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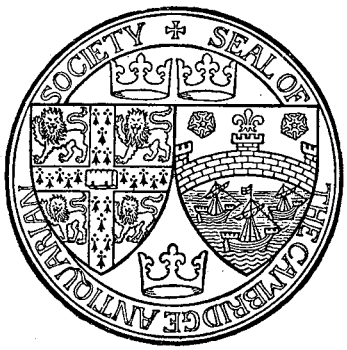


VOLUME LVIII

JANUARY 1965 TO DECEMBER 1965

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DEIGHTON BELL
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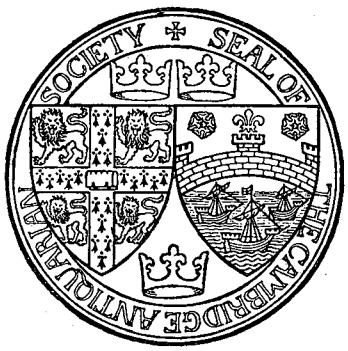


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# CONTENTS

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# MEDIEVAL CAMBRIDGE: RECENT FINDS AND EXCAVATIONS

P. V. ADDYMAN AND MARTIN BIDDLE

THIS paper describes rescue excavations and the recording of archaeological material on building sites in the city of Cambridge in 1958–61. New information is presented on the development of late Saxon Cambridge, on the evidence for early occupation within and beyond the King's Ditch, and on the build-up in level in Cambridge in the medieval and early modern period. A remarkable series of wicker-lined pits is described, together with the pottery of the eleventh to eighteenth centuries discovered during the excavations.

## INTRODUCTION

### *Circumstances of excavation and record*

Between 1958 and 1961 much redevelopment was undertaken in the centre of Cambridge, disturbing and destroying in the digging of new and deeper basements archaeological deposits of the medieval and post-medieval town. Commercial excavation on most of the development sites (Fig. 1) was watched during this period, and, although observation could only be carried on during the University terms, when the writers were in residence, much information was recorded. In addition it was possible to excavate in advance of building on one site, the Cambridge Central Telephone Exchange (Post Office Terrace), and a trial excavation was undertaken in the threatened Lion Yard area.

We wish to thank the College authorities, the site owners and the contractors who allowed us to undertake this work; the Cambridge University Museum of Archaeology and Ethnology for help in many ways; the Ministry of Public Building and Works for a grant towards the cost of the trial excavation in the Lion Yard area; Miss M. D. Cra'ster, Miss J. M. Palmer and Messrs L. H. Barfield, D. A. Roe and W. G. Simpson for placing their own observations of threatened sites at our disposal, and others who have helped, especially Dr G. H. S. Bushnell, Professor E. M. Jope, Mr L. Biek and Mr L. P. Morley. We are particularly grateful to those who have contributed specialist reports, which are acknowledged in the relevant parts of this paper.

### *Previous work*

Serious archaeological recording of the remains of medieval Cambridge revealed by building operations began with the work of Professor T. McKenny Hughes in the 1880's. The progress of this work has been discussed by Mr J. G. Hurst in these

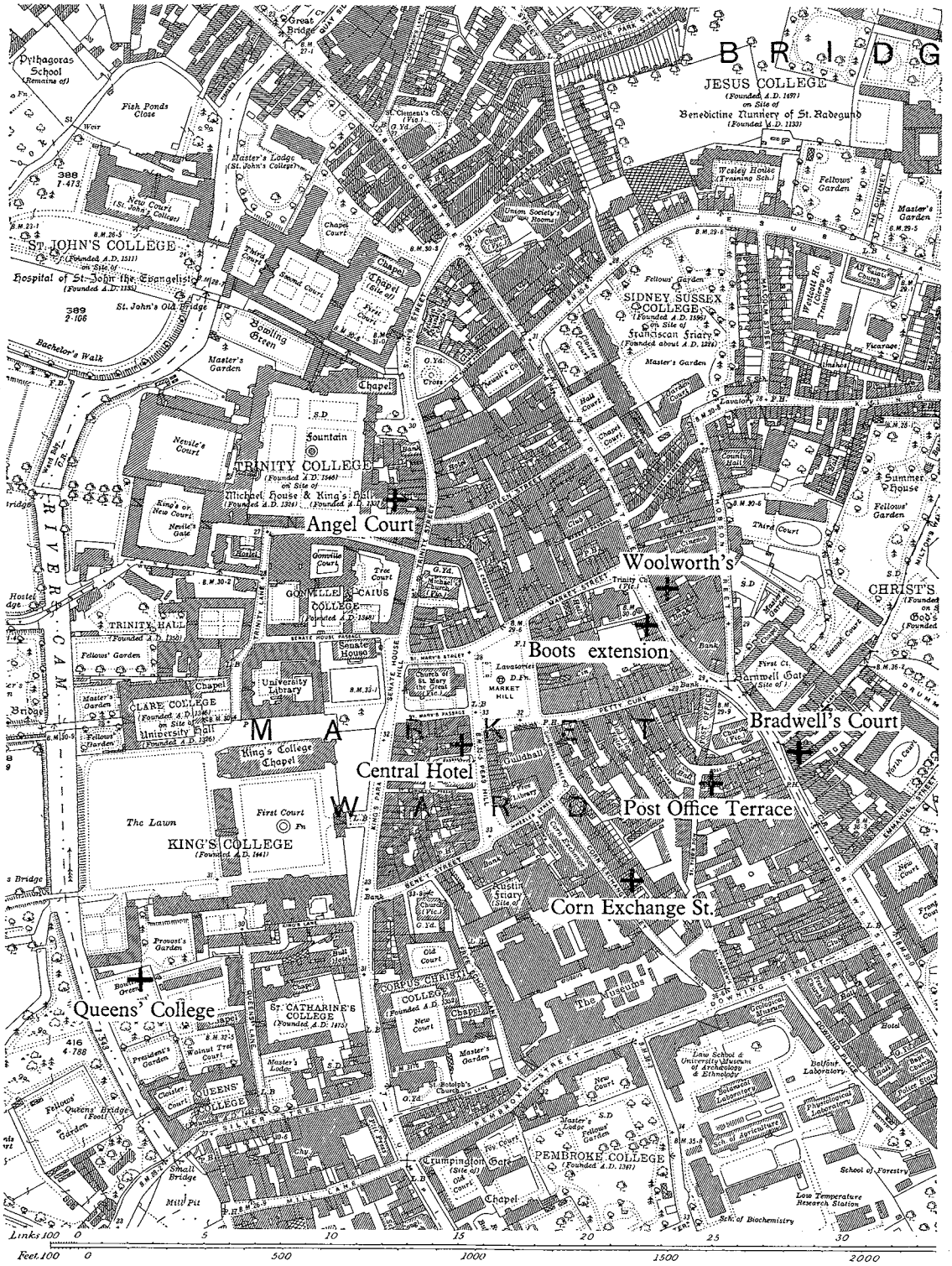



Fig. 1. Medieval sites in central Cambridge, 1958–61. (*Reduced from the Ordnance Survey 25 in. plan, Cambs.* XLVII. 2, *by permission of the Director General.*)

*Proceedings*,[1] where he emphasizes the small amount of recording done since Professor McKenny Hughes's work in the hey-day of late Victorian rebuilding. The work described in the present paper appears to come near the beginning of such another period of reconstruction. A large area behind the Union, between Round Church Street and Park Street, has recently been redeveloped with consequent deep excavation. In 1962–3 new public services were laid at great depth in Trumpington Street and Pembroke Street. In a few years the redevelopment of the largest single site ever to be rebuilt in the town in modern times—the Lion Yard—will destroy the archaeology of a large area within the King's Ditch. Its prior excavation on an adequate scale is imperative.

The progress of modern development in Cambridge will destroy more and more of the archaeology of the town. The constant observation and systematic recording of this work is necessary if any adequate picture of the development and topography of early medieval Cambridge is to be achieved. In very few English towns has this need been met, but the recording of medieval Oxford provides an example which Cambridge should follow.

## PART I: EXCAVATION AND OBSERVATION

### (1) *Angel Court, Trinity College*[2] (Fig. 2)

During excavations for the construction of the north and east sides of Angel Court, Trinity College, in 1958, three pits were excavated and a number of unassociated finds recovered.

Pit 1, which was about 3 ft. in diameter and 2 ft. 6 in. deep, was sealed by 5 ft. 6 in. of later accumulation. The pit was of rounded profile and the filling of grey clay merged into a more silty dark fill towards the bottom. The pit contained a group of St Neots and Thetford type pottery probably datable to the later eleventh or early twelfth century (p. 110).

Pit 2 was dug into the top of the thick level of dark accumulation sealing Pit 1, and itself cut Pit 3, which though containing no datable material was dug from the same level. The filling of Pit 2 consisted of alternate layers of mortary rubble and black soil. It contained tiles, plaster and other building rubble, together with a group of pottery and other objects datable to the first half of the seventeenth century (p. 116).

The thick dark accumulation which sealed Pit 1, and into which Pit 2 was cut, appeared to contain no features and very few finds. It consisted basically of gravel mixed with dark brown loam and occasional bones and charcoal, and it was homogeneous throughout its depth of over 5 ft. This type of level has been observed elsewhere in Cambridge and is discussed below (p. 100).

The unassociated finds, collected from the contractor's spoil-heaps, seem to fall

[1] *Proc. C.A.S.* XLIX (1956), pp. 49–50, see also p. 91 below.

[2] For the history of the site see *Angel Court*, a booklet prepared by Trinity on the occasion of the opening of the new court by the Queen Mother on 8 June 1960.

into three clearly defined groups, of the twelfth–thirteenth, fourteenth–fifteenth and sixteenth–eighteenth centuries respectively, which may have been derived from pits of these dates.

TRINITY COLLEGE: ANGEL COURT

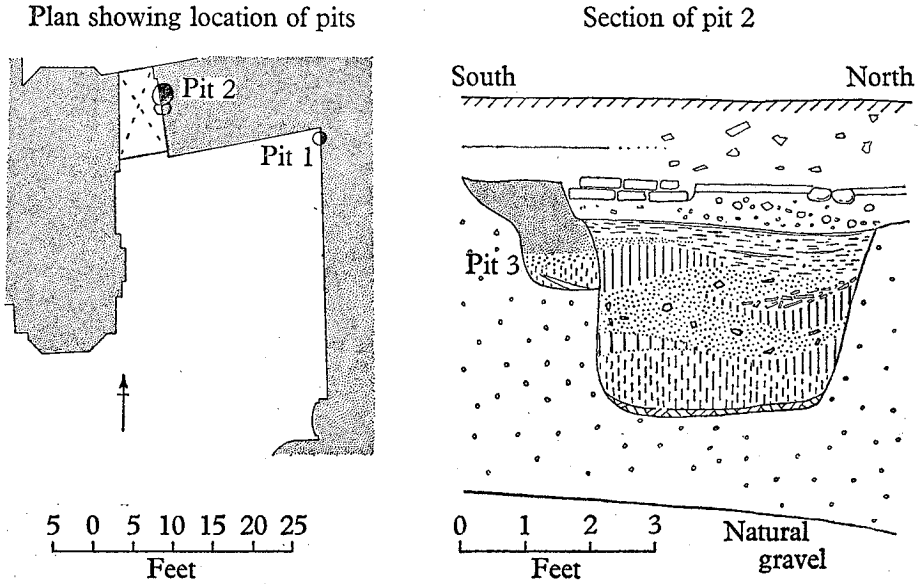



Fig. 2.

(2) *Corn Exchange Street* (Figs. 3 and 4; Pl. III)

In the summer of 1959 trial excavations were undertaken in the courtyard of nos. 14 and 15 Corn Exchange Street, to ascertain the nature of archaeological deposits likely to be destroyed in this area during the Lion Yard development scheme, which then seemed imminent. Public services and foundations limited the area available to a rectangle 10 ft. by 9 ft., which was excavated to a maximum depth of 14 ft.

Undisturbed gault lay at a depth of 10 ft. 9 in. and had been cut into by a broad shallow ditch running N.E.–S.W. across the trench (Fig. 3). The primary fill of mixed gravel and loam (Fig. 4, level 23) underlay a waterlogged layer of dark soil (level 22) containing a large amount of organic material. This included (Pl. III, B) planks, posts and wicker-work. Two of the posts had been driven into the natural gault and seemed to form part of a revetment of the south-east side of the ditch. The ditch had been filled in with a layer of clean blue clay (level 19), over 3 ft. thick, which sealed the underlying fill (Pl. III, A). The top of the clay was level, effectively obliterating the ditch.

The primary gravel fill was presumably derived from the natural gravel which here normally overlies the gault. The ditch would have been cut through the gravel and into the clay. The primary gravel fill was thus probably derived from higher up the sides of the ditch, the south-east edge of which was therefore not observed in this

narrow trench. The original width of the ditch may, however, be estimated at between 17 ft. and 20 ft. at the level of the top of the later clay filling.

The ditch is thus a major feature and it is interesting to note that it seems to run roughly parallel to the line of the King's Ditch somewhat to the south-east. The pottery from below the clay filling suggests that the ditch was open until at least the later thirteenth century.

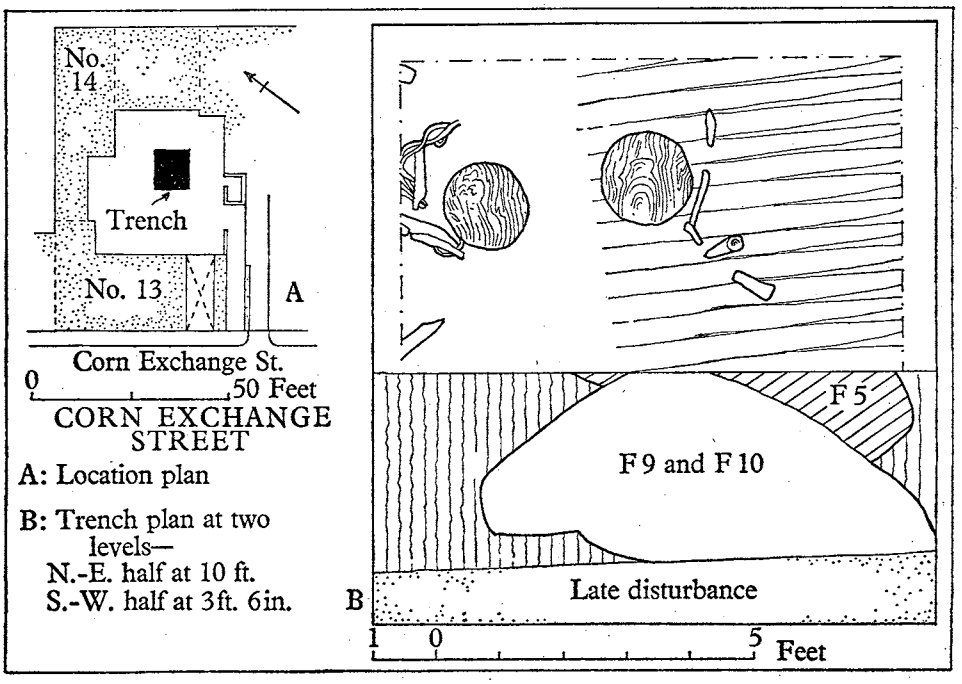



Fig. 3.

Overlying the filled-in ditch was a thick layer (level 17) of gravel and loam, increasing in fineness towards the top and covered by a layer (level 16) of fine garden soil. The pottery from the gravel and loam layer indicates a fourteenth-century date, while that from the garden soil seems to be of the sixteenth century.

Subsequently a number of pits (Pits 10, 11 and 13) were dug through the garden soil, which itself became overlain by an irregular level (15) of mixed earth, containing sixteenth-century and earlier pottery, presumably derived from the digging of these and other pits. Pits 10 and 13 contained sixteenth-century and possibly early seventeenth-century material and were themselves sealed by a white mortary layer through which a further three pits (Pits 5, 7 and 9)[1] and a post-hole (Feature 6) were cut. The latter, which may be as late as the eighteenth century, were in their turn sealed by a further level of garden soil, above which were two successive brick floors and other nineteenth-century features.

[1] In Fig. 3 the fillings of F9 and F10 are not differentiated.

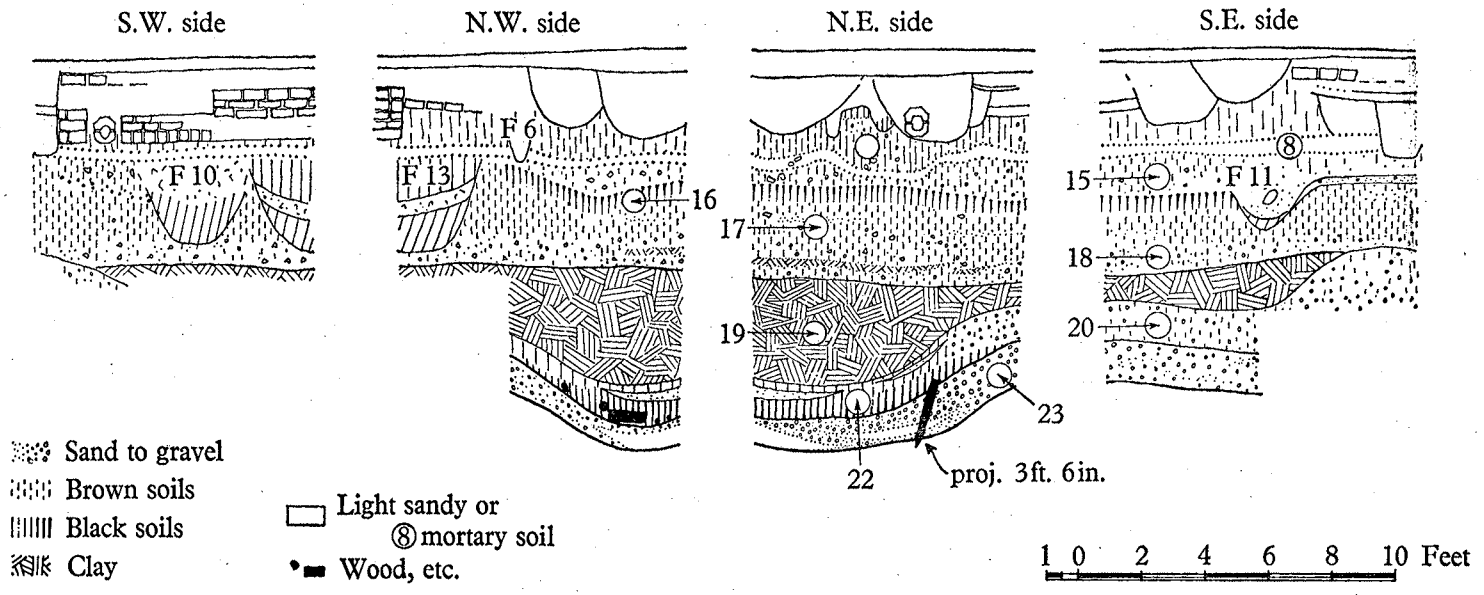



Fig. 4. Corn Exchange Street: sections.

The excavated evidence thus suggests that, since the filling of the early ditch, the area had remained open, perhaps as gardens behind the houses on Corn Exchange Street.

### (3) *Bradwell's Court* (Figs. 5 and 6)

During the spring and summer of 1959 construction work was in progress on Bradwell's Court, a new shopping arcade between Christ's Lane and Emmanuel New Court. A grid of square stanchion holes was dug over much of the site, and a number of drain trenches cut into the superficial levels. From these some unstratified pottery was recovered and a few pits and other features observed. A large basement had been dug on the south-eastern part of the site before archaeological watching began, and much of the rest of the site was only very imprecisely recorded.[1]

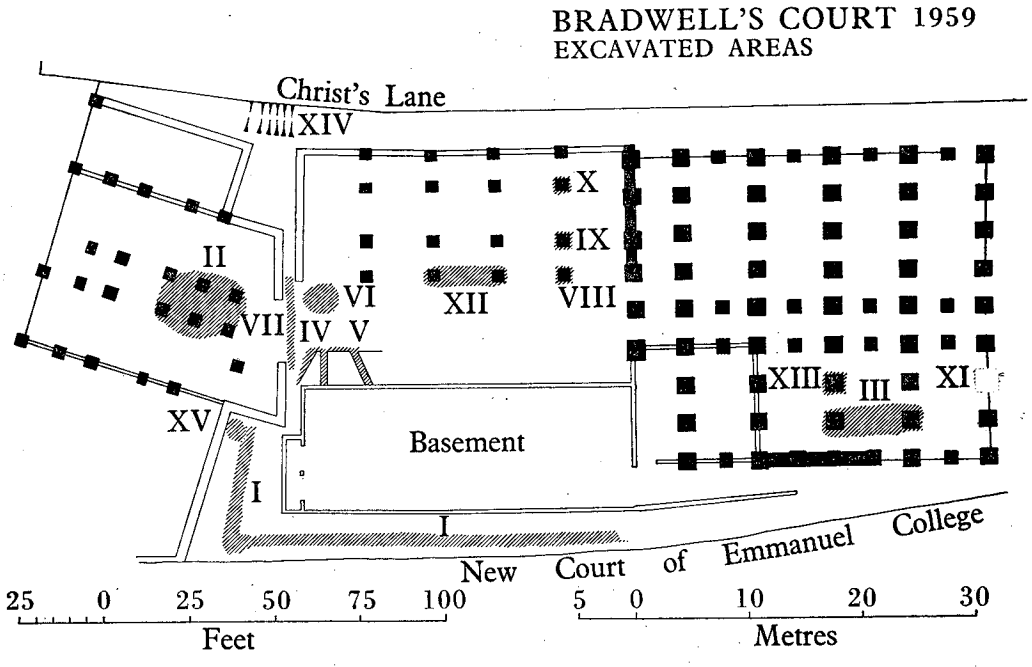



Fig. 5. The stanchion holes of the new buildings are shown in solid black, and the areas in which observations were made are hatched.

*Saxo-Norman*

A large hole (Area XIV) dug on the north side of the site against Christ's Lane revealed a broad shallow ditch about 10 ft. wide and 2 ft. 6 in. or more deep, running along the south side of Christ's Lane. It contained a few sherds of Saxo-Norman St Neots ware.

Approximately in the centre of the site a stanchion hole (Area VIII; see Fig. 6) showed a pit or ditch cut 2 ft. 9 in. into the natural gravel which here overlies the

[1] It should be noted that three sherds of Roman pottery were found in Area X.

gault. The filling of the feature was of mixed gravel and earth which contained some Saxo-Norman pottery, including both St Neots and Thetford wares and some other sandy ware.

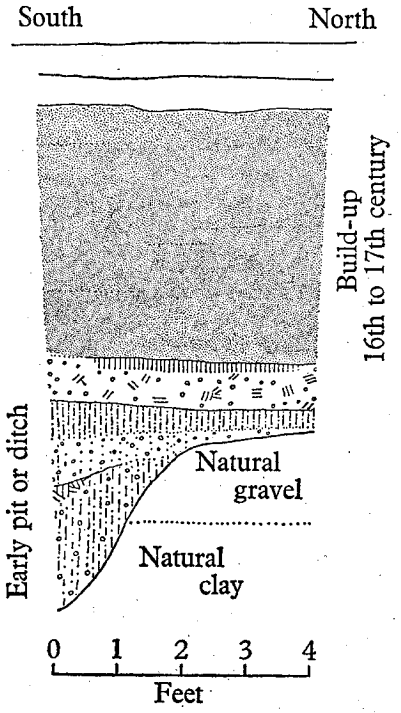



Fig. 6. Bradwell's Court: section of Area VIII.

*Thirteenth century*

In Area XII two pits were noted in two neighbouring stanchion holes. Pit 1 was circular, over 4 ft. in diameter, and had been cut from about 7 ft. below the modern surface to a total depth of 13 ft. 6 in. The pit was lined with wicker-work, some of which survived *in situ*. Similar wicker-lined pits were examined on the Post Office Terrace site (see below, p. 86), but at Bradwell's Court no construction pit was observed. The bottom of the pit was cut 4 ft. into the gault and was filled with water-logged black soil. The few sherds from the fill suggested a later thirteenth- or fourteenth-century date. There appeared to be a gully leading into this pit from the west, but this could have been an earlier feature.

Pit 2, west of Pit 1, was emptied by workmen and could not be properly examined. It contained part of a late thirteenth- or fourteenth-century pitcher of Oxford style (p. 113).

*Late medieval build-up*

In all the areas observed, a depth of up to 7 ft. of dark brown or black mixed gravel and loam covered a former soil line (Areas III, VIII (Fig. 6) and IX), earlier features or the undisturbed gravel. In Area II this build-up was sealed by a burnt level of

the second half of the seventeenth century (see below) and in Areas IV and V Pits 4 and 5 of the same period were cut into its top. The build-up itself contained pottery of the sixteenth and seventeenth centuries: in Area I, where the build-up was 4 ft. to 5 ft. in depth, a sherd of sixteenth-century stoneware was found 1 ft. 6 in. from its bottom, and in Area III a black tyg with straight sides and grooves was found almost on the old soil line, while a penny of Henry VI of 1427–30 was also found at some depth in this area.

These indications suggest that on the Bradwell's Court site a considerable build-up in level took place after the end of the medieval period and largely before the seventeenth century. The buildings of St Nicholas Hostel are shown on the site on Richard Lyne's plan of 1574, but by 1589 the Hostel had been demolished and its materials used for the construction of Emmanuel.[1] It may thus be that the build-up is in part due to the clearance of the area in the late sixteenth century. Immediately to the north a depth of only 2 ft. was noted along the St Andrew's Street frontage in 1895,[2] but to the south along the north edge of Downing Street, at its junction with St Andrew's Street, the ground appeared to have been raised some 5 or 6 ft. quite recently,[3] and to judge from the pottery in or after the seventeenth century.

*Seventeenth-century house and pits*

In Area II an 8 in. thick level of burnt debris and brick possibly indicated the site of a burnt-out brick house. This burnt level lay directly on top of the build-up already described, and the pottery and pipes it contained suggested a date of *c.* 1650–1700 for the occupation of the house.

In Area XV a circular pit (Pit 3) containing some late seventeenth-century pottery was cut into the underlying build-up.

In Areas IV and V two pits were cut into the top of the earlier build-up and sealed by tightly packed chalk rubble, part of the make-up for an eighteenth- or nineteenth-century brick building. Pit 4 had been lined with at least seven courses of brick which on the north side were underpinned by further courses of flint. This feature, which was perhaps a cess-pit, contained a group of pottery of the second half of the seventeenth century (Fig. 18). Pit 5, to the east of Pit 4, was filled with very loose rubble and contained a group of pottery similar to that from Pit 4 (Fig. 18).

*St Andrew's Street*

A sewer trench cut across St Andrew's Street, west of Bradwell's Court, showed an earlier road-surface of cobbles and smaller stones, with a ditch, perhaps a road-ditch, on its east side. Earlier than the road and ditch was a larger but undated cutting, perhaps also a ditch running along the side of an earlier street.

[1] *City of Cambridge* (R.C.H.M., 1959), I, p. 62*a*.
[2] *Proc. C.A.S.* XI (1903–6), p. 408.
[3] *Ibid.* p. 425.

### (4) *Sidney Street* (Figs. 7 and 8)

In 1959 during the construction of an extension for Boots Chemists, immediately south of Holy Trinity Church, a large area was totally excavated by machine deep into the natural gravel, which here seemed thicker than normal. At the same time observations were also made during the construction of a southwards extension for Woolworth's on the east side of Sidney Street.

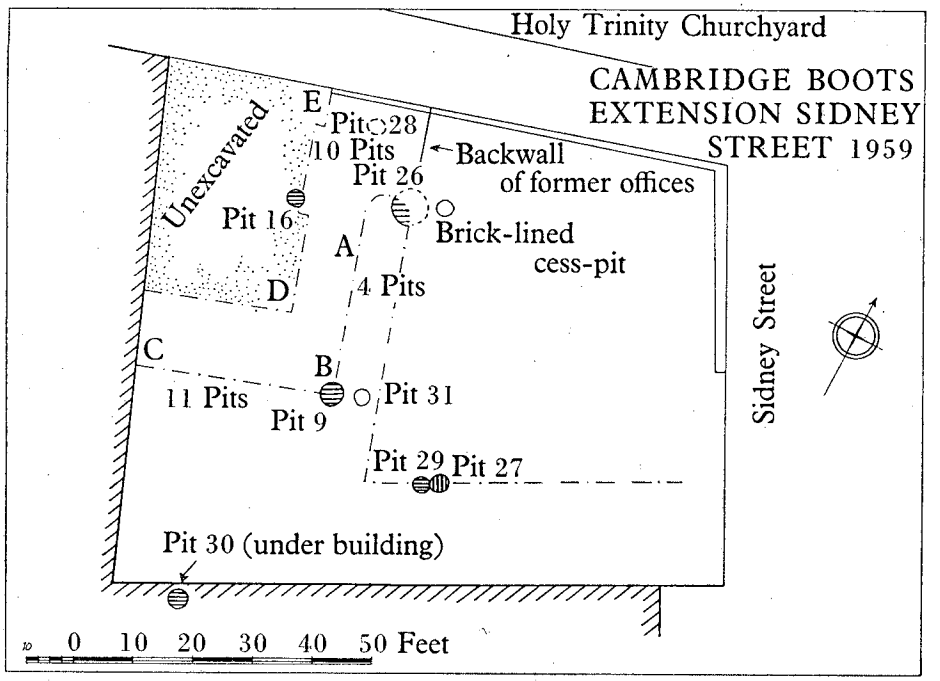



Fig. 7.

BOOTS EXTENSION

*Saxo-Norman pits*

Four pits (Pits 26, 27, 29 and 31), all circular and about 4 ft. in diameter, were found cutting into the gravel and proved on partial excavation to contain Saxo-Norman pottery (Fig. 14), animal bones and other finds. The alternating fills of gravel and black soil, together with the domestic debris, suggest that they were rubbish pits. Further finds of Saxo-Norman pottery were recovered elsewhere on the site during the contractor's excavation.

*Medieval and post-medieval build-up*

The mechanics of the medieval and post-medieval build-up in this part of Cambridge were clearly demonstrated in the extended section A–B–C (Fig. 8), observed in the contractor's excavation of the site. Of the fifteen intercutting pits, most were

undated; they were overlain by two levels of garden soil, to a total depth of 3 ft., containing post-medieval material. In section D–E (not illustrated) these upper levels were in turn cut by a late seventeenth- to early eighteenth-century pit (Pit 16). The sequence of events may be tabulated as follows:

| | |
|---|---|
| Phase 1 | Pits 3, 6, 11, 14 and 15 |
| Phase 2 | Pit 1 |
| Phase 3 | Pits 2, 7 and 12 |
| Phase 4 | Pit 4 |
| Phase 5 | Pits 5, 8, 9 and 10 |
| Phase 4 or 5 | Pit 13 |
| Phase 6 | Lower garden soil |
| Phase 7 | Upper garden soil |
| Phase 8 | Pits 16 and 17 (section D–E) |
| Phase 9 | Nineteenth-century features and modern concrete |

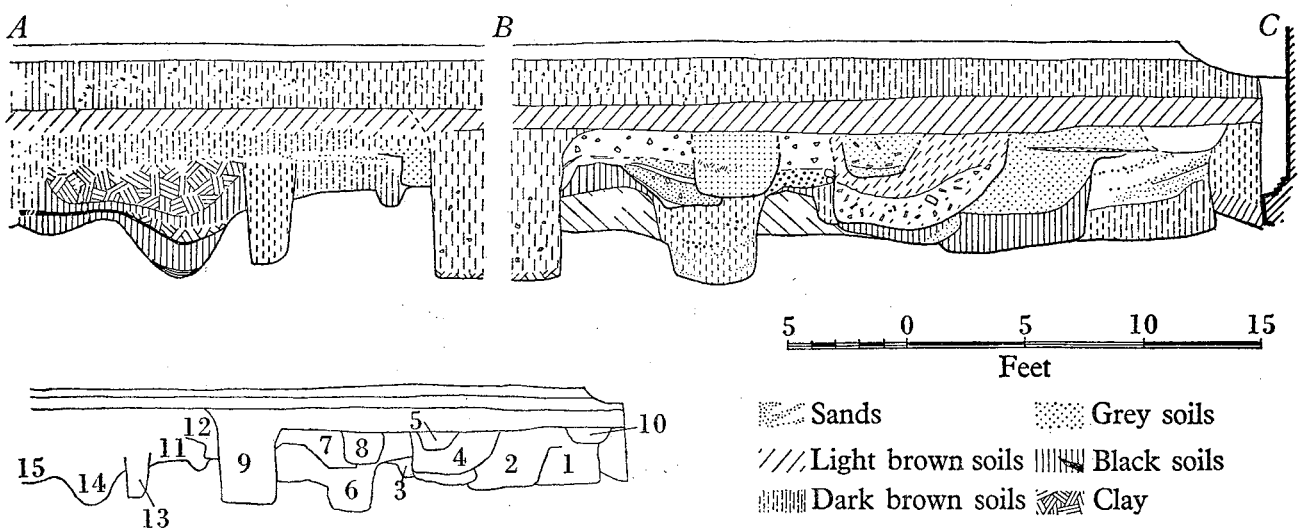



Fig. 8. Boots Extension, Sidney Street: sections A–B and B–C.

A few sherds from Pit 14 suggest a fourteenth-century date and others from Pit 9 were late fifteenth or early sixteenth century. Other than these and the late seventeenth- to early eighteenth-century material (Fig. 19) from Pit 16, there was no dating material from the section. Most of the pit digging seems thus to have taken place between the fourteenth and sixteenth centuries, while the subsequent garden levels had already formed when Pit 16 was dug into them in the late seventeenth or early eighteenth century.

This section shows that pits have been repeatedly dug and refilled with rubbish and other introduced material, and suggests that the build-up in level over the natural gravel is here due to this process: spoil from digging the pits was presumably not removed from the area, but was simply dumped around, while the pits themselves

were filled with fresh material introduced from elsewhere. The lower garden soil presumably represents cultivation of the upper part of this build-up, but the upper garden soil seems to have been introduced from outside.

WOOLWORTH'S EXTENSION

These extensions involved excavation in three limited areas. About 30 ft. back from the street frontage, a deep trench revealed at a depth of about 8 ft. a thick deposit of peat containing a large number of flints, some fire-crackled, and a sherd of twelfth- to thirteenth-century pottery. A layer of sand covering this peat was probably deposited in slow-flowing water, and a ditch is perhaps indicated.

In a deep trench at the rear of the site in Woolworth's pre-existing storehouse, about 30 ft. west of Hobson Street, a layer of dirty clay over 3 ft. thick was observed at a depth of 9 ft. The clay was covered with a filling, 8 ft. to 9 ft. thick, of bricks and other rubble. This trench would be approximately on the line of the ditch (Hunnybunn's Ditch) noted in earlier investigations[1] within the line of the King's Ditch.

(5) *Post Office Terrace* (Figs. 9 and 10; Pls. IV, V, A)

The sites of four nineteenth-century properties on the south side of Post Office Terrace, immediately east of the junction with St Tibb's Row, became available for excavation in 1959 in advance of the building of the new Cambridge Central Telephone Exchange. The buildings had been demolished some years previously and work was confined to the cellars. These had removed about 7 ft. of medieval and later accumulation, including in most places the upper part of the underlying gravel. A number of truncated pits, wells and gullies survived and were excavated (Fig. 9). Although not all the cellars were examined, no trace was seen of any north–south feature which might have been part of the King's Ditch which is known to pass close by the site, probably to the west on the line of St Tibb's Row.[2]

Several of the cellars contained a sequence of intercutting pits and other features, but these rarely contained datable material and seemed thus of little significance: their nature can be seen from the plan, Fig. 9. A few pits, however, were of interest either on account of their construction or of their contents.

Feature 2 contained a few sherds of eleventh- to twelfth-century date, but these must be residual, for the pits and gullies in the easternmost cellar, some cut by feature 2, are of the twelfth century or later. The remaining pits on the site were later, as far as can be judged from the pottery, which is described in detail below, pp. 107 ff. Features 3, 14, 18[3] and 24 appeared to be of late eleventh- to twelfth-century date; features 5, 19 and 28, twelfth or early thirteenth century; features 6 and 20, thirteenth century; feature 1, late thirteenth century; features 12 and 27, fourteenth to fifteenth century; and features 23 and 25 of the late fifteenth or more probably early sixteenth century.

[1] *Proc. C.A.S.* VIII (1891–4), pp. 263–6.

[2] See, e.g., Richard Lyne's plan of Cambridge, 1574; and John Hamond's of 1592.

[3] Feature 18 also contained two sherds possibly of Roman date.

Feature 1 was the only square pit observed on the site. It was set within a larger pit, feature 7, which had probably been dug to facilitate the construction of a wooden lining, decaying traces of which were noted in excavation. The upper filling consisted of alternate layers of sticky clay and brown granular material containing decayed wood; these levels, which must represent an intentional filling of the pit, sealed a layer of dark silty material.

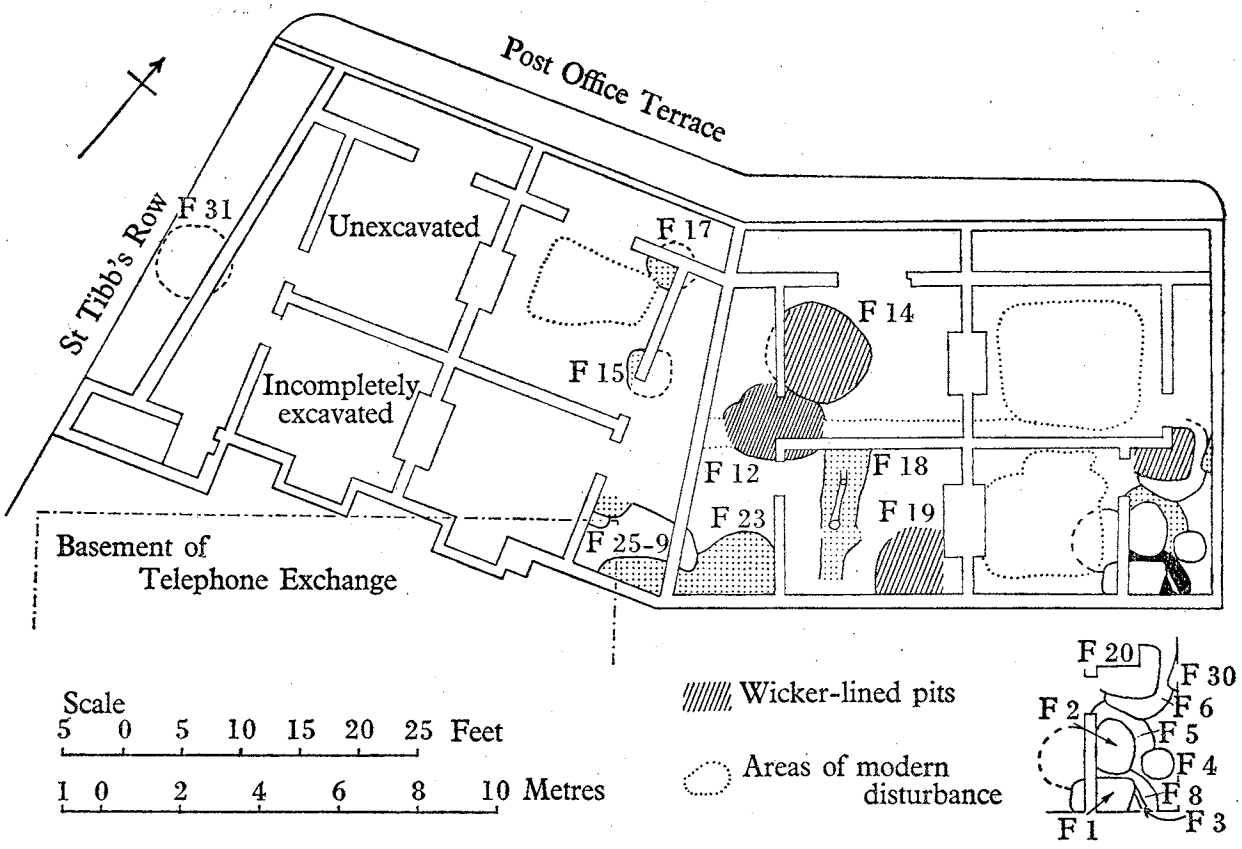



Fig. 9. Post Office Terrace, Central Telephone Exchange: plan of excavations in 1959–60.

Four other features consisted of circular funnel-shaped pits each containing a central wicker-lined shaft which had been preserved in good condition below the water-table (Fig. 10; Pls. IV, V, A). In each case the space between the wicker lining and the sides of the pit was back-filled after the lining had been inserted. In the case of feature 14 this wicker-work was reinforced by two horizontal oak planks (Pl. IV, B); and in feature 20 two re-used timbers served the same purpose. Each of these pits had been dug through the gravel to the underlying Blue Gault clay. The central shafts varied in diameter from 1 ft. 6 in. to 3 ft.

The vertical members of the wicker linings were sharpened stakes driven into the gault (Pl. IV, D). The horizontal members appeared to have been woven round the

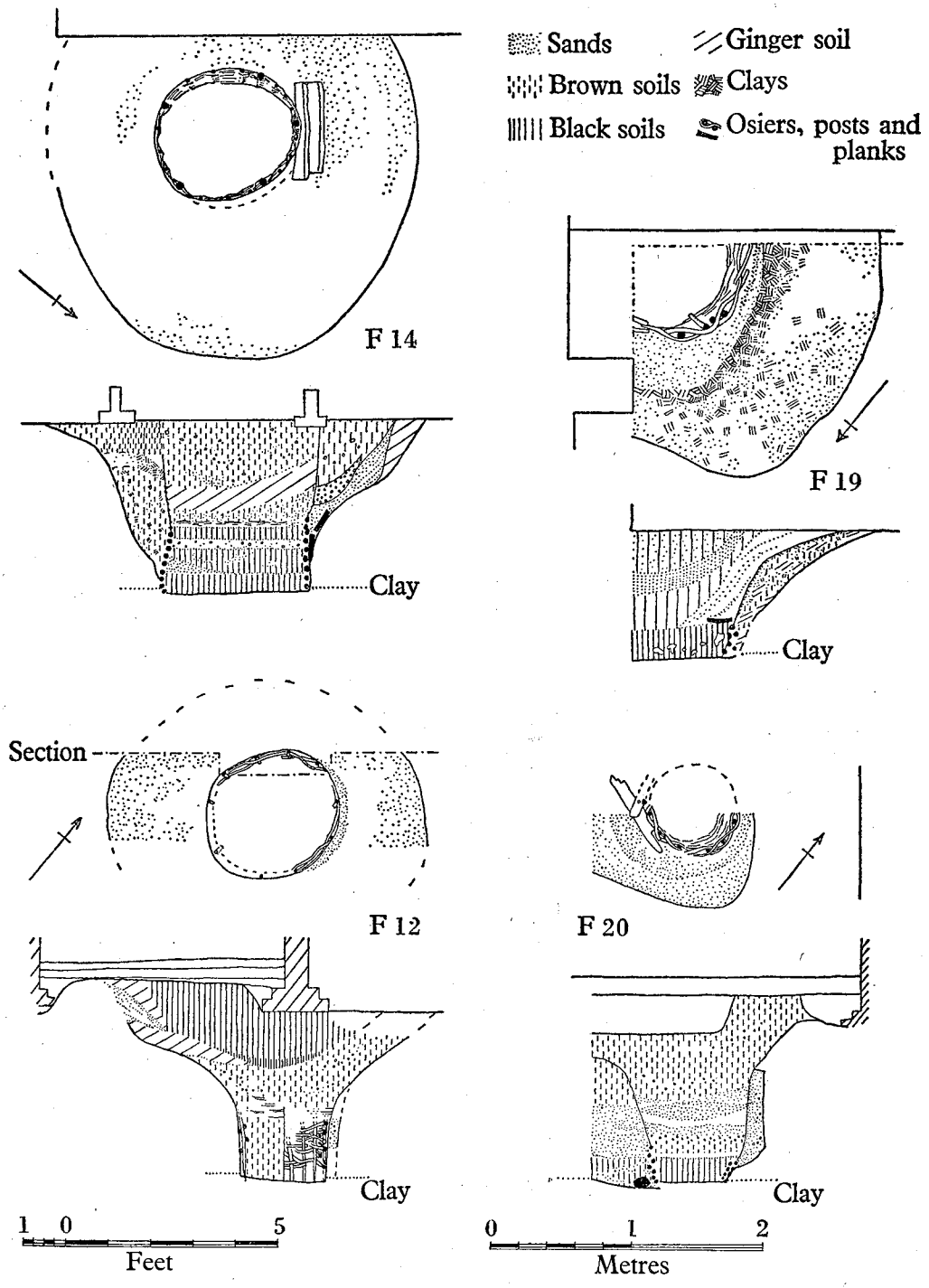



Fig. 10. Post Office Terrace: plans and sections of wicker-lined pits.

stakes *in situ*, and at least in the case of feature 14 the weaving was finely and cleanly executed (Pl. IV, A, C). Identification of the construction materials proved difficult, but both vertical and horizontal members were probably crab-apple.[1] In feature 19 the filling of the construction shaft had been faced with clay shown in the plan of this feature, Fig. 10.

These pits seem to date from the late eleventh–twelfth century through the fourteenth century, while a similar pit on the Bradwell's Court site appeared to be of late thirteenth–fourteenth-century date (above, p. 81).

That these pits had some special function is indicated by the care taken in their construction. The primary purpose of the wicker lining was to hold up unstable sides and preserve an open shaft, for an unlined pit dug in the gravel would soon collapse. A secondary function of the lining may have been to allow easy seepage into or out of the pit. If this is so, there seems little doubt that the structures were intended as wells, and, although an alternative interpretation as cess-pits is possible, there was no positive evidence for this. The filling of the shafts appeared to be partly domestic rubbish and partly collapse from the sides, rather than sewage. The latter interpretation would, however, seem possible for the square feature 1 with its very different and clearly intentional fill.

Wicker-lined pits are known in the British Isles from the Late Bronze Age[2] onwards, though they do not always have the function, as apparently here in wells, of holding back gravel sides but allowing easy percolation of water. Examples which do seem to have this function have been found from the medieval period in London,[3] and the type is also known on the continent.[4]

During the construction of the Telephone Exchange a large part of the area behind these four houses was excavated by machine down to the level of the gault: a number of thirteenth- and fourteenth-century pits were observed in the sides of the contractor's excavation.

### (6) *Queens' College* (Fig. 11)

During the excavation in 1958–60 of trial pits and stanchion holes for the new building, burials and wall footings were recorded. Below the east end of the old wall put up by King's College in 1551,[5] now the north wall of the Fellows' Garden, was found a broader footing of which 20 ft. was recorded with a right-angled return to the south at its east end. This footing went down for 12 ft. below the 1551 wall.

[1] We are indebted to Dr A. G. Smith, Botany Department, Queen's University of Belfast, and Mr J. Dickson, Botany School, Cambridge, for these identifications and those on p. 124, below.

[2] Bronze Age: Ballinderry Crannog no. 2: *Proc. Roy. Irish Ac.* XLVII. C (1942), pl. V. Saxon: Sutton Courtenay: *Archaeologia*, XCII (1947), p. 81; Maxey: *Med. Arch.* VIII (1964), p. 40, fig. 10; Winchester: Cathedral Car Park, 1961.

[3] R. L. S. Bruce-Mitford (ed.), *Recent Archaeological Excavations in Britain* (1956), p. 119 and pls. XXII(*b*), XXIV(*a*).

[4] Lund, Sweden: R. Blomqvist and A. W. Mårtensson, *Thulegrävningen* 1961 (Arch. Lundensia, II, 1963), pp. 126–35, figs. 110, 111; A. W. Mårtensson 'Wells and their contents from the early middle ages in Lund', *Medd. från Lunds Universitets Historiska Museum* (1962–3), pp. 216–19, fig. 7.

[5] *City of Cambridge* (R.C.H.M., 1959), II, p. 178.

Further to the south were three parallel clunch footings, each 6 ft. wide and 10 ft. apart and going down 17 ft. Three or four burials were found 10 ft. south of the 1551 wall and another to the west of its southward return. A further burial was noted just to the north-west of the three parallel footings.

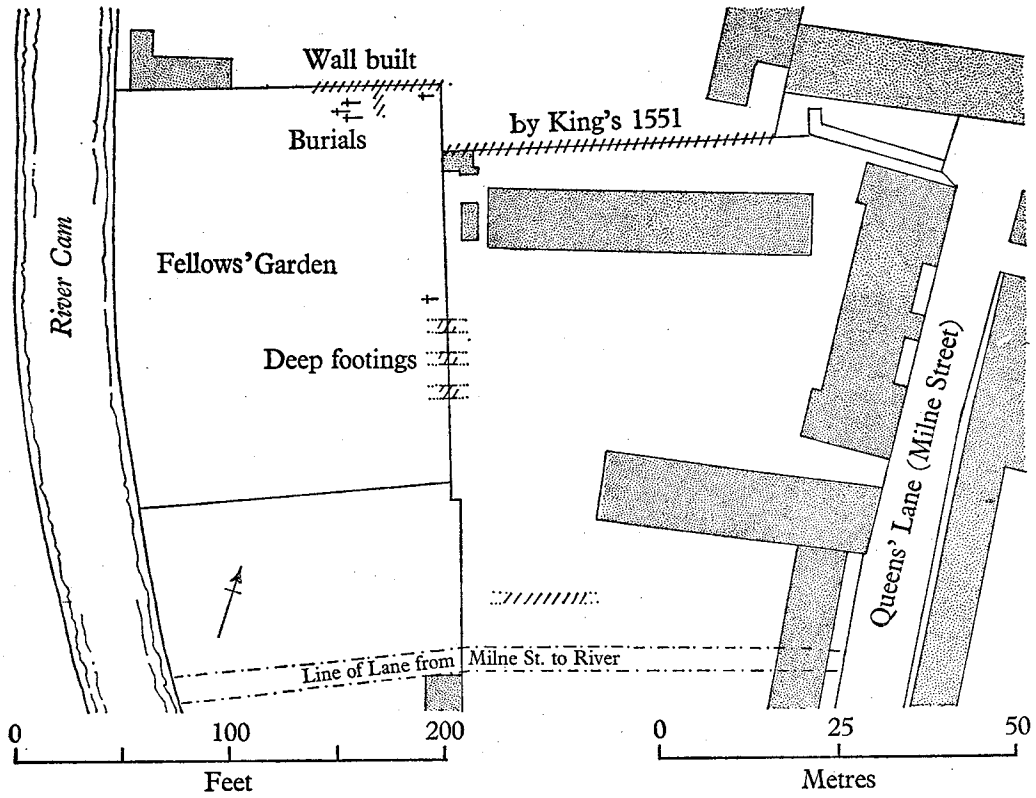



Fig. 11. Queens' College: plan of the area of the Carmelite Friary showing footings and burials found in the Fellows' Garden, 1958–60. Early walls and footings are hatched.

This area seems to have been the site of the Carmelite Friary established in *c.* 1292. The wall running east–west north of Friar's Building has been identified as the north wall of the friary church,[1] and the structures recorded in 1958–60 are thus likely to be part of the friary. The fragment below the King's wall of 1551 appears to have been west of the church, while the three footings to the south may have been part of the conventual buildings. The burials appear to have been west and south-west of the church.

### (7) *Central Hotel*

Excavations for the basement of the new King's hostel on the site of the Central Hotel, Peas Hill, in 1961 revealed medieval walls on the line of the south-west and north-east ranges of the eighteenth-century hotel.[2] During demolition a sixteenth-

[1] *Ibid.* p. 178.

[2] *Ibid.* p. 327.

or seventeenth-century timber-framed gable-end wall with combed pargetting was also observed standing to its full height on the line of the south wall of the north-east range. It is clear from this evidence that the brick front of 1727 concealed an almost complete earlier timber-framed house, quite probably on medieval foundations. Excavations along the north side of St Edward's Passage cut through four or five different gravel levels at a depth of from 3 ft. to 6 ft., presumably earlier metallings of the Passage. Elsewhere late Saxon and medieval pits were observed, but not excavated, although unstratified material, including a considerable quantity of Saxo-Norman pottery, was recovered.

## PART II: DISCUSSION

### (1) *Late Saxon Cambridge* (Figs. 12 and 13)

In 1933 Miss Helen Cam read to the Cambridge Antiquarian Society a paper that is a milestone in the study of urban archaeology in this country. Her paper, 'The Origin of the Borough of Cambridge: a Consideration of Professor Carl Stephenson's Theories',[1] made use, as never before, of a combination of documentary, topographical and archaeological evidence and was illustrated when published by two maps. Map 1, 'The archaeology of pre-Norman Cambridge', was essentially Sir Cyril Fox's map of the settlements and burials of the Pagan Saxon period as first published in 1923.[2] Map 2, 'Churches, ditches and watercourses', included, significantly,[3] finds of pottery made by Professor McKenny Hughes in 1891–1910 and thought to be of the Anglo-Saxon period.[4]

At the end of her paper Miss Cam indicated the directions which further work on the early history of Cambridge might take:

(1) Investigation of the date at which the castle was taken out of the borough and attributed to Chesterton parish.

(2) A search for some more exact evidence as to the dates of the foundation of the churches in cispontine (i.e. east of the Cam) Cambridge.

(3) A re-investigation of evidence bearing on the old town ditches.

(4) 'Above all', a closer dating of the pottery found in the ditches.

'I fear', she wrote, 'that only along the last line is there much hope of new knowledge.'

Even at the time she was writing that new knowledge was being obtained by Mr C. F. Tebbutt and Mr T. C. Lethbridge, but not until more than twenty years

[1] *Proc. C.A.S.* xxxv (1933–4), pp. 33–53; reprinted in H. M. Cam, *Liberties and Communities in Medieval England* (1944).

[2] Cyril Fox, *The Archaeology of the Cambridge Region* (1923), map G.

[3] This is the earliest example known to the writers of a map designed to illuminate English medieval urban origins using all the available evidence, documentary, topographical and archaeological. It was followed in 1935 by the maps in R. E. M. Wheeler, *London and the Saxons*, but its possibilities were not fully exploited until the appearance in 1952 of E. M. Jope's maps of Norwich (*Norfolk Arch.* xxx (1952), p. 290, fig. 1) and Oxford (*Oxon.* xvii/xviii (1952–3), pp. 106–11, fig. 39), followed by D. M. Waterman's maps of York in 1959 (*Arch.* xcvii (1959), pp. 61–70, figs. 2–4).

[4] Owing to the work of Sir Cyril Fox, *P.P.S.E.A.* iv (1922–4), pp. 227–31.

after Miss Cam's paper was understanding of the Saxo-Norman pottery of East Anglia clarified by Mr J. G. Hurst in his three fundamental papers in these Proceedings.[1]

The other lines of inquiry suggested by Miss Cam have not been followed up, nor has there been any new research into the origins of Cambridge during the last thirty years.[2] In common with most other medieval English towns, though with far less excuse, the urban archaeology of Cambridge has been allowed to perish. As early as 1907 Professor McKenny Hughes pointed out the 'great importance' of recording archaeological evidence from building sites[3] and between 1880 and 1914 he watched about forty sites. In the forty years between then and Mr Hurst's work only about ten sites were watched and nothing about them published, except for two medieval jugs.[4] Mr Hurst's papers, and our map (Fig. 12), are firmly based upon McKenny Hughes's work. Without him neither of them could have been undertaken. Yet since his time, and still today, there is no organization and no systematic recording of the urban archaeology of Cambridge. Every site that is destroyed unwatched or unexcavated means that less will be known of the history of the city. Even if this pattern of neglect is true of most towns in England, there is no excuse whatever for it in Cambridge and steps should be taken at once to ensure that all future sites are watched, recorded and published.

In this situation the map (Fig. 12) attempts to present the evidence for eleventh-century Cambridge as so far known. There are many difficulties and uncertainties, in particular in the dates of churches, and in the pottery finds, which, although now certainly of the Saxo-Norman period, range in date between 850 and 1150.[5] To this extent the map is a palimpsest on which the activity of some 300 years has been drawn. In addition the immediate impact of the Norman Conquest on Saxon Cambridge is shown by the castle. Yet the attempt has seemed worth making: the form of the early area enclosed by the Cam and the King's and Cambridge ditches emerges; the importance of the southern settlement in relation to that north of the river is clearly demonstrated; and the extent of Saxo-Norman occupation west to the Cam and northwards even across the so-called green belt[6] to the Great Bridge, together with the beginnings of the suburbs outside the Trumpington and Barnwell Gates, are revealed. In the case of the suburbs there is now evidence for occupation at this period outside the line of the King's Ditch on the Bradwell's Court and Post Office Terrace sites. Until Saxo-Norman pottery can be dated more closely within the period 850–1150, and until the date of the King's Ditch is certainly established (see below, p. 93), it is not clear whether these finds represent areas of early occupation truncated by cutting a later ditch, or whether, as perhaps seems more likely, they result from later expansion beyond the line of an early ditch. Documentary evidence

[1] *Proc. C.A.S.* XLIX (1956), pp. 43–70; L (1957), pp. 29–60; LI (1958), pp. 37–65.

[2] The accounts in *V.C.H. Cambridge*, III (1959), and *City of Cambridge* (R.C.H.M. 1959), represent summaries of previous work rather than new research.

[3] *Proc. C.A.S.* XI (1903–6), p. 424.

[4] *Ibid.* XLIX (1956), p. 49.

[5] *Ibid.* LI (1958), pp. 62–3.

[6] *City of Cambridge* (R.C.H.M. 1959), I, p. xliv; A. Gray, *The Dual Origin of the Town of Cambridge* (1908), pp. 1–2.

shows that the suburb outside the Barnwell Gate was in existence throughout the thirteenth century.[1] Archaeological evidence from the Bradwell's Court and Post Office Terrace sites now shows that there must have already been a suburb here by the late eleventh century (pp. 80, 85).

## THE MAP OF LATE SAXON CAMBRIDGE: EVIDENCE AND DISCUSSION (Fig. 12)

The map has been compiled on similar lines to those of Norwich and Oxford published by Professor E. M. Jope.[2] All the evidence of occupation, both archaeological and documentary, which can be precisely located, has been mapped.

### *The physical background*

The contours have been taken from the Ordnance Survey 6 in. (50 ft. and 20 ft.) and 2½ in. (25 ft.) sheets; form lines (30 ft., 40 ft., 60 ft.) have been interpolated from the O.S. 25 in. plans (1926–7 edition). Within the area of the map the superficial geological deposits are mainly lower and intermediate terrace gravels, with the exception of the area of the Castle Hill which is a chalk and gault outcrop, and the alluvium which borders the Cam.[3]

The changes in the course of the Cam at Cambridge are of vital importance to an understanding of the form of the early town (see below, p. 98). The probable course shown here is that accepted by the Royal Commission and originally proposed by A. Gray, who suggested that the change to the present course took place after the erection of the mills above the Small Bridges.[4]

### *Roman Cambridge*

The most recent survey of the evidence for the Roman settlement on Castle Hill, with a plan of the defences and references to earlier literature, is that given by the Royal Commission.[5] The Roman roads approaching the site are also described there[6], and further details are taken from the Ordnance Survey *Map of Roman Britain* (3rd ed. 1956).

### *Bridges*

The Great Bridge, which gave Cambridge its name, was in existence at least by 875, in which year the name Cambridge first occurs in the Anglo-Saxon Chronicle.[7]

[1] H. P. Stokes, *Outside the Barnwell Gate* (C.A.S., 8vo. Publ. no. 47, 1915), pp. 9–14; *V.C.H. Cambs.* III, p. 110.

[2] See n. 3 on p. 90, above.

[3] H. C. Darby (ed.), *A Scientific Survey of the Cambridge District* (British Assoc. 1938), pp. 162–4; *City of Cambridge* (R.C.H.M. 1959), I, plans on p. xlvii for the boundaries of the alluvium.

[4] *Ibid.* p. xlvii, plan of 1280; A. Gray, 'On the Watercourse called Cambridge in Relation to the River Cam and Cambridge Castle', *Proc. C.A.S.* IX (1894–8), pp. 71, 74–7; A. Gray, *The Dual Origin of the Town of Cambridge* (1908), pp. 18–21, fig. between pp. 22 and 23.

[5] *City of Cambridge* (R.C.H.M. 1959), I, pp. xxxvi–xxxix, 4–8, fig. p. 5.

[6] *Ibid.* pp. 4–6.

[7] A. Gray, 'The Ford and Bridge of Cambridge', *Proc. C.A.S.* XIV (1909–10), pp. 126–39; *V.C.H. Cambridge*, III (1959), p. 2, n. 8, p. 114.

The small bridges at the south end of the town lie in St Botolph's parish, which here includes ground on both sides of the river. This is in itself remarkable, but the parish also drew tithes from the western fields and it is clear that connections across the river at this point are of early, and perhaps pre-conquest, origin. The bridges themselves are thus possibly of early date.[1]

*The King's and Cambridge Ditches*

The course[2] of the King's Ditch has been shown on this map since the available evidence seems to indicate that it is of pre-conquest origin.[3] This conclusion appears to be supported if the King's Ditch is considered in relation to the Cambridge Ditch[4] north of the river. The latter was described in 1278 as 'vetus fossatum', but it appears to have been still navigable as far as St Giles Church during or even at the end of the thirteenth century.[5] The area enclosed by this ditch was, however, called Aermeswerch,[6] and this Saxon description suggests a Saxon origin for the ditch.[7] As the map shows, the Cambridge and King's Ditches are clearly related by their mutual point of junction with the Cam; and the suggested Saxon origin of the Cambridge Ditch supports, if their contemporaneity is accepted,[8] a pre-conquest origin for the King's Ditch.

[1] *Ibid.* pp. 114, 127; A. W. Goodman, *A Little History of St Botolph's, Cambridge* (1922), pp. 12, 49–55.

[2] For the course of the ditch see J. W. Clark and A. Gray, *Old Plans of Cambridge* (1921); for excavations on its line see *Proc. C.A.S.* VIII (1891–94), pp. 32–55, 255–82; IX (1894–8), pp. 370–84; XIX (1914–15), pp. 16–27.

[3] The conclusion of *City of Cambridge* (R.C.H.M. 1959), II, pp. 306–7.

[4] A. Gray, 'On the Water Course called Cambridge', *Proc. C.A.S.* IX (1894–8), pp. 61–77; *City of Cambridge* (R.C.H.M. 1959), II, p. 307. It should be noted that the two streams shown by F. G. Walker converging on the western angle of the Cambridge Ditch (*Proc. C.A.S.* XV (1910–11), pp. 190–1) are entirely conjectural and that the course of the Cam as suggested on Figs. 12 and 13 renders them unnecessary (*pace* Miss Cam, *Proc. C.A.S.* XXXV (1933–4), p. 42, map 2). The stream discovered by Walker (*op. cit.* pp. 185–6, 189–90), running from the north corner of the Cambridge Ditch, is undatable on the evidence of his report as the finds are not fully described, but it was probably medieval and is shown in outline on Fig. 12.

[5] The *Liber Memorandum Ecclesie de Bernewelle* (ed. J. W. Clark, 1907), pp. 98–9, states that about Edward I's time a very aged palmer-pilgrim said that he had seen ships come almost up to the door of St Giles Church. This is not necessarily valid evidence for supposing that the Cambridge Ditch was navigable at the *beginning* of the thirteenth century (*City of Cambridge* (R.C.H.M. 1959), II, p. 307) since it probably refers to the carriage of stone for Edward I's works on the castle in 1284–98 (H.M. Colvin (ed.), *The History of the King's Works* (1963), II, p. 587). *Pace* Miss Cam (*Proc. C.A.S.* XXXV (1933–4), p. 39), W. M. Palmer was uncertain whether the *ripam de Caunt* to which this stone was brought was the main stream of the Cam, or the Cambridge watercourse (*Proc. C.A.S.* XXVI (1923–4), p. 83).

[6] A. Gray, *The Dual Origin of the Town of Cambridge* (1908), pp. 10, 15.

[7] *Ibid.* p. 15. Gray's dating of the Cambridge Ditch to the seventh century (*ibid.*) is unsupported by any archaeological evidence and, since the ditch was still in use in the thirteenth century, seems unlikely. His ascription of the St John's Ditch to the eighth century (*ibid.* pp. 20–3) is likewise conjectural: the discovery in the ditch of human bones derived from All Saints' Churchyard shows that the ditch was still open well after the foundation of that church, which is first mentioned *c.* 1077–93.

[8] As conjectured in *City of Cambridge* (R.C.H.M. 1959), II, p. 307. The fact that the Cambridge Ditch was also called 'le Kynges ditch' in 1592 is possibly evidence that at least as late as the sixteenth century the ditches north and south of the river were regarded as essentially the same feature.

*Gates*

Although the building of gates is referred to in 1267, Miss Cam has shown[1] on documentary evidence that gates existed well before that date and possibly as early as the twelfth century. If the pre-conquest date of the King's Ditch is accepted, the pre-conquest origin of the gates must also be postulated.

*Mills*

Three mills are shown on the map on the evidence of Domesday Book as interpreted by H. P. Stokes and Miss Cam:[2] the King's and Bishop's mills are thought to represent the sites of one of Picot's mills and the Abbot of Ely's mill respectively, while Newnham mill is equated with Count Alan's. The site of another of Picot's three mills has been lost without trace, but the third may have been near the Milne Lane which is recorded north of the river in St Peter's parish in the fifteenth century.[3]

*Castle*

The evidence for the site and form of Cambridge Castle has been reviewed on several occasions;[4] the form of the original motte and bailey castle erected in 1068 is outlined on the map from the Ordnance Survey 25 in. plan (ed. of 1926), combined with information from the plans in the *Victoria County History* (p. 117) and Royal Commission (p. 306) volumes.

KEY TO THE SITES AND FINDS NUMBERED ON THE MAP (Fig. 12)

*Churches*

Churches shown on the map have been included if there is documentary evidence (including conjecturally early dedications) or archaeological evidence (structural or associated early carved stonework) for a pre-conquest or at least later eleventh-century origin. References are to the most recent accounts of the churches in *V.C.H. Cambridge*, III (1959), pp. 123–32.

1. St Mary the Less: documentary evidence for probable pre-Domesday origin (p. 131), supported by fragments of late Saxon grave slabs with interlaced carving (*City of Cambridge* (R.C.H.M. 1959), II, pp. 280, 283; C. Fox in *Proc. C.A.S.* XXIII (1920–1), p. 21, pl. VI, 9, 10).

2. All Saints in the Jewry: first mentioned 1077–93 (p. 124).

3. St George: only known from the fact that its graveyard was given for the site of Holy Sepulchre between 1114 and 1130 (p. 124).

4. St Andrew the Great: probably the church belonging to Ely lying in the fourth Domesday ward of the Borough (p. 125), although this might be St Botolph's (*City of Cambridge* (R.C.H.M. 1959), I, p. xlii). The earliest stonework known from St Andrew is of the early twelfth century (*ibid.* pp. 260–1).

[1] *Proc. C.A.S.* XXXV (1933–4), pp. 50–1. [2] *Ibid.* pp. 46–7; XIV (1909–10), pp. 180–233.

[3] A. Gray, *The Dual Origin of the Town of Cambridge* (1908), p. 13.

[4] See now H. M. Colvin (ed.), *The History of the King's Works* (1963), II, pp. 583–8; *V.C.H. Cambridge*, III (1959), pp. 116–18; *City of Cambridge* (R.C.H.M. 1959), II, pp. 304–6.

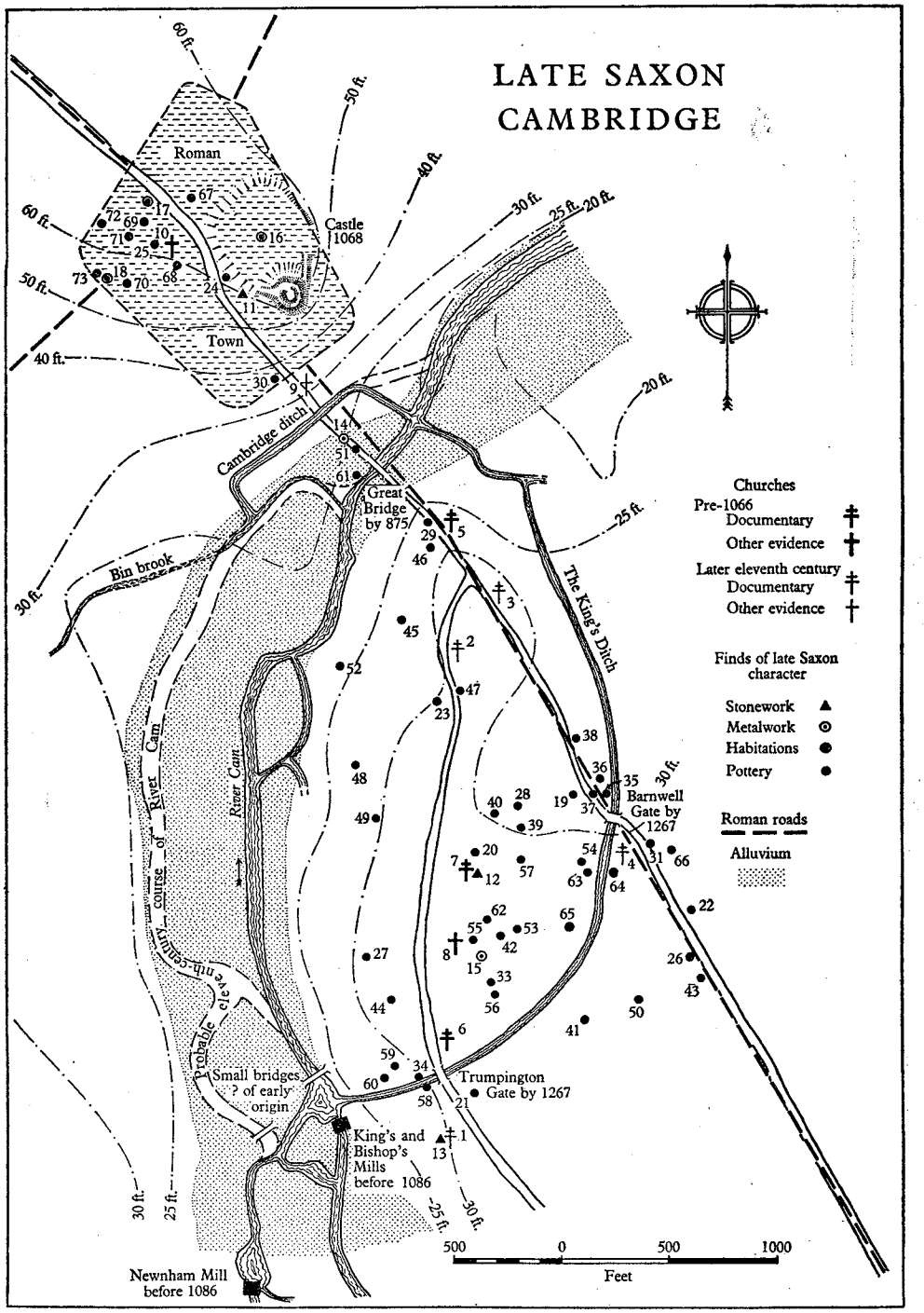

LATE SAXON
CAMBRIDGE
Roman
Town
Castle
1068
Cambridge ditch
Great
Bridge
by 875
Bin brook
River Cam
Old course of River Cam
Probable early course of Hobson's Conduit
The King's Ditch
Barnwell
Gate by
1267
Trumpington
Gate by 1267
Small bridges
? of early
origin
King's and
Bishop's
Mills
before 1086
Newnham Mill
before 1086
60 ft.
50 ft.
40 ft.
30 ft.
25 ft.
20 ft.
Churches
Pre-1066
Documentary
Other evidence
Later eleventh century
Documentary
Other evidence
Finds of late Saxon
character
Stonework
Metalwork
Habitations
Pottery
Roman roads
Alluvium
500 0 500 1000
Feet

Fig. 12.

5. St Clement: a dedication suggesting Danish influence (p. 127).

6. St Botolph: a dedication conjecturally of the late tenth or early eleventh century (p. 127).

7. St Edward: the dedication suggests a Saxon origin which is supported by the discovery of a Saxon coffin slab (p. 128).

8. St Bene't: chancel, nave and west tower perhaps 'early in the second quarter of the eleventh century' (*City of Cambridge* (R.C.H.M. 1959), II, pp. 263–6). See also H. M. and J. Taylor, *Anglo-Saxon Architecture* (1965) I, pp. 129–32.

9. St Giles: traditionally founded 1092, possibly structurally earlier (p. 129), but assigned by the Royal Commission to late eleventh century (*City of Cambridge* (R.C.H.M. 1959), II, p. 274). See also H. M. and J. Taylor, *Anglo-Saxon Architecture* (1965), I, pp. 132–4.

10. All Saints by the Castle: either this church or another destroyed by the castle in 1068 must be of pre-conquest origin if associated with the pre-conquest carved grave-slabs and cross-head found in 1810 on the south-east side of the gatehouse (p. 123 and C. Fox in *Proc. C.A.S.* XXIII (1920–1), pp. 15–45). All Saints is placed 650 ft. north-west of the castle gate on the map on p. 117 of the *Victoria County History* volume, but Dr John Alexander's[1] excavations of the Phoenix Gardens site in 1962–3 have shown that this is not the case. Dr Alexander informs us that a concentration of burials was found in 1910 just north of the W.V.S. club. This seems to be the most probable site of the church and is so marked on Fig. 12, but more than 40 disturbed burials were found in two fourteenth-century pits on the Gloucester Terrace site in 1961. This latter site and the site of the 1810 discovery of the pre-conquest carvings are distant from the 1910 site 250 ft. to north-east and south-east respectively, so that the site of All Saints is not yet clearly fixed. It should be noted, however, that St Giles has been suggested as the church with which the pre-conquest cemetery below the castle bank should be associated: *City of Cambridge* (R.C.H.M. 1959), I, p. lxvii.

*Pre-conquest stone carvings*

11. Cambridge Castle: grave-slabs and cross-head of *c.* 1000; see no. 10, above.

12. St Edward: Saxon grave-slab; see no. 7, above.

13. St Mary the Less: late Saxon grave slabs; see no. 1, above.

*Pre-conquest metalwork*

14. Magdalene Street: late Saxon disc brooch: University Museum of Archaeology and Ethnology, Z. 14969.[2]

15. Free School Lane: penny of Æthelred II (979–1016): P. Grierson, *Sylloge of Coins of the British Isles: Fitzwilliam Museum, Cambridge*, Part I, Ancient British and Anglo-Saxon Coins, no. 662.[3]

*Habitation sites*

16. Cambridge Castle: 27 houses destroyed in the construction of the castle in 1068 (*V.C.H. Cambridge*, I (1939), p. 359). In 1956 a ditch 4 ft. wide and 2 ft. deep with St Neots and Thetford

[1] We are especially grateful to Dr Alexander for providing us with full details of the late Saxon finds from his important excavations of 1956–64 on Castle Hill: see nos. 16–18, 24–5, 67–73 below. An account of his earlier finds has appeared in the *Arch. News Letter* (March 1964), and a fuller account will shortly appear in *History Today* in advance of his final publication.

[2] We are grateful to Mr David Wilson for confirming that this is the only find of late Saxon metalwork known to him from Cambridge.

[3] See also no. 17 below. We are grateful to Mrs J. S. Martin via Mr R. H. M. Dolley for the information that there are no other Anglo-Saxon coins known to her with a detailed Cambridge provenance; and to Mr Graham Pollard for confirming that no coins with a detailed Cambridge provenance have been added to the Fitzwilliam collections since 1957.

sherds (see no. 24) was found below the bailey bank: it may be associated with the houses destroyed in 1068 (J. Alexander, 1956).

17. Phoenix Gardens (1962): pit with 2 Danish coins (905–15) and St Neots sherds: ditch of two periods with St Neots sherds (J. Alexander, 1962).

18. Storey's Paddock: debris of a burnt hut with a concentration of St Neots sherds (J. Alexander, 1958).

*Saxo-Norman Pottery*[1]

In this section references to Mr J. G. Hurst's papers in these *Proceedings* (see n. 1 on p. 91, above) are given as Hurst 1956, 1957 and 1958; St Neots, Thetford and Stamford ware are shown by StN, T and S respectively.

19. Sidney Street, Boots Extension: StN, T, S; this paper, pp. 83, 107.
20. Central Hotel: T, S; this paper, p. 89.
21. Pembroke: StN; in University Museum of Archaeology and Ethnology.
22. St Andrew's Street, National Provincial Bank: StN; in University Museum of Archaeology and Ethnology.
23. Trinity, Angel Court: StN, T; this paper, pp. 76, 110.
24. Castle Street, Law Courts: StN, T; Hurst 1957, 56; J. Alexander, 1956.
25. Shelley Row North: T; J. Alexander, 1957.
26. Bird Bolt: StN, T; Hurst 1956, 54, 58; 1957, 52, 55.
27. King's Lane East: StN, T, S; Hurst 1956, 54, 62; 1957, 58; 1958, 42.
28. Market Hill (1902): StN, T; Hurst 1956, 54; 1957, 59.
29. Bridge Street: StN, T; Hurst 1956, 59; 1957, 56.
30. Castle End: StN, T; Hurst 1956, 59; 1957, 56.
31. Christ's College Library: StN, T, S; Hurst 1956, 59; 1957, 53; 1958, 42.
32. Eden Yard:[2] StN, S; Hurst 1956, 60; 1958, 42.
33. Free School Lane (1895): StN; Hurst 1956, 61.
34. Mill Lane North: StN, T; Hurst 1956, 61; 1957, 58.
35. Fosters Bank: StN, T; Hurst 1956, 62; 1957, 58.
36. Hunnybunn's Ditch: StN, T; Hurst 1956, 62; 1957, 52, 58.
37. Millers: StN; Hurst 1956, 62.
38. Hawkin's: StN; Hurst 1956, 62; 1957, 58.
39. Market Hill (1905): StN, T; Hurst 1956, 63; 1957, 46.
40. Market Place: StN, T; Hurst 1956, 63; 1957, 52.
41. Museum of Archaeology: StN, T; Hurst 1956, 63; 1957, 52.
42. New Schools: StN; Hurst 1956, 63.
43. 33 St Andrew's Street: StN; Hurst 1956, 63.
44. St Catherine's College: StN, T; Hurst 1956, 63; 1957, 59.
45. St John's College Kitchens: StN; Hurst 1956, 63.
46. St John's College New Court: StN, T; Hurst 1956, 63; 1957, 59.
47. 20 Trinity Street: StN; Hurst 1956, 63.
48. Trinity Hall: StN, T, S; Hurst 1956, 63; 1957, 52, 59; 1958, 42.
49. Arts School: T; Hurst 1957, 51, 55.

[1] Some of these sites have been difficult to locate and have involved considerable research, but detailed references to this are not given, their position on the map seeming sufficient.

[2] It has not been possible to locate this site: we are grateful to Mr E. Cave, City Librarian, for help in this matter.

50. Museum of Geology: T; Hurst 1957, 52.
51. Magdalene Street: T; Hurst 1957, 52.
52. Trinity College (1892): T; Hurst 1957, 52, 59.
53. Examination School: T; Hurst 1957, 56.
54. Falcon Yard (1906): T; Hurst 1957, 56.
55. Free School Lane (1907): T; Hurst 1957, 56.
56. Free School Lane (1912): T; Hurst 1957, 56.
57. Hallack and Bond: T; Hurst 1957, 56.
58. Mill Lane South: T; Hurst 1957, 58.
59. Silver Street South: T; Hurst 1957, 58.
60. University Press: T; Hurst 1957, 59.
61. Magdalene College, Benson Court: S; Hurst 1958, 42.
62. Mortlock's Bank: S; Hurst 1958, 42.
63. Falcon Yard (1897): StN; Hurst 1956, 54, 60.
64. Post Office Terrace: StN, T, S; this paper, pp. 85, 107.
65. Corn Exchange Street: StN, T; this paper, p. 77.
66. Bradwell's Court: StN, T; this paper, p. 80.
67. Gloucester Terrace: StN, T; J. Alexander, 1961.
68. Shelley Row South: Saxo-Norman; J. Alexander, 1957.
69. Phonix Gardens (1963): StN; J. Alexander, 1963.
70. Albion Row: Saxo-Norman; J. Alexander, 1964.
71. Storey's Almshouses: Saxo-Norman; J. Alexander, 1964.
72. Storey's Orchard: StN, T; J. Alexander, 1959.
73. Mount Pleasant: Saxo-Norman; J. Alexander, 1964.

## THE EARLY DEVELOPMENT OF CAMBRIDGE: CONCLUSIONS (Figs. 12 and 13)

'We must look for the "late Saxon" settlement at Cambridge. . . on the right bank of the Cam.'[1] We may fairly claim that it is now revealed (Fig. 13, C). The King's Ditch, the old course of the Cam and the Cambridge Ditch can now be seen, on the evidence given above, p. 93, and in Fig. 12, to form a logical whole: a bridgehead[2] on the west bank and an area on the east bank containing the approaches to the bridge, the gravel terraces best suited for habitation, water meadows and access to the river. The relative unimportance of the settlement west of the river is clear;[3]

[1] T. C. Lethbridge in *V.C.H. Cambridge*, I (1939), p. 329.

[2] Until further excavation has taken place it is impossible to say whether the early ditches were intended as defensive works, or only as a customs barrier (*V.C.H. Cambridge*, III (1959), p. 3). If the King's Ditch can now be accepted as Saxon, one may wonder whether Maitland's interpretation of the old name of Pembroke Street, *Landgrythes Lane*, as marking the limits of the *burh grith*, and thus the southern boundary of the Saxon town may not be upheld, in spite of Reaney's preference for the derivation from a 'long stream' (*ibid.* for further references).

[3] *City of Cambridge* (R.C.H.M. 1959), I, p. xli; *Med. Arch.* V (1961), p. 322. Dr John Alexander informs us that late Saxon pits and ditches seem to be concentrated along the Huntingdon Road/Castle Street line, with some isolated finds on the western slope of the hill. The spots to the west of Castle Street on Fig. 12 are more an indication of the extent of Dr Alexander's excavations than a true picture of the spread and density of late Saxon occupation, for he has been able to dig some 120 trenches here in the last nine years, compared with the small amount of excavation elsewhere in Cambridge. Considering the amount of excavation the evidence of late Saxon occupation is in fact relatively slight and fully in agreement with the description of 'suburb' used here.

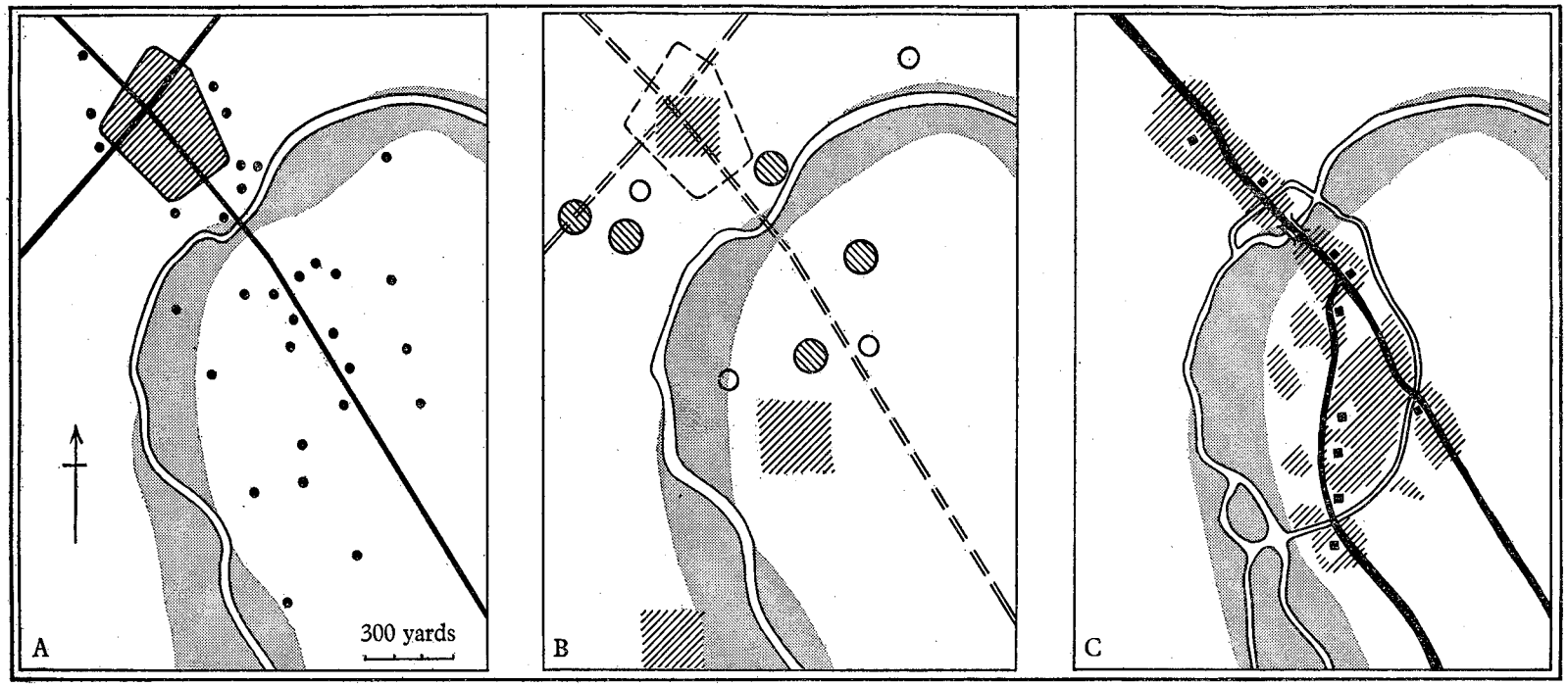



Fig. 13. The early development of Cambridge. (A: after R.C.H.M. (1959); B: after Fox (1923); C: see Fig. 12.) The Cam is shown in its suggested early course. The alluvium is stippled.

although there were at least 54 houses there in 1086, this is only about one eighth of the total number of houses then recorded in Cambridge.[1] By the eleventh century Cambridge west of the river was only a suburb, even if an important one, of the main town on the east bank.

We may still believe in the 'dual origin' of Cambridge, but it now appears as only a stage in a gradual shift of emphasis from the west to the east banks (Fig. 13). The defended area, the focus, of the Roman settlement was on the west bank with only scattered finds east of the river. By the end of the pagan Saxon period the dual character of the settlement of Cambridge, both west and east of the Cam, can be clearly seen in the pagan cemeteries. The period from the mid-seventh to the late ninth centuries is, however, still obscure,[2] but by the eleventh century the shift of emphasis to the east bank is complete. The critical moment in this process came with the laying out of ditched boundaries on the line of the King's and Cambridge Ditches, possibly after Edward the Elder's reconquest of the area in 921.[3] From that moment the pattern of the future development of Cambridge was assured and has persisted to the present day.

### (2) *The superficial deposits under Cambridge: a consideration of the theories of Professor McKenny Hughes*

Thick deposits of brown or black gravelly loam have in the past been noted wherever excavation has taken place in Cambridge. Similar deposits were observed in 1958–61 at Angel Court, Trinity; Corn Exchange Street; Bradwell's Court; and Sidney Street, Boots Extension. At Angel Court, Trinity, and Bradwell's Court these deposits seemed to be more or less featureless, but both in Sidney Street and in Corn Exchange Street they were seen to be the result of the repeated digging and filling of pits. The levels of garden soil on both sites seem to represent pauses in this process.

Nowhere do these build-up levels seem to be earlier than the twelfth century. In Corn Exchange Street they post-date a late thirteenth-century ditch and contain in their lower part late medieval and their upper part early modern sherds. In Sidney Street the build-up proceeded from the fourteenth century to the early sixteenth century and was followed after an interval by a deliberate make-up of garden soil. At Bradwell's Court, however, sixteenth-century pottery occurred near the base of the build-up, which was completed by the first part of the seventeenth century. The late date for the build-up at Bradwell's Court suggests that there this material represents an intentional raising of the ground (above, p. 82), and the

[1] *V.C.H. Cambridge*, I (1939), p. 359. Bridge ward may have lain on both sides of the Cam or to one side only, but this is uncertain and the calculation is thus approximate. Nevertheless it gives an idea of the relative magnitude of the two areas of settlement.

[2] The lack of finds from settlements of this and the preceding pagan period is remarkable. This is yet another reason for keeping the closest possible watch on all building sites in Cambridge.

[3] A parallel is provided by Æthelflæd's construction of a *burh* at Tamworth in 913: this, it now seems, can be identified in a great bank and ditch which probably enclosed the whole of the Anglo-Saxon town (F. T. Wainwright in *Approaches to History* (ed. H. P. R. Finberg, 1962), pp. 210–11) and which, incidentally, was known during the Middle Ages as the King's Ditch.

occasional horizontal levels which were observed in the otherwise featureless deposit (Fig. 6) are consistent with this suggestion.

Neither the mechanism of pit digging and filling nor deliberate dumping seem to have been responsible for the deposit at Trinity, which appeared to be quite homogeneous. The explanation of this deposit is thus at present obscure, yet it is likely to be relevant to the interpretation of the 'made ground' which, it is said,[1] was taken into use for the laying out of Milne Street, the church of St John Zachary, and the associated domestic quarter in the thirteenth century.

In 1906, in a classic paper 'On the Superficial Deposits under Cambridge',[2] Professor McKenny Hughes put forward the suggestion that 'sites were assigned to the monastic and scholastic institutions on the [western] outskirts which were only suitable for building purposes after the ground had been raised by carting immense quantities of rubbish on to it' (p. 423). The main points in his argument are (1) that there were few if any earlier houses on the sites of the western colleges (pp. 393, 399); and (2) that nevertheless large quantities of household rubbish are found whenever excavations are made in this area. On this basis he argues that the ground had been artificially raised and levelled (p. 393) and that this had been done by using the area over a period of time as a rubbish dump (pp. 395, 397). In support of this contention he offers 'proofs' (pp. 400, 414–20) in the form of his observations of 'made ground' (not further described) on the sites of Trinity Hall, King's College and Mill Lane.

The suggestion that the dumping of town rubbish was deliberately used to level up the sites for monastic and college buildings, thus accounting for the depth of disturbed ground seen in the area, has been generally accepted,[3] in spite of the obvious difficulties in the argument. These must now be discussed, but it must first be made clear that there are two distinct processes involved. It is well known that certain sites were levelled up as a deliberate act of construction prior to the erection of buildings: the library of Trinity College is a case in point (p. 414). Neither McKenny Hughes's paper of 1906, nor the present paper, is concerned with these deliberate acts of civil engineering,[4] but rather with the mechanism that has led to the existence of the thick layers of dark earth, up to 7 ft. in depth, which have been observed both on the sites of the western colleges and in most other areas of central Cambridge.

McKenny Hughes had two reasons for supposing that there had been few if any houses on the sites of the western colleges. First, their 'foundations are hardly ever found within the walls of our colleges' (p. 393); in other words, no traces of houses had been archaeologically observed. Since timber structures and robbed walls would not have been recognized as such in his time, and since actual houses need only be expected on the frontages of the medieval streets, leaving much of the area unbuilt upon, this argument does not seem to have much force. Second, on his interpretation of Willis and Clark's *Architectural History*, McKenny Hughes believed that the

[1] *City of Cambridge* (R.C.H.M. 1959), I, pp. xliv–xlv.

[2] *Proc. C.A.S.* XI (1903–6), pp. 393–423, esp. 393–400, 414–23. The page numbers in parentheses that follow in the text are references to this article.

[3] *City of Cambridge* (R.C.H.M. 1959), I, p. xlv; A. Gray, *The Town of Cambridge, a History* (1925), p. 19.

[4] See, for example, A. Gray, *The Dual Origin of the Town of Cambridge* (1908), p. 19.

absence of houses was confirmed by the documentary evidence (p. 399). It now appears, however, that this view was mistaken. In a recent survey of the topographical development of Cambridge,[1] the church of St John Zachary (first mentioned at the beginning of the thirteenth century) is seen as serving the area which had developed, perhaps in the twelfth century,[2] along the line of Milne Street (now represented by Queens' Lane and Trinity Hall Lane; see Figs. 1 and 11). Prior to the foundation of the various colleges the northern end of this street was occupied by a quarter of well-to-do houses that had grown up in the course of the twelfth and thirteenth centuries,[3] while the central and southern part was occupied by smaller properties.[4] The extent of the domestic occupation along Milne Street about 1280 and its subsequent piecemeal incorporation into religious and collegiate properties is clearly demonstrated in two sketch plans published by the Royal Commission.[5]

It thus becomes clear that the area west of High Street was never the open waste land that McKenny Hughes pictured (p. 395) and that its piecemeal development was such that no general levelling up such as he imagined can have taken place. Individual sites may have been levelled up for specific buildings as an engineering operation,[6] but the idea of a vast town dump[7] deliberately raising the level of the ground for some concerted development must be abandoned on chronological and topographical grounds. The explanation of the great depth of 'made ground' must be sought elsewhere.

It seems probable that McKenny Hughes failed to interpret correctly the nature of the 'made ground' which he saw, and that it was not the result of dumping, but rather had grown through the constant digging and filling of pits, the earth from which, spread around the site, gradually raised the level of the ground. This is exactly the process that has been demonstrated on the Boots Extension site in Sidney Street (p. 83, above; Fig. 8), and it implies that McKenny Hughes failed to observe in the sections he saw the traces of constantly recut pits. That he did so fail is not surprising, for the material into which the pits are cut, and that which fills them, is almost identical, and cuts and fills are difficult to distinguish.

In 1907 McKenny Hughes himself published[8] evidence which should have modified his interpretation. In that year he observed a deep section along the south side

[1] *City of Cambridge* (R.C.H.M. 1959), I, pp. xliv–xlv.

[2] *Ibid.* p. li. [3] *Ibid.* p. xlix. [4] *Ibid.* pp. l–li.

[5] *Ibid.* p. xlvii. It should be noted that the alluvium of McKenny Hughes's pl. xxviii is shown as extending too far east as compared with the plans in *City of Cambridge*.

[6] The great depth at which footings, probably of the Carmelite Friary, were found in Queens' College in 1958–60 (p. 88, above) suggests that some deliberate building up of the ground had taken place, but examples of engineering works of this kind are well known in the middle ages, e.g. Blackfriars, Oxford (information from Mr David Sturdy), and Muchelney Abbey, Somerset.

[7] Even the idea of dumping rubbish systematically in one area in the Middle Ages seems to be an anachronism. London had its laystalls 'of all that filth that was to be voided out of the city' at Finsbury Fields and Moorfields, but it does not seem to be until 1666 that any general order was made to remove laystalls to places remote from dwellings (W. G. Bell, *The Great Plague in London in* 1665 (rev. ed. 1951), pp. 9, 33, 146, 333). It is unlikely that the matter was much organized in Cambridge until the fifteenth century, for it was not normally until this or the following century that towns made any provision of special dumping grounds (G. T. Salusbury, *Street Life in Medieval England* (2nd ed. 1948), pp. 82, 90–3).

[8] *Proc. C.A.S.* XII (1908), pp. 133–9.

of King's Lane and across the line of Milne Street. To either side of the street he observed 'made ground' of the usual kind, but on the line of Milne Street itself 'the gravel had not been removed...and none of the early medieval pottery, such as was found abundantly in the made ground on either side, occurred under the roadway. The obvious inference is that we had there the exact line of the ancient Milne Street, which...had coarse metal laid on it only in later times when it was necessary to keep it up to the level of the ground raised artificially on either side of it.'[1] His figure[2] shows the line of Milne Street standing up as a ridge of undisturbed gravel rising through the 'made ground' to either side. From this evidence it is clear that the constant digging of pits to either side of Milne Street had both quarried down into the gravel (only leaving it untouched where the street ran) and had at the same time gradually raised the surrounding ground in the manner observed in Sidney Street. As McKenny Hughes himself realized 'the mode of occurrence of the lower part of this soil [i.e. the made ground] indicates, not so much that it was carried from a distance to fill up depressions, as that it is gradual growth of soil in rubbish pits or middens'.[3] Unfortunately neither he nor his successors perceived the relevance of this statement to his earlier theory.

The 'made ground' of medieval Cambridge is thus no more than the result of the intense occupation of the site during a long period.[4] It was not the taking into use of made ground[5] that led to the development of the Milne Street area, but the development of the area which made the ground.[6] Thus the picture of the citizens carting out their rubbish that great buildings might rise must be abandoned in favour of the more prosaic one of dense urban life and the dirt that was an appalling feature of the age.[7]

## PART III: THE FINDS

### *Pottery*

### (including glass vessels and clay pipes)

The pottery has been considered in associated groups as far as possible in chronological order, and is referred to by site letter, followed by feature or layer number, and the number of the sherd in the group. The site letters are:

A. Angel Court, Trinity College.
B. Bradwell's Court. (BH refers to the burnt house on this site.)
C. Corn Exchange Street.
P. Post Office Terrace.
S. Sidney Street.

[1] *Ibid.* p. 135. [2] *Ibid.* p. 134, fig. 1. [3] *Ibid.* p. 136.

[4] At least since the eleventh century, even in the area of the western colleges: see Fig. 12 for the distribution of Saxo-Norman finds in this area.

[5] *City of Cambridge* (R.C.H.M. 1959), I, p. xlv.

[6] The build-up is not therefore a uniform process and will probably be found to have proceeded at different rates in different parts of the city.

[7] G. T. Salusbury, *Street Life in Medieval England* (2nd ed. 1948), *passim.*

*General considerations*

Both in quantity and quality the pottery recovered was disappointing when compared with that from sites in other medieval towns, for example from the Bodleian extension in Oxford (*Oxon.* IV (1939), pp. 89–146), or even from Professor McKenny Hughes's earlier sites in Cambridge. It does, however, provide for the first time a long series of pit groups, albeit small ones, which go some way to providing a representative pottery series for Cambridge between the eleventh and eighteenth centuries. In themselves the groups show nothing remarkable in the development of medieval pottery in the region, from the Saxo-Norman wares through the harder but still individual and crude wares of the twelfth century to the exuberant and competent vessels of the thirteenth and the more mechanical and stereotyped products of the fourteenth and fifteenth centuries, ending with the industrialized forms and fabrics of the seventeenth and eighteenth centuries. By accident, perhaps, the varied thirteenth-century jugs are ill-represented in this collection, but otherwise most types occur, if only in small numbers. For a more detailed picture of the medieval wares of the region a study of the fine collection in the University Museum of Archaeology and Ethnology must be undertaken: Mr Hurst's papers on the Saxo-Norman wares have already demonstrated the wealth of the material available there.[1]

Until this material has been studied it is perhaps early to speculate on the relationships and resources of the pottery trade in the region, but even the present pottery hints at some of them. The occurrence of some of the types characteristic of the Oxford region in the late thirteenth century emphasizes the persistence of the cultural community along the Ouse clay vale already demonstrated for the eleventh century (D. B. Harden (ed.), *Dark Age Britain* (1956), pp. 255–6; *Trans. Brist. and Glouc. A.S.* LXXI (1952), pp. 72–4). In other cases the relationships of the Cambridge region seem to be with the Peterborough area to the north. Even in the late Saxon period, Cambridge is remarkable for the comparative rarity of Stamford ware, and there is equally little connection in the twelfth to fifteenth centuries. The Fens here seem to be a barrier rather than a unifier in this respect, despite the appropriateness of water transport to the pottery trade, and despite the trade in stone from Barnack and Rutland. It may be that the land-borne products which entered the Cambridge region via Stourbridge and St Ives fairs, already flourishing by the thirteenth century, account far more for the wide relationships exhibited by the Cambridge pottery. Much of the pottery, both in the present collection and in the museum, is characterized, however, as much by ordinariness as by anything else, giving the impression that it is the product of local kilns for local markets. These kilns have still to be found, the nearest known being as far off as King's Lynn, Thetford, Ingatestone, Brill and Stamford.

[1] See n. 1 on p. 91.

*Criteria of study*

The lack of published groups and stratified sequences from the area has encouraged the inclusion here of all the small groups which might in any way be useful, and the inclusion of oustanding or representative vessels even if unstratified. The groups come from pits and wells, and in one case from a general layer. The groups are so small that rather small sherds, which could have been derived from earlier deposits, have often been included. In the case of wells with backing shafts, the groups have been amalgamated, though the sherds are marked in their various layers and can be correlated with the records deposited with the pottery in the University Museum of Archaeology and Ethnology.

The dating of the pottery is difficult in view of the total absence of stratified sequences in the area, and the comparative rarity, except for the early period, of dated or associated deposits. The most important comparative groups of the eleventh century are Southoe, Great Paxton lime kilns, Little Paxton (*Proc. C.A.S.* LVIII (1965), pp. 38–73) and Eaton Socon (forthcoming); of the eleventh and twelfth, Therfield (*Journ. Brit. Arch. Ass.* 3rd ser. XXVII (1964), pp. 53–91); of the twelfth, Flambard's Manor, Barton Moats, Burwell, and the recently published Eynesbury House (*Proc. C.A.S.* LIV (1961), pp. 85–9); of the thirteenth, the Cherry Hinton well (*Proc. C.A.S.* XLVI (1952), pp. 27–30); of the sixteenth, the St Neots fish-pond (publication forthcoming); and, of the seventeenth, Nonsuch (*Surrey A.C.* LVIII (1961), pp. 1–20). In general, however, recourse has had to be made to vague parallels in distant but better-studied regions rather than to close ones in local material. It may, perhaps, be possible to reconsider the conclusions when far more associated groups are obtained, as could easily be done in the present spate of building activity in Cambridge; when kiln sites are located; and when stratified and dated sequences are obtained, perhaps by selective excavation of some of the many small defended sites now being surveyed in Cambridgeshire by the staff of the Royal Commission on Historical Monuments.

*Eleventh–early twelfth centuries* (Figs. 14 and 15)

The Saxo-Norman wares of the Cambridge region, already well known from Mr. J. G. Hurst's discussion of them (see n. 1 on p. 91), were only sparsely represented among the present finds. Sherds of a multi-handled Thetford ware storage jar, decorated with rosette stamps apparently not previously recorded, were of individual interest. In addition the small groups A1, P2, S27 and S29 probably date from the late eleventh or early twelfth century, when the currency of late Saxon wares was coming to an end. They contain typical examples of St Neots ware cooking pots (P2/1, 2, S27/1 and S29/1) and of Thetford ware vessels (P2/3, S26 and S27 unpublished, S29/3, and S29 unpublished), while the upright-rimmed S27/2 and S29/2 tend towards the harder wares of the twelfth century. Two Stamford ware sherds occurred in S27 and P2. P14 is a small but important group of the late eleventh or early twelfth century, containing St Neots, Thetford and Stamford wares in association with the storage jar (P14/1) and eleventh-century Sandy wares. Of particular interest is the occurrence of two single-shelled pedestal lamps of hard grey ware in group A1 (A1/1 and 2), which otherwise contained a St Neots cooking pot, sherds of a multi-handled Thetford storage jar (not illustrated) and an

upright-sided cooking pot with a rebated rim (A1/4), which is reminiscent of the Cotswold series seen to go out of currency in the mid-twelfth century at Deddington (see below, p. 113).

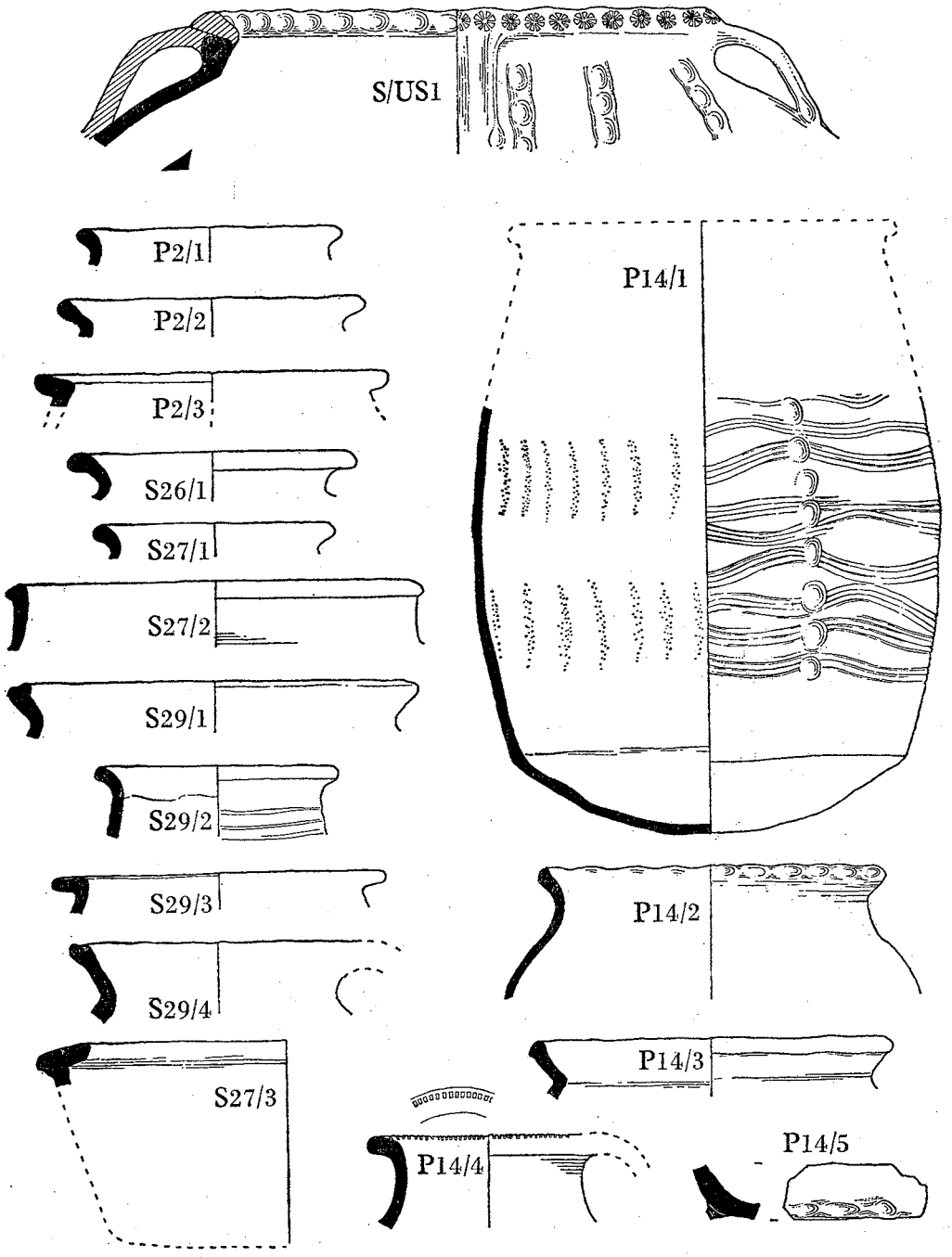



Fig. 14. Pottery of the eleventh to twelfth centuries (¼).

*Sidney Street* (Fig. 14)

S/US1. Storage jar, Thetford ware, with equal-sized multiple handles, probably four. The rim of the vessel is strengthened by a thick strip added on the top of the rim, finger-pressed on the inside and applied after the handles had been made. This technique has been noted on storage vessels from Godmanchester (*Proc. C.A.S.* LI (1958), p. 32, nos. 28 and 29; *Proc. C.A.S.* LIV (1961), p. 96, nos. 5 and 18). The vessel is decorated by pinched up applied vertical strips and by rosette stamps on the outside of the rim. Though such stamps have not been recorded hitherto on Thetford vessels, they occur on the Stamford ware Crowland bowl, probably of pre-1070 (*Proc. C.A.S.* LI (1958), p. 54 and pl. v). At least the upper part of the vessel appears to have been made by coiling. The type is common in Cambridge in the eleventh–early twelfth centuries (*Proc. C.A.S.* L (1956), p. 57, no. 5).

*Post Office Terrace* (Fig. 14)

P2/1. Cooking pot, St Neots ware with light pink surfaces and much shell; rolled rim.

P2/2. Cooking pot, St Neots ware, everted rim.

P2/3. Cooking pot rim in hard grey sandy ware with dark grey surface, but lighter in the core than normal Thetford ware; similar to but larger than the Thetford ware example illustrated by Hurst from Grimston (*Proc. C.A.S.* L (1956), p. 47, no. 15).

*Sidney Street* (Fig. 14)

S26/1. Cooking pot, St Neots ware, with everted rolled rim of a type best paralleled at Paxton (Hurst, *Proc. C.A.S.* XLIX (1955), p. 66, no. 2) and at Little Paxton (Addyman, forthcoming in *Proc. C.A.S.*). Presumably eleventh century.

S27/1. Cooking pot, St Neots ware, with everted somewhat rolled rim; a form between P2/2 and S26/1, again best paralleled in the eleventh-century Paxton assemblage.

S27/2. Cooking pot, in fairly hard gritty fabric with light grey core, darker outer surface and softer red inner surface, with many very small quartz-like grits. The form does not occur in local published groups, but a not dissimilar pot in shelly ware was found in the pre-1067 deposit under the Oxford Castle Mound (*Oxon.* XVII/XVIII (1952–3), p. 102, no. 13), and a perhaps closer parallel comes from a pit shortly post-dating the Norman bank (1080–1100) of Colchester Castle (*Ant. J.* XLII (1962), p. 67). A mid-eleventh century date is possible, but the form, although not the fabric, comes closer to those of the mid-twelfth century at Therfield (*J.B.A.A.* 3rd ser. XXVII (1964), p. 77).

S27/3. Deep bowl in St Neots ware with fairly flat-topped inturned rim. This bowl, not exactly paralleled amongst those published by Hurst, occurs frequently at Little Paxton in an assemblage probably of the eleventh century.

The group S27 as a whole would seem to be of eleventh-century date. It differs markedly from group S29, described below, for which a rather later date is perhaps required since the pits are topographically very close. The hardness of the S29 sherd may even argue a date well into the twelfth century.

S29/1. Cooking pot in grey fairly hard shell-filled fabric (cf. St Neots ware) with pinkish grey surfaces; fairly sharply everted flange thickened near top.

S29/2. Cooking pot in very hard though not harsh fabric with grey core, black outer and pink inner surface and some quartz-like grits; the rolled rim, resembling some St Neots ware forms, is made by folding the rim inside the pot, where the luted join can be seen (cf. *Oxon.* XXIII (1958), p. 52). The outside is rilled.

S29/3. Cooking pot in light buffish grey ware with some small quartz-like grits; somewhat reminiscent of Thetford ware, though the rim form does not occur in Hurst's Thetford ware series.

S29/4. Jug, in hard grey fabric with light pinkish brown surfaces; the small sherd suggests an everted necked vessel with handle springing directly from the rim. A similar springing occurs on P14/4, below, a jug of the Stamford ware series, and both are perhaps of the early twelfth century.

*Post Office Terrace* (Fig. 14)

Group P14 contains the remarkable storage vessel P14/1, a fellow at last to that published by Jope from Felmersham. Of the other pots two at least, P14/2 and P14/4, have antecedents in the eleventh century. Most of the sherds were of St Neots and Thetford wares, which occurred in quantity in the levels of P14, together with six Stamford sherds. Three of the layers also contained sherds similar to the eleventh-century Sandy ware defined at Therfield (*J.B.A.A.* 3rd ser. XXVII (1964), pp. 70–1, fig. 20, 3–4), while only the upper level contained a sherd possibly similar in fabric to the mid-twelfth-century Therfield material. The storage jar (only 'probably' twelfth century at Felmersham) and P14/3 suggest, in conjunction with the rest of the group, a date in the later eleventh or early twelfth century.

P14/1. Storage vessel in thin hard light brown fabric, shading to greyish brown, with occasional grits up to 5 mm; the outside is weathered and somewhat flaked. The vessel has an exaggerated sagging base, though the basal angle is quite sharp. The pot, which may have been even taller than in the reconstruction (see P14/5, below), is decorated with horizontal combed wavy lines and has four vertical lines of light downward thumb impressions, a feature perhaps reminiscent of the applied finger-moulded strips of the altogether more massive storage jars of the previous century. The jar seems to have been made almost entirely by hand (the interior showing finger-smoothing marks) with occasional half rotations. Its closest parallel is the hitherto unique jar from Felmersham, Beds. (*Ant. J.* XXXI (1951), p. 49, no. 14) which is also in ware typical of the twelfth century. There are comparable sherds in the University Museum, and such vessels may prove to be a distinctive local type.

P14/2. Cooking pot in thin hard dark grey ware with some very small micacious or quartz-like particles. The everted rim has small and rather indistinct thumb mouldings on the outside. Finger-impressed rims occur in the region probably already in the later eleventh century (Therfield: *J.B.A.A.* 3rd ser. XXVII (1964), p. 74, fig. 20, 6, 5), and the potting techniques and fabric of the sherd are identical with the eleventh-century Sandy wares of Therfield (*ibid.* pp. 70–1).

P14/3. Cooking pot with everted flanged rim in hard and fairly harsh grey fabric. The type is closely paralleled in fabric, although not in form, in the eleventh-century material at Therfield (*J.B.A.A.* 3rd ser. XXVII (1964), pp. 70–1).

P14/4. Jug in hard fabric closely related to Stamford ware, varying from grey to pinkish buff, and glazed with a light yellowish green glaze which has been badly burnt. The neck is upright, the rim flat, with the handle springing from the rim itself (cf. S29/4, above). The rim and the rectangular-notch rouletted decoration may be compared with those of a bowl from Stamford Castle (*Proc. C.A.S.* LI (1958), pp. 46–7, no. 42). The date suggested for the end of these wares is 1150.

P14/5. Sherd, either the shoulder of a storage vessel or the base of a jug, in greyish brown hard and thick fabric with an applied finger-moulded strengthening at the angle. It seems too thick to be part of P14/1, which it in many ways resembles. If, however, it is regarded as a jug base, a thirteenth-century date is necessary and, since its stratigraphical position is certain, the former is preferable.

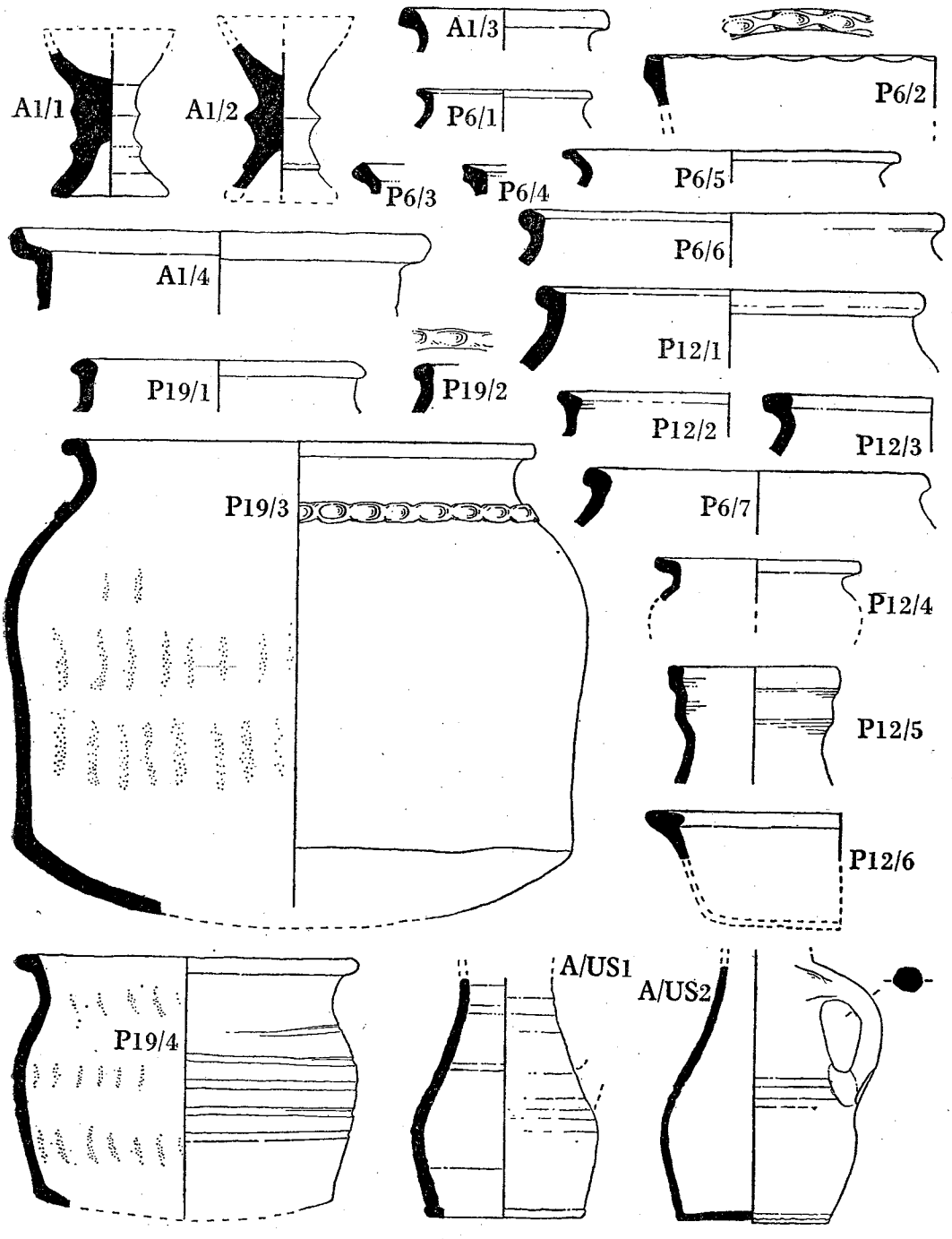



Fig. 15. Pottery of the twelfth to thirteenth centuries (¼).

*Angel Court, Trinity College* (Fig. 15)

A1/1. Pedestal lamp in fine, hard, dark grey sandy ware with prominent ridges on the waist. This stage in the evolution of the medieval lamp as traced in Oxford by the Jopes and Mr S. E. Rigold is dated to the early twelfth century (*Oxon.* XV (1950), p. 58).

A1/2. Pedestal lamp, similar to A1/1, with bowl burnt from use.

A1/3. Cooking pot, St Neots ware, rolled over and thickened rim.

A1/4. Cooking pot in shell-filled fabric similar to, but not quite like St Neots ware. This is probably a late form of a type of rim beginning in the St Neots period. Prof. Jope suggests parallels in Northampton and Brixworth, the most easterly outliers of the White Castle series of upright-sided pots with flanged rims. A sherd from Cambridge (*Proc. C.A.S.* XLIX (1955), p. 59, no. 12) is comparable, but the closest parallels are in the St Neots ware of 1050–1100 at Therfield (*J.B.A.A.* 3rd ser. XXVII (1964), p. 73, fig. 19, 7–9).

A1/5. Thirteen sherds of Thetford ware, including three of a true multi-handled Thetford storage jar (not illustrated).

A1/6. Twenty-five sherds of St Neots ware (not illustrated). Two glazed and painted sherds ostensibly from this pit are presumed to have dropped from above during the contractor's excavation. They were of thirteenth-century Oxford type (not illustrated) and should be compared with B2/1 below, Fig. 17.

## *Twelfth and thirteenth centuries* (Figs. 15 and 16)

*Post Office Terrace* (Fig. 15)

Group P19 contains the two cooking pots P19/3 and 4 which are similar in ware and rim form (though not size) and may perhaps have been made by the same potter at almost the same time. Although the forms of this group seem to be of thirteenth-century character, they are similar to those of the mid-twelfth century at Therfield (*J.B.A.A.* 3rd ser. XXVII (1964), pp. 74–8, fig. 21). The fabrics are also similar, though harder in the Cambridge group, the date of which probably lies in the second half of the twelfth century, or very early thirteenth century.

P19/1. Cooking pot in very hard and harsh, but even, grey ware with yellowish pink surfaces.

P19/2. Cooking pot in hard and harsh even ware with yellowish pink surfaces and thumb mouldings along the outside of the rim-top.

P19/3. Large cooking pot in hard but even greenish grey fabric with sagging base, applied finger-moulded strip on the shoulder, and flat everted rim. A typical thirteenth-century pot.

P19/4. Cooking pot in hard grey ware differing from P19/3 by the occurence of small white (chalk?) inclusions. The base is also sagging and there are marked throwing grooves on the body.

A/US1. Small jug of brown fabric with light grey core and white grits. Throwing lines are well marked on the upper part of the body; the rim and handle are missing.

A/US2. Small jug similar to A/US1, but in grey fabric with light brown core; the base is slightly kicked, and the handle is applied squint and fixed by a lap of clay over the lower joint. The vessel is asymmetrical. Both vessels are in a fabric seen elsewhere in association with twelfth-century pottery.

*Post Office Terrace* (Figs. 15 and 16)

P6 and P12 provide groups of small sherds of thirteenth-century cooking pots, while P20/3 and 4 and the unstratified jugs A/US3 and S/US2 and 3 are the only illustratable representatives of thirteenth-century jugs in the present series. The associated sherds suggest a late thirteenth-century date for group P6 as a whole.

(Fig. 15)

P6/1. Very small cooking pot in hard pink-surfaced grey ware with small white (chalk?) inclusions.

P6/2. Bowl in fairly hard shell-filled fabric akin to St Neots ware with upright sides and thumb mouldings on the rim top. The type properly belongs to the twelfth century, of which it is a *typical local* form (Eynesbury: *Proc. C.A.S.* LIV (1961), p. 87, fig. 3; Felmersham: *Ant. J.* XXXI (1951), p. 48, nos. 10–13). It may be a stray or a survival in this group.

P6/3 and 4. Two cooking pot rims in fairly hard grey ware with pink surfaces, somewhat eroded.

P6/5. Cooking pot rim in hard dark grey fabric.

P6/6. Cooking pot rim in hard light grey fabric with rounded white quartz-like grits.

P6/7. Cooking pot in similar fabric, though slightly harsher and without grits.

P12/1. Cooking pot in fabric similar to, though lighter than, P6/7. Two joining sherds from this came from different pits, the square wood-lined F1 and the round wicker-lined F12.

P12/2. Cooking pot rim in hard grey fabric with light brown surfaces.

P12/3. Cooking pot in hard grey fabric similar to P12/1, etc., above, but differing in form by the beading within the rim.

P12/4. Small cooking pot in dark grey fabric with light pink surfaces.

P12/5. Jug in hard harsh dark grey fabric with buff outer surface. The neck is heavily ribbed; there is no indication on the sherd of the lip or handle arrangement.

P12/6. Bowl in rather soft shell-filled fabric akin to St Neots ware with pink inner and grey outer surface. St Neots ware probably survives into the thirteenth century in this and some cooking pot forms in the Cam and Ouse valleys.

(Fig. 16)

A/US3. Jug (?) in hard fine dark grey fabric, with high cylindrical neck, inturned rim and sagging base. Insufficient remained to show if handle and lip were present.

*Sidney Street* (Fig. 16)

S/US2. Rim of jug in hard grey ware with bright red surfaces and a micacious sparkle. The vessel has a bridge spout formed by an applied pouch which, with eyes made with the fingertip on either side, forms a simple face mask. The neck is decorated with rows of horseshoe-shaped stamps with a spot in the centre, and the vessel has an external glaze which varies patchily from dark green through light green to orange. Such jugs are common in the Cambridge collections: there are sherds of one of them in P20, and part of one occurred in the Cherry Hinton Well group (*Proc. C.A.S.* XLVI (1952), p. 30) of the late thirteenth–early fourteenth century. A complete vessel from Cambridge is illustrated by Bernard Rackham (*Medieval English Pottery* (1948), pl. 33). Sherds in similar ware and decoration technique are found in waste heaps into which the late thirteenth-century kiln at Brill, Oxon., was cut (information from Prof. Jope), but the numerous Cambridge examples can hardly have been imported from there. Mr Hurst informs us that this ware was made in the kilns around Sible Hedingham, Essex; he has named the ware 'Hedingham Ware'.

S/US3. Jug body sherd in very hard and harsh grey ware, decorated with throwing grooves between which are horizontal wavy combed lines, over all of which a stylized plant design is deeply incised. Reminiscent of wares from the Ingatestone kiln (unpublished; information from Prof. Jope).

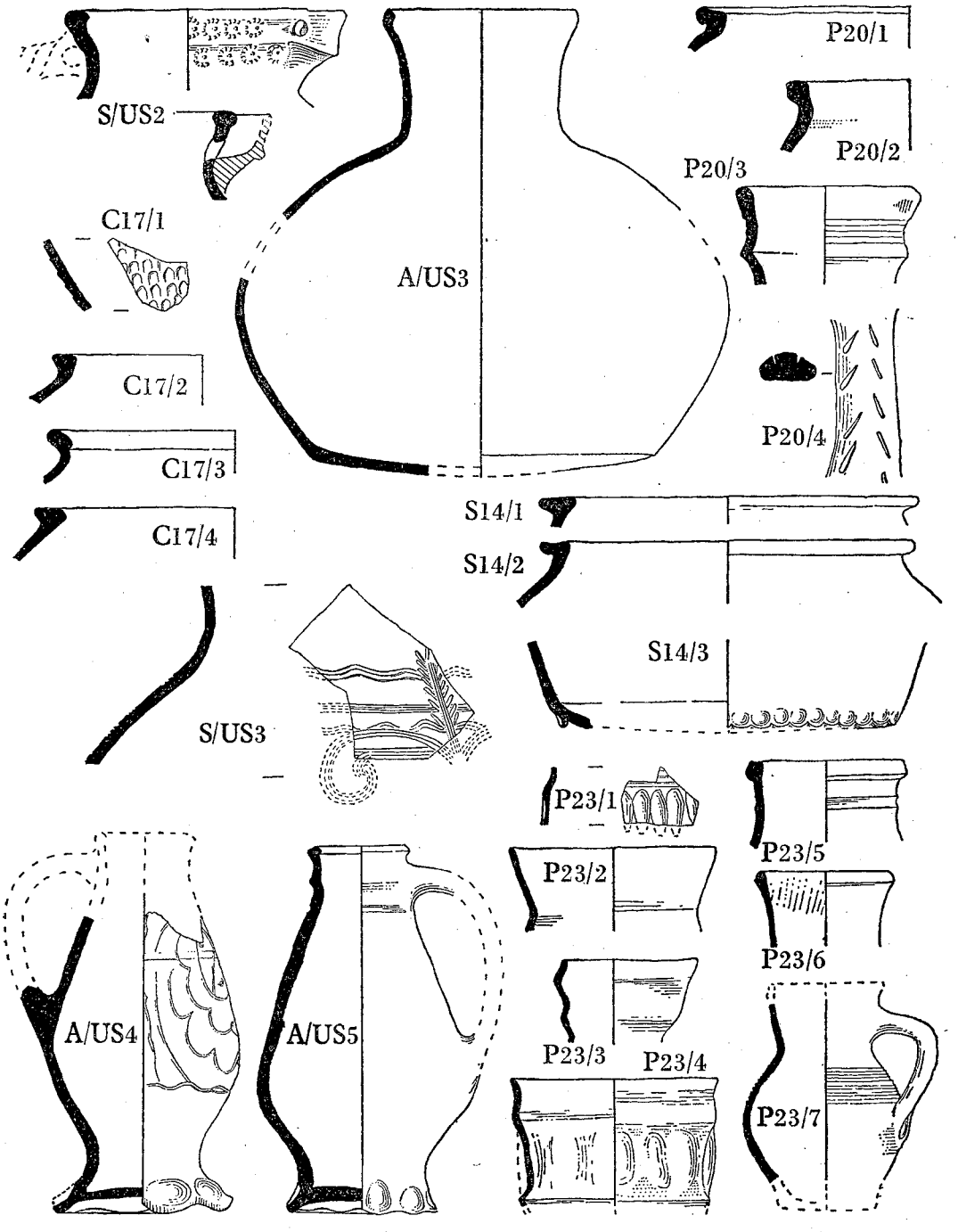



Fig. 16. Pottery of the thirteenth to early sixteenth centuries ($\frac{1}{4}$).

*Post Office Terrace* (Fig. 16)

P20/1. Cooking pot in hard grey fabric (cf. P12/1 etc., above).

P20/2. Cooking pot in fairly hard grey fabric with smoked outer surface and gritty feel.

P20/3. Jug rim in hard very dark grey fabric with light pink surfaces (cf. P12/4, above) and spots and splashes of dark green glaze on the exterior. The lip is slightly pulled out, but no traces of the handle remain.

P20/4. Jug handle in hard even grey fabric with deep triangular stabs.

## *Late thirteenth to fourteenth centuries* (Fig. 17)

*Bradwell's Court* (Fig. 17)

B2/1. Body sherds of a pitcher of fine buff-cream ware, decorated externally with vertical and chevron stripes of applied red clay; glazed on the exterior only with a clear glaze appearing rich yellow over the buff-cream body, but with a green speckle in places, due to the presence of copper impurities in the glaze. Late thirteenth to fourteenth century. The form and decoration of this pitcher are characteristic of the three-storeyed pitchers of the Oxford Region (*Oxon.* IV (1939), pp. 124–5, 127, pl. XII, 5; B. Rackham, *Medieval English Pottery* (1948), p. 24, pl. 83). The present pitcher and another (not illustrated, see above, p. 110) from Angel Court, Trinity College, together with a possible sherd from P20, are imports from the Oxford Region (for distribution of Oxford style products see E. M. Jope, *Trans. Bristol and Gloucs. Arch. Soc.* LXXI (1952), pp. 71–6, fig. 11).

## *Fourteenth and fifteenth centuries* (Fig. 16)

*Corn Exchange Street* (Fig. 16)

The group C17, coming from a series of superimposed garden levels above the early ditch, includes a number of small abraded and presumably derived sherds of the twelfth and thirteenth centuries; only the four latest and best preserved sherds are illustrated, partly because they seem to be of fourteenth-century date, and such pottery is rare in Cambridge; and partly because they may have some value as a group.

C17/1. Sherd from the body of a jug (?) or other decorated vessel in hard grey fabric with pink inner surface; the outer surface, which is covered with carefully formed close-scale decoration, has a good-quality rich green glaze. Scale decoration is common on late thirteenth-century jugs and aquamaniles, but the puzzle jug in the Ashmolean indicates that it may persist late, and the high quality of this example would allow a fourteenth-century date. Though conventional views see the exuberant thirteenth-century decorative motifs disappearing with the fourteenth-century economic decline, it is apparent, at least if architecture can be taken as a parallel (E. M. Jope (ed.), *Studies in Building History* (1961), pp. 134–65), that they went on wherever they could find a market. Mr Hurst considers this sherd to be of Grimston Ware from the kilns near King's Lynn and informs us that recent work at King's Lynn by Miss Helen Parker and at Norwich by himself confirms that the ware, if not the complex decoration, continues into the late fourteenth century as recently argued by Mr S. E. Rigold (*Med. Arch.* VI–VII (1962–3), p. 101).

C17/2. Cooking pot in hard, light grey fabric with some minute dark inclusions which appear as grits on the surface. The rim form tends towards the triangular section of C17/4, below.

C17/3. Cooking pot in fairly hard well-filled pinkish grey fabric, with out-thrown rim similar to P12/3, above; the latter is in a fabric more associated with the thirteenth century.

C17/4. Cooking pot in hard, fine dark ware with triangular-sectioned rim characteristic of fourteenth-century cooking pottery in Cambridge, and found particularly in the London area from the late thirteenth century onwards.

*Sidney Street* (Fig. 16)

This group is probably comparable in date to C17, above.

S14/1. Cooking pot in hard, fine grey ware with triangular-sectioned rim.

S14/2. Cooking pot in hard, fine grey fabric, slightly browner than S14/1, with triangular-sectioned rim.

S14/3. Base, probably of a jug, in hard, fine pinkish red ware with micacious glitter. The basal angle has small mouldings pulled down with the finger tip.

*Angel Court, Trinity College* (Fig. 16; Pl. V, B)

The important series of sgraffito-decorated vessels from Cambridge has been discussed in two papers in these *Proceedings* (*Proc. C.A.S.* XLIV (1950), pp. 48–50; XLVI (1952), pp. 21–6). The present work produced a further example, A/US4, and an undecorated example, A/US5, a type common in the region in the fourteenth and fifteenth centuries.

A/US4. Jug in hard red fabric with heavy thumb-moulded foot and swelling body; the neck and handle are missing. The jug is decorated with a sgraffito pattern of stylized beard incised through an apron of white slip, all covered with a clear yellowish glaze, which extends on to the unslipped body of the pot. The vessel may have had a face mask (Pl. V, B).

A/US5. Jug in hard red fabric similar to the previous example, but without the sgraffito decoration. The rim has an internal bevel and the band of slip extends all round the body except under the handle. The glaze is restricted to the area of the slip.

## *Early sixteenth century* (Fig. 16)

*Post Office Terrace* (Fig. 16)

An interesting group of early Tudor wares, P23, includes a class of small vessels, cups and jugs, in thin red ware with a clear glaze giving a shiny orange-red finish. Particularly noticeable among them are a folded beaker (P23/4) reminiscent of Romano-British examples, and a sherd (P23/1) bearing decoration apparently with a cut-glass prototype and very like similar decoration on Roman pottery vessels (e.g. Holt, *Y Cymmrodor*, XLI (1930), fig. 76). The suggestion that these were made to the order of a renaissance don who had excavated Roman prototypes in a local Romano-British town is perhaps too ingenious. What is certainly remarkable is that the one household from which this group is presumably refuse had a preference for this type of ware when others were certainly available. In addition to the fine orange wares, which occurred in most levels of P23, several other fabrics were present, giving a cross-section of the wares of early sixteenth-century Cambridge. There was one small thin pink-bodied sherd of tin-glazed ware, without visible decoration, which is probably a Spanish import (we are grateful to Mr J. G. Hurst for examining this sherd: see *Ant. J.* XLI (1961), pp. 6–12; J. G. Hurst in B. Cunliffe, *Winchester Excavations*, 1949–1960 (1961), p. 144). A few small sherds of 'Tudor-green' pottery were also present (J. G. Hurst, *ibid.* pp. 140–2). The larger vessels seemed to be mostly jugs of reddish fabric decorated with broad lines of white slip overlain by yellow or greenish olive glaze. This is a common late medieval Cambridge and East Anglian type (B. Rackham, *Medieval English Pottery* (1948), pls. 50, 53) and is now seen here in a firmly sixteenth-century setting. The broad lines of white slip were also present in a lattice pattern on the base of a thin-walled rectangular fish/meat dish which had a flaring, slightly hollowed flat handle, rather thinner than usual (*Oxon.* XXIV (1959), p. 36, fig. 16, 1). Also present were a number of hard red sherds with a 'pimply' surface appearance. This ware, which is characteristic of East Anglia, has been found in fifteenth- and sixteenth-century contexts at the More, Herts. (*Arch. J.* CXVI (1959), p. 169, fig. 12, 1, 8).

P23/1. Shoulder of vessel in thin hard red fabric with thick clear glaze on the exterior, and traces of the same within, giving a shiny orange-red surface. Decorated with horizontal rilling and cut-away lozenges resembling in effect cut glass.

P23/2. Posset cup or jug in the same fabric and with the same glaze within and without.

P23/3. Jug rim in the same fabric and with the same glaze within and without; the lip is markedly pulled out, and on it there is a splash of green glaze.

P23/4. Beaker in the same fabric and with the same glaze within and without; decorated with lobes or folds made by alternate pressure of thumb and forefinger.

P23/5. Jug rim in hard even fabric, grey within and pink without; traces of metallic greenish glaze on the outside; the lip and handle are missing.

P23/6. Jug rim in the ware of P23/1, glazed without and partly within; there are compression ripples within, the result of throwing the clay out and in again on a high-speed wheel (*Oxon.* XXIII (1958), pp. 35–6).

P23/7. Jug in the same fabric and glaze, with throwing grooves on the shoulder.

## *Second half of the sixteenth century* (Fig. 17)

C13 is the only small group perhaps attributable to this period. None of the vessels is readily datable, but the 'pimply' wares of P23 persist and C13/4 is reminiscent of some of the orange-ware vessels of P23. On the other hand the number of 'pimply' sherds unglazed, or glazed on one side only, set this group apart from the richly glazed wares of A2 of the mid-seventeenth century, and a date in the second half of the sixteenth century is suggested.

*Corn Exchange Street* (Fig. 17)

C13/1. Shallow open bowl, fine even paste, light grey with reddish buff surfaces. Olive-green glaze on interior only, rather patchy near the rim. Knife-trimming around the lower part of exterior and under the base.

C13/2. Flanged rim, probably of an open bowl; coarse brick-red fabric with grey core. Spots of yellow-brown glaze on top of the flange and in patches on the interior.

C13/3. Flanged rim, probably of an open bowl with moulded wall. Coarse dull brick-red ware with quartz inclusions up to 4 mm. in diameter. Spots of reddish brown glaze on the interior.

C13/4. Upright simply moulded rim probably from a jug, of coarse, but well-fired, brick-red ware, with rich yellow-brown glaze inside and out.

C13/5. Base of a pitcher of coarse reddish brown fabric with spigot-hole formed by piercing a hole through an applied clay pad and through the body of the pitcher. Spots of reddish brown glaze below the base.

C13/6. Flaring rim of glass vessel, probably of clear white metal, but badly decayed.

## *First half of the seventeenth century* (Fig. 17)

The only group datable to the middle, or second quarter, of the seventeenth century is A2, the dating of which depends on a clay pipe (A2/1) of Oswald's Type 4 *a* of *c.* 1620–50 (*Arch. News Letter*, V (1955), pp. 245–50), from the middle filling of the pit. The coarse ware is notable for the rich, deeply coloured, lustrous glazes, which are quite distinct from those seen on both earlier and later vessels (e.g. from C13 and B4 and 5). The various wares from this group give a cross-section of those available in mid-seventeenth-century Cambridge. In addition to the material illustrated the pit also contained several Siegburg and Raeren stoneware sherds, coarse ware sherds, vessel and window glass, and part of a wall-tile of pale creamy yellow fabric.

The contractor's excavations in the area produced part of a Raeren stoneware jug with figures of the Muses and inscriptions, and a Siegburg stoneware drinking mug, dated 1571, with the arms of the Duchy of Juliers, Cleves, Berg and with a figure of Judith carrying the head of Holophernes (cf. an exact parallel in the Fitzwilliam Museum, no. 2007).

*Angel Court, Trinity College* (Fig. 17)

A2/1. Clay pipe of Oswald's Type 4*a* of *c.* 1620–50.

A2/2. Rim of a stoneware jug with part of the decoration on the neck. Raeren ware, possibly part of the jug mentioned above. Found by a workman, but probably from this pit.

A2/3. Delft ware plate, creamy yellow paste, with decoration of bright blue, orange and yellow. In the illustration, blue is represented by diagonal hatching, orange by stipple and yellow by cross-hatching. The foot-ring has a hole 4 mm. in diameter, made before firing, for suspension. The bowl is typical Netherlands maiolica of the early seventeenth century.

A2/4. Rim and upper wall of a glass vessel with inward-sloping profile. This is possibly a cucurbit, the lower vessel of a two-part apparatus usually known as an alembic (a term properly applied only to the upper vessel), used for distillation. For an alembic proper and discussion see *Arch. J.* CXVI (1959), p. 179, fig. 17, 18.

A2/5. Tripod vessel, probably a pipkin (the handle is missing) with a hollowed rim and rilled body. Red ware, completely covered with thick green glaze, which appears mottled yellow where thin. The scar of a single leg is preserved on the fragments available. Part of a second vessel of this type was also present.

A2/6. Large pipkin with thick heavily moulded rim with internal seating, perhaps for a lid. The handle is hollowed and projects upwards from the body. Coarse brick-red ware completely covered internally with clear light brown glaze and externally with rich greenish brown glaze except for the handle, which is unglazed and has a buff-brown surface. Other examples of this type of vessel from Cambridge have a rosette of finger impressions on the body around the base of the handle.

A2/7. Rim and part of the handle of a bowl (or upper part of a jug) of coarse sandy red ware with clear yellow glaze inside and out.

A2/8. Small sherd of a heavily moulded rim of reddish brown ware with a grey core and clear yellow glaze. Possibly from a vessel similar to A2/6.

A2/9. Base of a jug of thick coarse red ware with clear internal glaze, appearing orange. The exterior is covered with a white crust, on the nature of which see below. The base has been bound round with an iron wire to prevent cracking, or to repair a crack that had already formed. Part of the handle is present below the crust. The crust and contents of the pot were examined by Mr L. Biek, of the Ancient Monuments Laboratory, who reports as follows:

'About half of the lower part of the pot with filling *in situ* (A.M. Lab. No. 9976), together with additional "filling" from the other half (9977), was submitted to the Laboratory for examination of the contents and of a "thin cementitious incrustation" over the outside surface of the base.

'X-radiographic and close visual examinations, and ignition[1] and acid tests were carried out by Mr W. E. Lee. The pot filling (9976 B) seemed to consist principally of soil and rubbish, containing much comminuted coke and charcoal, and was generally high in organic matter. It was also remarkably rich in acid-soluble material, evidently calcareous in the main, and possibly associated with the downwash of chalky and/or mortary strata. A few bone fragments were isolated. The additional "filling" (9977), although generally similar, differed slightly in containing some shell fragments and coarse pottery, but also in the grading of insoluble matter, being far richer in coarse material and correspondingly lacking in the "fine sand" range, though other

[1] L. Biek, *Archaeology and the Microscope* (1963), p. 223.

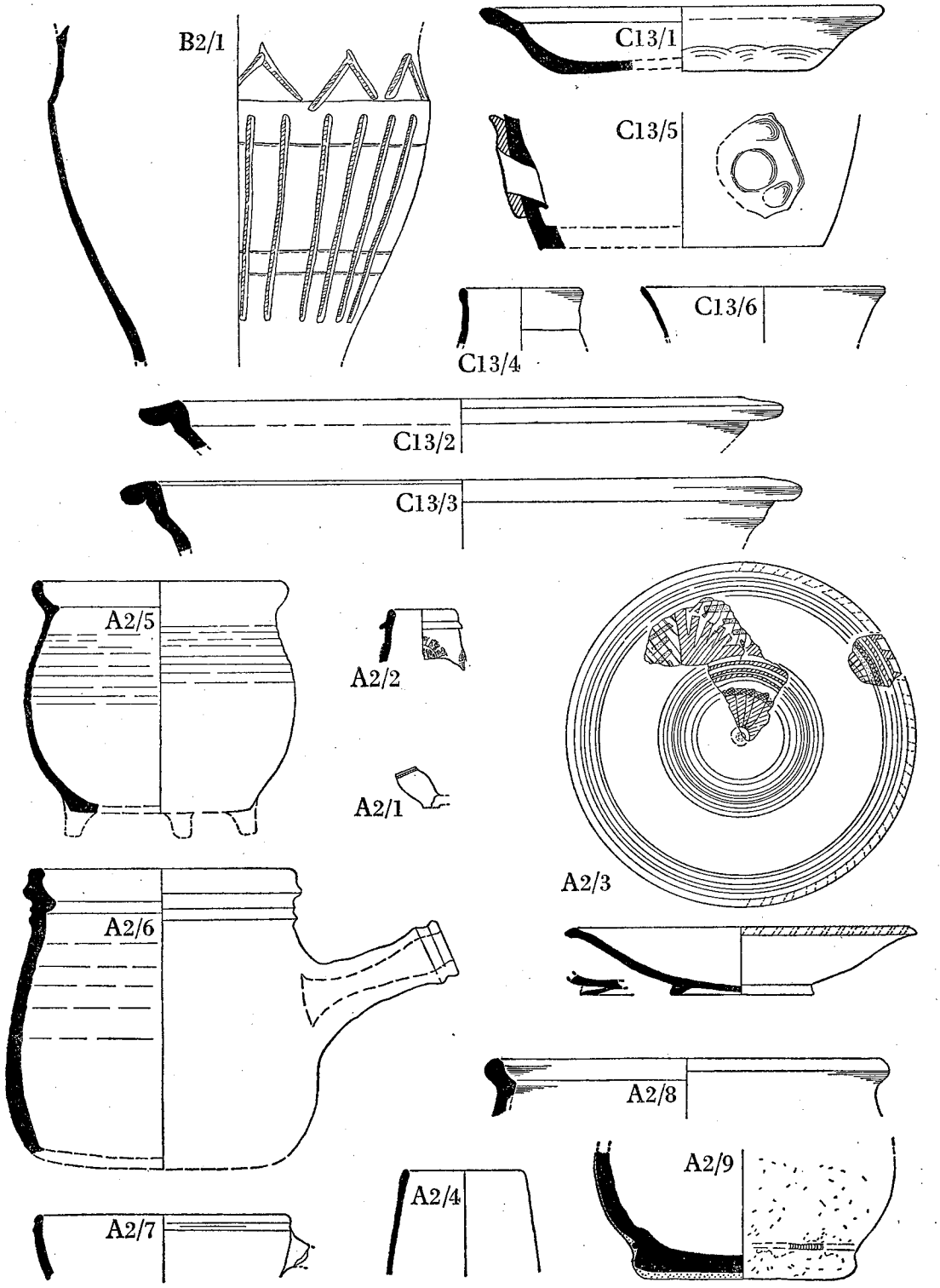



Fig. 17. Pottery of the late thirteenth to fourteenth centuries (B2/1) and late sixteenth to mid-seventeenth centuries (remainder), except C13/6 and A2/4, glass, and A2/1, clay pipe ($\frac{1}{4}$).

fractions were comparable. Whilst this probably reflects a general heterogeneity in the filling, it might be taken to suggest dumped rather than washed-in material, or at most a mixture of the two.

'The most interesting aspect of the examination was provided by the pot itself. The X-radiograph had revealed a crack and a shadow, as of a band, of more radiopaque material wrapped around the waisted portion of the base. Careful examination exposed the twisted end of a thick iron wire with which an attempt had evidently been made to give mechanical strength to the cracked vessel, before daubing it over with a fine, buff-firing clay and refiring to a relatively low temperature (probably not exceeding about 600°–700° C). The voids between original pot surface and applied "slip", formed when the creamy paste was wiped over, are also clearly visible in the X-radiograph, in part overlying the base of the broken handle.'

## *Mid-seventeenth to early eighteenth centuries* (Figs. 18 and 19)

This period is represented by seven groups which fall into two assemblages probably little separated in date.

To the earlier belong four groups from Bradwell's Court: BH2 consists of material from the burnt debris of a house and is dated by two clay pipes of Oswald's Type 6*b* of *c.* 1650–80; BH3 is a group of vessels from the occupation level of the same house, and is closely related to BH2. B4 and B5 were two pits to the east of the house and probably related to it. Both contain pipes of Oswald's Type 5*b* and 6*b* of *c.* 1640–70 and *c.* 1650–80 respectively, and both have other parallels with each other and with BH2 and 3. All four groups represent material from the same house of about the same period.

To the second assemblage belong three groups, one from Bradwell's Court, the other two from Sidney Street. S16 contains a glass bottle of *c.* 1675–1710 and is related in general character and by S16/2 to group S28. The latter is in turn related to B3 by the occurrence in both of almost identical pipkins of the type of B3/1. It is difficult to be certain that this second assemblage is later in date than the four related Bradwell's Court groups. As the vessels BH2/5 and S16/3 suggest, they may overlap in date and the differences could be accounted for by the different character of the milieu in which these pots may have been used. In spite of this, the presence of a sherd of Staffordshire slipware in S16 suggests that the second assemblage could belong to the later seventeenth or eighteenth century, while the first could be given a central date of 1675.

Although it is possible to parallel the general form of these vessels over wide areas of England, in common with other pottery of this date they reveal in details of form and fabric the essentially local character of seventeenth-century coarse wares. Thus the Cambridge vessels published here show little if any relationship to the contemporary material of Norwich (*Norfolk Arch.* XXXI, i (1955), pp. 76–86; XXXIII, ii (1963), pp. 161–7), Colchester (*Trans. Essex Arch. Soc.* 3rd ser. I, i (1961), pp. 4–8), south Hertfordshire (The More: *Arch. J.* CXVI (1959), pp. 169–73), London (material in the Guildhall Museum and from Mr H. J. M. Green's excavations at Whitehall), Surrey (Nonsuch: *Surrey A.C.* LVIII (1961), pp. 14–20), Canterbury (Professor Sheppard S. Frere's excavations), Camber (recent excavations by Messrs Biddle and Colvin), or Winchester (material in the Winchester City Museum and from recent excavations); and few if any of these regional groups show relationships one to another (*Med. Arch.* VI–VII (1962–63), p. 147 n. 79). Many more dated groups will have to be studied and published before the interrelationship and distribution of these regional groups can be established. In spite of the recent date of this material its study is important, for pottery of this kind may be the only available evidence for the date of industrial structures or minor houses as in villages (Babingley: *Norfolk Arch.* XXXII, iv (1961), pp. 332–42), while its export from England to North America, where its importance for dating may be vital, is as yet mostly unstudied (see S28/5, below).

*Bradwell's Court* (Fig. 18)

BH2/1. Clay pipe bowl of Oswald's Type 6*b* of *c.* 1650–80.

BH2/2. Clay pipe bowl, probably of Type 6*b*.

BH2/3. Frechen stoneware, with part of a heraldic shield design.

BH2/4. Base of a glass vessel of light green metal. The form of the foot suggests a sixteenth-century date (cf. J. G. N. Renaud, *Bull. van de Kon. Ned. Oudh. Bond.* 6e serie, Jaarg. 15, 2 (1962), pp. 104–14).

BH2/5. Open bowl of reddish-orange ware with a white slip on the interior overlain with a red slip in a combed pattern. Clear yellow glaze with dark green patches all over the interior. Some white slip and a thin glaze on the exterior below the rim; cf. S16/3.

BH2/6. Flaring rim of pink-red ware decorated in a similar slip technique to no. 5 above.

BH2/7. Flanged rim of large bowl or pan; coarse buff-brown ware with dark yellow glaze on the interior.

BH2/8. Open bowl with flaring profile, the carination marked externally with a cordon decorated with finger impressions. The exact form of the upper part of this vessel is uncertain. Coarse pink-buff to cream ware, glazed dark green all over externally and rich yellow internally.

BH2/9. Jar with one surviving handle (possibly originally two) attached to the rim, which is hollowed internally. Coarse reddish brown ware, grey in places, with dark greenish brown glaze all over the exterior and streaky inside.

BH3/10. Frechen stoneware with decorated band.

BH3/11. Flanged rim of a large bowl or pan. Coarse friable pinkish red ware with large (up to 3 mm. in diameter) inclusions. Yellow-brown glaze on the upper surface of the flange, where there are two incised lines. Two sherds of this vessel occurred in BH2.

BH3/12. Deep bowl of pimply red ware with thick grey core. There are mouldings on the exterior and greenish yellow-brown glaze inside, patchy near the rim.

BH3/13. Inturned-rim bowl, knife trimming near the base externally and patchy yellow-brown glaze inside.

BH3/14. Jar rim, cf. no. 7 above; coarse pink-red ware with white flint inclusions; greenish-brown glaze all over inside and out, but patchy below the exterior of the rim.

BH3/15. Small deep bowl with moulded cordon. Pink-buff fabric with white chalky inclusions. Purple sheen in places on the exterior and rich yellow-brown glaze all over the interior.

BH2 also contained other stoneware sherds, including Frechen and 'tiger-ware', the latter possibly of English manufacture; the base of a red ware globular jug, possibly a copy of a stoneware form; fragments of two tygs and two slipware sherds comparable to (but not necessarily the same as) Metropolitan Slipware. In addition there were in this group a number of sherds of green-glazed vessels of uncertain form, but with some of the sherds pierced with rough-cut openings such as are found on stink-pots (examples from Nonsuch: *Surrey A.C.* LVIII (1961), p. 18, fig. 6, 12); a stumpy foot as from a tripod vessel also occurred in this ware, which is close to that of BH2/8.

BH3 also contained further Frechen stoneware, two sherds of green-glazed pottery similar to 'Tudor-green' and four sherds of tygs.

B4/1. Clay pipe of Oswald's Type 6*b* of *c.* 1650–80.

B4/2. Clay pipe of Oswald's Type 5*b* of *c.* 1640–70.

B4/3. Open bowl with flanged rim, beaded internally, with wavy line incised decoration on the upper surface of the rim. Coarse buff-cream fabric, with grey core and surface reddened in places. Rich dark green glaze externally all over the wall, but spotty on the exterior of the rim; olive-green glaze internally on lower parts of the vessel with clear glaze over the rim.

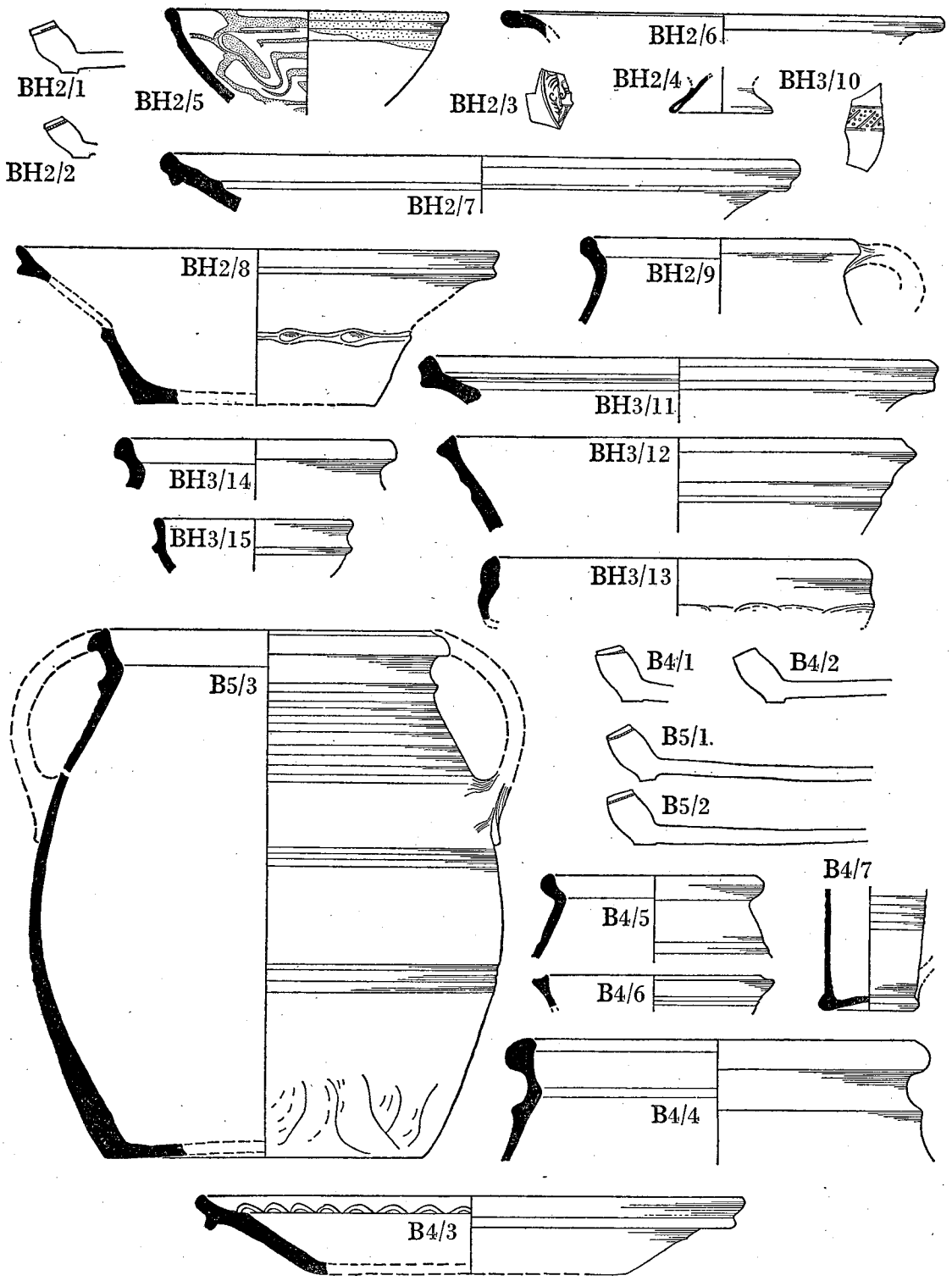



Fig. 18. Pottery and clay pipes of the second half of the seventeenth century, except BH2/4, glass (¼).

B4/4. Jar with elaborately moulded rim and external cordon. Coarse pink-red ware with white inclusions and purple-grey surface inside and out. Thick olive-brown glaze externally, running streakily over the rim (i.e. the pot was fired upside down), patchy glaze on preserved portion of the interior; cf. closely with B5/3.

B4/5. Small jar with everted hollowed rim and ribbed exterior. Pink-red ware with reddish-brown glaze inside and out, patchy below the exterior of the rim, and on the interior.

B4/6. Rim of a small vessel of greyish cream ware with light green glaze externally, which appears clear yellow on top of the rim and internally.

B4/7. Base of tyg, coarse pink-red soft-fired fabric with thick black glaze all over the exterior, but patchy inside.

B4 also contained two examples of straight hollow handles similar to A2/6, but with rosettes of finger impressions around the base of the handles: this is a Cambridge type of frequent occurrence at this period. B4 also contained two sherds possibly from coarse ware copies of stoneware jugs; and two sherds decorated with a combed slip technique identical with BH2/5.

B5/1. Clay pipe bowl of Oswald's Type 6*b* of *c.* 1650–80.

B5/2. Clay pipe bowl of Oswald's Type 6*b* of *c.* 1650–80.

B5/3. Large ovoid storage jar, probably originally with two handles, the spring of one of which remains. The form, reconstructed from overlapping but non-fitting sherds, should only be regarded as approximately correct. Coarse pink-red ware with red inclusions, the surface fired dull purple and with rich honey-brown glaze all over the interior and exterior, except over the rim and around the lower part of the exterior.

B5 also contained a small jar identical with BH2/9.

(Fig. 19)

B3/1. Pipkin of medium-grain pimply dull red ware, blackened near the base. Hollowed everted rim and ridged body profile with a flat base. Everted bar-handle, folded up on top and brought to a pointed end. Occasional spots of yellow-brown glaze externally, with large patch on the inside of the base. A similar pipkin occurred in S28.

B3/2. Deep open bowl of greyish buff ware, blackened over the exterior and glazed internally with a good cover of dull yellow glaze. Simple clubbed rim, the exterior heavily ribbed, and the base slightly sagging.

B3/3. Rim, probably of an open bowl, flanged externally and glazed internally with brownish yellow glaze. Orange-buff slightly pimply fabric.

B3/4. Flanged rim support, probably from a chafing dish (cf. S28/5) originally having three supports on the rim to support a second vessel above. Coarse dull red fabric glazed all over inside and out with rich yellow-brown glaze. The upper surface of the flange is decorated with semi-circular impressions made with a sharp instrument. A complete example from Willingham Fen with a pedestal and with the rim decorated with criss-cross coarsely incised grooves is in the University Museum of Archaeology and Ethnology (53. 490), where there is a second example perhaps from Trinity College (59. 72. B).

*Sidney Street* (Fig. 19)

S16/1. Deep bowl with flaring sides and flanged rim. The body is pierced by (?) four circular perforations just above the base angle. Coarse pinkish orange ware with grey surfaces. Reddish brown glaze all over the interior and exterior except over the rim and on the upper part of the interior.

S16/2. Deep bowl, similar to S16/1, but with straighter sides and pierced in (?) four places through the base. The base angle has been trimmed with a knife. Coarse pinkish orange ware with

grey surfaces except for the lower part of the interior, which is reddish purple. The dark brown glaze is restricted to the interior of the base, where it is patchy. S16/1 and 2 are clearly plant-pots of the kind shown in use in Laurent de la Hyre's (1606–58) painting *Grammar* in the National Gallery.

S16/3. Shallow dish with flanged rim. Coarse pink-red ware. Streaks of white slip outside and on the rim. All over white slip inside overlain by a red slip in a wavy pattern. Another sherd, perhaps from near the base of this vessel, has a true combed pattern in this technique (cf. BH2/5). This is perhaps a local copy of Staffordshire slipwares, a sherd of which occurred in this group.

S16/4. Open bowl with flanged rim. Coarse pinkish orange ware with grey or reddish grey surface. There is no glaze on the surviving sherd.

S16/5. Flanged rim of tin-glazed vessel, the form of which is uncertain. On the rim are traces of two vertical projections, probably originally three, which may have formed a basket handle over the vessel. Light-yellow fabric from which the white tin-glaze is splitting.

S16/6. Glass wine bottle. The form of this bottle is close to I. Noël Hume's Types 4 and 6 datable to 1675–1710 (*Journal of Glass Studies*, III (1961), fig. 3).

S28/1. Open bowl with flanged rim, sagging base and knife-trimming at the base angle. Coarse buff-red ware. Patchy brown glaze over the interior, but spots only on the rim and exterior.

S28/1A. Open bowl similar to the last in form and fabric, but slightly shallower (not illustrated).

S28/1B. Open bowl similar to the last in form and fabric (not illustrated).

S28/2. Large open bowl with hooked-flange rim. Grey-brown ware with brown surfaces. Spots and patches of brown glaze, mostly on the interior.

S28/3. Deep open bowl of thick brownish grey fabric with undercut flanged rim and sagging base. Extensive knife-trimming around the lower part of the body. Sparse patchy yellow-brown glaze on the lower part of the interior only.

S28/4. Lower part of a globular jug (?), of coarse bright pink-red fabric covered externally with a thick black glaze which is present inside the base alone. The interior surface is fired dark greyish purple. The base is pierced by a circular perforation.

S28/4A. Squat pipkin with hollowed everted rim and carinated profile, the base slightly kicked. Slightly curved bar-handle, with large finger impression below. Knife-trimming around the base. Reddish-brown fabric with a patch of reddish brown glaze on the interior of the base, but elsewhere unglazed except for rare chance spots. (Not illustrated, cf. B3/1.)

S28/5. Chafing dish with everted rim on which are supports (probably originally three) for an upper vessel. Two opposed downturned horizontal loop handles. The pedestal base is formed in one part with the bowl, and the base of the bowl formed by a separate inserted clay plate. The pedestal is decorated with vertical finger impressions, and the base has been trimmed internally and externally with a knife. Coarse pink-buff fabric with a thick grey core. Olive-green glaze tinged with brown rather patchy glaze over the interior of the bowl; very sparse and patchy glaze on the upper part of the exterior and spots only on the pedestal. There are no signs of burning in the bowl or under the base.

There are two other chafing dishes from this pit. One is identical to the illustrated vessel; the other has a plain pedestal without the vertical finger impressions. One shows slight signs of burning on the interior of the bowl.

The usual lack of signs of burning is perhaps explained by the use of hot water rather than coals as the warming agent in the bowl, but the burning of spirits of wine has also been suggested (C. M. Watkins, *op. cit.* below), and this would probably leave no sign of burning. When in use with coals, these were placed in the bowl of the vessel, above which the pot being warmed was supported by the three projections on the rim: an illustration of a metal vessel of this type in use can be seen in Hogarth's painting *An Election Entertainment* (1754–7). In a different type the

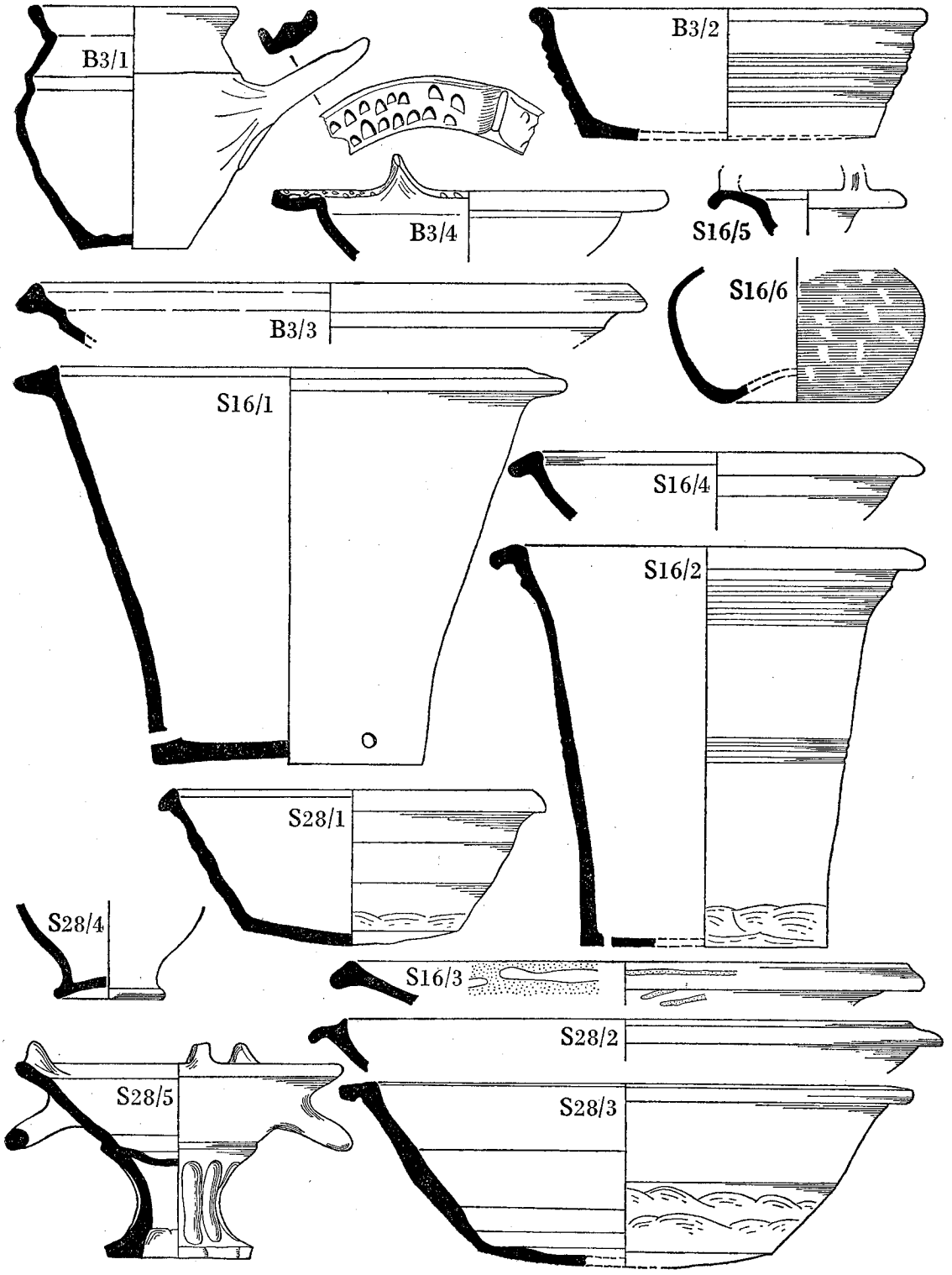



Fig. 19. Pottery of the later seventeenth to early eighteenth centuries, except S16/6, glass (¼).

pedestal base is pierced by large openings and the coals were placed below the vessel, the substance to be warmed being placed directly in the bowl.

Chafing dishes are known in Holland (*Berichten van de rijksdienst voor het oudheidkundig bodemonderzoek*, IX (1959), p. 215, Abf. 16); and in the United States (C. Malcolm Watkins, *North Devon Pottery and its Export to America in the Seventeenth Century* (U.S. National Museum, Bulletin 225, 1960), p. 51, figs. 20, 31). These vessels have also been illustrated and discussed in the preliminary report on the pottery from Nonsuch (*Surrey A.C.* LVIII (1961), p. 20, fig. 7, 20), where the type occurs in deposits of 1650/65–1688.

S28 also contains the rim of a deep vessel identical to S16/2.

## *Wooden objects* (Pl. III and Fig. 20)

A number of waterlogged deposits produced fragments of wood, in the main disused posts, beams and planks, but including some pieces of individual interest, of which details are given below.

Pl. III, C, D. One of two similar circular blocks of oak, some 16 in. in diameter and 4 in. thick. On Pl. III, D, the cross-cut saw marks on the face of the block can be clearly seen. From Corn Exchange Street, thirteenth-century ditch.

Fig. 20, 1. Stave, *Quercus* sp. (oak), with tapered top having three holes in the surviving portion and probably originally a fourth. There is a deep horizontal groove near the base. The stave probably comes from a handled bucket, with an iron hoop around the base, and perhaps a second hoop within the rim. The reconstruction (Fig. 20, 1*a*) is entirely hypothetical, though handles and hoops from perhaps similar buckets have been found in an early sixteenth-century deposit at St Neots (*Proc. C.A.S.* forthcoming). The latitudinal curve of the stave suggests that the groove was external, perhaps the seating for a binding strip. In available parallels an internal groove forms the seating for a wooden bottom. Thus in the present case the latitudinal curve may be the result of shrinkage.

Fig. 20, 2. Peg, *Corylus* (hazel), with hook and top trimmed and end pointed. From Post Office Terrace, feature 23, early sixteenth century.

Fig. 20, 3. Lath, *Quercus* sp. (oak), having three rectangular nail holes along its axis, and corrosion products of the round head of one of the nails. From Corn Exchange Street, thirteenth-century ditch.

Fig. 20, 4. Lath, *Quercus* sp. (oak), having one rectangular nail hole and indication of the round head of the nail. From Corn Exchange Street, thirteenth-century ditch.

## *Iron objects*

The condition of iron was usually bad and few objects worth publishing were found.

Fig. 20, 5. Iron auger-bit; length 16 in. From Bradwell's Court, probably from Pit 4; seventeenth century.

Fig. 20, 6. Iron knife, the handle formed by bone scales secured to either side of the scale-tang by three rivets. Each bone scale is decorated with three ring-and-dot ornaments. From Post Office Terrace, feature 23; early sixteenth century.

Fig. 20, 7. Single-edged rondel-dagger with scale-tang and wooden scales secured by three iron double-headed pins or rivets. The guard and inner part of the pommel are of hollow iron, while the pommel proper appears to have been made of wood now completely replaced by iron oxides. For a discussion of the dating of these weapons see *London Museum Medieval Catalogue* (1940), pp. 42–7; the present example is of fifteenth-century date and must have been old when thrown into feature 23 of early sixteenth-century date on the Post Office Terrace site.

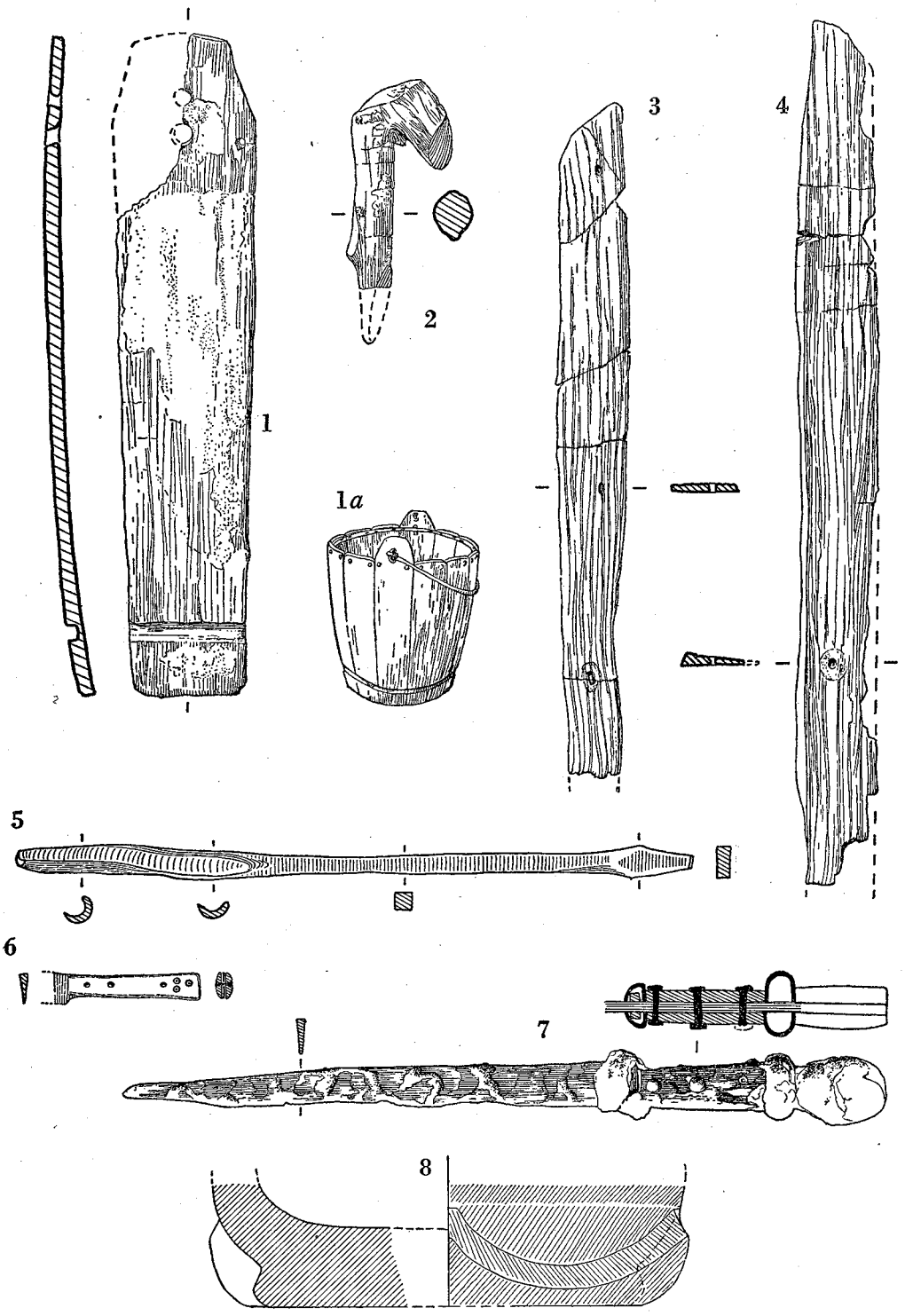



Fig. 20. Objects of wood (1–4), iron (5–7) and stone (8). (All $\frac{1}{4}$, except 1*a*, not to scale.)

The dagger, which was found in several pieces in extremely bad condition, was examined by Mr L. Biek, who reports as follows:

'Ancient Monuments Lab., No. 630015: The state of preservation is curious and clearly significant. Since little published information appears to exist on this topic it was thought important to give the description in full. The section of the blade, as seen in fracture, would seem to be little changed in shape, though completely altered in material. The rivets now show as hollow tubes, although it is probable that they were originally solid rivets: this is worth stressing as portions of armour recently examined[1] are thought to have had, all along, iron tubes similar in appearance and splayed at each end, through which pins of copper alloy were inserted. A microscopical spot of green (presumably copper) was seen on the central rivet head shown in the drawing. Although it had the appearance of having been formed *in situ*, the evidence is too slender for any firm deductions to be justifiable. The outlines generally, and of pommel and guard, are very much obscured by ambient soil irregularly impregnated with corrosion products.

'The "wood" of the scales appears to occupy very largely the space into which the original scales were affixed—apart from some evident loss of surface in a few places. The material is still very wood-like in grain, feel and, to some extent, softness, but is no longer completely homogeneous. The bulk is coherent, very dark chocolate brown in colour, but, although it evidently contains much hard material, some of it powders easily and areas filled with powder were noted on receipt in the Laboratory. On ignition of a microscopical sample, its shape was very largely retained, no obvious combustion was seen, and the resulting material was (under the microscope) reminiscent of a fragment of iron smelting cinder-with-slag.

'There are perhaps two features of special interest. First, the X-radiographic evidence (Pl. V, C) appears completely to contradict what can be seen with the naked eye in the area of the grip: it shows the central portion as "hollow", surrounded by a "tube" of iron-rich material, rather like the rivets but on a much larger scale. But, whilst the rivets can be seen to be hollow, the grip is (in the same sense) clearly not: all the fractures show a "solid" section of uniform texture. This would seem to indicate that, despite the retention of original shape, the metallic iron from the tang has in corroding sufficiently migrated outwards into the wood, and especially into its peripheral area, to leave virtually a mere husk of iron oxides in the place of the original wood. In effect, in their present state the wooden scales appear more radiopaque than the "iron" of the tang.

'The second noteworthy phenomenon concerns the material inside the guard which, in fracture, shows a laminated lustrous block not unlike the weathering skin on decayed medieval glass. The iridescent quality has been previously noted on crystals inside rust excrescences ("solidified bubbles"), and work is in progress on these iron oxides to elucidate their nature, but this is the first time that a full half-inch thickness of material has been observed, smaller and irregular "single crystallites" being also present here. The close visual parallel tempts one to transfer other considerations from glass to iron: could this phenomenon be seen as the result of a regular oscillation of conditions (from warm-dry to cool-wet and back) and, if seasonal, be used like tree rings to indicate age? Although there is some doubt[2] about the validity of *equating* the number of layers in a glass weathering skin with the number of years of burial, it seems that for some (?accidental) reason a strong correlation exists at least for the specimens published by Brill and Hood[3] and possibly also for the Hangleton object.[4] Similar periodic oscillation has been noted in caves[5] and mollusc shells.[6] It might in the present case be connected with a smoothly

[1] From Boston Dominican Friary.
[2] *Sussex A.C.* CI (1963), pp. 164–5.
[3] *Nature*, 189 (1961), pp. 12–14.
[4] *Sussex A.C.* CI (1963), pp. 164–5.
[5] *Nature*, 185 (1960), pp. 93–4.
[6] *Ibid.* pp. 336–7.

and regularly fluctuating water table, much as suggested for the more drastic and localized variations indicated at Maxey.[1] The entire object, which is quite uncleanable, clearly deserves a complete examination, which it is hoped will be carried out in the near future.'

## *Stone mortar*

Fig. 20, 8. Mortar of yellow broken-shell limestone or burr-stone, a softer rock of the same geological series as Purbeck marble. The four spurs give the base a square plan, while the bowl bulges out between and above the spurs. The latter terminate 2 in. above the base and do not continue upwards as ribs to merge with the lugs which will have been present at the rim. This mortar is thus a variant of Type 2 as defined by G. C. Dunning (*Med. Arch.* v (1961), pp. 279–84), although of the same date as the Northolt mortars on which his analysis was based. Post Office Terrace, feature 20; thirteenth century.

## *Copper-alloy objects*

Fig. 21, 1. Thin circular disc with central boss. The flange is pierced for attachment in three places and decorated with an incised nine-pointed star. Post Office Terrace, feature 23; early sixteenth century.

Fig. 21, 2. Oblong plate with bevelled surface, pierced for attachment. Corn Exchange Street, level 17; fourteenth century.

Fig. 21, 3. Thimble, the exterior roughened with vertical incisions. Corn Exchange Street, feature 13; later sixteenth century.

Fig. 21, 4. Thin plate with slot for hook and holes for attachment: probably a book or clothes fastener. Bradwell's Court, burnt house, level 3; second half of seventeenth century.

Fig. 21, 5. Rim of flaring-mouthed vessel, possibly a bowl or skillet. Post Office Terrace, feature 23; early sixteenth century.

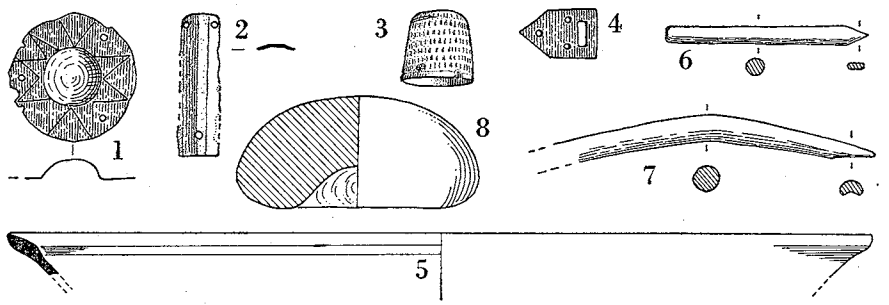



Fig. 21. Objects of copper alloy (1–5), lead (6–7) and glass (8) ($\frac{1}{4}$).

## *Lead objects*

Fig. 21, 6. Lead rod with one end sharpened to a thin edge: probably a 'lead' pencil. Post Office Terrace, feature 20; thirteenth century.

Fig. 21, 7. Lead rod similar to, but larger than the above, the 'pointed' edge thinned and slightly hollowed to a nib-like form. Post Office Terrace, feature 6; thirteenth century.

[1] *Med. Arch.* VIII (1964), pp. 64–8.

### *Glass linen-smoother*

Fig. 21, 8. Glass linen-smoother. These objects are a feature of early medieval deposits over much of northern Europe (York: *Arch.* XCVII (1959), p. 95, fig. 22, nos. 36 and 37; Cologne, noted by P. V. A.; Hedeby: H. Jankuhn, *Die Ausgrabungen in Haithabu* (1937–1939) (1943), III, Abb. 40; Birka: H. Arbman, *Die Gräber* (1943) p. 61, Abb. 38, 18), and are also known from later medieval deposits in England (Hangleton, Sussex, thirteenth–fourteenth century: *Sussex A.C.* CI (1963), pp. 163–5; Rievaulx, Yorks, after *c.* 1128: *ibid.* p. 163). Although probably used for smoothing linen their use for dressing skins has also been suggested (*ibid.* p. 164). Unstratified.

Mr L. Biek reports: 'The Cambridge linen-smoother is similar to the Hangleton objects, but completely lacks any of the weathering skin noted there and on a similar smoother from Therfield, Herts. (*J.B.A.A.* 3rd ser. XXVII (1964), pp. 81–2, fig. 23, 9). Purely from its superficial condition, however, it seems likely to have been made in much the same way and from the same types of raw material as the Hangleton objects (*op. cit.* p. 164).'

### *The faunal remains*

The first section of the report which follows has been designed to show the relative quantities of the bones of the various animals present, and also the parts of the animals represented. This analysis has been divided into broad chronological groupings, each containing all the bones from levels of that date from the recent excavations. Although the report shows that the bones of sheep/goat predominate throughout, with cattle second, bird third and pig fourth, it must be remembered that in terms of carcass weight cattle certainly predominated with sheep/goat second, pig third and birds fourth.[1]

The second part of the report presents the measurements of the best-preserved bones species by species and period by period. It is only by the publication of such measurements, especially from large series, that it will eventually be possible to establish in detail the variations both regional and chronological present in early breeds.

### *Report on the Faunal Remains*

By C. F. W. HIGHAM and E. S. HIGGS

Throughout this article, no. = number of bone fragments identified; % = percentage of fragments found; % imm. = the percentage of bones from immature animals; 1, horn cores and skull fragments; 2, mandible and maxilla; 3, teeth; 4, hyoid; 5, scapula; 6, humerus; 7, ulna/radius; 8, phalanges; 9, metapodials; 10, pelvis; 11, femur; 12, tibia; 13, vertebrae; 14, calcaneum/astragalus; 15, cuboid navicular; 16, sesamoids. The letters and numbers in brackets after each heading are the site letter, and feature or level numbers, as used in the report on the pottery (see p. 103). 816 bones were identified.

[1] For comparison of the figures of animals present by bone frequency on the one hand and carcass weight on the other, see Frazer and King's investigation of the fauna of Star Carr, in J. G. D. Clark, *Star Carr* (1952), Cambridge University Press. See also the results of the examination of the animal bones from Maxey (*Med. Arch.* VIII (1964), pp. 69–71).

*Summary*

Sheep/goat predominate throughout, with cattle second, bird third and pig fourth. The preference was for young oxen and mature sheep/goat. The diet was supplemented by oysters, fish, fowl, venison and rabbit.

*The eleventh century or earlier* (S26, 27)

| | No. | % | % imm. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheep/goat | 78 | 61·0 | 27·4 | 4 | 12 | 14 | 2 | 6 | 5 | 7 | 2 | 19 | 4 | 2 | 1 | 0 |
| Cattle | 24 | 19·0 | 50·0 | 3 | 1 | 1 | 0 | 5 | 1 | 2 | 3 | 2 | 1 | 2 | 1 | 2 |
| Pig | 8 | 6·5 | 60·0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 2 | 0 | 0 |

There were also 12 bird bones, 4 of pigeon size, 1 horse metapodial and 4 bones of a canid.

*The twelfth century* (S29; P1, 2, 3, 14, 18, 24; B VIII)

| | No. | % | % imm. | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheep/goat | 59 | 41·3 | 33·3 | 13 | 3 | 9 | 3 | 4 | 4 | 4 | 16 | 1 | 0 | 3 | 3 |
| Cattle | 57 | 39·8 | 33·3 | 10 | 6 | 2 | 3 | 1 | 5 | 7 | 10 | 3 | 4 | 2 | 4 |
| Pig | 7 | 4·9 | — | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 |

Included within the 59 sheep/goat bones are 4 horn cores and 2 skull fragments definitely of goat. There were also 6 bird, 2 dog, 4 cat bones and a horse bone.

*The late twelfth–thirteenth centuries* (P19, 28)

| | No. | % | % imm. | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheep/goat | 42 | 32·4 | 22·2 | 6 | 2 | 4 | 3 | 3 | 2 | 4 | 11 | 2 | 0 | 2 | 2 | 1 |
| Cattle | 37 | 30·1 | 25·0 | 7 | 2 | 1 | 3 | 4 | 3 | 3 | 3 | 2 | 2 | 2 | 4 | 0 |
| Pig | 12 | 9·5 | — | 0 | 2 | 2 | 1 | 1 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 0 |

There were also 15 cat, 1 rabbit, 1 dog and 11 bird bones. Two of the cattle were either foetal or just born.

*The thirteenth century* (P20, 20*a*)

There were 10 bones (37%) of sheep/goat, 11 (41%) cattle bones, 4 bird and 2 cat bones. Sheep/goat were represented by a molar, scapula, 2 radii, 2 ulnae, a tibia, two metatarsals and a humerus; cattle by 2 molars, an incisor, a scapula, 3 ribs, 3 humeri, and a vertebra fragment.

*The late thirteenth century* (P6)

There were 4 bones of sheep/goat, 2 cattle bones, 1 pig, a horse, and a bird bone. Sheep/goat were represented by a scapula, metapodial, astragalus and molar, cattle by a maxilla and jugal bone, pig by a pelvis, bird by a cranium and horse by a femur fragment.

*The thirteenth–fifteenth centuries* (P12, 27; C17, 18, 21–2; S14, 19; B XII, 1 and 2)

There were 16 bones (45·6%) sheep/goat, 10 (28·6%) cattle bones, 2 pig, 3 dog, 3 bird, and a cat bone. Sheep/goat were represented by a humerus, radius, proximal phalange, 2 tibias, 4 metacarpals, 5 metatarsals, and 2 atlases. Cattle by a molar, horn core, scapula, middle phalange, pelvis, metacarpal, 2 mandibles and 2 metapodials. 16·7% of the sheep/goat bones were immature, and an immature calf metapodial indicated an animal less than 24/30 months old.

*The fifteenth–sixteenth centuries* (P25; C7, 8; S9)

There were 25 (55·7%) bones of sheep/goat, 11 (24·5%) cattle and 2 pig bones. Bird was represented by 5 bones, and dog by one. There was a human phalange. 20% of the sheep/goat bones and 57% of the cattle bones were immature. Sheep/goat were represented by a molar, scapula, humerus, radius, proximal phalange, pelvis, 2 orbits, 2 ulnae, 2 metacarpals, 3 tibiae, 3 metatarsals and 6 horn cores. Cattle were represented by an incisor, radius, 2 phalanges, a tibia, horn core, astragalus, 2 metacarpals, and 2 femora. Pig by a humerus and incisor.

*The early sixteenth century* (P23)

| | No. | % | % imm. | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheep/goat | 38 | 37·3 | 15·0 | 2 | 1 | 5 | 3 | 3 | 2 | 4 | 8 | 4 | 4 | 0 | 0 | 2 |
| Cattle | 25 | 24·6 | 44·5 | 2 | 1 | 1 | 1 | 1 | 3 | 8 | 2 | 0 | 2 | 2 | 1 | 1 |
| Pig | 6 | 5·9 | — | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

There were also 26 bird, 2 fish, 3 rabbit, 2 cat and 2 rat bones.

*The first half of the seventeenth century* (A2; C13)

| | No. | % | % imm. | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheep/goat | 80 | 52·8 | 33·5 | 8 | 4 | 3 | 5 | 5 | 8 | 12 | 21 | 3 | 3 | 8 | 0 | 2 | 1 | 0 |
| Cattle | 43 | 28·3 | 64·0 | 3 | 2 | 4 | 1 | 1 | 1 | 5 | 12 | 0 | 0 | 1 | 5 | 3 | 0 | 4 |
| Pig | 15 | 9·9 | — | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 4 | 5 | 0 | 0 | 1 | 0 | 0 |

In addition there was a bovine patella, 2 bird bones, and a fragment of a horse scapula.

*The second half of the seventeenth–early eighteenth centuries* (BH2 and 3, B4, B VI; C9)

| | No. | % | % imm. | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sheep/goat | 28 | 68·8 | 20·0 | 3 | 3 | 2 | 2 | 0 | 3 | 2 | 9 | 2 | 0 | 2 |
| Cattle | 11 | 26·2 | 71·6 | 0 | 0 | 1 | 1 | 3 | 2 | 2 | 2 | 0 | 0 | 0 |

In addition there was a fragment of pig pelvis and 2 bird bones.

*The eighteenth century* (C5, 9)

There were 4 animal bones from this period, a sheep/goat humerus, the proximal epiphysis of a tibia, a distal phalange of an ox, and a roe-deer metacarpal. There was also a human patella.

*Bone measurements*

(The measurements are in millimetres and the dates are in centuries.)

A. CATTLE

| | 11th | | 12th | | | | | 12th/13th | | 13th | 13th/15th | 15th/16th | | | 17th | | 17th/18th | | 18th |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) *Horn core* | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | 106 | — | 125 | 155 | — | — | — | — | — | — | — | — | — | — |
| Max. basal circumference | — | — | 157 | 165 | 137 | 132 | 117 | 113 | — | — | — | — | — | — | — | — | — | — | — |
| Max. basal diameter | — | — | 45 | 67·5 | 45 | 42 | 38·5 | 37·5 | 54 | — | — | — | — | — | — | — | — | — | — |
| Min. basal diameter | — | — | 40 | 40 | 37·5 | 37·5 | 29 | 31 | — | — | — | — | — | — | — | — | — | — | — |
| (2) *Mandible* | | | | | | | | | | | | | | | | | | | |
| Max. length of tooth row | — | — | 121 | 121·5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. length of premolar row | — | — | 31 | 31 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. length of molar row | — | — | 81·5 | 78 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. length of third molar | — | — | 32·5 | 27·5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. breadth of third molar | — | — | 13 | 14·5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. mandible height at M. 1 | — | — | 36 | 32 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. mandible height at M. 3 | — | — | 65 | 48 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| (3) *Scapula* | | | | | | | | | | | | | | | | | | | |
| Min. neck width | — | — | 46 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| (4) *Humerus* | | | | | | | | | | | | | | | | | | | |
| Min. shaft breadth | — | — | 32 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. distal breadth | — | — | — | 61·5 | — | — | — | 75 | — | — | — | — | — | — | — | — | — | — | — |
| (5) *Radius* | | | | | | | | | | | | | | | | | | | |
| Max. proximal breadth | — | — | 61·0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. distal breadth | — | — | — | — | — | — | — | 75 | — | — | — | — | — | — | — | — | — | — | — |
| Min. shaft breadth | — | — | — | — | — | — | — | — | — | 32 | — | — | — | — | — | — | — | — | — |
| (6) *Proximal phalange* | | | | | | | | | | | | | | | | | | | |
| Max. length | 56 | 60 | — | — | — | — | — | — | — | — | — | 52 | 57 | — | 61 | 61 | 73 | 64 | — |
| Max. breadth | 25·5 | 30 | — | — | — | — | — | — | — | — | — | 25 | 28 | — | 31 | 33 | 36 | 29 | — |
| (7) *Middle phalange* | | | | | | | | | | | | | | | | | | | |
| Max. length | 41 | — | 37 | 33 | — | — | — | 35 | — | — | 37·5 | 43·5 | 46 | 38 | — | — | — | — | — |
| Max. breadth | 28·5 | — | 27 | 24 | — | — | — | 24 | — | — | 25 | 33·5 | 33 | 29 | — | — | — | — | — |
| (8) *Distal phalange* | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | 64 | — | — | — | — | — | — | — | 63 | — | — | — | — | — | — | 63 |
| Max. breadth | — | — | — | 39 | — | — | — | — | — | — | — | 40 | — | — | — | — | — | — | 40 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (9) *Metacarpal* | | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | 166 | — | — | — | — | — | — | — | — | — | — | — | |
| Max. proximal breadth | — | — | — | — | — | — | — | 52 | — | — | 48 | 60 | — | — | 51 | — | — | — | — | |
| Max. distal breadth | — | — | — | — | — | — | — | 58 | — | — | — | — | — | — | — | — | — | — | — | |
| Min. shaft width | — | — | — | — | — | — | — | 31 | — | — | — | — | — | — | — | — | — | — | — | |
| (10) *Metatarsal* | | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | 198 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Max. proximal breadth | — | — | — | — | 22·5 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Max. distal breadth | — | — | 43 | — | 41 | — | — | — | — | — | — | — | — | — | 51 | — | — | — | — | |
| Min. shaft breadth | — | — | — | 38 | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| (11) *Tibia* | | | | | | | | | | | | | | | | | | | | |
| Max. distal breadth | — | — | 53 | — | — | — | — | — | — | — | — | — | — | — | 50·0+ | — | — | — | — | |
| (12) *Astragalus* | | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | 57 | — | — | — | — | 61·5 | — | — | — | — | — | — | — | — | — | — | — | |
| Max. breadth | — | — | 39 | — | — | — | — | 44 | — | — | — | — | — | — | — | — | — | — | — | |
| (13) *Calcaneum* | | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 109 | — | — | — | — | |
| Max. breadth | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 50 | — | — | — | — | |
| (14) *Patella* | | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 54 | — | — | — | — | |
| Max. breadth | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 38 | — | — | — | — | |

B. SHEEP

| | | 12th | | | | | 12th/13th | 15th/16th | | | 17th | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) *Horn core* | 11th | | | | | | | | | | | | | |
| Max. length | 111 | — | — | — | — | — | — | 115 | 117 | 113 | 163 | 112 | 123 | 121 |
| Max. basal diameter | — | — | — | — | — | — | — | 36 | 35·5 | 36 | 36 | 31 | 32·5 | 33 |
| Min. basal diameter | 25 | — | — | — | — | — | — | 24 | 23·5 | 22 | 26 | 20 | 19·5 | 19 |
| Max. basal circumference | 100 | — | — | — | — | — | — | 103 | 102 | 102 | 105 | 87 | 86 | 92 |

C. GOAT

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) *Horn core* | | | | | | | | | | | | | | |
| Max. length | 220+ | 175 | — | 176 | 173 | 85 | 221 | — | — | — | — | — | — | — |
| Max. basal diameter | 42 | 47 | 49 | 51 | 55 | 25 | 52 | — | — | — | — | — | — | — |
| Min. basal diameter | 27·5 | 31·5 | 29·5 | 34 | 37 | 16 | 35 | — | — | — | — | — | — | — |
| Max. basal circumference | 120 | 127 | 121·5 | 138 | 146 | 84 | 144 | — | — | — | — | — | — | — |

D. SHEEP/GOAT

| | 11th | | | | | 12th | | 12th/13th | | 13th | 13th/15th | | 15th/16th | | | | 17th | 17th/18th | 18th |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) *Mandible* | | | | | | | | | | | | | | | | | | | |
| Max. length of tooth row | — | — | — | — | — | — | — | — | — | — | — | — | 62 | 64 | — | — | 66 | — | 72 |
| Max. length of premolar row | 24 | — | — | — | — | 20 | — | — | — | — | — | — | 15 | 17 | — | — | 20 | — | 20 |
| Max. length of molar row | — | — | — | — | — | — | — | — | — | — | — | — | 45 | 46 | — | — | 44 | — | 50·5 |
| (2) *Scapula* | | | | | | | | | | | | | | | | | | | |
| Min. neck width | — | — | — | — | — | 14 | — | 17 | 19 | 15 | — | — | 17 | 18 | 18 | — | 21·5 | 16 | — |
| (3) *Humerus* | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 149 |
| Min. shaft breadth | — | — | — | — | — | — | — | — | — | — | — | — | 13·5 | 13 | — | — | — | — | 18 |
| Max. proximal breadth | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 50 |
| Max. distal breadth | 29 | — | — | — | — | — | — | 29 | — | 31 | — | — | 25·8 | 29 | — | — | 31 | — | 37 |
| (4) *Radius* | | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | — | — | — | — | — | — | 148 | 140 | — | — | — | — |
| Min. shaft breadth | — | — | — | 15 | 17 | — | — | — | — | — | — | — | — | 14 | 15 | — | — | — | — |
| Max. proximal breadth | 28 | — | 33 | — | — | — | — | — | — | 28 | 27 | 31 | — | 28 | 29 | — | — | — | — |
| Max. distal breadth | — | 28 | — | 25 | — | — | — | — | — | — | — | — | 28 | 25 | 27 | — | — | — | — |

| | 11th | | | | | 12th | | 12th/13th | | 13th | 13th/15th | | | 15th/16th | | | | (5)–(9) *continued below* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (5) *Proximal phalange* | | | | | | | | | | | | | | | | | | |
| Max. length | 31 | — | — | — | — | 35 | 34 | — | — | — | — | — | — | 38 | 36 | 29 | 33 | |
| Max. breadth | 13 | — | — | — | — | 11·5 | 13 | — | — | — | — | — | — | 13 | 12·5 | 14 | 12 | |
| (6) *Middle phalange* | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | 29 | — | — | — | — | — | — | — | — | — | |
| Max. breadth | — | — | — | — | — | — | — | 13 | — | — | — | — | — | — | — | — | — | |
| (7) *Metacarpal* | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | 136·5 | — | — | — | — | — | — | — | 121 | 123 | — | 105 | — | — | 113 | |
| Min. shaft width | — | — | 15 | — | 12·5 | — | — | — | — | — | 13 | 13·5 | 16 | 11 | — | 12 | 15 | |
| Max. proximal width | 24 | 21 | 24 | 21 | 21·5 | — | — | — | — | — | 21 | 23 | 25 | 18+ | 24 | — | 24 | |
| Max. distal width | — | — | 27 | — | — | — | — | — | — | — | 23 | 27 | — | 24 | — | 21·5 | 27 | |
| (8) *Metatarsal* | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | — | — | — | 129 | — | — | — | 124 | — | — | |
| Min. shaft breadth | 11·5 | — | — | — | — | 11 | — | — | — | — | 13 | — | — | — | 12 | 11 | — | |
| Max. proximal width | — | — | — | — | — | 18·5 | 19·5 | — | — | — | 21 | — | — | 19·5 | 21 | 20 | — | |
| Max. distal width | — | — | — | — | — | — | — | — | — | — | 25 | — | — | — | 24 | — | — | |
| (9) *Tibia* | | | | | | | | | | | | | | | | | | |
| Min. breadth | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Max. proximal breadth | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Max. distal breadth | — | — | — | — | — | 25 | — | 26+ | — | — | — | — | — | — | — | — | — | |

| | 17th | | | | | | | | | 17th/18th | | | | | | | | 18th |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (5) *Proximal phalange* | | | | | | | | | | | | | | | | | | |
| Max. length | 36 | 33 | 38 | 37 | 36 | 41 | 39 | 36 | 35 | — | — | — | — | — | — | — | — | — |
| Max. breadth | 12·5 | 12 | 12 | 13 | 12 | 15 | 13 | 12 | 14 | — | — | — | — | — | — | — | — | — |
| (6) *Middle phalange* | | | | | | | | | | | | | | | | | | |
| Max. length | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. breadth | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| (7) *Metacarpal* | | | | | | | | | | | | | | | | | | |
| Max. length | 122 | — | — | — | — | — | — | — | — | — | 129 | — | — | 113 | — | — | — | — |
| Min. shaft width | 14 | — | — | — | — | — | — | — | — | — | 16 | 14·5 | — | 13 | — | — | — | — |
| Max. proximal width | 23 | — | — | — | — | — | — | — | — | 22 | 25 | 23·5 | 25 | 20 | — | — | — | — |
| Max. distal width | 26 | — | — | — | — | — | — | — | — | — | 28 | — | — | 24 | — | — | — | — |
| (8) *Metatarsal* | | | | | | | | | | | | | | | | | | |
| Max. length | 117·5 | — | — | — | — | — | — | — | — | 120 | 115+ | 129 | — | 144 | 129 | 147·5 | — | — |
| Min. shaft breadth | 10·5 | — | — | — | — | — | — | — | — | 11 | 13 | 11·5 | — | 13·5 | 11·5 | 13 | 12 | — |
| Max. proximal width | 14·5 | — | — | — | — | — | — | — | — | 21 | 21 | 19 | 19 | 22 | 19 | 23 | 20 | — |
| Max. distal width | 22·5 | — | — | — | — | — | — | — | — | 23 | — | 23 | — | 25 | 23 | 28 | — | — |
| (9) *Tibia* | | | | | | | | | | | | | | | | | | |
| Min. breadth | 14 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Max. proximal breadth | — | — | — | — | — | — | — | — | — | 36+ | — | — | — | — | — | — | — | — |
| Max. distal breadth | 26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | 11th | 12th | | 12th/13th | 13th | 15th/16th | 17th | 17th/18th | 18th |
|---|---|---|---|---|---|---|---|---|---|
| (10) *Astragalus* | | | | | | | | | |
| Max. length | — | 27 | 26 | 29 | 27 | — | — | — | — |
| Max. breadth | — | 18·5 | 18 | 19 | 20 | — | — | — | — |
| (11) *Calcaneum* | | | | | | | | | |
| Max. length | — | — | 53 | 49 | — | 51 | 57 | — | — |
| Max. breadth | — | — | 24·5 | 23·5 | — | 25 | 23·5 | — | — |
| E. Pig | | | | | | | | | |
| (1) *Humerus* | | | | | | | | | |
| Min. shaft breadth | — | — | — | — | — | — | — | 17 | — |
| Max. proximal breadth | — | — | — | — | — | — | 43 | — | — |
| (2) *Radius* | | | | | | | | | |
| Max. distal breadth | 41 | — | — | — | — | — | — | — | — |
| (3) *Femur* | | | | | | | | | |
| Min. shaft breadth | — | — | — | — | — | — | — | 14·5 | — |
| Max. distal breadth | — | — | — | — | — | — | — | 47 | — |
| (4) *Middle phalange* | | | | | | | | | |
| Max. length | 27 | — | — | — | — | — | — | — | — |
| Max. breadth | 16 | — | — | — | — | — | — | — | — |

F. HORSE
*Humerus* Max. distal breadth 73—date twelfth century
*Radius* Max. length 327—date twelfth century
Min. shaft breadth 33·5
Max. proximal breadth 76
Max. distal breadth 70

G. DOG
*Tibia* Max. length 235—date twelfth century
Max. proximal breadth 42·5
Max. distal breadth 29
Min. shaft breadth 15

H. ROE-DEER
*Metacarpal* Max. length 191—date eighteenth century
Min. shaft breadth 16·5
Max. proximal width 30
Max. distal width 30

## *The Mollusca*

By Miss J. E. CHATFIELD

As shown in the following table, the excavations yielded a total of five species of mollusca; one terrestrial and four marine.[1]

| Date | *Buccinum undatum* | *Helix aspersa* | *Mytilus edulis* | *Ostrea edulis* | *Cardium edule* | Sites (for key see p. 103) |
|---|---|---|---|---|---|---|
| Eleventh–twelfth century | — | 16 | 23 | 15 | — | P, S |
| Twelfth century | — | 14 | 10 | 12 | — | P |
| Thirteenth century | 3 | 7 | 2 | 23 | — | C, P |
| Fourteenth century | 1 | — | — | 7 | — | C (very small sample) |
| Fourteenth–fifteenth century | — | — | — | 21 | — | P |
| Fifteenth–sixteenth century | — | 2 | 226 | 65 | 6 | C, P |
| Seventeenth century | — | — | 1 | 2 | — | A (very small sample) |

*Buccinum undatum* Linnaeus (The edible whelk)

Whelk shells were not numerous: specimens occurred on two of the sites excavated, in levels of the thirteenth century and later.

*Helix aspersa* Muller (the common garden snail)

This species is usually very common and generally scattered, especially in areas of human settlement. The shells were probably not the result of human food supplies, although this snail can be eaten.

*Mytilus edulis* Linnaeus (the common or edible mussel)

Shells of this species were generally scattered, and abundant in some places. These, like the oysters, are the remains of a meal and the shells are usually found in human rubbish.

[1] Full details of the shells with measurements of the *Ostrea edulis* specimens are deposited in the University Museum of Archaeology and Ethnology.

*Ostrea edulis* Linnaeus (the edible or flat oyster)

Oyster shells were more abundant than shells of any other species of mollusc. Most of the shells measured about 2 in. in length (from umbone to ventral margin), but the sizes ranged from $\frac{1}{2}$ in. to $3\frac{1}{2}$ in.

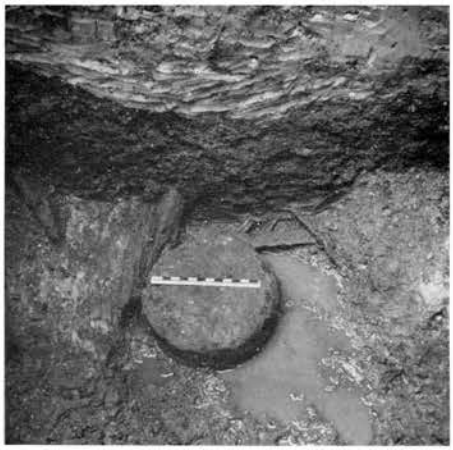
At various times laws have been made to restrict oyster fishing to adult oyster, leaving sufficient young and spawning adults to maintain the natural population. Oysters (as spat) settle and attach by the left valve to almost any suitable object, including the shells of larger oysters. Thus regardless of laws, small oysters may be taken attached to larger ones, and many valves fused together were found, with small valves attached to larger ones.

One may possibly correlate the abundance of oysters on these sites with the proximity of Cambridge to the rich natural oyster beds and areas of Whitstable and Colchester.

*Cardium edule* Linnaeus (the common cockle)

Cockles have not been so popular as oysters, and the shells occurred on one site only (Post Office Terrace) in later fifteenth- to early sixteenth-century deposits.

A



B

C

D

Corn Exchange Street. A. North-east face of the trench showing the clay filling of the early ditch and the fourteenth–sixteenth century build-up. B. Oak block and other timbers in the early ditch. C. Circular oak block from the early ditch. D. Cross-cut saw marks on the face of oak block from the early ditch.

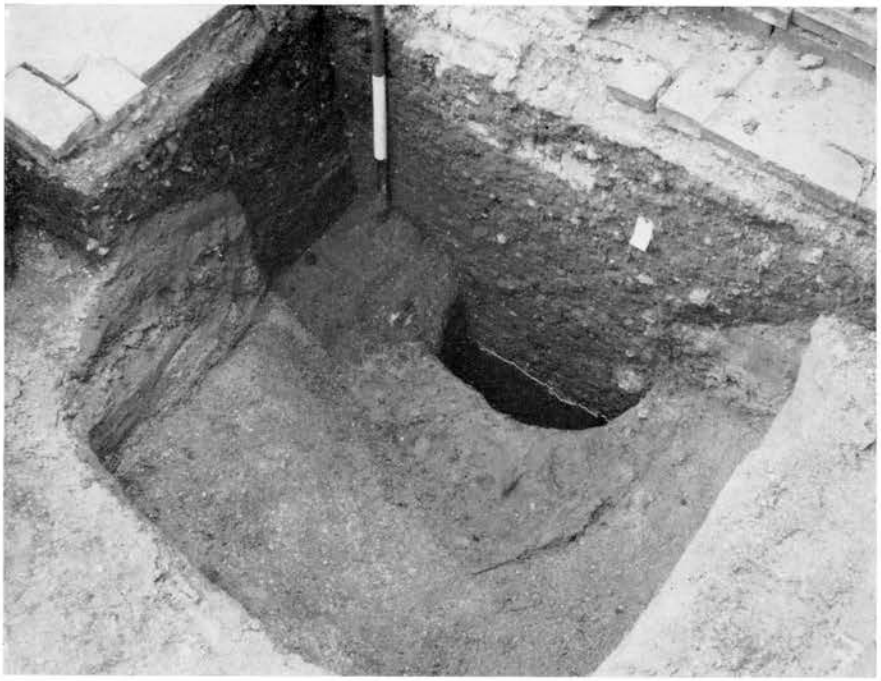
A

B

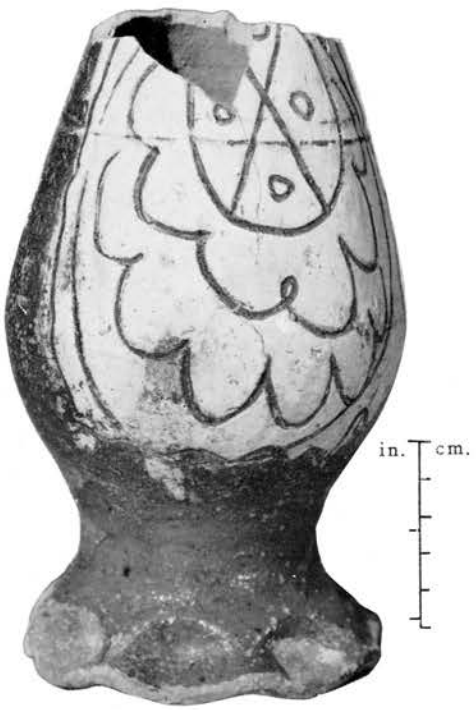
C

D

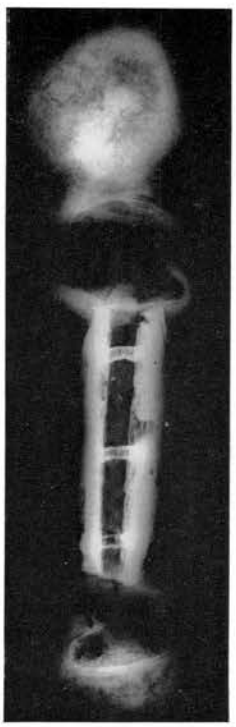
Post Office Terrace. A. Feature 14, wicker-lined pit. B. Feature 14, with the wicker lining partly removed showing the plank reinforcement. C. Feature 14, detail of wicker lining. D. Feature 12, showing vertical stakes.



A




B



C

A. Post Office Terrace: Feature 20, wicker-lined pit showing the construction shaft. B. Trinity College, Angel Court: sgraffito ware jug, A/US4, cf. Fig. 16. C. Post Office Terrace: X-radiograph of the hilt of the rondel-dagger from feature 23, cf. Fig. 20, 7 ($\frac{1}{2}$). (X-ray: *Ministry of Public Building and Works.*)

# PROCEEDINGS OF THE CAMBRIDGE ANTIQUARIAN SOCIETY

VOLUME LVIII
JANUARY 1965 TO DECEMBER 1965
40*s. net.*

## CONTENTS