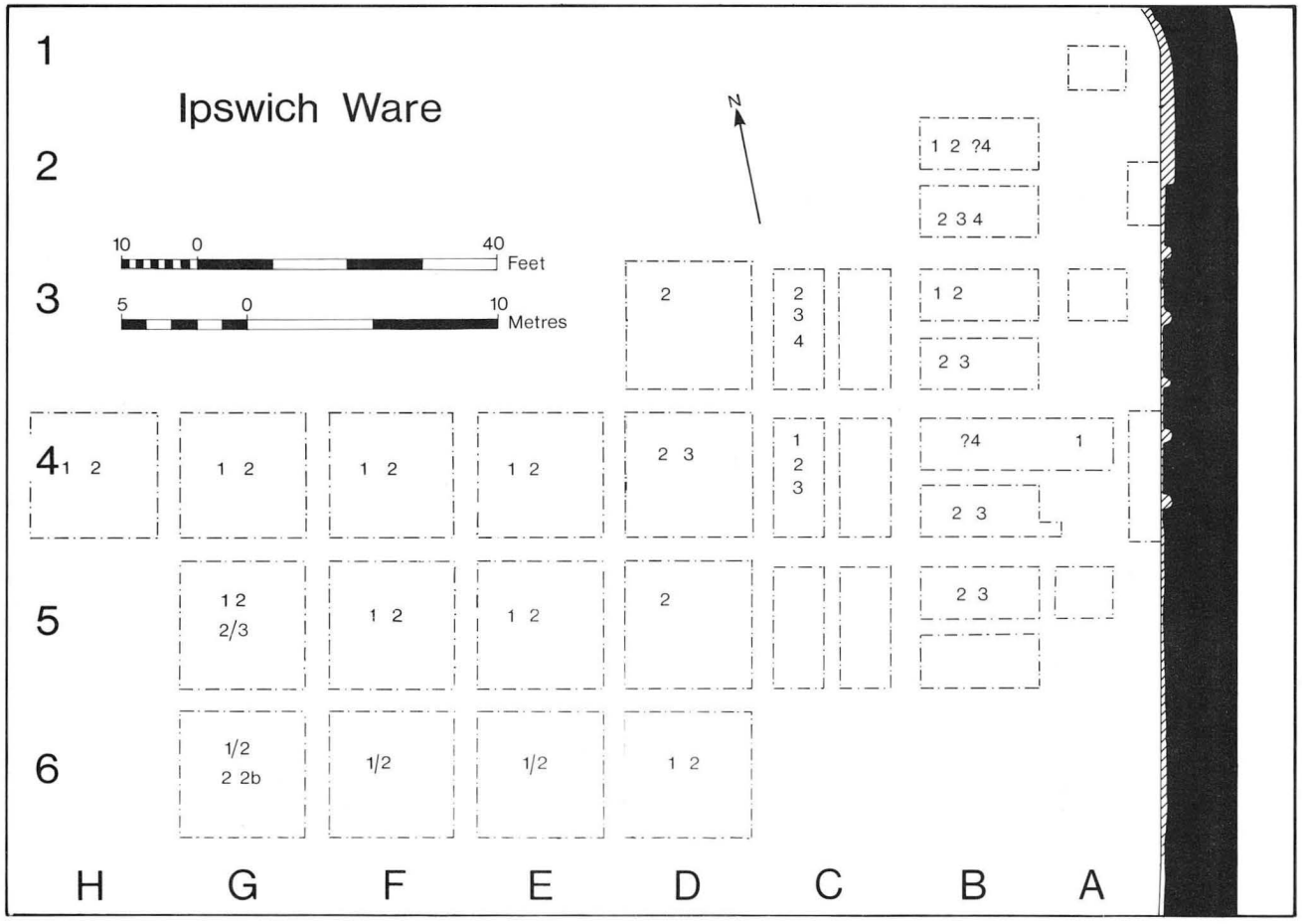


Fig. 13. North-east corner of fort: distribution of layers which contained Middle Saxon pottery. Scale 1:300.

rubble deposits belongs to the buildings which once stood on the site, there is no trace of an occupation layer or any other debris layer which may be the remains of these buildings. Whatever the interpretation of these layers, however, the coin-hoards discovered lying on the mortar floors give a firm terminus post quem for the deposit of this material. The lack of any clear occupation layers above this, possibly due to plough action, makes any firm interpretation of the purpose of these deposits hard to make.

BUILDING II
(plan: Fig.8)

The traces of a further Roman building were also discovered in D4 and 5 underneath the remains of later periods. Here, too, the underlying layers were only encountered in small areas where test sections were dug. As with Building I, the main trace of this structure was its mortar floor usually found to lie immediately above natural sand and, like the other mortar floor, its state of preservation was patchy.

Since such small areas of this floor were encountered, its edges were hard to define. A wall line was tentatively distinguished running east to west within D4. An 'L'-shaped feature in the section drawing (Fig.14, f-f', (3)) represents this line and forms a northern edge to the mortar (7) encountered in that section, even though on an earlier drawing of the same section Green had seen this mortar layer extending a little further north. The thickness of this mortar layer is not everywhere consistent (Fig.14, e-e', (6)): in Green's original drawings the top line of this layer is drawn clearly, but the bottom line is often rather more sketchily drawn and the thickness here represented may not have been the actual thickness.

The southern boundary of this building was also hard to find since this mortar floor was found to be fairly consistent along the complete width of a test trench dug along the east side of D5. The balk between D5 and D6 was accordingly cut through and although there were traces of a similar mortar floor in this area, it was suggested that the south side of the building lay virtually on the line of the south edge of the trench D5. The section drawing (Fig.15, h-h') shows a slot with rectangular section (13) at this point (at the very southern edge of the mortar floor (14) which lies on the base of the section drawing), but this wall trench (if that is what it represents) lies above the level of the mortar floor, and cannot, therefore, be associated with it. The extent of this mortar floor is, thus, some 30 ft (9.3 m) from north to south and its width at least 17 ft (5.2 m) east to west, neither edge having been located.

The build-up of layers above this floor surface as shown in sections d-d' and e-e' (Fig.14) is also surprisingly different from the area of Building I next to the curtain wall. Above the mortar surface was little trace of rubble debris, for the floor was sealed by a layer of mixed clay (5), above which was a band of occupation material, including a large amount of oyster shells and animal bones (3 and 4). From this level, seen normally only when a section was cut, several pits or post-holes were cut down through the underlying layers. One such pit can be seen in section f-f', 4, which was drawn on a north to south line some 5 ft from the east face of D4.

This was one of two pits revealed by section f-f', which was positioned deliberately to examine a pit within which the remains of a bronze cauldron containing a hoard of glass vessels were found. A complete inventory of the find is on pp.78-89. It consists of two enclosing vessels of wood and of bronze which contained the fragments of eight glass vessels, three complete ones, a fragment of a bronze vessel possibly a patera, and a small bronze bell (Figs.35-37). There can be little doubt that this hoard was deliberately buried in its eventual findspot.

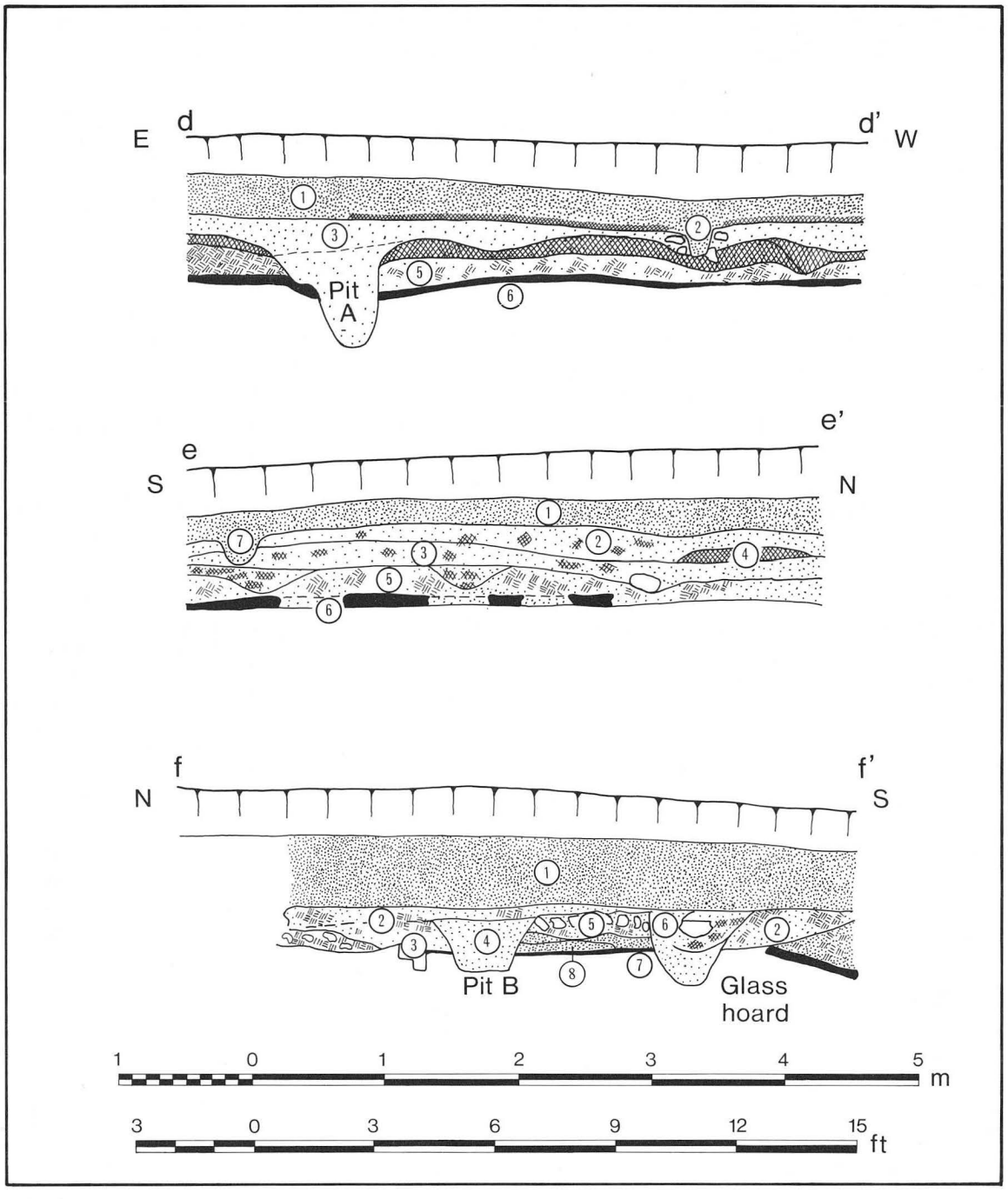


Fig. 14. Area D4, sections through make-up layers above Roman building II: for locations of sections see Fig. 16 (p. 35). For key to drawings see p. 20. Scale 1:50.

The pit within which the hoard was found can be seen in Section (Fig. 14, f-f', 6). It seems to have been cut through the clay and mortar layers at the base of the section from a level above a line of rough flints, possibly part of a floor or a cobbled yard (5). It is clear from the notebooks and from correspondence with Dr Harden in the early 1960's that Green wished to relate this hoard with Fursey's monastic establishment and he was, therefore, at considerable pains to explain the stratigraphy when it was clear that the glass vessels gave such a consistent date early in the fifth century. Green believed that both the pit containing the glass hoard and pit 'B', which contained a sherd of Ipswich Ware, were contemporary or nearly so. He seems to have believed that virtu-

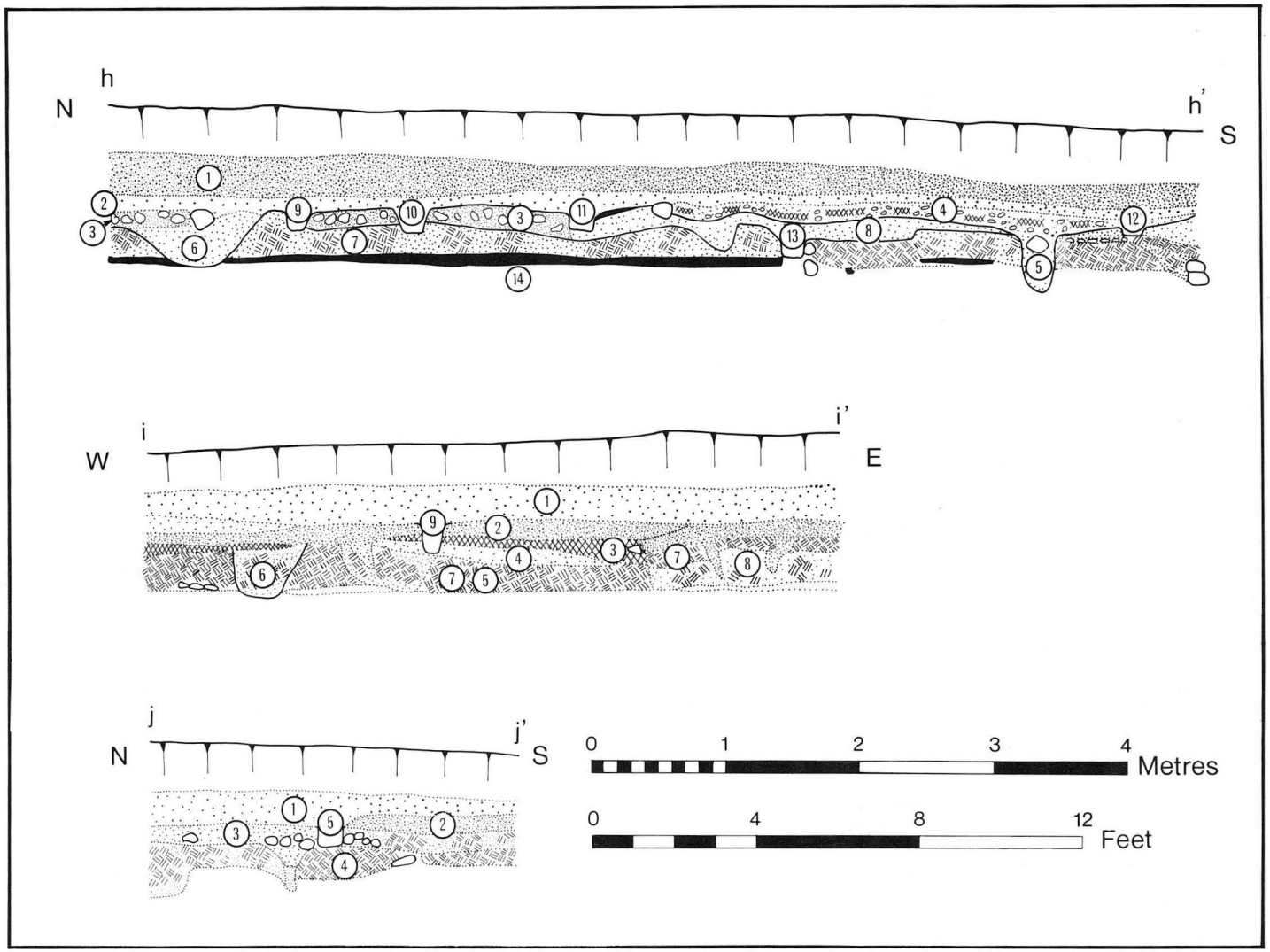


Fig.15. North-east corner of fort, sections through oval 'buildings': for locations of sections see Fig.16 (p.35). Scale 1:50.

ally all the layers above 7, the putative mortar floor at the base of the section, were post-Roman in deposition, basing his observations not on finds from this section alone where there was no Ipswich Ware from layers 2, 3 and 5, but on other sections elsewhere cut through similar material where Middle Saxon pottery was present.

The dating of layers 2, 3, 5 and 8 on the section drawing f-f' (Fig.14) is of some importance, therefore, in assessing the sequence of the burial of the glass hoard. Interpreted on its own, the section seems to show layers 3, 5 and 8 overlying the mortar floor 7. It might be sensible to assume that these layers formed some part of the Roman occupation of the site since they immediately overlie the floor of Building II. Layer 2, however, might best be interpreted as a robbing trench for the slot wall of Building II (the fill is shown on the drawing as the same). It overlies the fill of pit 'B' containing Ipswich Ware, but is not drawn as overlying the glass hoard pit.

There is no stratigraphical reason, therefore, for assuming that the glass hoard pit and Pit B are contemporaneous. Both were probably dug from a ground surface substantially above the surface found to be undisturbed in 1961. If the glass hoard was buried in a pit which cut through the Roman make-up levels only, then there is no bar to considering the hoard as of any date after the deposition of those levels: thus it could as easily be late Roman as Early or Middle Saxon in date. The survival of such a group of glass vessels for nearly two hundred years into the seventh century, would be an unusual circumstance, but not altogether out of the question, particularly if the vessels had some particular ceremonial or ritual value to an established community of users. It seems more realistic, however, to assign the deposition of this hoard to a date in the first half of the fifth century.

The pit in which the hoard was deposited was dug from a level above anything which survived on the site in an undisturbed state. If one supposes that the hoard was concealed for safety within a building, this may well have been a Roman timber structure on the site of or even a refurbished form of Building II. The implications otherwise are also that on this part of the site, if nowhere else, the latest Roman levels have been thoroughly swept away: unless there was substantial levelling and disturbance in immediately post-Roman times (for which there is no evidence), this also suggests that the Middle Saxon occupation, whatever its form, is likely to be in an equally mutilated state.

Green suggested that of the eleven glass vessels discovered, only six (Fig.37, Nos. 79-83 and 85) were within the bronze bowl, together with the bell. Vessels 81, 82 and 83 were stacked and laid on their side and the two handled flasks (Nos.79-80) and the cone beaker (No.85) lay beside them. The bell stood upright. The description of the early stages of the find was as follows:

> 'To the E, a complex of glass vessels. A cluster of sherds of these vessels (?complete) lifted, and immediately adjoining a perfect glass beaker with pedestal foot [no.88]. Immediately below the iron handle of a 'camp kettle' projects. Attached at one end of the bronze vessel, the SE end broken away and standing free. In the earth in this level lies another glass beaker with pedestal foot [no.89] and the lower part of another lies just to the S. This last appears to have a rounded base [= no.87?]'.

Thus, it seems likely that vessels 84 and 86-89 formed a second layer of glassware which had been stacked on top of the first. The bowl also seems to have contained a bronze beaker, only one sherd of which was found.

It will be seen from this account that Green considered that the iron handle belonged to the bronze bowl. This must have belonged, however, to the wooden bucket within which the bronze bowl and the glass it contained was set. The bucket was deeper than

the bowl by about 14 cm and, thus, when buried, the pit would have had to be substantially deep. Green considered that the glass hoard was in a secondary pit cut into the site of an earlier pit: it is a pity that the exact findspot of the lower iron bucket binding was not recorded since the differing fills of the pit could be explained by the gradual decay of the lower portion of the bucket occasioning a gradual filling of the lower portion of the pit, accompanied by a settling down of the bronze bowl and its glass contents. Alternatively, one might suggest that the lowest portion of the pit represents the original fill of the pit which was compressed round the sides of the bucket and that the upper filling, of different (but not described) character, tumbled in gradually as the bronze bowl sank, after the decay of the wooden bucket, into the void below it. There is no need, therefore, to suggest that the hoard was a secondary insertion into a pre-existing pit.

VI. NORTH-EAST CORNER: POST-ROMAN LAYERS (Fig. 16)

As has been clear from the foregoing description of the Roman levels, there were substantial, if disturbed, traces of post-Roman occupation in the north-east quarter of the fort. On the site of Building I, several post-holes cut from a higher level through the Roman layers have been noted (p. 21-3, and Fig. 10, a-a', 9-12, c-c', 22). Over much of this immediate area, the most distinctive feature encountered was the mixed layers of burnt rubble debris and clay which overlay the mortar floors adjudged to belong to one phase at least of the Roman building. The layers of clay and rubble appear to form the last Roman layers on the site, virtually uncontaminated by later deposits. All the later post-holes and pits seen in the drawings of sections across Building I were dug from a higher level, the occupation surfaces on which have probably failed to survive the depredations of the modern plough.

The positions of these post-holes and the large pit (which contained sherds of Ipswich Ware) in B3b-B4a have been marked on Fig. 16. It is scarcely possible to make of these any coherent plan, nor to date them adequately, for although finds of Middle Saxon and Saxon-Norman pottery are relatively frequent in the topmost levels within these areas, there is nothing to link them clearly with these post-holes. It has already been pointed out that these post-holes were recognised for the most part only in the section drawings, and others which did not lie on the lines of the drawn sections, may well have been missed. In addition, if such pits or post-holes contained post-Roman pottery, whatever their exact date, then this may account for some of the contamination of the Roman layers by post-Roman pottery. In particular, layers B2a4, B4a4, B5a3 and B5b3 contain sherds diagnosed as 'Ipswich Ware', though their predominant content is Roman pottery.

If modern, and perhaps earlier, cultivation has accounted for the loss of any further traces of structures which lay in the area of the Roman 'Building I', the area of the Roman Building II seems to have fared rather better. Here, as the section drawings (Figs. 14 and 15) show, the basic Roman mortar floors (d-d', e-e' 6, f-f' 7, h-h' 8) were covered by a further series of deposits, some of which were immediately considered by the excavator to belong to a Middle Saxon date and given little or no further description.

After the removal of the topsoil over much of the area, the initial layer encountered was a dark loam (No. 1 on all section drawings); in fact it appears that no more than these two layers were excavated over a large proportion of the area opened in 1961. This black layer was of considerable depth in places (for example in D3, where several spits were removed to a depth of 3 ft), but elsewhere it was between 1 ft (30 cm) and 2 ft (61 cm) deep. Beneath this, there was a variety of contrasting layers. All three sections on Fig. 14 from D4 show different layers below the dark material immediately below topsoil. Along its south end (d-d') there is a line (a thin clay spread- 'floor') mark-

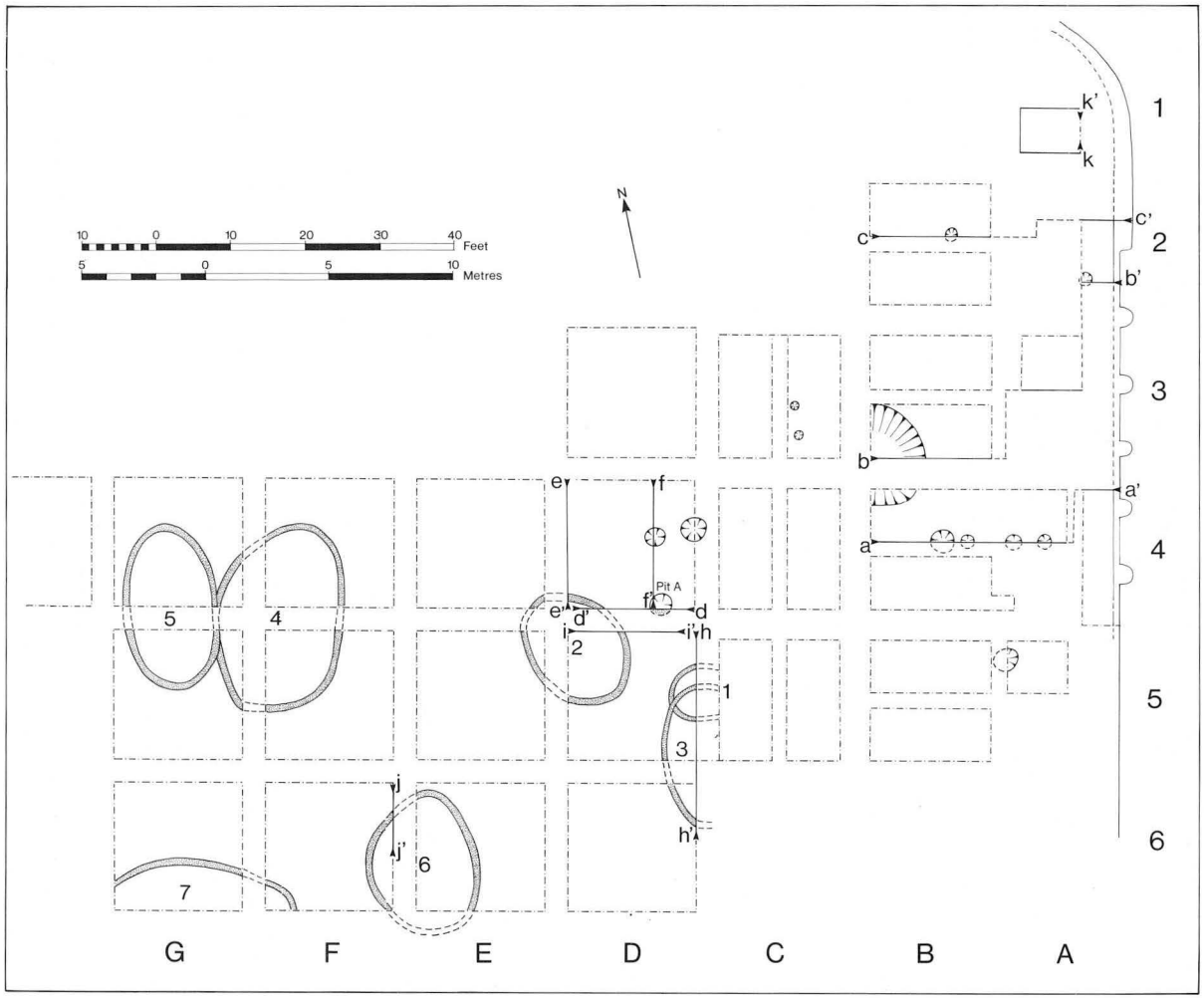


Fig.16. North-east corner of fort: plan of post-Roman features. Scale 1:300.

ed by oyster shells (at the base of layer 1), interrupted towards its west end by a slot-like feature (2). There is no appreciable difference between the portrayal of layers either to left (east) or right (west) of this feature. Beneath this is a layer of mixed soil not so dark as the upper layer (3), from which level a rather irregularly bottomed pit or post-hole was dug down through all other layers into the natural. Beneath the mixed layer comes a thick band of oyster shells and occupation debris, in places up to 1 ft (0.30 m) thick (4). Under this is more mixed soil with a rather greater admixture of clay (5), before reaching the Roman mortar floor traces and natural. A roughly similar pattern is repeated in section e-e', on the west side of D4, but there is less correspondence between these two and section f-f' - all the more surprising since the point f' actually lies on the section line d-d' at a point some 5 ft (1.5 m) from its east end (Fig.16). In the section f-f', including the central pit (B), which contained only Roman sherds, and seems actually to have been cut from a level slightly lower than the pit which contained the glass hoard, there is no feature below the dark earth which is not of Roman date, as has been argued earlier (p. 33). These section drawings result from narrow trial trenches cut against the edges of the trench, so it is once again difficult to correlate levels across the intervening space of 17 ft (5.18 m), but since it has been argued above that the latest Roman levels, from which the pit to hide the glass hoard was dug, lay at some height above the level at which the hoard was found, there is quite a possibility that most of these layers under the topsoil and the black earth are of Roman and not post-Roman date.

The main difficulty is to pin down which layers are of post-Roman date. The only two which contain substantial amounts of Late Saxon pottery (and this is about the only area of the site where it is found in relative abundance) are layer 1 - the topsoil - and layer 2, which over almost the whole area must refer to this dark soil immediately below the ploughsoil (Fig.14). If the pattern of the area where Building I was encountered is followed, the Roman layers might be expected to be capped with a clay sealing layer - possibly a deliberate levelling of the ground for some later building. In the section d-d' and e-e', there is just such a pattern: the mortar floor at the base of the section is covered by clay and mixed debris (5), then capped by a more solid band of clay and mixed earth, within which there were oyster shells. Only above this comes layer 2.

Much of the argument for a Roman date for the underlying layers may well be e silentio. Beneath layers 1 and 2, only D4(3) (a pit in D4, Fig.14, d-d', pit A), and G5 (2/3) produced Ipswich Wares, but the amount of all these layers sampled was so trifling that the Roman dating could well be shaken by further excavation under controlled circumstances. Green himself, however, was early on forced to consider carefully the 'Middle Saxon' dating he was so keen to put upon the upper layers in this area. In cutting a test trench along the west side of D4 underneath the black earth, he cut through a layer which formed a 'surface' with an intermittent mortar and flint spread, on to a fragmentary and thin clay floor which he immediately designated 'Anglo-Saxon'. It is not clear how this relates to the drawn sections, though it seems to have lain at the base of the dark layer under topsoil. All the pottery found, however, as the notebook remarks (Book 3, p.20), 'was Romano-British in large pieces with sharp edges. It is therefore possible that this after all is a late Roman floor, the Anglo-Saxon having been destroyed by early agriculture'.

It was not until excavation of the test trench along the south side of D4 that the only definitive evidence for the dating of the very fragmentary clay floors at the base of the layer immediately under the topsoil in this area (1 on all sections) was found. The pit marked 'A' on the plan (Fig.16) and marked also on the section drawing (Fig.14, d-d' 3) contained Middle Saxon pottery. Its relationship with the base of the 'dark' layers and the oyster shells and clay at their base is, therefore, crucial, as is its relationship with the pit which contained the glass hoard (actually only some 4 ft away). Green's statement comes direct from the site notebook (Book 3, p.9):

> 'After clearing spill on S side, it became clear that a pit had been dug through the RB floor [presumably the mortar floor at the base, d-d' 6] close to the 'glass-pit'. Section cleared, pit emptied and section drawn [d-d']. This was certainly dug from a level at the top of the mixed clayey sand [5] on which oyster valves were clustered [4]. In general this was several inches below 'Fursey's' floor [i.e. the oyster spread and clay at the base of layer 1], but in places the two came together to within an inch or two and it is fairly clear that the glass-pit was dug from this earlier level. A few sherds from the pit, including Ipswich Ware at about the level of the broken RB floor. On the E side of the pit there was an elaborate build-up of clay. In the S section there is a layer of bone fragments and carbonised matter stretching E from pit-lip. This is not present to W, but there there is an oyster-shell concentration'.

The section drawing to accompany this account (Fig.14, d-d') shows clearly that this pit is dug from the top of layer 4 (closely packed oyster shells). Above this is a layer (3) described on the section drawing as 'mixed smooth brown', and not differentiated from the fill of pit A except by a tentative line (shown dashed here) linking the top of layer 4 and the base of layer 7 (the mixed bone and carbonised matter east of the pit-lip). To layer 3 Green assigned an Early Saxon date and, consequently, the upper level represented by the base of layer 1 he assigned to a later Saxon date, but still within the Middle Saxon period. It seems that Green thought that the same pair of floor levels could also be distinguished within the section through the glass-pit (Fig.14, f-f') and that the pit which contains the glass hoard was dug from the lower (earlier) of the two Saxon phases of occupation material.

Since Green's drawing of section f-f' (Fig.14) concentrates solely on the lower layers, showing only a single layer below topsoil over the glass-pit, it is difficult to reconcile his view that there were, in fact, two occupation layers above the glass-pit with the evidence presented in the drawn section. To the north of the glass-pit, however, there is some attempt to differentiate between layer 1 and a thin, essentially similar, layer 2. Indeed, pit B (Fig.14, f-f' 4) appears to have been dug from this lower level, the base of layer 2. Neither pit B, however, nor the glass-pit contained any Middle Saxon material, and in the case of the glass-pit, there is an inherent improbability that an assemblage of material so closely datable to the early decades of the fifth century should have been stored together for burial in the Middle Saxon period, some two centuries or more after it was current.

The only structural remains which Green was able to assign to a post-Roman date came from the higher level and lay immediately underneath the dark layer 2 (No.1 on all sections). At this level, the excavator distinguished a number of narrow beam slot-type trenches. The description of their filling appears only once within the notebook, but once found at this level, Green was successful in identifying several more and, thus, he pieced together the plans of a number of beam slots of oval or irregular oval shape. These slots were first encountered in trench D5 and the notebook description (Book 3, p.32) records the following:

> 'Differential colouring and other slight indications suggested the possibility of hut-outlines, though there was no evidence of the wall-stumps visible. Careful scraping showed a double outline around each area. These plotted as indicated; the space between each double outline being defined really by a roughness caused by tiny pebble-holes and worm-holes. But the colouring differences, though slight, were quite clear. Traces also of smeared fragments of burnt daub'.

Once this first hut outline (actually numbered No.2 on the plan, Fig.16) had been established, more were discovered, to produce the overall plan shown on Figs.7 and

16, with seven complete or partial huts in all. Where the lines of these sleeper trenches were cut by the trench lines, the profile of the small trenches appears as a small slot with vertical or sloping sides and a flat bottom, varying between some 6-9 in (15-23 cm) deep and between 9 in and 1 ft (23-30 cm) in breadth (Fig.14, d-d' 2; e-e' 7; Fig.15, h-h' 9-12; i-i' 9; j-j' 5).

These hut outlines present problems. As far as the notebooks show, none of the slots was excavated to determine what lay within its fill, and they appear within section drawings only where all the deposited layers were cut through, down to natural. Thus dating evidence from the slots themselves - admittedly only of limited value - cannot now be examined. In addition, although the plans of the ovals enclosed by these trenches do show which is the interior and which the exterior, section drawings such as d-d' (Fig.14) show little or no difference between the deposited layers either side of the slot for hut 2, where, according to the plan (Fig.16), the area west of the 'beam slot' (2) ought to be the interior of the hut, and the area east of it, outside.

A more fundamental question is whether these hut circles existed at all. It has to be admitted that the description taken verbatim from the site notebook begins by no more than suggesting the possibility of hut outlines and the fact that there is no further description of any others of these huts, merely pages of co-ordinates with which to plot points on further hut outlines, does little more to strengthen confidence in the existence of these features. The lines of huts 1 and 3, for example, were not picked up in trench C5x, even though the levels which covered the traces of these huts were examined in 1958.

The interpretation of the hut remains also poses problems. The sizes differ considerably and the irregularities of plan are quite striking; hut 4 for example measures 26 ft (8 m) x 16 ft (4.8 m), whereas hut 1 is only 7 ft (2.1 m) x 10 ft or so (3 m). The description reveals that there were no traces of posts visible within the wall trenches and it is, therefore, a pity that no excavation took place to determine what type of construction these huts had. It is difficult to believe that they had such irregular curved sleeper-beam trenches, and there must have been post-holes, unless these trenches are considered to have contained masonry. The section d-d' (Fig.14) shows a cluster of packing stones round the base of this slot (2), but, unless it was cut from a much higher level, this can hardly be the base of a post-hole. It is unlikely, therefore, that the black material found underneath ploughsoil represents anything much more than the disturbed remains of post-Roman levels in these areas. No real floor levels associated with the huts were recorded, though Green continually thought of the line of oyster shells and clay which intermittently appeared at the base of layer 1 (e.g. on section d-d' around the wall-trench of the hut slot) as being the 'Fursey' floor level. The scatter of oyster shells encountered at this level is probably an occupation level of some sort with its covering layers very disturbed, but its date of deposition is almost impossible to determine. Layer 1, the covering layer (which itself may have been of several periods) contained substantial amounts of fairly abraded Roman pottery with a liberal sprinkling of Ipswich Wares (Fig.13). There was, however, some suspicion of contamination of these layers since in G6, for example, eighteenth-century pottery came from its base. A trace of a floor was noted within one of the hut ovals (hut 7) in G6, together with a fallen lump of wall plaster, but whether this really related to the hut itself or to an earlier building through which the hut outline may have been cut cannot with certainty be determined. Within the section d-d' in D4, it seems simplest to regard the layer of shells as an occupation layer through which the wall trench of hut 2 is cut. Pit A, at the eastern end of section d-d', is marked on the original drawing as having contained a sherd of Ipswich Ware and this must, therefore, date the deposition of layer 1 and the upper series of wall trenches for the huts no earlier than the mid seventh century.

All in all, there are still many problems to answer with regard to these oval hut

emplacements and the post-Roman levels in the areas examined in 1958 and 1961. The presence of such a large and varied amount of Ipswich Ware does suggest an occupation at some period in the seventh or eighth century, but unequivocal structural traces of this have yet to be found. The build-up of occupation layers or of levelling layers seems to have taken place since the late Roman period and it is, therefore, difficult to point to any undisturbed occupation level, still less to relate floor levels so close under disturbed upper layers with the putative foundation or sleeper-beam trenches for the oval buildings.

VII. THE NORTH-WEST CORNER OF THE ROMAN FORT (Figs.17-19)

The campaigns of 1961 included partial examination of the interior of the north-west corner of the fort, in an attempt to locate the actual corner of the fort wall and to examine the nature of the substantial build-up of layers within the fort at this point. It will be noted from the drawing of the north wall exterior (Fig.4, bottom) that the Roman walling in this area is covered by a mound of material which builds up from a point east of the projecting bastion placed centrally in this wall. At the point where the present surviving Roman wall breaks off, this bank against the Roman wall is of substantial proportions. Because of an apparent fall in the ground level outside the fort, it is about 20 ft (c. 6 m) high, and covers about half of the surviving height of Roman walling within that depth.

The excavators cut six separate trenches in all in the area (Fig.17), with varying degrees of success. The results are best viewed from the plan and the section drawings (Figs.18-19), since a verbal description based on the notebook can give only a rough sketch of the excavator's conclusions. This report will deal first with trenches Q1-Q4, then will return to trench P1, and finally deal with R5.

On clearing the topsoil off the area of Q1 it was immediately obvious that the north and west portions of the trench were rather heavily disturbed, whereas brown, clayey earth lying to the south and east appeared to be an archaeologically stratified layer. No distinction between the stratified layers was attempted: within a short space of time the trench was some 7 or 8 ft (2.13-44 m) deep and the section could be examined. It was determined that the swathe of disturbance running to full depth across the north-west corner of the trench (A, on plan and section, Fig.18) was the work of Harrod, who had cut a trench through this area during his examination of the site in the 1850's. The trench was further extended to the north in two stages, but each time only more of Harrod's disturbance was encountered. Low down in the east face at the north end of the trench was discovered a fragment (Fig.18, l-l', 10) of the foundations of the north wall of the fort. This east face (Fig.19, n-n') and the north face (Fig.18, l-l') of this trench were drawn. The portions of each, undisturbed by Harrod, bore some resemblance to the layers also encountered in this area in the neighbouring trench (Fig.19, m-m'). They were largely disturbed and apparently dumped layers which can be described in slightly more detail under trench P1. None of the finds from Q1 can be tied with any certainty to these layers, although Saxo-Norman pottery was noted in the upper filling and the only point of greater interest, apart from the massive nature of the deposition of layers in this area, is the existence of a pit (Fig.19, n-n', 12, Plan Fig.18C) underlying all these layers and dug into the natural sand. Observations in P1 suggested that it had been cut through by the construction of the wall foundation trench for the Roman fort wall. The pit contained only scraps of chalk, tile, charcoal, and a sherd of grey ware. Although it contained nothing to enable the construction date of the fort to be closely determined, the presence of the pit does indicate some occupation of the site before or during the construction of the fort walls.

The other trenches, Q2-4 are quickly summarised. Q2 was hardly examined. Here

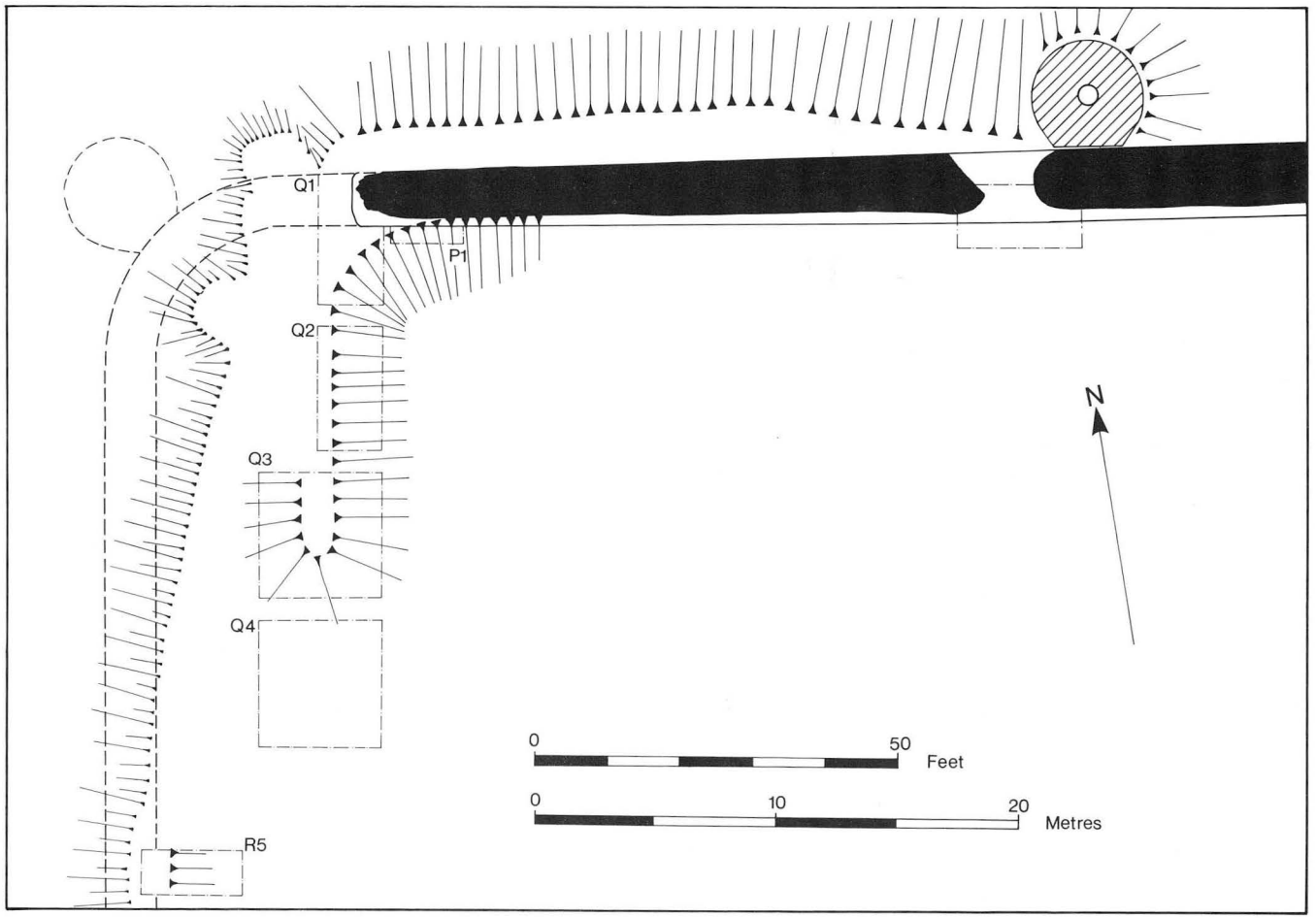
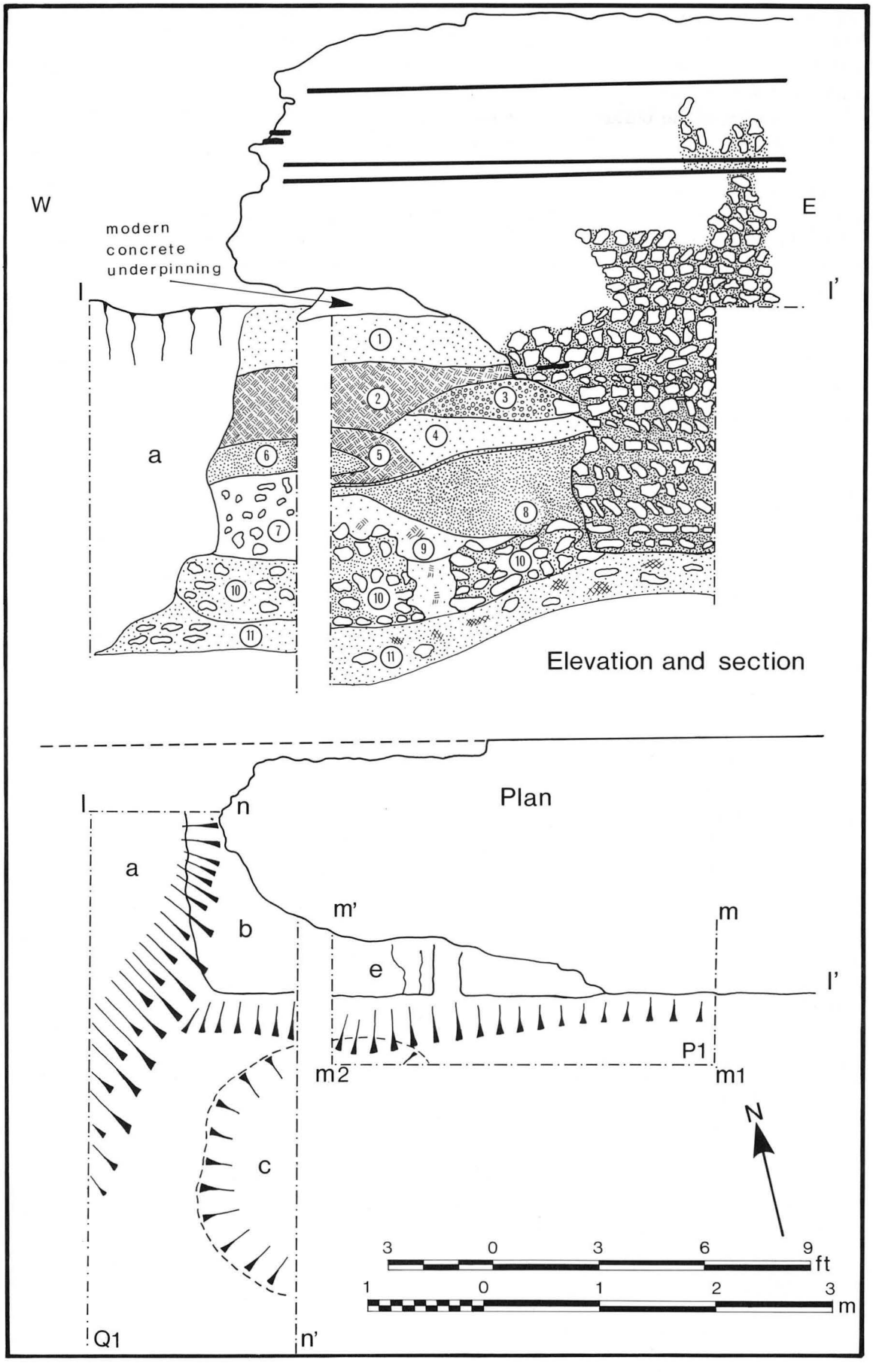


Fig.17. North-west corner of fort: plan of excavated features. Scale 1:300.

only a dark layer of earth under topsoil was removed: an underlying layer of gravelly sand, not natural, was found to slope from north to south, but was not excavated any deeper. The dark earth removed from Q2 may well have extended the slope of the dark black earth found immediately under the topsoil at the south end of Q1 (see section Fig. 19, n-n', 3) where it is shown to be deepening considerably towards the southern end of the trench. In Q3, apart from removal of topsoil, trial trenches were cut running east to west at the north and south ends of the trench. These revealed that underneath a sandy layer there was a central ridge of material compounded with flints and clay dipping to the west and to the east. This was an ill-defined bank of material within which were found some sherds of Ipswich Ware. In Q4, examination of a test section along the north edge of the trench revealed only a deep deposit of more than 6 ft (1.83 m) of dark earth lying on natural sand. The rough bank of Q3 had, therefore, come to an end before reaching Q4.

Detailed interpretation of these features cannot be absolutely clear. The only place where the full extent of the bank of post-Roman material running north to south was fully recorded was in trench Q3. Here the layers of bank material were not only humped up to form this embankment north to south, but all the layers were falling slightly towards the south and, apparently, completely tailing off before reaching trench Q4. Although in Q2, where excavation was not deep enough, and in Q1, where layers were very disturbed because of Harrod's trench in the 1850's, the complete width of this bank was not encountered. All the layers were apparently sloping downwards from north to south, suggesting that there this bank of material, probably widely spread and connected in some way with the bank lying outside the north wall, had turned the corner and was running north to south and decreasing in height as it did so. At the north end, near the fort wall, ploughing and other levelling activities had sliced a large amount off the top of this mound. This was clearly seen in the trench P1, cut against the south (inner) face of the north wall near its broken west end. The drawn section of all three walls of this trench is slightly confusing because of the multitude of layers (Fig. 19, m-m', 1-3) encountered. Immediately under the topsoil, it is clear that a number of the upper layers in the south face of the trench (between points C and D) are sloping gradually upwards from east to west. These layers are made up of dumped material in this bank. They form a mixed assembly of earth and clay, largely barren of finds apart from the occasional scraps of Roman pottery, tile and building debris.

These layers, on excavation, were followed down to an underlying clay and mortar floor (8) covered by a layer of occupation material (7) which contained sherds of Ipswich Ware. This floor was not quite consistent over the whole area of the trench for there was some disturbance in the south-west corner visible on the drawn section, but there were indications during excavation, though not on the drawn sections, that the floor impinged slightly on the line of the broken Roman wall, suggesting strongly that by the time the floor was in use as an occupation surface, the Roman wall was already broken at this point. There are obvious difficulties over the interpretation of this surface as a 'floor': one is the size of the excavated trench, which, at 10 ft x 4 ft and 6 or more feet deep (3.05 x 1.22 m, with a depth of 1.83 m) can scarcely have given adequate area or working room for unencumbered excavation. Another difficulty is that the 'floor' has no edges: it ran out of the trench to east and south, was disturbed to the west by what appears in the section drawing to be a 'mound' of mixed brown earth (13) (!), and, we are told from the notebook, 'the floor-line was seen to go a little way into the wall base' (i.e. it overlapped the line of the Roman fort wall), but there is no indication how far it overlapped. Nor is it clear what sort of building this floor may have belonged to: as a counsel of despair, Green suggests that there were traces of a western footings trench for a wall, but neither the section nor the notebook gives a coherent account of this and once again the conclusion is mooted that since the west wall was not discovered in Q1, it must have sprung southwards from the wall line in the (minimal 1 ft) gap between Q1 and P1. A further problem of interpretation may here also be noted: if the Roman fort wall


W
E
modern
concrete
underpinning
I
I'
a
1
2
3
4
5
6
7
8
9
10
11
Elevation and section
Plan
I
n
a
b
m'
m
e
I'
P1
m2
m1
c
N
Q1
n'
3 0 3 6 9 ft
1 0 1 2 3 m

was already broken down by the time that this floor was laid down, what sort of structure acted as the north wall for the building to fill up the gaping hole when the north wall of the fort was missing? It can hardly have been part of the overlying bank of material. It is perhaps better once more to suspend judgement about this floor and perhaps to consider it as part of the build-up of layers at this point in post-Roman times, rather than as of particular structural significance.

This band of occupation material was the only one encountered in the area examined in and around this bank. The bank itself contained sherds of Middle Saxon date, as well as the 'Saxo-Norman' pottery in its upper filling. It can, thus, reasonably be suggested that it represents the upcast of amassed layers probably of Norman date.

Underneath all the upcast layers the lines of the footings trench for the north wall of the Roman fort showed clearly (see plan, Fig.18E, and all sections layer 11). The footings themselves were formed of closely packed clay with flints. Above them, in the area encompassed by trench P1 the wall proper was found to be dipping downwards towards the west remarkably sharply. One fragment of this walling was found to have broken off right next to the surviving portion of wall and excavation at deep levels revealed a further fragment detached by some 15 in (0.38 m) from the remainder of the wall (Fig.18, elevation). The remainder of the fill of the foundation trench was composed of mixed layers similar to those found in the rest of the area. This, together with the evidence for the Saxo-Norman pottery mentioned above, suggested that the whole of the great gash in the west end of the north wall had already occurred by Norman times and that the resulting hole was filled in by an earthen bank.

It seems most likely that the excavator's explanation of the time was the correct one for this phenomenon. The north-west corner bastion, according to the reconstruction (Figs. 4 and 17), lying a further 10 ft (3 m) or so westwards of the surviving west end of the north wall, had been progressively undermined. In toppling finally after the Roman abandonment of the site, it had carried with it a substantial portion of the north wall of the fort. It had been in order to increase the stability and solidity of this bastion that the fort wall foundations were deepened towards the north-west corner, but finally the fall of the bastion had caused the great gash in the fort wall and even dislodged the two fragments of the bottommost courses of the wall which were discovered still nearly in their original positions.

One final trench was cut in this area: this lay between R4 and R5, where it was hoped to pick up some trace of the original line of the west wall of the fort (Fig.17), at one of the only points along the west edge of the scarp where it might be possible to check this, since the remainder of the slope had fallen or been eaten away. Unfortunately this trench produced only inconclusive results. All the layers here were post-Roman, since an Early Medieval sherd was discovered just above natural, and although a trace of a disrupted footings trench for the Roman west wall was diagnosed, this was not certain. There was a bank of material on the west side of this test trench: this, too, may have been part of the Norman defensive arrangements. It may have been to plug a gap left by the collapse of all or part of the Roman west wall.

In sum, then, the picture of the site produced by this examination of the north-west corner, is that the Roman north-west corner had collapsed some time after the Roman occupation - possibly relatively soon after. If the Middle Saxon sherds and the mortar floor are really to be interpreted as an occupation layer in the area, then this suggests

(opposite) Fig.18. North-west corner of fort: plans and sections of trenches Q1-2 and P1 at west end of north wall. For key to section drawing see p.20. For positions of sections see Fig.17, p.40. Scale 1:50.

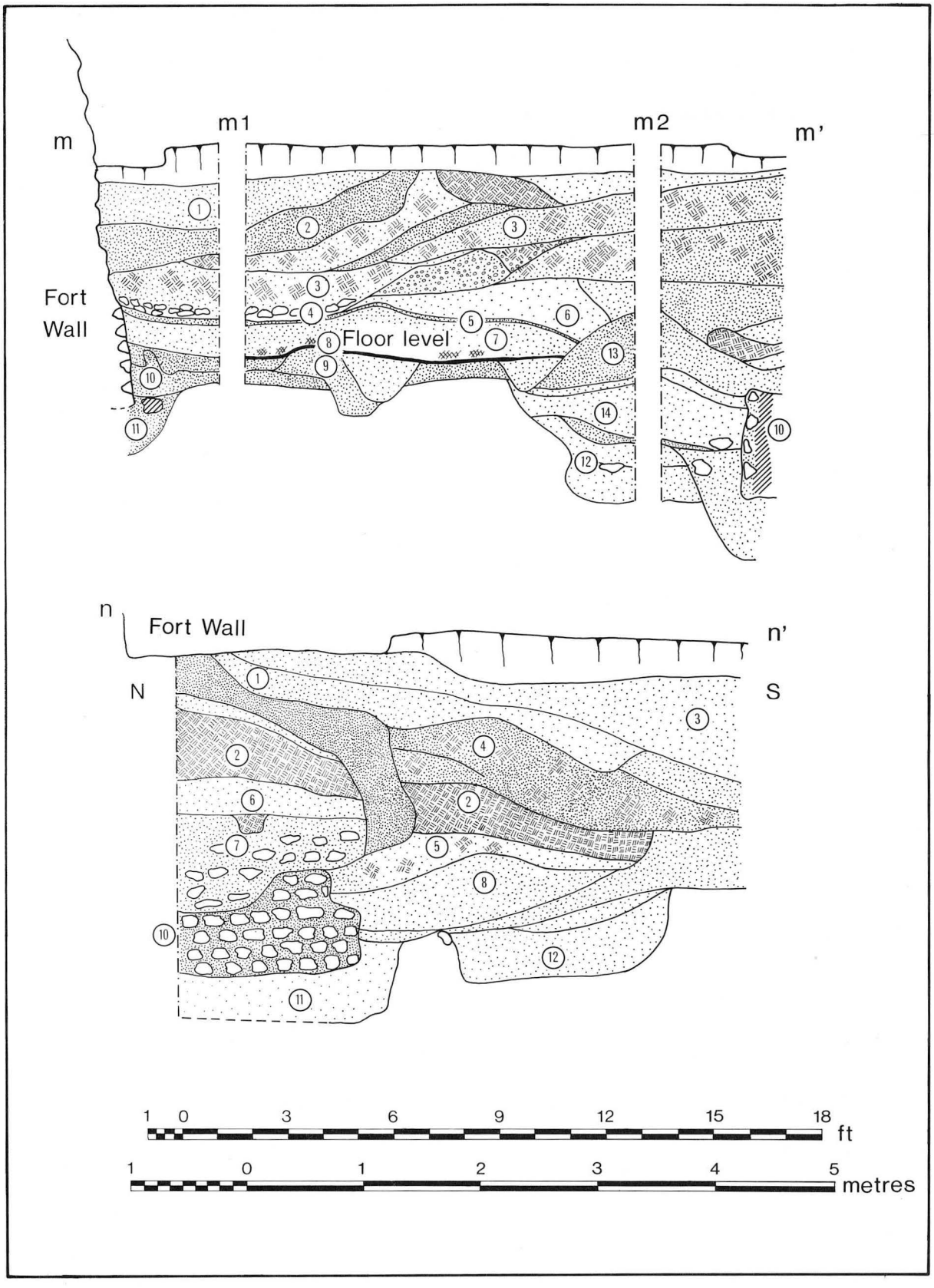


Fig. 19. North-west corner of fort: sections of trenches A1-2 and P1. For key to section drawing see p. 20 and for positions of sections see Fig. 17, p. 40. Scale 1:50.

the wall had fallen before Middle Saxon times, but the arguments above show this view to be of dubious worth. In Norman times, however, surrounding layers were scraped together and clay and earth was dumped in the area to strengthen this weak portion of the bailey defences and to re-establish an unbroken circuit. The early medieval bank seems to have followed a north to south line from the broken west end of the Roman north wall. The layers piled against the outside of the north wall of the fort, therefore, probably also belong to a similar period when this corner of the Roman walls by its broken-down state afforded easy access to the interior of the site.

VIII. THE SOUTH-WEST CORNER OF THE ROMAN FORT: ROMAN FEATURES (Fig.20)

The excavation of the south-west corner of the fort was undertaken in a single season, from the beginning of October to the end of December 1960. During this period, the work was carried out by twelve or so workmen supervised by three trained staff for a total of twelve weeks. Weather conditions, as one might expect, were occasionally most unfavourable.

The grid which had been used in the northern half of the site in 1958 was extended to the southern half by extending the base line parallel to the fort's east wall down to the south-east angle. By measuring twenty-foot lengths along this line the positions of the grid squares were ascertained. A large number of square trenches were marked out in this area (Fig.2) not all of which were completed. As previously explained, these were now 17 ft square, leaving a baulk of 3 ft all round between each trench and its neighbour. Much of the southern part of the area enclosed by the Norman motte ditch (visible as a depression on the ground surface) was thus marked out for excavation. Two large sections were planned to cut the motte ditch.

It was known that Harrod (Harrod 1859, 154-5) had cut trenches in this area - the account of the work he had done here reveals that he cut a trench from the west end of the Roman wall running north-eastwards.

> 'This led to the discovery of the foundations of a small apartment, of which the main wall of the station formed the southern side. It was sixteen feet six inches square, and had along its southern side a channel, or flue, formed of flanged tiles, and there was some indication of a furnace on the exterior at the south-east corner.'

In addition, of course, this was known to have been the site of the Norman motte which was erected, presumably, in the late eleventh century and had been levelled in 1837. The chances, therefore, that the site may have survived unscathed by this activity and by the ploughing subsequent to the removal of the motte were slim.

One of the problems in assessing the results of the 1960 excavations lies in discovering exactly how much of the site was excavated. It is by no means easy to tell which baulks were actually cut through between the various trenches. Green's overall plans form the basis for the drawings here presented as Figs.20, 21 and 23. As these originals, unfortunately, do not show the outlines of the trenches opened, no clear distinction is made between excavated features where they were actually encountered and where they were assumed to exist under baulks which were not removed. In these figures, the writer has tried to rationalise the area actually excavated, not always with complete assurance. It will be remarked, however, that some of the evidence for Harrod's trenches and the various walls underlying them or followed by them lies underneath baulks of whose removal there is no adequate record.

Excavation (Fig.21) showed that the disturbance caused by Harrod's excavation and his trial pits was considerable. Not only had the nineteenth-century trenches followed the line of all three walls of the small rectangular building against the fort wall, but a trench had been taken in a direction almost due east from the north-east corner of this building through grid squares M33 and L33, running roughly parallel to the south wall of the fort and some 20 ft from it. Green suspected that this trench had followed the line of a further Roman wall, acting in some sense as a latter-day robbing trench. This diagnosis was made from the signs of flint and mortar footings seen in the bottom of Harrod's trench, and particularly in the north section of N33 (Fig.22, p-p').

The most prolific Roman finds lay in M33 and 34 between this putative wall line and the fort wall. Here, under the topsoil, were found scanty remains of a clay floor (Fig. 20) overlying a large amount of Roman roof tile and brick rubble. Although the Roman rubble finds appear to have been encountered all over the trench, the clay floor was not everywhere present.

The removal of the Roman rubble (probably only in trial sections in the usual fashion) revealed patches of a mortar floor lying on natural sand. Two pits in particular (apart from those probably dug by Harrod) cut through this floor. They contained a group of pottery of mid-fourth century date, three coins (Hoard 7), together with the remains of a late-Roman cavalry helmet. These pits, (A and B on the plan, Fig.21) were sealed by the layer of tile and rubble debris which covered much of the area. The small patches of mortar floor encountered by the excavators beneath this debris layer are also marked on Fig.21.

North of this area, the only Roman finds appear to have been isolated fragments of walling. Two of these, shown on the drawn plans, but not described in the notebooks, lay within the cemetery area, in L31, at its western edge, but the most significant feature was the remains of a wall running at right angles to the fort through the west edge of N32 and reappearing through the baulk in O31 and O30. Despite its 'solid' appearance on the excavator's plans, the notebooks reveal that this was a 'bank of stones' of rather irregular shape. In O31 'the stone spread was more regular, and near the middle there were distinct traces of mortar.' It was thus suggested to be a wall footing whose layering had been destroyed by ploughing. The present plan (Fig.21) follows Green in suggesting a link between this wall line and the possible wall line followed by Harrod through M33 and L33. It would take only a slight deviation from the line followed by the north-to-south wall to bring it in line with the east wall of the small 'turret'-like building first discovered by Harrod against the fort wall. There are indications on the plans that a slight dislocation eastward may have occurred in Green's recording of this wall. Furthermore, Harrod's robbing trench seems to have gone straight through the critical point of junction of all three walls. The alignment is suspiciously similar: all three may at one time have been linked.

Of the remains of the small 'turret' itself, little can be said. The portions of surviving wall found by Green are shown in schematic form on several plans. Harrod's original account revealed that the west wall was the one which was best preserved. The flint foundations lay on a clay footing in one of Harrod's re-excavated trenches, but his examination of the walls of the building had led to his following its complete outline. Only portions of the interior remained undisturbed. Here, large tile fragments suggested that it had had a tiled roof and near the fort wall clearance of patches of sand (part of a floor make-up?) revealed the two coin hoards and a patch of burnt sand close-packed with mortar debris. This was suggested to be a hearth.

Harrod's excavations at this point had discovered that the foundations of this small building were close to the surface -

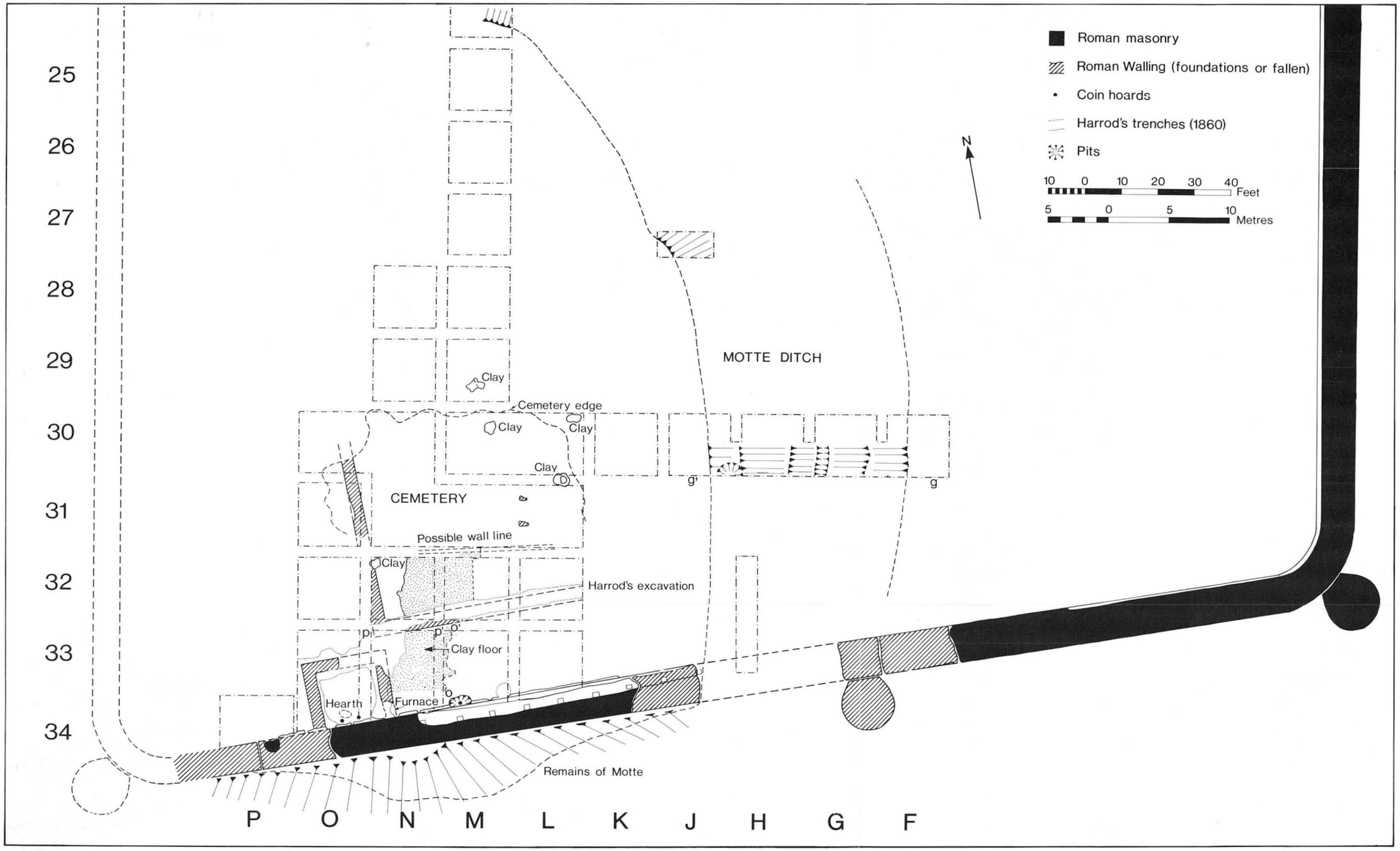


Fig.20. South-west corner of fort. General plan of trenches and excavated features 1960. Scale 1:400.

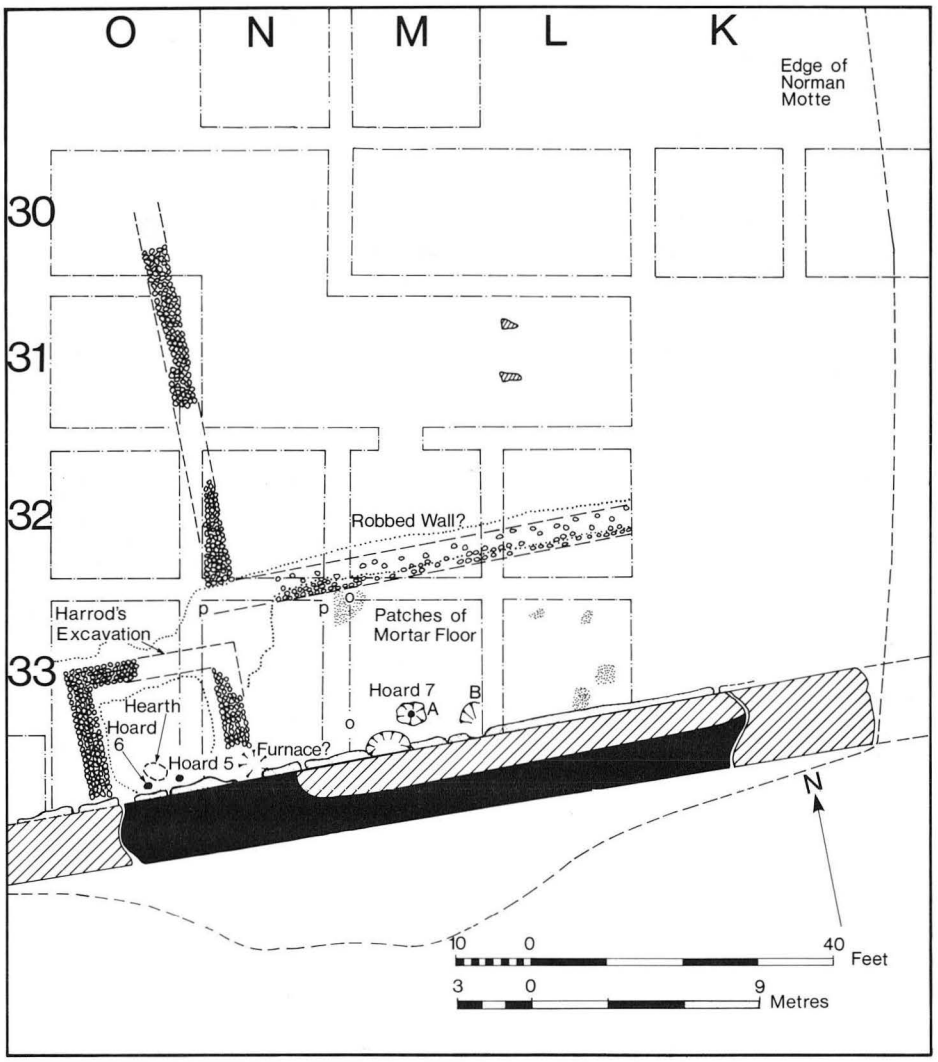


Fig.21. South-west corner of fort: Roman features. Scale 1:300.

'and so little of them was left that I was for some time in doubt about them. There was a shallow bed of clay, on which a layer of flints had been carefully placed, and over this fine gravel had been sifted. No part of the wall itself remained, except near the junction with the main wall of the station, and there a large fragment of the west wall was found, with some of the plaster or cement with which the inside of the walls had been covered still adhering to it.' (Harrod 1856, 155)

Few further details are forthcoming, either from Harrod's or Green's account, save the observation that there may have been a furnace at the south-east corner. No trace of the tile-laid channel running along the fort wall was immediately visible in 1960.

IX. THE POST-ROMAN FEATURES

Several of the features encountered in this area were judged by Green to belong to the post-Roman use of this part of the site. These were clearly marked in different colours on one of his general plans to distinguish between a 'Fursey' period of occupation and a Norman and later period. The major features were a spread of clay flooring in M32-33 and N32-33, the cemetery lying north of this, spread over L-O 30-31, both of which Green assigned to 'Fursey's' period. To the Norman occupation he assigned the

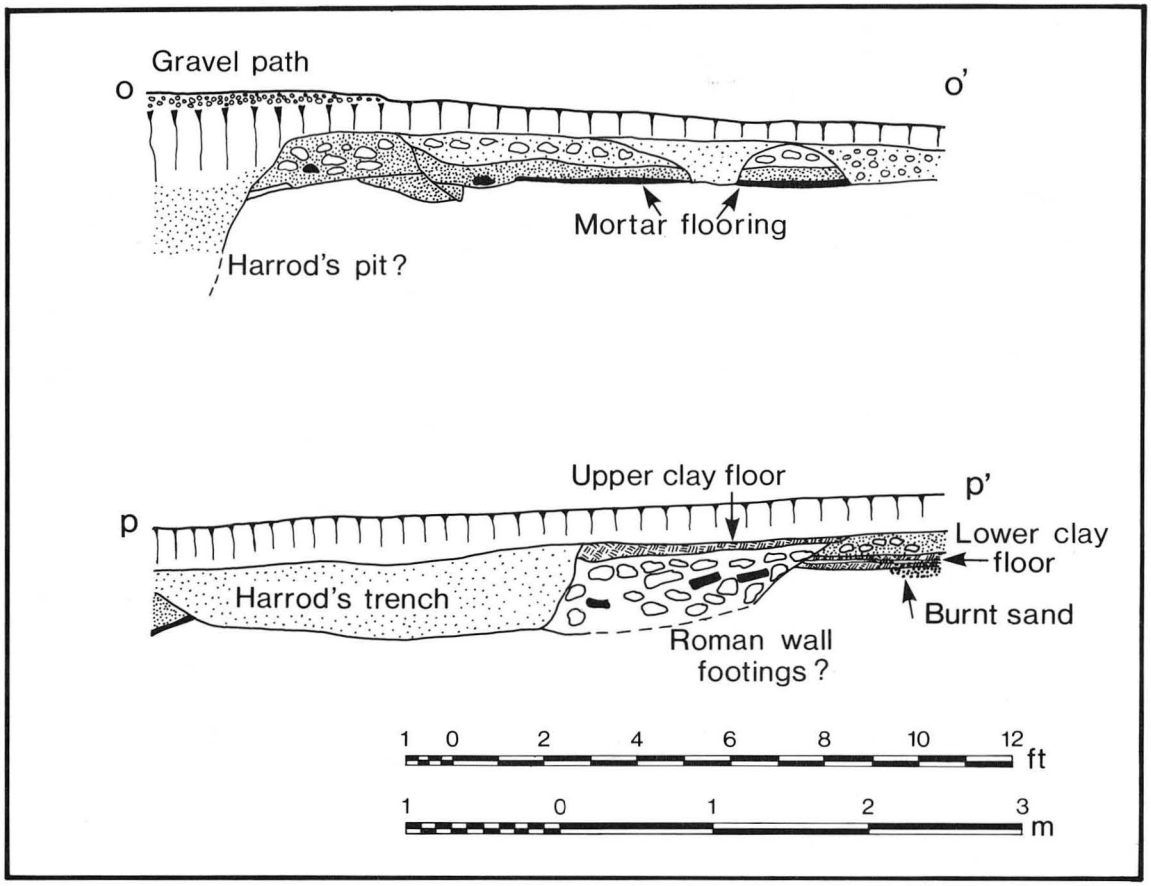


Fig.22. South-west corner of fort: sections through occupation layers. For key, see p.20 and for locations of sections see Fig.21 (p.47). Scale 1:50.

construction of the motte, a number of clay 'bases' or 'plugs' found scattered apparently at random over the motte area, and a row of carefully inserted T-shaped slots cut into the inner part of the standing southern fort wall.

The clay floor, laid over Roman rubble debris, has already been mentioned. It was found to be of patchy consistency, probably due to ploughing and to earlier earth disturbance in the area of M33/N33 in particular. The descriptions of the layers in M33 are at best confusing, but the sketch section given by the notebook suggests that, in the south section at least, there was a layer of earthy rubble (layer 2) underlying topsoil. The clay floor was not at first spotted, but once recognised, it was numbered layer 16b, suggesting that it lay directly under the topsoil and above the rubble. On removal of the rubble, layer 3, described as a 'mixed deposit on natural sand' (shown in the sketch drawing opposite p.67 of Notebook II as 'refuse') was encountered. From this layer the pit A was certainly dug and, from a reading of the notebooks, one might judge that pit B (whose description follows pit A) was also cut and which also contained purely Roman finds (including some proportion of the helmet). Complications arise, however, when one tries to reconcile this description with the section drawing purporting to be the south face of M33 (Fig.22, O-O'). This shows neither pit A nor B, but a large pit at its left-hand end which can scarcely be pit B, since it is cut from topsoil depth. Nor does the drawing of the section correspond in close detail to the above description of the south face of the trench. It does, however, correspond with the excavator's description of the west face of M33 and it is to this, despite the incorrect labelling, that it must be assigned. There is, thus, no drawing which unequivocally shows the stratigraphical relationship between the two floors in M33 - the lower one above the natural sand to be seen on

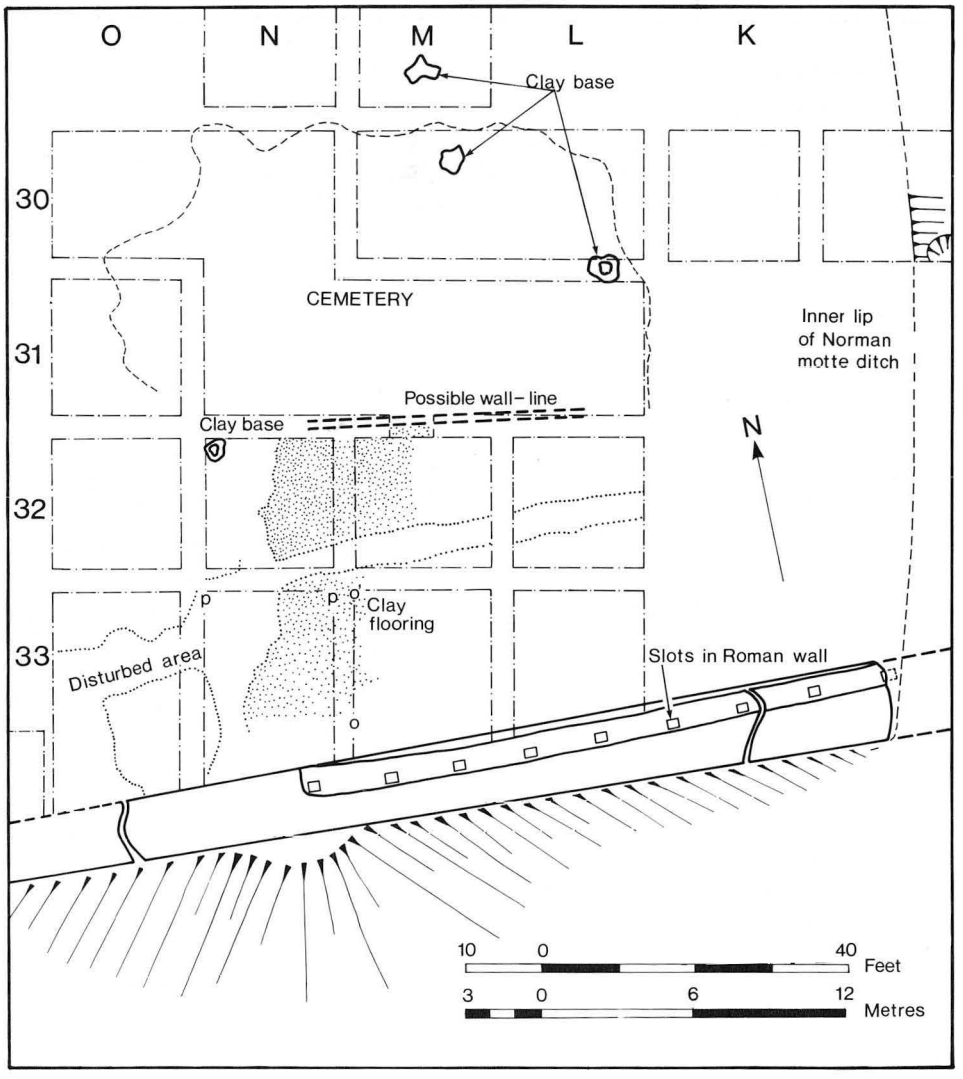


Fig.23. South-west corner of fort: post-Roman features. Scale 1:300.

Fig.22, O-O', and the one claimed by Green to be above the mixed rubble layer, layer 2, which is not actually drawn on the section drawing of the west side of M33. Despite this, however, the presence in this section drawing of the rubble layer over which it occasionally appeared was sufficient for Green to claim that the floor itself was found over a wide area of M33 (Fig.23). What is more, the lower floor, which clearly is marked on that same section drawing in at least two separate places, is only marked in one on Green's plan - and that halfway under what ought to have been a baulk.

Given that the upper clay floor over Roman debris (layer 1b) actually existed, it is impossible now to ascertain how extensive it actually was. It is seen only on one of the section drawings, that showing the north face of N33 (Fig.22, p-p'). Here the gash caused by Harrod's trench is clearly seen, with a spread of flints and rubble lying east of it. This was interpreted by Green as the remains of the Roman wall running east to west effectively robbed by Harrod's trench. Above the very abraded remains of this wall lies a band of clay, diagnosed to be the remains of this similar floor. The earlier floor also appears lower down in this same section in the east corner of the drawing.

As soon as it was discovered, Green labelled this floor 'Fursey'. Examination of the rubble over which it was constructed has shown that it contains or overlies nothing of distinctively post-Roman date: in layer M33 2 there are two sherds of handmade pot-

tery, but neither of these is claimed to be of seventh-century date, indeed neither is immediately diagnostic of any particular date (sherds in excavators' bags 402 and 471). Otherwise the material from layers sealed by this floor is a good deposit of Roman date. In fact, the only Ipswich Ware from this area of the site at all is confined to two sherds, one of which was found in a deep intrusive pit in M34, the other in layer 2 in N34, which was probably the filling of Harrod's trench, since at a lower level within the same 'feature', clay pipe-stems were recovered. The available evidence, therefore, suggests that the period of occupation when Ipswich Ware was current was above most, if not all, of the layers encountered in the excavation. While this does not preclude the uppermost clay spread over the Roman rubble debris from belonging to this phase, the evidence for linking this clay floor definitely with a period when Ipswich Ware was current is simply not to hand, particularly in view of the fact that any occupation levels associated with this floor had, by the time of excavation, been relegated to topsoil.

Moving northwards from the line of trenches L, M, N33 into the '32' line, it is most unfortunate that the site notebooks virtually ceased describing the actual features revealed by excavation altogether. In L32, one gleans only that Harrod's trench ran through the southern part of the trench. In M32, the same indications are given in most fragmentary form. In N32 the notebooks state -

> 'it is particularly noticeable that here there are no disturbed human remains, tending to suggest that we are now out of the cemetery area and perhaps in that of the church built against the wall. Large chalk pieces similar to that which, in very large blocks once faced the wall here were removed in 1947.'

As far as the present author can judge, this is the only evidence for the supposed north wall of 'Fursey's church' lying against the south wall of the fort. The fact that there were no graves encountered in square L32 led Green to suppose that the church building which was associated with them lay against the fort wall and had its north edge at the point where the cemetery came to an end: incidentally this was once again covered by the line of one of Green's baulks. The 'possible wall line' shown on Fig.23 presents Green's own view of the line of this wall. Admittedly a couple of substantial lumps of chalk were saved from the excavation (bag 183), but this is scant substitute for a proper plan or a photograph of the evidence for this wall line.

It will be noted from Fig.23 that the clay floor of M33 and N33 (the upper - i.e. 'Fursey's' floor) is shown on the plan to continue into M32 and N32. Only in N32 is it described: here it is seen as a <u>mortar</u> spread, with a thin covering of dark clay: somewhat different from the description of the same floor in the trenches to the south. Nor is there any mention in N52 of the Roman debris which had formed the floor make-up in M and N33. A further point noted from Fig.23 is the cut through the baulk between M32 and M31 to reveal the clay floor and the assumed line of the north wall of the 'church'. This cut appears not to have been described within the site notebooks, although the extent of the floor on Green's overall plans clearly extends thus far northwards, suggesting that an edge to the clay floor in M and N32 was actually found.

X. THE CEMETERY

The cemetery was assigned by Green to the post-Roman period. The general principle under which Green worked is stated in Notebook I, p.87, describing the trench L30 -

> '... now scraping the basal deep-ploughed earth to reveal the sandy mixture below. Many graves dug into this sandy layer, but some partly disturbed by ploughing are yet partly <u>in situ</u> existing <u>on</u> the sandy layer as it now is. The

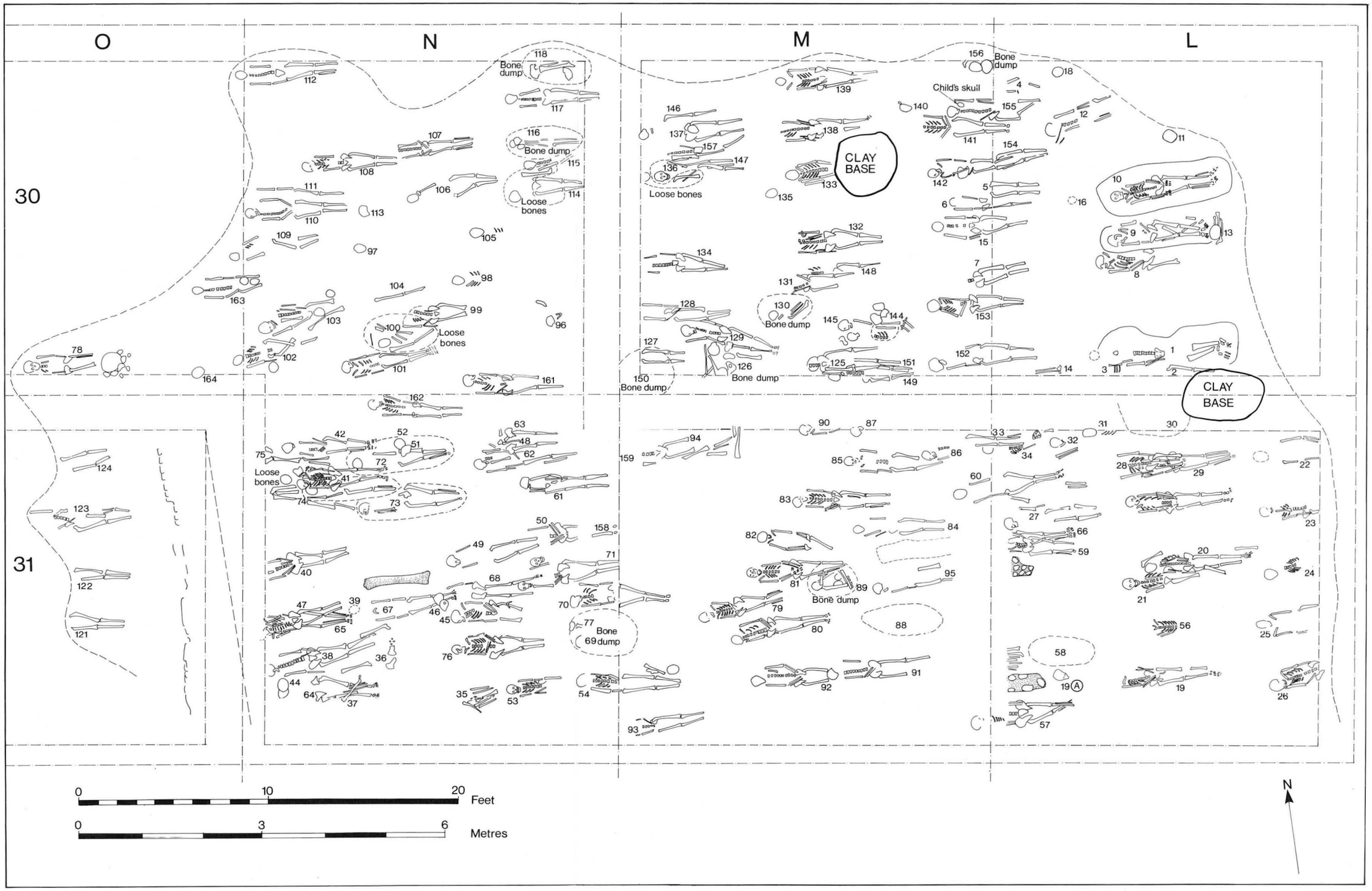


Fig.24. South-west quadrant of fort: detailed plan of cemetery. Scale 1:75.

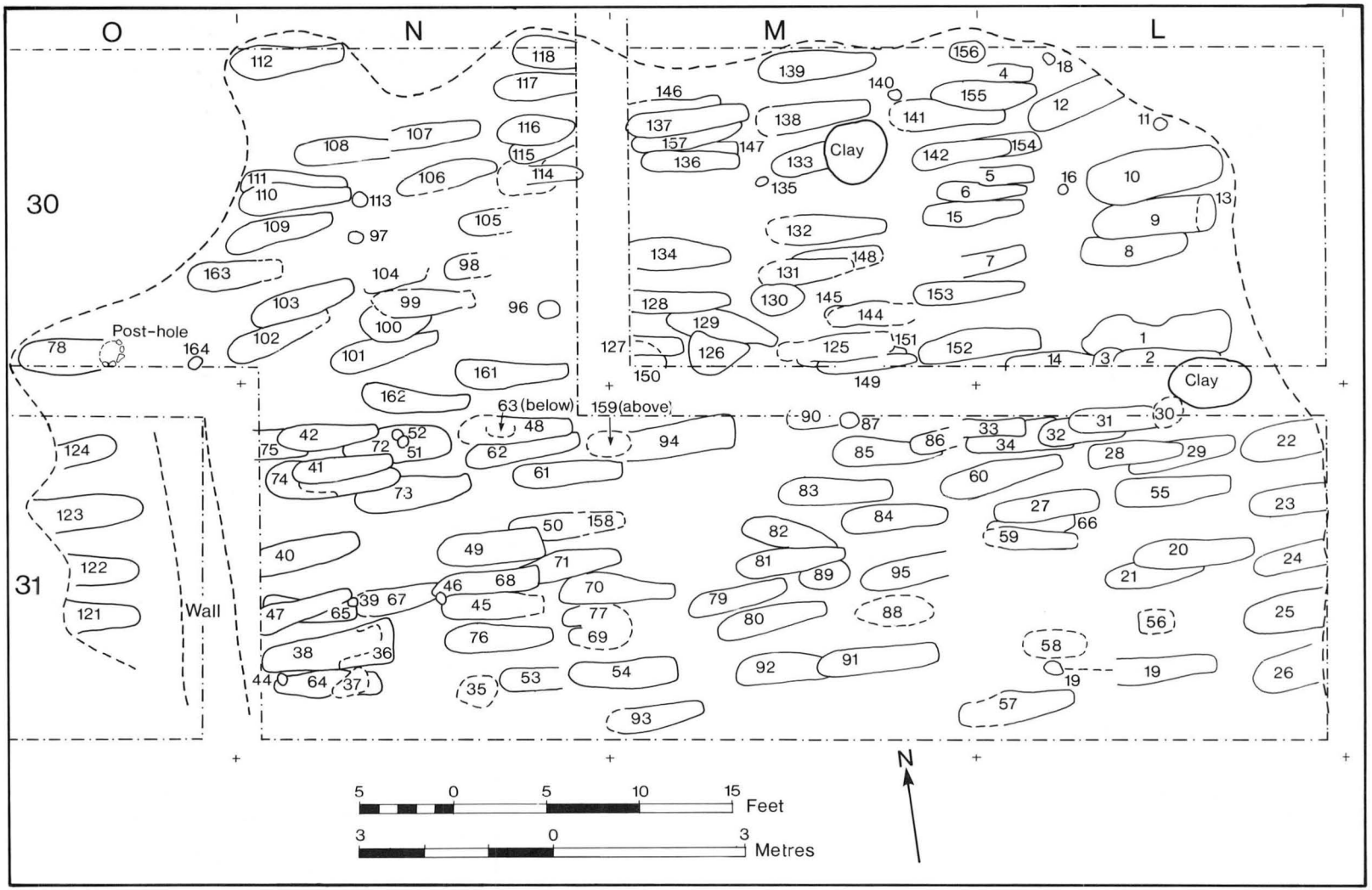


Fig.25. South-west quadrant of fort: cemetery plan with graves in conjectural outline showing the probable relationships. Scale 1:100.

lines of these upper graves are destroyed and cannot be planned. Where limb bones or skulls appear to be in situ they are given INTERMENT NUMBERS, but stray bones are grouped together as 'loose bones'.'

A large number of human bones had been recovered in the topsoil over L30 and M30. Surviving photographs of one or two areas show that the graves were discovered at the very bottom of the ploughsoil (Pl.10, far square N31). As in the explanation above which is given only for L30, but may be assumed to apply for the other seven grid squares which were occupied by the cemetery, the graves were both laid on and cut through a sandy layer of mixed soil under which there was natural sand. The notebooks reveal little about the actual excavation of the squares L-O 30 and 31. The graves found in each square were accorded separate descriptions and are shown on the accompanying plans: Fig.24 shows the plan of the cemetery as Green drew it, conflating all the details (particularly in square N31 where two completely separate levels of graves were found). Fig.25 attempts to show the relationships of these graves in schematic outline. It is important to note that these lines are not necessarily the actual outlines of the grave-fills: they are drawn merely to show in schematic form, as far as possible (and this has often to be inferred rather than specifically stated), which graves cut or overlay which others.

Problems still remain: occasionally it is absolutely impossible to infer a relationship between the two graves. There are also difficulties over which baulks were removed. It appears from the plan that all apart from those between L30/31, M30/31 and O30/31, M/N30, and N/O31 were taken out.

As explained in the Acknowledgements (p.122), it has not been possible to include a report on the skeletal material within this report. To amplify the plans, the 164 interment numbers are here given in abbreviated tabular form. The grave descriptions within the site notebooks rarely give any information other than the general description of how much of the skeleton survived: this can normally be seen from the plan, which, though schematic, shows the layout, orientation and extent of the bones. The grave fills were rarely recognised and seldom described. Any points of particular relevance have been included under 'comments', and here, too, is some assessment of the horizontal stratigraphy.

TABLE 1. THE INHUMATIONS

Grave	Trench	Orientation	Comments	Grave	Trench	Orientation	Comments
1	L30	E-W, 98°	Plough damaged: relationship with 2 & 3 unclear	12	L30	E-W, 76°	
				13	L30	?E-W	Under 9 and disturbed by it
				14	L30	?E-W	
2	L30	E-W, ?	Damaged, tangled with 1 & 3	15	L-M30	E-W, 92°	?under 6
				16	L30		Detached, broken skull
3	L30	E-W, ?					
4	L30	E-W, ?	Upper portion missing	17	L-M30	E-W, 98°	(see also 141)
				18	L30		Detached skull
5	L30	E-W, 96°	?overlies 6	19	L31	E-W, 92°	Skull detached, dragged by plough? R-B tiles underlay the backbone
6	L-M30	E-W, 95°	?cut by 5, overlies 15				
7	L-M30	E-W, 83°	Plough damaged				
8	L30	E-W, 89°	Cut by 9	20	L31	E-W, 92°	Overlies 21
9	L30	E-W, 94°	Cuts 8, lies over 13	21	L31	E-W, 87°	Cut by 20
				22	L31	E-W, 89°	Skull displaced slightly by plough
10	L30	E-W, 86°					
11	L30		Detached skull only	23	L31	E-W, 90°	Crushed and

TABLE 1 (cont.)

Grave	Trench	Orientation	Comments
			damaged
24	L31	E-W, 80°	V fragmentary
25	L31	E-W, 89°	Crushed, much missing
26	L31	E-W, 78°	
27	L31	E-W, 90°	Torso and left foot missing
28	L31	E-W, 92°	Skull and collar missing, overlies 29
29	L31	E-W, 88°	Underlies 28
30	L31		Dump of disturbed bones
31	L31	?E-W	Overlies 32: 30 in grave fill?
32	L31	?E-W	Overlain and disturbed by 31
33	L31	E-W, 97°	Overlies 34: top part of burial = 86?
34	L-M31	E-W, 94°	Overlain by 33 (& 32?)
35	N31		Dump of bones
36	N31	E-W	Pelvis and femora only
37	N31	?E-W, 101°	Little in situ: head is 44?
38	N31	E-W, 82°	Foot of grave has loose bones: cuts 64?
39	N31		Fragments of a skull
40	N31	E-W, 82°	R-B sherd in grave fill
41	N31	E-W, 90°	R-B sherds in grave fill. Overlies 74 & 72
42	N31	E-W, 96°	Overlies 75 & 72
43	number not used		
44	N31		Crushed skull; see 37
45	N31	E-W, 96°?	Overlies 68, 67 & 71
46	N31		Skull only in grave 45
47	N31	E-W, 77°	Overlies 65: R-B pottery in grave fill
48	N31	E-W, 94°	Overlies 62 & 63
49	N31	E-W, 83°	Overlies part of 50
50	N31	E-W, 92°	Skull in 49: legs numbered 158
51	N31		Skull and femora only in grave fill 72
52	N31		Skull and femora only in grave fill 72
53	N31	E-W, 91°	Cut by 54?
54	M-N31	E-W, 99°	Cuts 53?
55	L31	E-W, 95°	Part of spine missing
56	L31	E-W, 93°	Portions missing
57	L31	E-W, 97°	
58	L31		Pit containing dislocated skull and bones
59	L31	E-W, 100°	Overlies 66
60	L31	E-W, 87°	Badly preserved
61	N31	E-W, 95°	Crushed, spine missing
62	N31	E-W, 85°	Cut by 63, overlain by 48
63	N31	E-W	Cuts 62
64	N31	E-W, 92°	Overlain by 37 & 44
65	N31	E-W, 93°	Overlain by 47 & ?67
66	L31	E-W, 90°	Overlain by 59 & 27
67	N31	E-W, 87°	?Skull 39 belongs; if so, overlies 65 and is overlain by 68
68	N31	E-W, 90°	Cuts 67 & 71
69	N31		No plan or description
70	N31		No description
71	N31	E-W, 86°	Overlain by 68
72	N31	E-W, 90°	Arms and torso missing: overlain by 41 & 42, and skulls 51 & 52 may be part of grave fill

TABLE 1 (cont.)

Grave	Trench	Orientation	Comments
73	N31	E-W, 90°	Cut by 74
74	N31	E-W, 92°	Cuts 74, overlain by 41
75	N31	E-W	Cut by 42
76	N31	E-W, 92°	
77	N31	E-W	?Dump of bones
78	O30	E-W, 90°	?Flint lining, post hole at foot
79	M31	E-W, 81°	
80	M31	E-W, 84°	
81	M31	E-W, 92°	Overlies 89 and cuts 82
82	M31	E-W, 108°	Cut by 81
83	M31	E-W, 97°	
84	M31	E-W, 95°	
85	M31	E-W, 96°	Overlain by 86
86	M31	E-W	33 may be the legs for this torso
87	M31		Skull only
88	M31		No description
89	M31		Group of bones within a pit
90	M31		
91	M31	E-W	Overlies 92, part missing
92	M31	E-W, 95°	Cut by 91
93	M31	E-W, 88°	Bronze wire ring on toe
94	M31	E-W, 88°	?Upper portion = 159
95	M31	E-W, 84°	Much missing
96	N30		Skull only
97	N30		Skull only
98	N30		Ribs only
99	N30	E-W, 96°	Upper leg and vertebrae only
100	N30		Dump of bones, overlain by 99
101	N30	E-W, 84°	Disturbed by 100
102	N30	E-W, 82°	Mutilated, skull in grave fill
103	N30	E-W, 87°	2 skulls in grave fill, overlies 102?
104	N30		No description
105	N30		Dump of skulls and rib bones
106	N30	E-W, 84°	No information
107	N30	E-W, 91°	No information
108	N30	E-W, 95°	No information
109	N30	E-W, 85°	Mutilated
110	N30	E-W, 94°	No information: skull 113 at foot
111	N30	E-W	No information: cut by 110
112	N30	E-W, 93°	
113	N30		Skull only, in grave 110
114	N30	E-W, 93°	Upper part of body disturbed
115	N30		Overlain by 114 & 116
116	N30		Loose bones in a dump
117	N30	E-W, 96°	
118	N30		Dump of mixed bones
119	numbers not used		
120	"	" "	
121	O31	E-W, 97°	Legs only
122	O31	E-W, 100°	Legs only
123	O31	E-W, 90°	Parts missing
124	O31	E-W, ?80°	Legs only survive
125	M30	E-W, 91°	Overlies 149 & 151
126	M30		Dump of bones
127	M30	E-W, 97°	Overlies dump of bones 150
128	M30	E-W, 98°	Overlies 129
129	M30	E-W, 114°	Overlain by 128
130	M30		Dump of bones, overlying 131
131	M30	E-W, 90°	Overlain by 130, overlies 148
132	M30	E-W, 96°	
133	M30	E-W, 88°	Legs removed by Norman clay base
134	M30	E-W, 98°	

TABLE 1 (cont.)

Grave	Trench	Orientation	Comments
135	M30		Skull only
136	M30	E-W	
137	M30	E-W, 91°	Overlies 146 & 157
138	M30	E-W, 92°	
139	M30	E-W, 94°	
140	M30	E-W	Skull only
141	M30	E-W, 98°	Skull missing: overlies 155: originally 17
142	M30	E-W, 89°	Overlies 154
143	number not used		
144	M30		Very disturbed, overlies 145
145	M30		Overlain by 144
146	M30		Overlain by 137: left leg only
147	M30		No description: overlain by 136 & 157
148	M30	E-W, 93°	Overlain by 131
149	M30	E-W, 96°	Overlain by 125, overlies 151
150	M30		Bone dump, overlain by 127
151	L-M30	E-W	Overlain by 149 & 125
152	L-M30	E-W, 93°	No description
153	L-M30	E-W, 96°	No description
154	L-M30		Leg bones only, under 42
155	L-M30	E-W, 97°	Overlain by 141
156	L-M30		Bone dump, several skulls
157	M30	E-W	Overlain by 136 & 137, but overlying 147
158	M-N31		Leg bones only - part of 50?
159	M-N31		Top part of 94?
160	L-M31		Skull only - belonging to 27
161	N30-31	E-W, 97°	
162	N30-31	E-W, 103°	Coffin furniture, small find 37 (Fig. 32) from this grave
163	N-O30	E-W, 89°	
164	O30		Skull only

XI. THE NORMAN MOTTE

The site plans show that Green assigned few of the excavated features to the period at which the south-west corner of the Roman fort enclosures was converted into a motte-and-bailey castle. Clearest of these was the motte ditch which was cut by trenches in two places - along the M axis, and along the 30 axis (Fig.20). Although both trenches were largely completed, only the east-to-west one was completely finished (Fig.26, g-g'). Considerable difficulties over waterlogging were encountered. The width of the trenches was halved for much of the excavation of the lower portions, but even so the section g-g' is a composite drawing, with the north-facing section used for the upper part, and the opposing section (separated by a horizontal line) for the bottom.

The main description of the layers within this ditch section shows that, although eight layers were recognised in excavation, they can be reduced to five main deposits according to the section drawing. At the very bottom was a dark silt band resting on the natural clay (1). This was heavily waterlogged and it was difficult to recognise finds from it, so much so that it was sifted for finds separately from the rest (bag 407). Despite this, the finds from the layer are mainly Roman, but include a fragment of nineteenth-century glass bottle and a sherd of a seventeenth-century plate. Green suggested that there may have been some contamination of the finds with spoil from the nineteenth-

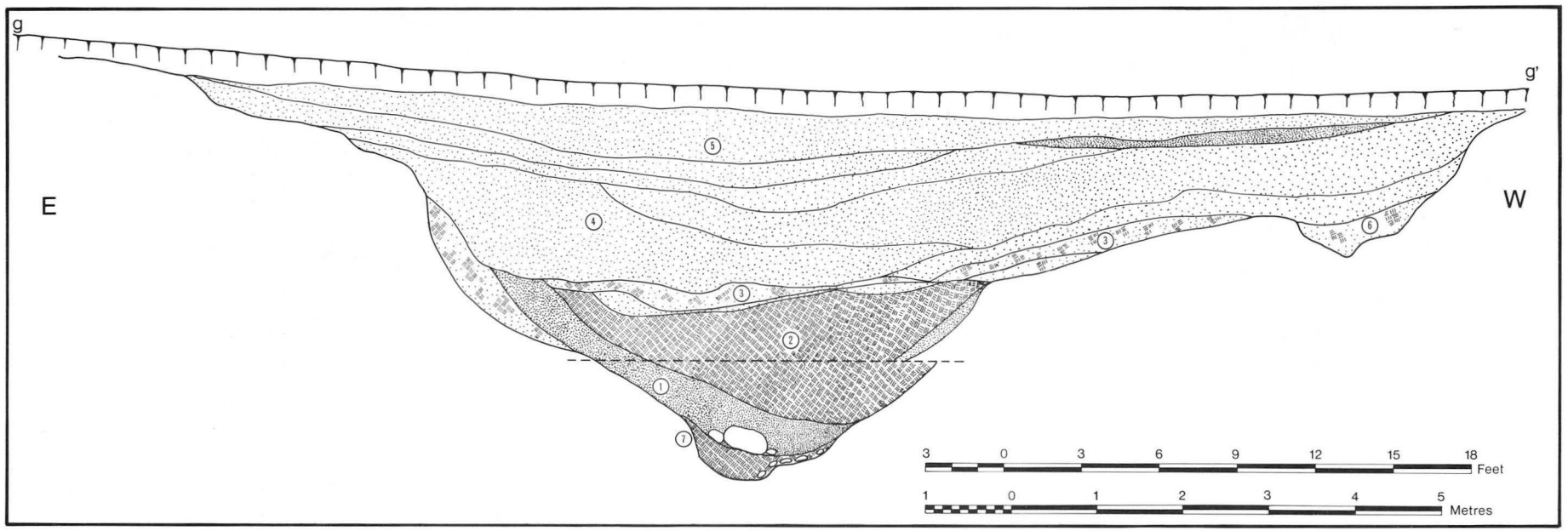


Fig.26. Section through Norman motte ditch (composite drawing: top portion south face, bottom portion north face) in H-J30. For key to drawing, see p.20. Scale 1:75.

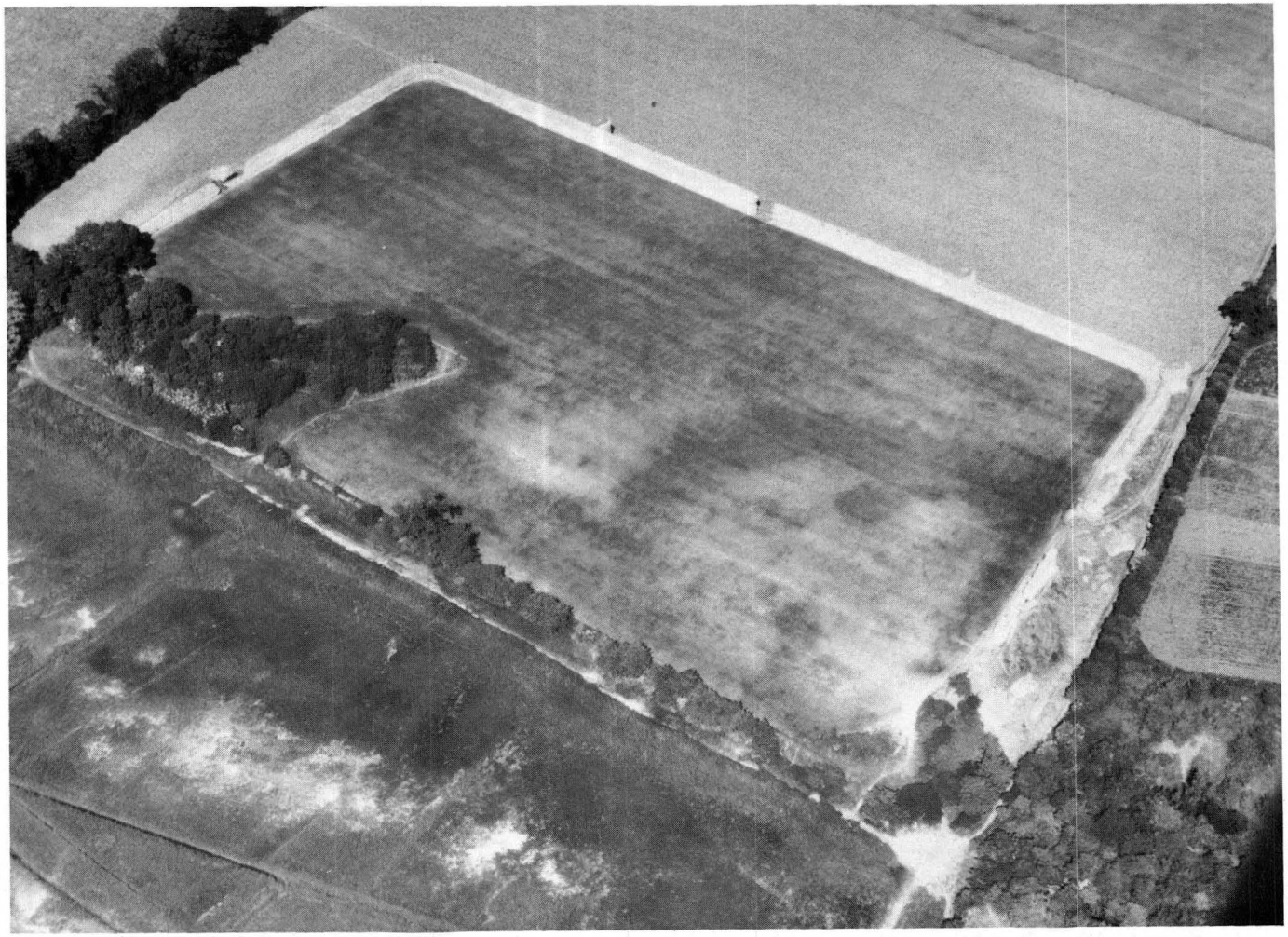


Photo: J.K.St.Joseph

Plate I. Aerial view of Burgh Castle showing the site of the Norman motte in the south-west corner, marked by the dark crop-mark of its ditch, 1949. (Cambridge University Collection: Crown Copyright Reserved: CQ 52).

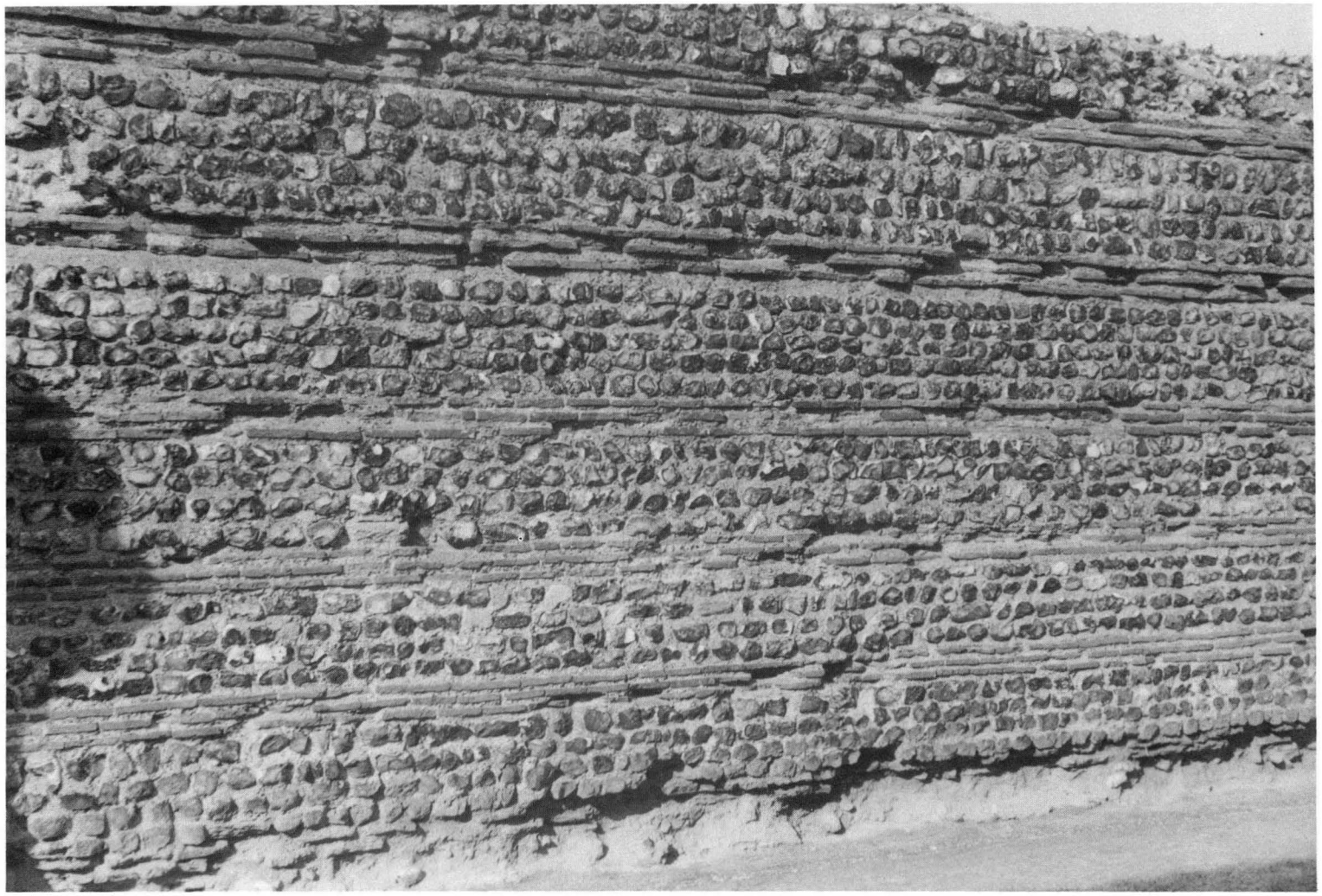


Photo: Stephen Johnson

Plate II. Fort wall near south-east corner showing the facing technique with tiles and split flints, c.1976.

Photo: Stephen Johnson

Plate III. Fallen bastion (No.6) on south side showing the supposed 'T' shape (to right) formed by timber beams in foundation courses, c.1976.

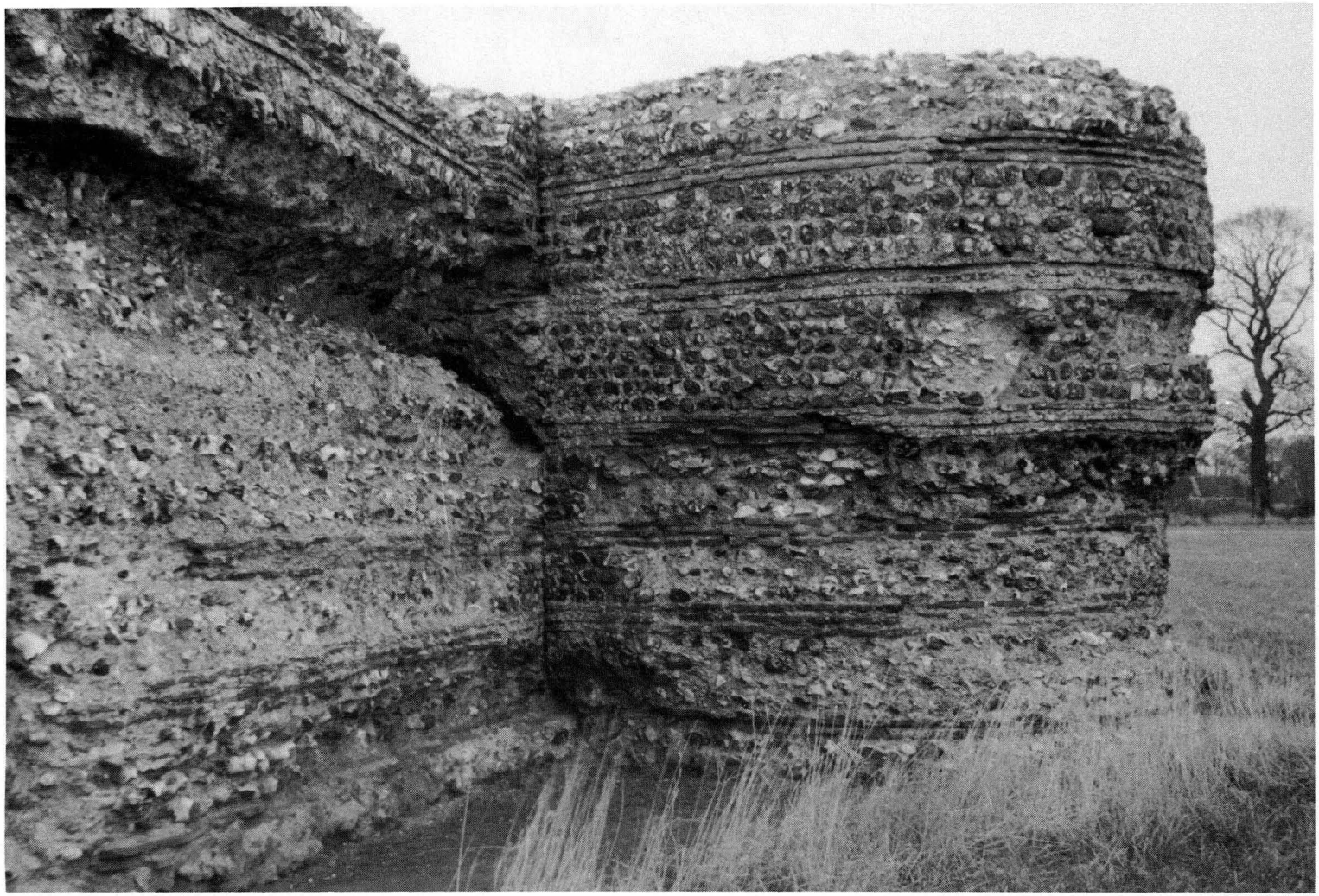


Photo: Stephen Johnson

Plate IV. External bastion No.3 from the south showing the junction between bastion and wall, c.1976.

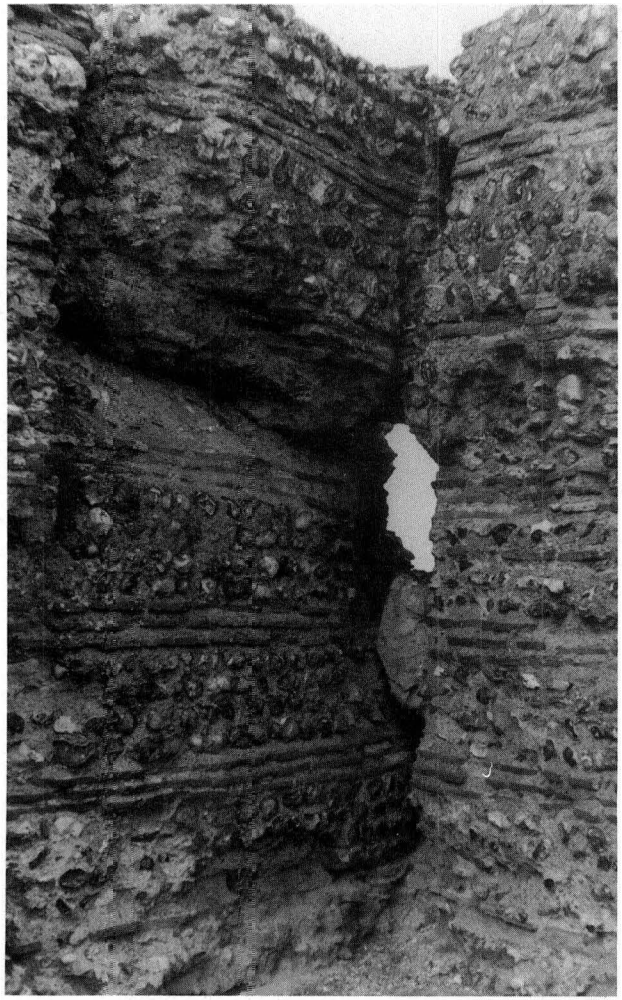


Photo: Stephen Johnson

Plate V. The junction between the south-east corner of the fort wall and bastion No.5 showing the fort wall (left) curving round behind the bastion, c.1976.

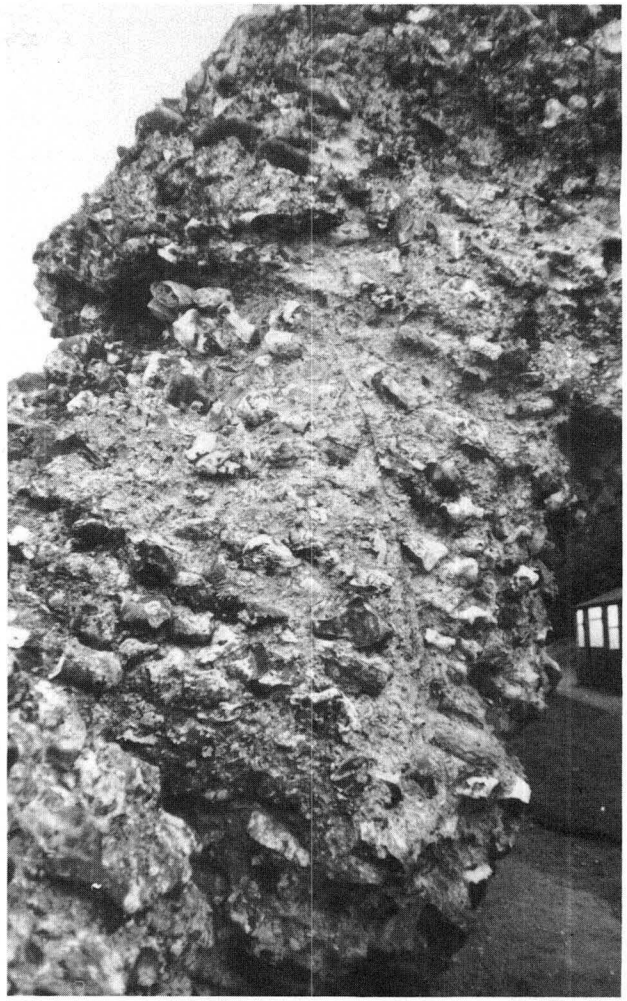


Photo: Stephen Johnson

Plate VI. The broken wall-stub on the south side immediately east of the fallen bastion showing the line of the curved mortar surface in the wall-core, c.1976.

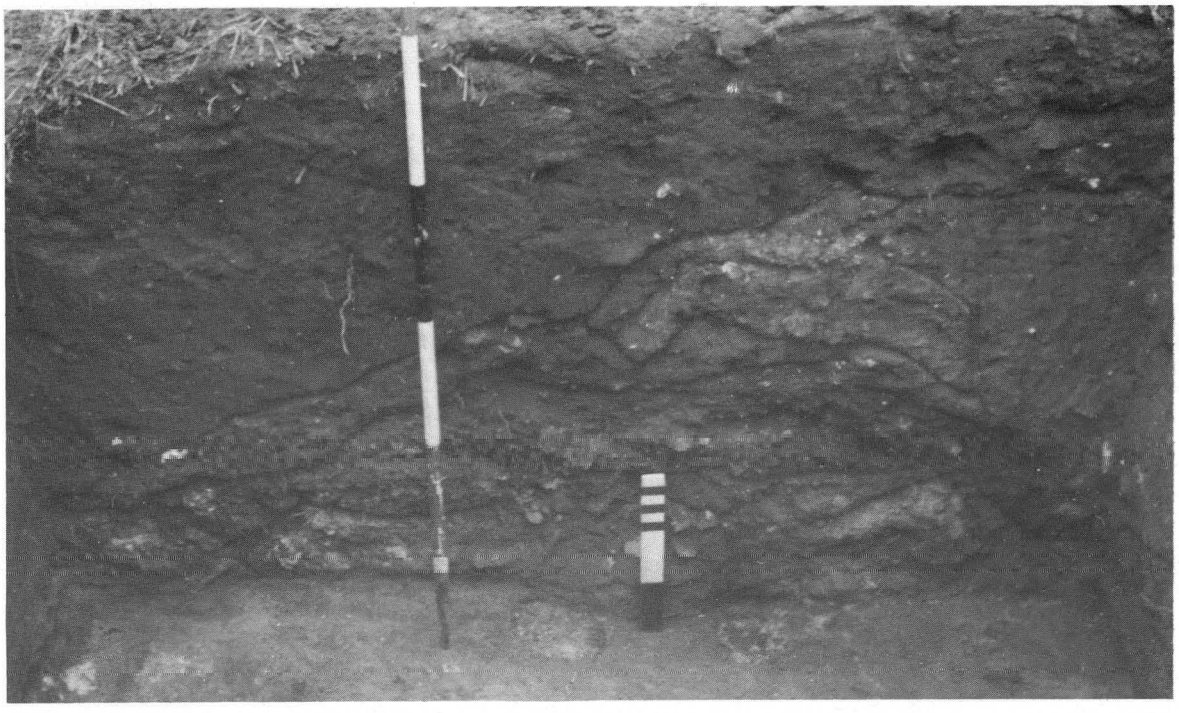


Photo: Charles Green
Plate VII. Excavation working photograph showing south face of trench A1 (Fig.9, section drawing K-K1). The approximate centre of the footings wall of the angle turret is marked by the long scale.

Photo: Charles Green
Plate VIII. Excavation working photograph showing the area A/B 4 looking west after removal of the baulk between A and B, to expose the stub wall of Building 1 (marked by small scale).

Photo: Charles Green
Plate IX. Excavation photograph of the postern gate in L1, as excavated. Compare plan and section drawing Fig.6.

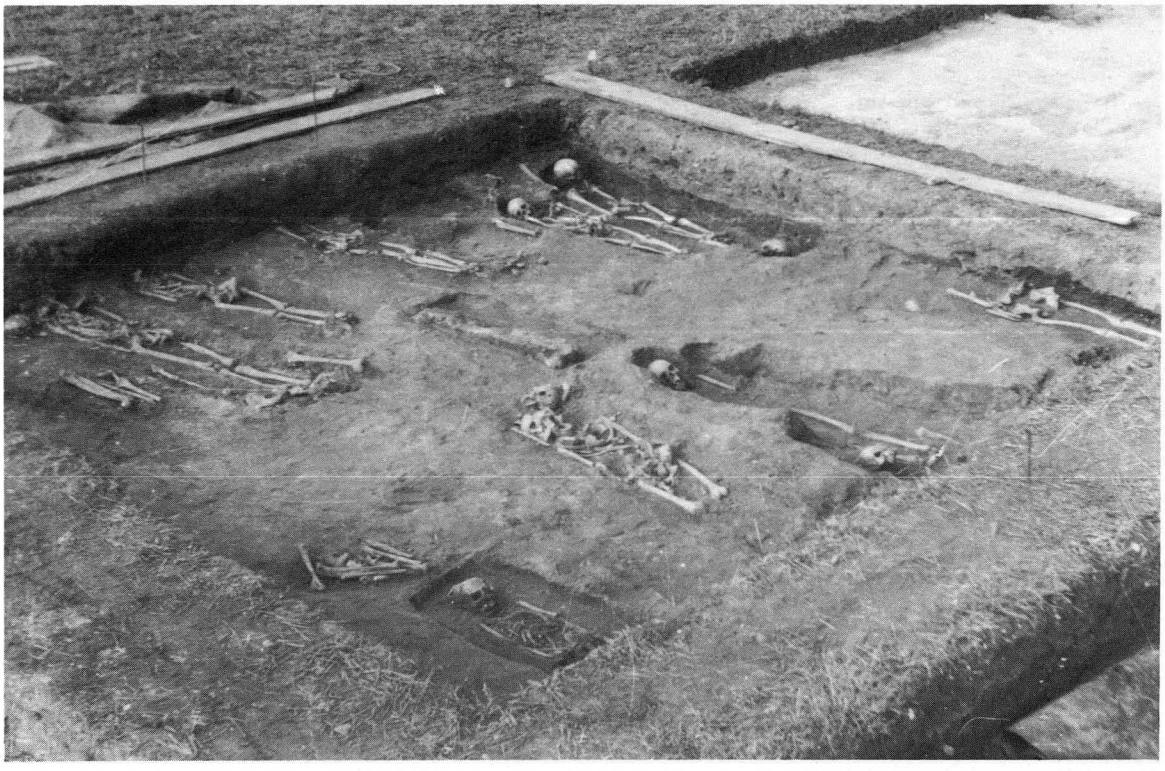


Photo: Charles Green

Plate X. Excavation photograph: general view of cemetery (Area N31), looking north-west to show findspot of graves and depth of deposits. On view is the upper layer of graves Nos.37-61 (cemetery plan Fig.24).

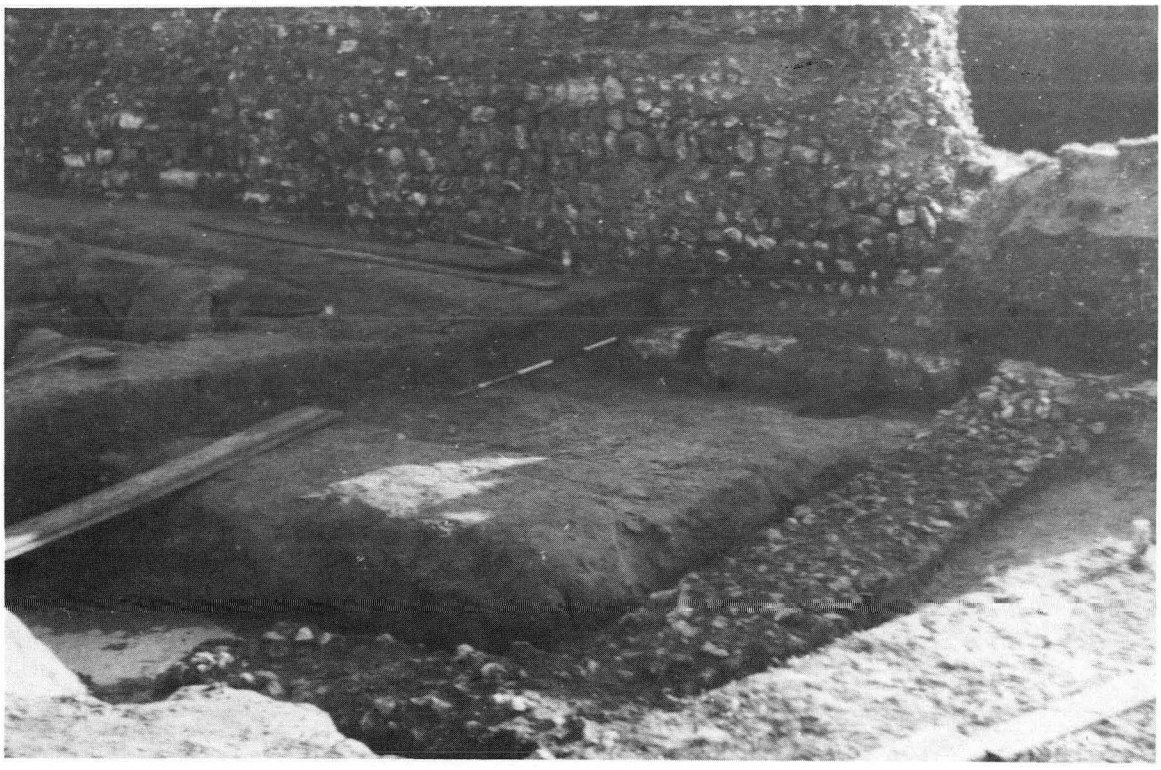


Photo: Charles Green

Plate XI. Excavation photograph: general view of west wall and part of north wall of 'turret' against south fort wall (in 033-4).

Plate XII. The glassware hoard (small finds Nos.79-89, p. 81). Upper line left to right: Nos.86, 88, 80, 79, 85 and 84. Lower line left to right: Nos.89, 83, 81, 82 and 87. (Courtesy of the Trustees of the British Museum. Crown Copyright Reserved).

century removal of the motte. Above the 'primary silting' layer there was a substantial dump of mixed clay with an almost horizontal upper surface (2). This Green suggested was the top of the natural silting. The upper layers, few of which contained finds, were (in sequence upwards) a layer of a curious dull greyish yellow - this sounding like a buried turfline (3) - followed by a layer of dark earth mixed with sand of varied consistency (4), and above this a deep ploughsoil, and undifferentiated black layer (5) directly under the topsoil.

The section drawing shows a rather amorphous pit (6), which seems to have contained nothing of note, at the west end of the section, although it forms a curious irregularity in the inner face of the motte ditch. The profile of the ditch itself is rather far removed from the regularity which one might expect from the ditch round a Norman motte, so much so that one is led to wonder whether the backfilling of the ditch in 1839 caused considerable disruption to the inner lip. The layer of 'buried turf' running roughly horizontally across the ditch at approximately half-way down is clearly visible on the section drawing (layer 3). The layers above this were considered by Green to belong to the Victorian backfilling, whereas the layers beneath formed the primary silting and an initial, unexplained, substantial dump of clay (2). The 'turf' layer seems remarkably horizontal to represent a natural rest-line of material slumped into the ditch and it is possible that the nineteenth-century backfilling was, in fact, more substantial than Green supposed. Finds from the ditch comprised sherds of seventeenth-to-nineteenth-century date from the upper fill only (layers 4 and 5 on Fig.26).

The other major features assigned to the Norman period for the excavations were a series of clay-filled holes forming bases (for a plan of their positions see Fig.23, and detailed plans of each Fig.27). These do not seem to be described in detail in the notebooks, but were assumed to form a structural feature of the motte. At least one of these clay-filled pits cut through one of the graves in the cemetery and contained disturbed bone fragments. They are, thus, post cemetery, even though they were found to contain little in the way of dateable finds.

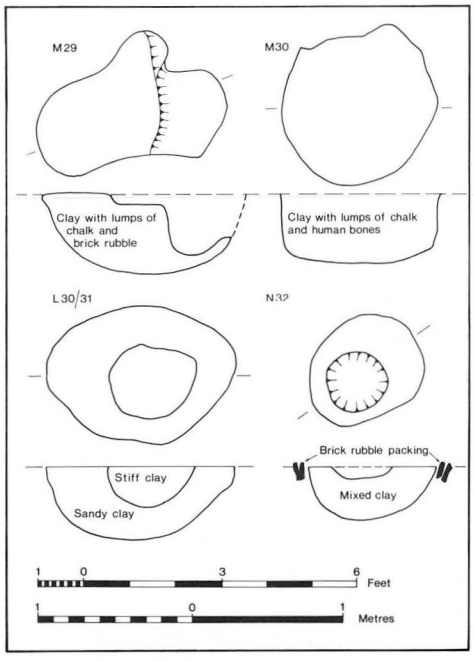


Fig.27. Detailed plans and profiles of four clay bases (Norman motte substructures?) found in south-west corner, for locations see plans Figs.21 or 23. Scale 1:50.

A further feature assigned to the Norman period on the site was the series of slots cut into the south wall of the Roman fort on its inner face. Nine of these slots could be traced, seven within the standing wall and a further two within a portion of the wall which is slightly detached from the main standing section. Their size and plan is shown by the drawing in Fig.28: the upright slots are square in section, measuring approximately 1 ft 2 in (0.35 m) in each direction. At the bottom of the slot, the shape of this cavity is that of an inverted 'T' to enable the upright timber to be based in a short sleeper-beam no more than 2 ft 9 in (0.8 m) long, set parallel to the line of the Roman wall. These features are nowhere described in the notebooks and Green drew only one section. It has, therefore, been assumed that all are of similar diamensions. The slots are still visible within the Roman fort wall and, given their form, they must have been either planned within

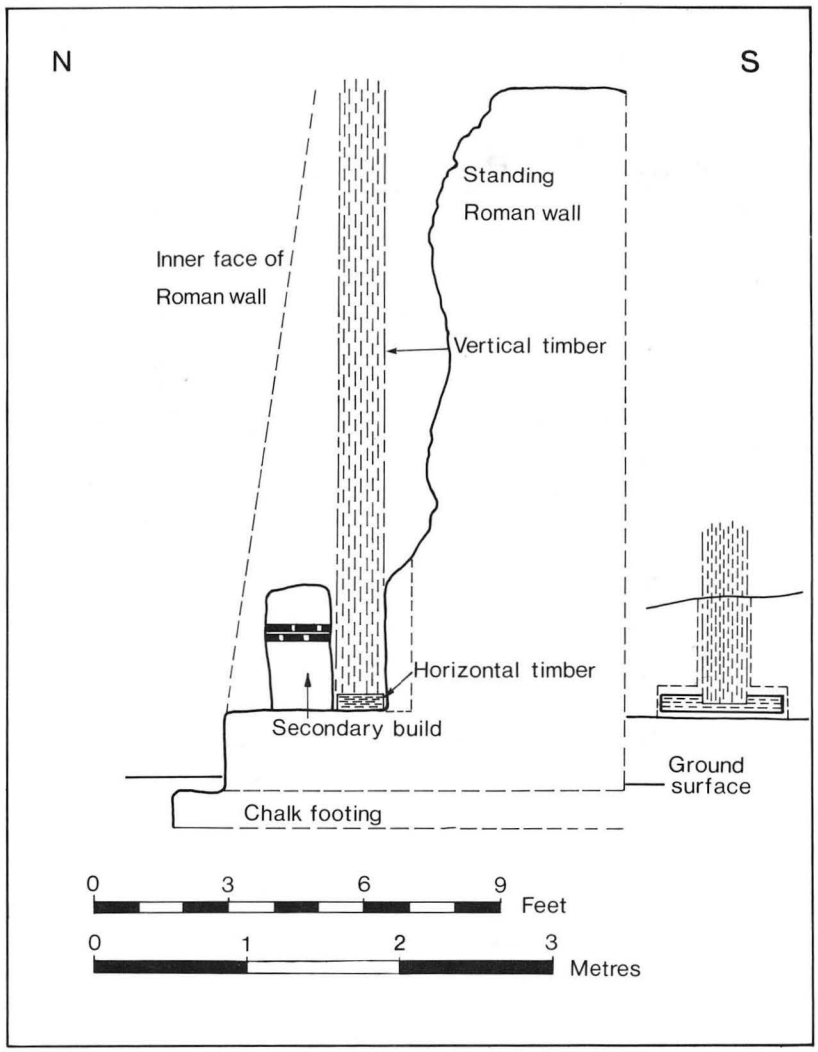


Fig.28. South wall of fort: section showing hole cut for inserted timber. Scale 1:50.

the wall from its very construction or else formed a special series of rather elaborate bases for upright timbers as a secondary feature to the Roman wall. Green suggested they were secondary features and on the drawing (Fig.28), a section of the wall is marked as being a secondary build, forming the cladding round the base of these wooden posts and their sleeper beams.

It is clear that Green wished to assign these slots with the clay bases, to substructures within the cast-up mound of the Norman motte. This view comes from the summary of the year's excavations (Summary 1961b, 319) where the excavation of the Norman motte is described -

> 'It was ... shown that the vertical slots for timber in the detached fragment (of the Roman south wall) were post-Roman and, supported by the presence of clay bases for timber which had disturbed certain graves, led to the inference that the motte contained a timber skeleton to support its superstructures on the slippery boulder clay.'

The site record contains no record of the proof that these slots in the Roman wall are 'post Roman'. This whole matter will be further described in detail (p.62), for there are serious objections to seeing these slots as of Norman origin.

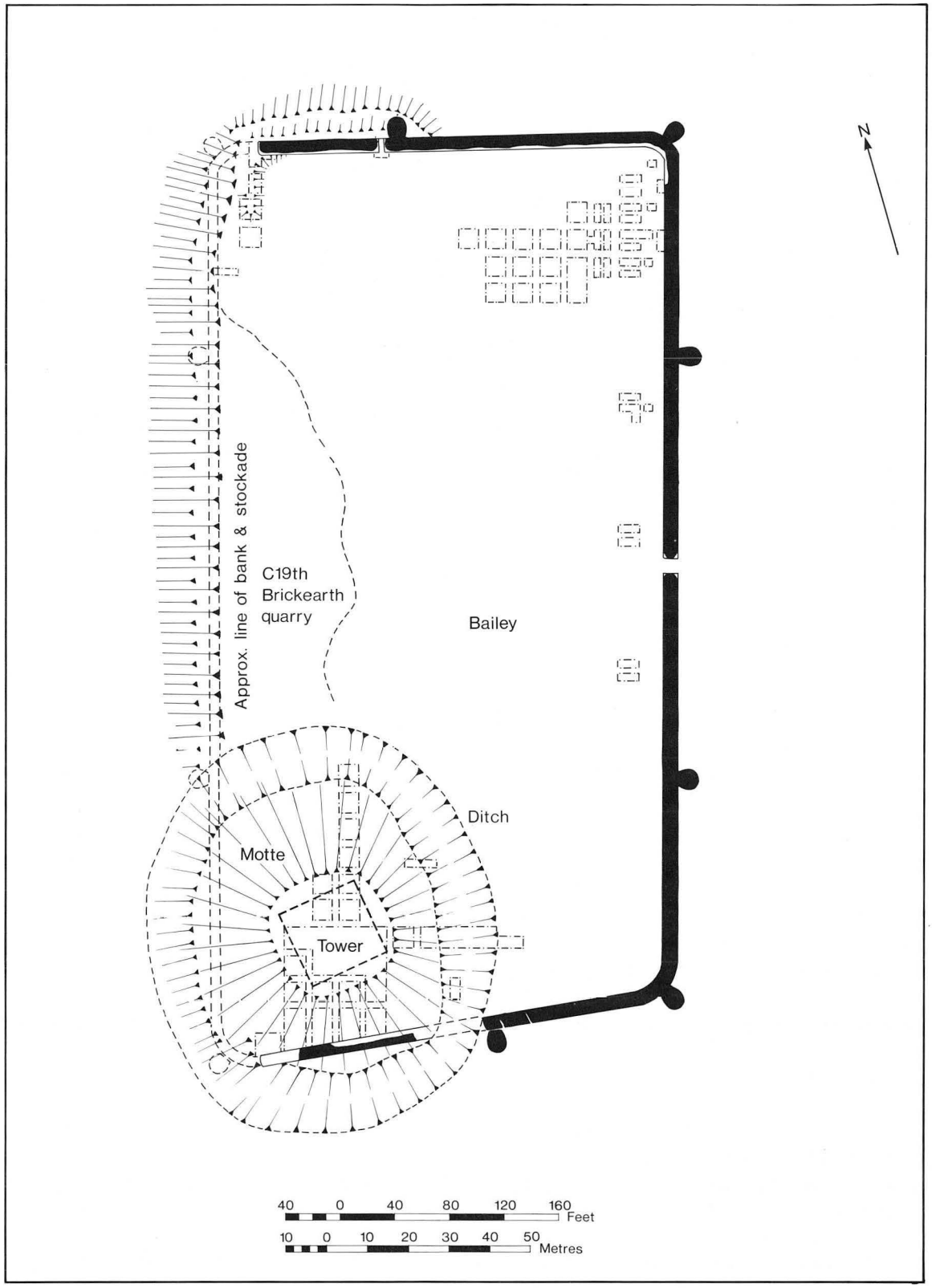


Fig.29. Burgh Castle as motte and bailey: suggested plan of Norman earthworks. Scale 1:1,500.

The plan of the Norman arrangements at Burgh Castle (Fig.29) enlarged from a small sketch drawn by Green, shows an oval-shaped motte (of uncertain height) and the line of the motte ditch, whose position was checked by the two main sections started with the intention of cutting through it, and by two other trenches in J27 and in H32-3, both of which are shown on Fig.20. In addition, aerial photographs (Pl.1) show the line of the ditch and the way in which the Norman ditch either caused or took advantage of (the point was not finally ascertained) a breach in the Roman south wall. Fig.29 shows how the stone walls of the Roman fort were used, with the judicious addition of Norman earthworks, to make a motte-and-bailey castle of formidable proportions. The motte was crowned with a timber tower-keep and Green suggested that the clay bases formed subfoundations for a timber structure buried within the motte to give added support for the actual tower which crested it.

XII. SOUTH-WEST CORNER: DISCUSSION

The discoveries on the site of the motte at Burgh Castle form a very important group of finds. On working through Green's site notebooks it is very difficult to be as confident as he was about the temporal relationship between the various elements encountered. The present writer would, therefore, prefer to discuss the whole excavation in this area unencumbered by Green's framework of suppositions about what he was finding. These may, of course, have been correct, but they remain only one interpretation of the discoveries and go some way beyond what the recorded facts of the excavation necessarily support.

The framework for the discoveries here is given simply. There is no evidence for an occupation of Roman date before approximately the end of the third century (i.e. no Samian pottery and few coins even before AD 300). The Norman motte is well attested, so that effectively by the twelfth century the features at ground level within this area had been sealed by an earthen dump which was not to be levelled until 1839. Thus, the timespan within which we must work for most, if not all, the features revealed in excavation here is 300-c.1100.

The amount of disruption caused by the obliteration of the majority of the Norman motte in 1839 cannot now be adequately assessed, but there is no guarantee that the motte was levelled to anything like the latest occupation level underneath it. Indeed, there is every chance that most of the latest occupation levels were scraped off in 1839 in reducing the Norman mound once again to the level of the base of the Roman walls on the interior at least. This slim chance of survival for the features of this south-west corner seems to have been borne out in fact: the chances were considerably worsened by the activities of Harrod in the 1850's. It is, thus, very difficult to make any meaningful sense of the findings.

One factor which will have appeared clearly throughout is the nebulous nature of most of the structural finds. This applies as much to the fragments of walling assigned to the Roman period as to the patches of clay or mortar flooring found at various points throughout the trenches. Much the most solid structural indication, clearly visible as a rubble foundation in Plate II, was the remains of the 'turret' against the fort wall. It is particularly unfortunate that Harrod's excavations completely followed the line of this small building. This has effectively destroyed all trace of its relationship with the floor levels surrounding it: it cannot now, therefore, be definitely assigned to its proper date.

There is some force in the assumption that, like the remains of an angle turret possibly recognised in A1 (the north-east corner - p.19f.), this structure is a turret attached to the south wall and forming part of the Roman defences. It is of the same dimensions as the postulated north-east angle turret. The finds from within the small building

seemed to suggest that it had had a tiled roof, and the discovery within it of two coin hoards both containing coins of substantially the same date - the mid-fourth century - as the other hoards found buried within or under destruction debris elsewhere on the site, suggest, but do not ensure, a Roman date. The spread of pottery within the same area gave a date roughly similar, as far as the pottery is capable of being dated. Thus, if the tiles found on the interior of the 'turret' formed its roof, then the building was probably in use until at least the middle of the fourth century.

The existence of this turret need occasion no surprise. Late Roman fortifications were by no means standardised, and there is no reason why an internal square tower might not be used side by side with projecting bastions. Its positioning, however, is peculiar. It is not set midway between the middle bastion on the south side (now fallen) and the south-west corner. In addition, Harrod's account of his excavation in this area (p.46) suggested that the building may have been heated, and he also recorded a drain-like structure of tiles running along the southern edge of the turret against the fort wall. A burnt area within the building may also have been a hearth. The footings lay at the depth of the fort wall footings and, therefore, could well have been contemporary.

Harrod's trench not only destroyed the relationship of these footings with the floor levels, but also removed the evidence for the north-east corner of the turret. No relationship then was revealed between these footings and those of the right-angled wall whose south-western angle lies a short distance to the north. As already remarked, in discussion of the fragment of walling which runs north to south (p.46), this north to south line might easily have continued the line of the east wall of the turret, giving a different complexion to the whole building group. If interpreted thus, the 'turret' becomes no more than a small adjunct to a larger lean-to building against the south wall of the fort. Indeed it might almost be a small corner room of a courtyard building of large proportions. The only traces of the lower mortar or clay floor recorded on the plans lay in the area between the wall running parallel to the south wall of the fort and the fort wall itself. The possibility of a lean-to building along the south wall of the fort must not be discounted, despite the extremely fragmentary nature of the masonry discovered by Green at the base and sides of Harrod's trench and diagnosed by him to form the northern wall of such a structure.

According to the evidence of the coin hoards, there was a phase of destruction in about the mid-fourth century, when Building I, in the north-east corner, at least, was apparently burnt down. This debris then formed the platform for further occupation. It is possible that this pattern was repeated in the south-west corner. All that has survived motte removal and ploughing, however, are some indications of clay or mortar floors at a higher level than the first late Roman one, spread over the tile and rubble debris of the destroyed buildings. All that the destruction contained were pottery and coins which could be dated as early as c. 350. Without good evidence, therefore, one cannot immediately jump to the conclusion that these upper floors unequivocally belonged to structures of Middle Saxon date. There was a comparative absence from this area of Ipswich Ware, and traces of plaster work which clearly came from a building of some substance in the area could as easily be late Roman as Middle Saxon.

As for structural traces of this building, Green could do no more than suggest the line of a missing wall running down the baulk between the 31 and 32 lines at a fragmentary edge where the clay flooring gave out. As he postulates it in Fig.23, this wall line does not even run parallel to the south wall of the Roman fort against which any such building might reasonably have been placed. The clay flooring assumed to belong to this building extended almost as far as the south fort wall itself. It would have been easier, therefore, to build a lean-to structure against this wall than to build a completely free-standing wall.

The 'Norman' slots within the Roman wall are surely of some relevance here. The arguments against their being of Norman date, quite apart from the inherent improbability of Norman builders bothering to rebuild in elaborate style (with proper double tile courses) a portion of the Roman walls to support a series of timber uprights, are considerable. First, these uprights would have had no conceivable use even within the motte structure. According to Ives's drawing which shows the motte still in existence, this fragment of Roman wall lay at the very edge of the motte: the crest of the motte (and thus any building on it) lay considerably to the north of the Roman wall. It would be a curious motte structure which needed these post supports in addition to the substantial bolstering effect of the standing masonry of the Roman wall next to them. Second, these posts can hardly have held any Norman building for the same reasons outlined above: any building relying on these posts for support would be hanging half off the motte. Thirdly, according to the excavation plan, there is part of a missing slot in the fragment of Roman walling at the very eastern extremity of the surviving fragments (Fig.23). It is hard to escape the conclusion that the construction of the motte ditch actually post-dates the use of one of these slots.

A Norman date for these is, therefore, unlikely. They have all the appearance of being inserted into the northern half of this Roman wall, after it had been deliberately reduced in thickness. The demolition of a portion of the fort walls in order to insert these timber posts into the wall-stub for the benefit of its use as a base for solid building seems to have more in common with the insertion of post-holes through the fort wall in the north-east corner. The inserted holes there were thought to be of Roman date, so it is all the more surprising that if the holes in the south wall were 'shown to be of post-Roman date' (as the summary 1961b, 319 has it) that this evidence was not properly recorded.

If the slots held timber posts which formed the south wall of a building against the fort wall, there is no record of a north row of posts to give its width. The excavations did not operate at a consistent depth over a large area, so the evidence for a corresponding set of post-holes in the MN31 area may yet be buried. In many places little of the overburden of earth over natural was disturbed apart from the topsoil and examination of the deposited lower layers was confined to the few sections which were cut through them.

The west wall of the structure represented by the clay floor lay in the region of the east wall of the Roman 'turret'; indeed, this wall itself may have been used as the west wall. The slots cut into the fort wall come to an abrupt end just at the point where the turret begins. A photograph of this portion of the turret (Pl.II) shows a mass of fallen mortar and masonry which might have belonged to this building. If the line of the east wall of the building was removed by the Norman motte ditch, this gives an overall length of more than 75 ft (c. 24 m) and a possible width (if one assumes a north wall at or near the point postulated by Green) of some 40 ft (13 m) or a little less. This would be a substantial building, comparable in size to the hall of a medieval castle. Such a large span for an unsupported roof would be out of the question.

The evidence for a north wall at a distance of 43 ft (13 m) or so from the fort wall comes from the discoveries that this line marks the apparent south edge of the cemetery area and that patches of clay flooring traced over extensive areas of M and N32 seemed to have a roughly straight edge against the cemetery area at this point. Running down the whole area, parallel to the fort wall and at about 23 ft (7 m) from it, is the deep gash caused by Harrod. Green suggested that this followed the line of a Roman building: might it not also have followed the north wall of a succeeding timber-post structure? In the absence of other evidence, however, there seems no viable alternative. The clay floors north of this building, therefore, might form a kind of aisle or verandah. Regretfully, nothing conclusive of the nature, date or purpose of this building can be ascertained.

We have thus argued, as Green did, for at least two structural periods against the fort wall in the south-west corner. The first period, to which the 'turret', the line of the wall traced by Harrod, and possibly the wall striking northwards from the east wall of the turret belong, is probably Roman and may belong to the Constantinian period. The Roman helmet and four of the coin hoards were found buried within these buildings. A second phase is represented by the clay floor which overlies Roman debris. With this may come the slots cut into the Roman fort wall and a possible reconstruction of the wall parallel to it on the line of the trench dug by Harrod. The clay floor north of this point might be interpreted as a verandah, terminating on its north side at or about the line postulated by Green.

The relationship of this building with the cemetery is interesting. The burials vary considerably in their alignment. According to Fig.24 (if one assumes a north point correct to 2°), the grave alignments vary by as much as N 76° to N 114°. Of the 103 graves where alignments can be assessed more than a third (thirty-six) are concentrated (i.e. within two degrees of, in either direction) the figure of N 91°, which is also the alignment of the inner face of the south fort wall (and, therefore, by inference of any north wall of a building parallel to it). This is not a spectacular figure for the alignment of these graves, but no other figure (apart from 92° or 94°, both in the same compass-region) can produce an equal consistency of alignment. Green's putative wall line (of 98°) between the 31/32 trenches produces only twenty-four aligned graves.

There is, thus, a strong presumption that the cemetery and the existence of a building parallel to the fort wall were contemporary. The fact that the only definite edge to the cemetery (on the south) appears to be bounded by this clay floor gives a further indication that this is so. The nature of the cemetery thus needs to be defined and some indication given as to its date.

About the only fixed point established within the chronology of this area of the site is afforded by the radiocarbon dates from three of the burials within the cemetery. The reasons for the choice of the particular bones are given elsewhere (p.111-2), but consistent dates of around the turn of the eighth century were obtained from two related interments at the edge of the cemetery (Nos.121 and 122). Relatively surprising was a date centring on the early tenth century for a bone from Interment 37, which stratigraphically speaking had been thought to represent a group of bones from an earlier interment dislodged by a later burial and reburied within it. The ambit of dates produced by the radiocarbon analyses from the cemetery, however, is fixed as being within and possibly slightly beyond, the Middle Saxon period. If the archaeological diagnosis of Interment 37 given above is correct, a larger portion of the cemetery than suspected may belong to a date substantially later than the seventh or eighth century.

When one considers the archaeological data afforded by the cemetery, a few limited conclusions are possible. First, it is clear that the uppermost graves were very much disrupted by the plough and, thus, unless the graves were exceptionally shallow, all trace of the level from which the graves were actually dug had been obliterated. Only about 18 in (45 cm) of ploughsoil lay above the top graves and the amount of loose bones encountered on the topsoil might suggest that the top level (these, presumably, the latest of them) had been considerably disturbed.

The arrangement of graves within the cemetery presents further difficulties of interpretation. The burials appear to have been deposited in overlapping, but near parallel rows all aligned in broadly the same direction. The number of possible relationships between graves, apart from where they clearly either overlie or are cut by others, is so multitudinous that firm conclusions about the layout or horizontal stratigraphy cannot realistically be drawn. Two points, however, can be made: there are in places at least three layers of overlying graves - for example in N31 where grave 74, its fill con-

taining the disturbed bones of another burial, also overlies part of grave 73. Grave 74 was in its turn overlain by grave 41. Another example is in the southern part of M30 where the graves 125, 149 and 150 clearly represent three phases of deposition. Second, the traces of a wall running north to south through the area between N and O31 seem to have acted in some sense as a division to the cemetery. None of the graves cuts it and the group of graves in N31 and 30, Nos.64, 38, 47, (65), 40, 75, 102, (164) and 163 all seem to be placed with their heads just inside the line of this wall. The group of interments to the east of this wall (i.e. 'outside' it) form a group of uncomplicated graves all fairly similarly aligned.

One may conclude, therefore, that this wall probably formed a visible division within the cemetery during the period of its existence. As for the question how long the cemetery must have been in use to have at least three individuals buried within the same 'plot' in places, this must depend to a large extent on whether the graves were marked: the fact that the burials overlapped might suggest that they were not, unless the vacant spaces within the excavated area were originally more thickly populated with graves at a higher level which have been ploughed away.

Dating of the graves is virtually impossible on the archaeological evidence. The grave fills contained only abraded sherds of late Roman pottery, fragments of tile and building materials. In only two of the graves (Nos.19 and 78) was there any trace at all of a lining to the grave. In No.19, fragments of Roman tile were found underlying the spine of the body. Grave 78 had more indications of a flint lining, although this was possibly an automatic collection of flints at the base of ploughsoil. The only trace of coffin furniture came in grave 162 (Fig.32, No.37), and apart from a pebble whetstone in grave 151, (S.F.200, not published) the only other object within a grave was a bronze wire ring on the toe of interment 93. This was in a fragile state and crumbled to powder on excavation.

This poverty, indeed absence, of grave goods, the large proportion of adult bones, the east to west alignment, the possible absence of grave markers, and the careful bestowal of the bones of disturbed burials at the head and feet of further interments suggest that the cemetery was a Christian burial ground. Its alignment, however, on the 'building' against the south wall of the fort would suggest that not only was the north to south wall still in existence at the time the graves were dug, but also that a corresponding east to west wall lay to the south of the burial area. One or two other unexplained fragments of masonry, apparently on the same sort of alignment, also lay within the cemetery area. These bear no archaeological relationship to the graves themselves.

If the building against the south fort wall was still standing and in use at the time of burial, it is possible that this rectangular timber-built structure, with its long axis almost exactly east to west and flanked on its north by an enclosure containing what appears to be a Christian burial ground might well have been a Christian church. Its dimensions seem large - at least 78 x 26 ft (24 x 8 m). It must be remembered, however, that much of the foregoing discussion is based on evidence which must be counted as at best tentative.

There are considerable assumptions to make in order to sustain the suggestion that any such building belonged with the cemetery and that it was a church. It must be assumed, for example, that the floor-level of the building was at about the same level as the level of deposition of the bodies in the graves to the north of it: one would normally expect the dead to be buried somewhat deeper, unless the clay floor belonged to a building which was sunken or unless the ground level had built up round it. Second, none of the graves was found to lie within the clay floor of the building itself and, if indeed a church, one might have expected at least one important grave within the building. A further problem is the size and expanse of the clay floor itself (see p.62) and the fact

that even over such a wide area of flooring, the roof for which must have been carried on substantial posts, no trace of post-holes (apart from those in the fort walls) or free-standing structural members was found. The happiest conclusion must still be that, apart from the cemetery, some of the evidence for this building must still be in the ground: Green did not dig at all in his areas K and L 31-33 and despite Harrod's trench there is yet a chance that modern re-examination of the site would provide the vital information which is lacking.

If the build-up to the conclusion that there may have been a Christian church as well as the cemetery against the interior of the south wall of Burgh Castle has seemed ponderous, it is as well to remember that there is really no positive evidence for this identification. Nor is there any positive evidence for its date apart from the important, inescapable conclusion that the arrangement dates from after the period of Roman military use. At present there is little to suggest that full Roman occupation at Burgh Castle lasted significantly into the later decades of the fourth century, thus the chronological scope for the establishment of a probably small Christian community is relatively open. The use of the cemetery can be presumed to have been at least for some considerable time to judge from the positioning of graves on top of each other and from the span of dating by radiocarbon analysis. This is by no means a sure indication, however: with unmarked graves the interval could be considerably less. If the cemetery contained few more than the excavated 160 or so bodies (some skulls found as fillings in graves were not given interment numbers), then an average death rate of only just over 1.5 a year over a 100 year span shows how small the community was. The longer the postulated period of use of the cemetery at Burgh Castle, the less concentrated the use of the cemetery.

XIII. OTHER AREAS EXAMINED WITHIN THE FORT

In the first season, 1958, trial trenches were opened in three areas within the fort on the 'B' line of the national grid, at B10, B15, and B20 (Fig.2). Finds from these areas are described rather sketchily in the notebooks and little in the way of a plan (apart from rough sketches in the notebook) was recorded. The excavation method was in all places the same: removal of topsoil followed by examination of underlying layers by a deeper section of smaller width than the trench.

The results can be briefly summarised: in no case was anything of structural significance found and this brief description is given to add substance to the small finds and pottery report. At B10, after removal of the topsoil, a rubble layer of Romano-British tile fragments and brick was found, probably in the base of the topsoil layer and resting on what was first interpreted as a clay floor. The rubble spread was extensive and was exposed in trenches B10a and b, at the west end of A10b, and the north part of B11a, both of which areas were opened up in order to examine the extent of the spread more closely. On further examination, the clay overlying this rubble spread was discovered to be a deliberate fill for a large pit, which was sectioned in B10b on its south side - roughly across the middle. The fill was a yellow boulder clay with a thin grey clay layer at its edge. Few finds were recovered, but a sherd of hand-made pottery (in bag No.100) from the grey pit lining suggests a post-Roman date, though the sealing of the pit by a mass of fresh Romano-British debris, with some sherds of large size, is worthy of note. Green seems, after excavation, to have assigned to this pit the designation 'glass furnace', but on what grounds it does not appear, either from the notebook or from the finds. There was no description of any trace of burning or excavation of a section through this pit.

In B15, where a pair of trenches a and b were opened, little apart from topsoil was disturbed. Here, under the topsoil, a narrow bank of clay and flints was discovered,

running from the south-east corner of Trench B15b in a north-westerly direction, in a slightly curving arc for a distance of some 8 ft (2 m 40). The same feature was also picked up further north in B15a, where it was located again after a short gap, only to disappear, still continuing, under the baulk. A note in Green's handwriting suggests that this was possibly the destroyed remains of a return wall found by Harrod at the gateway although the wall which he plans (Harrod 1856, 152) lay some few yards to the east. No other explanation of this feature was offered and although a trial section was excavated in B15a at its east end (within the 'curve' of this feature, but not designed so as to cut across it) no further finds of note were recorded.

Finally in B20, a further pair of trenches, similar to those in B15, were opened. B20a is not described at all in the notebooks - perhaps it was marked out and never dug - but in B20b, the removal of topsoil revealed a mixed layer described as not a 'good surface'. This presumably means that it did not give the impression of being a floor, merely a layer of mixed rubble. A section was taken through it along the north side of the trench: no structural features were revealed, though the finds were a rich and varied assortment, including the coin hoard No.1. It is possible that at this point, as well as in the A-B 2-5 area, the excavations had cut into occupation layers of buildings against the interior of the fort wall.

XIV. THE ARTEFACTS

THE COINS
by Michael Hammerson

1,180 coins were recovered from the excavations, of which 240 were described as being from various layers and the remainder from sixteen hoards. Whether or not a group of coins was considered a hoard was the excavator's decision, and his classifications are used here. Four hoards contained over fifty coins, whilst seven contained only from three to eight coins; several of the site layers yielded more coins than a number of the hoards, so grouping or scattering of the coins may have been the determining factors. The total of coins from the excavations was as follows:

Antoniniani, c. 268-282	4
Diocletian, follis c. 296-7, RIC.VI.170a	1
Crispus, AE2, rev.BEATA TRANQLTAS, London, 321-4	1
'Dynastic' issue, rev.CONSTANTIUS CAESAR, 324-5, heavily clipped	1
Irregular copy, CONSTANTINOPOLIS type of 330-5	403
" " URBS ROMA " "	220
" " GLORIA EXERCITVS (2 standards) type 330-5	69
" " " " (1 standard) " "	323
" " Helena & Theodora types, "	48
DIVO CONSTANTINO 'Quadriga' AE3, 337, heavily clipped	1
Irregular copy, VICTORIAE DD AVGGQ NN type, 347-8	4
" " , FEL TEMP REPARATIO (Fallen horseman) type of 350-5	1
Magnentius, 351-3	2
House of Valentinian, 364-378	5
House of Theodosius, 378-402	3
Illegible, probably all copies of 330-48 types	94

The breakdown of this total, by hoards and layers, is as follows. (Cp=Constantinopolis. UR=Urbs Roma. G2=Gloria Exercitus, 2 standards. G1=Gloria Exercitus, 1 standard. HT=Helena and Theodora. V=Victoriae DD Avggq NN).

	CP	UR	G2	G1	HT	V	Other
Hoard 1	14	13	4	8			(14 illegible)
Hoard 2a	18	16	9	8	2	1	(24 illegible)
Hoard 2b			1	2	1		(1 illegible)
Hoard 3	3		1	1			(2 illegible)
Hoard 4	2	1	1				
Hoard 5	2	1		1			
Hoard 6	30	14	4	22	1		(2 illegible)
Hoard 7	1		1				Probus, AE Ant., ROMAE AETER, 276-82
Hoard 8	7			7			(1 illegible)
Hoard 9	10	6		13	1		
Hoard 10	3	1		2			(1 illegible)
Hoard 11	8	10		9			(2 illegible)
Hoard 12	7	4		7			CONSTANTIUS CAESAR 324-5
Hoard 13	4	2		3	1		(1 illegible)
Hoard 14	5			1			(1 illegible)
Hoard 15	223	113	17	198	38		DIVO CONSTANTINO 337 (7 illegible)
Layers							
A.I.3	2	1	7	1			
A.II.3	26	12	3	14	2		(23 illegible)
A.II.4	3	2		3	1		
A.IV.2	6	6	8	1	1		
A.IV.2/3	5	3	1	2			
A.IV.3	9	5	5	7			(4 illegible)
A.IV.4/5	7	6	2	6			(4 illegible)
A.IV.5	1	1	1				
A.IV.Floor				1			
A.IV.Footings	1						
A.IVa.3						1	
A.Va.2							Valentinian I, GLORIA ROMANORUM, Lyons, 367-75.AE 3
B.IIa.3b							Theodosius I, VICTORIA AVGGG, 388-402.AE 4
B.IVa.5	1	1	1	1			
B.IVb.3			1	1			
B.IVb.4	2			1		1	Antoninianus, later 3rd C., uncertain; 1 illegible.
B.IVb.5	1		1				(2 illegible)
B.Xa.1						1	
B.Xa.2				1			
G.XXX.2							Diocletian, follis, 296-7
D.IV.3		1					
D.IV.3/4							Gratian, GLORIA ROMANORVM, Lyons, 364-78.AE 3
D.IV.4							(1 illegible)
D.IV.2							Irregular copy, FEL TEMP REPARATIO, 350's-60's
F.IV.2							Valentinian II, VICTORIA AVGGG, 388-92.AE 4
F.V.1							House of Theodosius, VICTORIA AVGGG, 388-402.AE 4
F.V.3							Valens, SECURITAS REIPUBLICE, 364-78.AE 3

	CP	UR	G2	G1	HT	V	Other
G.VI.2	1						Magnentius, VICTORIAE DD NN AVG ET CAES, 351-3. Clipped AE 2
G/H XXX. silt at bottom of fosse							Illegible 4th century
H.XXXII-XXXIII.1							Crispus, AE2/3, 321-4; Victoria, pennies (2), 1877, 1887
N.XXX.1							Valentinian I, SECURITAS REIPUBLICE, Arles 364-78. AE 3
O.XXXIII-XXXIV baulk							Antoninianus; obv.illegible, rev. IOVI (...). c.250-85
O.XXXIV.2	1	1	1				
Uncertain and unstratified				2			Antoninianus, probably Claudius II (268-70) Magnentius, AE 2, Amiens, LRB2-13

If, as may be reasonably assumed, these coins are representative of the Burgh Castle coinage as a whole, they form an extraordinary group which is atypical of other British sites. Of the 1086 identifiable coins 98% are irregular copies of the Constantinian coinage of 330-48, with only eight dating before 330 (and one of those clipped down to the module of the copies, probably during the period of their production) and eleven from the second half of the fourth century. The majority of the illegible coins occurred in groups containing only the copies, were of the same module and are most probably of the same types.

Only one of the pre-330 coins need have reached the site prior to that date. The five antoniniani, the AE3 of Crispus, and the Constantinian dynastic issue (the last also clipped down to the module of the copies) could all have been circulating after 330, as is attested by many hoards. However, the heavy follis of Diocletian of 296-7, is unlikely to have long survived the series of weight reductions which affected the coinage in the decade and a half following its manufacture and might, therefore, be taken as evidence of some form of occupation on the site at the start of the fourth century. Working from the numismatic evidence alone, it could be suggested, from the almost complete absence of regular issues of coins of the first half of the fourth century, that this occupation was of very short duration, and was not renewed until, possibly, the 340's at the earliest.

From 330 to 335, the bronze coinage comprised the memorial issues of Rome (URBS ROMA) and Constantinople (CONSTANTINOPOLIS), and the 'normal' issue with reverse GLORIA EXERCITUS showing two soldiers holding two standards: these averaged 16-17 mm in diameter and 2.25 gm in weight. From 335 to 341 the coinage comprised memorial issues for Helena and Theodora, and the 'normal' coinage bore the same GLORIA EXERCITUS legend, the design differing in the presence of one standard only; these coins were smaller, with a diameter averaging 15-16 mm and weight of c. 1.50 gm. From 347-8 only one type was produced, of the same module as the preceding issue but with design of two victories, with legend VICTORIAE DD AVGGQ NN. All these coins circulated together until the coinage reform of 348.

From perhaps 340/1 to 346/7, no official coinage seems to have been produced by the Western mints and the shortfall in supplies was met by a very large spate of copying of the 330-41 types. This outpouring of imitations has, until recently, gone almost unnoticed; yet it is now becoming apparent that in many cases they form the bulk of the coinage of the period. Of over 7,000 coins of these types from Richborough, perhaps 60-70% are

copies. At Burgh Castle, the poor quality of design, low weight and small module leave no doubt that all of the finds from there are copies.

The 'Two Victories' copies are less common on all sites; although the type is common at Richborough, no more than 25% are copies, suggesting that the regular coinage of 347-8 was sufficient to meet a good part of coinage needs, though by no means all. There are only four of these copies from Burgh Castle and their scarcity suggests that use or manufacture of the copies there had ceased not long after the start of 'Two Victories' production in 347. In contrast with the copies from a number of other sites and hoards, they are of the smallest module and this may mean that they were manufactured relatively late in the series. The study of these copies is as yet at an early stage, but the available evidence suggests that their production had ceased by 350. The date of the Burgh Castle copies may at present be put at c. 345-8. If numismatic evidence alone is to be relied upon, it would suggest that Burgh Castle was not occupied before the early 340's (when regular coinage would have been available), and also that occupation had substantially ended by the early 350's, after which the common imitations of the 'Fallen Horseman' coinage of 350-5 are in circulation, and which might reasonably be expected to occur on occupied sites, as at Richborough, where they are found in large numbers.

It may be observed here that study of the 330-48 imitations from Richborough and Burgh Castle indicates the likelihood that the army was involved in their production and if this proves to be correct, it would reinforce the argument that Burgh Castle was not effectively occupied after the early 350's.

In contrast with the thousands of post-348 coins from Richborough, the eleven examples from the Burgh Castle excavations, scattered in time across the following half-century, suggest only casual occupation during those decades. It is of interest to note that of the layers containing coins of this period, none contains copies of the 330-48 types, with the exception of two containing coins of Magnentius (351-3). This provides valuable archaeological evidence of the disuse of the copies in the layers immediately following 350.

A note on the modules of the 330-348 copies from Burgh Castle

It is not possible to give full metric details of the copies in the space available, although they have been examined in detail in a study of the irregular coinage of the 340's submitted by the writer as an M.Phil.Thesis in 1980; copies are now in the University of London and the Institute of Archaeology libraries. It will merely be observed here that the commonest diameters of the Burgh Castle copies were 9-13 mm, and the commonest weights generally from c. 0.5-1.0 gm. The GLORIA EXERCITUS (two standards) copies, however, pose two problems for which no solution is at present apparent. First, they are quite inexplicably uncommon at Burgh Castle. Their prototypes are common in other sites and hoards, but here they comprise only $6\frac{1}{2}\%$ of the copies. Whilst there are noticeably fewer of them (both regular coins and copies) at Richborough, in comparison with the other contemporary types, they still occurred there in large quantities. Second, they are of slightly larger module and marginally heavier weight, on average, than the other Burgh Castle copies, with commonest diameters at 13-15 mm and commonest weights at 0.7-1.4 gm.

BRONZE
(Fig.30)

1. Pin and fragments (not illustrated) of the plate of a brooch of unidentified type. B4a, layer 5d.
2. Plate from a belt buckle of late-Roman type. See e.g. a plate from the cemetery of Abbeville-Homblières grave 4, illustrated in Böhme (1974) II, tafel 112, 4: (Böhme's Stufe I, c.350-400). A4a, layer 2.
3. Rivetted collar with a band at top and bottom. A4, layer 3.

4. Key, circular handle and solid shank. A4, layer 4b.
5. Portion of a thin disc with ring-and-dot ornament and slight notches round the outside. F5, layers 1-2.
6. Decorated strips with connecting rivets designed to attach to a leather belt: it is possibly a buckle plate, with ring decoration similar to a brooch at Vermand: of Böhme (1974) II, tafel 140, 3. M34, layer 3.
7. Disc, possibly a brooch plate, with a hole pierced in the centre. E5, layer 2.
8. Portion of bracelet bearing notched and line decoration: cf. Richborough IV, no. 177, pl. XLIX, 8. N34, layer 1.
9. Bracelet fragment (not illustrated). 4 mm wide, with slightly D-shaped profile, length 12 cm. Very simple notch-cut decoration on both edges. L33, layer 3.
10. Ring with a pierced end, possibly originally for a gemstone, now lost. G6, layer 2.
11. Footstand of wooden box: the animal head terminal normally found on this type of fitting has been broken off. There are traces of wings so the fitment possibly once had a bird (cock's?) head: cf. Richborough IV no.130. M27, from among the stonework.
12. Pair of tweezers: cf. Webster 1975, no.54, fig.113. N33, layer 2b.
13. Fragments of thin pin, with facetted head (not illustrated). M27, layer 1.

LEAD

(Fig.30)

14. Ball, c. 4 cm diameter, with an iron staple (not illustrated). E5, layer 2.
15. Irregular lead plaque with melted edges, probably a pot repair. D3, layer 2.
16. Hollow leaden cylinder with grooves at both ends: possibly used as a loom weight. DIV, layer 2.

IRON

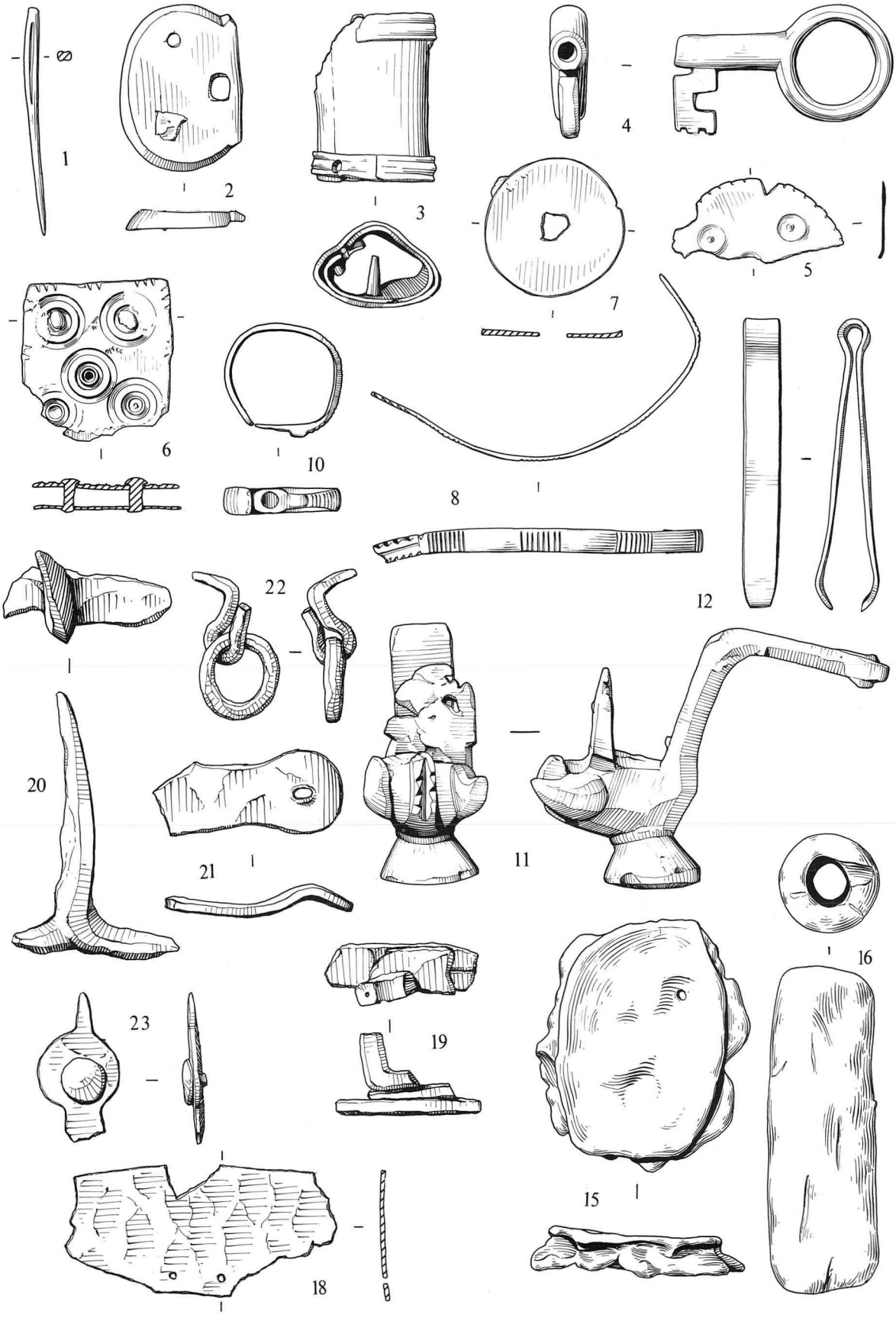
(Figs.30-2)

17. Irregular fragments of a helmet comprising about three-quarters of the whole. It has been reconstructed for the drawing (Fig.31) out of more than thirty original pieces. The form of the helmet is oval and its structure is of four segmented plates of iron 1.5 mm thick held together by a crest-band and two side-ribs, fastened with bronze rivets. Though the complete edges of none of the plates survive, they were probably of identical shape and butted together along the line of the central crest, diverging slightly midway along each side where a wider joining band of iron was brought down from the crest on both sides to fill the gap. The crest itself is a ridge of iron, folded to produce a band standing some 15 mm high running probably the whole length of the helmet from front to back. The central (topmost) portion of this crest has perished and it is thus not possible to tell whether there was some decorative element at this point. The total length of the crest will have been c. 390 mm from front to back; at front and back the folded crest projects a little beyond the lowest edge of the iron plates to which it is attached, suggesting that the structure of the helmet continued lower by means of attached plates.

    The folded metal of the crest is opened out on both sides to form a narrow flange some 8-10 mm wide to which the four metal plates are attached with bronze rivets. These rivets have a pin 3 mm in diameter, and a rounded head 4 mm in diameter. They are arranged in pairs on either side of the central crest along the length of the helmet, spaced at intervals of between 40 and 45 mm.

    Running from the central crest-line transversely across the top of the helmet is a strengthening plate which joins the pairs of iron plates which form each half of the helmet. Although the central topmost join (and thus any clear indication of how

(opposite) Fig.30. Small finds: Nos.1-12 bronze, scale 1:1; Nos.15-16 lead, scale 1:1; Nos.18-23 iron, scale 1:2.


1
2
3
4
5
6
7
8
10
11
12
15
16
18
19
20
21
22
23

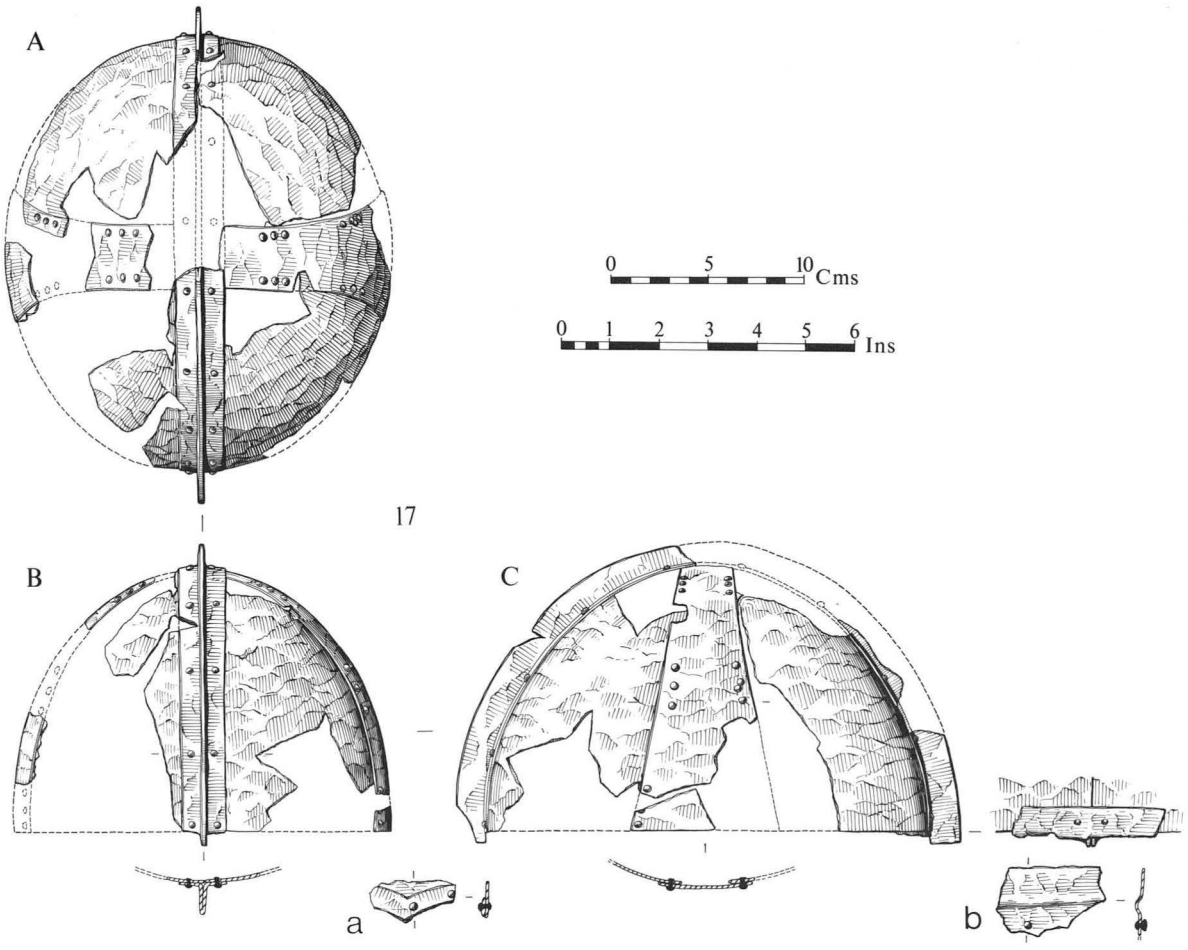


Fig.31. Small find No.24: late Roman helmet. Iron with bronze rivets - see description p.70f. Scale 1:4.

the transverse pieces were joined to the crest ridge) is missing, this transverse plate must have been about 32 mm in width at its top and broadened as it extended down to the helmet's brim. Here it must have been at least 75 mm wide, although nowhere does it survive completely quite to this length. This rib-piece joins the two plates which form the halves of the helmet with at least three symmetrically paired groups of three rivets down the length of the band. Only at front and back is there any trace of the helmet's structure below the brim. In the first place, in the absence of decorative or other distinctive details, it is by no means easy to tell which is the front and which the back. One clue, however, may be given by the suggestion of an eye-shaped break in the right-hand iron plates on Fig.31B some 5 cm above the rim and a similar distance from the central crest. In several of the surviving late Roman helmets there is a decorative feature of this type engraved in the iron plates of the helmet in a similar position. The Burgh Castle 'eye hole' may have been formed because a portion of the helmet plate was weaker and, therefore, broke to form that shape easily. At the two bases where the crest reaches the ends of the four component plates, there are signs of a further strengthening band added to the inside. The rivet holes which would have attached this all the way round the outside rim are however missing and this strengthening may only have been a short piece added to front and back of the helmet. It may have served for attaching a neck-guard or a nose-piece.

Of the other pieces which were found with these fragments, two (Fig.31, A and B) fixed with bronze rivets, are clearly fragments of the transverse band, one side of which is almost entirely missing. Though they cannot with absolute certainty be

fitted in with the surviving fragments of the helmet, there is no doubt about their original position. One (Fig.31, No.17b) is a curved plate with a slight rib running round the curve 15 mm above the edge. The curve of this piece closely follows the overall circumferential curve of the outside rim of the helmet and it may be part of a strengthening band applied to the inside of the helmet's rim. One rivet remains in place on this piece, which is only 50 mm long. The other (No.17a) is a portion of a thin band of iron applied along the edge of another portion by at least two separate bronze rivets. The band comes down to a very wide 'V' shape and arches from this point in the beginnings of a wide curve. The piece is, thus, most reminiscent of the eye pieces one finds occasionally associated with a nose-guard particularly on late Roman helmets. There is now no trace of a nose-guard coming down from the point of this 'V'-shape, though none of the edges here looks as if it was actually finished and this portion may have broken off. One further fragment is clearly a portion of one of the four main plates.

A further set of fragments found in the same area are not so definitely part of the helmet structure. They are a fragment of flat iron plate (No.18), possibly part of an ear-and-cheek-guard, but one would have expected this to be slightly curved; a ring (No.22) attached to a hook and eye; a pendent loop of iron (No.21) 3.5 mm thick; an iron spike (No.20), a fragment which is perhaps a hook, and a portion of two flat plates of iron (No.19) joined together by a third piece which seems to be hollow and projecting at an angle. Another fragment (Fig.30, No.23) a rather crudely worked iron finial, a flat plate beaten to the shape of a circle impaled rather off centre by a pointed spike, in all only 50 mm high, is suggestive of the sort of decoration which may have finished off the rather plain crest-band at its central point, though there is no surviving portion to which it fits.

In overall dimensions, the helmet as far as it can be assessed appears to be: from back to front over the crest - 390 mm; from back to front (horizontal diameter) 240 mm; from side to side (horizontal diameter) 210 mm; actual circumference 660 mm; height of top 140 mm. The helmet finds its closest parallels in the late Roman world, with that from Deurne in Holland and Conçesti in Romania, dated by the context of their deposition to the early decades of the fourth, and the early decades of the fifth century respectively. From the finds associated with the Burgh Castle helmet, a deposition date c. AD 350 is likely. The helmet design was probably current from the late third century onwards. For further discussion in detail, see Johnson 1980. Findspot M33, SE pit, layer 2, and S central pit.

18-23. See above under No.17.

24. Knife blade with remains of tang. Very mutilated state. C4y, layer 3a.

25. Tanged knife blade of normal late-Roman type: cf. Richborough IV, pl.LX, no.328. B4a, layer 2.

26. Axehead, possibly a francisca or throwing axe. Many parallels can be found, particularly those from Continental grave-assemblages, Cortrat, Haillot, Rhenen: (Böhme 1974, tafel 120, 7; 91, 17; 69, 9 respectively). G4, layer 2.

27. Axehead or francisca similar to No.26. G4, layer 2.

28. Nail or punch with rounded head. B4a, layer 5d.

29. Stylus with shaft and writing-tip broken off: cf. Richborough IV, pl.LIX, no.316. D4, layer 2.

30. Shaft of a normal 'E'-shaped key. B4a, layer 5c.

31. Rivetted fragment of a strip of iron. O34, 'from the brownish sand floor'.

32. Tapering shaft of iron with breaks at both ends. One end is fashioned into a curved scoop, the other is bent through 90°. Possibly a toilet article. C3y, layer 3.

33. Iron horseshoe with three pairs of opposed holes. The nail holes are more rectangular than round: cf. Portchester I, nos.182-3. B5a, layer 3.

34. Half a horseshoe of similar type to No.33. G4, layer 2.

35. Iron horseshoe (not illustrated) similar to the above. G4, layer 2.

36. Pair of pincers, possibly a blacksmith's tool. N30, layer 1.

37. Iron hinge and hook. Probably coffin furniture, from fill of interment 162.

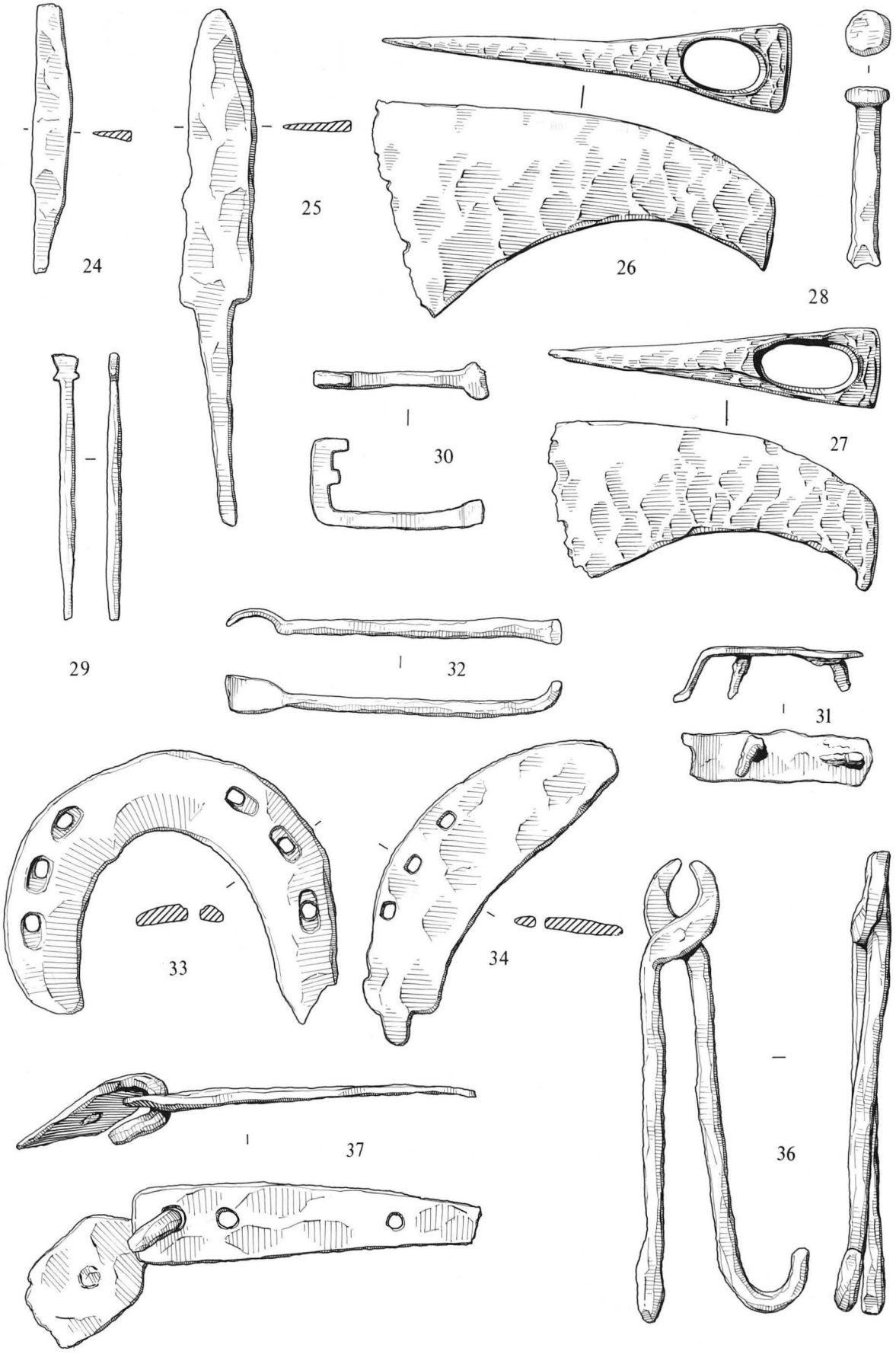


Fig.32. Small finds: iron objects. Scale 1:2.

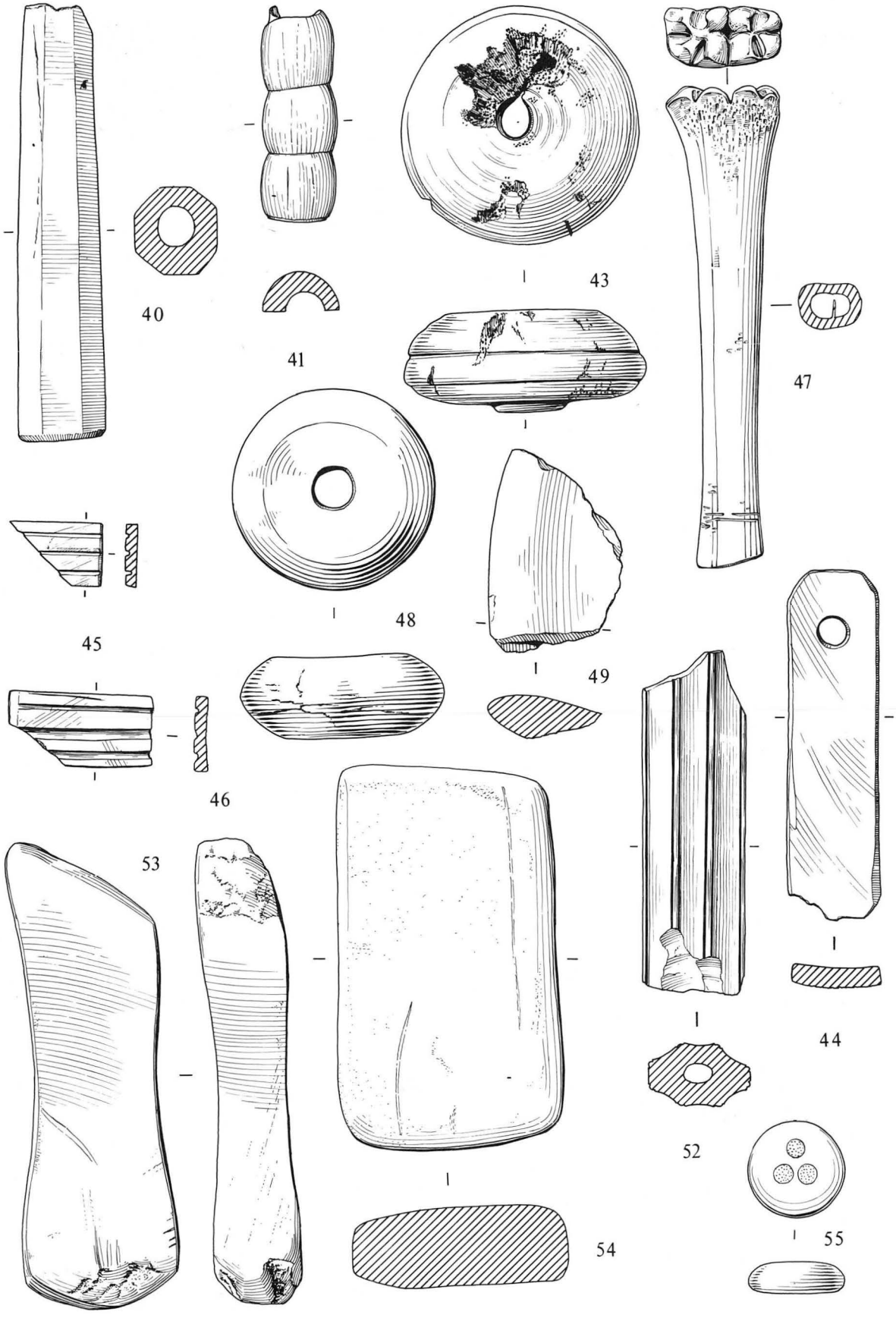


Fig.33. Small finds: Nos.40-47 bone; Nos.48-49 shale; No.52 jet; Nos.53-55 stone. Scale 1:1.

38. Iron collar (not illustrated), a ring c. 4 cm in exterior diameter, and rectangular section c. 90 x 50 mm. Possibly a collar for water pipes. B4a, layer 5c.
39. Iron strap fragment (not illustrated) similar to the flat hinge-plate of No.37, with two nails in situ. Very corroded. N30, layer 2 (above the cemetery, but could not be associated with any one grave).

BONE
(Fig.33)
40. Knife handle of octagonal section formed out of antler tine. A4a, layer 2.
41. Segmented bead handle of bone, possibly burnt and possibly made from a sheep bone. E6, layer 1-2.
42. Plain knife handle (not illustrated) made from antler tine. H4, layer 2.
43. Turned and moulded bone spindle-whorl. M33, layer 3, SE pit.
44. Worked bone strap fragment with pierced end, possibly made from antler. C3y, layer 4.
45. Strip of bone inlay decoration, with incised, sawn lines. Turned green through close contact with bronze. A5a, layer 3.
46. Bone strip similar to No.45 above. P1, layer 5b.
47. Burnt and polished sheep metatarsal, unfused. Proximal end sawn off with saw cut marks near sawn end. A4a, layer 4.

SHALE
(Fig.33)
48. Spindle-whorl. O34, layer 2.
49. Rim fragment of dish or plate. B4a, layer 4.
50. Portion of a small shale disc (not illustrated) 6-7 mm thick, c. 6 cm in diameter. B4a, layer 1.
51. Portion of shale plate (not illustrated) 6 mm thick. C4y, layer 3a.

JET
(Fig.33)
52. Handle of octagonal section. B5a, layer 4.

STONE
(Fig.33-4)
53. Pebble whetstone. B10a, layer 1b.
54. Flattened pebble whetstone slightly striated. A4a, layer 2.
55. Polished pebble counter, with three inlaid white dots. O34, layer 3.
56. Lid or base of stone vessel carved from layered schist. Interior of vessel claw-tooled. B3b, layer 3.

POTTERY AND CLAY
(Fig.34)
57. Portion of Middle Saxon loom weight - heavy grey clay with some tile grits. A10b, layer 3.
58. Pinkish-buff triangular portion of clay tile with hand-rounded edge (not illustrated), 2.5 cm thick. B5a, layer 3.

BUILDING MATERIAL
(Fig.34)
59. Mortar, portion of a roof, showing the curved fill of an imbrex, with negative of the gap between two tegulae. P1, layer 3.
60. Mortar moulding similar to above. O34, layer 1.
61. Large fragment of burnt daub showing wattle marks. A5a, layer 4.
62. Painted wall plaster. A4a, layer 2.
63. Painted wall plaster. A/B4, layer 4.

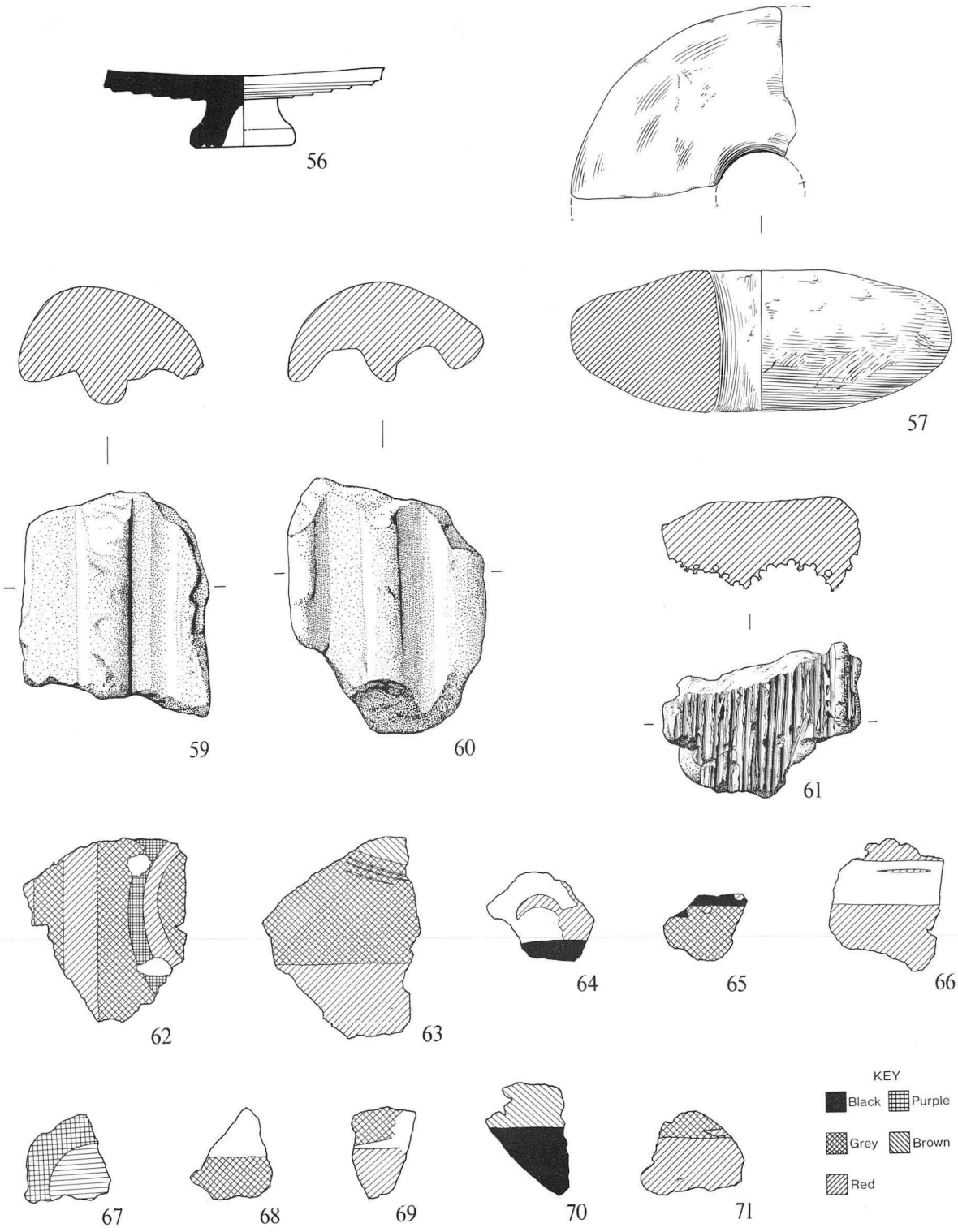


Fig.34. Small finds: No.57 pottery; No.58 stone, both at 1:1; Nos.59-60 plaster; No.61 daub; Nos.62-71 plaster. Scale 1:2.

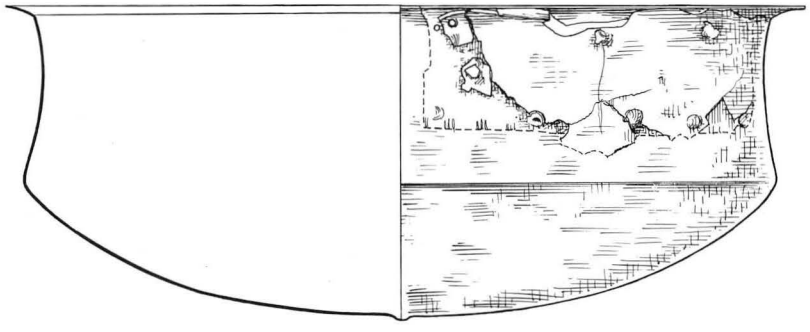
64. Painted wall plaster. A/B4, layer 4.
65. Painted wall plaster. A/B4, layer 4.
66. Painted wall plaster. D5, layer 3-4.
67. Painted wall plaster. A3a, layer 3.
68. Painted wall plaster. O34, layer 2.
69. Painted wall plaster. O30, layer 1.

70. Painted wall plaster. O34, layer 2.
71. Painted wall plaster. A1, layer 3.

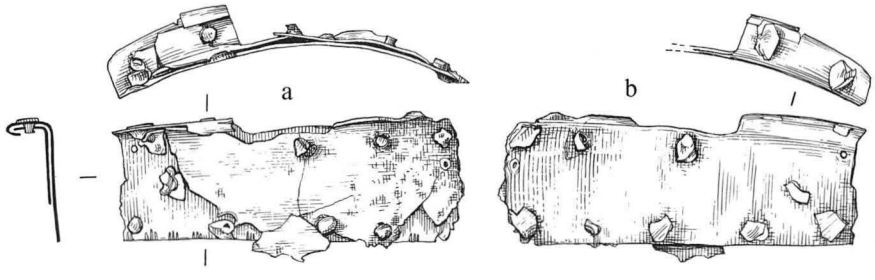
SMALL FINDS FROM THE HOARD OF GLASSWARE
(Figs.35-6)

The glassware hoard was found buried in a pit in area D4, the location of which has been described above (p.30-4). It comprised eleven glass vessels, a smaller bronze vessel (of which only a small fragment was recovered) and a small bronze bell, all lying within a bronze bowl which itself was contained within an iron-bound wooden bucket, of which the wooden elements had perished and parts of the ironwork were not recovered. The metal vessels are described first.

72. One-piece carinated bronze bowl with out-turned lip made of thin bronze sheet. The bowl was blank-cast and raised; the small indentation at the base will have taken the locating pin for finishing on the lathe. There is no trace of an attachment for a handle, and the iron accretions on the rim result from the close contact of this bowl



72



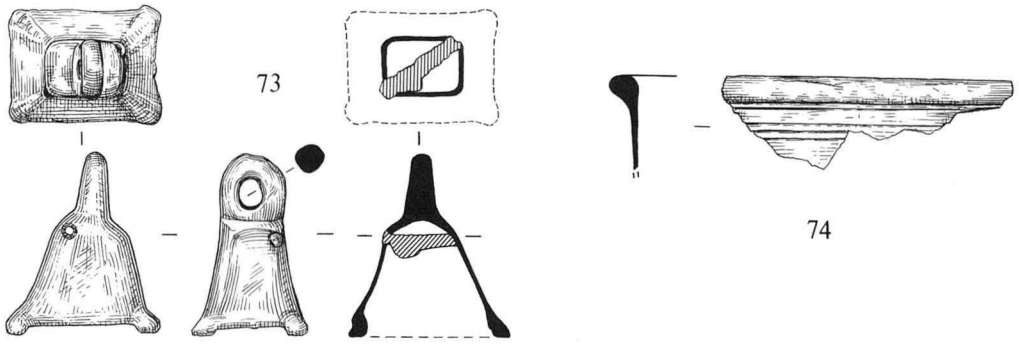


Fig.35. Small finds from glass hoard: objects of bronze (No.72 bronze and iron). Scale 1:2.

with the iron-bound bucket, No.75. When placed in the ground, this bowl seems to have fitted snugly within the iron-bound bucket, its lip resting over the bucket rim, providing two points of contact and corrosion where the handle-mounts of the bucket touched it.

At one point on the rim there is a repair where a small patch of bronze sheet has been added to the interior and folded over the rim. The patch, seen from the exterior as 71a, and from the interior as 71b (on Fig.35), is some 90 x 48 mm, and joined to the damaged bowl by rolled sheet rivets inserted in an upper and lower row through the body of the vessel and through the flanged rim. The patch bears at its bottom interior edge (where it would have been invisible against the interior of the vessel) a series of small triple notches: these seem to run along the full length of the repair strip at a consistent interval of 6 mm.

The bowl has parallels in Roman Britain, in particular a bronze bowl from the Prestwick Carr hoard in Northumberland (Hodgkin 1892), associated there with three paterae of Campanian type. This, unpatched and unrepaired, is possibly a forerunner of the late-Roman 'Westland cauldron' type, described by Eggers (1951, 58; 1966, 67f), and may date as early as about 200. Thus, the Burgh Castle bowl, with its repair, may originally have been of the same date.

73. Bronze bell with iron bar for hanging the clapper. The bell has a small carrying loop of solid bronze and four small feet at the corners. The iron bar has some corrosion on the interior and it has been inserted into two small holes drilled into opposite corners of the shoulders of the bell. Similar bells have been found at Richborough (I, no.15, p.45, and no.30, p.47) and at various of the German forts, including Zugmantel, where they are identified as portions of horse-trappings.

74. Fragment of rim of bronze vessel, possibly a small patera, rim diameter c. 13 cm. For a complete example of the type see Gregory 1976, 75, fig.5, no.15.

75-8. Two iron bindings of triangular section (Nos.75-6), one handle-mounting (77) and a portion of handle (78) from an iron-bound wooden bucket. The larger ring, in pieces but virtually complete, has an internal diameter of 20 cm. The smaller one, only two-thirds complete, has an approximate internal diameter of 18 cm. This pair of hoops forms the upper and lower binding of a small wooden bucket. Traces of wooden staves have been corroded onto the inside flat face of these bindings at various places around their circumference. The bindings will have been attached to the wood by heating and shrinking. The handle mounting is a delicate piece, a small loop terminating in a pair of round 'feet', attached to the wood of the bucket by a staple round the waist of the mounting and by a small rivet through each foot. A dotted line on the drawing approximately half-way up the loop shows the top limit of wooden fragments found adhering to the back of the mount and, thus, probably represents the height of the rim of the vessel. The portion of handle is of standard type, with a central flat, splayed grip, fashioned in the opposite plane to the thin, rectangular-sectioned, handle rod. It would have terminated at each end in a loop which passed through its respective handle mounting.

When reconstructed, the wooden vessel can be seen as a small bucket with an external diameter of its wooden staves at the rim of only 20.5 or 21 cm and an external diameter at the base of just under 18 cm. The total height of the wooden part of the bucket will have been approximately 23 cm. The comparatively ornate form of the staple, together with its small size, in common with the handle and the two loops, make it probable that this vessel is not an ordinary well bucket, but something a little more decorative on which greater care has been lavished.

The tub or bucket finds its closest parallels among Saxon metalwork, but there is nothing intrinsically 'Saxon' about the vessel, and the wooden bucket form held together with iron loops is part of the Romano-British manufacturing tradition.

In view of the relatively precise date which can be assigned to the glassware hoard found within this bucket, it is most realistic to suggest that the glassware should be taken as helping to date the period when the metalwork in the hoard was current and not vice versa. There are no problems in seeing both the bronze bowl

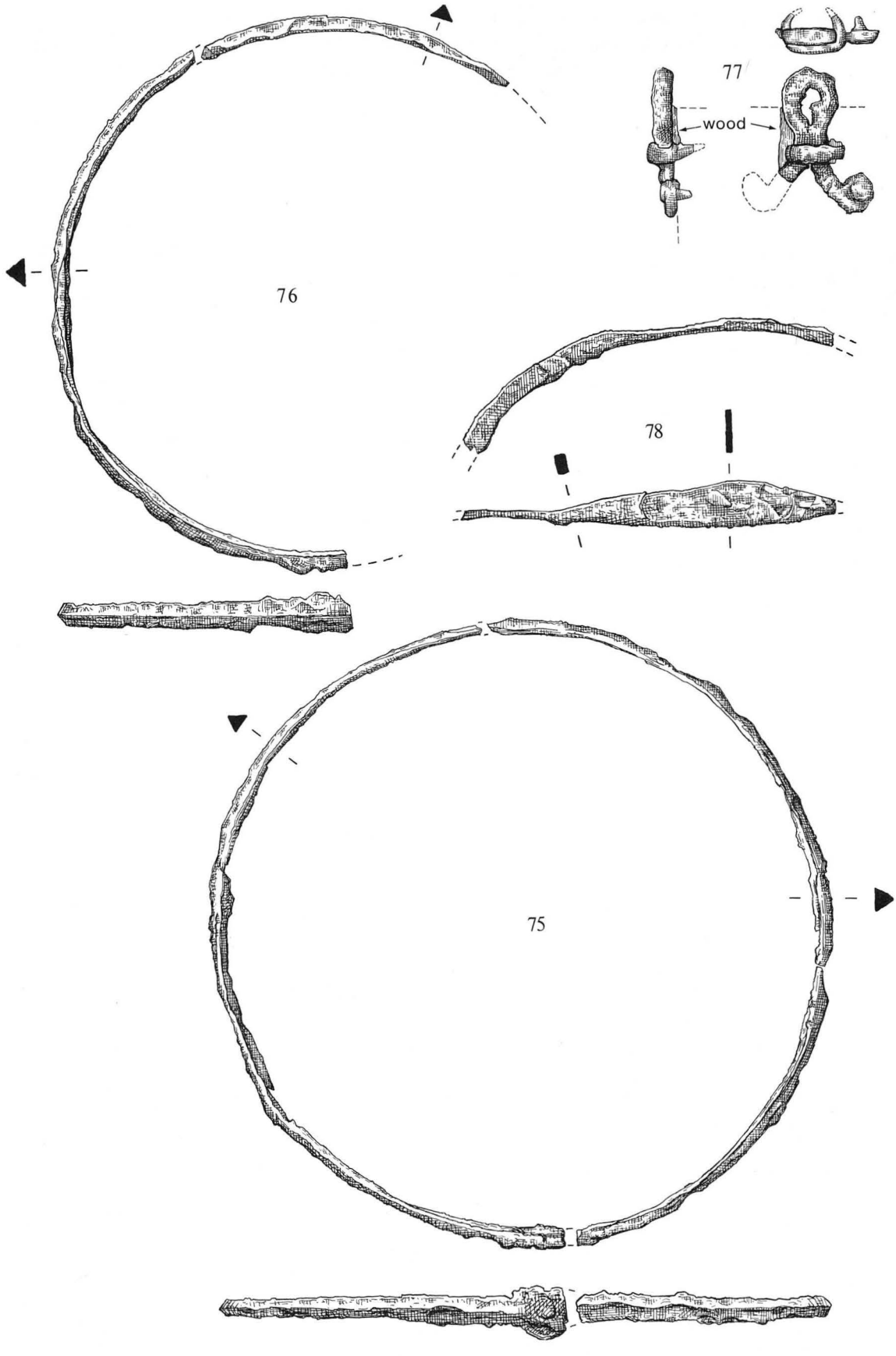


Fig.36. Small finds from glass hoard: components of iron-bound wooden bucket. Scale 1:2.

and the bucket as current in the first half of the fifth century, the period to which the glassware belongs, and the presence of neither the bronze nor the iron vessel can help fix the date of deposition of the hoard with any degree of certainty.

THE GLASS HOARD
by D.B.Harden
(Fig.37)

79. Handled flask, green, blown. Neck, handle and shoulder intact; body broken and mended, three missing fragments restored in tensol No.7. H. 12 cm. D. rim 3 cm. D. body 8 cm.

Mainly unweathered: a few incipient strain-cracks on outside and one area of iridescence within caused by water seeping in as vessel lay on its side. Innumerable bubbles and striations, some black impurities.

Rim outsplayed and folded inward and downward forming a tubular ring; tall, cylindrical neck, broadening slightly at bottom to meet shoulder in gentle curve; oblate globular body; concave bottom with small, pointed kick and traces of ring pontil-mark. Self-coloured handle, plano-convex in section, dropped on at shoulder and drawn up in circular curve to meet neck just below middle; tail drawn back along top of horizontal arm and deliberately broken off at end.

80. Handled flask, pale green, blown. Neck and handle intact; body broken and mended, three missing fragments restored in tensol No.7. H. 12.6 cm. D. rim 2.8 cm. D. body 8.5 cm.

Some incipient iridescence and many short, well-developed strain-cracks on both surfaces. Innumerable bubbles and striations, some black impurities.

Shape as No.79, but rim smaller and not hollow throughout its circumference, neck expands downward from constriction below rim, concave bottom of body has no kick, and handle curves more widely and has longer and thicker tail.

81. Base-ring bowl, colourless with greyish tinge, blown. Restored from many fragments with missing parts filled in in tensol No.7. H. 7.8 cm. D. rim 13 cm. D. base-ring 7.1 - 7.3 cm.

Surfaces, including interiors of rim and base-ring, heavily weathered and milky, with much iridescence; some small strain-cracks. Innumerable bubbles and many spiral striations.

Rim outsplayed and folded outward, downward and inward, forming a tubular ring; low, constricted neck; oblate globular body ending in sharp constriction above a pushed-in, tubular base-ring with low kick forming a knob inside vessel; ring pontil-mark.

82. Base-ring bowl, green, blown. Intact. H. 7.2 cm. D. rim 8.8 cm. D. base-ring 5 cm.

No visible weathering except for much strain-cracking near bottom of one side and on contiguous part of base-ring. Poor glass with prominent spiral striations and smoky swirls especially toward bottom and on base-ring. Innumerable bubbles and many spots of scum and black impurities.

Shape as No.81, but body oblate ovoid, curved constriction between body and base-ring, and base-ring asymmetrical.

83. Bowl [5] with knocked-off and wheel-ground lip, greenish, blown. Most of rim and parts of upper body extant, repaired from many fragments; remainder restored in technovit 4004A. H. of extant portion 5.7 cm. H. as restored 7.9 cm. H. as drawn 7 cm. D. rim 10.5 cm. T. at lip 0.3 cm.

Surface weathered with some pitting and iridescence and some strain-cracks. Poor glass with swirling striations. Innumerable bubbles.

Thick rim, slightly outsplayed, with lip knocked off and wheel-ground; slightly convex walls tapering downward; vessel as restored is too high (compare photograph with drawing, which shows probable correct height).

84. Bowl with knocked-off and wheel-ground lip, pale green, blown. Most of rim and

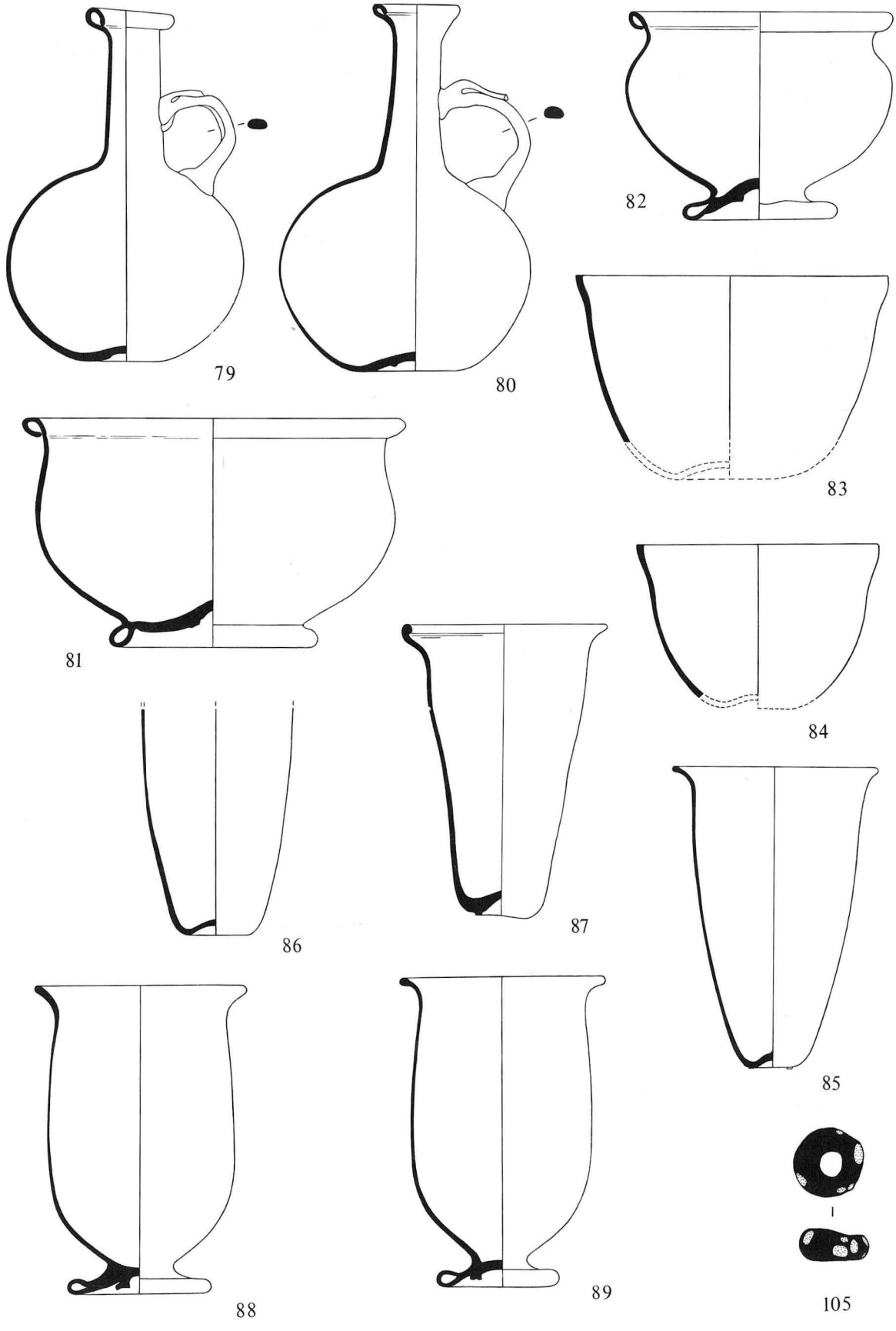


Fig.37. Small finds from glass hoard: the glassware (Nos.79-89), scale 1:2. Glass bead No.105 not from hoard, scale 1:1.

much of upper body extant, repaired from nine, mostly large, fragments; remainder restored in technovit 4004A. H. of extant portion 5.3 cm. H. as restored 6.3 cm. H. as drawn 5.7 cm. D. rim 8 cm. T. at lip 0.2 cm.

No visible weathering; many, mainly horizontal, striations. Innumerable bubbles and a few spots of scum.

Shape as No.83, but thinner rim.

85. Cone-beaker, green, blown. Intact. H. 10.3 cm. D. rim 6.8 cm.

No visible weathering except some incipient surface strain-cracking. Innumerable bubbles and swirling striations; some black impurities.

Rim outsplayed, lip knocked off and rounded in flame. Sides convex, tapering down to rounded base-angle; concave bottom with shallow, pointed kick. Trace of ring pontil-mark.

86. Cone-beaker, pale green, blown. Lower part broken and mended, remainder missing, restored in technovit 4004A. H. of extant portion 7.8 cm. H. as restored 10 cm. D. rim as restored 6.7 cm.

Incipient iridescent sheen in places, but no flaking; many incipient surface strain-cracks. Innumerable bubbles, many spiral striations and black impurities.

Shape as No.85 so far as extant. Restored rim based on that of No.85, but with too thin a lip.

87. Cone-beaker, pale green, blown. Broken and mended, three missing fragments restored in tensol No.7. H. 10 cm. D. rim 6.7 - 6.9 cm.

Some incipient iridescence on bottom and inside, remainder clear with no visible weathering except a few incipient surface strain-cracks.

Shape as No.85, but rim uneven, straighter sides, although with some waviness in profile, bottom more deeply kicked.

88. Stemmed beaker, green, blown. Intact. H. 10.6 cm. D. rim 7.1 - 7.3 cm. D. base-ring 4.8 cm.

Patch of incipient iridescence within, caused by water seeping in while vessel lay on its side; a few small incipient strain-cracks on surface. Innumerable bubbles, many striations and one prominent spot of black impurity.

Rim outsplayed, lip knocked off and rounded in flame. Sides drop vertically to a low carination from which they taper sharply to a constriction above a pushed-in stem with tubular ring. Ring pontil-mark, but no concavity underneath.

89. Stemmed beaker, pale green, blown. Broken and mended, incomplete; all of one side and some other gaps restored in technovit 4004A. H. 10.7 cm. D. rim 6.8 cm. D. base-ring 3.8 - 4 cm.

Some small patches of iridescent weathering. Innumerable bubbles, many spiral striations and many tiny specks of black impurities.

Shape as No.88, with minor differences in profile of rim and stem.

Discussion

Although these glasses have been illustrated and briefly described in print on several occasions (Summary 1962, 178, pl.xxiv, 1; J.Glass Stud. V, 1963, 145, no.16 with illus.; Harden 1969, 64, pl.XI, E; Harden 1978, 2, pl.I, A; Harden 1979, 211, 214, 217; Harden 1980, 53, fig.18), no full description of the group, or of any part of it, has hitherto been published. Yet the group, as will appear, is of great significance, since it overlaps the Roman and Saxon periods, and it is important to try to date it as accurately as possible. In what follows it will be valuable to assess the date solely on information gained from a study of the glasses and their parallels. If the result coincides with their stratigraphic date at Burgh Castle, all will be well; if the two dates differ, a resolution of the discrepancy must be sought.

As the catalogue reveals, the eleven glasses belong to five shapes:

A. Handled flask (Nos.79-80),

B. Base-ring bowl (Nos.81-2),

C. Bowl with knocked-off and wheel-ground lip (Nos.83-4),
D. Cone-beaker (Nos.85-7),
E. Stemmed beaker (Nos.88-9).

The first three shapes are Roman and the last two are Teutonic and therein lies the difficulty. Had the group contained examples of the first three shapes only, we would have had no hesitation in placing it in the second half of the fourth century. Had it contained only cone-beakers and stemmed beakers, we would have placed it just as firmly in the first half of the fifth century, and probably in its second rather than its first quarter.

Let us now look more closely at these five shapes and their known parallels, try to fix the inclusive dates of each shape and, as a consequence, the probable date by which the group might have been deposited in a 'hoard' at Burgh Castle.

A. Handled flasks. These two tall-necked globular flasks (Nos.79-80) with widely-swung handles reaching from the shoulder to the middle of the neck have few close parallels and strangely, so far as my knowledge goes, none outside Britain. Two came from the late Roman cemetery at Lankhills, Winchester, one in grave 385 of 370-410, the other unstratified (Harden 1979, 217f., nos.472 and 632); another was found at Richborough, Kent, at a depth of 11 ft (1.38 m) in Pit 50, a pit filled in during the fourth century (Bushe-Fox 1932, 85, no.62, pl.xv) [6], and there is a fourth in the British Museum (no.PRB 1900.6-14.2) acquired from G.F.Lawrence and said to come from Icklingham, Suffolk, but without context. A similar flask, but with handle from shoulder to rim, was found at Lankhills in grave 352 of 390-410 (Harden 1979, 217f., no.551), but this variety seems to be even rarer and I know of just one parallel, a piece from the Luxemburgerstrasse, Cologne, formerly in the Niessen collection and now in the Römisch-Germanisches Museum, Cologne (Loeschcke et.al. 1911, 46, no.513, pl.xxxi) [7]. Similar flasks without handles are far commoner, occurring usually in late fourth-century contexts, although at least two have come from Saxon graves, one at Bifrons, Kent, formerly in the British Museum (Tomlinson loan) and now in Maidstone Museum (no.KAS. 620/1954/1), the other at the Highdown Hill cemetery near Worthing, Sussex, and now in Worthing Museum (no.3501) (Harden 1956, 136, 158, type e i) [8]. Among the many examples in late fourth-century contexts on the Continent we may cite those in graves 6 and 7, both of c. 365-400, in the Mayen (Eifel) cemetery (Haberey 1942, 265 ff., figs.6 and 4 respectively); no.B18 from grave 13, of c. 360-400, in the cemetery at Furfooz, SE of Dinant, Belgium (Nenquin 1953, 49, pl.v, no.2 and many other references ad loc); and those in graves 530 (first half of the fifth century) and 1107 a, b (late fourth or early fifth century) in the very large cemetery at Krefeld-Gellep in the Rhineland (Pirling 1966, pt.2, 68f., pl.46, no.14 and 130f., pl.92, nos.6, 7 and 15). A very similar flask, however, was found in grave 9 at Haillot, Belgium, a grave which is believed to be not earlier than the mid fifth century (Breuer and Roosens 1957, 212, 253, fig.10, no.5; for the date of grave 9 see 283f.). Yet despite this Haillot dating, the general trend throughout this assessment is for dates in the late fourth and early fifth centuries and we may rest content that the two Burgh Castle flasks would be at home in that context.

B. Base-ring bowls. These two bowls (Nos.81-2) with tubular rims and base-rings and oblate globular bodies, are of a shape which appears at many times and places in the Roman period, although mostly in glass of quite different style and aspect from that of our two vessels. Fortunately the Highdown Hill cemetery again provides one excellent parallel, no.3502 found in grave 53 [9] (Harden 1956, 135, 158, type d ii; Harden 1951, 263, fig.8; Welch 1976, 15f., pl.7; the shape is Morin-Jean 1913, 128, form 84). This, in fact, is the only close parallel of comparable date that I know of for these two Burgh Castle bowls, although its neck is not so constricted and its body is more carinated. This Highdown Hill piece is Roman, as I recognized in 1956 in my typology of glasses in Saxon graves, where I classed it among Roman survivals, assuming that it was made many years before burial in the Highdown grave. It ought to be of the fourth

century and cannot have been made later than the early fifth. Isings (1957) provides two forms of this shape, no.44 on p.59f., confined almost entirely to first-century examples, with a few slightly later ones, and no.115 on p.143, a fourth-century type, which she says is rare and of which the only examples she cites that are relevant in the present context are two found by Fremersdorf in coffin C at Köln-Müngersdorf, belonging to the end of the fourth century (Fremersdorf 1933, 95, pl.51). This coffin also contained two cone-beakers (cf. shape D below) of the late Roman variety with broad bottom and knocked-off and wheel-ground lip. One other base-ring bowl of our type, formerly Niessen collection 5951, is now in Trier (Goethert-Polaschek 1977, 35, no.94, pl.33).

A contemporary type of globular bowl with tubular base-ring and wheel-ground or fire-rounded lip is very common in Continental cemeteries of the late fourth and early fifth centuries, e.g. Mayen, graves 5, 7, 10, 13 (two examples), 19, 20 (two examples) and 22, all with wheel-ground lips, and 24 and 25, with fire-rounded lips (Haberey 1942, 264ff., figs.4, 5, 9, 12, 17, 19 and 20); Furfooz, seven examples, nos.B5-11, six with wheel-ground lips and one (B11) with fire-rounded lip (Nenquin 1953, 45f., fig.11, pls. ii-iii); and Krefeld-Gellep, two examples, one in grave 9 with fire-rounded lip and the other in grave 1107 b with wheel-ground lip (Pirling 1966, pt.2, 16, 131, pls.8 and 92). The dates of all these support my belief that the bowl in grave 53 at Highdown Hill with its tubular base-ring and tubular rim was made in the late fourth or early fifth century and helps greatly in establishing a similar date for our two Burgh Castle bowls.

C. Bowls with knocked-off and wheel-ground lips. Since the bottom is not extant on either of these bowls (Nos.83-4), any comments about parallels must to some extent be speculative. It is, however, highly probable that the reconstructions as effected in the British Museum Conservation Laboratory are in general correct, although both should be shallower and their bottoms broader than those now provided for them. The difference is slight, however, as may be seen by comparing the photograph (Pl.XII) showing them as restored, with the drawings (Fig.37), which are based on my view of how they should look.

This kind of bowl with knocked-off and wheel-ground lip is undoubtedly a Roman type. Globular or hemispherical forms are far more common than conical ones like the Burgh Castle pair, but whatever the form, the bowls can either be plain or decorated with wheel-incisions. There are many examples of globular varieties from Continental cemeteries, e.g. Mayen, graves 1, 12, 14 (two examples), 15, 18, 21, 23 (Haberey 1942, 261ff., figs.2, 11, 13, 14, 15, 18 and 19; the shape is Morin-Jean 1913, 124f., form 71); Furfooz, four examples (nos.B 1-4; Nenquin 1953, 44f., fig.11, pl.ii); Musée-Curtius, Liège, fourteen examples from Herstal, Seraing and other sites (Vanderhoeven 1958, 10ff., nos.1-14, pls.i, ii, iii and xxiii); and Krefeld-Gellep, where examples are numerous (Pirling 1966, pt.2, graves 147 [p.29, pl.17, no.2] , 508 [p.65f., pl.43, no.4] , 520 [p.67, pl.45, no.9] , 793 [p.98f., pl.69, no.8] , 1111 [p.131, pl.88, no.4] ; Pirling 1974, pt.2, graves 1295 [p.16, pl.16, no.5] , 1465 [p.33, pl.29, no.4] , 1866 [p.80, pl.64, no.7]). The conical variety does not appear in any of these cemeteries except Krefeld-Gellep, which provides four examples (Pirling 1966, pt.2, grave 1124 [p.132, pl.93, no.11, taller than the Burgh Castle pair]; Pirling 1974, pt.2, graves 1611 [p.48, pl.40, no.11] , 1858 [p.80, pl.66, no.2] , 1883 [p.82, pl.68, no.11, an interesting asymmetrical vessel with its body partly globular and partly conical]). There is, however, one bowl with convex-conical profile from Trier (Goethert-Polaschek 1977, 51, 311, no.167, grave 213 h, pl.20). The Mayen, Furfooz, Krefeld-Gellep and Trier bowls are all from graves belonging to the fourth century, and mainly to its second half, and so, probably, are those at the Musée Curtius, although Vanderhoeven gives a wider dating of late fourth or first quarter of the fifth century.

These bowls belong to Isings (1957), form 96, which includes both plain and decorated examples with either knocked-off and wheel-ground or flame-rounded and thickened

lips. Although it is included by her among types beginning in the third century, Isings recognizes that the form is typical of the fourth century and continues into the early fifth. She calls this form 'hemispherical bowls', implying how predominant the globular varieties are compared with the conical. That the bowls are not Teutonic must be obvious from what has been said. Indeed I had no hesitation in placing among Roman survivals the only example from a Saxon grave which fell to be included in my lists in 1956, one from Bifrons, which is now in Maidstone Museum (no.KAS.20/1954/2) [10]. Since its form is somewhat devolved, this Bifrons piece could be a late manifestation of this very common shape. It is clearly later than the two Burgh Castle bowls, which must belong to the late fourth century or the early years of the fifth.

D. Cone-beakers. These three vessels (No.85, intact; No.86, lacking its upper half; No.87, lacking some fragments) are all essentially the same type, with knocked-off and flame-rounded lip, conical body and broad, concave bottom. None bears any decoration, unless, as is most unlikely, there was some on the missing upper portion of No.86. The type lies somewhere between late Roman broad-bottomed cone-beakers with outsplayed rims and knocked-off lips smoothed by grinding and the fully-developed Teutonic pointed cone-beakers with flame-rounded lips (shape as Morin-Jean 1913, 140, form 107), as I recently showed when publishing four examples of the late Roman type bearing wheel-incisions from four Lankhills graves, all datable within the period 370-410 (Harden 1979, 213f.; and see also Harden 1978, 2 and Harden 1980, 53). For two similar cone-beakers from coffin C at Köln-Müngersdorf see p.85. A similar broad-bottomed variety with either outsplayed or vertical rim overlaps this late Roman type to start with, but continues throughout the fifth and at least part of the sixth century. This variety, on which the lip is always flame-rounded, is usually decorated with spiral trails below the rim and often with twisted (or wrythen) corrugations on the body as well. No less than seven of Haberey's twenty-seven graves at Mayen yielded an example of this type, all belonging to the same range of date, 370-410 (Haberey 1942, 265f., grave 6, fig.6; 268, grave 8, fig.7; 269, grave 10, fig.9; 270f., grave 12, fig.11; 276, grave 18, fig.15; 279f., grave 23, fig.19; 280, grave 25, fig.20). There are two others with spiral trails and/or wrythen corrugations from late fourth-century graves at Trier (Goethert-Polaschek 1977, 73, nos.308-9, pl.43). On the other hand there were none in the early graves at Krefeld-Gellep, although seven are illustrated from graves belonging to the fifth century or later (Pirling 1966, pt.2, graves 499[p.49,pl.49,no.12], 609[p.79,pl.57,no.3], 635[p.81,pl.57,no.12], 812[p.101,pl.71,no.5], 933[p.112,pl.76,no.20], and 1232[p.144,pl.106,no.12]; all these graves except 609 and 812, which are of Stufe III, c. 525-600, belong to Stufe II, c. 450-525). When the type with knocked-off and wheel-ground lip disappeared in the early fifth century, giving place to that with flame-rounded lip, the broad bottom gradually narrowed until it became no more than a rounded point. Cones of these types were frequent throughout the fifth and sixth centuries on the Continent and in pagan Saxon cemeteries in England.

Where, then, chronologically, within this broad range are we to place our three Burgh Castle examples? Having flame-rounded lips and broad, concave bottoms we would expect them to be contemporary with the seven Mayen vessels, even though, unlike them, their rims are outsplayed and they are undecorated. This dating would be entirely consistent with that already postulated for the first three Burgh Castle types. Unlike those types, however, which are purely Roman and would, in Saxon graves, be termed Roman survivals, these vessels must be thought of as initiating the Teutonic or Saxon series. It could, therefore, be that, since their outsplayed rims and broader bodies with slightly bulging sides differ from the narrow, straight-sided bodies and upright rims of the Mayen vessels, they should be accepted as not earlier than 400, and perhaps not much earlier than 425.

Before coming to this conclusion, however, we should reconsider the seven other cone-beakers which I listed in 1956 as Roman survivals in Saxon graves (Harden 1956,

135, 158, variety a, pl.xv, a, b). There can be no doubt that nos.3 and 4, from East Shefford [11] and Highdown Hill [12], with their knocked-off and wheel-ground lips, are Roman survivals, for although the Highdown piece has a narrow, rounded bottom, its body is covered with a spiral pattern of horizontal and zigzag trails of a recognized late Roman type. The Alfriston piece also (no.5), even though its lip is flame-rounded, is decorated with indents and crimped fillets in a Roman style and can be accepted as a survival [13]. Two others, nos.6 and 7, both with flame-rounded lip, should not have been placed in this group of survivals. They are purely Teutonic, no.6 from Faversham, Kent [14] having a narrow bottom with a tiny kick and a few lines of spiral trail near the rim, and no.7 from Westbere, Kent [15] having trailed and corrugated decoration and a not very broad bottom, all typical Teutonic characteristics. No.2 from Chessel Down, Isle of Wight [16] is shorter and broader than any other cone. Indeed, both it and the other Chessel Down cone (no.1) are of such doubtful affinities that they should not be brought into the present discussion. The Alfriston cone is, therefore, the only cone-beaker with flame-rounded lip which can properly be classed as a Roman survival. All the rest are fifth-century pieces, even if some of them were made in the first half of the century and were some decades old when buried.

It will be noticed that many of the types we have discussed are decorated, even if only with a little spiral trailing near the rim, and close parallels for the three plain Burgh Castle cone-beakers with flame-rounded lips seem to be rare. The British Museum possesses a very small cone (H. 8 cm) from Mainz [17], a fragmentary example from Faversham, Kent [18] and an even more fragmentary piece from Droxford, Hants [19] of the kind we are seeking, as well as three examples from the cemetery at Herpes, Charente, France [20], although these Herpes vessels differ from ours in having round-pointed bottoms. No plain examples appear among Professor Pirling's Krefeld-Gellep graves [21] and the only three plain ones in the Musée Curtius in Liège have knocked-off and wheel-ground lips (Vanderhoeven 1958, 61ff., nos.62 and 65, pl.xviii, from Tongres or its environs, and 63, pl.xxiii, fig.8, from Seraing). Indeed, although it could be expected that plain types would be common, they seem to be exceptional. There can, however, be no doubt about the date of the three Burgh Castle cone-beakers. With their broad bottoms they must come at the beginning of the Teutonic series, probably in the first quarter of the fifth century.

E. Stemmed beakers. These two beakers (Nos.88-9) almost duplicate each other, there being no more than minor variations in their shapes. They are a Teutonic type (Rademacher 1942, 293f., pl.48), which according to Isings, 1957, 136f., is probably descended from her form 109 a, a conical beaker with pushed-in foot. My 1956 list of glasses from Saxon graves included three examples, two with short stems very similar to those on the Burgh Castle pair (Harden 1956, 139, 158, group B I a 1, fig.25, from Croydon, Surrey, and B I a 2, pl.xvi, a from Howletts, Kent) and the other with a taller stem, which is not nearly such a close parallel (Harden 1956, B I b 1, fig.25, from Highdown Hill, Sussex, grave 24). I placed all three in my earliest Saxon sub-group, B I, and suggested that the type could not have outlasted the early sixth century. These three glasses, however, differ from the Burgh Castle ones, since they are all decorated with horizontal spiral trailing, those with short stems having broad bands of it just below their rims and the one with a taller stem having two bands, one below the rim and one round the middle. Nor has a search through the Continental literature produced any undecorated stemmed beakers closely comparable with the two from Burgh Castle. Pirling illustrates one undecorated beaker from Krefeld-Gellep (Pirling 1974, pt.2, 74f., grave 1830, pl.81, no.8), but it has a very thick and sharply outbent rim and a pushed-in, open base-ring of a type which is more akin to certain Roman beakers with base-rings [22], than to our early Saxon short-stemmed ones. Since its grave belongs to the first half of the fourth century, it can scarcely be brought into the present discussion.

We are left, then, with an even greater problem than we encountered with the cone-

beakers. For them we had many good decorated parallels, but only a few undecorated; for these we again have a number of decorated parallels, but none without decoration. Yet the date of these Burgh Castle stemmed beakers is not in doubt: they cannot be earlier, and are certainly not later, than the fifth century, and, since we gave the cone-beakers a probable date in the first quarter of that century, we can accept the same probable date for these stemmed beakers.

It is indeed a curious thing, which we may now take note of, that none of the eleven Burgh Castle glasses bears any decoration. I know of no other comparable group of undecorated glasses of the later fourth and earlier fifth centuries, so that it is possible that the group, having this in common, came from some particular glasshouse of the period where decoration, even of simple trailing, did not happen to be in vogue. If so and if to that extent we may accept the group as a unity (even though all eleven glasses may not have been made at one time), the natural time for its assembly and deposition would have to be the first quarter of the fifth century or very shortly afterwards.

THE GLASS FRAGMENTS
by D.B.Harden
(with the exception of No.105 (Fig.37), these are not illustrated)

90. Frag. rim and side of cone-beaker, colourless with greenish tinge; lip knocked off and wheel-ground. Isings (1957), form 106. Flaky and iridescent. D. rim 6.5 cm. T. wall 3 mm. SF 326; F 5, layer 3.
91. Frag. side of cone-beaker, tapering downward, green; on upper body two horizontal raised trails over which lies a 'wish-bone' angle of a zigzag trail, all self-coloured. Some iridescence. D. c. 5 cm. SF 252; E 5, layer 2.
92. Frag. rim and side of globular bowl, yellow; rim outsplayed, lip knocked off and wheel-smoothed. Isings (1957), form 96 a. Incipient iridescence in places. D. rim 7.5 cm. T. wall 1.5-2 mm. Also frag. body, slightly distorted in fire, perhaps from same vessel. SF 267; F 5, layer 1-2.
93. Frag. rim and side of bowl with indents, green; rim outsplayed, lip knocked off and wheel-smoothed. Isings (1957), form 117. No visible weathering. D. rim 14 cm. SF 161; G 30, layer 3, S. side.
94. Part of body of bowl with indents, greenish yellow. No visible weathering. SF 167; G 30, layer 5.
95. Frag. rim and side of cylindrical bowl, colourless; lip knocked off and wheel-smoothed. Pitted and iridescent. D. rim 7.5 cm. SF 245; A 4, layer 3.
96. Frag. lower body of cylindrical bowl, colourless. Pitted and iridescent. Many striations. D. c. 5 cm. SF 115; B 20b, layer 2.
97. Pushed-in tubular base-ring of small beaker or flask, colourless. Flaky, with pitted and iridescent surface. D. base-ring 3.2 cm. SF 219; A 4, layer 3, basal.
98. Frag. carinated side and another very thin amorphous frag. of body, colourless; shape of vessel uncertain. Surface flaking with much iridescence. SF 89; B 5a, layer 4.
99. Frag. slightly concave bottom of bowl, and an amorphous frag. of body, colourless. Surface flaking with much iridescence. SF 122; A 4a, layer 2, brick pack.
100-2. Three amorphous, colourless body-frags. Surfaces flaking with much iridescence. SF 68; B 4a, layer 5c. SF 137; C 4y, layer 3a. SF 320; A 2, layer 3 N.
103. Frag. cylindrical neck, frag. broad, pushed-in foot, and amorphous body-fragment, green; shape of vessel uncertain. Surfaces flaking with much iridescence. SF 155; A 1, layer 3.
104. Frag. outsplayed rim of flask or jug with thick, strengthening trail underneath, colourless (?); lip rounded in flame. Also some small frags. of handle or handles and part of pushed-in base-ring. Most frags. covered with blackened weathering-layer, flaking in places and leaving iridescent and pitted surface. SF 324; A 2,

layer 3.

105. Bead of black glass with marvered yellow spots (Fig.37). M33; south central pit in layer 2.

THE COARSE POTTERY
(Figs.38-44)

The group of Roman coarse pottery from the excavations at Burgh Castle is a large and varied one. The vessels illustrated come, in the main, from the layers of burnt Roman debris in the north-east corner and from similar layers in the south-west. These layers are almost uncontaminated by later pottery (mainly Ipswich Wares) and such contamination as there is probably comes from the fills of later post-holes which were unnoticed at the time of excavation (p.21). The amount of large sherds of Roman pottery shows that the layers are to be considered as deposited within the Roman period: there is a significant lack of Roman sherds worn down by continual turning over within later deposited layers.

A significant number of the vessels found in the area in the north-east of the fort showed signs of burning. The layers within which they were found (p.23) contained large amounts of burnt daub and charcoal and it seems best to assume that these deposits represented the remains of Roman buildings either burnt in situ against the fort wall, or debris from the burning of such buildings brought from elsewhere and deposited here. Whichever explanation is the correct one, the deposits were probably formed by pottery material within the buildings at the time of their destruction.

A smaller amount of material, mainly of a residual nature, was also discovered within the area excavated in 1961 (D-M, 3-6). Further material came from the south-west corner of the site, particularly those layers nearest the fort walls (grid square M32-3). Much of this, however, came not from rubbish pits, but from spreads of debris and rubble, often covered by little more than the present-day ploughsoil. This makes a sequence of pottery deposit impossible to establish.

This report, therefore, deals with the Roman pottery by fabric types or according to the area of pottery production where this is clearly known. A concordance in table form (p.112-5) also shows the representative types of pottery from each layer. This list is necessarily selective and only those layers with diagnostic sherds of types represented have been included. A large number of miscellaneous grey-ware body sherds which clearly belong to jars or bowls are not included: the opportunity has been taken, however, to show which layers contained sherds of post-Roman date.

When one looks as a whole at the range of pottery types represented at Burgh Castle, the range of types is surprisingly consistent with a solidly mid fourth-century date. There is virtually no samian pottery, and the proportion of grey wares to colour coated in terms of vessel numbers is about 2:1. As far as the grey wares are concerned, much remains to be done to compare local types and forms: this has been outside the scope of the writer's capabilities because of the amount of time it would take and the uncertainty of positive results. Clear distinctions can, however, be made and these are indicated within the descriptions of fabric types which head each section.

The colour coated wares have been examined by Dr C. J. Young, whose analysis of Oxford, Nene Valley and Essex/Hertfordshire (Hadham) products has been invaluable. All three kiln sites appear to have been sending roughly equal amounts to Burgh Castle. The Oxfordshire types represented in the main at Burgh Castle are the commonest ones whose production was maintained throughout the fourth century. By far the most distinctive pottery was that from Hadham. It was represented by a large number of colour coated types, some of them fairly grotesque. Distinctive hall-marks of this production

centre - the pie crust rims, the face pots and the curve of the shoulder of many of the pots - make its products easy to spot, but unfortunately they are not easy to date.

Dating of the whole range of pottery for these reasons is by no means easy, but it seems best to regard the material as largely of the middle decades of the fourth century. A number of the Hadham vessels are of 'Romano-Saxon' type, but this type of decoration (with 'Saxon' motifs on Roman-style fabrics) need not signify a very late Roman date, nor one within the Anglo-Saxon period (Gillam 1979).

A. Imported Pottery

1. Orange colour coat, smooth orange fabric - Argonne Sigillata? B36, layer 3b.
2. Hard red-orange fabric, deep red colour coat - Argonne Sigillata? M33, layer 2.
3. Buff fabric, patches of brownish red colour coat - 'pôterie a l'éponge'. B5a, layer 3.
4. Mayen Ware: heavy grey ware, coarse fabric, smooth soapy finish (Fulford and Bird 1975, fig.1, no.3). B2a, layer 3.
5. Mayen Ware: grey, heavy gritted fabric; smooth soapy finish (Fulford and Bird 1975, fig.1,4). C4y, layer 3a.
6. Mayen Ware: pinkish fabric, heavily gritted (Fulford and Bird 1975, fig.1, no.6). C4y, layer 3.

B. Colour coated wares - i. Nene Valley Products

7. Flagon base: dull orange-red fabric, brownish orange colour coat. B15a, layer 1.
8. Grey ware: brown colour coat with white painted decoration. Possibly a Nene Valley product. A4, layer 2.
9. Neck of jar: white fabric, metallic grey colour coat. B3b, layer 3b.
10. Neck of jar: whitish buff fabric, metallic brown coat. A4, layer 2.
11. Dish: buff-white fabric, metallic grey-black colour coat. A3, layer 3.
12. Dish, small flange: white fabric dull red-brown coat. B15a, layer 1.
13. Flanged bowl: white fabric, grey colour coat. C4y, layer 3.
14. Flanged bowl: white fabric, metallic brown-black colour coat. M33, S central pit.
15. Flanged bowl: whitish buff fabric, brownish red coat. B2a, layer 4.
16. Bowl: white fabric, rich red-brown colour coat. B20b, layer 2.
17. Parchment ware bowl: whitish buff fabric, dark red-brown painted lines. A4a, layer 4.
18. Beaker: light orange-brown fabric, metallic brown exterior colour coat, white painted scroll decoration. A2, layer 4.
19. Beaker: heavily burnt. Originally orange-buff fabric, dark brown or black colour coat with white painted decoration. A2, layer 4.
20. Rouletted beaker: whitish buff fabric, metallic brown colour coat. A4, layer 3S.
21. Beaker rim: white fabric, reddish brown colour coat. B4b, layer 5.
22. Beaker rim: buff fabric, metallic brown colour coat on exterior. M32, layer 2.
23. Lid seated box: white fabric, blackish brown outer colour coat. D4, layer 2.
24. Lid with rouletted decoration: white fabric, dark brown patchy colour coat. D4, layer 3.
25. Face mask from flagon neck: buff-cream fabric, traces of dark brown paint and light red-brown colour coat. Possibly from the Nene Valley kilns. A4a, layer 2.
26. Flagon base in parchment ware: whitish buff fabric, red-brown painted decoration. Possibly from the Nene Valley kilns. A4, layer 3S.

ii. Products of the Oxford Kilns

The range of fabrics is already well attested for the Oxford potteries. The range of types here illustrated includes one of each of the types represented at the fort within the series established by Young 1977.

27. Young type C49: dated c. 200-400+. Q4, layer 2.
28. Young type C50: 325-400. D4, layer 2.

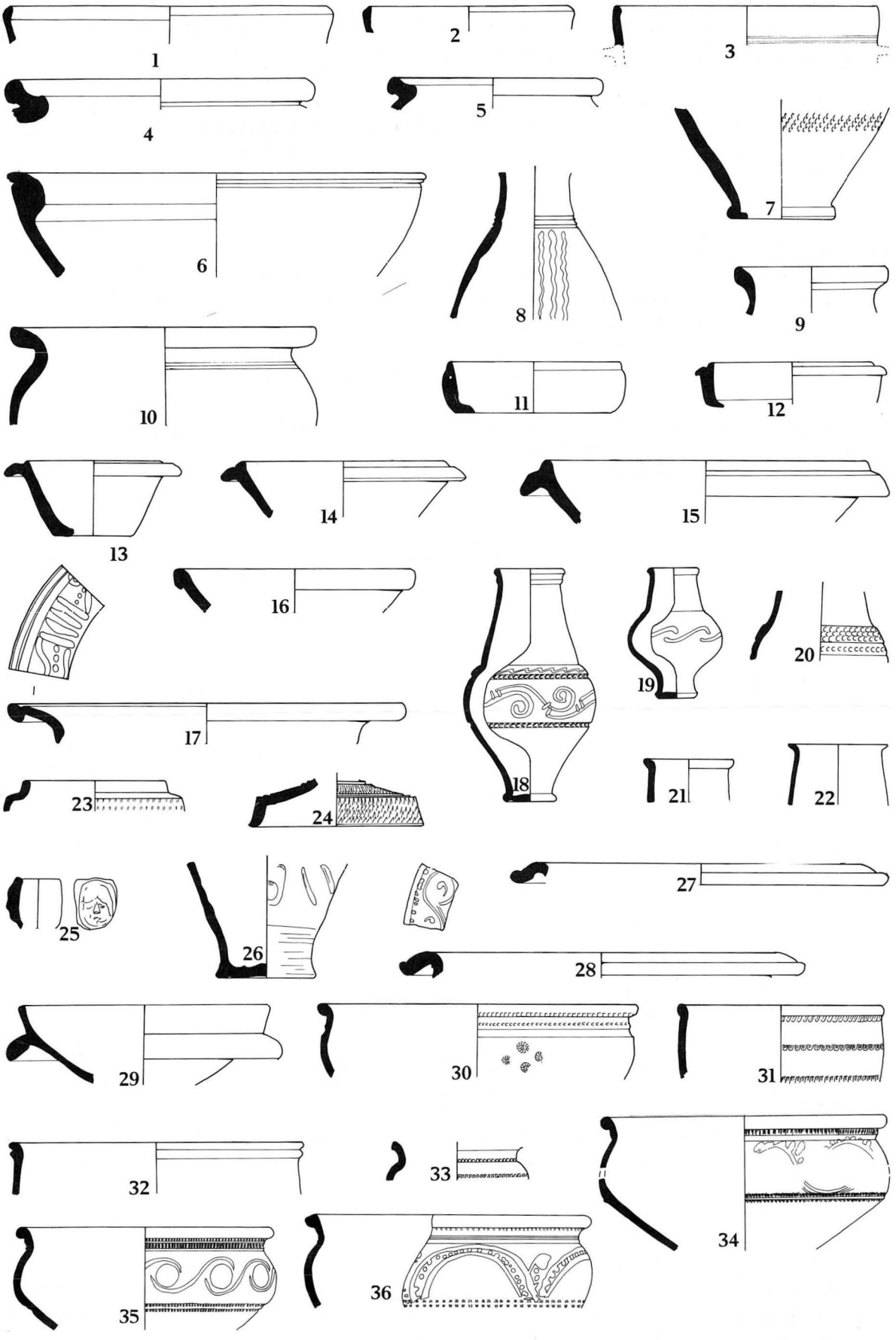


Fig.38. The coarse pottery. Scale 1:4.

29. Young type C51: 240-400+. B2a, layer 3.
30. Young type C78.5: 340-400+. B3b, layer 3.
31. Young type C68: 300-400. E4, layer 2.
32. Young type C71: 300-400. D4, layer 2.
33. Young type C75: 325-400+. B15a, layer 1.
34. Young type C77: 340-400. Q3, layer 4.
35. Young type C77.4: 340-400+. M33, layers 2-3.
36. Young type C77.5: 340-400+. L33, layer 3.
37. Young type C83: 350-400+. E5, layer 2.
38. Young type C84: 350-400+. M34, layer 3.
39. Young type C97: 240-400+. A4a, layer 2.
40. Young type C101: Undated. A2, layer 4.
41. Young type C115.3: 350-400+. B3a, layer 3b.
42. Young type P9: 240-400+. O30, layer 2.

iii. Essex/Hertfordshire (Much Hadham) Kiln products

The colour coated products of the kilns in this area form a distinctive group within the Burgh Castle material and they receive full publication here both because of their intrinsic interest and because of the value of a mid fourth-century grouping of material for comparative study with other finds.

The fabrics represented at Hadham are well described both by Orton (1977, 37) and by Tyers (1977, 150). The fabric is normally a bright reddish orange with a glossy red or light orange colour coat. The pottery either has a slightly coarse feel to it, or is burnished very heavily, with horizontal burnish or vertical strokes on the necks of vessels (e.g. Nos.44, 46, 49, 54). The fabric has small grits and micaceous inclusions.

43. Face mask from two-handled flagon. A1, layer 4.
44. Flagon neck: this may have had a face mask as Nos.43 and 46. C4y, layer 3b.
45. Flagon neck. B4b, layer 3.
46. a, b, c. a. Flagon neck, with face mask similar to, but not the same mould as, No.43. A row of finger-impressed dimples lines both sides of the face, which is female, with centrally parted hair and a generally fully-fleshed complexion. b. Opposite the face at the back of the neck is an applied strap handle, but squashed flat against the vessel. c. The handles are set symmetrically at an angle to the face mask, but not at right angles to it. M33, layer 2.
47. Flagon, with base of handle and cordoned decoration with impressed stamps. A2, layer 2.
48-9. Handled jug: the base probably belongs to this upper portion. A4, layer 2.
50. Flagon neck with single handle and possible pouring spout. A4, layer 5.
51. Flagon neck. G4, layer 2.
52. Flagon neck: two finger-impressed dimples flank the position of a handle. A4, layer 2.
53. Narrow-necked jar: heavily burnished and burnt a dull brownish black. A central band of decoration comprises a series of running animals (dogs?), with dimples and bosses. For other examples of such animal moulds, see East Hertfordshire Archaeological Society Newsletter 31 (1972), 3. A4, layer 3S.
54. Narrow-necked jar: frilled rim, small opposed 'squashed' handles and applied face. A4, layer 3.
55. Narrow-necked handled jar. M33, layer 2.
56. Narrow-necked jar: frilled rim and probably three 'squashed' handles, of which two survived. M33, layer 2.
57. Shoulder of narrow-necked jar, with cordons. A4a, layer 2.
58. Shoulder of narrow-necked jar: see Tyers (1977, fig.23 (p147) no.21.16). A4, layer 1.
59. Jar rim. A2, layer 2.
60. Rim of jar: probably from Hadham, but burnt. B5a, layer 4b.

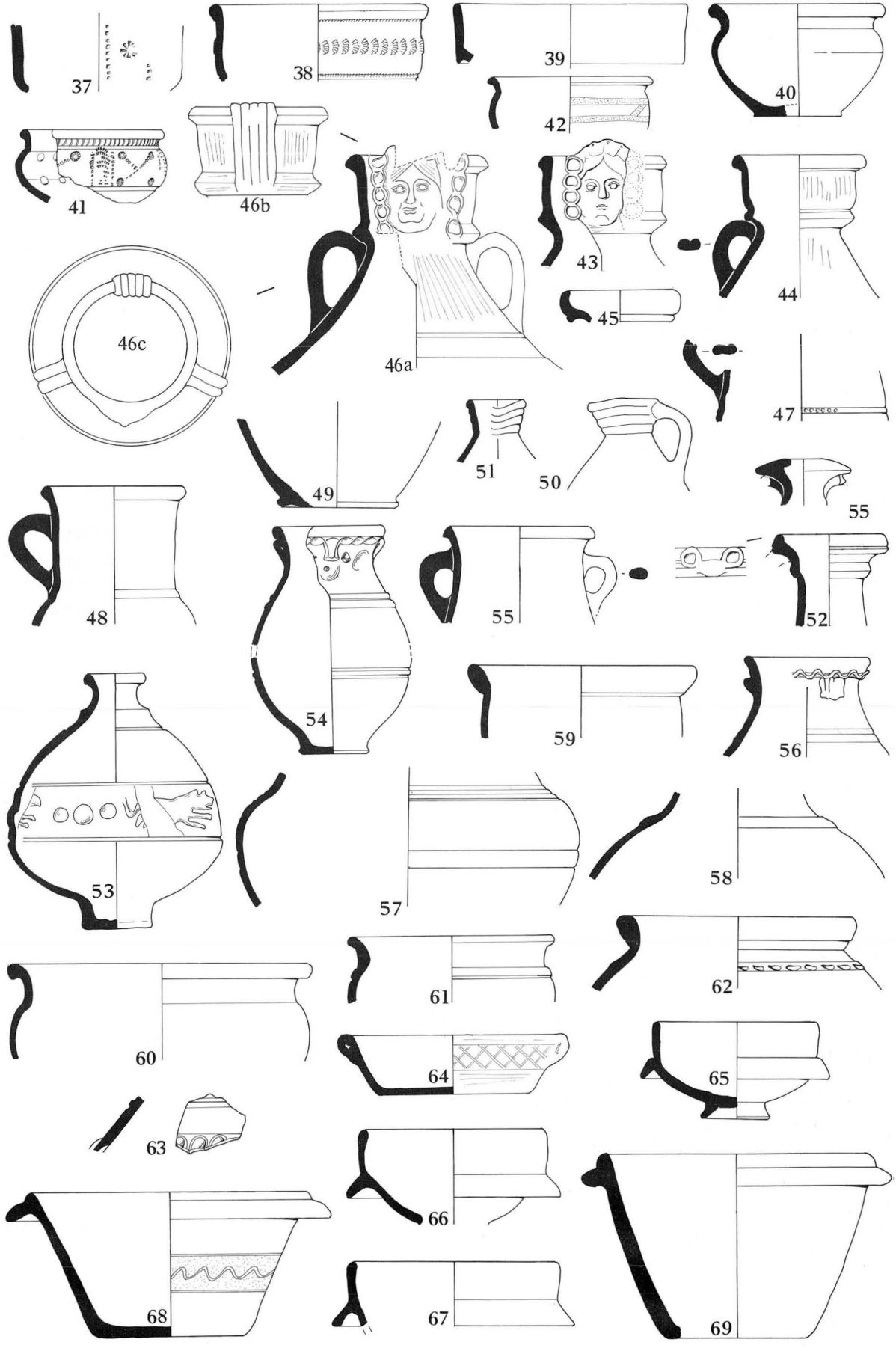


Fig.39. The coarse pottery. Scale 1:4.

61. Rim of jar: originally orange-brown and burnished, but burnt to light brown. D4, layer 3.
62. Neck and rim of storage-jar type of vessel. Stabbed decoration on cordon. D4, layer 3/4.
63. Body sherd of jar, with traces of three pressed-out bosses. Q4, layer 1.
64. Dish, broken in antiquity, and half burnt black: burnished, squashed handles and lattice pattern. M33, layer 2.
65. Bowl, imitating samian form 38. A2, layer 4.
66. As No.65. A2, layer 4.
67. As No.65. A4, layer 2.
68. Straight-sided flanged bowl: part of exterior left unburnished and wavy line incised as a pattern. A2, layer 4.
69. Deep flanged bowl: mainly orange burnished, but portions also fired grey. A1, layer 4.
70. Rim of small bowl. B2a, layer 3b.
71. Small flanged bowl rim. M33, layer 2.
72. Bowl. A4a, layer 2.
73. Bowl, similar to 72: cf. Orton 1977, no.247 (p.38, fig.9). A4a, layer 2).
74. Portion of costrel: two opposed holes in the end, and small handle inserted into further holes, plugging them. A4a, layer 2.
75. ?Base of vessel. A4a, layer 2.
76. Small beaker: heavily burnished and burnt reddish-brown. A decorated band bears a series of triangles of finger-impressed dimples, separated by finger-drawn diagonal slashes. A2, layer 4.
77. Beaker with pressed-out bosses: complete form only in grey ware, but fragments of a colour coated beaker of same form. For the bosses, see Tyers 1977, fig.23 (p147), no.21.16. A4a, layer 2.
78. Beaker or narrow-necked jar neck. A4, layer 3.
79. Rim of cone-shaped beaker: see No.80. A4, layer 3.
80. Cone-shaped beaker, traces of handle. Traces at the bottom of the surviving fragments of an outward turn. The complete form is not known. M33, layer 2.
81. Plain cup: very pronounced burnishing. B5a, layer 4.
82. Beaker or small jar. Traces of slashed diagonal line and impressed-dimple decoration. Q4, layer 2.
83. Beaker: diagonal line decoration. A4a, layer 2.
84. Beaker: very pronounced cordoning at rim. B2a, layer 3b.

iv. Other colour coated wares

85. Whitish buff fabric, light brownish red colour coat: from Harston Obelisk Kiln Site, Hertfordshire. M33, S central pit.
86. Orange fabric, and originally orange colour coat. Possibly from Much Hadham area. See Wilson 1972, fig.136 no.1204, dated c. 360-370. E4, layer 2.

C. Buff Wares

87. Whitish buff ware, white finish. A2, layer 4.
88. Buff-pink fabric and finish, flagon neck. B2a, layer 3b.
89. Jar neck: fine light grey-buff ware. A2, layer 4.
90. Dish with small flange: buff fabric and finish. A4a, layer 2.

D. Grey Wares

For the most part, this catalogue of the grey wares attempts only to separate out the major forms of pottery, though a group of burnished wares bearing many of the characteristics found in Nos.43-86 above have been distinguished. Others of the burnished grey wares (for example Nos.145, 154, 158, 169 and 197) may well also be products of this same area, but without an elaborate analysis, this was not easily proved. Of the other wares, the shell-gritted forms are a clear group on their own and there are

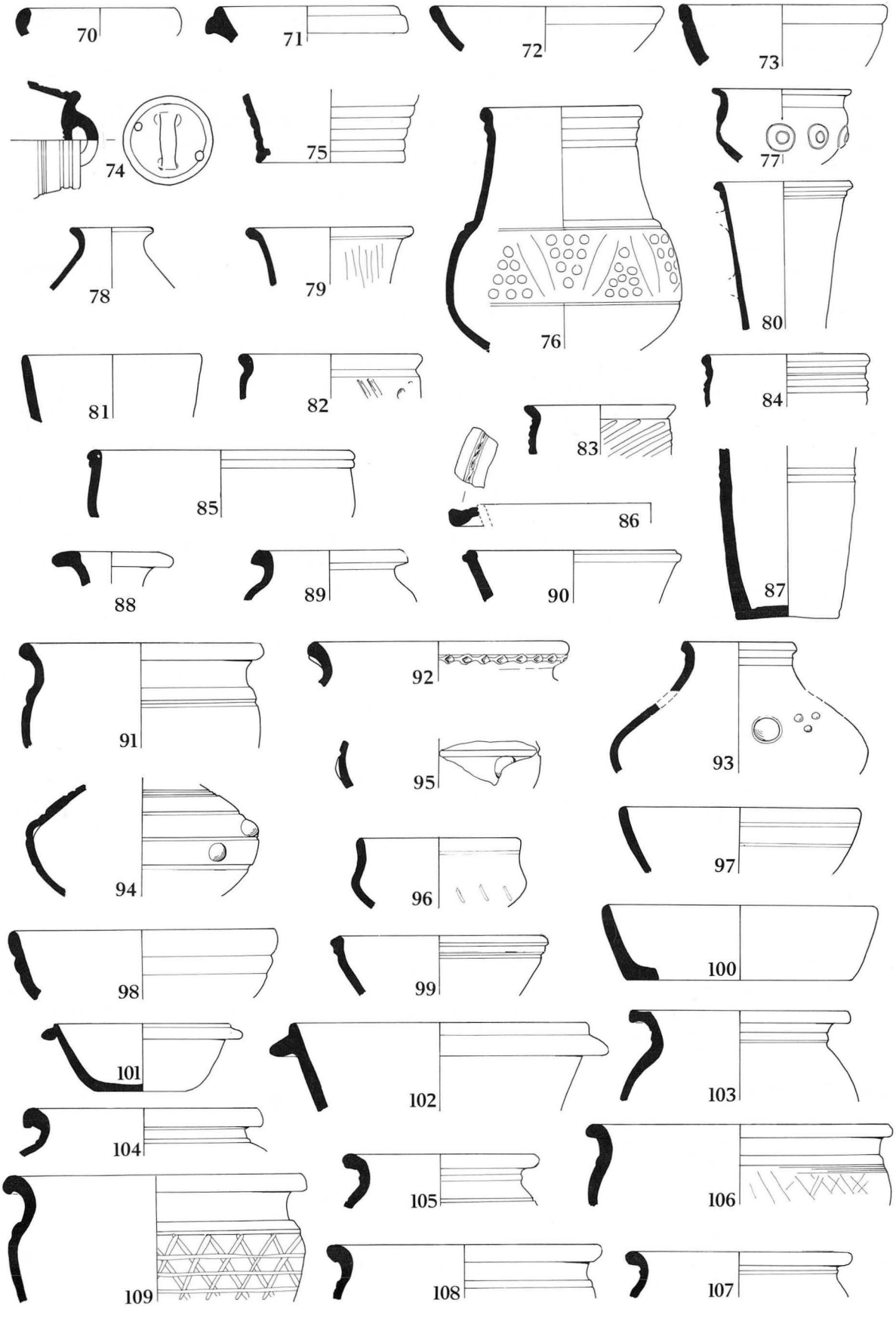


Fig.40. The coarse pottery. Scale 1:4.

also a number of 'black burnished' types.

i. Products of the Hertfordshire/Essex border area

These vessels have an overall grey fabric with a roughish surface and normally a well-burnished exterior coat. A number of the distinctive features of the Hadham area colour coated vessels - the frilled rim, the curving shoulder, the multiplicity of cordons - suggest a clear link between the colour coated and grey wares.

91. Jar with narrow neck and cordon. B2a, layer 4.
92. Jar neck with frilled rim. C4a, layer 2.
93. Narrow-necked jar with large bosses and groups of dimples. The deep carination is distinctive. B20b, layer 2.
94. Narrow-necked jar with bosses and cordons. Similar to No.93: see for a probable parallel Rodwell 1970, p.264, fig.2. B4b, layer 5.
95. Body sherd of jar, similar to Nos.93-4. A4a, layer 4.
96. Small cup with carination: slashed decoration on underside. B4a, layer 4.
97. Cup: heavily burnished. B2a, layer 3.
98. Dish: heavily burnished on exterior surface. B15b, layer 1.
99. Cup: cordoned rim and patchily burnished. B3b, layer 3b.
100. Dish: fired dull orange-brown, but grey fabric. M33, S central pit.
101. Flanged bowl: brownish grey exterior finish, but grey fabric. A4, layer 3 S.
102. Flanged bowl, as 101. B20b, layer 2.

ii. Jars

103. Smooth, soft fabric, cordoned collar. A/B 4, layer 1.
104. Cordoned collar. G4, layer 2.
105. Cordoned collar and groove in neck. B4a, layer 5c.
106. Burnished black ware: slight cordon on collar. R4, layer 5.
107. Burnished exterior, plain grey ware. M33, layers 3-4.
108. Metallic sheen, cordon on collar. A2, layer 3.
109. Very pronounced cordon at base of neck and burnished lattice pattern. M33, layer 3.
110. Burnished, pronounced cordon and groove. B3b, layer 3b.
111. Buff-grey fabric, possibly burnt in a fire. A2, layer 4.
112. Light grey-buff fabric, fired grey in places. Small grits, feels smooth and soapy to touch. A4, layer 2.
113. Smooth soapy finish, with small rough grits. Very pronounced shoulder. Q3, layer 4.
114. Out-turned rim, smooth finish. A4a, layer 2.
115. Plain grey ware. B3a, layer 3b.
116. Slightly hooked rim, plain grey ware. B10b, layer 2.
117. Plain grey ware. B4b, layer 3.
118. Plain grey ware. B3b, layer 3b.
119. Gritty grey ware, appearance slightly grey-buff. B3b, layer 3b.
120. Grey-buff fabric, smooth. A4a, layer 2.
121. Grey-buff fabric. A4a, layer 2.
122. Plain grey ware, smooth. Pronounced internal wheel-lines. M33, layers 2-3.
123. Grey black, soapy finish with gritty, slightly rough texture. Well pronounced rilling, not always continuous round whole vessel. L32, layer 3.
124. Burnished grey ware. M33, layer 3.
125. Coarse burnished black ware. A10b, layer 2.
126-7. Rim and base of jar with highly decorated lines of stabbed, combed and burnished lattice decoration on belly of pot. M33, layers 2-3.
128. Plain grey ware. C4y, layer 3b.
129. Plain grey ware. C4y, layer 3a.
130. Plain grey ware. B4a, layer 5c.
131. Plain grey ware. B3b, layer 3b.

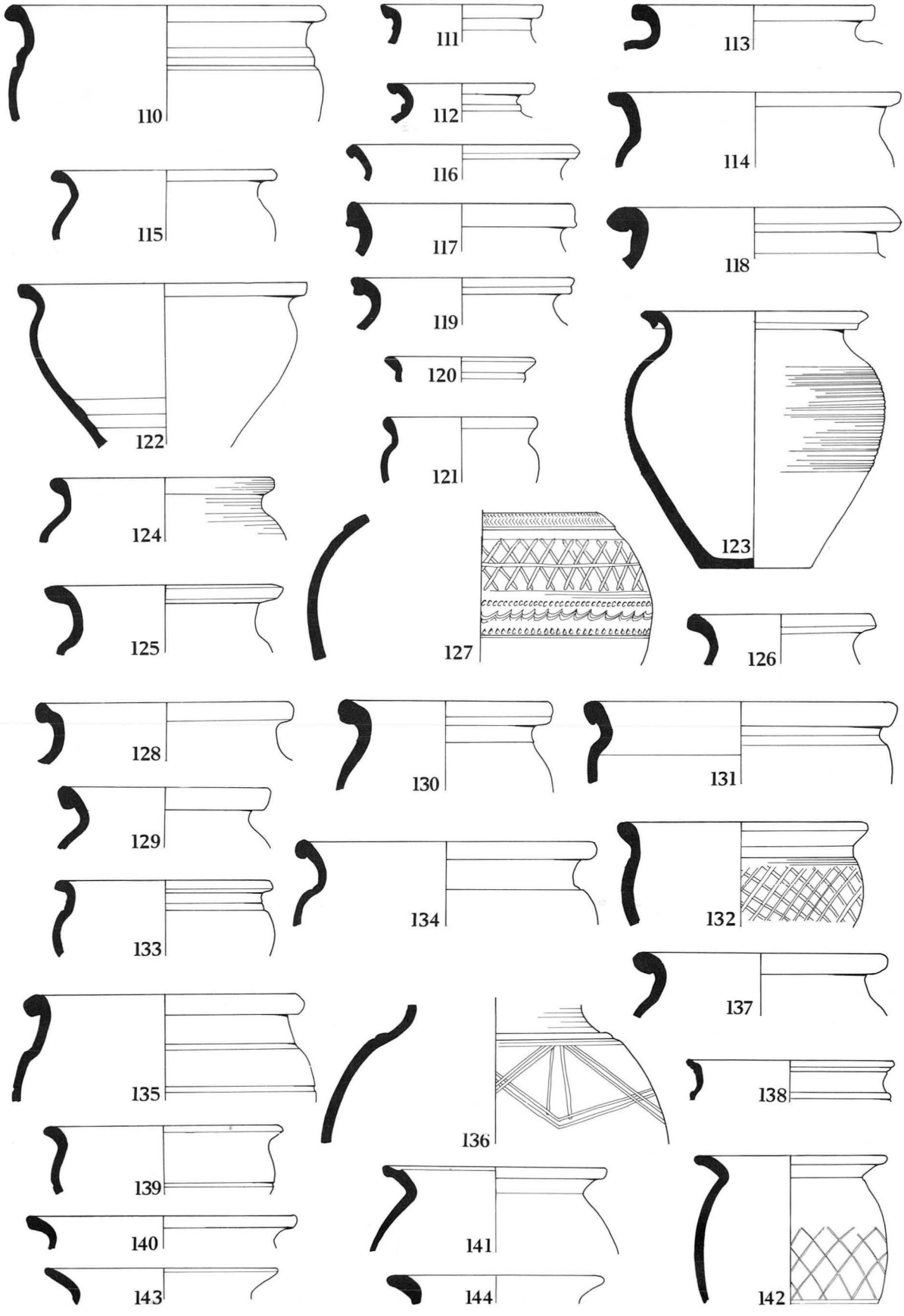


Fig.41. The coarse pottery. Scale 1:4.

132. Burnished grey ware, lattice patterning. A4, layer 2.
133. Small jar/cup: plain grey ware. A/B 4, layer 1.
134. Abraded grey ware, traces of burnishing. B15a, layer 1.
135. Grey-buff fabric, with incised grooves. Burnished exterior surface. A4, layer 3.
136. Black burnished ware, two adjoining fragments; one portion baked reddish yellow in subsequent fire. A2, layer 4.
137. Rough grey ware, light grey finish. B15a, layer 1.
138. Hard grey ware, smooth. B4a, layer 4.
139. Burnished grey ware. M33, layer 2.
140. Grey fabric, brownish grey outer firing. G4, layer 2.
141. Plain grey ware. B5a, layer 4.
142. Black burnished jar, with lattice patterning, partly covered by subsequent burnishing. A4, layer 2.
143. Smooth grey ware. B5a, layer 4.
144. Plain grey ware. A2, layer 4.
145. Rim of narrow-necked jar: coarse micaceous grey ware. G4, layer 2.
146. Grey ware narrow-necked jar: wavy line pattern on shoulder. One lugged handle survives. A2, layer 4.
147. Neck of large narrow-necked jar. R4, layer 4.
148. Hard fabric, burnished, wavy line decoration. B2b, layer 2.
149. Smooth burnished rim. A1, layer 3.
150. Narrow-necked jar rim, with rilled collar on neck. A4a, layer 2.

iii. Bowls and dishes

151. Hard grey ware, incised grooves well pronounced. M34, layer 3.
152. Dish: hard grey ware. B4a, layer 4.
153. Dish: hard grey ware. G4, layer 2.
154. Grey fabric, incised grooves. A2, layer 3.
155. Burnished dish: grey-black fabric. A4a, layer 2.
156. Heavily burnished grey ware. G4, layer 2.
157. Dish: grey ware, burnished but with rough patches. Q3, layer 4.
158. Deep-sided dish with lid seated rim and deep grooves low down on exterior: burnished. Q4, layer 2.
159. Grey ware dish: stabbed decoration on exterior of rim. C4y, layer 3.
160. Plain rim of bowl: black burnished ware. B4a, layer 5d.
161. Grey ware with dark black burnished outer fabric, flattened top. C4y, layer 3a.
162. Light grey ware, smooth finish. B10a, layer 1b.
163. Bowl in grey ware: external groove below rim. B4b, layer 3.
164. Straight-sided bowl in grey ware: external groove below rim. B4a, layer 4.
165. Grey ware, trace of flange below rim. B2b, layer 4.
166. Bowl with heavily cordoned rim. A4, layer 1.
167. Bowl in grey fabric: brownish grey or black coat. B15a, layer 1.
168. Burnished grey ware. R4, layer 4.
169. Micaceous brownish grey outer finish. A2, layer 4.
170. Grey ware, with pinkish grey-buff fabric. A2, layer 4.
171. Flanged bowl in grey-black ware: stabbed decoration on flange. G4, layer 2.
172. Flanged grey ware bowl: rouletted decoration on flange. D4, layer 2.
173. Deep flanged bowl: grey-brown fabric, grey finish. B5a, layer 4.
174. Flanged bowl: heavily and untidily burnished. B2a, layer 3.
175. Flanged bowl: dull grey, untidy burnishing. B2b, layer 3.
176. Flanged bowl: black burnished, wavy line decoration. D3, layer 1.
177. Rim flanged bowl: soapy texture with small black grits. G4, layer 2.
178. Flanged bowl in plain grey ware. G4, layer 2.
179. Flanged bowl. G4, layer 2.
180. Drop-flanged bowl: coarse grey ware. A3a, layer 3.
181. Flanged bowl: combed decoration on the flange. A4, layer 1.

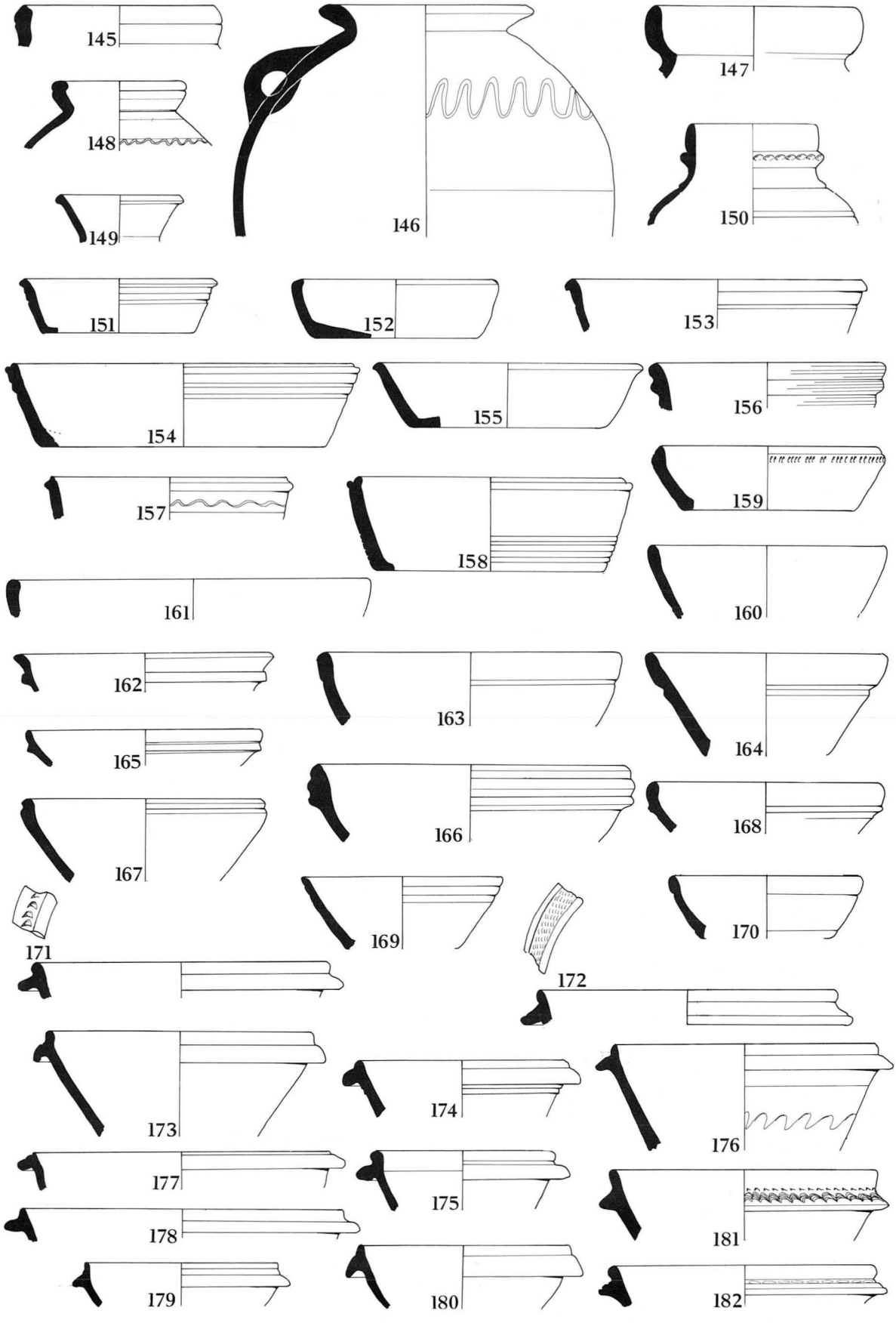


Fig.42. The coarse pottery. Scale 1:4.

182. Flanged bowl: decorated flange. B10b, layer 1-2.
183. Flanged bowl: wide rim with upturned flange. B10b, layer 1-2.

iv. Beakers and small jars

184. Jar: light grey fabric. A5a, layer 3.
185. Jar: brownish buff fabric, dark grey-brown burnished coat. A4, layer 2.
186. Jar: fine, thin-walled; light grey burnished ware. B20b, layer 2.
187. Jar: grey ware. B15a, layer 1.
188. Plain beaker: grey ware. D4, layer 2.
189. Complete unbroken small grey ware jar: combed vertical decoration. A2, layer 4.
190. Small jar: burnished grey ware. A4, layer 3.
191. Grey fabric, burnished exterior. A4, layer 3.
192. Small beaker rim: plain grey ware. D4, layer 2.
193. Beaker rim: grey ware, traces of grey slip(?). B5a, layer 4.
194. Beaker rim: hard grey fabric. B3b, layer 3b.
195. Beaker or jar rim: applied combed decoration. C4y.
196. Rim of tall beaker: slightly warped grey ware (? overfired). M33, S central pit.
197. Hard grey-brown ware, burnished and micaceous outer coat. B2a, layer 3.
198. Out-turned rim in grey ware: carination and stabbed decoration. R4, layer 1.
199. Rim of beaker: plain grey ware. B20b, layer 2.
200. Small cup: plain grey ware, the exterior bears a double band of combed decoration. B5a, layer 4.
201. Small straight sided cup: plain grey ware; a series of incised grooves on exterior. M32, layer 2.
202. Small cup rim: cordoned band, plain grey ware. C3y, layer 3.

v. Storage Jars and Lids

203. Large rim of storage jar: plain grey fabric. B4a, layer 5d.
204. Rim of storage jar: grey fabric, fired to red on exterior. R4, layer 5.
205-6. Rim and body sherd of storage jar: grey fabric, coarse reddish orange ware. The body sherd bears stabbed and incised decoration. B3b, layer 3.
207. Large, heavy rim: grey ware. A4a, layer 2.
208. Lid: plain grey ware. G4, layer 2.

E. Shell-Gritted Wares

The range of shell-gritted wares represented at Burgh Castle is large, but the majority are variants of the out-turned hooked-rim form (No.222), of which several examples are illustrated here. The majority of the fabrics are fired a dull brownish black inside and out, with the shell-tempering crushed small and visible within the fabric of the pot.

209. Jar rim with pronounced out-turn: heavily grit and shell-tempered. B2b, layer 3.
210. Jar rim: coarse ware. A2, layer 4.
211. Thick, coarse walled, burnt grey-black and reddish orange. B20b, layer 2.
212. Jar rim: thin walled. B3b, layer 3b.
213. Jar rim: coarse ware. B2b, layer 3b.
214. Jar rim: brown fabric. B20b, layer 2.
215. Jar rim: fired black on exterior, grey on interior. G6, layer 2.
216. Jar rim: fine thin fabric. B2a, layer 3.
217. Jar neck: fired grey on exterior, but red on interior. B4a, layer 5d.
218. Jar neck: coarse ware. M33, layers 2-3.
219. Jar: orange-buff fabric, with shell and stone grits: fired grey on exterior. Traces of rilled lines on exterior. A4, layer 3.
220. Jar rim: grey fabric, but exterior faces of vessel fired buff. G6, layer 2.
221. Jar: grey fabric, fired pinkish grey on interior. Q3, layer 4.
222. Jar with out-turned hooked rim: patchy grey and dull red. B2a, layer 3.
223. Straight-sided jar neck: dull reddish brown. A4, layer 2.

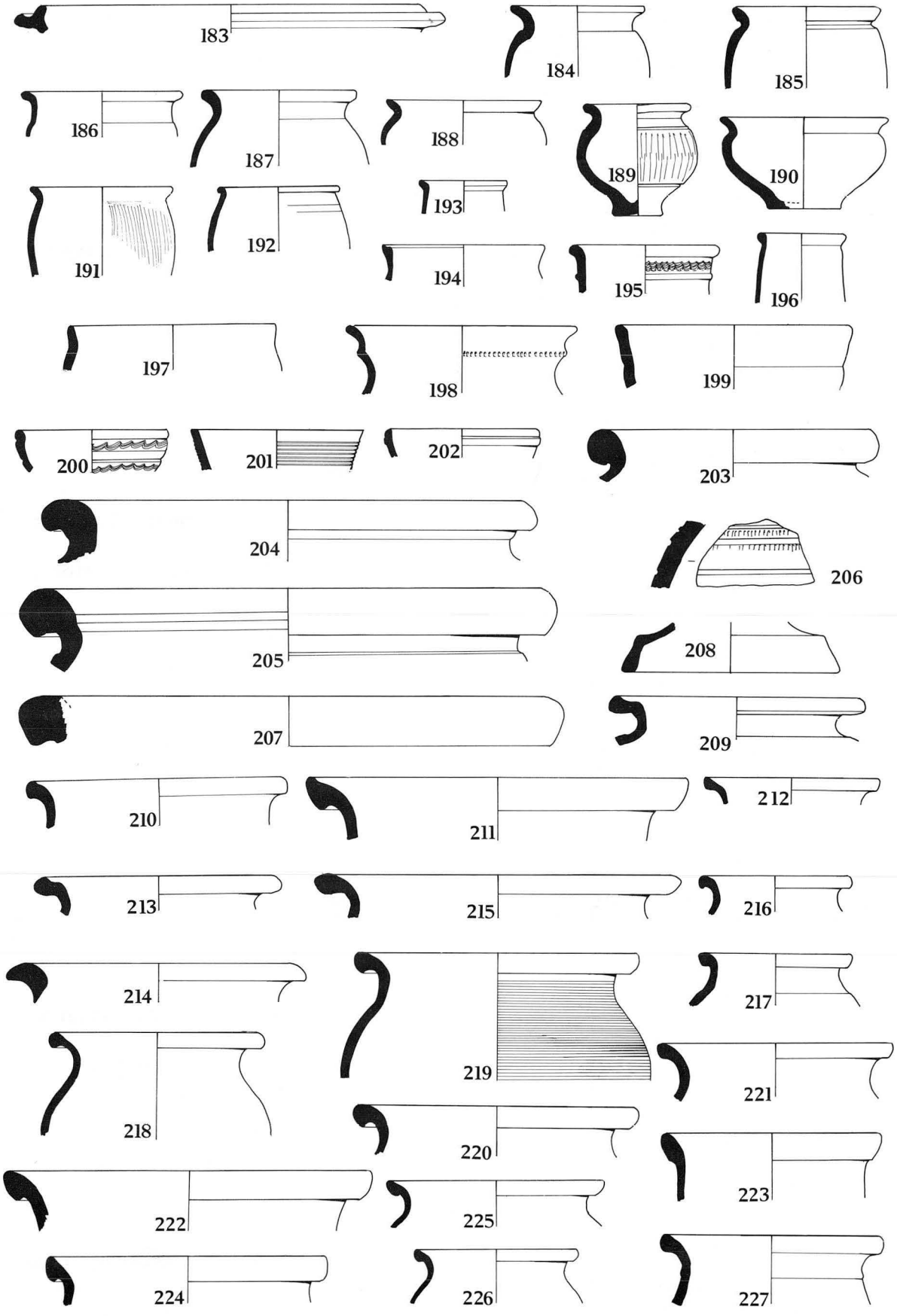


Fig.43. The coarse pottery. Scale 1:4.

224. Jar rim: plain grey ware. G4, layer 2.
225. Jar rim: reddish buff and grey ware. B10b, layer 2.
226. Thin-walled jar: grey-brown fabric. A4, layer 3.
227. Jar neck: plain grey ware. B4b, layer 3.
228. Jar neck: slight cordon, dull brown finish. A4, layer 3.
229. Jar: out-turned rim, fired reddish brown, grey fabric. B20b, layer 2.
230. Flanged bowl: grey fabric, fired pinkish red internally and externally: for parallel see Orton 1977, no.251. B2a, layer 3b.
231. Straight-sided dish: coarse grey ware, fired dull grey on exterior, pinkish red on interior. D4, layer 3.
232. Wide-mouthed dish. G4, layer 2.

F. The Mortaria

233. Buff-white fabric, black grits, pale orange-brown colour coat. Nene Valley product. D4, 2.
234. Pinkish buff, with buff colour coat. Some reddish tile-like grits, but other grits coarse and black. Possible Nene Valley product. B3b, 4.
235. Hard, fine-textured fabric, brownish grey throughout, brownish buff slip. Burnt. Undoubtedly a product of the Lower Nene Valley, but unusual for the fabric to be grey throughout. The relatively normal slip suggests that the greyness of the fabric was caused by burning subsequent to the firing. Fourth century. A4a, 2.
236. Hard, fine-textured fabric burnt to dark grey throughout with abundant black ironstone grit. Very unusual, boldly-formed spout. Lower Nene Valley, late third or fourth century. A2, 2.
237. Hard drab buff-brown fabric with black and grey sandwich core and surface reduced to greyish black and burnished; fine quality quartz-tempering; tinturation grit consists of transparent and white quartz, grey flint and red-brown material. The fabric indicates manufacture in East Anglia where some mortaria were produced in the late third and fourth century. It is a copy of a form made in the Lower Nene Valley in the second half of the fourth century: cf. P.Corder (ed.) 1951, 33, fig.9, no.29, dated after 375. C4y, 3.
238. Orange fabric, buff colour coat with pink and reddish quartz grits. Oxford product, Young type WC7, 240-400+. B3b, 3.
239. Red colour coated ware, buff-pink fabric, pinkish red and white grits. Oxford ware, Young type C100, 300-400. A4, 2.
240. Buff fabric, fired brownish buff. Contains red, pink and white grits. Oxford product, Young type M22, 240-400: more common post 300. G6, 1/2.
241. Hard, orange-brown fabric with matt, red-brown slip and mostly quartz (transparent, white and pinkish) tinturation grit with a little opaque red-brown material. Made at Much Hadham, probably fourth century. M33, 2.
242. Unusual buff-brown fabric with matt self-coloured slip with traces of burnishing; the tinturation grit includes quartz, flint and red-brown material. Made in unknown workshop in East Anglia. An unusual form, probably third century. D4, 2.
243. Hard, fine textured, dark red-brown fabric, heavily burnt, but the original cream slip is still visible; transparent and pinkish quartz tinturation. Oxfordshire product, 240-400+. B5a, 4.
244. Hard, buff fabric with grey core. Castor-Stibbington area of Lower Nene Valley. Fourth century. B5a, 3.
245. Fine-textured, off-white fabric with pinkish buff slip, and black ironstone grit; the spout is formed by a finger depression on the rim. Made in the Castor-Stibbington area of the Lower Nene Valley. An unusually small mortarium for these potteries. 250-400+. B5a, 4b.
246. Worn. Hard orange-brown fabric with brownish grey core and matt, red-brown slip; very fine quartz tempering; abundant quartz tinturation with a very few flint grits included. An import, possibly from Lower Germany. No reliable dating evidence, but a third-century date perhaps most likely. A4, 2.

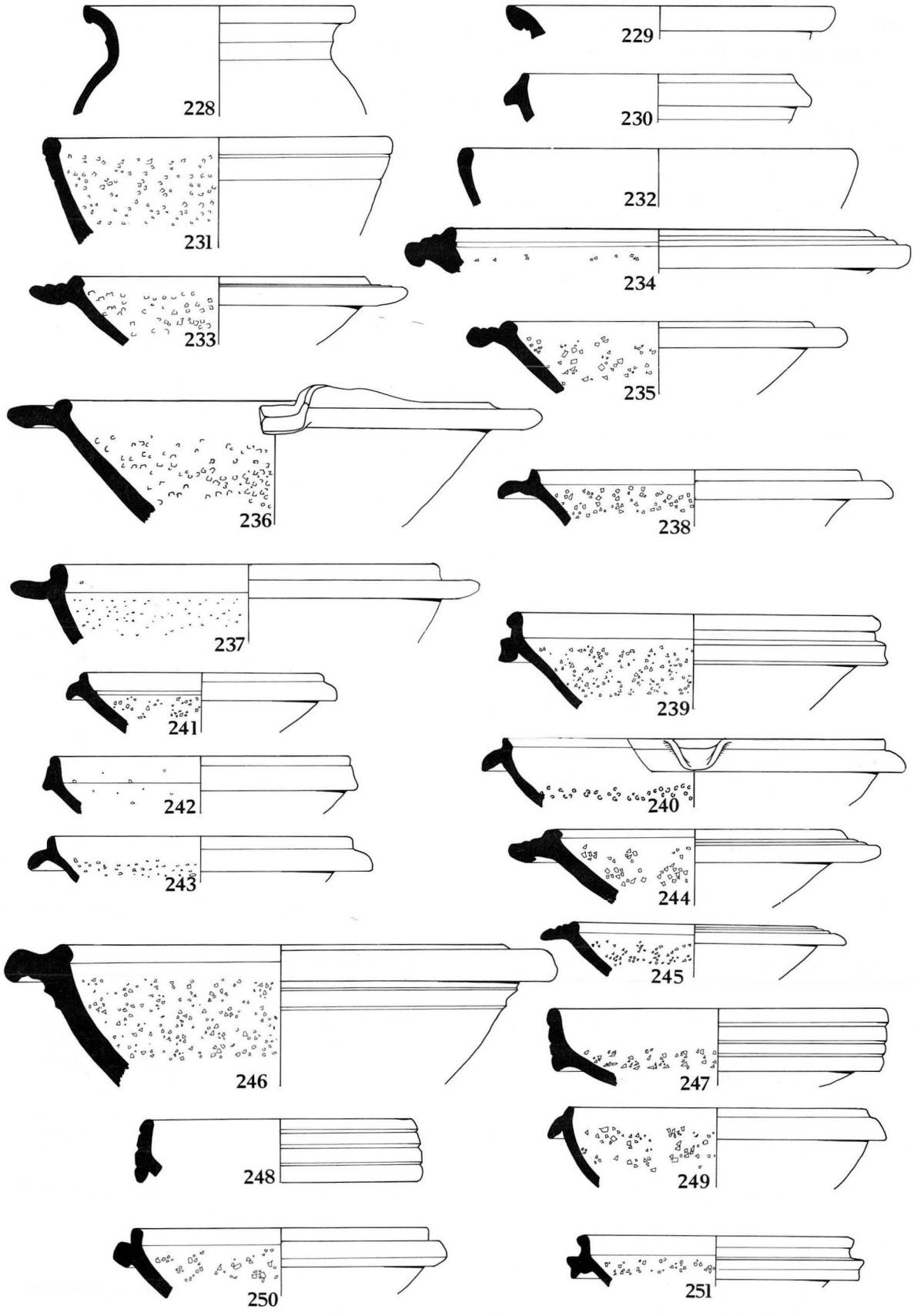


Fig.44. The coarse pottery. Scale 1:4.

247. Hard, fine-textured fabric, grey throughout, but with greyish cream surface; black ironstone grit. Burnt. Lower Nene Valley, late third or fourth century. B3a, 1.
248. Whitish buff fabric, with brownish red (ironstone) grits. Lower Nene Valley. Late third or fourth century. A4, 3S.
249. Hard grey fabric with thick, orange-brown core and a fair amount of tiny whitish quartz and very occasional chalk tempering; quartz and flint tinturation grit. Mortaria in reduced ware were made in East Anglia at such places as Homersfield in the late third and fourth centuries. A5a, 2.
250. Red-brown fabric with thick blackish core almost to surface; moderate amount of fine whitish quartz tempering. The mixed tinturation grit includes white and transparent quartz, flint, and opaque red-brown and grey material. Burnt. The fabric indicates manufacture either at Much Hadham or other kilns in that region of Hertfordshire. Mortaria probably formed only a small portion of the output. This form resembles the Oxfordshire product Young type M22.5. Probably fourth century. B20b, 2.
251. Bright orange-brown fabric with drab greyish core in flange; brown, apparently matt, slip; most translucent whitish quartz tinturation grit with a little pinkish grit. Although very similar to Oxfordshire C100, there is a strong possibility that this vessel was made at Much Hadham, 300-400. B5a, 4b.

THE POST-ROMAN POTTERY

by Carolyn Dallas
(Fig.45)

The post-Roman pottery forms a small percentage (about 10% or less) of the total pottery from Burgh Castle. It consists mainly of Middle Saxon pottery with some Early Medieval sherds.

Middle Saxon (c. 650-850)

This comprises 256 sherds of grey wheel-made, Ipswich-type Ware (plus a further twenty-six sherds which may be of this type, but cannot be distinguished from Roman pottery), and at least sixteen hand-made sherds which are likely to be Anglo-Saxon.

Ipswich-type Ware - The total of 256 sherds consists of forty-eight rims, sixty-six bases, 140 body sherds and two handles. There are only a few sherds which join to others and the vessel count is high. All four basic Ipswich-type Ware fabrics are present (Hurst 1959, 14), that is, 'fine sandy' (fine particles barely visible to the naked eye), 'coarse sandy' (particles of mixed sizes and shapes), 'pimply' (rounded quartz and quartzite grains), and 'intermediate pimply' (with fewer rounded grains than the pimply fabric). The fabric ratios are:- 155 fine sandy sherds; three coarse sandy sherds; fifty-two intermediate pimply sherds; forty-six pimply sherds. Several of the fine sandy sherds are rather micaceous (see below).

All the Ipswich-type Ware vessel rims are from cooking pots except for one burnished pitcher (Fig.45, No.17). There are two strap handles (Fig.45, Nos.18 and 19), one of which may be from the same pot as the rim sherd. Burnished Ipswich-type Ware sherds, usually in intermediate pimply fabrics, seem to belong to pitchers where identifiable and evidence for two or three more burnished sherds at Burgh Castle suggests that there were several other pitchers on the site, but they are still in a small percentage compared with the cooking pots. The cooking pot rims show little basic variety as, other than three possible West Group III H (with external beading), e.g. Nos.8 and 9 (West 1963, 248) and one West Group II G (incurved), (not illustrated), they are all West Group I, (simple, upright or everted). Half of these West Group I rims are type I C, (externally bevelled); type I A, (plain rounded top), e.g. No.7, and I E, (plain flat top), e.g. No.14, are the next most frequent, but with less than ten examples each. All bases sag.

The fine and coarse sandy fabrics are difficult to distinguish from the Roman pottery, and on this site there are also Roman vessels with quartz sand gritting similar to the pimply and intermediate pimply Ipswich types. However, the fine sandy fabrics clearly predominate, forming about 60% of the total. The micaceous fabric of drawn sherd No.1 is worthy of comment. This is basically a fine sandy fabric, but many fine gold plate-like particles are present which are probably mica. Mica sometimes occurs in the Middle Saxon material at Ipswich, but not in such conspicuous quantities as in this Burgh Castle sherd. One body sherd and a sagging base at Burgh Castle can also be pushed into this group, but are less distinctive than the rim sherd.

Hand-made - There is some Roman hand-made pottery on the site, and only those sherds thought to be Anglo-Saxon will be discussed here. There are three basic fabrics in this category:-

i) Organic. One heavily tempered black base was found comparable to the usual 'grass-tempered' wares. There are also two body sherds, probably from one pot, which have a sandy fabric which contains short black organic particles (probably chaff); the sherds are buff in colour with a dark pink exterior surface. This forms a total of two vessels with organic inclusions.

ii) Black gritty fabric, typical of the Early Anglo-Saxon period. These sherds are usually thin, dark brown or black in colour, and often have tooled surfaces of leathery appearance. About eight such sherds were found on the site, all undecorated.

The rims are all plain everted or upright types (drawn sherds Nos.20-22). Bases are flat with a rounded basal angle as in Early Anglo-Saxon material.

iii) A fine sandy fabric similar to fine sandy Ipswich-type Ware. These sherds (about four body sherds in all) are from small, thick-walled vessels which are often heavily sooted. These differ mainly from Ipswich-type Ware in colour, being dark pink, light orange or light brown. The examples on this site are perhaps badly-made miscoloured Ipswich-type Ware, but seem more likely to be hand-made pots in the tradition of the Early Anglo-Saxon period.

Discussion

The significance of this Middle Saxon pottery is that there must be occupation of this date inside the standing walls of the Burgh Castle Saxon Shore fort. Unfortunately, it is difficult to relate this pottery to any features. Two or perhaps three pits have produced Middle Saxon body sherds, but rubbish burial was not taking place in the area excavated. The general character of the pottery consists of many sherds from many pots and these are often abraded. Most of the sherds seem to come from layers 1 and 2 and there are no significant contexts, although medieval and Post-medieval material rarely penetrates beyond the topsoil. The precise nature of this occupation, therefore, seems indefinable in archaeological terms. The distribution of the Ipswich-type Ware on the site concentrates in the area of the oval enclosures, although no sherds can be directly related to them.

Intrinsic dating is difficult. The use of Ipswich-type Ware places the occupation within the seventh to ninth centuries, but the position of the few hand-made sherds is not clear. They are an insufficient quantity to form a settlement group in their own right and their derivation may be from the Early Anglo-Saxon site which seems to exist outside the fort to the east. There are no attested finds of the Anglo-Saxon pagan period from within the walls in the areas excavated. It is also possible that the hand-made sherds may be Middle Saxon, as although the quantity of Ipswich-type Ware suggests that this was the normal fabric in use, it is possible that supplementary hand-made vessels

were still being made. They occur with Ipswich-type Ware and are scattered over the site.

The limited variety of the Ipswich-type Ware perhaps argues one source, although no kiln sites are known in Norfolk or north Suffolk. Sites of all periods are lacking in east Norfolk. The nearest Middle Saxon site to Burgh Castle is that discovered also by Charles Green at Caister-by-Yarmouth. Some sherds have also been found in the parish of Witton, and one sherd on the beach at Winterton Ness. This sparseness in relation to the rest of the county is, however, more the result of a lack of fieldwork than a proven gap in the distribution. No monastic connection is necessary for the use of this ware as it seems to be the normal Middle Saxon pottery for Norfolk, as it is for Suffolk.

A Note on Sherd Number 23

This rim was found at a low depth (D IV layer 4) with Ipswich-type Ware but no medieval pottery in the vicinity. It is wheel-made in a hard white fabric tempered with numerous rounded grains of quartz sand. The particles average 0.5 mm in size with one or two grains up to 2 mm. The grains are almost all white or translucent with only a few shiny red or shiny grey inclusions: there is only one dull red particle (iron ore) and one silver plate-like particle (mica) visible. The density of the grains (c. 30 per half a square centimetre) gives the vessel a harsh pimply appearance and feel. There is a faint horizontal incised line around the vessel neck. The white to yellowish buff colour is stained or sooted at the rim top to a bluish grey with a dark yellow zone internally.

The date and origin of this sherd are not clear. Its context and upright form and small diameter suggest that it may be Middle Saxon, but if so it must be a Continental import. Even if medieval in date, this vessel is not of local origin and has been brought into the area from southern England or the Continent.

Medieval

Only about twenty post-Conquest sherds were found and these consist mainly of local Early Medieval cooking pots. One green-glazed sherd from Yorkshire is the only glazed sherd and occupation is obviously short-lived of eleventh-to-twelfth century date. Any intensive occupation has been ploughed off or was not near the areas excavated. Some sherds of this date were scattered over the site, but most came from the backfill of the Saxo-Norman ditch. Only two rims of Thetford-type ware were found, although two other rims may be of this date. The fabric is similar to sherds from Norwich and Thetford and the vessels are all cooking pots of common types. No St.Neots, Stamford or Grimston Wares were found, of either Saxo-Norman or medieval date. This site is of no ceramic importance in the medieval period, being limited in both quantity and quality.

Ipswich-type Ware

All sherds are grey unless stated otherwise.

1. Fine sandy fabric with many particles of gold mica. From B XI, 1, (101).
2. Pimply. From F V, 2, (567).
3. Pimply. Orangish red margins and interior surface. Some external sooting. From G IV, 1, (553).
4. Pimply. Red core. From D IV, 2, (524).
5. Pimply. From C IVy, 2, (103).
6. Fine sandy. From R IV, 3, (576).
7. Fine sandy. From E IVb, 2, (523).

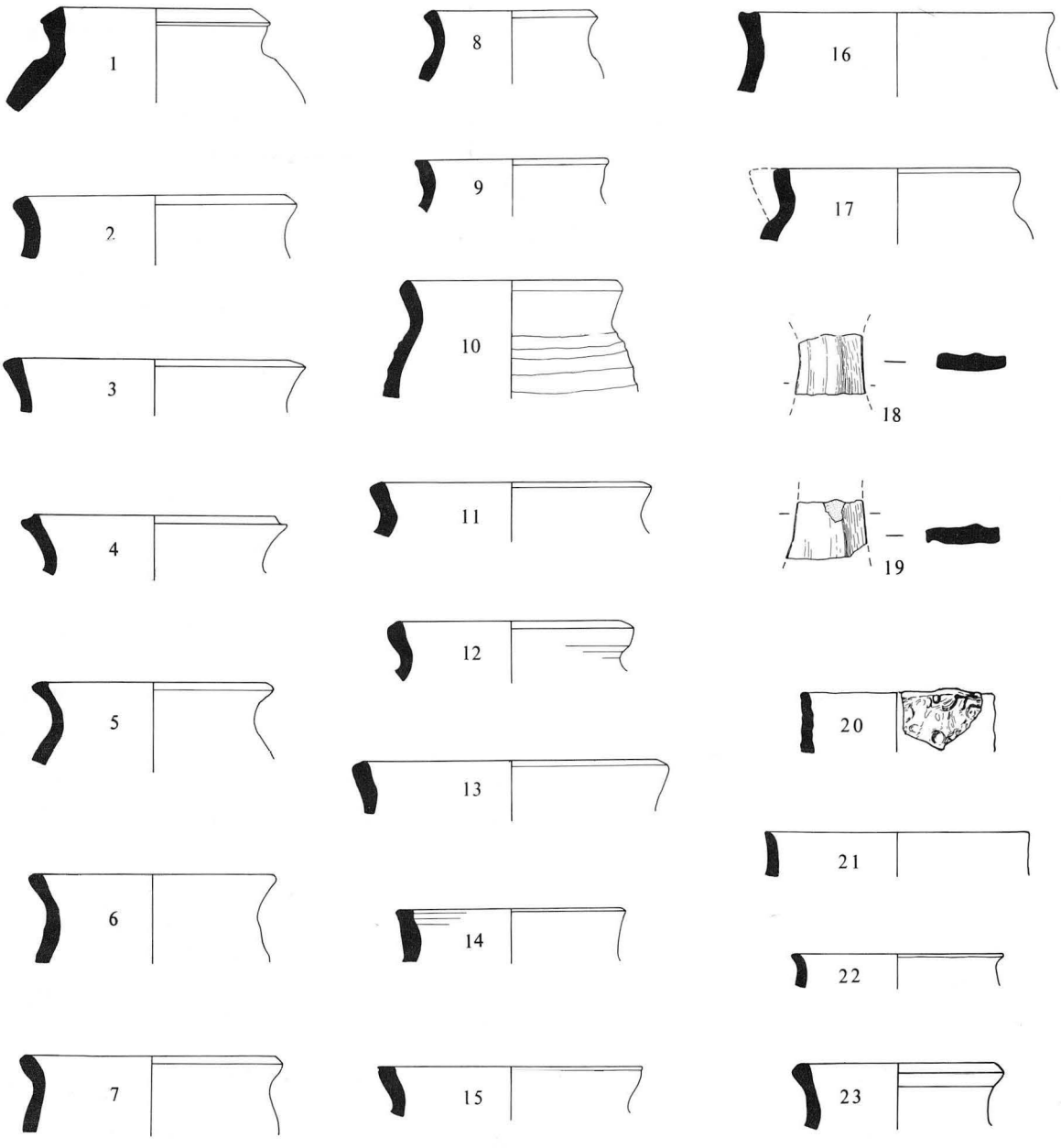


Fig.45. Nos.1-19 the post-Roman pottery; Nos.20-22 Ipswich-type Ware; No.23 hand-made. Scale 1:4.

8. Fine sandy. From B IIIb, 2, (13).
9. Fine sandy. Thin red margins. From E VI 1/2, (571).
10. Fine sandy. Light orange and brown core and interior surface. From Q III, 2, (520).
11. Intermediate pimply. From F V, 2, (567).
12. Fine sandy. From G V, 1, (562).
13. Intermediate pimply. Orange margins and light orange interior surface. From C IVy, 1, (88).
14. Pimply, with some finer particles than usual (less than 1 mm). From B IV, 3, (55).
15. Pimply. From E V, 2, (554).
16. Fine sandy. P I, U 3, (610).
17. Pitcher with spout broken off. Fine sandy fabric with some quartz sand grains. The exterior is burnished vertically to produce a shiny surface. Thin dark grey core, dull brownish red margins, dark grey surfaces. About one-sixth of the rim, so no details are known of handle(s) although sherd No.19 is perhaps from the same

pot. From N XXXIV, 2, (404).

18. Strap handle. Intermediate pimply, light grey. Exterior well smoothed. From L I, 5, (577).
19. Strap handle made on a wheel. Intermediate pimply. Core mixed red and grey, dark grey surfaces. Burnished exterior. From P I, 3, (572).

Hand-made

20. Fine sandy fabric with one grit 0.5 mm - rest of inclusions are smaller. Black. Rough and uneven. From D IV, 1, (500).
21. Fine sandy temper. Black. Exterior surface well smoothed. From D III, 2, (506).
22. Gritty fabric. Black. From F V, 1/2, (567).

Wheel-made

23. White fabric heavily tempered with quartz. A fine incised line externally below rim. Date and source uncertain. See p.106 for a more detailed description and discussion. From D IV, 4, (630).

XV. THE ANIMAL BONES
by Annie Grant

A relatively small number of animal bones survives from the excavations at Burgh Castle. The total number of bones examined was just over 700, of which 653 were positively identified. The nature of the collection of bones examined indicated that it was very likely that the recovery of animal bones during excavation was both poor and selective. The evidence for this lies in the very low number of small bone fragments that were found (Watson 1972, 221f.) and the comparatively high number of complete bones, which are likely to have been preferentially selected by the excavators. These facts, considered together with the small size of the sample, suggest that the results of the analysis of the bone collection should be treated with great caution and only the most general of conclusions should be drawn.

In selecting material for study, all topsoil finds (layer 1) have been disregarded. Only bones from lower levels, particularly from layers with a high concentration of Roman pottery and other finds, were examined. There is a possibility of some mixing of Roman and later finds in these layers (p.21), and no completely uncontaminated sample of animal bone was available for study.

Analysis

Identification of the bones revealed the presence at the site of the following species - cattle, sheep and goat, pigs, red deer, roe deer, horses, dogs, cats and birds. Goat was represented by a single horn core fragment. There were also five rabbit bones, but since these were almost certainly intrusive, they are not further considered.

In Table 2, the numbers and percentages of bones for each species are given. Three methods have been used to calculate the percentages. Full details of the methods and of their likely biases are given in Grant (1975, 379-83). Where two sets of figures for deer are given, one excludes antler fragments apart from those with the burr present and the other includes all antler fragments.

Poor or selective recovery of animal bones will generally favour the bones of the larger animals at the expense of the smaller animals. It is, thus, very likely that the bones of sheep, pigs, roe deer, dogs, cats and especially birds are under-represented.

The bones of cattle were the most frequently occurring, followed by pig bones and then sheep bones. Bones of all the other species were found in very small numbers, although red deer antler fragments were very common. In fact it is the large number of red deer fragments that is the most remarkable feature of this collection of bones. 25% of the total number of identified fragments found were red deer antler fragments. (The figure of 25% does not include the worked antler fragments included in the small finds descriptions.) The large number of deer antler fragments was not, however, matched by a similarly high number of red deer bones. In fact, only one post-cranial red deer bone fragment was found - a radius shaft. However, six of the eight roe deer fragments recovered were post cranial bones. The 'minimum number of individuals' figure given for red deer was calculated from the number of unshed antler bases that were found. Eleven unshed bases were recovered, but there were also eighteen shed antler bases among the bone collection.

All skeletal parts of cattle were represented, although metapodials were particularly frequent. This is most likely merely to reflect the standard of recovery and the survival potential of these dense, early fusing, low meat-bearing bones (Grant 1975, 383). The majority of the skeletal parts of sheep and pigs were represented, those least well represented being generally very small, or porous, late fusing bones.

Only a small number of cattle, sheep and pig mandibles were recovered so that a detailed analysis of the age structure of these animals was not possible. The mandibular tooth wear did show that for each of these three species there was a fairly wide range of ages represented. Although the majority of the cattle mandibles were from mature animals, there were some from juvenile animals. The mandibles of sheep and pigs were fairly evenly distributed throughout the age range from young to mature. No mandible of cattle, sheep or pig was from an animal of less than one year old, but survival and recovery factors may well have mitigated against the recovery of such small and relatively fragile bones. There were no very elderly animals represented by the mandibles.

Evidence of age from the state of fusion of the long bones is even more difficult to assess than tooth wear on a small sample, but two points can be made. There is no positive evidence from the long bones of the presence of animals in their first year of life, but again recovery and survival tend to be poor for very young bones. The fusion evidence from the cattle metapodials, the most common bones recovered at this site, suggests that a rather higher percentage of the cattle than is usual were two to three years old or less. Of the thirty-six metapodials recovered, 36% had unfused distal epiphyses, whereas at the late Roman fort of Portchester, of the 561 metapodials, only 11% were unfused at the distal end (Grant 1975, 393).

Measurements were taken on the bones whenever it was possible, but again the sample was too small for a detailed metrical analysis. The measurements of the cattle metapodials indicated that although the largest of the bones from Burgh Castle was not as large as the largest found at Portchester, they were all larger than the smallest metapodials found at this site. Details are given in Table 3.

Evidence of butchery of the long bones in the form of knife or chopper marks was fairly slight, although some chop marks were found on bones. Saw marks were more frequently found, especially on the antler fragments, but also on a few horse and cattle bones. Three horse metapodials had been sawn through the shaft near the distal end. A cattle metapodial had been sawn through near the proximal end, and one cattle scapula had saw marks on it. It has been noted by the writer that saws do not seem to have been used in Roman or earlier times for butchery purposes. Their use seems to have been exclusively in tool manufacture. It is suggested that this is the case at this site too, and that the sawn bones described are by-products of tool manufacture and not of normal carcass butchery.

Discussion

To the north and west of Burgh Castle, the ground is marshy. To the south, the land rises very slightly and there are small wooded areas between the Waveney and the sea. It is likely that if there were grazing land attached to Burgh Castle, it would have been in the area to the south of the fort. Sheep and cattle may graze in marshland areas if the drainage is reasonable, but grazing marsh may have been much more restricted than it is today. The proportion of pig bones is perhaps slightly surprising, as pigs are forest-loving animals and will more or less feed themselves if left in the woods to forage. However, pork is thought to have been popular at Roman military sites (Davies 1971, 127), and pigs could have been kept within the fort and fed on scraps.

It is possible that the fort could have been supplied with food bought in from elsewhere, in which case the animal bones found at the site would not necessarily reflect the farming patterns of the immediately surrounding area. Animals could however have been raised on the territorium, the land surrounding the fort, by the soldiers themselves or by civilians (Davies 1971, 123). Certainly, the analysis of the representation of bone elements suggests that whole animals or carcasses were brought into the fort. If recovery at the site had been good, the significance of the absence of the bones of very young animals could be assessed, but the fact that a wide range of ages were represented among the bones of cattle, sheep and pigs may suggest that the animals were raised locally.

The presence of the bones of horses, dogs, cats and birds at the site shows that these species were also utilized. Birds would presumably have been eaten, but there is no evidence to show whether horses, dogs and cats were eaten or whether they were kept for other purposes. It is almost inconceivable that the resources of the sea should not have been utilized and finds of shells from shellfish give evidence for such exploitation of the local resources. The complete absence of fish bones is neither surprising nor significant, if the very small size of fish bones is taken into account.

The most unusual feature of the collection of bones recovered from Burgh Castle is the high percentage of red deer antler fragments. The scarcity of red deer bones suggests that red deer were in no way important to the food supply of the fort. Although some of the antlers were clearly obtained from killed or dead animals, the majority (62%) were, on the evidence available, naturally-shed antlers. It is unlikely that deer were particularly plentiful in the area immediately surrounding the fort, but they would have been found in forested areas of the region. It is possible that men went out into the forested areas, either to collect shed antler, probably in the spring, or to kill deer and remove the antler in order to bring it back to the fort. The carcasses of killed deer may well have provided meals for the hunters and the deer could have been butchered and eaten at the kill site. Hunted roe deer do, however, seem to have been brought back to the fort, but their antler does not seem to have been utilized.

The purpose of collecting antler was clearly as a raw material for object manufacture as the large number of saw cuts on antler fragments and the number of worked antler fragments suggest (p.109). The making of antler objects may have been a pastime or it may have had a greater significance in providing a source of objects with which to trade. There is some evidence for bone working at the site too, but there is no evidence for hornworking. Horn cores are not particularly well represented.

Antler fragments and antler objects are not at all uncommon on Roman and Iron Age sites, but at the vast majority of these sites, as at Burgh Castle, finds of deer bones are very rare and the antlers are more frequently naturally shed than from killed animals. However, at no other site encountered by the writer has the percentage of antler fragments been as high as at Burgh Castle.

TABLE 2. ANIMALS REPRESENTED

	Fragments		Epiphyses		Min.No.Ind.	
	No.	%	No.	%	No.	%
Cattle	312	65	195	64	15	37.5
Sheep	54	11	42	14	4	10
Pig	64	13	42	14	9	22.5
Red deer	16(*153)	3(*25)	-	-	6	15
Roe deer	7(*8)	1(*1)	6	2	1	2.5
Horse	10	2	4	1	2	5
Dog	2	-	2	1	1	2.5
Cat	3	1	4	1	1	2.5
Bird	10	2	11	4	1	2.5
Total	478(*616)		306		40	

* includes all antler fragments.

Total no.ident.frags.	616
Ribs	29
Skull frags.	8
TOTAL	653

TABLE 3. COMPARISON OF SIZE OF CATTLE FROM BURGH CASTLE AND PORTCHESTER

METACARPAL	Length (mm) (range)	N.	Distal width (mm) (range)	N.
Burgh Castle	181. - 205.5	6	49.9 - 66	11
Portchester	163 - 220	124	40 - 72	177
METATARSAL				
Burgh Castle	210. - 237	7	50.9 - 61.4	10
Portchester	183. - 240	108	43. - 70.	172

XVI. THE RADIOCARBON DATES FROM THE CEMETERY

Three bones from the cemetery were selected for radiocarbon dating at the Harwell Laboratory. In view of the fact that a report on the skeletal material could not be prepared in time but was envisaged for the future, it seemed important not to disturb otherwise whole or nearly whole skeletons. A number of potential candidates for examination within the cemetery were identified and the collection of bones sifted through to select the chosen items. In the event, those found (not all the selections could be located because the bones had been provisionally sorted into types by Dr Wells) were femora from Interments 121, 122 and 37.

Interments 121 and 122 lay close together at the western extremity of the cemetery. They form part of a regularly spaced layout of graves visible in places over the site, but here apparently undisturbed. Interment 37 comprised a mass of leg bones buried within Interment 64 and it was expected that these bones should form part of an earlier burial disturbed when Interment 64 was laid in the ground. Although originally one bone was to have been selected to give a sample date, all three were finally submitted.

It was important to have some clear indication of the date of the cemetery and to identify roughly the date within the period 400-1100 to which it belonged. In the event, the radiocarbon dates gave probability ranges for the three interments as follows:

Interment 37	(Harwell 3794)	910AD ± 80
Interment 121	(Harwell 3795)	660AD ± 70
Interment 122	(Harwell 3804)	720AD ± 70

These dates, of course, do no more than confirm the general date range of the cemetery itself. The greatest surprise was the late date assigned to the bone from Interment 37 and this suggests either that the cemetery had a very long life indeed or that the bone selected was not in fact part of an early grave by a later interment, but itself formed part of that later interment. In the event, radiocarbon analysis has given a wide bracket of dates for the material from the cemetery, confirming its use at least for the eighth and ninth centuries, if not longer.

XVII. CONCORDANCE OF FINDS BY LAYER NUMBERS

INTRODUCTION

This index shows in tabular form the layers on the site which produced illustrated finds, and enables numbered finds in the small finds and pottery catalogues to be assigned to the groups from which they originally came. In the pottery section, where an illustrated vessel was found in the layer in question, the number of that vessel is given: if a vessel of similar type came from that layer and has not been illustrated, the number is given in brackets.

CONCORDANCE

Area and layer	Description of layer	Pottery types	Small find numbers	Ipswich Wares and hand made pottery
A1, layer 3	Dark earth filling in NE part of trench	(39) (45) 149	SF 71	
A1, layer 4	Brick rubble on W side	43 69		
AII, layer 2	Dark earth and brick rubble. Fig.10, c-c'; layer 24	47 (47) (58) 59 236 (239)		
AII, layer 3	As AII layer 2, but deeper. Fig.10, c-c'; layer 24 (?)	(58) 108 (129) 154		
AII, layer 4	Rubble and burnt matter below fallen daub. Fig. 10, c-c'; layer 25 (?)	18 19 (39) 40 65 66 68 76 87 89 111 136 144 146 169 170 189 210 (212) (222)	Hoard 15	
AIII a 3	'Brick pack'. Fig.10, b-b'; base of layer 19	11 180	SF 67	
AIV, layer 1	Topsoil	58 166 181		
AIV, layer 2	'Dark greasy earth and	8 10 (11) (24) 48 49		

Concordance of Finds by Layer Numbers

Area and layer	Description of layer	Pottery types	Small find numbers	Ipswich Wares and hand made pottery
	brick rubble'. Fig.10, a-a'; 2	52 (56) 67 (68-9) (68-9) 112 132 (133) 135 (140) 142 185 (211-2 (222) 223 (239) 239 (240) 246		
AIV, layer 3	'Mixed rubble'. Fig.10, a-a'; layer 2 lower	20 26 46 53 54 (56) (64) (68-9) 78 79 101 (102) 135 (163) (188) 190 (190) 191 219 226 228 248	Hoard 8, SF 3	
AIV, layer 4	'Rough fawn'. Fig.10,		Hoard 9	
AIV, layer 5	a-a'; layer 13 (top)	50	Hoards 10-14	
AIVa, layer 2	'Brick pack'. Fig.10, a-a'; layer 2	(13-14) (14) (18) 25 39 (56) 57 58 72 73 74 75 77 (79) (82) 83 90 (114) 114 120 121 150 155 (163) (170) (175) 207 (221) (223) (227) (227) (233) 235 (235)	SF 2 40 54 62 Hoard 2a	
AIVa, layer 4	'Lower brick pack'. Fig.10, a-a'; layer 4	17 (82) 95	Hoard 2b, SF 47 SF 4	
A/BIV baulk	Mixed topsoil. Hoard from equivalent of Fig.10, a-a'; 4	(14) (66) 103 133	Hoard 3 SF 63-5	
AVa, layer 2-3	Mixed clay/packed clay floor	(14) 125 184 249	SF 45	
AVA, layer 4	Burnt daub		SF 61	
BIIa, layer 2	Dark earth. Fig.10, c-c'; 1	(222)		
BIIa, layer 3	'Dark earth on rubble'. Fig.10, c-c'; layer 1	1 4 (14) 15 29 (31) (56) 70 84 88 91 97 (142) (173) 174 197 (212-3) 216 (219) (222) (222) 222 (224) 230 (239)		
BIIa, layer 4	'Yellow mixture'. Fig. 10, c-c'; 21 (?)	(7) (110)		
BIIb, layer 2	Dark earth	148		
BIIb, layer 3	Dark earth	(119) (170) (170) 175 209 213 (225)		
BIIb, layer 4	Mixed rubble	(34) (92) 165 (193)		
BIIIa, layer 3a & b	Dark earth with mixed daub	41 115 (170) 247		
BIIIb, layer 2	Dark earth. Fig.10, b-b'; layer 1	(77)		8
BIIIb, layer 3 & 3b	Dark earth with mixed daub. Fig.10, b-b'; layer 15 (?)	9 (10) (10) (13-4) 30 (31) 99 110 118 119 131 (140) (140) (155) (170) 194 205 206 212 (220) (222) x 3 238		
BIIIb, layer 4	Pit filling at W end.	(154) (163) 234		

Area and layer	Description of layer	Pottery types	Small find numbers	Ipswich Wares and hand made pottery
	Fig.10, b-b'; layer 14			
BIVa, layer 1	Topsoil		SF 50	
BIVa, layer 2	Dark earth. Fig.10, a-a'; layer 1		SF 25	
BIVa, layer 4	Dark earth. Fig.10, a-a'; layer 1, base	(14) 96 138 (142) 152 164	SF 49	
BIVa, layer 5 c & d	Burnt brown soil/clayey grey loam. Fig.10, a-a'; layer 3, base	(61) 105 130 160 (164) 203 217	SF 1 SF 28 30 38	
BIVb, layer 3	Dark earth or clay	(11) 45 117 163 (173) (224) 227		14
BIVb, layer 5	'Wall debris on floor'	(14) 21 (89) 94 (204)		
BVa, layer 3	Dark earth on clay	3 (125) (222) 224	SF 33 SF 58	
BVa, layer 4 & 4b	Clay floor/brown burnt layer	(5) 60 81 (105) (125) x 2 141 143 173 (185) 913 200 (259) x 2 (240) 243 245	SF 52	
BXa, layer 1b	Topsoil	(137) 162 (164) (185)	SF 53	
BXb, layer 1-2	Topsoil	116 (126) (128) 182 183 (184) (216) 225 (240)		
BXIa, layer 1	Topsoil			1
BXVa, layer 1	Topsoil	7 (11) 12 33 (115) 134 137 (140) x 2 167 187 (221) (222)		
BXVb, layer 1	Topsoil	98 (124) (137) (160) (167) (238)		
BXXb, layer 2	'Mixed'	16 (31) (61) (67) x 2 93 102 (140) (142) (164) (180) 186 199 211 214 (219) (221) x 2 229 (238)	Hoard 1	
CIII, layer 3	'Dark E side'	6 (194) 202		
CIIIy, layer 4	Mixed earth		SF 44	
CIVy, layer 1	Topsoil			13
CIVy, layer 2	'Dark earth'	(39) 92 (137) (221)		5
CIVy, layer 3 & 3b	'Dark earth with oyster shells'	5 13 44 (72) (121) 128 129 (133) 159 161 (170) (179) x 2 195 237 (240)	Hoard 4 SF 24 32 51	
DIII, layer 1	Topsoil	(129) (165) x 2 176		
DIII, layer 2	Black earth		SF 15	21
DIV, layer 1	Topsoil			20
DIV, layer 2	Black earth. Fig.14, e-e'; f-f'; d-d'; layer 1	23 28 32 (160) (163) 188 192 233 242	SF 16 29	4
DIV, layer 3	Mixed sand and earth	24 (29) (38) 61 62 231		
DIV, layer 4	General section extended through glasspit. Fig.14, f-f'; layers 2-7			23
EIV, layer 2	Black earth	31		7
EV, layer 2	Dark earth	(37) 37 (73) 86	SF 7 14	15
EVI, layer 2	Dark earth		SF 41	9
FV, layer 2	Dark earth		SF 5	2 11 22

Concordance of Finds by Layer Numbers

Area and layer	Description of layer	Pottery types	Small find numbers	Ipswich Wares and hand made pottery
GIV, layer 1	Topsoil			3
GIV, layer 2		(10) (39) 51 (76) 104 140 (143) 145 153 156 (163) (163-4) 171 (175) 177 179 208 (222) 224	SF 26 27 34 35	
GV, layer 1	Topsoil			12
GVI, layer 2	Dark earth	(188) 215 220 (222) 240	SF 10	(contaminated layer)
LI, layer 5	Dark layer in gate passage			18
LXXXIII, layer 3	'Below tiles'	36 123	SF 9	
MXXXIII, layer 2	Mixed earthy rubble overlying roof debris	2 22 (35) x 2 (38) 46 55 56 64 71 (76) x 2 (78) 80 (85) (107) (121) 139 (169-70) (190) 201 (239) 241	SF 17 (part)	
MXXXIII, layer 2/3	Deposits over fallen tiles	35 122 (122) 126 (139) (155) 218		
MXXXIII, layer 3	S-W pit	109 124 127 (140)	Hoard 7 SF 43	
MXXXIII, layer 3/4	Floor deposits and sand	107 (121)		
MXXXIII, S. central pit	S central pit fill	14 (49) (56) 85 100 (143) 196	SF 17, 18-23	
MXXIV, layer 3	Fine earthy sand on floor	38 151	SF 6	
NXXXIV, layer 2	Rubble		SF 8	17
OXXX, layer 2	Disturbed sand	42		
OXXXIV, layer 3	Brown sand		Hoard 5 & 6 SF 55	
PI, layer 3	Dark earth. Fig. 18, l-l'; layer 3-5		SF 59	16 19
QIII, layer 2	Mixed dark earth	(38)		
QIII, layer 4	Dark earth	34 (39) (60) (104) 113 (125-6) (126) 157 221		
QIV, layers 1 & 2	Topsoil and black earth	27 63 82 158		
RIV, layer 1	Topsoil	(68-9) (126) 198		
RIV, layer 3	Darker brown soil			6
RIV, layer 4	Compact grey earth	147 168		
RIV, layer 5	Compact grey layer	106 (126) 204		
RIV, layer 6	Lighter grey layer	(82)		

XVIII. CONCLUSIONS

Three seasons of excavation at the site of Burgh Castle, undertaken in winter conditions, have served to give a glimpse of some of the problems of the site and to begin to show some of the answers. Inevitably, however, the answers seem only to be partial ones and drag in their wake a host of further questions. Prime among these must come some inquiry about the extent to which the archaeological evidence bears out the 'accepted' modern traditions about the site, first as 'Gariannonum' in the Roman period, then as 'Cnobheresburg' in the Early to Middle Saxon, and finally as 'Burg', the fee of Ralph Ballistarius in the early medieval period (Johnson 1978, 15-16).

If one turns first to the Roman period, these excavations when studied in detail have given some new facts to digest. First, they have produced hardly any evidence for any occupation of the site prior to the late Roman period. It is, perhaps, fair to say that this was not systematically looked for and the traces of crop-mark enclosures now being discovered to the east and south-east of the fort may be relevant, but have yet to be demonstrated as having anything to do with the Roman occupation of the area or the present walled enclosure. Even at Brancaster, where the remains of the regular grid of extra-mural enclosures have been examined in advance of destruction under a housing development, the relationship between them and the actual fort site has still to be ascertained: thus, there will be no easy answers at Burgh Castle.

As far as present evidence allows, therefore, the walled enclosure seems to have been built on a virtually empty site. The question of its date of construction remains enigmatic: the excavations produced no objective dating evidence for the wall construction. I have argued in the past, on the basis of the existence of the internal turret in the north-east angle and on the curious design of the external bastions, notably the way in which they are not bonded with the walls for the lower 8 ft (2.4 m) or so, that the walls of the enclosure form a transitional stage in Roman defensive architecture. If there was an angle turret at the north-eastern angle belonging to a defended enclosure with thick walls and rounded corners and which was suppressed at an early stage in the design in favour of the exterior bastions, this would be a feature comparatively closely datable within the third quarter of the third century (Johnson 1976, 96-9). The series of detailed arguments in the text above (p.20-1) which throws some doubt on the interpretation of the discovery of the angle turret at the north-eastern corner highlights this question once more. The way in which the bastions were joined to the external face of the wall can be explained either as an afterthought, an early change of plan or as intentionally planned from the first, but for some unknown reason not built immediately the wall construction started. The arguments for and against these differing views will not be rehearsed here: suffice it to say that the presence or absence of a demolished corner turret is a crucial factor in the debate: the evidence at present allows for no resolution of the problem. It is worth noting, too, that the other 'turret' on the south wall of the defended area is possibly not a turret as such at all, but part of a range of buildings against the south wall and, thus, has no contribution to make to the argument. In any case, it seems to have contained a number of roofing tiles as well as two coin hoards which suggests that it was retained in use and did not form part of an early demolition programme to bring the defences 'up to date'.

Further problems for the adoption of a third-century date for the walled enclosure come from a consideration of the occupation levels within the fort. Excavation immediately next to the walls of the fort in both north-east and south-west areas have shown a considerable build-up of dumped rubble deposits accompanied by fragmentary traces of timber and wattle-and-daub buildings. Associated with these buildings and the apparent remains of their burning and destruction were large amounts of fourth-century pottery and many coins, the majority of them (perhaps a dispersed hoard) of the second quarter of the fourth century. Traces of occupation to go with an earlier construction of the enclosing walls were not found, although the overall coin list from the site does contain a number of late third-century coins. Only five coins, however, out of a total coin list (excluding modern finds) of 1,180 from these excavations date from earlier than the Constantinian period. From this coin evidence, therefore, it is difficult to claim any occupation on the site prior to the Constantinian.

This is, however, to ignore the limitations imposed by the unequal sample which has been produced by these excavations. When one views the coin finds from the site as a whole (Morris and Hawkes 1947, 68), the coin series from excavation next to the fort walls can be seen to be distorted. In the first place, the vast bulk of coins found by Green form what was probably a dispersed hoard. Second, the coin list published by Morris from earlier sources shows that more than a third of the coins found from the site as chance finds (63 out of 180) date from the pre-Constantinian period. This seems

to indicate a phase of use of the site earlier than the largely Constantinian and post-Constantinian levels examined by Green. Taken together with the stylistic considerations, it is scarcely possible to claim that the fort was not built until the late Constantinian or post-Constantinian period. The curiosities of its setting out, in particular the way the bastions were handled, are not the hallmark of the same military hand which, for example, built Pevensey on the south coast in the 340's which exhibits an altogether more assured overall design and execution. The deepest archaeological deposits have been located next to the fort walls and here the depth of stratified layers has normally been in the order of 2 ft 6 in (0.8 m) (Fig.10). Within that depth, only one consistent 'floor level' has been spotted within the sections, some of them composite, which have been dug across the area. This floor level is normally at the base of the deposited layers of daub and pottery and it is upon this floor and in the rubble layers above that the finds of coins have been made. It is arguable whether this floor is in fact a floor surface or whether it represents a ground surface above which a suspended timber floor once stood. Structurally there is no trace of more than one building phase at this point: the evidence even for that is pretty scant and it could be that earlier or later phases were lost. The one trace of an 'earlier floor', visible in what must have been only a small sounding in A/B4 can be seen in a-a (Fig.10). This has only a tentative identification as a floor and there are certainly no structural remains nor, it seems, any occupation levels associated with it. The evidence so far presented, therefore, suggests that the only material phase of occupation of the area immediately backing onto the defensive wall came, according to the coin finds, not until the 340's (p.69).

Only at selected places within the centre of the fort were excavations taken down to the natural sand. In these areas there was no build-up of dumped debris similar to that next to the fort walls and little trace of heavy concentrations of Roman pottery from clearly uncontaminated levels. When one considers what is known of the plan of late-Roman defended establishments elsewhere, it is clear that during the Tetrarchic period one would normally expect the interior buildings - probably of timber - to lie in the central portion of the enclosed area. Only later is there evidence for the planning of buildings in the space next to the defensive walls, in a development often dated to the Constantinian, or post-Constantinian period. It is notoriously difficult to pin down buildings within defensive walls to any date within the fourth century with any accuracy and attempts to do so, or to show a sequence of plans showing the development of the use of the internal layout of a site, have yet to be published and substantiated in detail. For the purposes of assessing Burgh Castle, it is at least possible that the early layout of the walled enclosure comprised buildings which were freestanding within the fort. Only at a later stage was the layout altered to include buildings against the walls. In secondary support of this 'dual phasing' of planning at Burgh Castle, one can adduce the fact that at both places where the fort walls appear to have had buildings against them, the walls are cut into for the insertion of post-holes - in the north-east corner by the 'indents', and on the south wall by the carefully constructed holes - surely of Roman date (see p.62) - to take timber posts.

There can be little doubt that the walled enclosure formed a Roman fort and the normal identification of this post as the Gariannonum of the Notitia Dignitatum is probably correct (Johnson 1978, 7). It is clear from the Notitia that this post formed part of the military command under the Count of the Saxon Shore and held a garrison of Equites Stablesiani under their Praepositus. Hassall has suggested that this unit could have arrived in post at the fort as early as the late third century (Hassall 1977, 9), but it cannot be established from the Notitia entry at what date the troop-unit arrived in its given location: the Notitia compilation dates from the end of the fourth century, but retains apparently out-of-date information in some cases, possibly where a post has temporarily (or in the event permanently) fallen vacant. Thus the Notitia cannot be used either to date the arrival of the troop-unit or its departure. Nor can it be certain that these Equites Stablesiani were the original garrison.

The presence, at some time in the fourth century, of a mounted unit is given archaeological substance by the finds not only of horseshoes (which are not specifically military articles), but by the remains of the iron helmet. As discussed elsewhere, this is of a type relatively common and not previously closely dated (Johnson 1980, 303f) and its cap construction links it closely with the rather more elaborate helmet found in Deurne, Holland, which bears an inscription showing that it belonged to a horseman in a unit of Stablesiani.

The evidence from within the fort is able only to support the view that there was a limited occupation in the areas examined. On coin evidence (p.69) the occupation and use of the buildings against the walls in the north-east corner may not have lasted beyond the early 350's. The scarcity of coins revealed in excavation of these areas suggests no comprehensive occupation thereafter. If one considers, however, that all the coins found in areas A2-4 and B2-4 (the area roughly covered by Green's Building 1) are an anomaly and perhaps a dispersed hoard scattered over floor and rubble layers, the picture of coin loss over the whole site becomes far less distorted. Elsewhere on the site the coins of the House of Constantine and their copies are nowhere near as dominant and, in the absence of other coins of earlier date, the presence of issues only of the second half of the fourth century in areas D, F and G is surely of some significance. It suggests that the excavations have as yet in those areas only scratched the surface of the archaeological levels and that remains of Roman occupation may yet be found within or just under the topsoil. Taken with the arguments adduced for the loss of floor levels above Area D4 (Building 2) before the deposition of the glassware hoard there (p.36) it is quite possible that there has been a significant loss, through plough disturbance, of later Roman levels and Middle Saxon deposits in this area.

Little of significance can be made of the rather fragmentary nature of the evidence from animal bones. The sample is heavily weighted towards the larger bones and it is by no means easy (as it is in the case of pottery, for example) to weed out intrusive bones of medieval or Middle Saxon origin from those from uncontaminated Roman deposits. No attempt has been made, therefore, to separate out the bones from various periods. The evidence from butchery suggests some parallels with Roman practice at other known military sites, though the provenance of the majority of the bone is a problem: there was no layer specifically defined on excavation as a rubbish pit - unusual within a Roman fort. Thus the sample of animal bone represents casual finds which came from within make-up rubbish layers and associated occupation layers. The presence of large numbers of red deer antler and the evidence for a small industry based on bone and antler working is of considerable interest and throws a sidelight on the Roman occupation of the site which is not normally evident. Otherwise the presence of pig bones and antler supports the commonly held view that the area of the Lothingland (though perhaps not the immediate vicinity of Burgh Castle) was thickly forested.

In view of the relatively full discussion of the finds in the south-west quadrant of the fort and their possible interpretation in the foregoing pages (p.60-5), it would be otiose to rehearse all these points and arguments. In sum, however, the picture of the finds of Roman date in the south-west area is one which parallels the finds in the north-east area to a considerable degree. Coin finds here once again suggest that the area immediately within the walls was in use in the 340's, though the form of the buildings against the walls here is in some doubt, both because of the levelling of the Norman motte in 1839 and the excavations of Harrod soon thereafter, which cut an irregular swathe across the area. The main problems posed in this area have to do with the form, date and function of the buildings against the fort wall and their relationship with the cemetery.

None of the finds from this area gives any substance to a date for the abandonment of the fort by the military and the only established sequence is that a series of fragmentary clay floors seems to have been laid down on top of Roman occupation debris. The

cemetery has produced radiocarbon datings of the seventh to tenth centuries, and its relationship with the clay floors and ranges of buildings to its south against the fort wall must be established. It has been argued above that the graves within the cemetery take account of the rubble foundation wall running roughly north to south through it and also, as far as their orientation is concerned, of the south wall of the fort and of any building aligned on it. The clay floor cannot necessarily be associated with the rubble foundations of the buildings next to the fort wall though it may represent a re-use of them. If the cemetery is a Christian one, and the largely negative evidence may seem to point in that direction, the most likely position for an associated church would be to the south. The archaeological finds are not sufficient, however, to support the unequivocal suggestion that a church did lie in this area nor that its remains are necessarily to be linked to the clay floors defined as of 'post-Roman' date (Fig.23).

The view that the cemetery was linked with a church of Middle Saxon date has obvious historical attractions. The existence of a small monastic community over a long period here might be supposed to have left the traces of a cemetery such as that encountered in the excavation. Whether such a conclusion as to date necessarily leads to the view that Burgh Castle was the site of the Middle Saxon monastery established at Cnobheresburgh by St Fursa with the permission of Sighebert, the King of the East Angles, is a question which has as much to do with the possibility of tying archaeological with documentary and historical evidence as with the present exposition of the results of excavation.

If the by now almost traditional identification of the fort of Burgh Castle with the name Cnobheresburg is to be accepted, and the site thus identified with the site given to Fursa for the site of his monastery (Bede III, 19), this implies that by the 630's the site had already become known as the 'urbs Cnobheri', Cnobher's town. Bede describes the site given to Fursa in these terms: 'Erat autem monasterium silvarum et maris vicinitate amoenum, constructum in castro quodam quod lingua Anglorum Cnobheresburg - id est urbs Cnobheri - vocatur'. It has recently been suggested that the 'Cnobher' of this name may have been the son of Icel, known as the first of the Royal ancestors of the house of Mercia, the line which produced Kind Penda who reached the throne in 626 (Martin 1976, 132). Icel's son, according to the genealogies, was Cnebba and according to this recent assessment, he may be expected to have been adult in the last quarter of the fifth or the first quarter of the sixth century. It will have been at this date, therefore, that Cnobheresburg received its name.

This discussion now brings into sharper focus the whole historical question of the post-military use of the fort. The presence of the hoard of glassware and its bronze bowl within a wooden bucket, buried, according to the relatively close and consistent dating of the glass vessels, in the second quarter of the fifth century, suggests that there was some occupation at this date. It has been argued above (p.36f.) that the hoard could have been buried within a building or from a ground surface whose remains have now been completely ploughed away. Pottery and finds of early fifth-century date have not otherwise been identified, but it is quite possible that some of the pottery in use in the late Roman period, in particular the shell-tempered fabrics, had a longer life than the vessels produced in the better known and more centralised pottery industries.

The pottery found on the site does include some fragments of hand-made wares which do not seem to be of Middle Saxon date, but bear no particular distinctive feature of pagan Saxon pottery, apart from the fabric. Finds of these wares were scattered very thinly - perhaps no more than twenty sherds in all - and came mainly from the topsoil layers. No structures were found in association with them and no pits which contained such pottery as a distinctive late horizon for their dating.

It has been suggested above that Burgh Castle was in use until at least the second

quarter of the fifth century - the burial of the glass hoard attests the presence of some form of prestigious settlement - and it is often claimed from sketches by Ives of material found in the field east of the fort walls that that area is the site of a Saxon cemetery (Ives 1774, fig.7). Whether one can assign an indubitably pagan Saxon date to the pottery so crudely figured by Ives or even to the curious pot published as coming from the same place in the last years of the nineteenth century (Raven 1888, 359) is a matter for speculation. No recent recorded finds, despite continual ploughing of the area, have produced any further pottery either of late Roman, 'Romano-Saxon', or of pagan Saxon date. This area ought to be the late Roman military cemetery and it is possible that it was also a cemetery re-used in the sixth century. The interior of the fort, however, has not produced pottery or artefacts which would suggest the presence in the late fifth or early sixth century of a substantial pagan Saxon settlement grouped round a kingly residence.

None of the arguments for or against Burgh Castle as Cnobheresburg is conclusive and consideration of the problems only serves to highlight the uneasy balance between archaeological and historical documentary evidence. For example, it is true that Bede's description of the site of Fursa's monastery as 'pleasantly situated near to the sea and to forests and constructed in a castrum' fits well with the situation of Burgh Castle. The large inland estuary on which the fort lay could be described in Roman or Bede's time as 'the sea'. If we recollect, however, that 'castrum' at this date is used not to mean a Roman fort only (Rivet 1976, 134-5), but also a small walled town, the identification is not absolutely certain. A further point might be made: if it is accepted that there was 'sub-Roman' occupation at 'Gariannum' (Smith 1979, 16) into the mid-fifth century and that the site was taken over by the descendents of Icel at the end of the century, there is a strong case for continuity of settlement of a sort at the site. It thus becomes slightly uncomfortable that the Roman name for the fort should so completely have disappeared, submerged under the pagan Saxon nomenclature 'Cnobheresburg'. This would be a case of an almost established continuity of use of the site entailing the loss, not the survival, of a Roman name, an occurence which might well suggest that where Roman place-names survived elsewhere, this meant that the site itself was not actually settled, but the area round about it was.

The final series of questions to pose of the excavated remains must be on the related topic of whether the series of finds of Middle Saxon date in fact add up to the presence at the site of a monastic establishment. The cemetery has been established by radiocarbon dating to belong to this period and perhaps beyond it though there is no archaeological material within the graves or their fills to substantiate a Middle Saxon date. The cemetery, however, contained adult and child burials and it was been suggested above (p.63-5) that the layering of graves suggests a longer rather than shorter period of usage on a small scale. The presence of child burials might suggest a lay rather than a purely monastic cemetery. The problems of its association with the buildings to the south has already been fully discussed above (p. 64-5) and the difficulties of identifying a church against the south wall of the fort considered, both there and under the discussion of finds in the south part of the site.

The nature of the oval buildings in the north-east portion of the site has also been discussed along with the description of the excavations in that area (p.37-9) (see also Editorial p.1-2). Despite the heavy distribution of Ipswich Ware over this area of the site, the greater part of this material came from the topsoil and from a black, rather mixed, layer underneath it. It could not be associated with the structural remains of the oval 'huts' and the discussion above has suggested that the evidence for the huts needs close examination. While monastic sites of the seventh century have shown that circular or oval huts could be used as cells or even as workshops, those from Burgh Castle, with no clear associated floor levels, sealed only by a disturbed layer of occupation debris and containing no defined traces of post-holes or other structural members, deserve a much closer scrutiny before their existence is accepted. However,

on archaeological grounds their attribution to the Middle Saxon period or later is assured.

Conclusive evidence of structures of Middle Saxon date is, therefore, still lacking although the cemetery and the scatter of Ipswich Ware over the site attest some activity there from the seventh to ninth or tenth centuries. It may be, of course, that re-examination in detail of the areas opened by Charles Green may better vindicate his conclusions about the site. It is difficult, however, at present to reconcile the very fragmentary remains discovered by excavation with Bede's assertion that the monastery was erected by the successors of Sighebert with 'still finer buildings and gifts'. This is not to deny utterly the equation of Burgh Castle with Fursa's site: it is simply to indicate that the results of Green's excavations cannot really prove the point beyond question.

The Middle Saxon episode, whatever its true nature, seems to have been followed by a period when the site was left unoccupied although finds of Late Saxon coins from the vicinity suggest that there could have been occupation at the time, perhaps nearer the present parish church. The only substantial Norman phase seems to have been the conversion of the walled enclosure into a motte-and-bailey castle. This entailed the construction of the motte, cutting a broad and deep ditch in the south-west corner and the blocking off, by a rampart of earth, a portion of the site in the north-west corner where the Roman walls had already fallen. The traces of this episode of the site are perhaps summed up most aptly in the pottery report which suggests from the poverty of the ceramic remains that the occupation was short-lived. No definable medieval structures were encountered except the possible foundations for a timber tower crowning the motte. The nineteenth-century levelling of the site has contributed greatly to the confusion not only of the medieval remains, but of earlier layers too.

In one sense, therefore, it is true that the excavations produced few conclusive results. Despite the seemingly large area tackled in three long seasons the only area which received anything like comprehensive excavation was that which produced the cemetery and the buildings next to the south wall of the fort. There are considerable indications that this area had already been damaged so heavily in the nineteenth century that to expect a comprehensive picture of the site's history from its examination is to be disappointed. Even the most skilled of modern excavators would have been at great pains to combat the destructive forces of Harrod in the 1850's, the levelling of the motte in the 1830's and the ploughing, to which this slightly raised area was continually subjected.

In the northern portion, the picture is different. Here, the excavation effort was dissipated over a wider area of deeper stratigraphy and there is every hope that the small sections cut into the underlying and largely undamaged layers by Green will not have disturbed them significantly. Much remains buried and untouched and further excavation will certainly be worthwhile.

XIX. ACKNOWLEDGEMENTS

It is proper first to record our gratitude to the owner of the site, Mr R L I McLeod, for having allowed the excavations to take place on his land. Without the work of Charles Green, too, who spent several months on the site between 1958 and 1961, often in the bleakest of wintry conditions, there would, of course, be nothing to write up and our knowledge of the site would be so much the smaller. It is a cause of great sadness that the excavator did not live to be able to give a first-hand account of his work: this 'ghosted' version, at times critical of the evidence but, it is to be hoped, at all times sympathetic, is only second best and shows only that Burgh Castle is a site whose archaeological record posed problems which still demand solutions.

I wish to acknowledge my indebtedness to many people during the long period of preparing this report for publication: first and foremost to Barbara Green who introduced me to her father's excavation material and has allowed me subsequently considerable assistance in Norwich Castle Museum, as well as tolerating considerable latitude in the interpretation of the site. Several specialists have contributed to the report: to those who have contributed individual sections within the small finds report - Carolyn Dallas, Annie Grant, Mike Hammerson and Donald Harden - must go the greater thanks, but others have also contributed smaller pieces - Chris Young has commented on all the colour coated pottery and Kay Hartley on the mortaria, providing notes which I have worked into the text. On the small finds themselves, I have received useful assistance from Tony Gregory on the bronze bowl, from Ralph Jackson on the iron-bound bucket, and from Angela Evans and John Cherry on the helmet.

The bulk of the small finds were drawn by Sue Heaser, formerly of the Ancient Monuments Illustrators and the remainder by Margaret Tremayne. Philip Compton, of the British Museum Department of Prehistoric and Romano-British Antiquities, drew all the items from the glassware hoard, both metal and glass. The coarse pottery was drawn by Natalie Tobert and the Ipswich Ware by Carolyn Dallas. For the conservation of bronze and ironwork and the provision of X-ray photographs, I am indebted to John Gater.

This report is intended to be a complete publication of Green's excavations at Burgh Castle. The death of Calvin Wells in 1979, however, deprived the report of the benefit of his analysis of the skeletal material from the cemetery. Although he had done some preliminary work on classifying the bones, much detailed analysis still remained to be done at the time of his death and it was not possible to arrange for a full report in the immediate future. Rather than hold the publication of this report up further by waiting for a report to be compiled on this material, it was decided to go ahead with full publication now. The analysis of the human bone from the cemetery will follow, however, as soon as the material can be studied. Three bones from the cemetery were selected for radiocarbon dating at Harwell and a report on these is included. Such slight mention as is otherwise made of the composition of the cemetery comes from the author's personal communcation with Calvin Wells prior to his death and reflects the preliminary work on the bones which he had been able to do.

All other material has been prepared for publication by the present author. The plans and section drawings (Figs.1-29) are largely produced by Yvonne Brown of the Ancient Monuments Illustrators Office from originals prepared by Charles Green, but the text is almost completely new. Apart from a portion of the text describing the new evidence from the excavations about the fort walls which has been incorporated almost unaltered within the relevant section here, all the report has been written by the present author from the site notebooks.

All the finds, notebooks and plans will be deposited at Norwich Castle Museum for safe keeping apart from the glassware and its associated metalwork which are in the British Museum.

REFERENCES

1. Parts of an account of the Roman walls written by Charles Green and intended for publication have been incorporated into this section by the present author.

2. The only bench mark close to the fort having been destroyed, the starting level of the survey was taken from the spot-height, 36 ft OD, at the south end of Castle Lane. From here the level of the north-west corner of the concrete frontage of the custodian's hut was determined as 34.40 ft OD and from this fixed point all other levels were taken. The survey-circuit, when closed, showed a variation of 0.12 ft ie, less than $1\frac{1}{2}$ in.

3. Ives (1774) gave a general account of value, but of insufficient detail, and of this some is inaccurate. Harrod, in 1850 and again in 1855, carried out some test excavations with important results (Harrod 1859) which have been mentioned above; his interpretation of them (now seen to be partly in error), was accepted by Collingwood (1930, 49, fig.11b) in his summary of Saxon Shore forts. Raven (1888), Fox (1911), Dahl (1913) and other writers contributed little of significance to our knowledge of these structures. Bushe-Fox (1932) made some important contributions of fact, but these were not fully understood at the time and have since led to some confusion. A local antiquary, the late P.E.Rumbelow, gave much attention to the fort and in 1928 prepared a descriptive account which was never published (now in Norwich Castle Museum). All these descriptions were summarised by Morris (1947) in what at the time was an excellent interim account, but of this many parts are no longer valid.

4. 150 tons is a modest estimate of the weight of one of these bastions. The cubic content of an average bastion is c. 2650 cu ft. A cubic foot of mortared brickwork of good modern bricks weighs c. 121 lb, so that a brick bastion would weigh about 143 tons, with a specific gravity of about 2.3, so that the true weight of the bastion is nearer 170 tons, which allows for the lighter mortar content of the structure.

5. Previously, I inadvertently called this bowl and No.84 'short cone-beakers' (Harden 1978, 2).

6. This vessel is mentioned by Isings (1957, 32) and correctly ascribed to the fourth century although included in her discussion of first-century flagons (her form 14).

7. The two-handled flasks cited by Fremersdorf as parallels for this piece (IV, 1958, 34, no.56, pl.54, and another there referred to, formerly in the Schiller Collection) are not, in fact, close to it either in shape or in handle-formation, judging from published illustrations.

8. Classed with group A: Roman survivals in Saxon graves. For Bifrons, which has a little spiral trailing on the shoulder, see Harden (1956), pl.xv, i and Baldwin Brown, IV, (1915), 485, pl.126, no.3; for Highdown see, inter alia, Harden (1951), 263, fig.7, and Welch (1976), 15f., pl.7.

9. Worthing Museum no.3502.

10. This example was formerly part of the Tomlinson loan in the British Museum: see Harden 1956, 136, 158 variety d, v, pl.xv, e, where I suggested that it is, in essence, the same shape as the well-known indented bowls so typical of the fourth century (Harden 1956, 136, variety d, i).

11. British Museum no.MLA 1893.7-16.2 (Newbury and District Field Club Trans. IV 1886-95, 196).

12. Worthing Museum no.3499, grave 32 (Harden 1951, 261f., 266, fig.2; Welch 1976, 16, pl.7).

13. Lewes Museum grave 60 (Harden 1951, 262, 268, fig.3; Harden 1956, pl.xv, a; Sussex Archaeol.Collect. LVI, 44 and LVII, pl.26, no.1).

14. British Museum no.MLA 1320,'70 (Gibbs Collection; Harden 1956, pl.xv, b).

15. Canterbury Museum (Jessup 1946, 17, pl.iii, no.15).

16. British Museum no.MLA 1869.10-11.2.

17. British Museum no.MLA 1922.5-12.11, formerly in the Sir John Evans Collection, acquired by him in 1886 and sold with his collection of ancient glass at Sothebys on 27 April 1922.

18. British Museum no.MLA 1338,'70 (Gibbs Collection).

19. British Museum no.MLA 1902.7-22.85 (Proc.Soc.Antiq.London ser.2, XIX (1901-3), 127).

20. British Museum nos.MLA 1905.5-20.51, 54, 57. For the Herpes cemetery and its excavation see Delamain 1892.

21. Even decorated examples are rare: see Pirling(1966)pt.2, grave 530 (p.68f., pl. 46, no.18); Pirling(1974)pt.2, graves 1276 (p.11, pl.9, no.3), 1746 (p.51, pl.41, no.3) and 2108 (p.101, pl.81, no.9 and pl.114). The first three of these graves belong to the later fourth or early fifth century; the fourth is a sixth-century grave.

22. Cf. e.g. Isings (1957), 47ff.,forms 33-35, which start in the first century and continue into the fourth. There are many varieties, some decorated, some plain.

BIBLIOGRAPHY

Baldwin Brown, G., 1915 — The Arts in Early England (London).

Brown, P.D.C., 1971 — 'The Church at Richborough', Britannia II, 225-31.

Böhme, H.W., 1974 — Germanische Grabfunde des 4 bis 5 Jahrhunderts (Munich).

Breuer, J., and Roosens, H., 1957 — ' Le cimetière franc de Haillot', Archaeologia Belgica 34.

Bushe-Fox, J.P., 1932 — 'Some notes on Roman coast defences', J.Roman Stud. XXII, 60-72.

Bushe-Fox, J.P., 1926, 1932, 1949 — Excavations of the Roman Fort at Richborough, Kent I, III, IV, Soc.of Ant.Res.Reps.6, 10, 16.

Collingwood, R.G., 1930 — The Archaeology of Roman Britain (London).

Corder, P., 1951 — The Roman Town and Villa at Great Casterton, Rutland (Nottingham), 33.

Bibliography

Cunliffe, B.W., 1975 — Excavation at Portchester I, Soc.of Ant.Res. Rep. 25.

Dahl, L.H., 1913 — The Roman Camp and the Irish Saint at Burgh Castle (London).

Davies, R.W., 1971 — 'The Roman military diet', Britannia II, 122-42.

Delamain, P., 1892 — Le cimetière d'Herpes (Angoulême).

Eggers, H.J., 1951 — Der römische Import im freien Germanien (Hamburg).

Eggers, H.J., 1966 — 'Römische Bronzegefässe in Britannien', Jahrbuch des römisch-germanischen Zentralmuseums, Mainz XIII, 67-164.

Fox, G.E., 1911 — 'Roman Suffolk', VCH Suffolk I, 279-323.

Fremersdorf, F., 1933 — 'Der Römische Gutshof Köln-Müngersdorf', Röm-Germ.Forschungen 6.

Fremersdorf, F., 1958 — Das naturfarbene, sogennante blaugrüne Glas in Köln, (Die Denkmäler des römischen Köln, 4).

Fulford, M. and Bird, J., 1975 — 'Imported pottery from Germany in late Roman Britain', Britannia VI, 171-81.

Goethert-Polaschek, K., 1977 — Katalog der römischen Gläser des Rheinischen Landesmuseums Trier (Trierer Grabungen und Forschungen, Band 9).

Grant, A., 1975 — 'The animal bones', in Cunliffe, B.W., Excavation at Portchester I, Soc.of Ant.Res.Rep. 25, 378-408.

Gregory, A., 1976 — 'A hoard of bronze bowls from Burwell, Cambs', Proc.Cambridge Antiq.Soc. LXVI, 63-79.

Gregory, A., 1979 — 'A Romano-British bronze-bound bucket from Burgh Castle', Norfolk Archaeol. XXXVII, 223-6.

Haberey, W., 1942 — 'Spätantike Gläser aus Gräbern von Mayen', Bonner Jahrbücher CXXXXVII, 249-84.

Harden, D.B., 1951 — 'Saxon glass from Sussex', Sussex County Magazine XXV, 260-8.

Harden, D.B., 1956 — 'Glass vessels in Britain and Ireland AD 400-1000', in Harden, D.B. (ed.), Dark-Age Britain: Studies presented to E.T.Leeds, 132-67.

Harden, D.B., 1978 — 'Anglo-Saxon and later medieval glass in Britain: some recent developments', Medieval Archaeol. XXII, 1-24.

Harden, D.B., 1979 — 'Glass vessels', in Clarke, G. The Roman Cemetery at Lankhills, Winchester Studies III, pt.2, 209-20.

Harden, D.B., 1980 — 'Early medieval', Bull.Assoc.Internat.pour l'Histoire du Verre 8, 53-64.

Harrod, H., 1859 — 'Notice of excavations made at Burgh Castle, Suffolk, in the years 1850 and 1855', Norfolk Archaeol. V, 146-60.

Hassall, M., 1977 — 'The historical evidence', in Johnston, D.E. (ed.), The Saxon Shore, Counc.Brit.Archaeol. Res.Rep.18.

Hodgkin, T., 1892 — 'Bronze hoards in Northumberland', Archaeol. Aeliana NS 15.

Hurst, J.G., et al. 1959 — 'Anglo-Saxon pottery: a symposium', Medieval Archaeol. III, 1-78.

Isings, C., 1957 — Roman Glass from Dated Finds (Groningen, Diakarta).

Ives, J., 1774 — Remarks upon the Garianonum of the Romans (2nd ed. 1803 Yarmouth).

Jessup, R.F., 1946 — 'An Anglo-Saxon cemetery at Westbere, Kent', Antiq.J. XXVI, 11-23.

Johnson, S., 1976 — The Roman Forts of the Saxon Shore (London).

Johnson, S., 1978 — Burgh Castle, Official Handbook, HMSO.

Johnson, S., 1980 — 'A late Roman helmet from Burgh Castle', Britannia XI, 303-12.

Loeschcke, S., et al. 1911 — Beschreibung römischer Altertümer gesammelt von C.A.Niessen (Köln).

Martin, E., 1976 — 'The Iclingas' in Scarfe, N., 'The place-name Icklingham: a preliminary re-examination', E.Anglian Archaeol. 3, 127-134.

Morin-Jean, R., 1913 — La Verrerie en Gaule sous l'empire romain (Paris).

Morris, A.J., 1947 — 'The Saxon Shore Fort at Burgh Castle', Proc. Suffolk Inst.Archaeol. XXIV, 100-20.

Morris, A.J. and Hawkes, C.F.C., 1949 — 'The fort of the Saxon Shore at Burgh Castle, Suffolk', Archaeol.J. CVI, 66-9.

Nenquin, J.A.E., 1953 — La nécropole de Furfooz (Dissertationes Archaeol. Gandenses, I, Bruges).

Orton, C., 1977 — 'The coarse pottery' in Blurton, T.R., 'Excavations at Angel Court, Walbrook 1974', Trans. London Middlesex Archaeol.Soc. XXVIII, 28-53.

Pirling, R., 1966, 1974 — Das Römisch-Fränkische Gräberfeld von Krefeld-Gellep I, II (Germanische Denkmäler der Völkerwanderungszeit, Serie B, Band 2 and Band 8

Rademacher, F., 1942 — 'Fränkische Gläser aus dem Rheinland', Bonner Jahrbücher 147, 285-344.

Raven, J.J., 1888 — 'Garianonum and the Count of the Saxon Shore', Proc.Suffolk Inst.Archaeol. VI, 345-60.

Rivet, A.L.F., 1976 — In Bartholomew, P. and Goodburn, R. (eds.), Aspects of the Notitia Dignitatum, Brit. Archaeol.Rep. 15.

Rodwell, W., 1970 — 'Some Romano-Saxon pottery from Essex', Antiq.J. L, 262-76.

Rumbelow, P.E., 1928 — Burgh Castle (unpublished volumes in Norwich Castle Museum).

Smith, C., 1979 — 'Latin place-names in Bede', Anglo-Saxon Studies in Archaeology and History, Brit. Archaeol.Rep. 72.

Summary, 1961a — J.Roman Stud. LI, 183.

Summary, 1961b — Medieval Archaeol. V, 319.

Summary, 1962 — J.Roman Stud. LII, 178.

Summary, 1962-3 — Medieval Archaeol. VI-VII, 311.

Tyers, P.A., 1977 — 'The Roman Coarse Pottery' in Gentry, A., Ivens, J. and McClean, H., 'Excavations at Lincoln Road, Enfield', Trans.London Middlesex Archaeol.Soc. XXVIII, 135-54.

Vanderhoeven, M., 1958 — Verres romains tardifs et mérovingiens du Musée Curtius (Liège).

Watson, J.P.N., 1972 — 'Fragmentation analysis of animal bone samples from archaeological sites', Archaeometry XIV, pt.2, 221-7.

Webster, J., 1975 — 'Objects of Bronze and Silver', in Cunliffe, B. W., Excavation at Portchester I, Soc.Ant.Res. Rep. 25, 198-215.

Welch, M.G., 1976 — Highdown and its Saxon Cemetery, Worthing Museum Publication, No.11.

West, S.E., 1964 — 'Excavations at Cox Lane (1958) and at the town defences, Shire Hall Yard, Ipswich (1959)', Proc.Suffolk Inst.Archaeol. XXIX, 233-303.

Wilson, M.G., 1972 — 'The other pottery' in Frere, S., Verulamium Excavations I, 265-370.

Young, C.J., 1977 — 'The Roman Pottery Industry of the Oxford Region', Brit.Archaeol.Rep. 43.

INDEX

EAST ANGLIAN ARCHAEOLOGY

is a serial publication sponsored by The Scole Archaeological Committee Ltd. The Norfolk, Suffolk and Essex Units and the Norwich Survey will all be contributing volumes to the series. It will be the main vehicle for publishing final reports on archaeological excavations and surveys in the region.

Copies and information about the contents of all volumes can be obtained from:

Centre of East Anglian Studies,
University of East Anglia,
Earlham Hall,
Norwich, NR4 7TJ

or directly from the Archaeological Unit publishing a particular volume.

Reports available so far

Report No.1, 1975 Suffolk: various papers
Report No.2, 1976 Norfolk: various papers
Report No.3, 1977 Suffolk: various papers
Report No.4, 1976 Norfolk: Late Saxon town of Thetford
Report No.5, 1977 Norfolk: various papers on Roman sites
Report No.6, 1977 Norfolk: Spong Hill Anglo-Saxon cemetery
Report No.7, 1978 Norfolk: Bergh Apton Anglo-Saxon cemetery
Report No.8, 1978 Norfolk: various papers
Report No.9, 1980 Norfolk: North Elmham Park
Report No.10, 1980 Norfolk: Villages in Launditch Hundred
Report No.11, 1981 Norfolk: Spong Hill Anglo-Saxon cemetery: Part II
Report No.12, 1981 The Barrows of East Anglia
Report No.13, 1981 Norwich: Eighteen centuries of pottery from Norwich
Report No.14, 1982 Norfolk: various papers
Report No.15, 1982 Norwich: Excavations in Norwich 1971-8, Part I
Report No.16, 1982 Norfolk: Beaker Domestic Sites
Report No.17, 1982 Norfolk: Waterfront excavation and Thetford-type ware production, Norwich
Report No.18, 1983 Norfolk: The Archaeology of Witton
Report No.19, 1983 Norfolk: Two Post-Medieval Earthenware Pottery Groups from Fulmodeston
Report No.20, 1983 Norfolk: Burgh Castle: Excavations by Charles Green, 1958-61

Contents

BURGH CASTLE: EXCAVATIONS BY CHARLES GREEN, 1958-61