Archaeological Investigations in St. Aldates, Oxford

By Brian Durham

With contributions by Andrew Brown, Elisabeth Crowfoot, Josephine De Goris, Alison R. Goodall, Ian H. Goodall, Regina Haldon, Tom Hassall, John Hedges, Martin Henig, B. J. Marples, M. J. Marples, Maureen Mellor, D. T. Moore, Hugh Richmond, Mark Robinson, J. H. Thornton and Hilary Turner.

SUMMARY

Two small area-excavations, one trial trench, two building surveys and some documentary research provide a historical survey of part of Oxford's south suburb. There was a wide variety of late Saxon and medieval finds, those from the larger excavation being exceptionally well-stratified, and a system of dating pottery assemblages is described. Evidence of major engineering at the deepest level suggests a pioneer Thames crossing constructed during a period of expansion by Mercia in the reign of Offa. Building on the causeway seems to have begun in the mid tenth century, with a stable street frontage by the twelfth century.

INTRODUCTION. By TOM HASSALL

THE excavation programme begun in Oxford in 1967 under the auspices of the Oxford Archaeological Excavation Committee was intended to take advantage of the redevelopment programme of the City, particularly in the medieval south-west ward.[1] The excavations were envisaged as principally being on a comparatively large scale such as the excavations on the Blackfriars site immediately to the west of the St. Aldate's site.[2] However, the excavations in St. Aldates demonstrated that valuable results can be gained from smaller excavations as well.

The Bridewell Square redevelopment to the west of St. Aldates, now principally occupied by Speedwell House, provided an opportunity to examine the archaeology of Oxford's south suburb (FIG. 1). The area in question lies half way between the site of the medieval South Gate and Folly Bridge. It is defined to the north by the line of the Trill Mill, to the west by the line of Blackfriars Mill stream, to the east by St. Aldates and to the south by Speedwell Street, known during the medieval period as Overee's Lane.

The redevelopment scheme involved the realignment of Speedwell Street, while the reconstruction of the old Bridewell Square began with the construction of a new building for the Catholic Chaplaincy on the north side of the Square followed by Speedwell House in 1971 on the south side. Along the St. Aldates frontage the sites of nos. 79 to 81 were also redeveloped, but nos. 83 to 87 still remain.

[1] Interim reports on the excavations from 1968–74 will be found in *Oxoniensia*, XXXIV (1969)—XXXIX (1975).

[2] G. Lambrick and H. Woods, 'Excavations on the Second Site of the Dominican Priory, Oxford', *Oxoniensia*, XLI (1976), 168–231.

OXFORD ST ALDATE'S

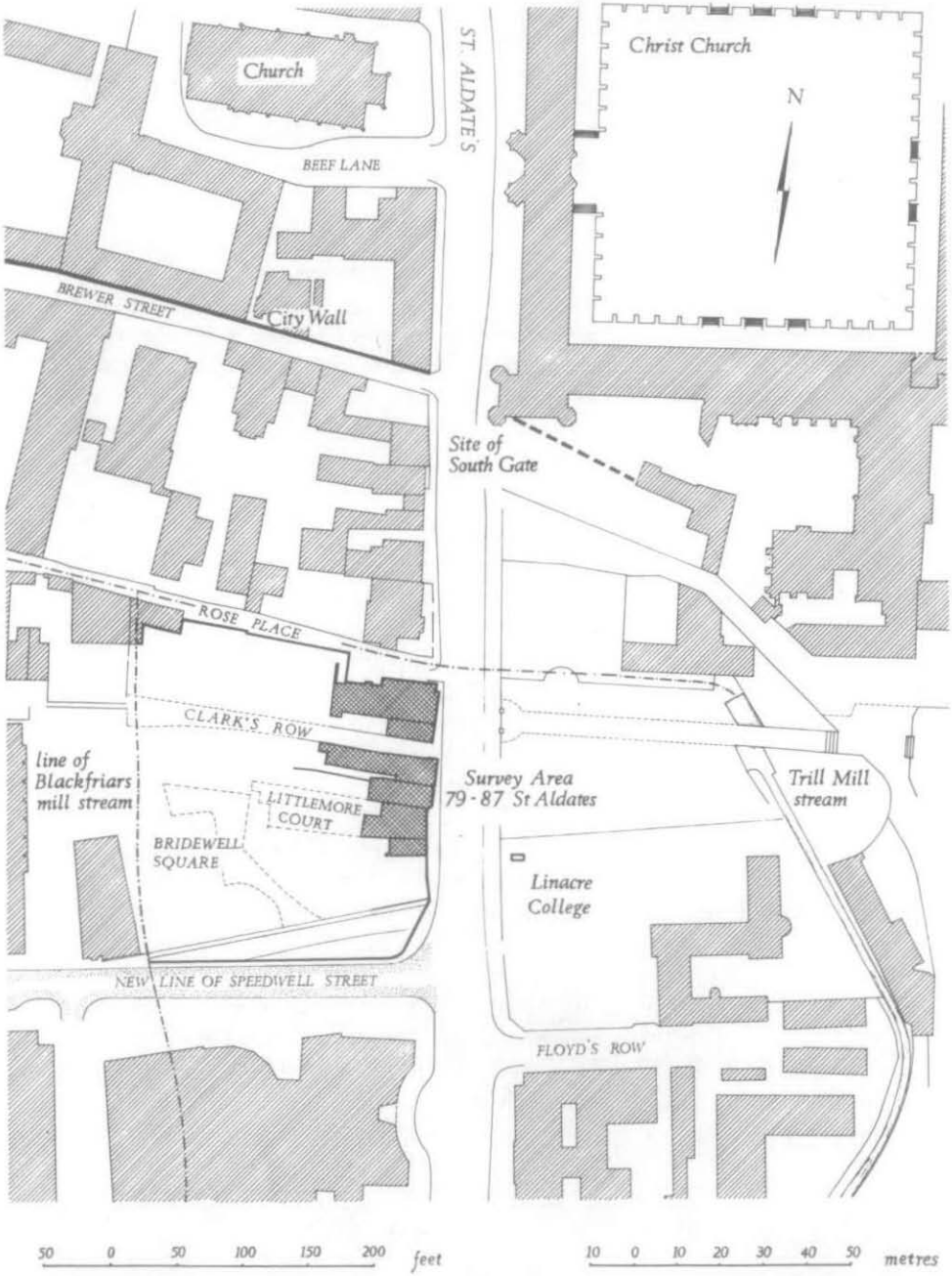


FIG. 1

It was decided that it would be best to treat the whole redevelopment as one survey area and to examine the standing structures as well as to carry out excavations. The excavations began in 1970 and were concentrated on the site of nos. 79–81 St. Aldates and behind no. 83 (PL. VII, A). In addition new sewer works were observed in Speedwell Street. The excavations were concluded at Christmas 1971 when a small excavation was completed in the front garden of the former Linacre College.

The excavations were intended in the first instance to provide information on the establishment of the south suburb for which there was no evidence earlier than the twelfth century.[3] However the excavations showed that not only was St. Aldates permanently occupied two centuries earlier than that date, but also that the crossing over the river later to be occupied by Folly Bridge must have been established by as early as the end of the eighth century. These results were anticipated by H. E. Salter when he argued that Grandpont and both the Trill Mill and Blackfriars Mill streams were pre-Conquest.[4] The nature of the waterlogged deposits from the site also preserved the most continuous sequence of stratified deposits to be excavated in Oxford. In view of the significance for Oxford of the results of this excavation it has been decided to publish them before those of the earlier and larger medieval tenement sites excavated by the Commitee at 31–34 Church Street since the sequence of pottery recovered from St. Aldates has provided the type-series to which the Church Street and other sites in Oxford could be referred. The excavation of the main site was conducted by Brian Durham, to whom the Committee owes many thanks.

ACKNOWLEDGEMENTS

I would like to express gratitude for the cooperation and patience of all involved in this project: to the excavation supervisors, Peter Fasham, George Lambrick and Mark Robinson; to all volunteer excavators, including members of Magdalen College School and Oxford University Archaeological Society; to Hugh Richmond for the building surveys; to Eleanor Beard, Alison Howard-Drake, Wendy Lee, Susan Lumley-Smith, Hugh Richmond, Patricia Roberts, David Sheard and Robin Spey for drawings; to Tom Hassall, David Hinton, and Derek Keene for advice and encouragement.

Access to the St. Aldates sites was made possible by Oxford City Council and particular thanks must be recorded to the City Estates Surveyor and especially Mr. L. R. Flint who then worked in that Department, and to the City Engineer and members of his Special Projects Section. Thanks are also due to the Principal of Linacre College, Mr. J. B. Bamborough for allowing a small excavation in the college, and to the architects and main contractors of the Bridewell Square development, Messrs. Olins John and Associates, and Messrs. Hinkins and Frewin, for their co-operation.

During the period of the actual excavations the late Mr. Peter Spokes was Chairman of the Committee, while the Honorary Treasurer was first Mr. H. Bedwell

[3] E. M. Jope, ' Saxon Oxford and its Region ', in D. B. Harden (ed.), *Dark Age Britain* (1956), 240–1.
[4] H. E. Salter, *Medieval Oxford*, O.H.S. c(1936), 14–15; D. J. Keene, ' Suburban Growth ', in M. W. Barley (ed.), *The Plans and Topography of Medieval Towns in England and Wales* (1976), 75–6.

and later Mr. W. H. P. Davison, successively Treasurers of the old Oxfordshire County Council. Miss C. M. Preston was the Honorary Assistant Secretary to the Committee. The project itself was financed and supported from a variety of sources including the Department of the Environment, Oxford City Council, Oxfordshire County Council, Oxford Preservation Trust, the British Academy, and most Oxford Colleges.

Lastly, particular thanks are due to all contributors named on the title page, to Annie Lipson for typing the final drafts, and to Maureen Mellor and Michael Wilcox for patient work on the final presentation.

MEDIEVAL DOCUMENTARY EVIDENCE. By MARK ROBINSON and BRIAN DURHAM

All known documents relating to the area have been collated by Salter;[5] and a thorough review of his work has failed to improve on his impeccable though often hidden reasoning. The structural evidence from the excavations has added an extra dimension, however, and two points which he had to leave unresolved can now be clarified. To assist in this it is necessary firstly to correct a graphical mistake on his Map S.W.1, moving tenement S.W.18 to the corner plot, with S.W.19 and S.W.20 to the north; secondly, to evoke a tenement S.W.18a to cover the deeds referring to Terra Walteri de Oseneya included with S.W.18, and which for the purpose of argument can now replace S.W.18 on the map (see FIG. 43).

If Salter's account is taken literally, he would locate tenements S.W.17, S.W.18 and possibly S.W.19 in an area 67 ft. 3 in. by 28 ft. 8 in. (20·5 m. by 8·7 m.), as high a density as anywhere in the town. There was however no sign of independent medieval structure in the excavated garden area of the corner plot (Phases 6 to 11). It seems unnecessary to assume that two tenements were squeezed into the remaining 7·5 m. of unexcavated garden area fronting the lane, leaving about 40 m. of frontage for the remaining two tenements S.W.15 and S.W.16. As a working hypothesis, therefore, it can be assumed that there were four tenements fronting the lane: S.W.15, possibly including a rear entrance to Littlemore Hall; S.W.16; S.W.17, ' Newmaisters ', which disappears from the Oseney rentals after 1270;[6] and S.W.18a, Terra Walteri de Oseneya, sometimes occupied, sometimes vacant when it is probably correctly identified by Salter as a garden for the corner tenement S.W.18, and therefore partly within the excavated area.

The second problem concerns the tenements fronting St. Aldates. We have worked through all Salter's evidence relating to S.W.21, a property of Littlemore Priory which is well documented and can be traced as 82 St. Aldates; S.W.22 and 23 to the north are 83 and 84 St. Aldates respectively. The relative positions and integrity of these tenements are well documented from *c.* 1230 onwards. There is equally no problem in identifying S.W.20 because the documents normally refer to Littlemore to the north; likewise S.W.18 which has the lane to the south. Salter has however chosen to place a tenement S.W.19 between the two, and this is a case where the evidence must be carefully weighed because it would represent the northern part of the excavated 79–80 building. His evidence seems to rest on a deed of 1517 referring to Thomas Wayte holding ' of St. Frideswide two tenements called domus Longe and domus Knight between Littlemore north and the lane leading towards the Friars Preachers south '.[7] There is no Longe among the many tenants of the corner shop S.W.18, nor does Thomas Wayte appear in the last Oseney rental, which Salter assumes to run well into the sixteenth century.[8] There is however a Longus mentioned under a St. Frideswide tenement in this position in the Hundred Rolls, and Salter assumes this to be the intermediate tenement S.W.19.[9] This would make sense

[5] H. E. Salter, *Survey of Oxford*, Vols. I–II ed. W. A. Pantin and W. T. Mitchell, O.H.S., N.S. XIV (1960) and XX (1969).

[6] *Cartulary of Oseney Abbey*, Vols. I–III ed. H. E. Salter, O.H.S. LXXXIX–XCI (1929–31); III, 112.

[7] M. S. Twyne, 22, 534.

[8] Salter, *op. cit.* note 5, II, 23.

[9] *Rotuli Hundredorum*, ed. W. Illingworth and J. Carey, (1812–18), II, 78.

of the Fairway lease of 1438–9, where the dimensions clearly show that the ground floor of the southern part of the 79–80 building was being treated, at least in the fifteenth century, as a separate tenement, presumably S.W.18.[10] The Fairways' existing property to the north would therefore be S.W.19; they also held the solar above S.W.18.[11] If this solar continued to be held with S.W.19, it may explain why in 1517 there were only two tenements between Littlemore and the lane,[12] albeit reckoned at first floor level. We consider that this makes a case for the existence of S.W.19 as a discrete tenement, despite the fact that, unlike its neighbours, no documents survive which refer explicitly to it.

79–80 St. Aldates excavated area (see FIG. 43)

S.W.18a has the earliest documentation in 1265–7 and 1276 when Terra Walteri de Oseneya is recorded as paying 3*s.* annual rent to Oseney Abbey.[13] By the Hundred Roll of 1279 it seems to have been vacant and paying no rent,[14] but S.W.18 and S.W.19 were occupied.[15] At first sight it might be thought that the surnames of the tenants might refer to occupations carried out in these premises, but Radulfus Plumbarius probably never lived here since he also held several tenements near St. Aldates church, and was influential enough to act as a juror in compiling the Roll for this ward.[16] Similarly, Augustine Textor (weaver) was one of a number of local Textors. It is worth noting that Walter Longus, the former tenant of S.W.19, seems to have had an *alias* Textor in his tenancy of S.W.9;[17] there is just a chance that S.W.18 and S.W.19 were held within one family which might account for the initial absence of a partition in Phase 9 (p. 192). The next relevant entries are in the Oseney rentals of 1317 and 1324 where S.W.18a is recorded as ' Cotagium ' and ' Domus ' respectively, suggesting that it was again occupied for a period.[18]

The earliest really informative document relates to a transaction in 1339–40 whereby the reversion of S.W.18 was acquired by John de Bibury from Nic le Mercer.[19] le Mercer, and the tenant of S.W.20, John de Aleston, each owned a moderate amount of property in the town at this time, but Bibury was well in the lead. During the following decade up to his death in the year of the Black Death, he had an interest in at least twenty-three tenements, many of them subdivided into shops in presumably prosperous areas of the High Street and Cornmarket Street. This may reflect some commercial value in the St. Aldates corner plot. Galf de Lyford might have been the occupant, and Stephen Spalding that of the northern end of the building, S.W.19, which Bibury may have acquired by a separate transaction. In his will executed *c.* 1354, he quitclaimed the corner tenement to Oseney Abbey with much of his other property for the good of his soul,[20] and St. Frideswides as chief lord seems subsequently to have had trouble recovering any rent from it.[21] A dispute over the rent of this tenement may account for a deed forged about this time, which purports to refer to a tenancy of *c.* 1180–1190, presumably S.W.20, with Litelmore to the north and Oueree's lane (*i tenemento interposito*) to the south.[22] If this had been intended as evidence to support a case by St. Frideswides that S.W.18 and 19 were originally a single tenement, it could not have been better expressed. Successive tenants are recorded in the Oseney rentals, apparently now less prestigious people and perhaps the actual occupants. S.W.18a in the lane began in due course to be held in common with the corner plot.

[10] *Op. cit.* note 6, II, 176.
[11] *Ibid.*, 185.
[12] *Loc. cit.* note 7.
[13] *Op. cit.* note 6, III, 110, 112.
[14] *Op. cit.* note 9, II, 788.
[15] *Ibid.*, 789.
[16] Salter, *op. cit.* note 5, II, 77–80; *op. cit.* note 9, 788.
[17] Salter, *op. cit.* note 5, II, 13.
[18] *Op. cit.* note 6, III, 112, 142, 158.
[19] *Ibid.*, II, 175.
[20] *Op. cit.* note 6, I, 5.
[21] *Op. cit.* note 6, II, 568.
[22] *The Cartulary of the Monastery of St. Frideswide at Oxford*, ed. S. R. Wigram, O.H.S. XXVIII (1894) I, 158.

The next surviving document is the exceptional Fairway lease of 1438–9. Oseney leased to Nicholas Fairway and Joan his wife a shop beneath the solar of the said Nicholas and Joan, bounded by Nicholas and Joan's tenement north and Overeeslane south, measuring 10 ft. 1 in. along the high road and 16 ft. 2 in. along the lane, together with a garden at the west end of the shop measuring 51 ft. 1 in. in length and 28 ft. 8 in. in breadth; rent 4*s*.[23] There must be some reason why such detail was recorded for what would in effect have been the renewal of a lease.[24] It will be suggested that Oseney was confirming the holding of the corner shop and the entire yard (see TABLE 10) at a time when the Fairways were re-unifying the property, and perhaps in defiance of St. Frideswides' previous attempts to assert its position as chief lord. The mention of a garden in the lease would imply some sort of cultivation of the rear area.

After the mid fifteenth century the rent of S.W.18a declined from 3*s*. to 2*s*. and that of the corner tenement did likewise by the end of the century.[24a] Other rents in the parish remained stable, however, perhaps suggesting that the problem with the corner tenement was lack of space for rear development. From 1517 Thomas Wayte, chandler, held S.W.19[25] which may have included the solar of the corner building (see p. 86) and perhaps the corner plot too, although suspiciously his name does not appear in the Oseney rental.[26]

Linacre College excavated area

The site can be identified as tenement S.E.155, known as Rack Hall.[27] On its south boundary was a lane, the Rack, which led back to the Trill Mill, much as Overees lane led back to the Blackfriars Mill opposite. Rack Hall does not seem to have been an academic hall.

83 St. Aldates excavated area

There are no medieval documents relating directly to any structure in the excavated area behind S.W.22; the earliest is a deed of 1639 in which the property is described as having a brewhouse attached.[28]

Until the fifteenth century S.W.21, 82 St. Aldates and S.W.22, 83 St. Aldates were held from different chief lords by different tenants. The Hundred Roll of 1279 shows Eynsham Abbey to have been the chief lord of S.W.22 and the ownership of S.W.21 to have been split.[29] Subsequently S.W.21 fell into the hands of Littlemore Priory and during the fourteenth century was known as Margaret Hall or Mariole Hall, but there is no evidence that it was ever an academic hall. The application of the name Littlemore Hall to this property seems to have begun in the sixteenth century, perhaps after the construction of the surviving hall and cross-wing (see Appendix 2).

From 1478 these two tenements were held together from different lords and were still held together in 1800. The architectural evidence from the present building on the street frontage of 82–83 St. Aldates is that it was built as an integral hall and crosswing in the sixteenth century (see Appendix 2). Throughout this period, however, only S.W.21 is referred to as Littlemore Hall; S.W.22 occupied by the crosswing is always described separately as the building adjoining the Hall, never as the Hall or even part of the Hall (see p. 199). Although it is not unusual for a single building to span land held from different lords, the separate nomenclature of two parts of an integral building in common ownership is inexplicable.

[23] *Op. cit.* note 6, II, 176.
[24] *Ibid.*, III, 232.
[24a] For tenant *Thomam Brikar* (1453) see under BONE INSTRUMENT PEGS.
[25] *Loc. cit.* note 7.
[26] *Op. cit.* note 6, III, 283.
[27] Salter, *op. cit.* note 5, II, 236.
[28] *Ibid.*, II, 26.
[29] *Op. cit.* note 9.

POST-MEDIEVAL DEVELOPMENT BEHIND THE ST. ALDATES FRONTAGE. By TOM HASSALL and HILARY TURNER

By the beginning of the nineteenth century the garden areas of the tenements in the survey area had been fully developed for housing. Access to the interior was provided by four lanes until recently known as Rose Place, Clark's Row, Littlemore Court, and Bridewell Court (later Square) (FIG. 1). The excavations threw virtually no light on the process of the opening up of the hinterland of the site; however the documentary evidence provides some of the chronology. Since the Bridewell Square redevelopment was initiated by Oxford City Council many of the deeds of the individual properties have now come into the City's ownership and with the assistance of Mr. Earnshaw of the City Solicitor's Department an examination of these documents was made possible. The documents themselves are indexed by house number within streets. In the following discussion each Lane is taken in order starting from the north.

The modern Rose Place lies on top of the Trill Mill Stream which was culverted in 1863. At the western end of tenement S.W.24 now known as the Old Palace there seems to have been another tenement, S.W.25 as early as 1279.[30] This tenement was presumably reached by a narrow passage running along the south bank of the Mill Stream. There seems to have been no further attempt to exploit the frontage of this passage until 1808 when three small properties occupied the garden of the Old Palace.

Clark's Row was built on the site of Salter's S.W.23a.[31] Salter thought it possible that this Row could have been opened up as early as 1666 to provide access to a single house. In 1772 it was probably the yard referred to as in the ownership of a Mr. Callcott.[32] Callcott's yard was acquired in 1788 by John Johnson, a carpenter. In the conveyance the land is described as a mansion house and two gardens. It may have been Johnson who began the actual development of the yard, for the following year he mortgaged it again, But in the mortgage the two gardens were described as having been divided into five tenements. These were presumably on the north side of Clark's Row. Further houses on the same side were developed after 1855 when much of the land to the west including Albion Place, Cambridge Street and Cambridge Terrace was laid out.[33] The south side of Clark's Row formed by the rear garden of 84 St. Aldates was never developed for housing and was occupied instead by service buildings for the buildings fronting onto St. Aldates.

The development of Littlemore Court and Bridewell Square must be considered together since, as has been mentioned above, S.W.22 (83 St. Aldates) and S.W.21 (82 St. Aldates, Littlemore Hall) were connected with S.W.15, a tenement fronting on Speedwell Street.[34] In 1548 when a John Bolte sold the property to John Barton they were in the same ownership and Salter traced the ownership down to a Joanne Cave in 1665. The descent of ownership can now be followed from Joanne Cave through Mary Frodwell and John Tomkins to his son and grandson, both called Martin.[35] In 1763 the second Martin, then resident in London, sold the property to Robert Tawney of St. Peter's in the East, carpenter. At that time, no. 83 was described as the capital messuage. Behind it was a malthouse which was presumably the same as a brewhouse first mentioned in 1639. No. 82, Littlemore Hall was used as four tenements. The property also contained another malthouse and a garden area, the latter presumably fronting onto Speedwell Street. By 1800 when the Tawney family set up a Trust, the development of all this land into Littlemore Court and Bridewell Court had been completed. In the Trust deed the property was described as ' all those five messuages on the west side of the highway leading to Folly Bridge [*i.e.* no. 83 St. Aldates, and no. 82 which was presumably still divided into four as it had been in 1763]; six messuages behind or contiguous to the five [*i.e.* the houses on the north side of Littlemore Court, see PL. VIII]; all the cyder house and stable to the last

[30] Salter, *op. cit.* note 5, II, 27–30.
[31] *Ibid.*, 27. Oxford City Deeds, 621, 518 and 582.
[32] H. E. Salter (ed.) *Surveys and Tokens*, O.H.S. CXXV, (1923) 21.
[33] Oxford City Deeds, P67/3.
[34] Salter, *op. cit.* note 5, II, 20, 24–6.
[35] Oxford City Deeds, Pl. 582.

mentioned messuage; also all those seven newly erected messuages or tenements and outbuildings contiguous to the said five, as well as the garden ground.'[36] The seven ' newly erected ' tenements and the garden ground presumably refer to the building of Bridewell Court. The reason for the name Bridewell is not clear but it has given its name to the paved square which now occupies the site. This new Square is reached both from the stump end of Clark's Row and a new covered entrance way which occupies the site of 81 St. Aldates. The archway into the former Littlemore Court is now no longer a right of way.

This development of rear garden areas can be paralleled in St. Aldates with the development of former cul-de-sacs such as Plough Yard, Sheppard's Row, Wyatt's Yard and the still surviving Floyd's Row. The completed pattern of this process is clearly shown in Hoggar's map of 1850 and the first edition of the Ordnance Survey of 1876. The same process is found elsewhere in the city in streets like St. Ebbe's Street where yards such as Godfrey's Yard and Circus Yard were opened up behind the street frontage in the late eighteenth century. In this way the growing population of the city was accommodated within the confines of pre-existing curtilages. Later, as R. J. Morris has shown for St. Ebbe's, various pressures combined to encourage men such as William Tredwell and Thomas Tagg to sell large amounts of garden ground which had lain vacant since the dissolution of the Blackfriars and Greyfriars, and thus to release additional building land to the west of the survey area previously considered unsuitable for building.[37]

THE GEOLOGY OF THE SURVEY AREA

The Ordnance Survey Geological Survey shows the area as a tongue of First or Flood Plain Gravel Terrace extending to the south of the medieval town.[38] It would have been effectively an island surrounded by river channels, the Trill Mill Stream channel to the north, now almost totally occluded, and the Shire Ditch and modern main channel to the south. Another major channel would have been the Hinksey Stream on the ' Berkshire ' side of the valley. This ' braiding ' of river channels seems to be associated with rivers where a relatively steep gradient coincides with a loose gravel substratum.

A total of eleven measurements of the excavated gravel surface were recorded at sites 150 m. apart on an east–west axis, and up to 26 m. apart on a north–south axis in the Survey Area and at Blackfriars.[39] All fell between 53·65 m. and 53·97 m. above Newlyn Datum, and must imply that this was indeed the surface of the terrace. An alluvial topsoil no more than 0·40 m. thick has been found on this terrace at a site 700 m. upstream, where it was sealed by deposits of the twelfth century A.D.[40] The deepest component of this layer, particularly where it had been redeposited in a Beaker Period grave, was closely similar to the ubiquitous red ' capping ' layer of the upper or Summertown-Radley terrace beneath most of the medieval town.[41] Closer to St. Aldates, no such layer was seen at the Blackfriars, where there was a 1 m. accumulation of undifferentiated river silt; in the Survey Area itself, the only comparable layer was that sealed by the Phase 1a ' clay ' deposit (L233, *Lin* L35) in this case the bed of a shallow lake (L251, *Lin* L36, see p. 172). The possible

[36] *Ibid.*, Pl. 301.
[37] R. J. Morris, ' The Friars and Paradise: an essay on the building history of Oxford ', *Oxoniensia*, XXXVI (1971), 72–98.
[38] *O. S.* Geological Survey, Solid with Drift, Sheet 236 (1938).
[39] *Op. cit.* note 2, Figs. 3 and 4.
[40] Pers. comm. Nicholas Palmer from an excavation at The Hamel, Oxford; report in preparation.
[41] For example, the ' brown subsoil ', in *op. cit.* note 1, XXXVI (1971), Figs. 5 and 6.

origin and the date of burial of this lake-bed are discussed under Phase 1a (see p. 178).

Lack of a suitable sample for petrological analysis has made it difficult to decide whether the Phase 1a ' clay ' deposit was also an alluvial sediment, or a man-made embankment pioneering the route of the Grandpont causeway (see p. 176). There is, however, a certain amount of indirect evidence and subjective evidence on which a decision can be made. The material was finer and bluer than the local river silts, mixed into the lake-bed deposit as if it had been trampled, and could be broken apart as if it had been deposited in irregular lumps (see p. 101). Unlike either the original lake-bed deposit or the later alluvial silts (L226 etc.) it was free of vegetation remains (see p. 170). It was confined to the east side of the Survey Area, ending abruptly on a line parallel to the modern road. It thus contrasted with the local river silts. If it was a lake sediment the surface of the lake must ultimately have been as high as modern winter river level (see FIG. 9), and there was no evidence of an erosive force which might have removed the sediment precisely to the surface of the gravel over the western half of the Survey Area. These considerations suggest that it was not a natural sediment, but was imported by man. It may have been weathered Oxford Clay, a Jurassic marine sediment which underlies the Pleistocene gravels here, and outcrops along the foot of the upper terrace 100 m. north of the site.

It is concluded that the 79–80 St. Aldates Phase 1a ' clay ' deposit was probably imported by man, and that immediately prior to this event the ambient surface was the bed of a shallow lake formed by the possibly temporary drowning of the flood-plain.

THREE EXCAVATIONS, AND OTHER STRATIGRAPHIC EVIDENCE

The results of the rescue excavation at 83 St. Aldates are separately described and interpreted by Mark Robinson. The results for the other three rescue and salvage sites are described in this section, and are interpreted together, taking account of evidence from the specialist sections, in DISCUSSION AND INTERPRETATION which also takes note of Mr. Robinson's conclusions. This seems the most economical way of treating evidence from adjacent and generally co-eval sites.

79–80 ST. ALDATES EXCAVATION, 1970–71

The work was begun by Mr. Robinson and continued by the writer, both under the general direction of Tom Hassall. The initial stages of excavation were carried out by members of Oxford University Archaeological Society. For economy and clarity the results are described here as a series of planning stages, (A–H, J–P and Q), each of which corresponds to the discovery of structures suggesting ever-earlier buildings. They correspond inversely with the Structural Phases (1–14) under which the site is interpreted, and the two series are related together in FIG. 3.

EXCAVATION STAGE A (Ph 14, nineteenth and twentieth centuries)

Clearance work involved removal of demolition rubble L1, footings of the former shop F4 and F28 (FIG. 42, 14) and various gullies, cobbles and drains F61–63, F69, F73–74. To the west were a sixteenth-century well with an iron siphon F94, and a brick-lined pit F142.

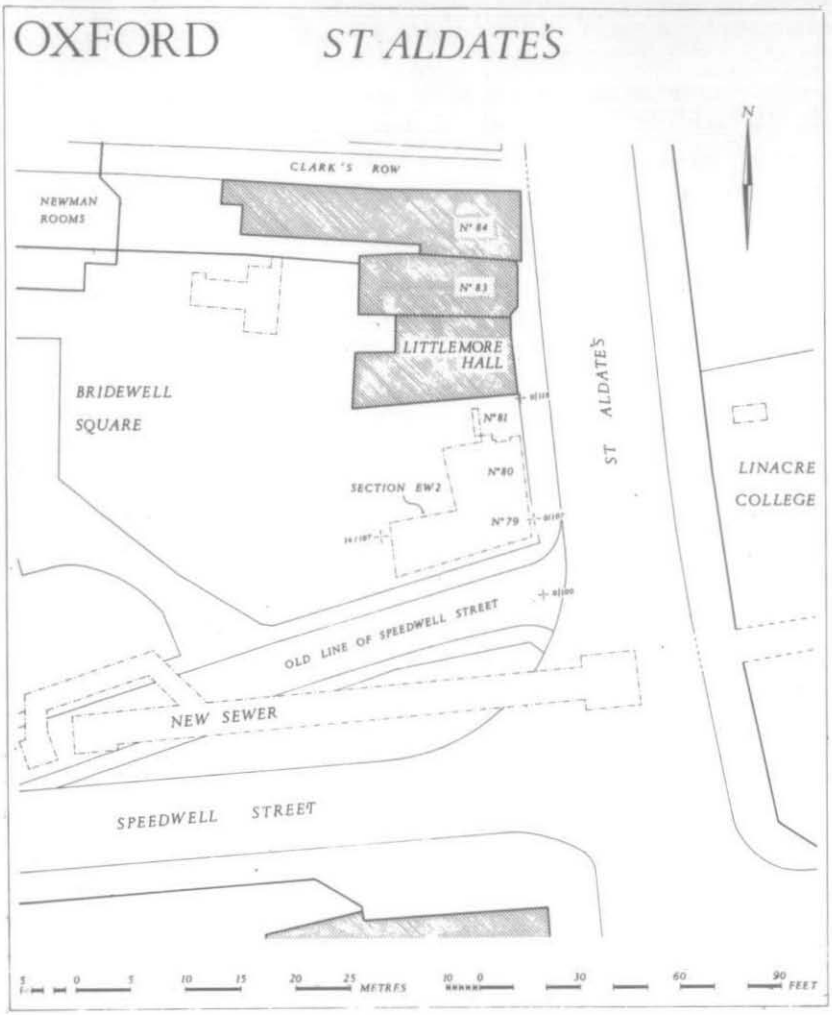


FIG. 2

EXCAVATION STAGE B (Ph. 13, *c.* 1650–nineteenth century) FIG. 4, B

Beneath the modern levels were elements of a presumably timber-framed building of which only a south footing F67–68 and chimney stack F29 survived. The floor make-up L2 extended to the eastern limit of the trench, with a ' ridge ' in the northern room and a large stone L14 protruding 0·15 m. The N.W. quadrant was occupied by a 0·45 m. deep semibasement F27 *etc.* with fragments of wooden steps F42, the northern end later re-used as a cess pit F25 (not illustrated). Near and beneath the chimney stack were four oak stakes/piles F99–101 and F101/1. To the west were two shallow footings F64 and F88.

EXCAVATION STAGE C (Ph 12, *c.* 1550–*c.* 1650) FIG. 5, C

A shallow footing F11 beneath the seventeenth-century floor make-up L2 is suggested as an earlier frontage line of the timber-framed building postulated in Stage B (see also p. 198). Apart from a partition footing F35, the only other footing was F67/68 of rectangular blocks which (a) seemed to predate the Stage B chimney stack, having a good face where they abutted, (b) predated an ashy floor L19 banked against it, but (c) was built

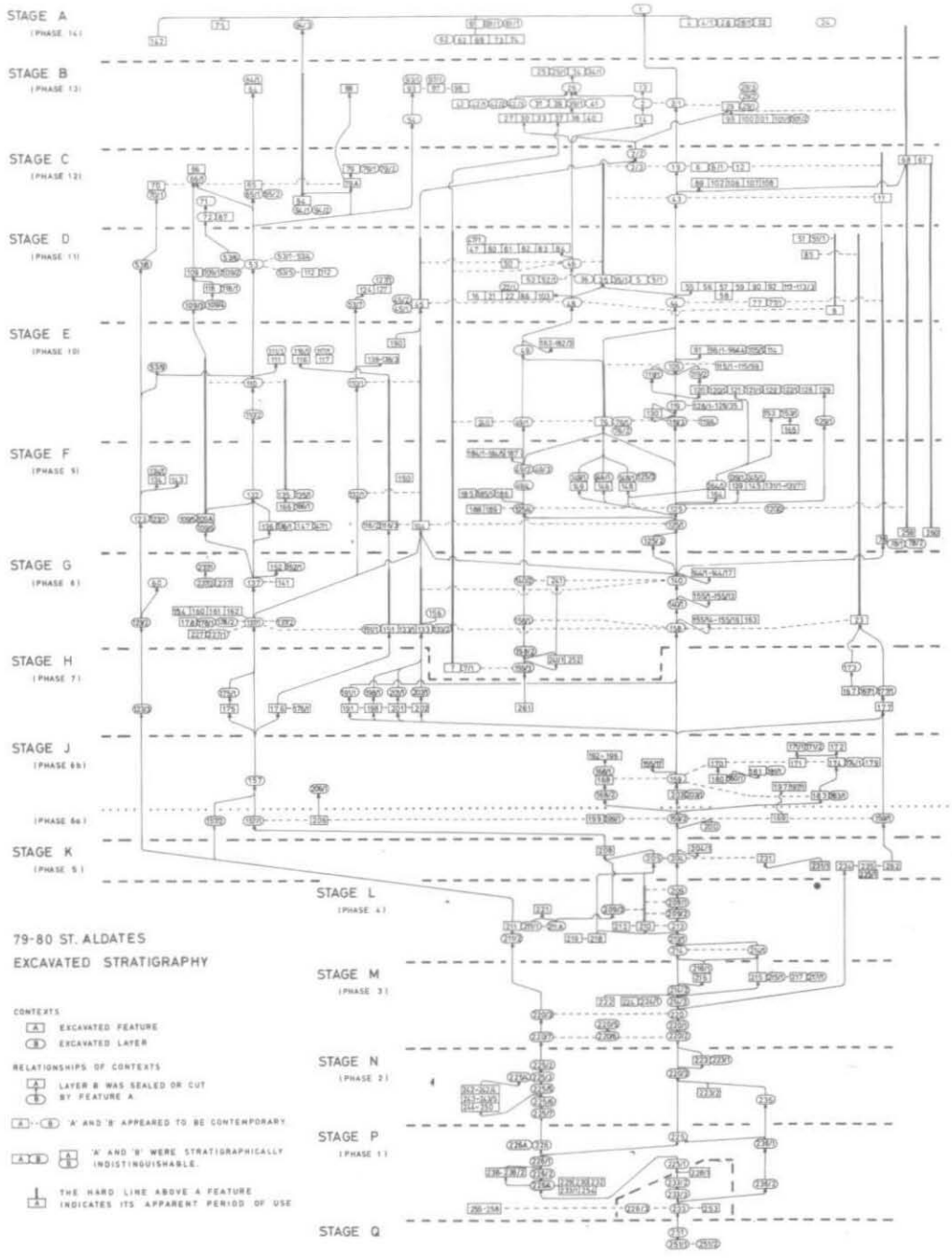

STAGE A
(PHASE 14)
STAGE B
(PHASE 13)
STAGE C
(PHASE 12)
STAGE D
(PHASE 11)
STAGE E
(PHASE 10)
STAGE F
(PHASE 9)
STAGE G
(PHASE 8)
STAGE H
(PHASE 7)
STAGE J
(PHASE 6b)
(PHASE 6a)
STAGE K
(PHASE 5)
STAGE L
(PHASE 4)
STAGE M
(PHASE 3)
STAGE N
(PHASE 2)
STAGE P
(PHASE 1)
STAGE Q
79-80 ST. ALDATES
EXCAVATED STRATIGRAPHY
CONTEXTS
EXCAVATED FEATURE
EXCAVATED LAYER
RELATIONSHIPS OF CONTEXTS
LAYER B WAS SEALED OR CUT BY FEATURE A
'A' AND 'B' APPEARED TO BE CONTEMPORARY
'A' AND 'B' WERE STRATIGRAPHICALLY INDISTINGUISHABLE.
THE HARD LINE ABOVE A FEATURE INDICATES ITS APPARENT PERIOD OF USE

FIG. 3

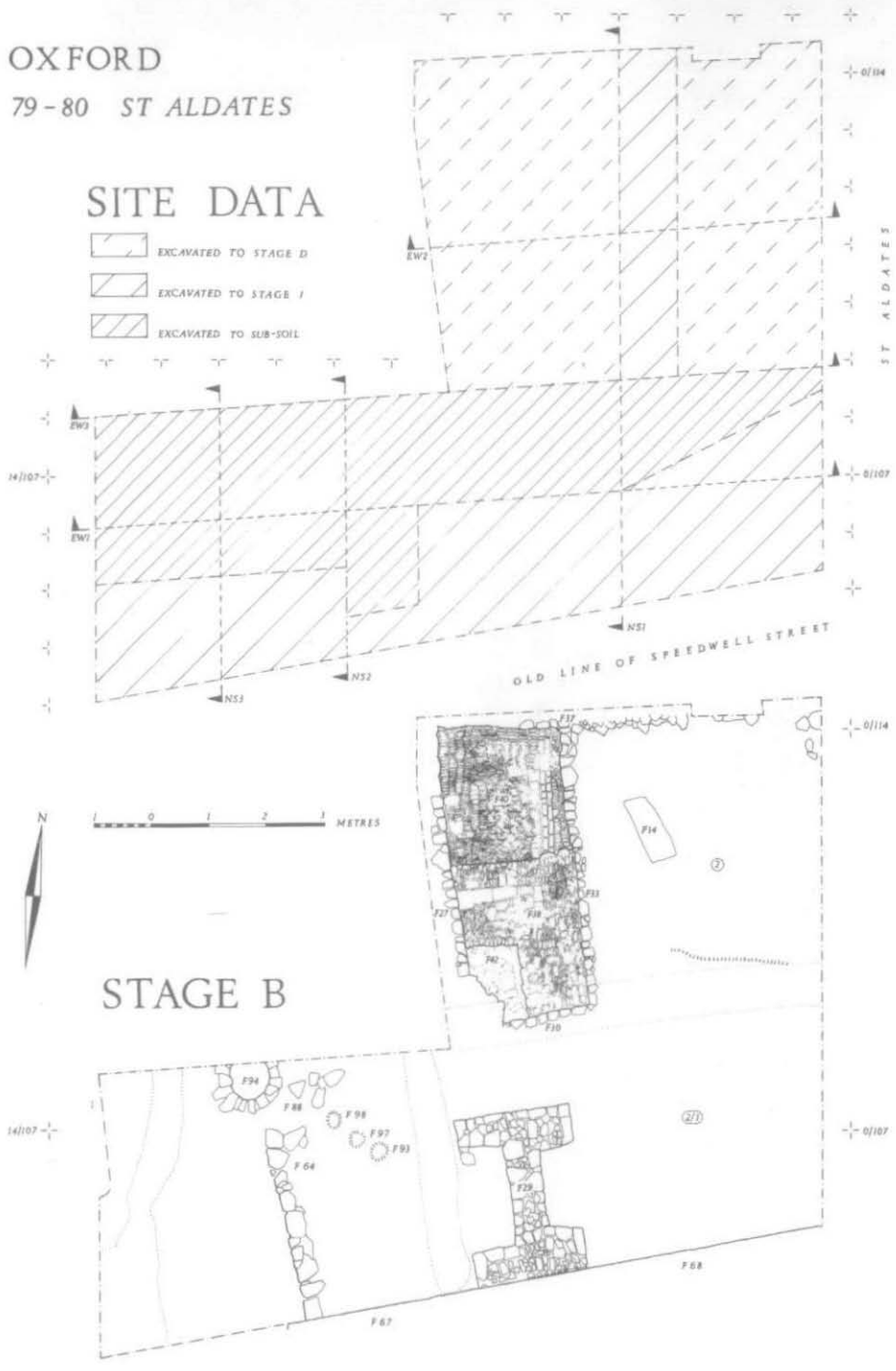


FIG. 4
Below: Excavation Stage B, a seventeenth to eighteenth-century level (Phase 13).

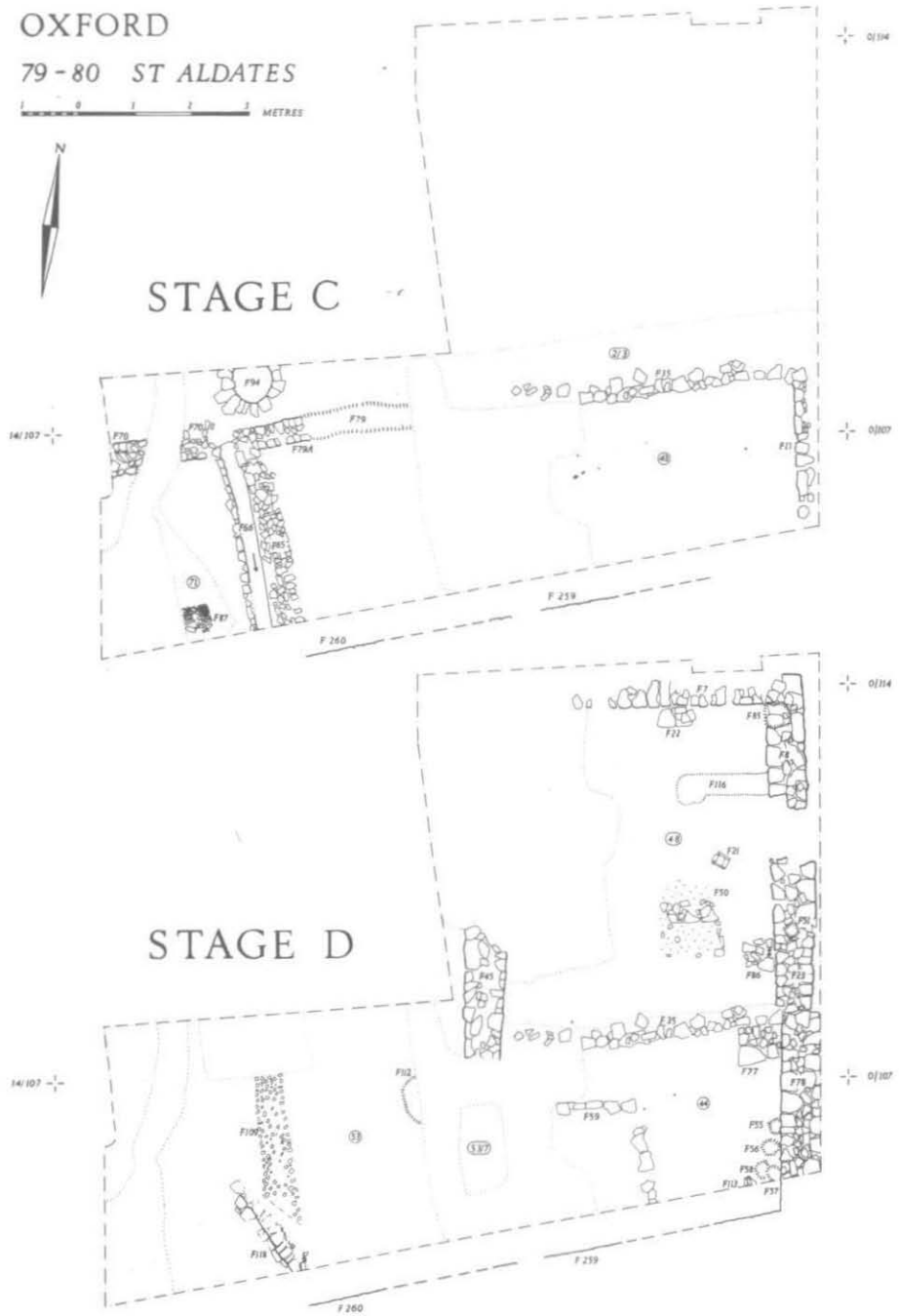


FIG. 5
Excavation Stages: C, a sixteenth to seventeenth-century level (Phase 12); D, a fifteenth-century level (Phase 11).

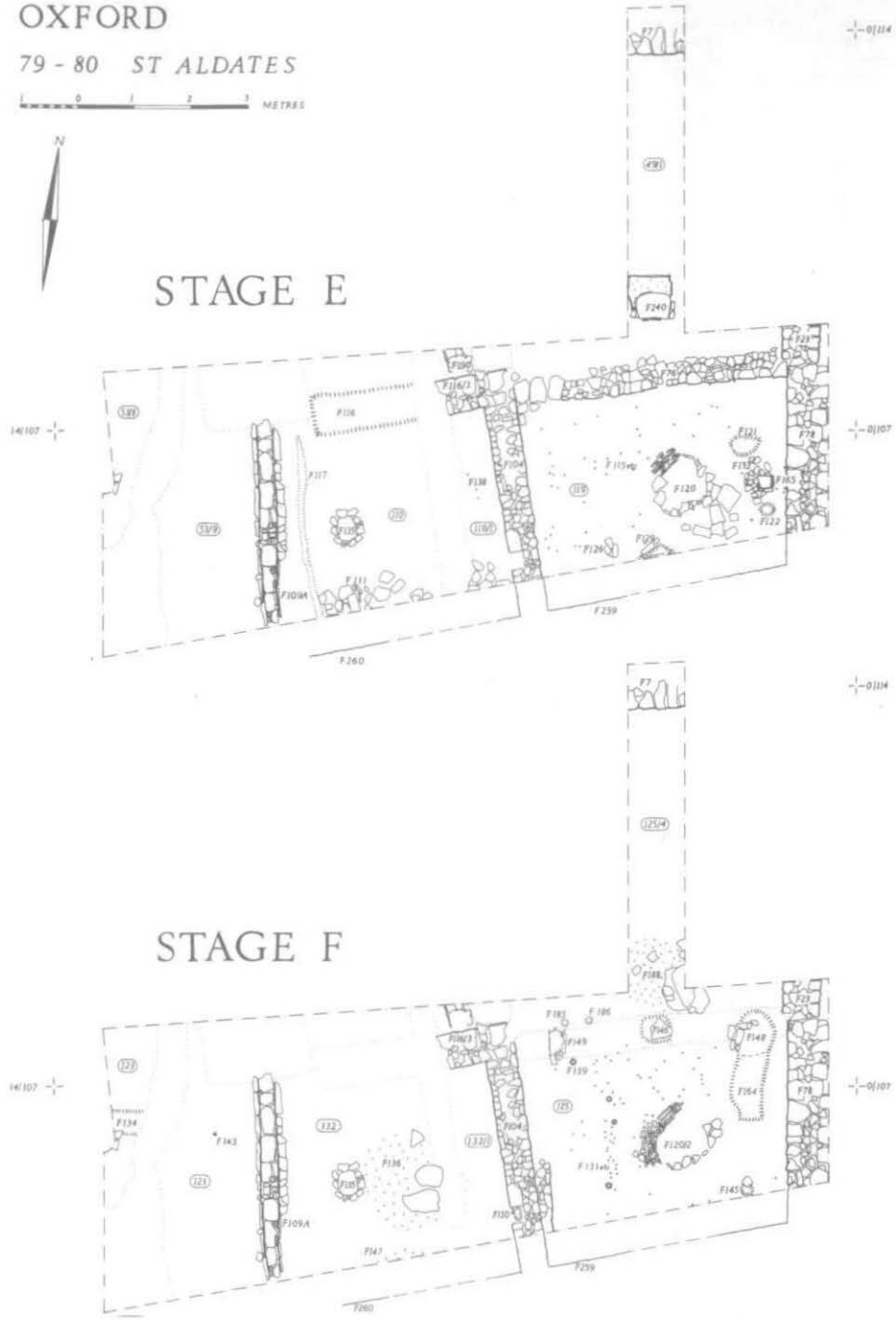


FIG. 6
Excavation Stages: E, a fourteenth-century level (Phase 10); F, a late thirteenth-century level (Phase 9).

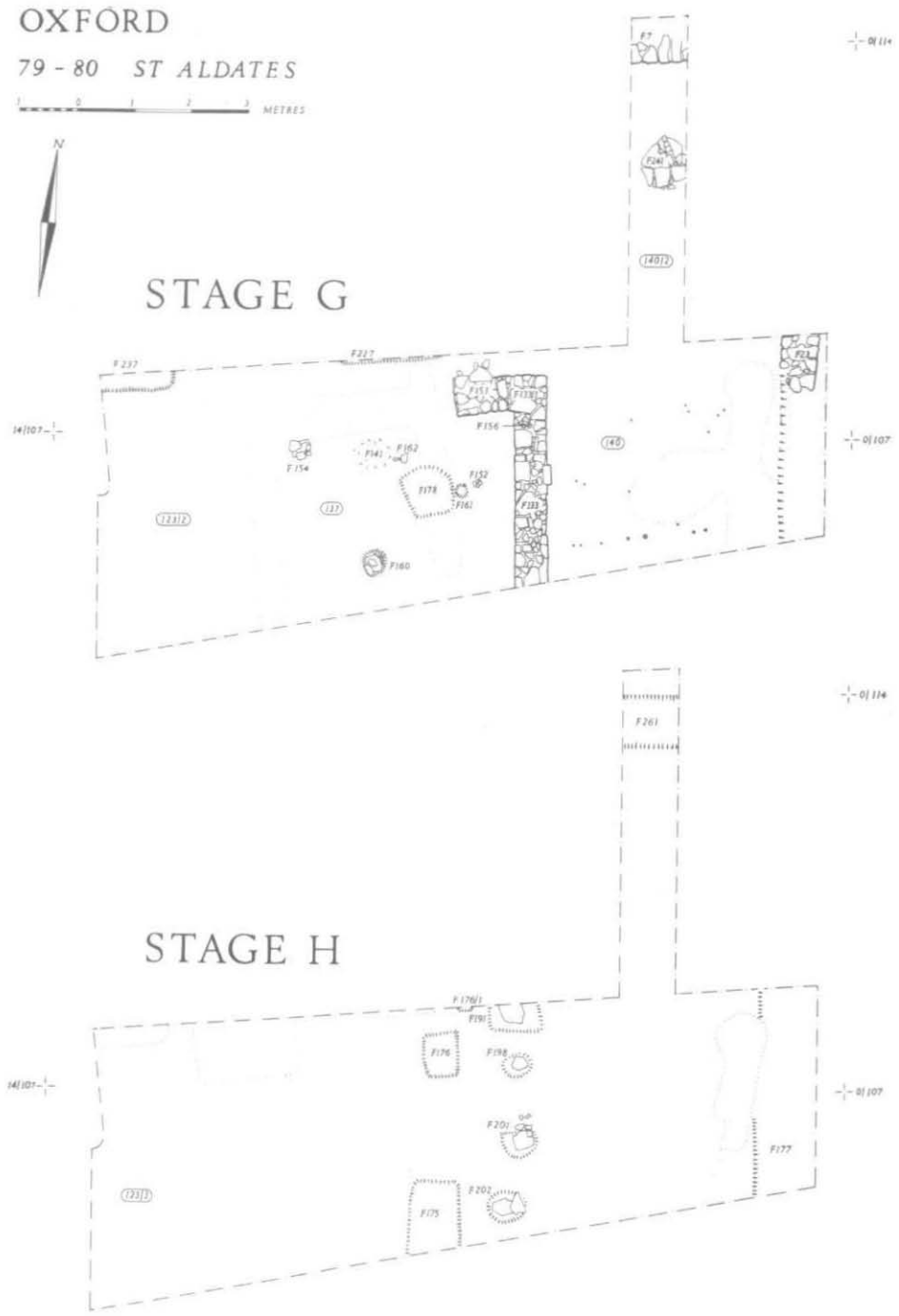


FIG. 7
Excavation Stages: G. an early thirteenth-century level (Phase 8); H, a mid twelfth-century level (Phase 7).

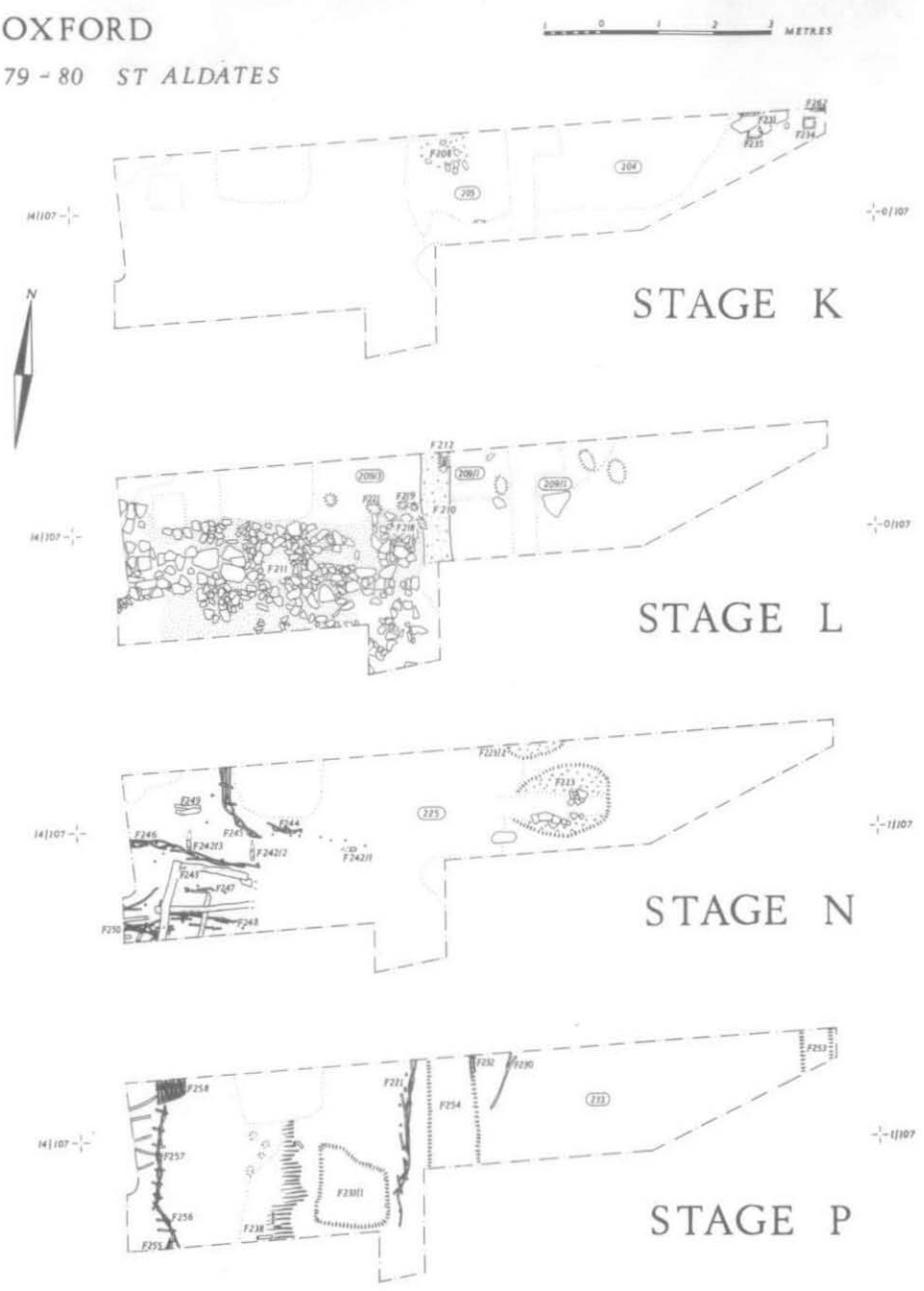


FIG. 8
Excavation Stages: K, early eleventh-century (Phase 5); L, late tenth-century (Phase 4); N, early to mid ninth-century (Phase 2); P, late eighth to early ninth centuries.

on the floor make-up L43 which was banked against the remaining two footings; F67/68 will therefore be assumed to be an insertion into the otherwise timber building. A fragment of apparently contemporary floor L2/2–2/3 indicated the building's westward extent.

To the west were footings F65, F70 and F79A apparently of a building with floors L71–72, a hearth F87, and an internal timber floored gully F66. The construction shaft of well F94 underlay a corner of this building and was presumably built just earlier.

EXCAVATION STAGE D (Ph 11, fifteenth century to *c.* 1550) FIG. 5, D

Beneath the fragments of sixteenth-century timber-framed building was a more complete, nearly rectangular building on well-made stone footings F7–8, F23, F45, F78, F259, many reused from a thirteenth-century predecessor. The partition F35 formed the southern boundary to an ashy floor L46 with a hearth F50 and various timber-settings and stake-holes F47, F80—84. Post-settings F51 and F85 in the frontage footing may have related to a previous structure. A beam slot F16, a plinth F22 and other timber settings F21, F86, F103 were associated with L48, a thick gravel make-up beneath. South of the partition the contemporary floor make-up seemed to be L44, at a level of 0·15 m. lower than the northern floors, with a screen-footing F59, a plinth F77 and several post settings and stake-holes F55–58, F90, F92, F113/1–/3.

To the west was an area of homogeneous loam L53–53/8 assumed to be garden soil, with a shallow pit F112 and timber settings F124 and F127. Near its base was a swathe of stone tile fragments F109 overlying a fragmentary gully F118.

At this point the area within 6 m. of 81 St. Aldates was abandoned due to the instability of the building (PL. VII, A). When, after its demolition, the area became available again, it was so disturbed that excavation was confined to a 1 m. wide trench along a N.–S. section line (see FIG. 4).

EXCAVATION STAGE E (Ph. 10, *c.* 1325–*c.* 1400) FIG. 6, E

The fifteenth-century west wall of the building (F45) proved to overlie an earlier west wall F104, associated with floors which abutted the other outer walls encountered in Stage D. A fragment of faced stonework F190 was possibly the northward extension of the west wall (see FIG. 9). A shallow footing F76 partitioned the building, with a thick layer of laminated ashy floors L49 to the north, including four stake-holes F182–182/3. Beneath was a clay and gravel make-up L49/1 with a hearth F240. To the south, the larger available area made possible the excavation of relatively thin laminae in the floors. A lens of mortar and ash L105/1 overlay L105, an extensive black ashy floor with forty-five small stake-holes F99/1–/44 and F144 in its surface, singly, in triads and tetrads, and in two bands. Others were found in the removal of this layer, F115–115/9 (heavy dots on FIG. 6, E). L119/1 was a clay layer on the surface of the next ashy floor L119, with which was associated a central circular hearth or oven-base F120, burnt areas F126 and F129, post settings F122 and F165, a small pit F121 and an area of cobbles F153. Yet more small stake-holes F128/1–/35 were found in removing L119, which also exposed a gravel floor L119/3 and some burnt stones F130, the deepest structures associated with the partitioned phase of this building.

To the west was a lean-to, supported on a spur footing F116 and a post-base F135, enclosing hard packed surfaces L110 above L110/1, with a narrow slot F117 and a spread of stones F111. Beyond was a gully F109A, perhaps an eavesdrip, and further stones L53/9, although it is possible that the next deeper layer with Jetton 18 should be included.

EXCAVATION STAGE F (Ph. 9, *c.* 1250–*c.* 1325) FIG. 6, F

Beneath the fourteenth-century floors were others pre-dating the stone partition, those to the north L49/2 and L49/4 possibly associated with three post-bases F146, F148 and F149 of a short-lived primary partition, shown on FIG. 6, F for information. Ashy floors L125 and L125/4 were identical on either side of the partition line, and considering the position of hearth F188 (FIG. 6, F) they are assumed to predate any partition. In this horizon were further stake-holes F131/1–/71 and F139 including a 2 m. long band, two

post-holes F185 and F186 and a trough F164 lined with 0·03 m. thickness of puddled clay. Beneath these floors was an extensive gravel make-up L125/1 and an area of ashy floor L125/2, the deepest to be associated with west footing F104.

In the outer face of the west footing was a socket F150. Beyond was a deeper hard-packed surface L132 in the lean-to, with a hearth F136 and burnt area F147. A post-hole F166 beneath the post-base F135 may have been its forerunner. West of the gully F109A was a mixed layer of ash, loam and mortar regarded as a ' midden ' L123, with a slot F134 and a stake-hole F143.

EXCAVATION STAGE G (Ph 8, late twelfth–early thirteenth century) FIG. 7, G

Below the west footing of the mid thirteenth-century building was its predecessor F133, with an offset stone on the interior face (PL. X, A) and a deep socket F156, perhaps suggesting a doorway. To the north it merged into a looser footing F151 forming a ' dog-leg '. The uppermost associated floor L140–140/2 was banked against the N. and N.E. footings F7 and F23 but no contemporary S.E. and S. footings were found. A hearth F241 was towards the north, and further stake-holes F144/1–/17 to the south. Beneath was a grittier make-up L140/1 with more stake-holes F155/1–/13. Beneath this again was an earth floor L158 covered by ashy material L158/1 in the northern area. In this area there were also two deeper layers, a gravelly floor L158/2 above an ashy floor L159/3 associated with two hearths F241/1 and F252. These were the deepest levels to abut un-robbed stone footings on the site.

To the west there was no structure, only a 0·3 m. thick ' midden ' layer L137, L137/1 and 123/2, with a number of possible post settings F154, F160–162 and two pits F178 and F227. A third pit F237 produced human parasite ova from its primary fill.

EXCAVATION STAGE H (Ph 7, mid twelfth century) FIG. 7, H

This was treated as a Phase because there seemed to have been a yet earlier west wall formed by post-bases F191, F198 and F201–202, but there were no associated floors (see FIG. 9) and it is concluded that this was an internal modification of an earlier building formed by robber trenches F175–177 and F261. A midden level L123/3 is included on grounds of pottery assemblage.

EXCAVATION STAGE J (Ph 6a and Ph 6b, late eleventh and early twelfth centuries) *cf.* FIG. 7, H.

Heavy frosts at the time of excavation caused problems with interpretation and recording. In the circumstances, plans compiled completely retrospectively could be prejudicial, so this stage is not illustrated. The site records will be lodged with Oxfordshire Museum Services, Woodstock, Oxon. A conjectural interpretation of Phase 6b is however illustrated (FIG. 42, 6b) showing a prominent central hearth F168 (see also FIG. 9) and a burnt area F171 to the S. Other features (not illustrated) in the overall ashy build-up L159 included lenses of ash F172 and gravel F170, groups of stones F174 and F183 and small pits or post-holes F171, F171/1, F179–181, F192–197, F203. To the west was a yard surface L157.

A deeper group of features has been separated on pottery evidence (Ph 6a). There were deeper ashy layers F159/2 and an ash heap F169 (see FIG. 9) separated from a cleaner floor L200 by an E.–W. scatter of stones F199, possibly a destroyed footing. A N.–S. timber slot separated this area from a yard/midden L157/1 to the west, with a shallow trench F157/2 apparently resulting from robbing of stone from a deeper yard surface (F211).

EXCAVATION STAGE K (Ph 5, no artifacts) FIG. 8, K

The proximity of the modern road and pavement demanded a reduction in the size of the trench. The next deeper structures were a clay floor L204–205 beneath the Stage J levels, with a hearth F208 and small pits or post-holes F204/1, F231/1, F234–235, F262.

OXFORD 79-80 ST ALDATES SECTION E W 2

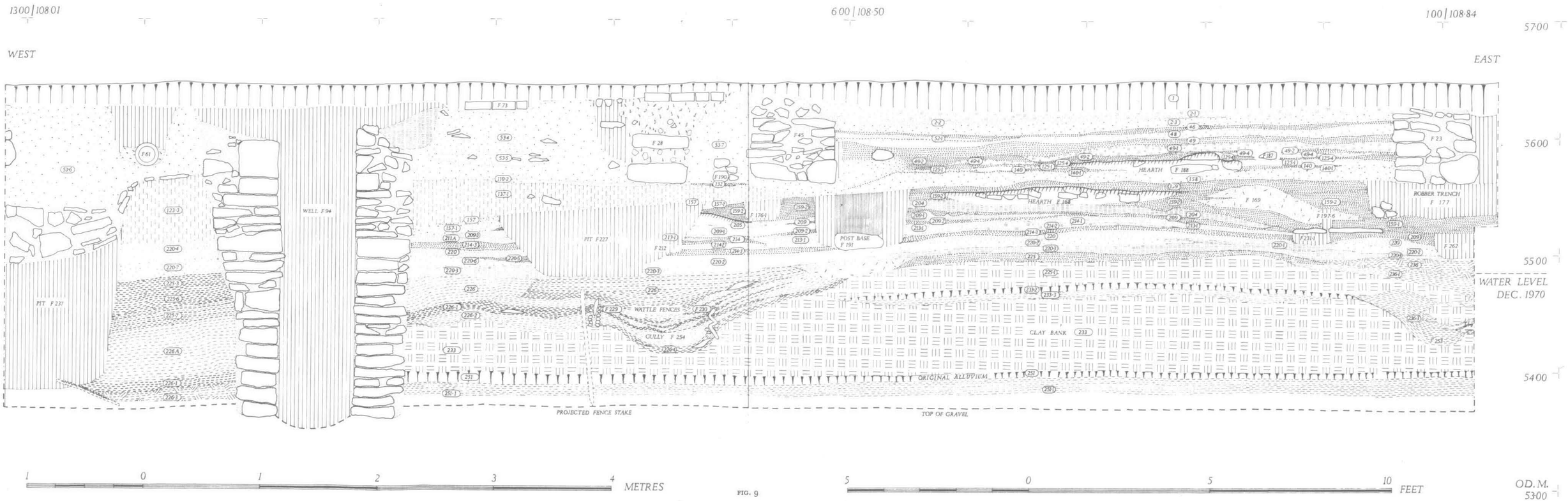


FIG. 9

LINACRE COLLEGE

The purpose of the trench was to investigate the extent of the deep clay features seen at 79–80 St. Aldates and in the sewer realignment trench. Detailed records were kept to ensure continuity with any future excavation, but for present purposes only a very brief account is justified. There was no coin evidence, so dating must rely on comparison of the pottery assemblages with those of *79–80*. The stratigraphy is illustrated in FIG. 10.

The first five layers removed, *i.e.* L1–L5, included the turf and various rubble layers containing 19th-century building material. All deeper layers contained exclusively medieval or earlier pottery. Excavation exposed in turn the remains of a flag floor L6, an ashy gravel floor L7 with a post-hole L12, and a stony yard surface L9 with two small pits F8, F11, and a post-hole F10. Beneath was a north–south trench F14 (L13) partly outside the excavation, cut into the presumed destruction layer L15 (L16) of a medieval building. The first horizon in which building structure could be discerned lay beneath this destruction level. A robber trench F18 ran east–west across the south side of the trench, separating a series of floors of the northern room L17 *etc.* from a series of floors L19, *etc.*, of the southern room. It was impossible to say which if any of these floors had abutted the presumed wall F18 before its robbing. A hint was gained by removal of floors L17/1–L17/10 and L17/12, which exposed the butt end of a north–south robber trench F20 respecting the north edge of F18, implying that the latter was already in existence. From this evidence it is assumed that floors L17/1–L17/14 and L19–L19/2 were associated with a wall represented by F18, and that some of the floors, L17/11, L17/13 and L17/14 were also associated with a wall represented by F20. The pottery recovered from these levels compared with that from *79–80* Phase 10, *i.e.* 14th century.

Beneath these levels were deeper ashy floors L17/15, L17/16 and L19/3 continuing the same two series. The only associated structure was a possible robber trench F21 on a north–south axis partly outside the western edge of the excavation, and two post-holes F25/2, F25/3 on an east–west axis similar to that of the 14th-century robber trench F18. Beneath the floors was a thick gravel bedding L22. The pottery from this horizon was noticeably earlier than that from the upper floors and comparable with *79–80* Phase 8, suggesting an early thirteenth-century building plan.

Beneath the gravel bedding L22 was another east–west robber trench F25 (L25/1) on an almost identical alignment to F18 and post-holes F25/2, F25/3 above it. This strongly reinforced the view that this was a stable property boundary. On the evidence of their relative levels it seems likely that the contemporary floors on the north side were three gravelly layers L23–L23/2, and a build-up of ashy material up to 0·25 m. thick recorded as L24/1 above L24/2. The pottery spans the period from *79–80* Phase 8 back to Phase 6b, *i.e.* most of the 12th century. Beneath them was a yet earlier ashy layer L24/3, too deep to relate to F25, and more likely associated with a pit F26 and a robber trench F27 partly outside the east end of the excavation. It would, however, be unwise to draw any conclusions on this horizon, except that it was evidence of the deepest occupation above the alluvial silt.

Alluvial material was first met at a level of 55·20 m. O.D., comparing with 55·10 m. on the upstream side of the road at *79–80*. The upper layer was recorded as L28, a yellow-grey clay silt, with L28/1 a rather more blue version in some areas. Cut from an unidentifiable horizon within L28 was a shallow circular pit F29 containing light brown organic material suggesting cess. This pit cut the edge of a similar shaped but much deeper rubbish pit F30. From a similar level a further pit or gully F31 was cut, partly outside the trench.

It was much more difficult to follow individual silting layers in this trench than at *79–80*, and the divisions are to some extent arbitrary. Beneath L28 was a continuous layer of blue-grey silt L32, with a preserved post F33 and a stake F34. Beneath this again the silt became more like mottled clay with small flecks of organic material, recorded as

EXCAVATION STAGE L (Ph 4, mid to late tenth century) FIG. 8, K

Beneath the hearth found in Stage K (F208) was a possible ' cob ' wall-footing F210 with post-settings F212 and F218, the latter having a fragment of quern as a base stone (FIG. 33, 12). Banked against the east side of the footing were several floors, L209 (ashy) above successively L209/1 (blue clay), L209/2 (ashy) and L213 (ashy). To the west was a stony ' yard ' surface F211 with several small timber settings including F219 and F221.

Beneath the ' cob ' footing and associated floors was a layer of sand make-up L213/1 and an ashy floor L214–214/1 with no evidence of structure but possibly associated with floors found in Stage M.

EXCAVATION STAGE M (Ph 3, *c.* mid tenth century) *cf.* FIG. 42, 3

The excavation plan is not illustrated. Beneath the deepest Stage L levels was an isolated E.–W. timber slot F216, 0·4 m. deep (see FIG. 42, 3) with a stake-hole at either end, and small timber settings F215 and F217. They were cut into a layer of partly burnt clay L214/2, beneath which were the edges of two small pits or large post-holes F222 and F224 (see FIG. 42, 3) in the deepest ashy floor L214/3. The make-up for this floor was an extensive platform of sand and gravel L220–220/2 and L220/4–220/8 (see FIG. 9). A ridge of the underlying silty layer (L220/3) separated two areas of this make-up, which is therefore assumed to have been set in two shallow scrapes.

EXCAVATION STAGE N (Ph 2, early to mid ninth century) FIG. 8, N

Beneath the gravel platform (L220) was an oval pit F233, floored with burnt stones and filled with burnt and unburnt clay, cut into a layer of silt L220/3. Other silty layers L225/2–/4 sloped away to the west and could be peeled off in thin laminae, exposing compressed vegetation between. Beneath them was a series of wattle fences F244–248 and F250 running down the slope westwards. Apparently stranded on them were four unjointed oak timbers F243–243/5 and F249. Four stakes F242/1–/4 were inserted at 45° to vertical, F242/2 being a broad flat stake of oak 0·75 m. long. The fences and stakes were embedded in blue silt above, successively, compressed vegetation L225/6 and further silt L225/7.

At the east end of the trench, the level dropped away less markedly to further silt L236.

EXCAVATION STAGE P (Ph 1a and 1b, *c.* late eighth and early ninth centuries) FIG. 8, P

Beneath the western Stage N silts was a 0·45 m. thick layer of alluvium L226A, free of vegetation and initially assumed to have been dumped. A matrix of fine channels within it compare with similar water-laid deposits beneath the Blackfriars Priory 150 m. to the west, suggesting that this material was water-laid in a flood-meadow environment. Beneath it were successive organic silts L226, L226/1, L226/2 and L226/4, the latter being the primary silting of a gully F254.

The dominant feature at this stage was a bank of blue clay L233, with the gully F254 apparently cut into it, the upcast having been used to add a heightening layer L225/1 (not illustrated on FIG. 8, P) to the eastern part of the bank. The gully was lined with fences F221 and F232. To the west was a pit or quarry F233/1, stakes F238–238/2, a disturbed layer L226/3 at the edge of the bank, and a line of collapsed fences and hurdling F255–8.

Beneath the capping layer (L225/1) was the presumed primary surface L233/2–/3 of the bank, with a possibly recut gully F253 (shown on FIG. 8, P). The blue clay of the bank (L233) was weathered to a depth of 0·3 m. below this surface, but not elsewhere. The material itself could be broken into irregular lumps with weathered surfaces, contrasting with the runnels of the alluvial deposit L226A (see above), and it is suggested that it was dumped by man (see Geology section).

EXCAVATION STAGE Q

The base of the bank (L233) seemed to be ' mixed ' into an underlying flat layer of alluvium L251 assumed to be the ' primeval surface '. Pressure of ground-water prevented its excavation but it was determined by augering to be 0·3 m. thick above natural gravel.

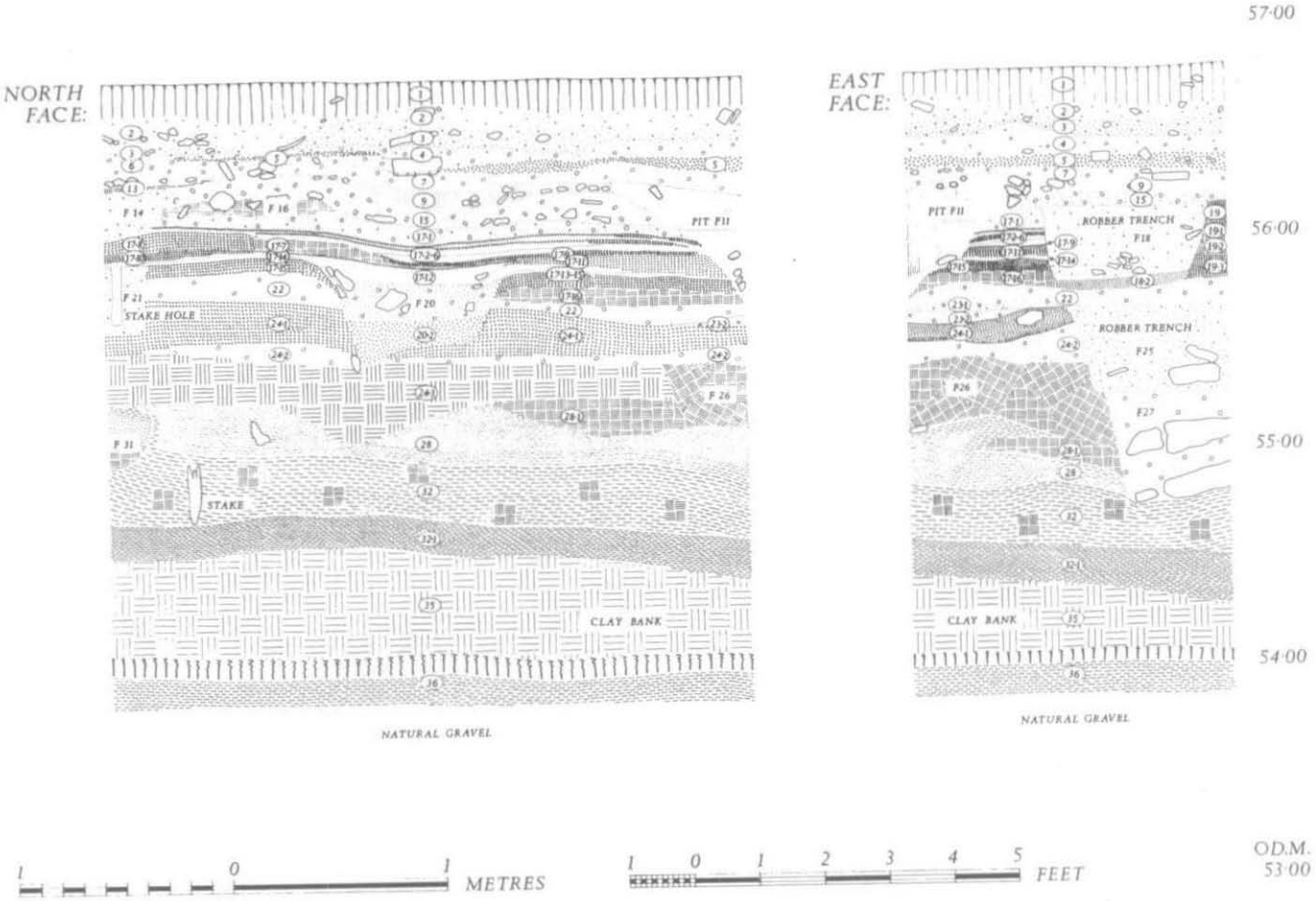

NORTH FACE:
EAST FACE:
57·00
56·00
55·00
54·00
OD.M. 53·00
PIT F11
F 14
F 16
F 21
STAKE HOLE
F 20
F 26
F 31
STAKE
CLAY BANK
NATURAL GRAVEL
ROBBER TRENCH
F18
ROBBER TRENCH
F25
F26
F27
CLAY BANK
NATURAL GRAVEL
1 0 1 METRES
1 0 1 2 3 4 5 FEET

FIG. 10

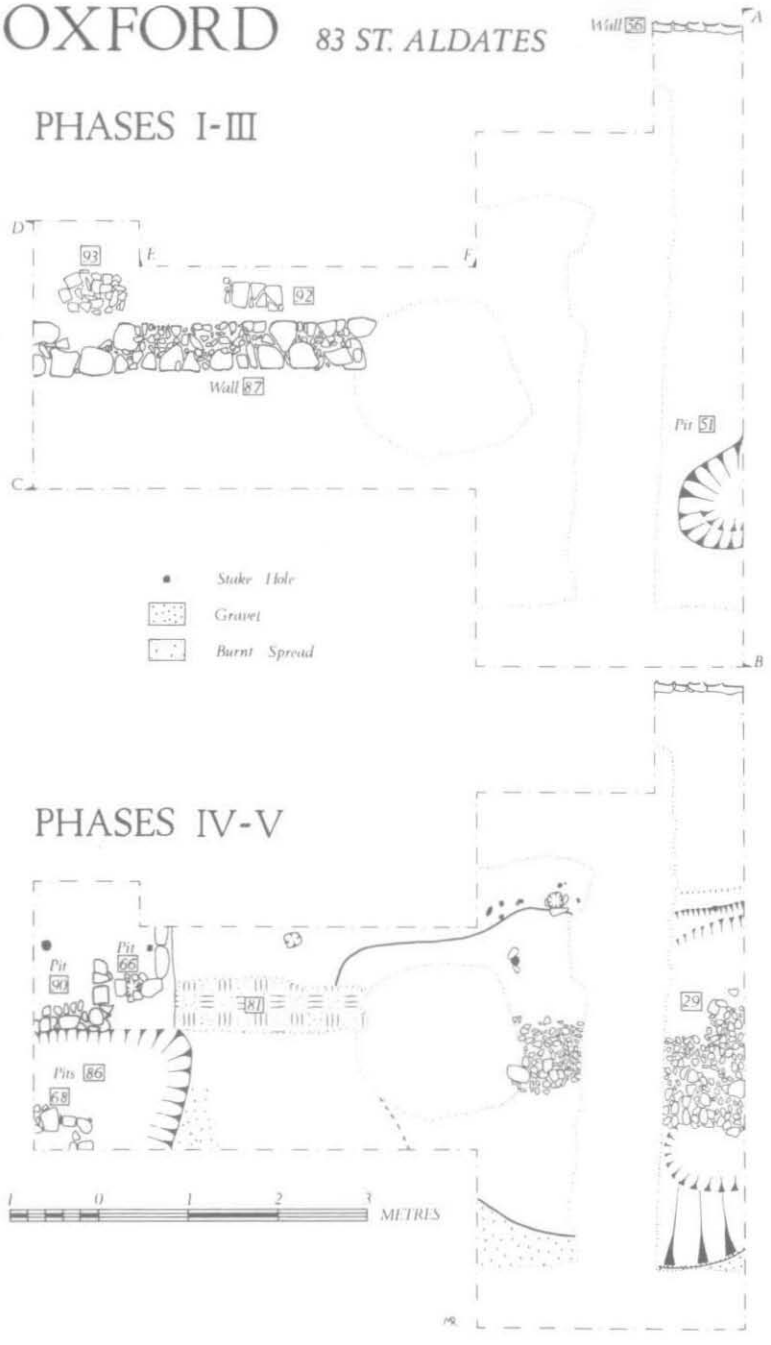


FIG. 11
83 St. Aldates, Phases I–V plans.

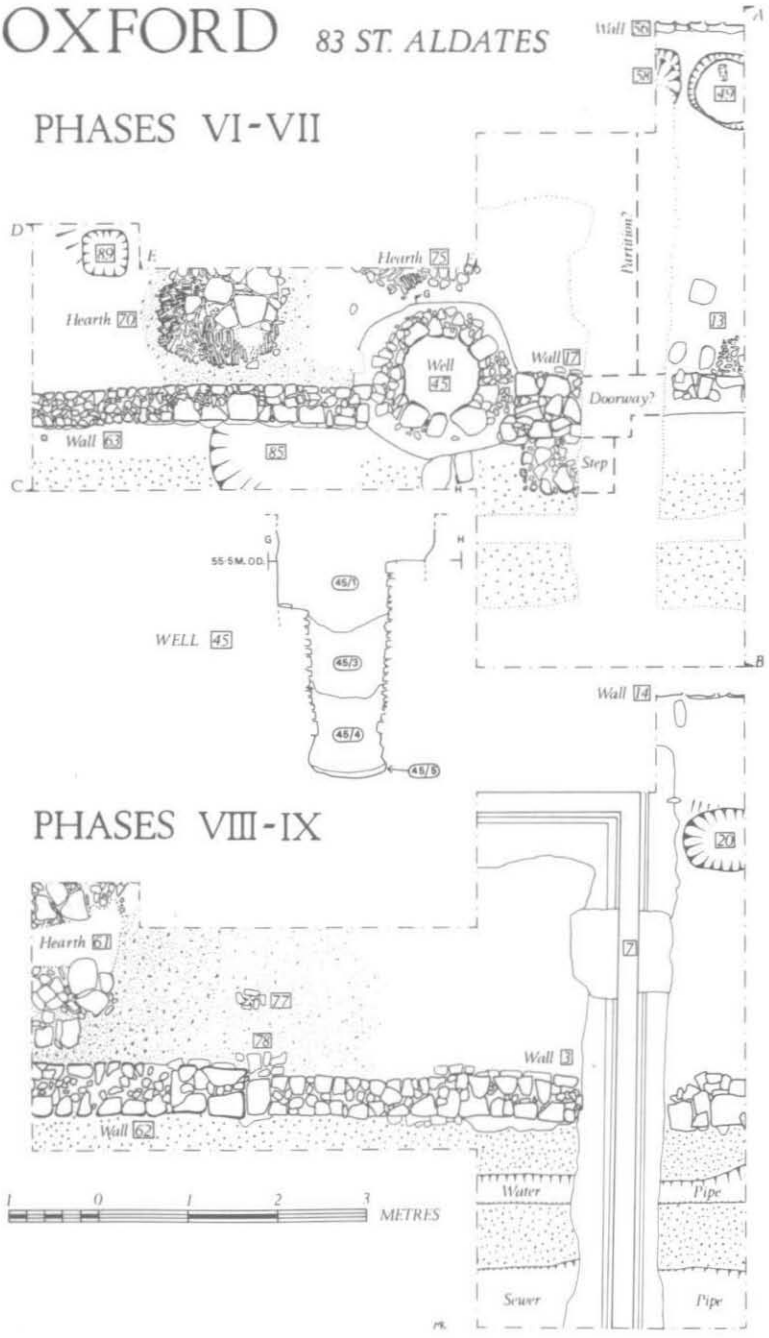


FIG. 12
83 St. Aldates, Phases VI–IX, plans and section of Well 45.

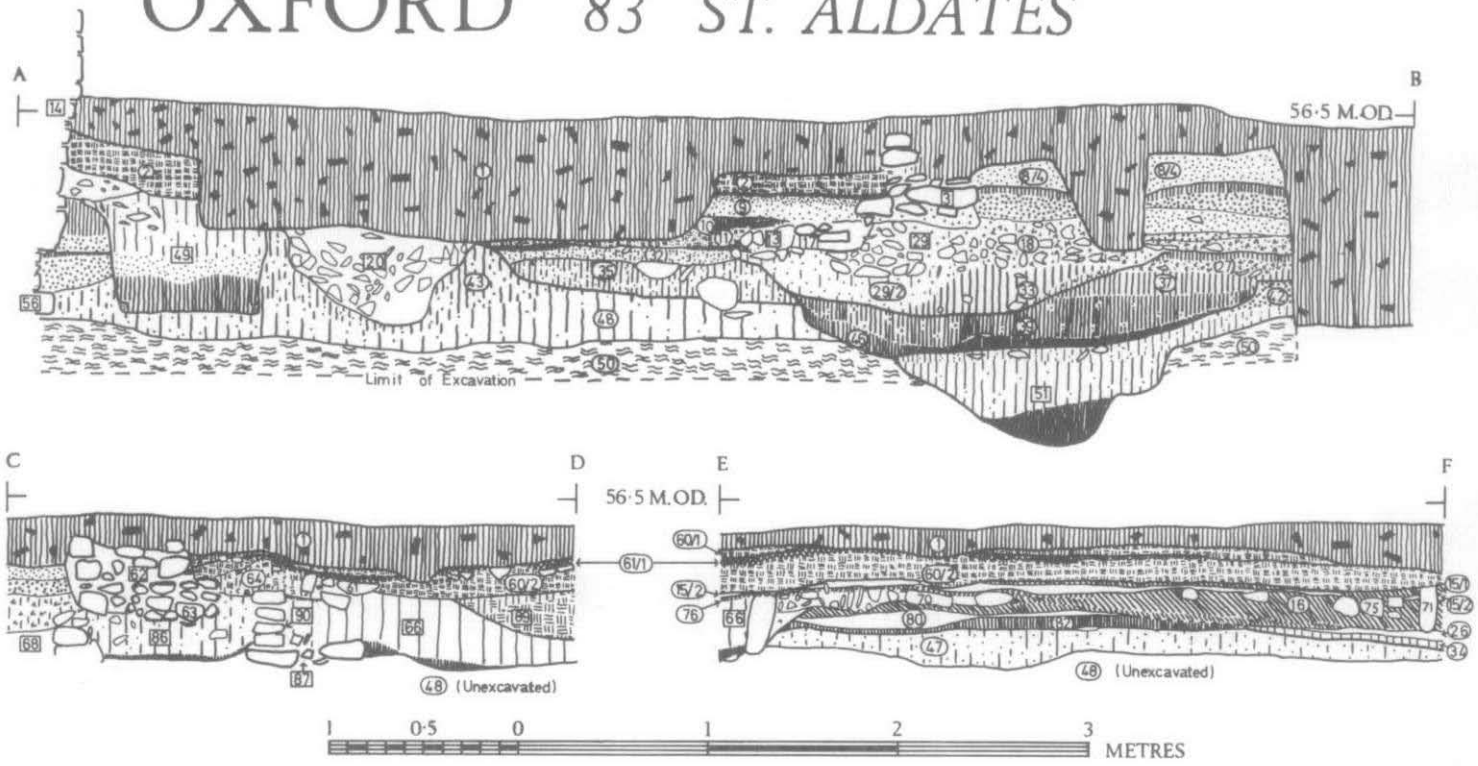


FIG. 13
83 St. Aldates, trench sections.

L32/1. These organic flecks were the strongest distinction with the next deeper layer L35, of clean blue-grey clay, which is suggested to be the eastern edge of the *79–80* clay bank. The bank material had a confused interface with the ' primeval surface ' L36, similar to that described under Stage Q of the *79–80* excavation.

SPEEDWELL STREET SEWER REALIGNMENT

The Bridewell Square development demanded the re-routing of a main sewer (see FIG. 2). Both the main trench and the by-pass trench were dug to a depth of 53·10 m. O.D., well into natural gravel, through old Speedwell Street and tenement S.W.14. The inevitable close shoring immediately after digging meant however that observations made at a distance during the digging could only be verified during work-breaks in the occasional gaps between sheet-piles. Hugh Richmond's observation nevertheless shows that the general profile of the clay bank (*79–80* L233) was repeated faithfully on both sides of the trench and that it extended across the line of St. Aldates as far as the trench was taken. These results are incorporated in FIG. 40. No early road surfaces were seen under St. Aldates. One of the few areas not close-shored was the angle between the north and east arms of the by-pass trench, and this was recorded by Tom Hassall. There were medieval and later floor levels down to 55·45 m. O.D , gravelly silt down to 53·92 m. O.D., and below this 0·24 m. of organic silt with a wattle fence. This is generally similar to the extreme west end of the *79–80* site, with some additional medieval stratification. A thin spread of reddish gravel was the only evidence of a medieval road surface of Speedwell Street. The remainder of the trench was observed regularly, but in the circumstances recording was limited to establishing that the deeper silt levels and the gravel were continuous.

Observation was also kept on the Bridewell Square building work. The most significant outcome was that the Blackfriars Mill Stream did not appear to penetrate the natural gravel, and was therefore presumably artificial.

EXCAVATIONS AT 83 ST. ALDATES. By MARK ROBINSON

Between October 1970 and May 1971 the Oxford University Archaeological Society carried out a small excavation behind 83 St. Aldates. A free-standing stone wall with a double-light sixteenth- or seventeenth-century window forms the northern property line. This represents a continuation of the present building on the street frontage. It was decided that this site presented an opportunity to investigate the developments at the back of a tenement so that it could be compared with the main excavations on the street frontage of 79–80 St. Aldates.

THE EXCAVATION

The location of the trench is shown on FIG. 2. Completely natural deposits were not reached but the following phases of use of the site emerged. Their sequence was stratigraphic but they have been dated by pottery.

Phase I

A one metre wide trench was taken down along a section (FIG. 13) into L50, the earliest level excavated on the site. It consisted of a dark grey silty clay with black layers of decayed organic material. It was presumably a marsh deposit and contained twelfth-century pottery and part of a large jet ring (FIG. 33, No. 1).

Phase II

During the early thirteenth century what has been called a garden soil, L48, built up on the site to a height of 0·40 m. above L50. It was grey-green gravelly loam and contained much domestic refuse. Pit F51 dates from this Phase.

Phase III

The earliest structure on the site was a good east–west stone wall, F87, built of unmortared limestone rubble set into L48 and standing two courses high (FIG. 11). On top of the wall was a layer of rather gravelly clay, L81. This may have been the bottom of a cob wall, or alternatively the bedding for a sleeper beam.

To the south of the wall was the first in a series of gravel path surfaces, L42. To the north of Wall F87 was possibly a floor, L47, a sandy, gravelly loam in which, due to the wetness of the site, iron panning had taken place to form a hard orange layer. On top of it was a black occupation layer, L82, containing a fair amount of charcoal. Within L47 was a rectangular group of stones, F92, which could have been a post base. F93 was perhaps similar but much disturbed.

Due to Phase VIII damage, the northern wall of this early thirteenth-century structure cannot be determined easily but was perhaps Wall F56.

Phase IV

The main feature of this phase was a shallow (½ metre) roughly oval pit, 4·5 m. wide. The pit extended over the Phase III wall line to the south, cutting into the path surface. Around its northern edge was a number of stake-holes. It was probably a refuse area surrounded by a fence. The pit had been recut. The original fill, L35, green-brown gravelly loam, was cut by L37, L39 and L46, all very dark layers containing some preserved organic material. The pottery from this Phase is early to mid thirteenth century.

Phase V

After another gravel path surface, L27, had been laid down, the pit was recut a second time. Rubbish was deposited in the pit again, L33, and then it was levelled off with gravel and rubble, L18 and L29/3. The more solid rubble in the top of the pit, F29, may be consolidation for a wall from the next phase. To the north of the pit was a variety of dirty gravel and clay surfaces, L32, L26 and L80. These were covered by greenish-black occupation layers which contained much charcoal.

At the western end of the trench was a group of shallow pits, the earliest being F90, rectangular and stone-lined with its southern wall set directly on top of Wall F87. However, it had been dug out again, partly demolished and enlarged (F66). There was a post-hole built into the wall of this extension so perhaps it had some form of structure over it. To the south of F90 was another pit, F86, which was cut by F68, a stone lined pit.

Phase V has been separated from Phase IV because the pottery from it dates from towards the end of the thirteenth century.

Phase VI

Overlying the pits of the previous Phase was an unmortared limestone wall, F63, F17. It stood three courses high and had a very flat top, probably because it had supported a timber-framed structure. Immediately to the east of where it had been cut by Well F45 its width was double, perhaps for a doorway, and about 0·20 m. below it, set into the path outside, was a rectangular group of stones, perhaps a doorstep. The northern wall of the structure formed with Walls F63–17 was probably Wall F56.

The earliest feature associated with this building was F70, a hearth of pitched cobbling. There were no floors, only L76, a burnt spread. The heat from the hearth had reddened some of the stones in the wall. On top of the hearth was a clay floor, L15/2 with Hearth F75 set in it. An occupation layer of black sandy loam, L15/1, covered the floor.

To the east of F7, a modern wall, the sequence of floors was completely different. This suggests that there could have been an internal partition along the line of Wall F7. The floor, L11, was rather mixed in composition ranging from very sandy brown clay to dirty mortar. The occupation layer on the floor was L10.

The pottery from this Phase is fourteenth century.

Phase VII

A stone lined well, F45, cut Wall F63–17 and its floors. Originally it had been about 2·5 m. deep but the scooping action of the bucket or repeated clearing had lowered

the bottom through the gravel by another half metre. In the bottom of the well was almost 1 m. of highly organic sludge, L45/4, above which were L45/3 and L45/1, a rubble backfill. It could have been the remains of a roof as it contained a large number of pieces of roofing stones. A very interesting late fourteenth/fifteenth century group of pottery was recovered from the well (see p. 137).

No yard surfaces could be attributed reliably to this Phase but there was a number of other features from it. In the north of the trench was a pit into which a barrel had been set, F49, a little of the wood surviving. To the west of it was Pit F58, also containing traces of decayed wood but not necessarily from a barrel.

The only evidence for above ground structure was F89, a rectangular post-hole 0·60 m. deep with rotten wood at the bottom.

Phase VIII

This Phase had the longest duration of any on the site, probably beginning in the sixteenth century and continuing into the twentieth century. The earliest structure from it was a good mortared limestone wall, F3, partly set on top of Wall F63. By this time, at the north of the site, Wall F56 had certainly been replaced with Wall F14, of mortared limestone which still stands two storeys high. F78 and Post-Hole F77 were all that remained of the end wall of this building (both were under L60/2 but have been shown on the Phase VIII plan). The only surviving floor level was to the east of Wall F7. It was green sandy loam with traces of rotted floor boards on top extending over the footings of Wall F3.

A more substantial wall, F62, continued the line of Wall F3 westwards, butting onto its end. The earliest floor inside this extended building, L2, L60/2, yellow-brown clay, spread throughout its length within the excavation. A farthing of Charles II dates it to the end of the seventeenth century; set into the floor was a substantial hearth, F61, showing signs of intense burning, the clay around it being reddened 1 m. away. The spread of ash from it, L61/1 extended a further 2 m. These layers were covered by another floor, L60/1, consisting of yellow clay mixed with mortar and soil. It had suffered much recent disturbance and only survived at the western end of the site.

To the south of the building, gravel path surfaces were still being laid, L8/4 being from this Phase. Towards the end of this Phase, sewer and water pipe trenches were cut into the path.

Phase IX

The latest feature on the site was F7, a twentieth-century brick wall which cut through most of the earlier stratigraphy of the site, and was demolished in 1969.

83 ST. ALDATES, INTERPRETATION AND CONCLUSIONS

The excavations have shown that the developments at the back of 83 St. Aldates conformed to a particular pattern from the beginning of medieval occupation of the site until early in the twentieth century. This pattern was an alternation between a small back yard or garden with shallow rubbish pits in it, and rear buildings of 83 St. Aldates.

The evidence from Phase I agrees with that from the excavations at 79–80 St. Aldates and Linacre College which suggests that either side of the St. Aldates causeway was originally a marsh. These conditions, however, lasted longer here than on the other sites, for the ground surface was not reclaimed until the end of the twelfth century, presumably due to its greater distance from the street frontage.

Phases II to V were developments of the site during the thirteenth century. Phase II saw the use of the site as a garden with much rubbish dumped in it. Still in the early thirteenth century, at about the time of the earliest surviving documents

for these tenements, a rear building of 83 St. Aldates was first erected on the site. This Phase III structure, which may have had cob walls, did not last very long, for the large rubbish pit from the subsequent Phase IV yard which cuts its southern wall contained early to mid thirteenth-century pottery. During Phase V until the fourteenth century the site remained in use as a yard, with a sequence of rubbish pits. In the fourteenth century the Phase VI structure occupied the site and was perhaps a partly timber-framed building with a doorway onto the pathway to the south. In Phase VII the site again reverted to a yard, this time with a well containing late fourteenth/fifteenth-century pottery. There may have been a lean-to timber structure against the northern wall of the property (assuming that it stood at this date, see p. 109) represented by a large post-hole.

Rather more can be said about the Phase VIII building behind 83 St. Aldates because its northern wall still stands two storeys high and its southern elevation is shown on a photograph of 1910 (PL. VIII). The excavation showed that its construction had occurred in at least two stages and the earliest surviving floor after its extension contained a late seventeenth-century coin (Coin, No. 11). The intense burning of Hearth F61 may imply some sort of industrial usage—a deed of 1639 mentions a brewhouse amongst the properties making up 83 St. Aldates (see p. 89). The photograph shows a jettied range divided into five houses extending behind 83 St. Aldates, fronting onto Littlemore Court and with access from the street through what may have been the former screens passage of Littlemore Hall (see p. 201). The first house stands two storeys high, the others are three storeys. The five divisions shown on the first edition (1876) 6 in. Ordnance Survey Map of Oxford of the extension behind 83 St. Aldates presumably represent these houses. Whilst the back wall was stone for at least two storeys the jettying means that the stone wall at the front stood no higher than first floor level.

In the twentieth century, the Phase IX building, a coach works, obliterated the tenement pattern behind the St. Aldates frontage.

From Phases III to VIII the property lines of 83 St. Aldates continued through the site. It is likely that until early in Phase VIII the main house on the street frontage had a sequence of small yards, workshops and subsidiary buildings to the rear, on which it was dependent. This arrangement was changed, perhaps following a seventeenth-century sub-division of a hall and crosswing house, Littlemore Hall, on the St. Aldates Street frontage, the former front door becoming the entrance to a passage leading to the buildings behind it (see p. 201). From then onwards the rear buildings probably had their own tenants dwelling in them and conducting activities unconnected with the house on the street frontage. This eventually became Littlemore Court in the nineteenth century. The whole property however remained in single ownership (see p. 89).

THE FINDS[41a]

The results from all three excavations have been amalgamated for ease of reference. Small find numbers (SF) and provenance numbers (L or F) from the

[41a] A report by Jeremy Haslam on seven medieval and three post-medieval fragments of window glass and other glass will appear with glass from 31–34 Church Street in a future volume.

Linacre College trench and from 83 St. Aldates are prefixed with *Lin* and *83* respectively to distinguish them from those of 79–80 St. Aldates. The prefix *79–80* is occasionally used for the latter site when confusion could arise. In most cases the *Lin* and *83* finds are grouped under *79–80* Phases on the basis of comparative pottery assemblages. Occasionally the *83* Phases are quoted, and are distinguished by the use of Roman numerals. The Phase chronology is given below.

79–80 Ph 1: Late eighth to early ninth centuries
Ph 2: Early to mid ninth century
Ph 3: Mid tenth century
Ph 4: Mid to late tenth century
Ph 5: No finds
Ph 6a: Second half of eleventh century
Ph 6b: First half of twelfth century
Ph 7: *c.* third quarter of twelfth century (*83* Ph I)
Ph 8: Late twelfth century to *c.* 1250 (*83* Ph II, III and IV)
Ph 9: *c.* 1250 to *c.* 1325 (*83* Ph V)
Ph 10: *c.* 1325 to *c.* 1400 (*83* Ph VI)
Ph 11: *c.* 1400 to *c.* 1550 (*83* Ph VII)
Ph 12: *c.* 1550 to *c.* 1650 (*83* Ph VIII)
Ph 13: *c.* 1650 to nineteenth century (*83* Ph VIII)

LATE SAXON AND MEDIEVAL POTTERY

By REGINA HALDON. With a contribution by MAUREEN MELLOR

7000 sherds from the three excavations were grouped into 61 Fabric types (of which four predominated) and were carefully characterised to enable future comparison. Pottery from the 79–80 St. Aldates excavation has been described in detail since it is a longer and better-stratified sequence than previously found in Oxford, and provides a check on the many well-known published groups.

Method of Classification of Fabrics[42]

The sherds were examined with a binocular microscope (x10), and grouped into different Fabrics according to their visible inclusions,[43] each being assigned an alphabetical code. The inclusions were graded according to the following features:

(a) roundness—rounded; sub-rounded; angular.
(b) size of grain—fine, visible only with a microscope x10; medium, less than 1 mm. across; coarse, 1–2 mm. across; very coarse, more than 2 mm. across.

Medium was considered the standard size and in this case no qualification is given in the description. Grain-size is not given for inclusions which occur only occasionally.

(c) frequency of grain visible in 25 mm.^{2} of the fracture—sparse, less than 5 grains; moderate, 5–15 grains; abundant, over 15 grains.
(d) sorting of grains—well sorted; ill assorted.

Unless otherwise stated the inclusions were ill assorted.

The Munsell Chart was used to describe colour;[44] Mohs' scale was used to assess hardness.[45]

[42] Based on M. Mellor, ' The Pottery ', in A. Rogerson, ' Excavations on Fuller's Hill, Great Yarmouth ' *East Anglian Archaeology Report No. 2.* (1976), 170.

[43] Use has been made of privately circulated notes by D. P. S. Peacock, ' Key to identification of common inclusions in pottery '.

[44] The Munsell Book of Color.

[45] For an explanation of Mohs' Scale, see H. Hodges, *Artifacts* (1964), 178–9.

It was found that the 61 Fabric types fell naturally into three groups and one subgroup according to their predominant inclusions, and this is a convenient and chronologically significant way of subdividing them:

Group IA Shelly limestone;
IB Oolitic and other limestone;
II Flint;
III Sand or no grains visible, including one fabric, *AR*, with mica as the predominant inclusion.

Table of Late Saxon and Medieval Pottery from Oxford Sites[46] (TABLE I)

It is hoped that the Table will enable comparisons to be made with pottery from future excavations in and around the city. Detailed descriptions of the fabrics are arranged under the broad Group categories with their alphabetical code, details of potting technique, forms, decoration and firing. Fabric types from All Saint's Church, Oxford Castle and 44–46 Cornmarket Street are included where they are not represented in the St. Aldates series. One St. Aldates sherd which was considered to be Roman is omitted (Fabric *V*). The *79–80* Phase is given where the fabrics were identified from this site, otherwise the name of the site of origin is stated.

A type series of typical sherds has been set up for reference purposes. Dr. David Williams is at present carrying out a programme of petrological analysis at the Department of Archaeology, University of Southampton, on this series on behalf of the Department of the Environment.

The following abbreviations are used in both the Fabric Table and pottery descriptions: bs—body sherd(s); cp—cooking-pot(s); dk—dark; diam—diameter; ext—external; inc—including; int—internal; Lt—light; misc—miscellaneous; occ—occasional; th—thickness; t—type; v—very. Hand rotated refers to pottery that shows signs of rotation but not the continuous rotation of a wheel thrown pot. It is used in preference to other terms such as 'slow wheel' or 'wheel-finished' since these terms are misleading. '*R*', '*AC*' etc. indicate Fabric types. Sherd numbers have been quoted in captions to enable future comparisons with the original sherd. 'P215/1/2' identifies sherd number 2 in layer 215/1; 'P215/0/1' identifies sherd number 1 in layer/feature 215.

Pottery from the St. Aldates Sites

Sherd counts were used to record the various fabrics from each provenance. They were added together for each structural Phase, and the results from the *79-80* site are presented in a histogram (FIG. 14) showing each fabric as a percentage of the total sherds in the Phase. The figures from the two smaller sites were treated similarly, and the respective Phases have been related to those at *79–80* by comparison of fabric proportions (see p. 136). It must be stressed that the Phases represent structural reorganisations and are therefore not chronological periods of equal duration. All sources of dating evidence are discussed under the respective Phases (p. 175) and this report is confined to drawing parallels with well-known dated groups. The descriptions of sherds are given under their Fabric type in an attempt to convey an overall impression of each Phase assemblage. Numbers of vessels are estimated from the numbers of rims, and represent a minimum. Rims with a continuous incurving profile are classed as bowls. Where the surviving profile indicates a large, open pot with a diameter more than three times its height, it has been classed as a shallow dish. Rims of small diameter (100 mm. or less) have been classed as jugs or pitchers. Where an applied spout survives the pots have been called spouted pitchers and where tripod feet survive, tripod pitchers. Where the form is assumed from other published examples the description has inverted commas, *e.g.* 'tripod-pitcher'. All remaining rims have been classed as cooking-pots or storage jars. The range of diameter of cooking-pot rims is given for each Phase.

[46] 'for published description of similar fabric' refers to important pottery groups from Oxford which are not readily available for fabric comparison.

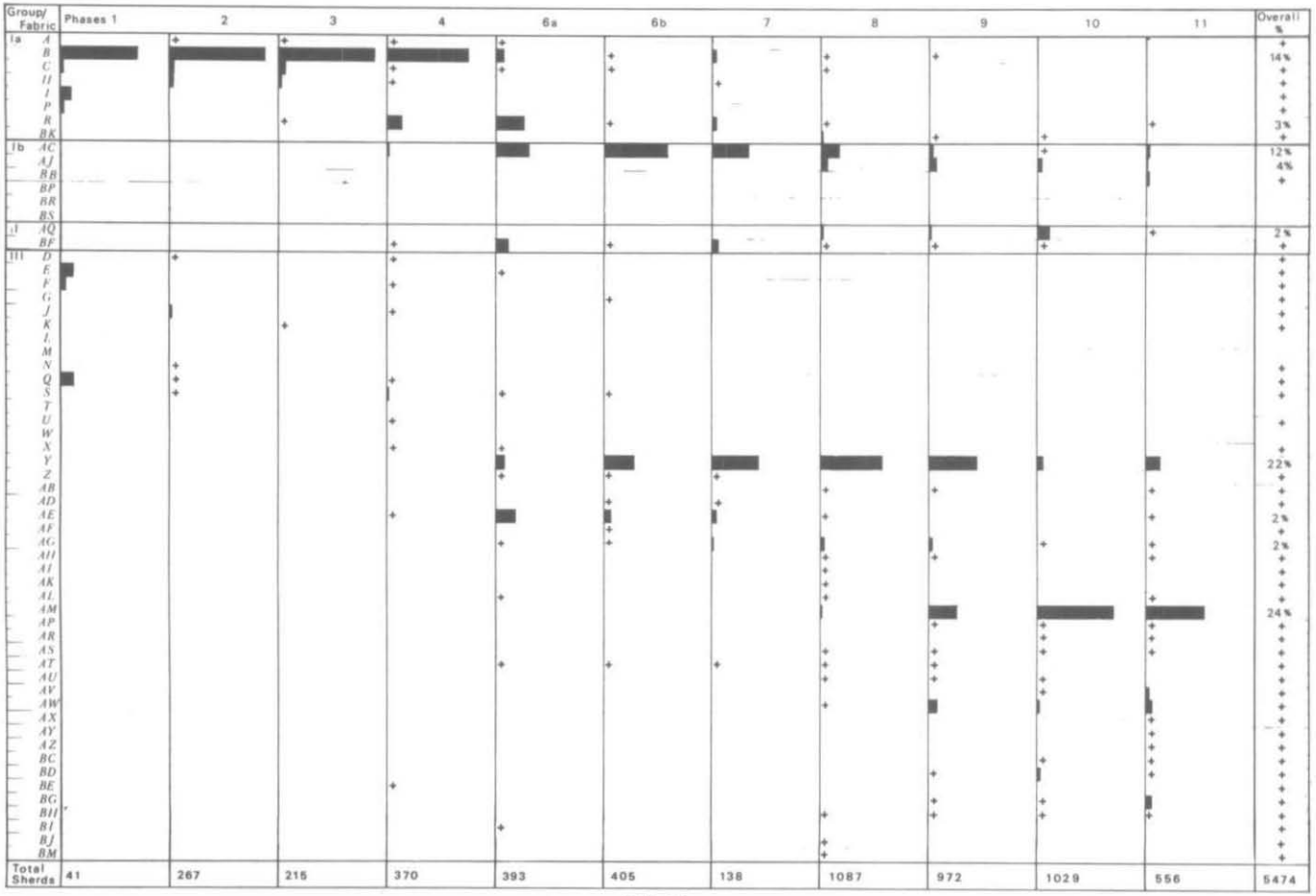


FIG. 14

Pottery Fabric types from 79–80 St. Aldates. Histogram showing sherd numbers in each Fabric as a percentage of the total in each Phase. + indicates less than 2%.

TABLE I

LATE SAXON AND MEDIEVAL POTTERY FROM OXFORD SITES. Compiled by REGINA HALDON and MAUREEN MELLOR

GROUP 1A: Shelly Limestone

Fabric	Comparable with	Frequency & Sorting	Inclusions	Potting Techniques	Forms	Decoration	MOHS Scale	Munsell Code	79–80 Phase	Date
A[47]	Proto St. Neot's-type	Abundant	Fine to coarse platelets of thin shelly limestone, occ. irregular limestone.	Hand rotated; th 5–8	Cp		3–4	Int: Pinkish grey (7·5YR 7/2) Core: Grey (10YR 5/1)	2–6a	Early 9th C. or later.
B[48]	Abingdon type F	Moderate	Coarse to v coarse platelets of shelly limestone, coarse irregular limestone.	Hand rotated; th 4–10, mainly 5–8.	Cp, sagging bases, shallow dishes, bowls, pierced lug.		3–4 Mainly 3	Surfaces: Charred Greyish brown (10YR 5/2) Core: Grey (10YR 4·5/1)	1–4	Late 8th–Early 9th C. or later.
C	Oxford Late Saxon Wares	Abundant	Fine to v coarse platelets of thin shelly limestone, occ coarse irregular limestone.	Hand rotated; th 4–8.	Cp, sagging bases.		3–4 Mainly 3	Surfaces: Charred Greyish brown (10YR 5/2) Core: Grey (10YR 4·5/1)	1–3	Late 8th–Early 9th C. or later.
H		Moderate	Coarse to v coarse platelets of thick shelly limestone, mainly parallel to surface, occ fossil bryzoa.	Hand rotated; th 6–10.	Cp, shallow dishes.		3–4 Mainly 3	Surfaces: Charred Greyish brown (10YR 5/2) Core: Grey (10YR 4·5/1)	2–4	Late 8th–Early 9th C.
I		Sparse	Coarse to v coarse platelets of thick shelly limestone, occ flint, mica.	Wheel thrown; th 5.	Cp.	Oblique ridges on shoulder	4–5	Int: Dark brown (7·5YR 3/2 Core: Dk grey (10YR 4·5/1)	1	Early 9th C.
P		Abundant	Fine platelets of shelly limestone. v coarse irregular limestone.	Hand made; (coil made?) smoothed surface; th 12.	Bowl.			Int: Lt brownish grey (10YR 6/2) Core: Dk grey (10YR 4/1)	1	Late 8th–Early 9th C.
R[49]	St. Neot's-type Abingdon type H	Abundant	Fine to coarse platelets of thin shelly limestone, parallel to surface, occ fossil bryzoa.	Wheel thrown; th 3–8, mainly 4–5.	Cp, bowls.		3–4 Mainly 4 in Phase 6a.	Ex: Charred Core: Grey (10YR 5/1) Int: Pinkish grey (7·5YR 7/2)	4–6a	10th–late 11th C. or earlier.
BK[50]	Seacourt Fabric 1 Tetsworth 'Shelly' Bowl Ware	Moderate	Fine to coarse platelets of thin shelly limestone.	Wheel thrown; th 4–8.	Cp, jugs.		3–4 Mainly 4	Int: Reddish brown (5YR 5/4) Core: Grey 7·5YR 5/0)	8–10	Late 12th–14th C.

GROUP II: Oolitic & other limestone										
AC[51]	Oxford Early Medieval Ware. Banbury t.1 Ascot Doilly *Standard* Abingdon t.K	Abundant	Fine to coarse oolitic and other limestone, occ quartz.	Hand rotated; occ knife trimmed; th 5–8.	Various, eg. straight sided cp, bowls	Applied thumb -pressed strips, rouletting.	4–5 Mainly 4	Int: Reddish brown-grey-brown (5YR 5/3–7·5YR 4/0–5/2). Core: Grey (10YR 4·5 –5/1)	6–8	10th–late 12th C. or later.
AJ[52]	Abingdon type C	Sparse	Fine to coarse irregular limestone, occ fine platelets of shelly limestone, quartz, angular flint.	Wheel thrown; th 4–6.	Cp, ' large pans ' shallow dishes, lids.	Stamped, combed; thumb-pressed rims.	5–6	Ext: Reddish brown (5YR 5·5/3) Core & Int: Grey (7·5YR 4·5–5/0)	8–11	Late 12th–15th C.
BB[53]	Gloucester type 44 Banbury t. 5.	Abundant	Fine to coarse oolitic limestone.	Wheel thrown; th 5–6.	Cp, handle.	Sparse glaze.	4–5	Int: Lt brown (7·5YR 6/3) Core: Grey (10YR 5/1)	11	Late 14th–mid 15th C.
BP		Sparse	Coarse irregular limestone, occ voids.	Wheel thrown; prominent throwing grooves; th 8–10.	Handle		7	Grey (10YR 5/1)	Oxford Castle	Mid 11th C.
BR		Moderate	Coarse decayed oolitic and other limestone, occ voids.	Hand rotated; th 4–6.	Cp, jug.	Sparse glaze	4–5	Int: Reddish brown (2·5YR 5/4) Core: Dk Grey (5YR 4/0)	Oxford Castle	11th C. or later.
BS		Moderate	Fine to coarse irregular limestone, occ angular flint.	Hand rotated; th 6–8.	Crucible.		5	Int: Reddish brown (5YR 5/4) Core: Dk grey (7·5YR 4/0)	All Saints	Mid 11th C.
GROUP II: Flint										
AQ[54]	Abingdon type C Ludgershall Castle type C9 Wallingford type	Moderate	Coarse to v coarse angular grey flint, irregular limestone, occ voids.	Wheel thrown; th 8–10 mainly 10.	Cp, jug.	Combed; notched rims.	4–5 occ. 6	Ext: Reddish yellow (5YR 6/6) Core: Grey (7·5YR 6/0) Int: Grey (7·5YR 5/0)	8–11	Late 12th–15th C.
BF[55]	Abingdon type B	Moderate/ Abundant	Coarse to v coarse grey angular flint, grey, white & glassy quartz, occ limestone, red brown iron mineral.	Hand rotated; th 5–7.	Cp, bowls.	Incised; thumb pressed rims.	4–5 Mainly 5 in later phase	Ext: Charred Core: Grey (10YR 5–6/1) Int: Reddish brown–brown (5YR 5/4–7·5YR 6/4).	4–7	10th–12th C.

GROUP III: Sand or no grains visible

D		Sparse	Fine grains, occ dull white inclusions, humic substance, mica.	Wheel thrown; prominent throwing grooves; th 5.			4–5	Int: Greyish brown (10YR 5/2) Core: Grey 10YR 5/1)	2, 4, 6a	Early 9th C. or later.
E		Sparse	Fine dull white inclusions, voids, quartz, occ black grains.	wheel thrown; thumb nail marks on internal surface; th. 5–6.	Cp.	Scored oblique line.	5	Dk Grey (10YR 4/1)	1	Late 8th–Early 9th C.
F		Abundant	Fine grains occ limestone, flint.	Wheel thrown; th 4–5.	Cp.		4	Dk grey (7·5YR 4/0)	1	Late 8th–Early 9th C.
G[56]	Northampton/ Stamford type F?	Abundant	Fine brown, white grains, glassy quartz.	Wheel thrown; th 3–5 (same sherd)	Cp.		5	Int: Reddish brown (5YR 4/3) Core: Dk grey 7·5YR 4/0).	6b	Early 12th C.
J[57]	Northampton type.	Abundant	Fine brown, white, black grains, mica.	Wheel-thrown; th 5–10.	Cp, flat base.		3–4	Greyish brown (10YR 5/2)	2, 4	Early 9th C. or later.
K		Sparse	Fine brown, white, black grains.	Wheel thrown; th 5.			6	Int: Lt brownish grey (10YR 6/2) Core: Grey (7·5 YR 6/0)	3	10th C.
L[58]	Stamford type A	Moderate	Fine brown, black grains, occ red brown pellets.	Wheel thrown; th 5.			5	Int: Reddish yellow (5YR 7/6) Core: Grey (5YR 6/1)	All Saints	Mid 11th C.
M[59]	Winchester type	Abundant	Fine white & grey grains, black ?iron mineral.	Wheel thrown; th 5.	Pitcher handle.	Glaze	5	Core: Lt grey (7·5YR 7/0)	Corn-market	Late 11th–Early 12th C.
N		Sparse	Fine grains, mica.	Wheel thrown; smoothed surfaces th 5.	Cp.		5	Dk grey (10YR 4/1)	2	Early 9th C.
Q		Moderate	Grey, white, glassy sub-rounded quartz, occ dull white inclusions, grog.	Wheel thrown; smoothed internal surface; th 8.			4	Greyish brown (10YR 5/2)	1, 2, 4	Late 8th–Early 9th C. or later.
S[60]		Abundant Well Sorted	White, yellow, glassy sub-rounded quartz; occ limestone, red -brown iron	Hand rotated; Wheel thrown; th 4–5.	Cp, bowls.		4–5	Int: Lt brownish grey (10YR 6/2) Core: Grey (10YR 5/1)	2, 4, 7	Early 9th C. or later.

T		Abundant Well Sorted	Grey, white, glassy, sub-rounded quartz.	Wheel thrown; th. 4.			6	Surfaces: V. dk grey (7·5YR 3/0) Core: Pink (7·5 YR 7/4)	All Saints	Mid 11th C.
U		Sparse	Fine grains, occ coarse glassy quartz.	Wheel thrown, th 7.		Glaze	4	Int: Reddish brown (5YR 5/5) Core: Lt grey (10YR 6·5/1)	4	10th C.
W		Abundant	Grey, white sub-rounded quartz, sparse mica.	Wheel thrown; th 5.				Pinkish grey (7·5YR 6/3)	*Lin*	Late 11th C. or earlier.
X		Abundant	Grey, white, glassy sub-rounded quartz.	Wheel thrown; smoothed internal surface; th 5.			4–5	Int: Dk greyish brown (10YR 4/2) Core: Lt greyish brown (10YR 5·5/2)	4, 6a	10th C. or later.
Y[61]	Oxford Medieval Ware, Abingdon type A Seacourt Fabric 2	Abundant Well Sorted	Grey, white sub-rounded quartz, occ coarse red-brown iron mineral.	Wheel thrown; occ knife trimmed; th 3–7.	Cp, jugs, tripod pitchers etc.	Glaze, applied thumb-pressed strips, thumb pressed bases, slip, combed, incised, rouletted.	5–6	Int: Lt grey–Lt brown (7·5YR 6/1 –10YR 5–6/2–3) Core: Lt grey (10YR 5·5–6/1)	Mainly 6–9	Late 11th C. or earlier–early 14th C.
Z[62]	Stamford types A & G Abingdon type I	Sparse	Grey, white quartz, black iron mineral (indigenous in clay).	Wheel thrown; th 4–5.		Glaze.	5	Int: Pinkish grey (7·5YR 6/3) Core: V lt grey (10YR 7/2)	6–7	Late 11th or earlier–12th C.
AB		Abundant	Grey, white, yellow angular & sub-rounded quartz, occ red-brown iron mineral.	Wheel thrown; th 4.	Jug.	Glaze, applied strip.	5	Pink (5YR 7/4)	8–9	Late 12th–early 14th C.
AD[63]	Andenne	Sparse	Fine red-brown iron mineral (indigenous in clay).	Wheel thrown; th 4.	Jug.	Orange glaze.	5	Pinkish yellow (7·5YR 7/5)	6b	Early 12th C.
AE		Abundant	Grey, white angular & sub rounded quartz, occ flint, limestone.	Hand rotated; th 5.	Cp, bowls.	Thumb-pressed rims.	4–5	Int: Brown (7·5YR 4–5/2) Core: Grey (10YR 5–5·5/1)	4–7	10th–12th C.
AF[64]	Andenne	Sparse	White & glassy rounded & angular quartz, occ red brown, black iron mineral.	Wheel thrown; th 4.		Yellow brown mottled glaze.	7	Greyish brown (10YR 6/2)	6b	Early 12th C.

AG[65]	Abingdon type A Wallingford type	Abundant	White rounded quartz, grey, white sub-rounded quartz.	Wheel thrown; th 5.	Cp, jugs, bowls, tripod pitchers, cisterns.	Brown & white slip applied thumb-pressed strips, glaze.	5–6 occ. 7 occ.	Int: Lt red (2·5YR 6/8) Core: As Int: or Grey (10YR 5·5/1)	6a–11	Late 11th C. or earlier-15th C.
AH[66]		Moderate	Grey, white, pink sandstone, occ black grains.	Wheel thrown; th 4–7.	Jugs.	Brown slip, thumb-pressed bases, thin glaze, triangular sectioned applied strips.	5	Int: Lt grey–Pink (10YR6·5/1-7·5YR 7/4) Core: Ltgrey (10YR 7/1)	8	Late 12th–mid 13th C.
AI[67]	Rouen type	Sparse	Fine grains, mica.	Wheel thrown; th. 4.	Jug.	Applied pads & grid pattern, glaze	5	Int: Pinkish grey (7·5YR 6·5/2) Core: Lt grey (10 YR 7/2)	8	Late 12th–mid 13th C.
AK		Abundant	Fine grey, brown grains, glassy quartz, sparse mica.	Wheel thrown; prominent throwing grooves; th 5.	Jug or tripod pitcher.	Thumb-pressed strips, glaze.	5	Int: Brown (7·5YR 5/2) Core: Grey (7·5YR 5/0)	8	Late 12th–mid 13th C.
AL[68]	Stamford type A	Sparse	Angular quartz, red brown pellets.	Wheel thrown knife trimmed shiny external surface; th 4.	Cp.		5–6	Int: Reddish brown (5YR 5/4) Core: Dk grey 7·5YR 4/0).	6a, 8	Late 11th C. or earlier—mid 13th C.
AM[69]	Oxford Late Medieval Ware, Abingdon types D & L	Sparse—Abundant	Fine red-brown & colourless grains, occ red-brown iron mineral.	Wheel thrown; occ knife trimmed; th 4.	Cp, jugs, bottles, lamps, skillets etc.	Plain & rouletted thin applied strips pads, slip, glaze.	5	Reddish yellow (7·5YR 7/5) Core: Grey–Pink (10YR 7/0–7·5YR 7/5)	9–11	Late 13th or earlier-15th C.
AP[70]		Sparse	Fine red brown grains & colour-quartz.	Wheel thrown; th 4.		Plain & rouletted thin applied strips, glaze.	5–7	Reddish yellow-pink (7·5YR 7/5-4)	9–11	Late 13th–15th C.
AR		Sparse	Coarse mica.	Wheel thrown; prominent throwing grooves; th 4.			7	Int: Light red (2·5YR 6/6) Core: Grey (2·5YR 5/0)	10–11	14th–15th C.
AS		Sparse	Fine red-brown & white grains.	Wheel thrown; th 5.	Jug.	Red slip, glaze	5–6	Int: V pale brown (10YR 8/2·5) Core: Lt grey (10YR 7/1)	8–11	Late 12th–mid 13th C or later.
AT[71]	Stamford types B & G	Sparse	Fine to coarse red & white pellets.	Wheel thrown; th 4.	Spouted pitchers	Pale yellow glaze.	4	Pink (5YR 7/4)	62–9	Late 11 C or earlier—later.

AU		Sparse	Fine grains, occ grey, quartz, red-brown pellets. Indigenous in clay.	Wheel thrown; prominent throwing grooves; th 5.		Brown slip over scratched oblique line.	5	Int: Reddish yellow (7·5YR 5/6) Core: Grey (7·5YR 5/0)	8–10	Late 12th–13th C. or later.
AV		Moderate	Fine grey, white grains, occ red-brown pellet, sparse mica.	Wheel thrown; th 5.	Jugs, bowl with handle socket.	Applied plain & rouletted strips, glaze.	5	Int: V pale brown (10YR 8/4) Core: White (10YR 8/1)	10–11	14th–15th C.
AW		Abundant	Fine grey, white & black grains, occ red-brown iron mineral.	Wheel thrown; th 3–7	Cp, undercut rims typical of Brill, skillets, jugs.	White & brown slip plain & rouletted applied strips, glaze.	5–6	Int: Pale brown (7·5YR 7/4) Core: Grey (7·5 YR 5/0).	9–11	Late 13th–15th C. or earlier.
AX	Post Medieval Earthenware		None	Wheel thrown; th 4–9. (same sherd)		Internal blistered brown glaze.	5–6	Int: Reddish yellow (5YR 6/6) Core: Grey (7·5 YR 5/0)	11	15th C.
AY		Moderate	Fine red-brown grains.	Wheel thrown; th 4.		Patchy orange & green glaze.	5–6	Int: Lt red (2·5YR 5/8) Core: Grey (10YR 6/1)	11	15th C.
AZ	Post Medieval Coarse Ware	Moderate	Red-brown grains.	Wheel thrown; th 5.		Patchy orange & green glaze.	5	Int: Reddish brown (5YR 5/4) Core: Grey (10YR 5·5/1)	11	15th C.
BC[72]	A Local Tudor type Abingdon type M	Sparse	Fine red-brown & colourless grains.	Wheel thrown; th 3–4	Lobed dishes.	Dark green glaze on both surfaces.	4–5	Core: Reddish Yellow (7·5YR 7/5)	10–11	14th–15th C.
BD		Sparse	Fine grains.	Wheel thrown; th 5.		Internal yellow glaze.	4–5	Core: Lt brown (7·5YR 6/4)	10	Late 14th C.
BE		Sparse		Wheel thrown; th 4.		Dark brown glaze.	5	Grey (10YR 5·5/1)	4	10th C.
BG[73]	Abingdon type N A Surrey type	Moderate	Red-brown, white sub-rounded quartz, occ coarse grain.	Wheel thrown; th 3–7	Jugs.	Patchy glaze, thumb pressed bases.	5	Int. V pale brown (10YR 7·5/3) Core: Pink (7·5YR 7/4)	9–11	Late 13th–15th C.
BH		Moderate	Grey, white sub-rounded quartz, occ limestone, flint.	Wheel thrown; th 4–5.	Jug.	Thumb-pressed rim.	4–5	Brown (7·5YR 5·5/3)	8	Late 12th–mid 13th C. or later.

BI[74]	North French	Moderate	Fine grains, occ limestone.	Wheel thrown; th 5.	Diamond rouletting	5	Grey (10YR 4·5/1)	6a	Late 11th or earlier.
BJ[75]	Blue-Grey Ware	Abundant	Fine glassy quartz, black iron mineral.	Wheel thrown; Ladle handle. th 4–5.		6	Ext: Dk grey (7·5YR 4/0) Core: Lt grey (5YR 6/1)	8	Late 12th–mid 13th C.
BM		Sparse	Fine grains.	Wheel thrown; th 5.		5	Ext: Pink (7·5YR 7/4) Core: Dk grey (7·5YR 4/0)	8	Late 12th–mid 13th C.
BQ		Sparse	Fine dull white inclusions, voids, occ black grains, mica.	Wheel thrown; Cp. th 5		5	Grey (10YR 4/1)	Corn-market	10th C.
BT		Moderate	Grey, white & glassy sub-rounded quartz occ limestone, flint,	Wheel thrown; th 8 ?Burnished Cp.		5	Red (2·5YR 5/8) Core: Grey (2·5YR 5/0)	All Saints	10th C.
BU		Abundant	Grey, white sub-rounded quartz.	Wheel-thrown; th 6.		6	Ext. V dark grey (7·5YR 3/0) Core: V dk grey (5YR 3/1)	All Saints	10th C.
BV[76]	Pingsdorf type	Abundant	Glassy sub-rounded quartz, occ red-brown iron mineral.	Wheel thrown; Foot-ring th 5–6.	Red slip	9	Lt grey (10YR 7/2)	All Saints	Mid 11th C.

[47] *A* for published description of similar fabric, E. M. Jope, ' Late Saxon pits under Oxford Castle Mound ', *Oxoniensia*, XVII–XVIII (1952–3), 104, No. 41.

[48] *B* for published description of similar fabric *Ibid.*, 87, ' There is a whole gradation from slightly rougher shelly wares . . . through flaking shelly wares . . .'; M. Parrington and C. Balkwill, ' Excavations at Broad Street ', *Oxoniensia*, XL (1975), 32.

[49] *R* J. G. Hurst, ' Saxo-Norman Pottery in East Anglia: Part 1. General Discussion and St. Neot's Ware ', *Proc. Cambridge Antiq. Soc.*, XLIX (1955), 43–6, 49–70; Richard Hunter, unpublished Bradford University M.A. thesis, ' *Neutron Activation Analysis of St. Neot's type Ware* ' (1975). He describes the inclusions as fossil shell fragments (shelly limestone, probably Cornbrash) indicated by occasional bryozoa. No bryozoa were found in *B*; Parrington & Balkwill, *op. cit.* note 48, 32.

[50] *BK* M. Biddle, ' The deserted medieval village of Seacourt, Berks ', *Oxoniensia*, XXVI–XXVII (1961–2), 136, Fabric 1; M. Robinson, ' Excavations at Copt Hay, Tetsworth ', *Oxoniensia*, XXXVIII (1973), 85.

[51] *AC* F. Radcliffe, ' Excavations at Logic Lane, Oxford ', *Oxoniensia*, XXVI–XXVII (1961–2), 60, ' Twelfth-century shelly and gritty wares '; E. M. Jope and W. A. Pantin, ' The Clarendon Hotel Oxford ', *Oxoniensia*, XXIII (1958), 37, D2E2; E. M. Jope and R. I. Threlfall, ' The Twelfth-century Castle of Ascot Doilly, Oxon . . .', *Antiq. J.*, 39 (1959), 240, 244–5.

The author has examined sherds from the above in the British Museum Reference Collection of medieval pottery. P. J. Fasham ' Excavations in Banbury, 1972: First Report ', *Oxoniensia*, XXXVIII (1973), Fabric 1, 329; Parrington and Balkwill, *op. cit.* note 48, 32.

[52] *AJ* Parrington and Balkwill, *ibid.*, 32.

[53] *BB* Gloucester—pers. comm. Alan Vince. Fasham, *op. cit.* note 51, 332.

[54] *AQ* R. L. S. Bruce-Mitford, ' Archaeology of the Bodleian Extension ', *Oxoniensia*, IV (1939), 99 No. 7, 109, Well 12, No. 1; 128–9, unstratified; Robinson, *op. cit.* note 50, 85; Parrington and Balkwill, *op. cit.* note 48, 32. Finer distinctions were made in the Oxford fabrics so that Abingdon Fabric *C* includes Oxford Fabrics *AJ* and *AQ*; Ludgershall Castle type C9, pers. comm. Wendy Rix; T. J. Weare, ' Excavations at Wallingford, 1974 ', (this volume), Nos. 35, 36 and 65.

[55] *BF* for published description of similar fabric, Jope, *op. cit.* note 47, 103–4, No. 37; R. L. S. Bruce-Mitford and E. M. Jope, ' Eleventh and Twelfth Century Pottery from the Oxford Region ', *Oxoniensia*, V (1940), Fig. 8 No. 1; Parrington and Balkwill, *op. cit.* note 48, 32.

[56] *G* T. G. Hassall ' Excavations at Oxford Castle 1965–1973 ', *Oxoniensia*, XLI (1976), Fig. 12, 22. Further analysis of this ware is being undertaken by Kathy Kilmurry.

[57] *J* Jope and Pantin, *op. cit.* note 51, 35, 36–7, D2E1 and D2A1; this comparison was confirmed by E. M. Jope and *J* was accepted as Northampton type ware by M. McCarthy; J. H. Williams, ' A Saxo-norman kiln group from Northampton ', *Northamptonshire Arch.*, 9 (1974), 46–56.

[58] *L* Confirmed as Stamford type A by K. Kilmurry.

[59] *M* T. G. Hassall, ' Excavations at 44–46 Cornmarket Street, Oxford, 1970 ', *Oxoniensia*, XXXVI (1971), 25, Fig. 5 17/1; M. Biddle and K. Barclay, ' Winchester Ware ' in V. I. Evison *et al.* (eds.) *Medieval Pottery from Excavations. Studies presented to Gerald Clough Dunning* (1974), 138–65.

[60] *S* Hassall, *op. cit.* note 56, Fig. 12, Nos. 20 and 21; All Saint's Church, forthcoming, F75.

[61] *Y* Bruce-Mitford, *op. cit.* note 54, 115, Group A and 119, Group B; Radcliffe, *op. cit.* note 51, 62, ' Twelfth century sandy wares '; Biddle, *op. cit.* note 50, 136, Fabric 2; Parrington and Balkwill, *op. cit.*, note 48, 32.

[62] *Z* J. G. Hurst, ' Saxo-Norman Pottery in East Anglia: Part III, Stamford Ware and General Summary ', *Proc. Cambridge Antiq. Soc.*, LI (1958), 37–57, 61; Stamford types pers. comm. K. Kilmurry; Parrington and Balkwill, *op. cit.* note 48, 32.

[63] *AD* J. G. Hurst (ed.), ' Red-painted and glazed pottery in Western Europe from the Eighth to the Twelfth Century ', *Medieval Archaeology*, XII (1969), 108–10. Comparable sherds of Andenne Ware found in Antwerp are in the British Museum Reference Collection.

[64] *AF* for published description of similar fabric, Radcliffe, *op. cit.* note 51, 60, 'Stamford Ware '.

[65] *AG* Bruce-Mitford, *op. cit.* note 54, 120, Group B; Biddle, *op. cit.* note 50, Fig. 19, No. 7, 144; C. F. Slade, ' Excavations at Reading Abbey: 1964–67 ', *Berkshire Archaeol. J.*, LXVI (1973), Fig. 11 Nos. 3–7, 12; Parrington and Balkwill, *op. cit.* note 48, Fig. 29, No. 67, 39. Abingdon type A includes Oxford fabrics *Y* and *AG*; Weare, *op. cit.* note 54, Nos. 13, 18, 42, 47, 48.

[66] *AH* Bruce-Mitford, *op. cit.* note 54, 115, Group A, ovoid jugs.

[67] *AI* K. J. Barton, ' Medieval pottery at Rouen ', *Archaeol. J.*, CXXII (1965), 73–85.

[68] *AL* Identified as Stamford type A by J. G. Hurst and K. Kilmurry.

[69] *AM* Bruce-Mitford, *op. cit.* note 54, 123, Group C; Parrington and Balkwill, *op. cit.* note 48, 32; Weare, *op. cit.* note 54, No. 60. Similar to pottery from Brill kilns but pottery excavated from these kilns contained a higher proportion of sand than *AM*, and is similar to *AW* (pers. comm. E. M. Jope). E. M. Jope, ' Medieval Pottery Kilns at Brill, Bucks.: Preliminary Report on Excavations in 1953 ', *Records Bucks*, XVI (1953–4), 39–42; Jope and Threlfall *op. cit.* note 51, 263 H1, where it is suggested that there may be other sources of Brill-type ware.

[70] *AP* Bruce-Mitford, *op. cit.* note 54, 123 Group C, Well 13, Nos. 6, 7 and 11.

[71] *AT* Stamford types B and G, identified by K. Kilmurry.

[72] *BC* A local tudor type—Parrington and Balkwill, *op. cit.* note 48, 32.

[73] *BG* Identified as a Surrey type by J. G. Hurst; Biddle, *op. cit.* note 50, 146, Fig. 20, 7; 147; Parrington and Balkwill, *op. cit.* note 48, 32; D. Miles, ' Excavations at West St. Helen Street, 1972 ', *Oxoniensia*, XL (1975), 95, Fig. 65 No. 33.

[74] *BI* Possibly North French—pers. comm. J. G. Hurst.

[75] *BJ* G. C. Dunning *et al.*, ' Anglo-Saxon Pottery . . .; a Symposium ', *Medieval Archaeology*, III (1959), 56–60; Jope and Pantin, *op. cit.* note 51, Fig. 9, 40.

[76] *BV* Dunning *et al.*, *Ibid.*, 55; Weare, *op. cit.* note 54, No. 61.

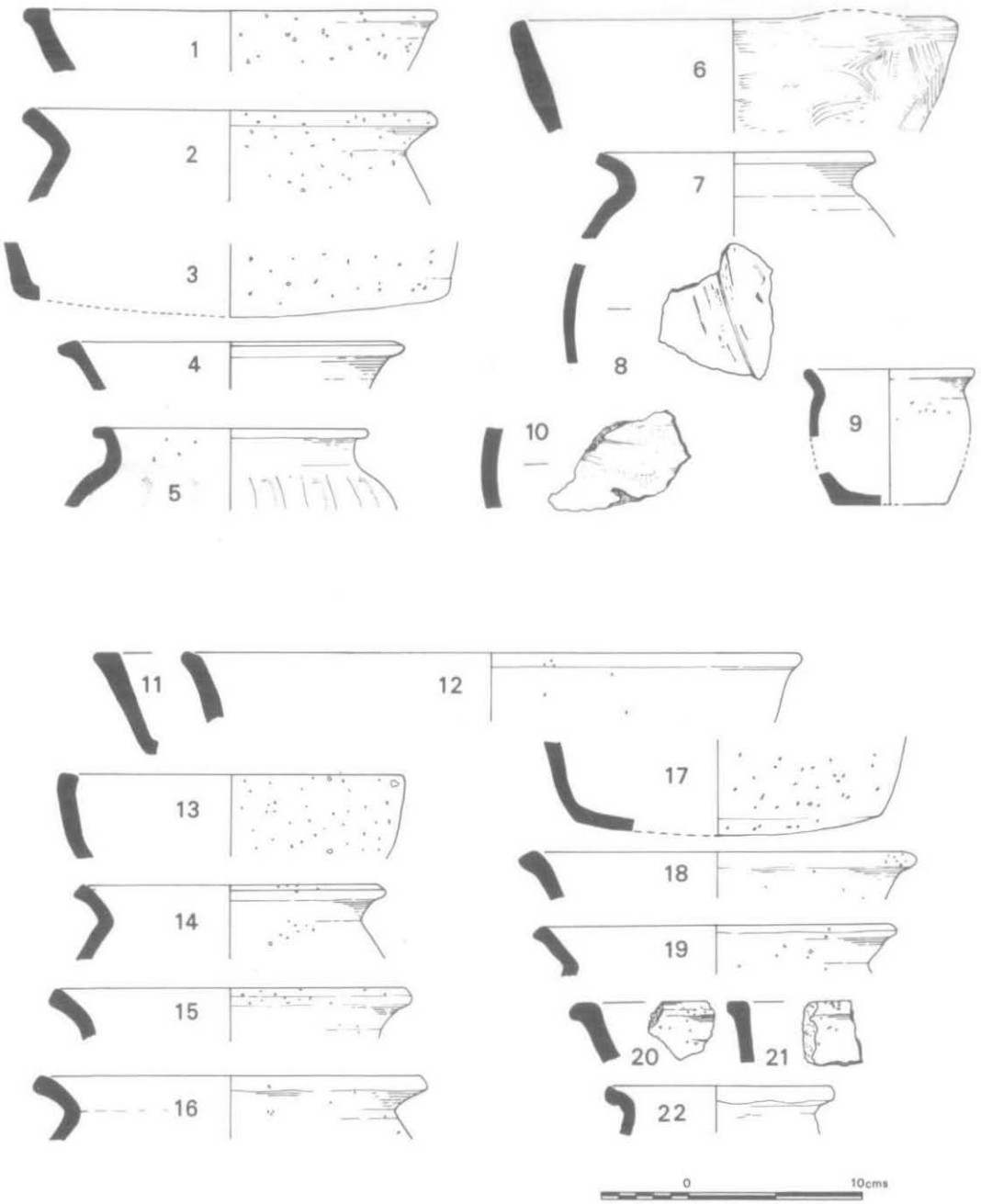


FIG. 15

Phase 1. Late eighth-early ninth century. Nos. 1–10. Phase 2. Early-mid ninth century. Nos. 11–22. 1. P226/0/2 *B*; 2. P226/0/1 *B*; 3. P226/2/2 *C*; 4. P226/2/1 *I*; 5. P226/2/4 *I*; 6. P226/3/2 *P*; 7. P226/2/5 *E*; 8. P226/1/1 *E*; 9. P226/0/3 *F*; 10. P226/2/3 *Q*; 11. P225/3/5 *B*; 12. P225/3/4 *B*; 13. P225/3/1 *B*; 14. P225/6/8 *B*; 15. P225/6/1 *B*; 16. P225/6/9 *B*; 17. P225/6/34 *B*; 18. P225/6/7 *H*; 19. P225/6/5 *H*; 20. P225/3/2 *H*; 21 P225/3/3 *H*; 22. P225/6/14 *N*. Scale ¼.

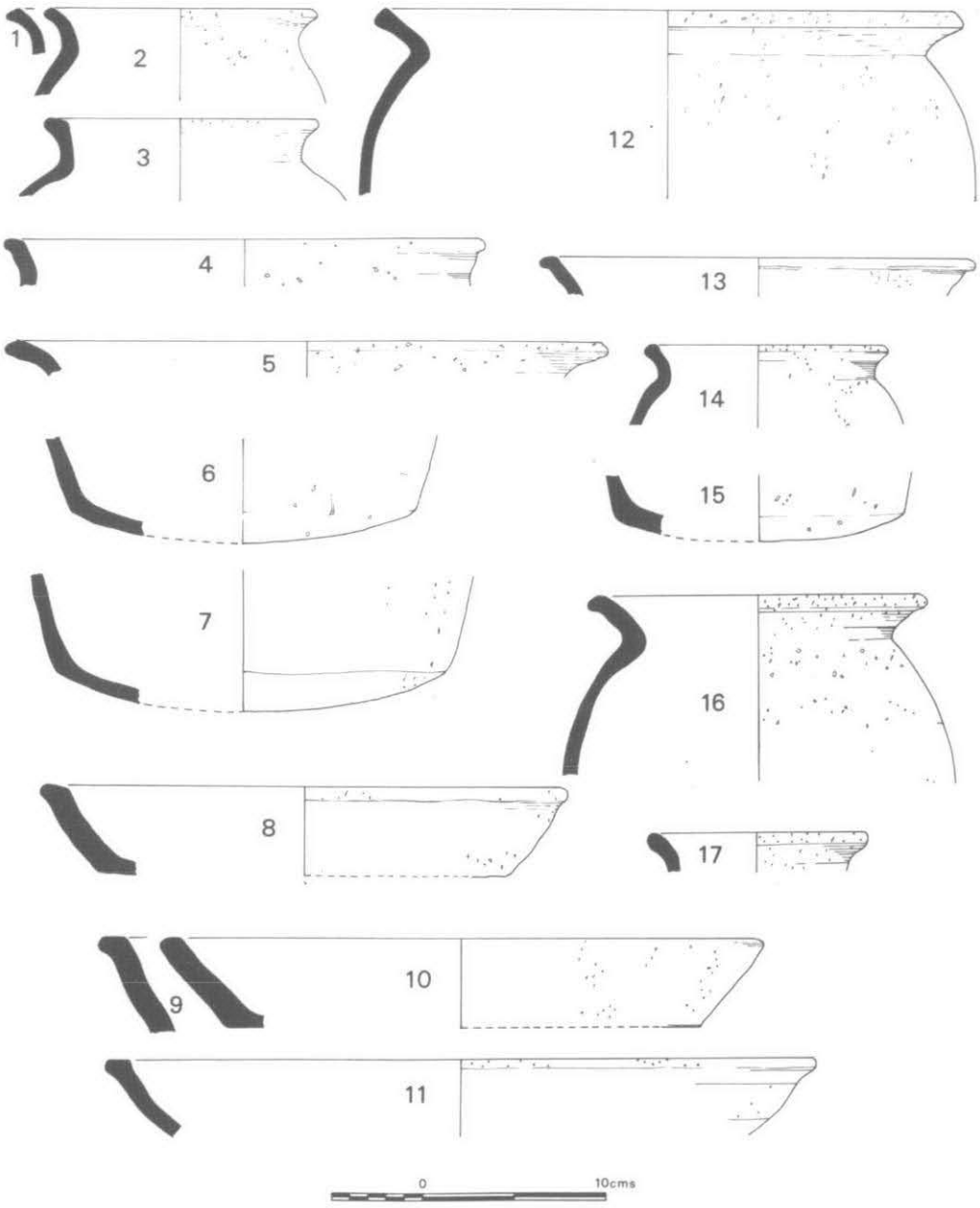


FIG. 16

Phase 3. Mid tenth century.

1. P214/3/3 *B*; 2. P220/1/4 *B*; 3. P215/1/2 *B*; 4. P214/3/3 *B*; 5. P214/3/4 *B*; 6. P216/1/7 *B*; 7. P215/1/1 *B*; 8. P216/1/4 *B*; 9. P222/1/1 *B*; 10. P216/1/2 *B*; 11. P214/3/2 *H*; 12. P220/1/3 *C*; 13. P216/1/5 *C*; 14. P220/1/1 *C*; 15. P220/1/2 *C*; 16. P216/1/1 *C*; 17. P217/1/1 *R*. Scale $\frac{1}{4}$.

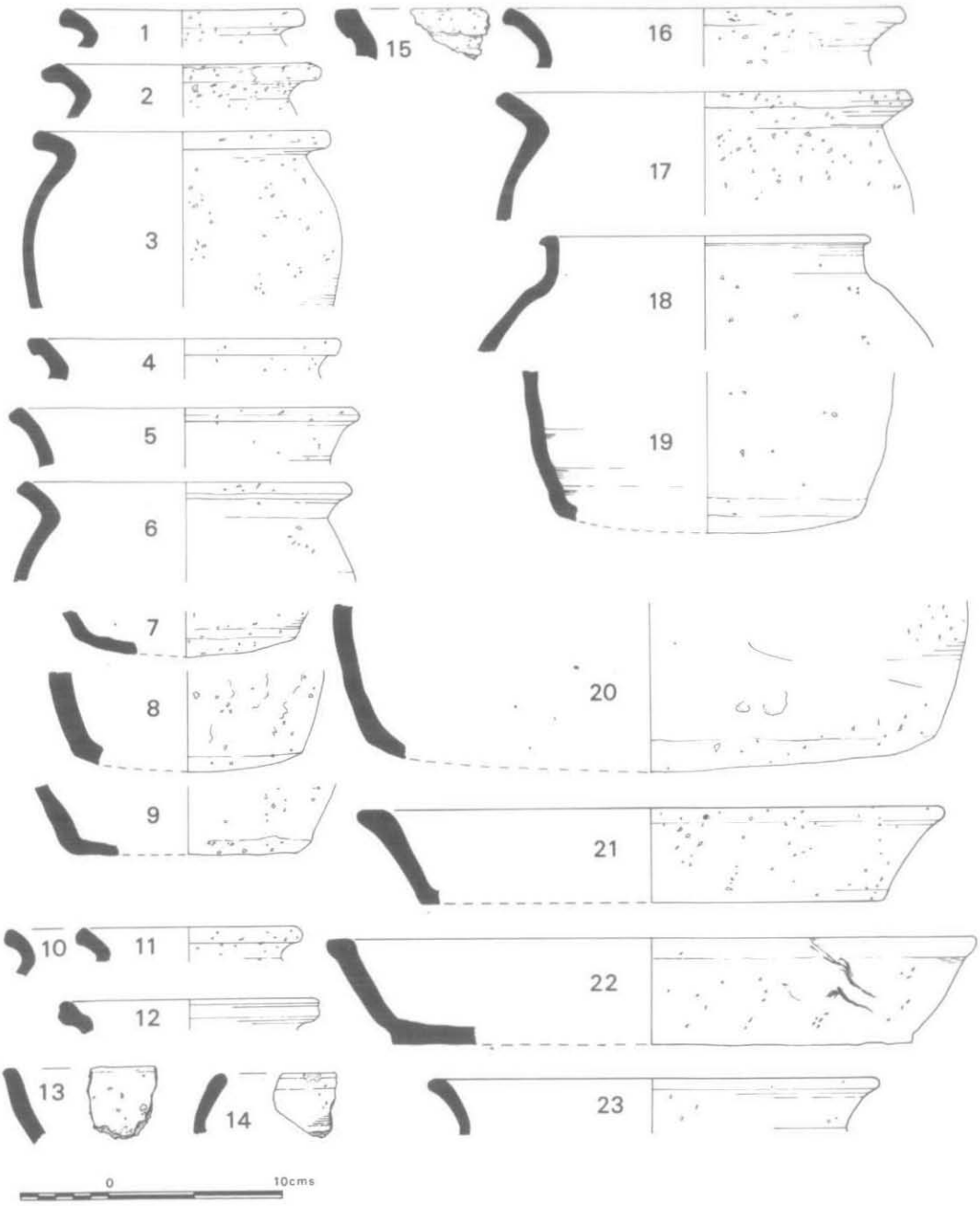


FIG. 17

Phase 4. Mid–late tenth century.

1. P209/0/9 *B*; 2. P211/1/1 *B*; 3. P211/0/1 *B*; 4. P209/0/1 *B*; 5. P211/2/2 *B*; 6. P211/2/4 *B*; 7. P211/0/1a *B*; 8. P209/0/3 *B*; 9. P211/1/14 *B*; 10. P211/1/8 *R*; 11. P209/0/7 *R*; 12. P211/2/6 *J*; 13. P209/0/4 *BF*; 14. P211/1/7 *S*; 15. P211/1/3 *B*; 16. P209/0/8 *B*; 17. P211/1/5 *B*; 18. P211/1/6 *B*; 19. P209/0/2 *B*; 20. P211/2/1 *B*; 21. P211/1/4 *B*; 22. P211/1/2 *B*; 23. P211/1/13 *C*. Scale $\frac{1}{4}$.

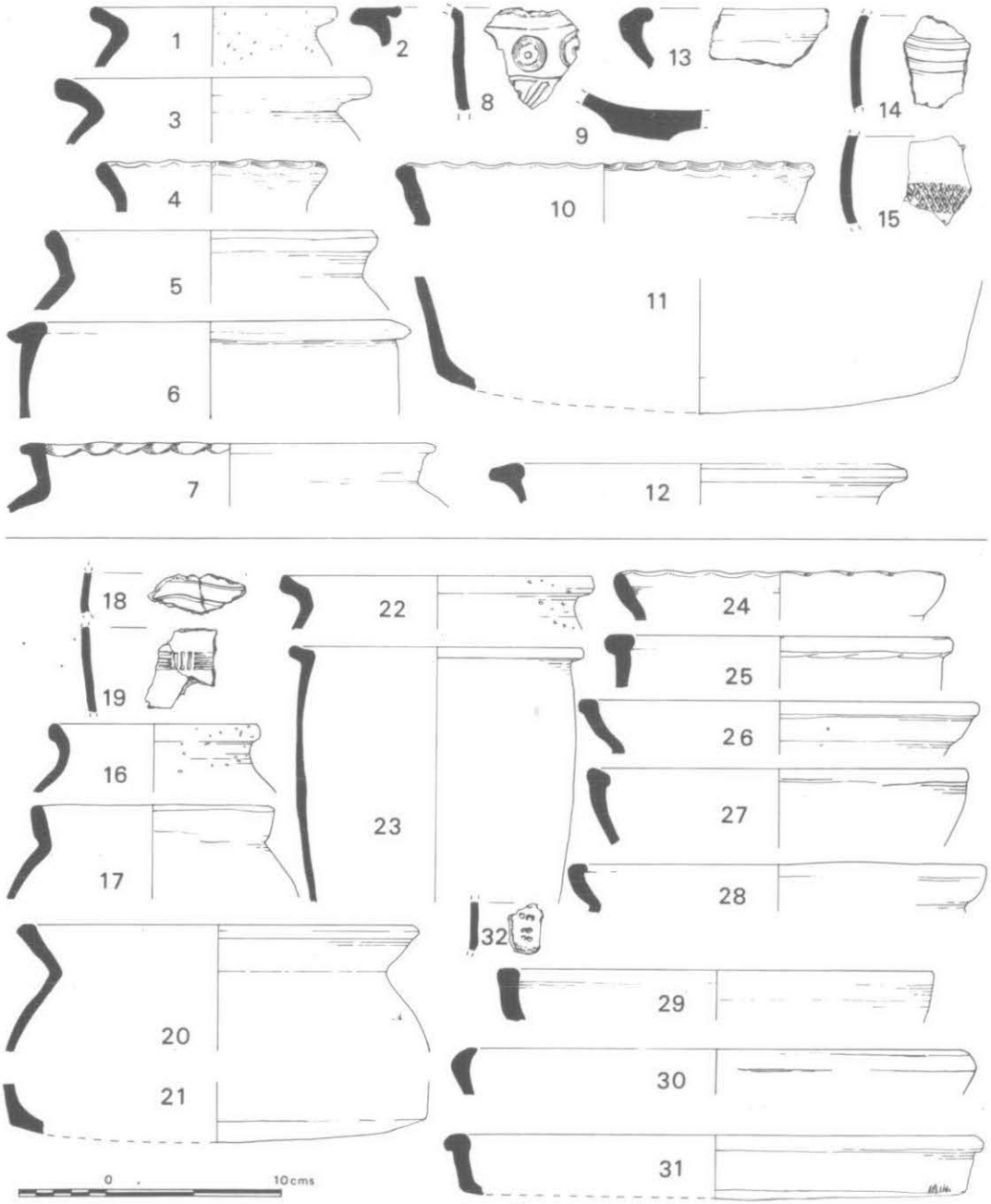


FIG. 18

Phase 6a. Mid–late eleventh century. Nos. 1–15. Phase 6b. First half of twelfth century. Nos. 16–32. 1. P157/2/7 *B*; 2. P200/0/5 *R*; 3. P157/2/6 *R*; 4. P199/1/1 *AC*; 5. P200/0/3 *AC*; 6. P159/2/1 *AC*; 7. P200/0/1 *AC*; 8. P200/0/6 *AC*; 9. P159/1/1 *AC*; 10. P199/1/2 *BF*; 11. P157/2/5 *BF*; 12. P157/1/1 *Y*; 13. P157/1/2 *AE*; 14. P159/2/2 *BF*; 15. P200/0/2 *BI*; 16. P180/1/2 *C*; 17. P157/0/2 *AC*; 18. P159/0/5 *AC*; 19. P159/0/17 *AC*; 20. P.159/0/10 *AC*; 21. P159/0/19 *AC*; 22. P171/2/2 *C*; 23. P159/0/8 *AC*; 24. P157/0/4 *AC*; 25. P157/0/3 *AC*; 26. P157/0/5 *AC*; 27. P159/0/14 *AC*; 28. P159/0/13 *AC*; 29. P157/0/8 *AC*; 30. P174/1/1 *AC*; 31. P159/0/11 *AC*; 32. P159/0/7 *AC*. Scale $\frac{1}{4}$.

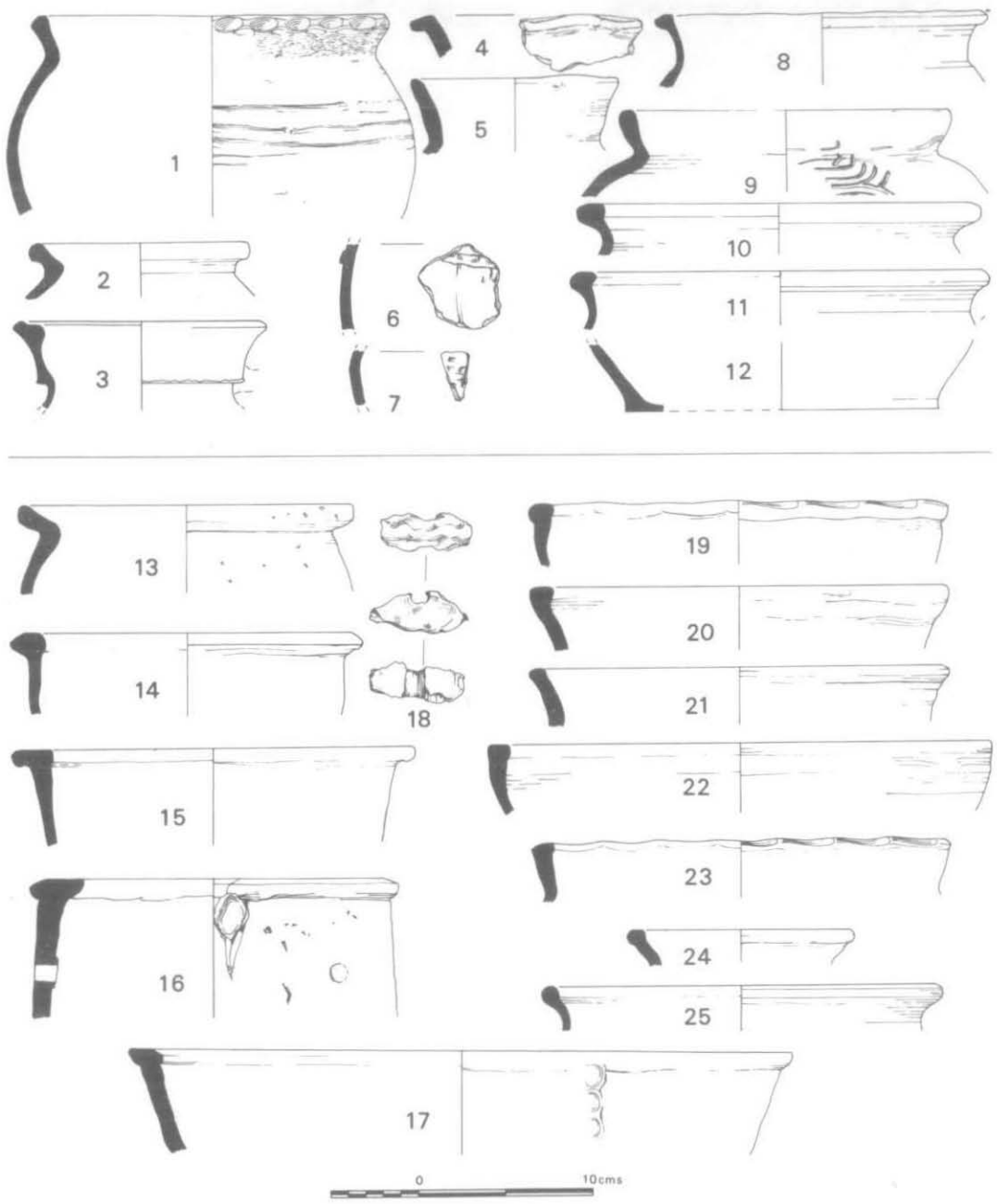


FIG. 19

Phase 6b. First half of twelfth century. Nos. 1—12. Phase 7. Third quarter of twelfth century. Nos. 13–25.

1. P157/0/9 *AE*; 2. P180/1/1 *G*; 3. P159/0/18 *AD*; 4. P159/0/1 *Y*; 5. P171/2/1 *Y*; 6. P159/0/16 *Y*; 7. P159/0/6 *Y*; 8. P159/0/9 *Y*; 9. P157/0/7 *Y*; 10. P157/0/6 *Y*; 11. P157/0/1 *Y*; 12. P159/0/4 *Y*; 13. P123/3/5 *B*; 14. P202/1/1 *AC*; 15. P123/3/1 *AC*; 16. *83*P50/1/0 *AC*; 17. *83*P50/0/2 *Y*; 18. P123/3/4 *B*; 19. P123/3/8 *AC*; 20. P123/3/7 *AC*; 21. P123/3/6 *AC*; 22. P123/3/2 *AC*; 23. P123/3/3 *BF*; 24. P167/1/1 *Y*; 25. P173/0/1 *Y*. Scale ¼.

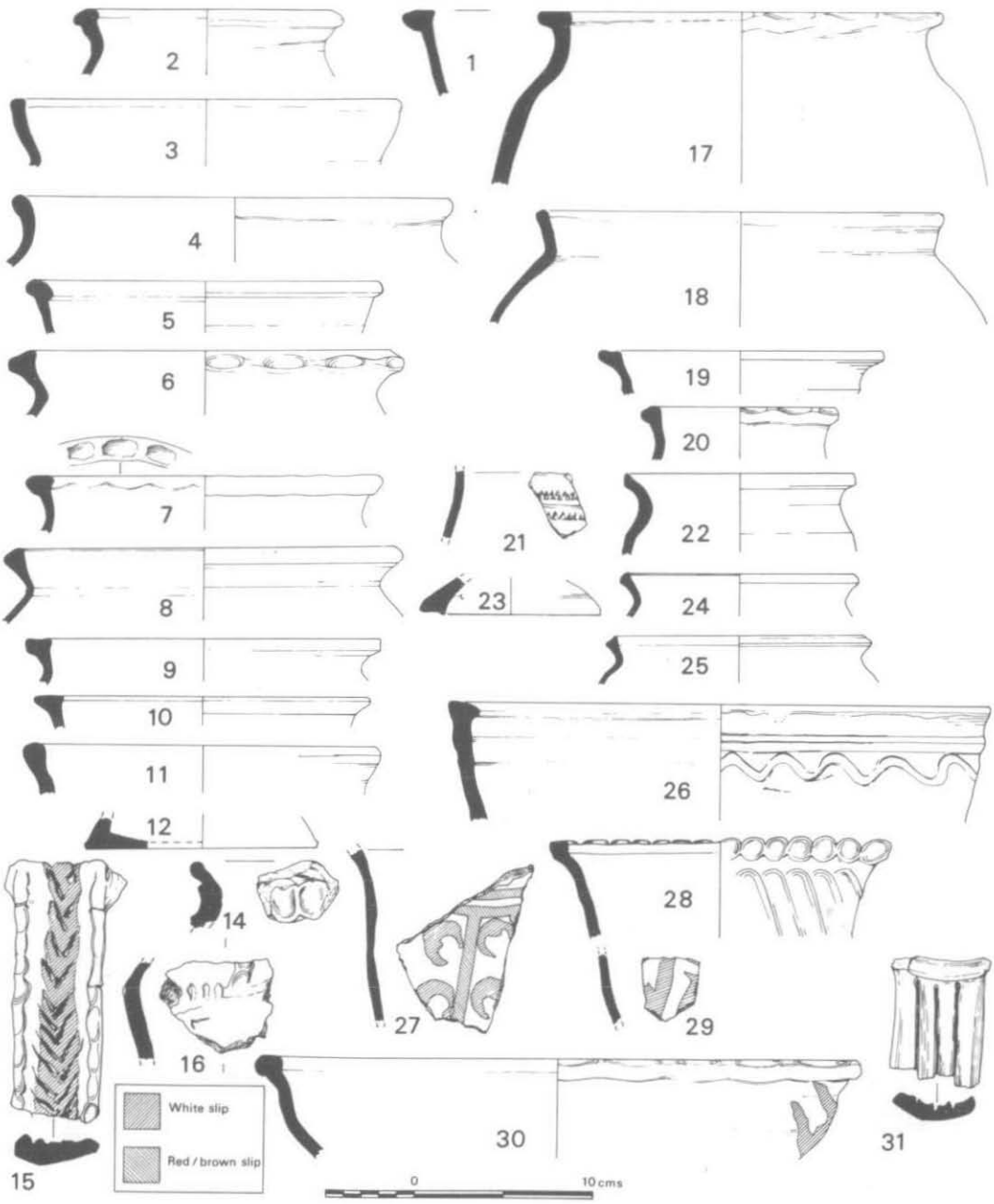


FIG. 20

Phase 8. Late twelfth–early thirteenth century.
1. P159/3/2 *AC*; 2. *83*P35/1/2 *AC*; 3. P123/2/1 *AG*; 4. P158/0/5 *BK*; 5. P123/2/2 *Y*; 6. P123/2/3 *Y*; 7. P158/0/4 *Y*; 8. P178/1/2 *Y*; 9. P140/0/1 *Y*; 10. P178/1/1 *Y*; 11. *83*P35/1/1 *AV*; 12. P237/1/1 *Y*; 14. P137/0/2 *AG*; 15. P137/1/71 *AG*; 16. P158/0/2 *AC*; 17. P123/2/4 *AC*; 18. P159/3/3 *AC*; 19. *83*P34/1/1 *AK*; 20. P158/0/1 *BH*; 21. *83*P39/0/1 *Y*; 22. P158/2/1 *Y*; 23. P158/0/7 *Y*; 24. P123/2/6 *Y*; 25. P123/2/5 *Y*; 26. P158/0/6 *Y*; 27. *83*P46/0/1 *AG*; 28. *83*P87/2/1 *Y*; 29. P137/1/58 *AG*; 30. *83*P37/0/1 *AG*; 31. P137/1/30 *AG* Scale ¼.

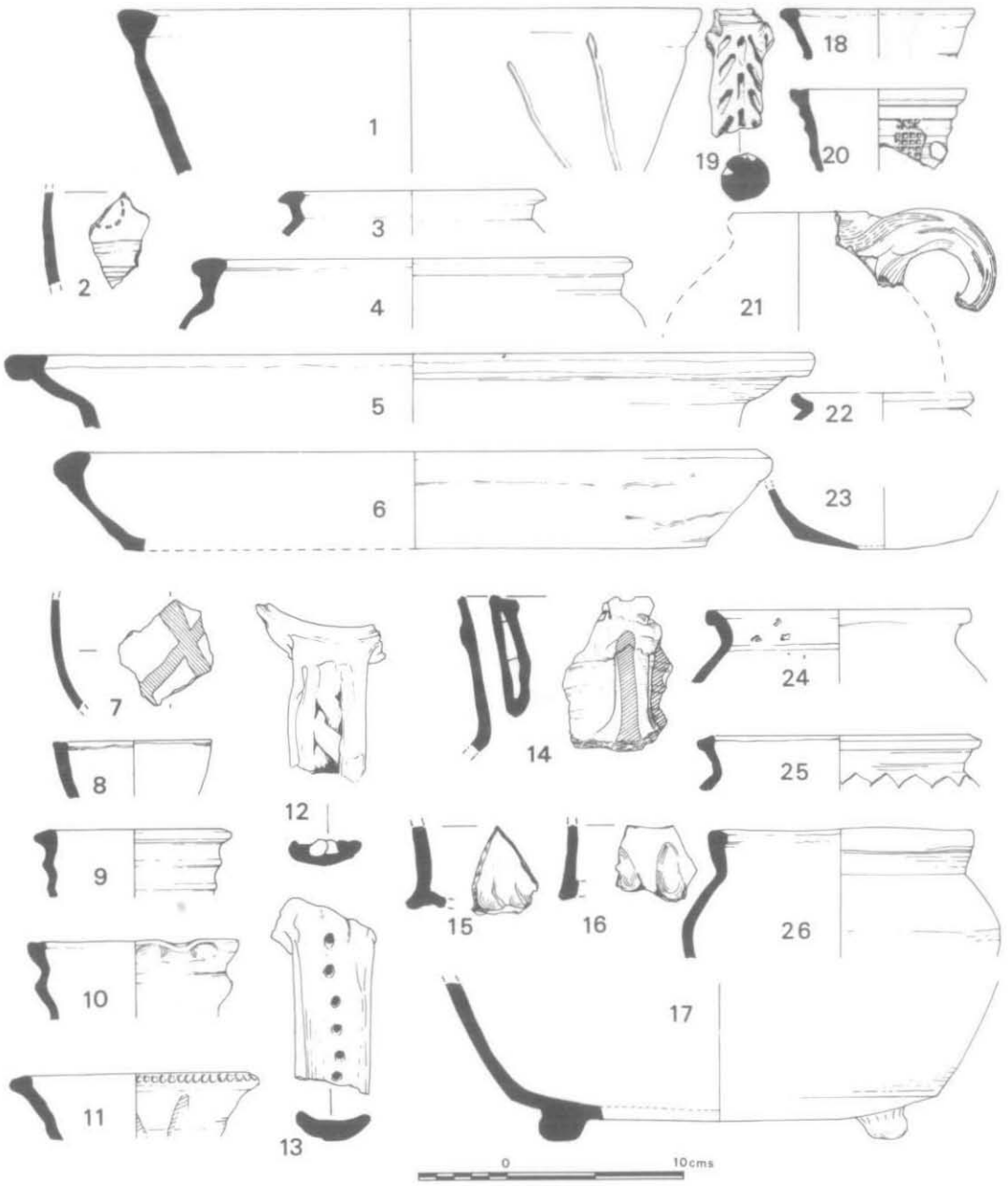


FIG. 21

Phase 8 (Midden). Late twelfth–early thirteenth century.
1. P137/1/84 *AC*; 2. P137/1/64 *AJ*; 3. P137/0/3 *AJ*; 4. P137/1/53 *AJ*; 5. P137/1/44 *AJ*; 6. P137/1/45 *AJ*; 7. P137/1/59 *Y*; 8. P137/1/9 *Y*; 9. P137/1/51 *Y*; 10. P137/1/35 *Y*; 11. P137/1/34 *AG*; 12. P137/1/85 *Y*; 13. P137/1/72 *Y*; 14. P137/1/73 *AG*; 15. P137/1/68 *Y*; 16. P137/1/65 *Y*; 17. P137/1/63 *Y*; 18. P137/1/48*AH*; 19. P137/1/29 *AK*; 20. P137/1/70 *AI*; 21. P137/1/1 *BJ*; 22. P137/1/76 *AL*; 23. P157/0/2 *AL*; 24. P137/1/61 *BK*; 25. P137/1/20 *Y*; 26. P137/1/16 *Y*. Scale ¼.

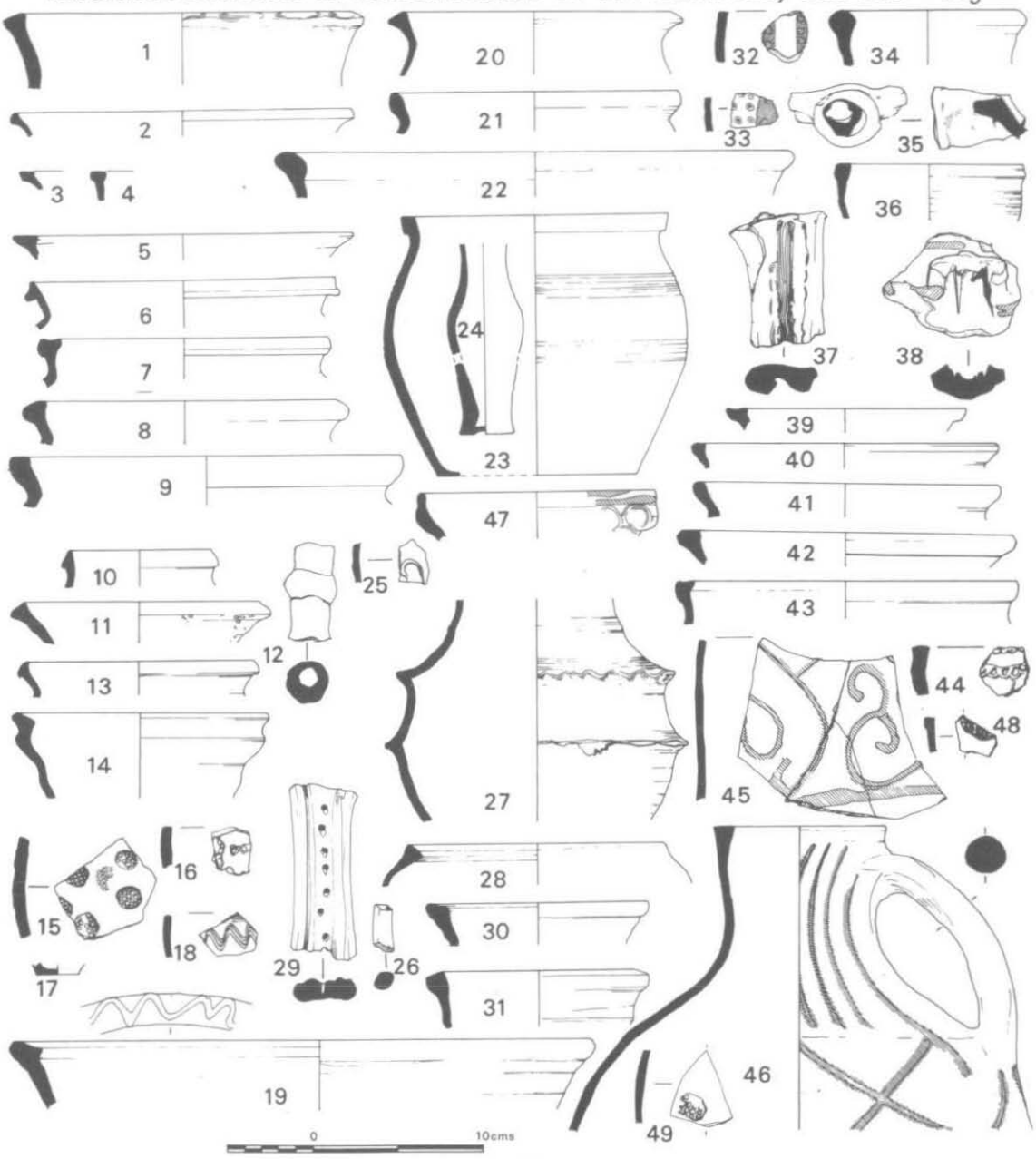


FIG. 22

Phase 9. Second half of thirteenth century–early fourteenth century.
1. P109/5/6 *Y*; 2. P125/2/1 *Y*; 3. P125/2/3 *Y*; 4. P125/2/2 *Y*; 5. P125/1/6 *Y*; 6. P123/0/19 *Y*; 7. P123/0/20 *Y*; 8. P123/0/22 *Y*; 9. P123/0/18 *Y*; 10. P109/6/2 *Y*; 11. P123/0/11 *Y*; 12. P123/1/1 *Y*; 13. P132/0/5 *Y*; 14. P135/1/1 *Y*; 15. P123/0/8 *Y*; 16. P185/1/2 *Y*; 17. P123/0/28 *Y*; 18. P132/0/3 *Y*; 19. P123/0/13 *Y*; 20. P123/0/25 *AJ*; 21. P125/0/4 *AJ*; 22. P125/1/4 *AJ*; 23. P123/0/1 *AM*; 24. P123/0/3 *AM*; 25. P125/1/2 *AM*; 26. P125/0/1 *AM*; 27. *83*P22/0/2 *AM*; 28. P123/0/7 *AM*; 29. P125/1/3 *AM*; 30. P125/1/1 *AM*; 31. *83*P34/0/1 *AM*; 32. P125/4/4 *AG*; 33. P125/4/5 *AG*; 34. P125/2/8 *AQ*; 35. P148/1/2 *AV*; 36. P49/2/2 *AW*; 37. P123/0/6 *BK*; 38. P132/0/1 *AW*; 39. P125/2/6 *AW*; 40. P132/0/2 *AW*; 41. P109/6/1 *AW*; 42. P125/2/7 *AW*; 43. P49/2/1 *AW*; 44. P125/1/7 *AW*; 45. *83*P22/0/1 *AM*; 46. P148/1/1 *AM*; 47. *83*P36/1/1 *AG*; 48. *83*P29/1/1 *BC*; 49. P125/4/6 *AW*. Scale ¼.

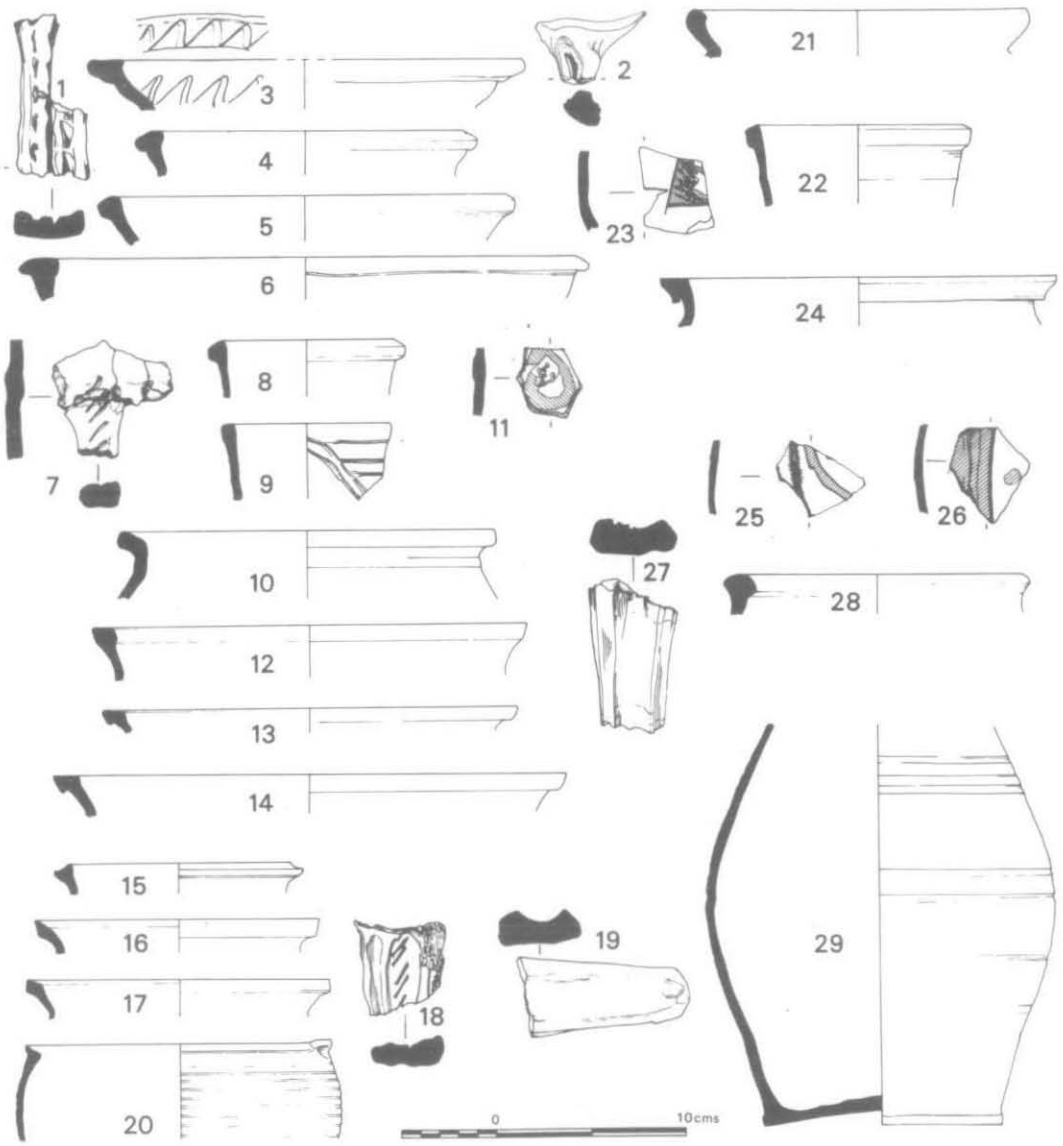


FIG. 23

Phase 10. Fourteenth century.

1. P105/0/2 *Y*; 2. P110/0/9 *Y*; 3. P110/2/5 *Y*; 4. P110/1/1 *AJ*; 5. P110/0/8 *AJ*; 6. P105/1/4 *AJ*; 7. P110/0/6 *AM*; 8. P119/0/2 *AM*; 9. P119/2/3 *AM*; 10. P119/2/1 *AM*; 11. P110/2/4 *AM*; 12. P110/0/2 *AM*; 13. P110/0/7 *AM*; 14. P119/0/1 *AM*; 15. P105/0/3 *AM*; 16. P110/0/5 *AM*; 17. P110/0/4 *AM*; 18. P119/2/2 *AM*; 19. P110/2/3 *AM*; 20. P111/1/2 *AM*; 21. P110/0/1 *AQ*; 22. P122/1/1 *AS*; 23. P53/9/2 *AU*; 24. P110/2/2 *AW*; 25. P105/0/1 *AW*; 26. P111/1/1 *AW*; 27. P53/9/4 *AW*; 28. P110/2/1 *BK*; 29. *Lin*P15/0/1 *AM*. Scale $\frac{1}{4}$.

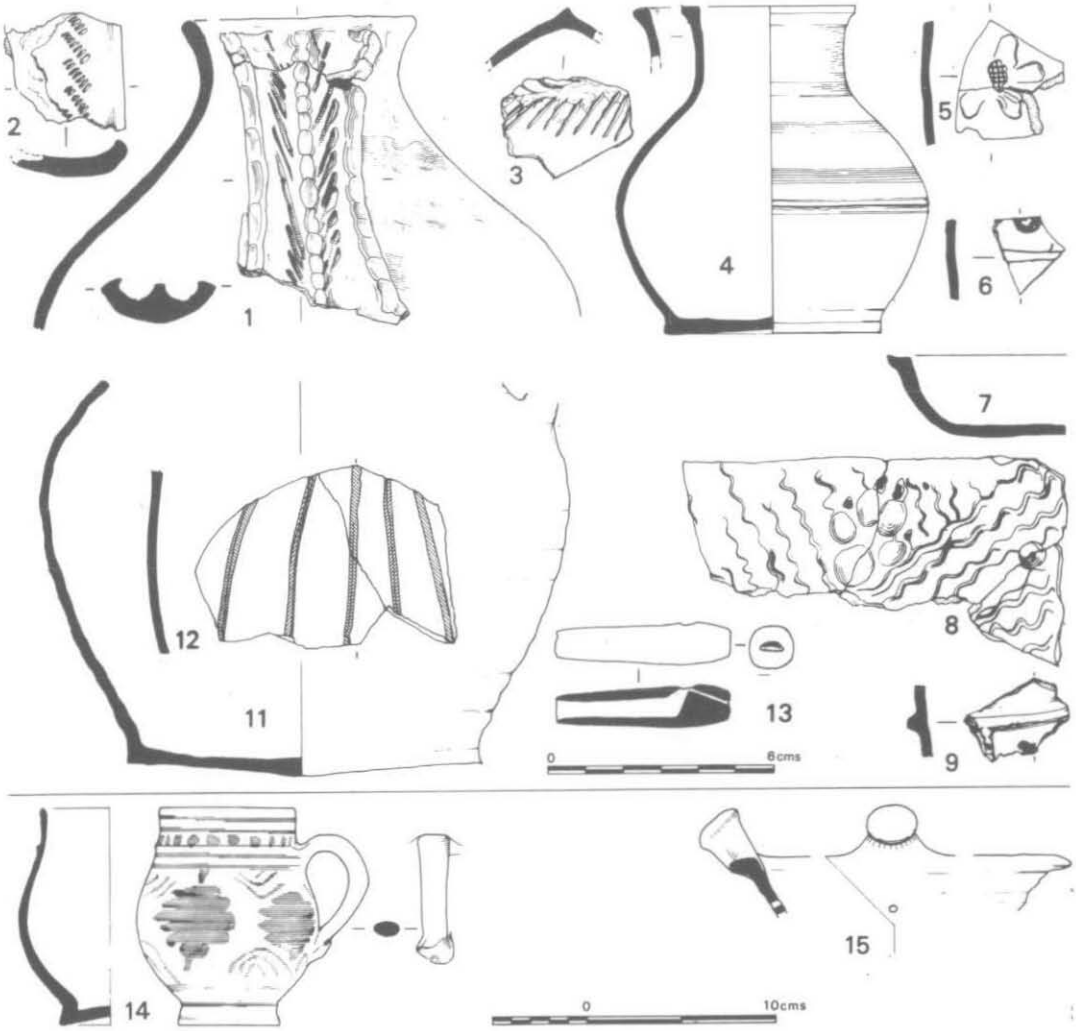


FIG. 24

Phase 11. Fifteenth century. Nos. 1–13. Seventeenth century. Nos. 14 and 15. Phase 13 (p. 139). 1. *83*P45/42/4 *AQ*; 2. *83*P45/3/1 *BB*; 3. *83*P45/1/1 *AM*; 4. *83*P45/44/1 *AM*; 5. P109/3/1 *AM*; 6. *83*P89/1/1 *AM*; 7. *83*P45/42/5 *AM*; 8. P53/0/3 (tile); 9. *83*P65/0/1 *BC*; 11. *83*P45/42/3 *AM*; 12. *83*P45/42/8 *AM*; 13. P35/0/1 *AM*; 14. P2/0/1 Post Medieval; 15. P29/2/1 Post Medieval. Nos. 1–12, 14, 15 scale $\frac{1}{4}$, No. 13 scale $\frac{1}{2}$.

Pottery from *79–80* Phases 1 to 7 has been described in detail, since much is unparalleled in Oxford and is better stratified than previously studied groups. The remaining Phases have been treated more selectively.

The pottery and detailed records will be lodged with Oxfordshire County Council Department of Museum Services, Woodstock, Oxfordshire.

Phase 1: Late eighth–early ninth century (FIG. 15)

The earliest stratified sherd came from sub-Phase 1a in the clay bank. It was too small to be assigned a fabric type but was thought to be Middle Saxon or later (SF 490). Phase 1b (from beside the causeway within the first few years of silting) included cooking-pots (13 rims, diam. range 100–240 mm.) and bowls (3 rims). Fabric *B* (Group IA) predominated, with some sherds probably of continental origin.

Gp IA *B* 10 cp rims (No. 2); bowl rim (No. 1). *cf.* spindle whorl FIG. 33, No. 2.
C base angle (No. 3).
I cp rim, with shallow oblique ridges on shoulder, pushed up with finger-nails (No. 5); flat everted bowl rim (No. 4).
P bowl rim, plain, crude, ?coil-made with break on rim, where handle was attached (No. 6).
Gp III *E* cp rim and bs with scored line on ext surface, wheel-thrown, probably continental (Nos. 7 and 8).
F miniature cp rim and base (No. 9).
Q bs from wheel-thrown cp, probably continental (No. 10).

Phase 2: Early–mid ninth century (FIG. 15)

Pottery dumped in the later silting beside the causeway. It included cooking-pots (25 rims, diam. range 130–230 mm.), a bowl, shallow dishes (2 rims) and a few sherds probably of regional or continental origin.

Gp IA *A* cp rim.[77]
B 20 cp rims (Nos. 14–16);[78] sagging base (No. 17); bowl rim (No. 13); 2 rims from shallow dishes (Nos. 11 and 12).
H 3 cp rims (Nos. 18 and 19); 2 misc rims (Nos. 20 and 21).
Gp III *J* flat base, roughly finished.
N cp rim, wheel-thrown (No. 22).

Phase 3: Mid tenth century (FIG. 16)

Pottery associated with earliest evidence of occupation on the casueway. It included cooking-pots (22 rims diam. range 120–260 mm. with two exceptions 310–330 mm.), a large bowl (1 rim), shallow dishes (4 rims). Three sherds of St. Neots-type ware (Fabric *R*) were noted for the first time and a single sandy sherd (Group III).

Gp IA *B* 16 cp rims (Nos. 1–5); 2 sagging bases (Nos. 6 and 7); 3 shallow dish rims (Nos. 8–10).
C 4 cp rims, inc rim with unusually large diam (310 mm.) (Nos. 12–14, 16); sagging base (No. 15).
H cp rim; large bowl rim (No. 11).
R cp rim (No. 17).
Gp III *K* bs (L215/1).

Phase 4: Mid to late tenth century (FIG. 17)

Pottery associated with the first certain building on the causeway included cooking-pots (50 rims, diam 130–260 mm.), bowls (4 rims) including one rim from a flanged bowl, and shallow dishes (3 rims). Two small glazed sherds (Fabrics *U* and *BE*) should be noted.

Gp IA *B* 33 cp rims (Nos. 1–6 and 16–18);[79] inc slightly undercut rim (No. 15); bases (Nos 7–9 and 19–20); 3 shallow dish rims (Nos. 21 and 22).
C cp rim (No. 23).
H 2 cp rims.
R 9 cp rims with rolled rims and 2 cp rims closer in form to those in *B* (Nos. 10 and 11); flanged bowl rim.[80]
Gp IB *AC* cp rim
Gp II *BF* 2 bowl rims (No. 13).
Gp III *J* cp rim (No. 12).[81]
S bowl rim (No. 14).
U sherd with patchy orange and green glaze.
BE sherd with dark brown glaze.

Phase 6a: Mid–late eleventh century (FIG. 18)

This and subsequent Phases were associated with domestic or industrial occupation fronting St. Aldates. The pottery included cooking-pots (47 rims, diam range 115–240 mm.), bowls (8 rims) and one shallow dish.

[77] Jope, *op. cit.* note 47.
[78] Jope and Pantin, *op. cit.* note 51, Fig. 11, C1B3 for form only.
[79] *Ibid.*, Fig. 11, C1B2, C1B3, A3C1.
[80] Hassall, *op. cit.* note 56, Fig. 12, Nos. 9 and 10.
[81] Jope and Pantin, *op. cit.* note 51, Fig. 8, B1B1, 36.

There was a total of seven glazed sherds, including three of Stamford-type ware (Fabrics *Z* and *AT*) and a sherd (Fabric *Y*) decorated with a thumb-pressed strip, typical of spouted ' tripod-pitchers '.

Gp IA *A* cp rim.
B 5 cp rims (No. 1); shallow dish rim.
C cp rim.
R 6 cp rims with roll rims; 8 cp rims with flared rims common to *B* (No. 3); 7 bowl rims inc 6 with flanged rims (No. 2).

Gp IB *AC* 15 cp rims (Nos. 5–7) inc 4 finger-pressed (No. 4); bs with incised dot and circle patterns (No. 8); worn or poorly stamped rouletting; sherd with circular knob from unidentified vessel (No. 9).

Gp II *BF* 2 cp rims inc parallel with *J* (FIG. 17, No. 12); thumb-pressed rim (No. 10); sagging base (No. 11); incised bs (No. 14).

Gp III *S* cp rim.
X bs.
Y 6 cp rims (No. 12); 3 pale green-glazed bs, inc one with thumb-pressed strip (157/1).
Z bs with pale green glaze.
AE 2 cp rims inc finger-pressed rim; bowl rim (No. 13).
AG bs with yellow-brown glaze.
AL base angle from small cp, joined base angle from midden (Phase 8) (FIG. 21, No. 23).
AT 2 bs with orange glaze.
BI bs with diamond rouletting, probably North French (No. 15).

Phase 6b: First half of twelfth century (FIG. 18, Nos. 16–32; FIG. 19, Nos. 1–12)

The pottery, predominantly from detrital floors, included cooking-pots (51 rims, diam range 120–280 mm.), straight sided cooking-pots (2 rims), shallow dishes (2 rims), storage jars (3 rims), a ' tripod-pitcher ' (1 rim) and cp rim of Northampton or Stamford-type ware (Fabric *G*). Glazed sherds accounted for 4·5% of the total and included one jug rim of Andenne-type ware (Fabric *AD*) and bs also of Andenne-type ware (Fabric *AF*).

Gp IA *C* 2 cp rims (Nos. 16 and 22).
R 3 cp rims.

Gp IB *AC* 33 cp rims (Nos. 17, 20, 26–30), inc one knife-trimmed and 2 finger-pressed on top (No. 24); 2 straight-sided cp rims one clubbed (No. 25), the other with int purple staining and v worn (No. 23); base (No. 21); 3 rims probably from storage jars or large cps; 2 shallow dish rims (No. 31); decoration inc stabbed dots (No. 32),[82] zones of rectangular impressions (No. 19) and incised grooves (No. 18).

Gp II *BF* cp rim, finger-pressed on top.

Gp III *G* cp rim (No. 2).
Y 10 cp rims, one finger-pressed (Nos. 4, 8, 10 and 11); cp rim with elaborate incised decoration (No. 9);[83] flat base (No. 12); one rim, probably from ' tripod-pitcher ' (No. 5); decoration comprises bs with stabbing (No. 7), combed wavy lines, 2 bs with girth grooves and thumb-pressed applied strips with pale green glaze (No. 6); 11 bs with glaze.
Z 2 bs with pale green glaze.
AD jug rim[84] and bs, both with orange glaze (No. 3).
AE cp rim, finger-pressed (No. 1).
AF bs with brown speckled glaze.
AG bs with yellow-brown glaze.

Phase 7: Third quarter of twelfth century (FIG. 19)

The pottery comprised cooking-pots (34 rims, diam range 190–290 mm.), straight-sided cooking-pots (2 rims), a bowl and a ' tripod-pitcher ' rim. Glazed sherds represented 12% of the total. One sherd has the white slip decoration of New Bodleian Ceramic Group B at a date which is earlier than has been suggested for this type of decoration.[85]

Gp IA *B* 6 cp rims (No. 13) and pierced lug fragment (No. 18).
H cp rim.
R cp rim.

Gp IB *AC* 13 cp rims (Nos. 20 and 21); inc 2 finger-pressed on top (No. 19) and 2 from straight-sided cp one having flat top (Nos. 14 and 15);[86] bowl rim (No. 22).

Gp II *BF* 2 cp rims inc one thumb-pressed on top (No. 23).

Gp III *Y* 6 cp rims (No. 25) inc one thumb-pressed on top; ' tripod-pitcher ' rim with rippled or cordoned profile and patchy orange and green glaze (No. 24); tripod foot; 5 bs with applied thumb-pressed strips and girth grooves; bs with white slip and olive green glaze; 13 glazed sherds.
Z bs, mottled green glaze.
AE 2 cp rims.
AG 3 yellow-brown glazed bs.
AT bs, orange glaze.

[82] *Ibid.*, Fig. 14, C2C10.
[83] *Ibid.*, Fig. 14, C2C10, Z6.
[84] Dunning *et al.*, *op. cit.* note 75, Fig. 40 bis.
[85] Bruce-Mitford, *op. cit.* note 54.
[86] E. M. Jope and R. I. Threlfall, ' Recent Mediaeval finds in the Oxford district ', *Oxoniensia*, XI–XII (1946–7), 170, Fig. 24, Nos. 5–9.

Phase 8: Late twelfth and early thirteenth century (FIGS. 20 and 21)

Published parallels exist for much of the pottery of this and subsequent Phases, and the remainder of the report is therefore confined to a catalogue of illustrated sherds. The large group from the Phase 8 ' midden ' compared well with that from the internal floors and is assumed to have been a contemporary accumulation. Among those not illustrated is a small quantity of pottery in Fabric *AM*, represented by three cooking-pot rims, a fragment of double-shelled lamp[87] and nine glazed sherds, including two with thin applied strips.

FIG. 20 (Pottery from the midden (L137/1) is in a separate list)

Gp IA *BK* cp rim (No. 4).

Gp IB *AC* 2 cp rims (Nos. 17 and 18); straight-sided cp rim (No. 1); bs from curfew, with applied, thumb-pressed strips (No. 16).

Gp III *Y* 7 cp rims (Nos. 5, 8–10, 22), inc 2 thumb-pressed (Nos. 6 and 7); 2 cp rims with thin walls (Nos. 24 and 25); bowl rim with incised wavy line (No. 26);[88] base (No. 12); ' tripod-pitcher ' lid (No. 23).
AG cp rim (No. 3).
BH jug rim, thumb-pressed on top (No. 20).

FIG. 21 except where stated as FIG. 20. Pottery from the midden (L137/1)

Gp IA *BK* cp roll rim (No. 24).

Gp IB *AC* bowl rim with stabbed oblique lines on body (No. 1);
AJ 2 cp rims (Nos. 3 and 4); ' large pan ' rim (No. 5);[89] shallow dish rim (No. 6);[90] bs with stabbed circular pattern of oblong impressions and horizontal grooves (No. 2).[91]

Gp III *Y* 2 cp rims (Nos. 25 and 26); bowl or cup rim (No. 8); 2 ' tripod-pitcher ' rims inc rim with pinched lip (Nos. 9 and 10); 2 thumb-pressed bases (No. 16), inc one with overlapping thumbing (No. 15);[92] tripod pitcher base (No. 17); bs with red-brown slip trellis pattern (No. 7);[93] handle with stabbing (No. 13); strap handle with inset ' rope ' (No. 12).[94]
AG 3 ' tripod-pitcher ' rims, one notched, white slip (No. 11), one with tubular spout and white slip (No. 14) and one with applied thumb-pressed strip below rim (FIG. 20, No. 14); bs with white slip (FIG. 20, No. 29); 2 strap handles, one with incised vertical lines (FIG. 20, No. 31),[95] the other with incised chevron pattern white slip and thumb-pressed edges (FIG. 21, No. 15).
AH jug rim (No. 18).
AI jug rim, probably imported from Rouen, with applied clay pads and grid pattern on the neck (No. 20).[96]
AK rod handle with stabbing (No. 19).
AL cp rim (No. 22); base angle joins base angle from Phase 6a (No. 23).
BJ handle from ladle (No. 21).[97]

Phase 9: Second half of thirteenth century–early fourteenth century, see FIG. 22

Gp IA *BK* handle (No. 37).

Gp IB *AJ* 2 cp rims (Nos. 20 and 22).

Gp II *AQ* jug rim (No. 34).

Gp III *Y* 9 cp rims (Nos. 7–9), inc 6 with thin walls (Nos. 2–6, 13); rim thumb-pressed on top, possibly residual (No. 1); 3 jug rims (Nos. 10, 11, 14); tubular spout, with green glaze and traces of thin strut (No. 12); bowl rim glazed int and with incised wavy line (No. 19); small base with int ' residue ', probably from lamp (No. 17); bs with grid-stamped applied pads of clay (No. 15);[98] combed wavy line (No. 18) and applied lozenge-stamped strips (No. 16).
AG 2 bs with brown and white slip stripes and dots (Nos. 32 and 33); bs with daisy design, brown slip centre and white petals (not illustrated).
AM cp rim, sharply-undercut, profile with thin wash of ext glaze (No. 23);[99] narrow-necked cp with marked throwing grooves (No. 28); 2 jug rims (No. 30), one with thin applied strips, which form

[87] For a study of lamps, E. M. Jope *et al.*, ' Pottery from a late Twelfth-century well . . . from St. John's College, Oxford 1947, *Oxoniensia*, XV (1950), 58–9.

[88] E. M. Jope ' Mediaeval Pottery from Merton College, Oxford ', *Oxoniensia*, VIII/IX (1943–4), Fig. 33, 102–5.

[89] E. M. Jope, ' Recent mediaeval finds in the Oxford region ', *Oxoniensia*, XIII (1948), Fig. 14, 16, for large pans.

[90] E. M. Jope, ' Mediaeval pottery in Berkshire ', *Berkshire Archaeol. J.*, L (1947), Fig. 4, No. 4; Biddle, *op. cit.* note 50, 155, Fig. 24, No. 15, for similar form only.

[91] Radcliffe, *op. cit.* note 51, Fig. 13, Nos. 6 and 7.

[92] B. Rackham, *Medieval English Pottery*, revised by J. G. Hurst (1972), Fig. 87.

[93] Bruce-Mitford, *op. cit.* note 54, Fig. 23B, 99.

[94] Jope and Pantin, *op. cit.* note 51, Fig. 19, B1B45.

[95] Jope and Threlfall, *op. cit.* note 51, for similar form only 262, Fig. 18, C4.

[96] Barton, *op. cit.* note 67, for closest example Fig. 1, No. 4.

[97] Jope and Pantin, *op. cit.* note 51, Fig. 9, C312.

[98] Bruce-Mitford, *op. cit.* note 54, Plate XII, 5 U/S.

[99] E. M. Jope, ' Some recent finds of mediaeval pottery ', *Oxoniensia*, VII (1942), Fig. 18.

horizontal zones, yellow glaze and rod handle (No. 46);[100] bottle profile (No. 24);[101] handle with central groove, stabbing and mottled green glaze (No. 29);[102] handle probably from lobed cup or chafing dish (No. 26); bs with applied scale (No. 25);[103]
AV handle socket from bowl (No. 35).
AW 4 cp rims (Nos. 39, 42, 43) inc cp with thin walls (No. 40); jug rim with dk green glaze (No. 36); strap handle with oblique incised lines down the centre, thumb-pressed edge, white slip and orange glaze (No. 38); 2 bs, one with applied chain decoration (No. 44)[104] and one with grid-stamped applied pad (No. 49).

Phase 10: Fourteenth century (FIG. 23)

This phase included fragments of lobed cup.[105] Four bs of Fabric *BD* with internal yellow glaze were recovered from the latest layer. This fabric is normally considered to be of the seventeenth century.[106]
Gp IA *BK* cp rim (No. 28).
Gp IB *AJ* 3 cp rims (Nos. 4–6).
Gp II *AQ* cp rim (No. 21).
Gp III *Y* bowl rim with incised wavy lines (No. 3); strap handle (No. 1); fragment of foot (No. 2).
AM 6 cp rims (Nos. 10 and 12), inc 4 cp rims with thin walls (Nos. 13, 15–17) and undercut cp rim (No. 14); bowl rim (No. 20); 2 jug rims (Nos. 8 and 9); strap handle with incised oblique lines (No. 18); ' Skillet ' handle (No. 19);[107] ' baking dish ' handle (No. 7);[108] bs with applied dk brown circular strip, perforated with blunt impressions at the centre (No. 11).[109]
AS jug rim (No. 22).
AU bs with dk brown slip over rough scratched oblique lines, possibly a shield motif (No. 23).
AW undercut cp rim (No. 24); ' skillet ' handle (No. 27); bs with applied white circular and vertical red rouletted strips (No. 25); bs with white applied strips and pads (No. 26).

Table 2 shows a sherd count of four types of decoration which are common to both Phases 9 and 10.

TABLE 2
Proportions of Decorated Local Wares in Phase 9 and 10

	Fabric type	Brown slip stripes	Thin applied strips plain	Thin applied strips rouletted	Mottled green glaze	
Phase 9	*Y*	7	14	—	22	total no. of sherds
	AM	14	29	24	60	
	AW	2	4	1	5	
	% total	2·4%	3·8%	2·6%	9%	972
Phase 10	*Y*	1	—	—	3	total no. of sherds
	AM	33	75	50	257	
	AW	5	2	2	6	
	% total	3%	6%	4%	20·5%	1029

There is a slight increase in the proportion of each type of decoration from Phase 9 to Phase 10 and a marked increase in the number of mottled green glazed sherds while the percentage of all glazed sherds from the two Phases remains almost constant (*i.e.* 43·5% and 41% respectively).

Phase 11: Fifteenth–mid sixteenth centuries (FIG. 24)

There was little well-stratified pottery from this Phase. Forms included cooking-pot rims with lid seating,[110] a ' cruet '[111] and a bung-hole from a cistern.

[100] D. A. Hinton, *Medieval pottery of the Oxford region* (1973), 13.
[101] For bottles Jope, *op. cit.* note 90, 65, Fig. 8, Nos. 6–8; Biddle, *op. cit.* note 50, Fig. 19, Nos. 14–15; Fig. 25, No. 12, 164; Fig. 27, No. 8.
[102] Bruce-Mitford, *op. cit.* note 54, Fig. 24C, 105.
[103] *Ibid.*, Fig. 24D, 107.
[104] D. A. Hinton, 'Bicester Priory ', *Oxoniensia*, XXXIII (1968), Fig. 15, No. 11, 50.
[105] Rackham, *op. cit.* note 92, Fig. 44. For a discussion on lobed cups and their date, J. G. Hurst, ' Sixteenth and seventeenth century imported pottery from the Saintonge ', in Evison *et al.* (eds.), *op. cit.* note 59, 250–253.
[106] D. Sturdy, ' Thirteenth-century and later pottery from the Clarendon Hotel and other sites in Oxford ', *Oxoniensia*, XXIV (1959), 36, Fig. 16, 2.
[107] Lambrick and Woods, *op. cit.* note 2.
[108] For ' baking dishes ', Biddle, *op. cit.* note 50, 163, Fig. 26 No. 17; Sturdy, *op. cit.* note 106, 35, 16/1.
[109] Bruce-Mitford, *op. cit.* note 54, 108, No. 4.
[110] E. M. Jope, ' Medieval Pottery Lids and Pots with lid-seating ', *Oxoniensia*, XIV (1949), 78–81; Biddle, *op. cit.* note 50, 164, Fig. 27, No. 12; 165.
[111] Hinton, *op. cit.* note 100, 16.

The only illustrated pottery from this Phase is a roof-tile decorated with combed wavy lines and a dog-print (No. 8);[112] bs with applied flower pattern with grid-stamped centre (No. 5);[113] a pottery whistle (No. 13).

Pottery from the Linacre College excavation

This site provided an opportunity to decide whether groups in the *79–80* sequence formed a representative sample of Oxford's pottery tradition. The amount of pottery, though small, came from a comparable stratigraphic sequence. This report is confined to the nine groups with more than twenty sherds, an arbitrary minimum for making useful comparisons. The earliest, L28, had a large proportion of Group IB fabrics (Fabric *B* 25%; Fabric *R* 8%; Fabric *AC* 28%) with a smaller proportion of Group III fabrics (Fabric *Y* 9%, Fabric *AE* 14%) and a single sherd of Stamford type Ware, Fabric *Z*. There was a cooking-pot with straight sides, a form not represented in the *79–80* sequence until phase 6b. The only parallel was with Canal Wharf, ascribed to the late eleventh century.[114] This assemblage corresponded most closely with *79–80* Phase 6a, although the accumulation may have begun earlier since it contained a higher proportion of Fabric *B*. In the next assemblage (F29) the Group IA wares were largely replaced by Group IB wares; sherds of Fabric *AQ* (Group II), not found before Phase 8 in the *79–80* sequence, were paralleled by examples sealed beneath the bailey bank of Oxford Castle.[115] The assemblage otherwise compared well with *79–80* Phase 6b.

Pottery quantities from the next two layers in the sequence (L24/2, L24/3) were too small for accurate comparison but would probably have fallen within *79–80* Phases 6 to 7. Proportions of fabrics changed in L24/1, however, when Group I fabrics were superceded by those of Group III. Two vessel forms not found in the *79–80* assemblages were a rim, Fabric *AC*, with holes on the body, 8 mm. in diam. and 30 mm. apart, possibly from a fire-pot[116] and a shallow dish in Fabric *Y* (neither illustrated). The assemblage was clearly comparable with *79–80* Phase 8. No further change occurred until the appearance of the fine sandy Fabric *AM* (27%) in the fill of a robber trench (F20), followed by floor layers in which this fabric predominated. There were consequently no floors strictly comparable with *79–80* Phase 9, and those post-dating F20 must be regarded as Phase 10. A tall bulbous jug (Fabric *AM*) with a bib of dark green mottled glaze is illustrated (FIG. 23, No. 29).

The division between pottery comparable with *79–80* Phases 10 and 11 was made on the basis of decoration and glaze, those layers later than L18, a robber trench, being compared with Phase 11. It seems, therefore, that the Linacre College sequence agreed with that of *79–80* after about Phase 6a, except for the absence of pottery comparable with Phase 9.

Pottery from 83 St. Aldates excavation

13 contexts from this site had at least 20 sherds. They are discussed here within the 83 St. Aldates Structural Phases, but are illustrated with the contemporary *79–80* groups.

Phase I (FIG. 19)

Gp IB *AC* storage jar rim with vertical, applied thumb-pressed strip and hole on the body (No. 16).[117]

Gp III *Y* bowl rim with vertical applied thumb-pressed strip (No. 17); 3 ' tripod-pitcher ' rims with rippled or cordoned profile.[118]

The pottery from the single layer in this earliest phase (L50) consisted mainly of Group III wares (Fabric *Y* 78%) with a small percentage of Group IB wares (Fabric *AC* 16%). 37% of the sherds of Fabric *Y* were glazed. This assemblage corresponds most closely with *79–80* Phase 7.

Phases II, III and IV (FIG. 20. Illustrated sherds are from Phase IV with the exception of No. 28 (Phase III)).

Gp IB *AC* cp rim (No. 2).

Gp III *Y* jug or ' tripod-pitcher ' rim with deeply thumb-pressed edge and oblique pinched grooves (No. 28); bs with triangular rouletting (No. 21).

AG bowl rim, thumb-pressed on edge with white slip (No. 30); jug or ' tripod-pitcher ' rim; bs with brown and white slip (No. 27).

AK jug or ' tripod-pitcher ' rim (No. 19).

AV bowl rim (No. 11).

The two significant Phase II assemblages (L48, L51/1) did not differ markedly in proportions from Phase 1. There was a slight increase in the ratio of Group III wares (Fabric *Y*) to Group IB wares (Fabric *AC*) and also in the proportion of glazed sherds (45% of Fabric *Y* were glazed). On this evidence this Phase corresponded most closely with the early 79–80 Phase 8 assemblages.

None of the Phase III assemblages was large enough to make useful comparisons. Phase IV however, had two assemblages with more than 20 sherds (L39, L46). In both cases the Group I wares had almost

[112] L. S. Harley, ' A Typology of Brick ', *J. British Archaeol. Assoc.*, XXXVII (1974), 63–87.

[113] For applied flower patterns on three-storied jugs J. Daniell, ' Finds made during Building works in the City of Oxford ', in ' Notes and News ', *Oxoniensia*, III (1938), Plate XIXB; 173, 4c; Hassall, *op. cit.* note 56, Fig. 13, No. 13.

[114] Jope and Pantin, *op. cit.* note 51, 48.

[115] Hassall, *op. cit.* note 56, F21 and F28A.

[116] T. G. Hassall, ' Excavations at Merton College, Oxford, 1970 ', *Oxoniensia*, XXXVI (1971), 42, 20/1; Fig. 3. I am grateful to S. Moorhouse for his suggestion that this may be a ' fire-pot '.

[117] Radcliffe, *op. cit.* note 51, 52, Fig. 11, No. 12.

[118] Bruce-Mitford, *op. cit.* note 54, 118, Well 1.

disappeared, Group III (Fabric *Y* 75%, 86%) remaining predominant. In the later layer (L39) occasional sherds of Fabric *AQ* (Group II) and Fabric *AG* (Group III) were present, as at *79–80* Phase 8. It is concluded that *83* Phases II, III and IV all correspond to *79–80* Phase 8.

Phase V (FIG. 22)

Gp III *AG* jug or ' tripod-pitcher ' rim with thumb-pressed strip below the rim, with brown slip (No. 47).
AM jug rim (No. 31); jug profile with double row of frills and patchy green and orange glaze, similar in form to ' cruets ' found in Oxford (No. 27);[119] bs with thick red clay spirals, *cf.* one from *79–80* Phase 9 (No. 45).[120]
BC bs with applied oval pad, stamped with leaf pattern with dk green ext glaze and thin wash of mottled green glaze (No. 48).

There were five contexts with more than 20 sherds. In every case, Fabric *Y* had been replaced by Fabric *AM*. In two layers the earlier ware persisted (L27, 18%; L32, 22%) but in other layers it had virtually disappeared and Fabric *AM* was predominant (L22, 85%; L16, 65%; L66/1, 60%). The illustrated pottery is comparable with that from *79–80* Phases 9 and 10.

Phases VI and VII (FIG. 24. Illustrated sherds are from Phase VII with the exception of No. 9 (Phase VI))

Gp IB *BB* strap handle with oblique rows of stabbing (No. 2).

Gp II *AQ* jug rim (diam 130 mm.), 14 bs with combing on neck and body; strap handle with ridges and combed wavy lines and stabbed oblique lines using the same comb forming chevron pattern (No. 1).[121]

Gp III *AM* ' baking dish ' rim with int yellowish green glaze and thin wash of ext glaze (No. 7); jug profile, very thin walls and green glaze with brown mottles and streaks (No. 4); 3 base-angles, 23 bs probably baluster jug with marked throwing grooves on upper part, red-brown slip trellis pattern and orange glaze with fine brown mottles (not illustrated); part of baggy jug with very worn glaze (No. 11); aquamanile fragment with incised lines representing horse's mane (No. 3); bs with applied red-brown and white strips (No. 12); bs with wheel-stamped circular applied pad and dk green glaze with brown mottles and streaks (No. 6).
BC jug base (not illustrated) and bs with thick applied strips (No. 9).

Few of the Phase VI contexts had appreciable numbers of sherds but probably fell within *79–80* Phase 10. Phase VII, however, includes an exceptional well group, F45, and a selection is illustrated. Fabric *AM* was predominant (over 80%), with Fabric *AQ* (Group II) contributing much of the remainder. The fabrics and decoration were comparable with the small amount of stratified pottery from *79–80* Phase 11; the type of glaze used on the jug (No. 11) only occurred in Phase 11. Some of this pottery might have been thought residual (*i.e.* Fabric *AQ*)[122] but the presence of almost complete pots suggests contemporary use. It is suggested that this pottery is of late fourteenth or early fifteenth-century date.

DISCUSSION

This work was intended to produce a system for dating groups of pottery from small sites within the city, and also to relate them to the well-known groups already published. It differs from all previous Oxford chronologies, firstly in drawing material from an indisputable stratigraphic sequence, and secondly in concentrating mainly on intrinsic characters of the small sherds which are normally the only evidence from excavations.

The findings of previous workers are in general substantiated, *i.e.* that most Late Saxon pottery had calcareous tempering, and was replaced soon after the Conquest by sandy wares, which became progressively finer and more decorated until a peak in the thirteenth century, followed by a decline in which chronological pointers become more diffuse. This work demonstrates that the changes were gradual; even when grouped in Phases covering up to a century it is clear from the histogram that the major fabrics creep in, then flourish and finally decline, so that assessments of their relative proportions at any point are more significant than their presence or absence. It has moreover been possible to show the significance of small groups, such as the flint-tempered wares, Group II, which are too sparse to be detected except by sherd counts, and which almost certainly, in the case of Fabric *AQ*, indicate a limited local trade from the south.

The existing chronology of Oxford pottery is based broadly on three fixed points: the building of the castle mound and bailey bank, *c.* 1070, used by Jope and Hassall;[123] a well group from St. John's College with a late twelfth-century coin;[124] the laying out of

[119] Hinton, *op. cit.* note 100, 16.
[120] Jope, *op. cit.* note 99, 72, Fig. 17, No. 8; Bruce-Mitford, *op. cit.* note 54, Group C, 124.
[121] Bruce-Mitford, *Ibid.*, Plate X, 1 facing 104; Hassall, *op. cit.* note 56, Fig. 13, Nos. 8–10.
[122] See histogram Phases 10 and 11; Hassall, *op. cit.* note 56, Barbican Ditch.
[123] Jope, *op. cit.* note 47; Hassall, *op. cit.* note 56.
[124] Jope, *op. cit.* note 87, 44.

the north-eastern suburb on the site of the Bodleian Extension, dated by Bruce-Mitford to the thirteenth century from documentary sources.[125] These and external typological comparisons have made possible a good understanding of the development of medieval vessel forms and decoration. The 79–80 St. Aldates site adds a fixed point at *c.* 800 by combining historical and radiocarbon evidence (see p. 178), another in the mid twelfth century with a coin fragment (see p. 188), a compromise coin date of *c.* 1325 (see p. 192), and numismatic and documentary evidence in the fifteenth century (tenement dimensions, see p. 196). Their relation to a sequence of structures and accumulating floors also gives a hint of the intervals between events. These are significant additions to the chronology and justify a brief review.

Oxford pottery of the late eighth and early ninth centuries (Phase 1) seems to have included two non-local wares, possibly continental (Fabrics *E* and *Q*), seen in the small group dumped beside the St. Aldates causeway. As the causeway became consolidated, these imports seem to have declined (Phase 2) leaving a preponderance of the local coarse shelly-limestone-tempered ware (Fabric *B*) with occasional sherds of Northampton-type (Fabric *J*), slightly earlier than at present supposed in its town of origin.[126] There was perhaps a period in the late ninth and early tenth centuries when no pottery survived on the site; the next small group was that associated with early settlement of the causeway area (Phase 3), still mainly coarse wares (Fabrics *B*, *C* and *H*), but with the first of the St. Neots-type wares in use (Fabric *R*). This was followed probably in the second half of the tenth century (Phase 4), by an increase in Fabric *R*, and a variety of sandy wares. Two glazed sherds were much the earliest to be found in Oxford, and no origin is suggested (Fabrics *U* and *BE*). Despite its growth through Phases 3 and 4, St. Neot's-type ware was not to attain the ascendancy seen in pits at the Castle and Logic Lane,[127] where it comprised as much as 90% of some pit groups. It is therefore assumed that the Phase 5 structures occupied the site in the first half of the eleventh century, and for some reason the excavated area was kept free of pottery and other artifacts.

In the second half of the eleventh century (Phase 6a) it is assumed that St. Neots-type ware was already losing ground to a new local ware, tempered with oolite and irregular limestone (Fabric *AC*).[128] At the same time, the first vessels in a local hard sandy fabric became available (Fabric *Y*). Of six sherds, three were glazed, and one had the thumb pressed strip typical of local tripod pitcher generally supposed to have first appeared in the twelfth century.[129] There were also glazed and unglazed wares from Stamford at this stage (Fabrics *Z*, *AL* and *AT*).

By the early twelfth century (Phase 6b) the local oolite-tempered cooking-pots (Fabric *AC*) had gained ascendancy over the Group IA wares; Jope's straight sided cooking-pots never seem to form more than a small proportion.[130] Sandy cooking-pots were also increasing however (Fabric *Y*), with further evidence for the use of an identical fabric for making glazed tripod pitchers. There was evidence of vessels imported from Northampton/Stamford (Fabric *G*) and from Andenne in Belgium (Fabrics *AD* and *AF*). The transition to sandy wares continued in the second half of the twelfth century (Phase 7), the reappearance of Group IA ware probably being because much of this small group came from robber-trenches cut into the deeper levels. The last quarter of the twelfth and first half of the thirteenth centuries in contrast produced the largest Phase assemblages (Phase 8) with good evidence of vessel forms in the larger sherds from a ' midden '. Tripod pitchers and sandy cooking-pots seem to have formed the bulk of the pottery in use (Fabric *Y*), with a variety of other sandy wares including slip-decorated tripod pitchers (Fabric *AG*) and the earliest sherds of a major tradition of finer glazed vessels (Fabric *AM*). A fragment of a double-shelled lamp in the latter fabric is rather earlier than previously supposed (not

[125] Bruce-Mitford, *op. cit.* note 54, 91.
[126] Pers. comm. M. McCarthy.
[127] Hassall, *op. cit.* note 56; Radcliffe *op. cit.* note 51, 85.
[128] Jope and Pantin, *op. cit.* note 51, 59, Hassall, *op. cit.* note 56.
[129] Jope, *op. cit.* note 47, 282 and note 51, 54.
[130] Jope and Threlfall, *op. cit.* note 51, 240–1.

illustrated).[131] Imports from Rouen and the Rhineland would also have been in use (Fabrics *AI* and *BJ*).

The slow replacement of the coarse sandy wares (Fabric *Y*) by finer vessels would have continued in the second half of the thirteenth and the early fourteenth centuries (Phase 9) with an increase in the variety of decoration, which is in agreement with Bruce-Mitford's dating.[132] The structural sequence at St. Aldates remains the best local evidence for dating pottery to the later fourteenth century (Phase 10) despite the presence of earlier coins (see p. 192). There is little to distinguish this assemblage from the Phase 9 group, apart from the reduced quantity of coarse sandy wares (Fabric *Y*) and a marked increase in mottled green glaze (TABLE 2). A well group from 83 St. Aldates seemed to date from the late fourteenth or early fifteenth centuries (between *79–80* Phase 10 and 11). Apart from this the later sherds were small and sparse, and little has been learnt of fifteenth-century pottery types. The absence of Tudor Green-type wares from this group is however noticeable.

In an attempt to distinguish improvements of technology in the dominant fabrics, Robert Bell applied the Munsell test for colour and Mohs' test for hardness to the larger groups.[133] He concluded that there was a slight improvement in the firing[134] of Fabrics *B* and *Y* during their periods of usage. The hardness of Fabric *B* did not increase, however, and this may be a consequence of different burial conditions. Firing conditions seem to have been similar for Fabrics *R* and *AC*, assuming the clay source to have been similar. Fabric *AM* seems to have been less well fired in Phase 11 than earlier. The results suggest that there is useful evidence to be gained by using these techniques on large samples.[135]

The isolation and description of four distinctive dominant fabric types from St. Aldates and other local sites suggest that these are major local traditions (Fabrics *B*, *AC*, *Y* and *AM*). They have been given the following nomenclature: Fabric *B*, Oxford late Saxon Ware; Fabric *AC*, Oxford Early Medieval ware; Fabric *Y*, Oxford Medieval ware; Fabric *AM*, Oxford Late Medieval ware. It is hoped that the recognition of similar wares outside the city may possibly lead to the identification of kiln sources and patterns of trade.

Acknowledgements

The pottery was drawn by Sue Lumley-Smith. I am grateful to Brian Durham for his supervision whilst working on the pottery and for advice on the final presentation of the report, and to Tom Hassall; to David Hinton for his scrutiny of the first draft, to J. Cherry, J. G. Hurst, E. M. Jope and D. Sturdy for comments on the type-series and to Maureen Mellor for additional work on the classification of the pottery.

POST-MEDIEVAL POTTERY AND CLAY PIPES. By JOSEPHINE DE GORIS

This account has been restricted to those groups which assist in the dating of the main structural developments of Phase 12 and 13 on the 79–80 St. Aldates site. Further details of these and other groups will be lodged with Oxfordshire Museums Service.

L43, Ph. 12 floor make-up, included lid fragment with knob, Fabric *AP* (see TABLE 1), olive green glaze with brown patches, possibly of sixteenth-century cooking-pot.

L19, Ph 12 detrital floor, included two pipe bowls, Oswald type 4a,[136] *c.* 1620–50; two similar Oswald type 5a, *c.* 1640–70; one Oswald type 5b, *c.* 1640–70; *terminus post quem c.* 1650–70.

L29/2, Ph 13, rim sherd of chafing dish, buff fabric with internal green glaze, patch of yellow glaze on knob, otherwise unglazed externally, rim diam 220 mm., *c.* 17th century (FIG. 24, No. 15).

L2, Ph 13 floor make-up, included a cup, almost complete, light red fabric, pinkish-buff tin glaze with geometrical pattern painted in blue, height 115 mm. (FIG. 24, No. 14); clay pipes included Oswald type 4a, *c.* 1620–50; *terminus post quem* mid 17th century with some 19th-century intrusions.

[131] Jope, *op. cit.* note 87, 59.
[132] Bruce-Mitford, *op. cit.* note 54, Well 9, 104–7; 121–3.
[133] This work was carried out as part of a course leading to a certificate of proficiency in field archaeology.
[134] Hodges, *op. cit.* note 45, 196.
[135] The details of this work will be lodged with the Oxfordshire County Council Dept. of Museum Services, Woodstock, Oxfordshire.
[136] A. H. Oswald, 'English Clay Tobacco pipes', *Archaeological Newsletter*, v, 12 (1955a), 245.

L26, L31, L39/1, L41, the floor and backfill of Ph 12 semi-basement. A *terminus post quem* for this large group is given by an almost complete white earthenware tankard, painted with a geometrical pattern in brown, blue and black on a white ground, *c.* 1800.

TILE

Fragments of medieval tile were not found until Phase 8 at *79–80*, apart from one small sandy fragment (th. 15 mm.) from L158/2 (Phase 7). The thickness of the roof tiles in this and subsequent Phases fell between 10–15 mm. and included one with combing from Phase 11 (FIG. 24, No. 8). Three floor tiles were also recovered:

1 Haberly type L, th. 21 mm., stabbed keys on back, with no mortar adhering and glaze mostly worn away (SF245, L119, Ph 10).

2 Lozenge shaped floor tile with remains of brown slip and brown lead glaze, with single large scooped key in centre of base. David Ganz writes that this is the earliest recorded plain tile from Oxford. (*83* SF14, L13/1, Ph 10).

3 Fragment of floor tile, th. 25 mm.; design: lion pacing to the right, thin worn glaze (SF53, L2, Ph 13).

COINS, JETTONS AND TOKENS

Thirty-four currency finds and jettons were recovered from 79–80 St. Aldates, four from 83 St. Aldates.[137] I am indebted to Mr. N. J. Mayhew and Dr. D. M. Metcalf of the Ashmolean Museum for arranging for the cleaning of the finds, for indentification of the coins and descriptions of the jettons. I am indebted to Mr. S. E. Rigold for further identification of the jettons and for a suggested identification of No. 1, and to Mr. F. Elmore Jones for his confirmation of the latter.

Silver coins

1 Very worn fragment of a cut halfpenny. Obverse: illegible; but part of an inner circle of pellets and possibly a lys; reverse: apparently an eccentric lozenge fleury with an annulet and inner circle of pellets. Mr. F. Elmore Jones writes that it is probably English, probably temp. Stephen, with apparently generally similar features to North 897,[138] an irregular coin of Stephen *c.* 1141. This would be consistent with its provenance (SF340, L157, Ph 6b).

2 Fragment of a penny or halfpenny of Edward I or II, bent double, 1279–1324. It came from the mortar of Phase 9 wall F78, possibly from a threshold. See p. 192 for discussion of provenance (SF350, L78/2, Ph 9).

3 Cut farthing from a Long Cross penny of Henry III–Edward I. Moneyer Willem—probably London mint. From a detrital floor (SF263, L119, Ph 10).

4 Farthing of Edward I, 1280–1300. From a detrital floor (SF476, L49 or 49/1, Ph 10).

5 Penny of Edward I, London mint; Fox class IX,[139] 1300–1302. From fifteenth-century garden soil (SF110, L53, Ph 11).

6 Silver pfennig, South German origin, late fourteenth–fifteenth century. It probably dates this detrital floor (SF102, L46, Ph 11).

Bronze coins

7 Rose farthing of Charles I, 1635–44. It probably dates this detrital floor (SF119, L19, Ph 12).

8 Farthing of Charles I, 1625–34. From a mid-seventeenth-century floor make-up (SF17, L2, Ph 13).

9, 10 Two rose farthings of Charles I; *m.m.* crescent, Peck type 2f,[140] 1635–44 (SF35 and SF51, L26, Ph 13).

11 Farthing of Charles II, 1672–5, 1679. Probably dates the later floor of the *83* Phase VIII building (*83* SF34, L2, Ph VIII).

12 Halfpenny of George I, 1718 (SF37, L26, Ph 13).

13 Halfpenny of George II; old head, 1746–54. Probably dates this detrital accumulation (SF45, L31, Ph 13).

14 Halfpenny of George II; young head, 1729–39 (SF9, L25/1, Ph 13).

15 Farthing of George II, 1730s (SF13, L25/1, Ph 13).

16 Halfpenny of George III, 1770–75. It possibly dates the construction of this wall-footing (SF129a, F88, Ph 13).

17 Halfpenny of George III, 1772 (SF48, L25/1, Ph 13).

[137] For discussion of this and other Oxford material see N. J. Palmer and N. J. Mayhew, ' Medieval Coins and Jettons from Oxford Excavations ' in N. J. Mayhew (ed.) *Edwardian Monetary Affairs (1279–1344)*, B.A.R. 36 (1977), 81–95.

[138] J. J. North, *English Hammered Coinage* (1960–63), I, 155.

[139] J. J. North, *The Coinages of Edward I and II* (1968), 22.

[140] C. W. Peck, *English Copper Tin and Bronze Coins in the British Museum 1558–1958* (1960), 81.

Jettons

18 English ' Sterling ' series jetton, 19 mm. diameter, pierced from the reverse. Obverse: double-headed eagle, border of saltires and rosettes. Reverse: short cross moline, pellets in quarters, border of pellets. Berry Edward II Type 8, reverse 5, border H/D.[141] Probably of the 1320s where the ' H ' border is used (and not related to Edward III's position as Vicar of the Empire). From a ' midden ' level (SF295, L123, Ph 9).

19 Obverse brockage of a fairly neat ' French Derivative ' jetton. 30 mm. diameter. It shows the shield of France, modern, small pellets left, right and above with legend AVE MARIA: GRACIA: PLEN, colon stops and neat, well-serifed Lombardic lettering. Possibly *c.* 1460, and probably dates this floor (SF113, L44, Ph 11).

20 Fragment of an early ' French Derivative ' or late ' French Official ' jetton, diameter 28 mm. Obverse: shield of France modern, fleur de lys and M left and possibly right, with legend . . . IR ALAMOUR. Reverse: cross fleury within quatrefoil, ∧ on cusps and in spandrels. Possibly *c.* 1450 (*83* SF9, L64, Ph VI).

21 German jetton, 27 mm. diameter. Obverse: Lion of St. Mark. Reverse: large *Reichsapfel;* garbled Lombardic legend. An early Nuremberg type of good work, possibly *c.* 1510–20, but here from a mid seventeenth-century layer (SF1, L2, Ph 13).

22 German jetton, 29 mm. diameter. Obverse: Lion of St. Mark. Reverse: large *Reichsapfel*; garbled Lombardic legend. A fairly early Nuremberg jetton, but of rather rough work, *c.* 1520s. It may have been deliberately laid beneath the wooden floor of this gully (SF135, L66/1, Ph 12).

23 ' Normal ' type (3 lys and 3 crowns, *Reichsapfel* in trilobe) Nuremberg jetton in poor condition, 25 mm. diameter. Garbled Lombardic legend; *c.* 1530s–40s. It probably dates the earliest floor make-up of the Phase 12/13 building (SF273, L43, Ph 12).

24 ' Normal ' type Nuremberg jetton, 24 mm. diameter. Obverse: three lys and three crowns alternately around a rose, with legend GLICK. IST. WALCZET. VN; reverse: *Reichsapfel* in double treasure with legend HANS. SHVLTES. ZV. NVRE. Hans Schultes was active from 1553 to 1584, and this would have been late in his career. Well stratified in floor detritus of the Phase 12 building (SF57, L19, Ph 12).

25 ' Normal ' type Nuremberg jetton, 21 mm. diameter. Obverse: three lys and three crown around a rose, with legend MATHEVS LAVFER. IN. NVRMBERG; reverse: *Reichsapfel* with legend SOLI. DEO. GLORIA 1619. It is unusual to find ' Normal ' types with a date. Laufer was active between 1612 and 1634, not a common maker, and this is a relatively rare type. The provenance was only sealed in the late eighteenth century but it possibly gives a hint of the construction date of the semibasement stair (SF88, L42/3, Ph 13).

26 Well-made Nuremberg jetton in a good mannerist style, 28 mm. diameter. Barnard No. 65,[142] late sixteenth or early seventeenth-century; here from a late eighteenth-century provenance (SF25, L26, Ph 13).

27 Silvered or tinned Nuremberg jetton, 28 mm. diameter. By Wolf Laufer, before 1660, but again from a late provenance (SF26, L26, Ph 13).

Tokens

28 Copper token, 17 mm. diameter. Obverse: WILL. ROBINSON. 1668, Goldsmith's Arms. Reverse: GOVLDSMITH.IN.OXON.W^{R}M. Boyne No. 165.[143] Probably dates the layer (SF117, L54, Ph 13).

29 Copper farthing token, 15 mm. diameter. Obverse: NICH.ORUM.IN.OXON a lobster. Reverse: FISHMONGER.1657, N.O. Boyne No. 157.[144] Stratified in a detrital floor of the semibasement (SF58, L31, Ph 13).

30 Heart-shaped halfpenny token, 20 mm. breadth. Obverse: JOHN WARRY OF BISTER, 1668, three clay pipes. Reverse: IN.OXFORD SHEIRE HIS. HALF PENNY I^{W}M. Boyne No. 45.[145] John Warry of St. Clements in Oxford died in 1698;[146] this token came from an early nineteenth-century provenance (SF10, L25/1, Ph 13).

31 Corroded lead token, 20 mm. diameter. Obverse: probably L.M. or L^{S}M rather than W.T.: reverse: a cruciform design of angular piles. Probably seventeenth or eighteenth century from the provenance (SF12, L26, Ph 13).

32 Lead token, 21 mm. diameter. Obverse: WW; reverse: a bird in a cable border. Dating as for No. 31 (SF40, L26, Ph 13).

The currency finds and jettons from the 79–80 excavation proved something of a disappointment in that wherever there were two or more finds from a given provenance they exhibited a date range of at least 70 years. All four coins and jettons of Phase 12 fell within the assumed period of this Phase, *c.* 1530–1650 (Nos. 7, 22, 23 and 24), but this was exceptional for the site. Of a total of eight finds from the medieval Phases, only three conformed easily with the dating from other sources, the earliest (No. 1) and two of the latest (Nos. 6 and 19). Stratified between these levels were four further coins broadly

[141] G. Berry, *Medieval English Jettons* (1974), 47.

[142] F. P. Barnard, *The Casting Counter and the Counting Board* (1916), 219.

[143] W. Boyne, *Trade Tokens Issued in the Seventeenth Century in England, Wales and Ireland*, ed. G. C. Williamson (1889–91), II, 933.

[144] *Ibid.*, II, 932.

[145] *Ibid.*, II, 925.

[146] M.S. Wills Oxon., 156/5/40.

of the second half of the thirteenth century (Nos. 2–5) and a jetton of *c.* 1325 (No. 18) but they were spread almost randomly through Phases 9–11. In order to identify the structures extant in 1279, the year of the comprehensive Hundred Rolls survey (see p. 87), it was necessary to reach a compromise date between the stratigraphically inverted finds Nos. 2–4 and 18. It is concluded that both Phase 9 finds had found their way into provenances rather earlier than their striking dates, while both Phase 10 coins had come to rest in layers deposited perhaps a century after their striking dates (see p. 192 for discussion).

IRON OBJECTS. By IAN H. GOODALL

All iron objects have been X-rayed.

FIG. 25

1 Bolt, probably from a box padlock, with rectangular closing plate and incomplete double leaf springs (*Lin* SF24, L28, Ph 6a).
2 Padlock key with hooked terminal and stub of bit (SF557, L159/2, Ph 6a).
3 Key fragment with uncut bit rolled in one with the hollow stem (SF455, L225/2, Ph 2).
4 Figure-eight hasp of spirally-twisted iron (*Lin* SF11, L24/1, Ph 8).
5 Knife blade fragment with inlaid wire decoration along the upper part of both sides. The wire, analysed by Robert Hedges using X-ray fluorescence spectroscopy, appeared to be an alloy of silver and gold, the silver predominating but with sufficient gold to give a 'gold' colour (SF250, L53/6, Ph 11). David A. Hinton writes:

> The decoration on side *a* is a running spiral with sprouting leaves (or branching plant scroll), on side *b*, a chain of linked S-curves, alternately or intermittently bisected by a short bar. Such inlaid wires occur on various objects, many attributable to the tenth and eleventh centuries.[147] The knife from Southwark,[148] which has on one side a running spiral in fairly thin wire like side *a*, has recently been attributed to a twelfth- or even thirteenth-century source in the Baltic.[149] For the Oxford piece, this date may be more acceptable than the origin! Unfortunately I know of no parallel for the bars on side *b*, an echo perhaps of the division of the field into rectangular panels. A date in the eleventh or early twelfth century is probably most acceptable, as it would be on typological grounds for a spur with an inlaid running scroll pattern from Canning Town, London.[150]

6–11 Knives with whittle tangs for insertion into handles (6. SF410, L226/2, Ph 1; 7. SF603, L159/2, Ph 6a; 8. *Lin* SF58, L24/2, Ph 6b; 9. SF330, L137, Ph 8; 10. SF283, L110/2, Ph 10; 11. SF108, L46, Ph 11).
12 Knife dagger, incomplete, with inlaid cutler's mark, iron plate at the base of the former handle, and a whittle tang (*83* SF16, L15/1, Ph 10).

FIG. 26

13 Knife fragment with rivet hole (SF635, L105, Ph 10).
14 Bow from a pair of shears (SF551, L159/3, Ph 8).
15 Shears blade fragment (SF630, L105, Ph 10).
16 Wedge, tip lost (SF398, L223/1, Ph 2).
17 Awl (SF393, L214/1, Ph 4).
18, 19 Heckle teeth (18. SF390, L209, Ph 4; 19. SF369, L159, Ph 6b).
20 ?heckle tooth (SF253, L53/9, Ph 10).
21 Auger bit (SF194, L105, Ph 10).
22 Small, flat-headed staple (SF334, L137/1, Ph 8).
23–25 U-shaped staples (23. SF300, L123, Ph 9; 24. SF645, L119, Ph 10); 25. SF274, L43, Ph 12).
26 Binding clip (SF307, L137, Ph 8).
27 Incomplete link or hasp (*Lin* SF16, L24/2, Ph 6b).
28 Chain link (*83* SF27, L66/1, Ph 9).
29, 30 Rings (29. SF220, L105, Ph 10; 30. SF167, L44, Ph 11).
31 Sample length of a near complete band, about 0·4 m. in diameter, from a bucket. The absence of nail-holes suggests that it was sprung into position, the canted section indicating that the bucket splayed out towards the mouth. It may be compared with a number of surviving medieval buckets[151] (*83* SF31, L45/43, Ph 11).

FIG. 27

32–36 Hinge pivots (32. *Lin* SF48, L22, Ph 8; 33. SF648, L119/2, Ph 10; 34. SF604, L159/2, Ph 6a; 35. *83* SF29, L45/44, Ph 11; 36. SF540, L123/3, Ph 7).

[147] D. M. Wilson, *Catalogue of Anglo-Saxon Ornamental Metalwork, 700–1100, in the British Museum* (1964), 38–40.
[148] *Ibid*, no. 81.
[149] J. D. Cowen, 'The Southwark Knife Re-considered', *Antiq. J.*, 51 (1971), 281–6.
[150] R. E. M Wheeler, *London and the Vikings* (1927), Fig. 19.
[151] G. C. Dunning in L. A. S. Butler, 'Medieval finds from Castell-y-Bere, Merioneth', *Archaeol. Cambrensis*, 123 (1974), 101–6.

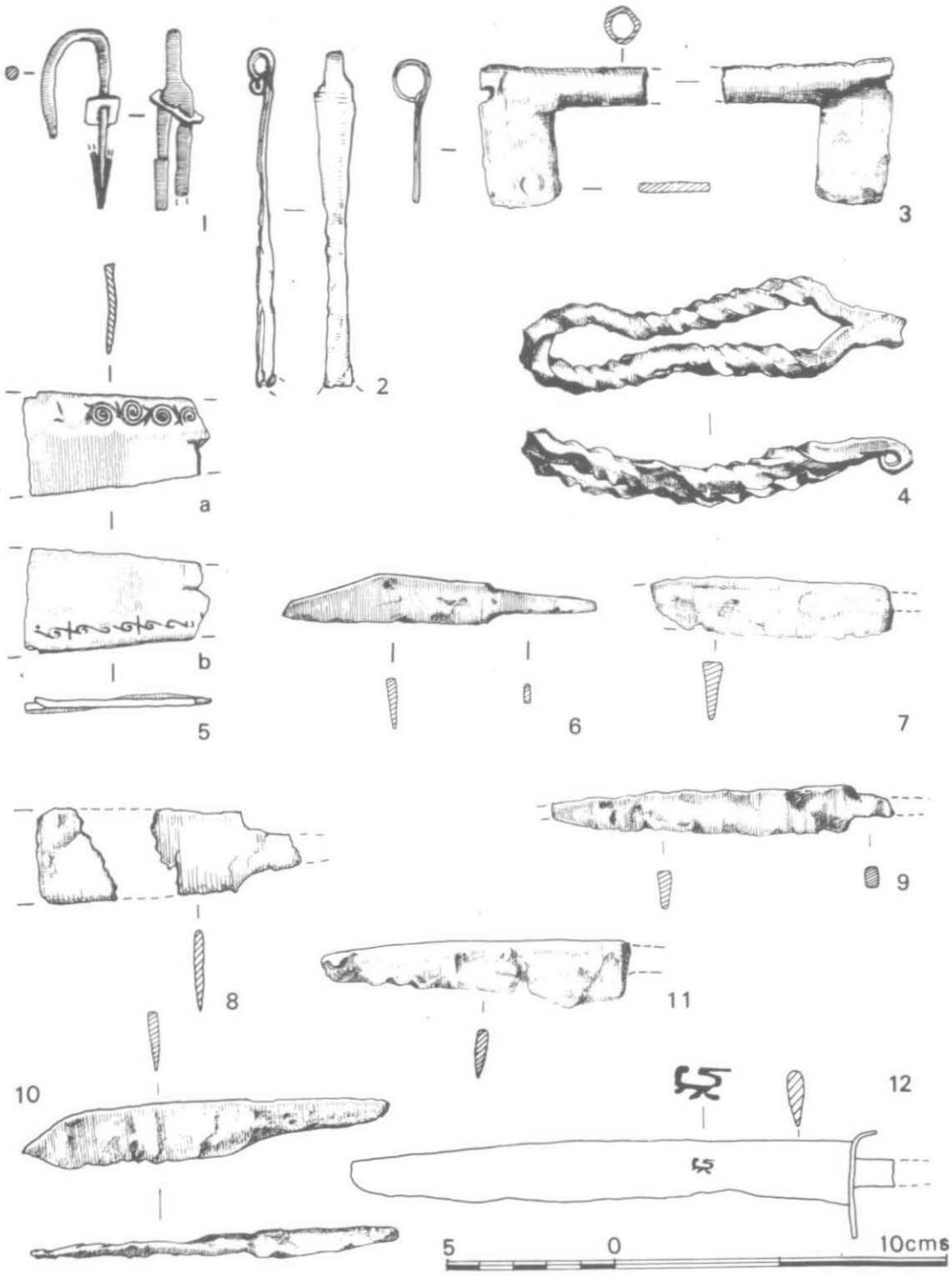


FIG. 25

Iron objects: 1. padlock bolt; 2. padlock key; 3. key fragment; 4. hasp; 5–11 knives; 12. knife dagger. Scale ¼.

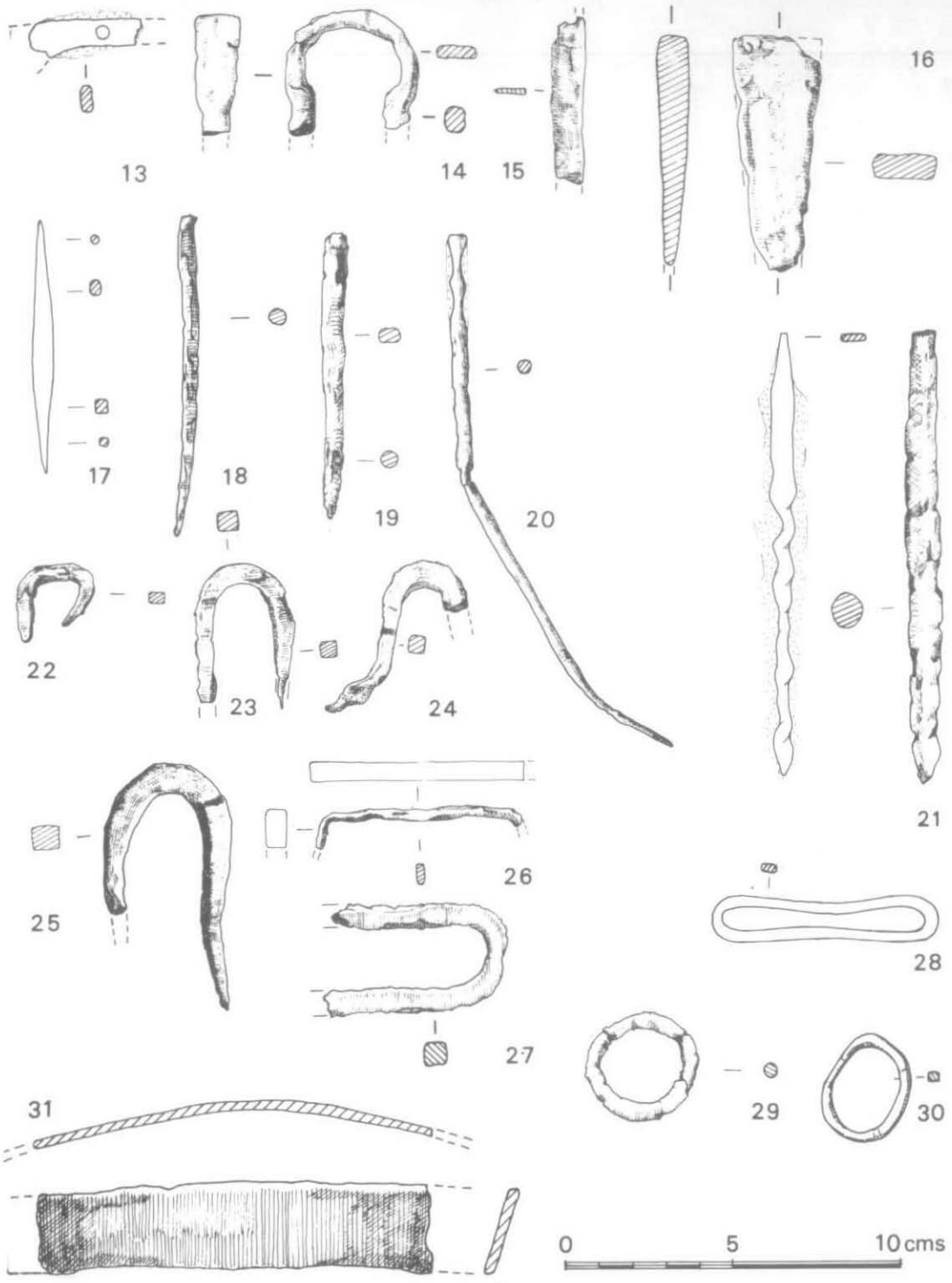


FIG. 26

Iron objects: 13. knife fragment; 14–15. shear fragments; 16–21. tools; 22–27. structural ironwork; 28–30. links; 31. bucket band. Scale ½.

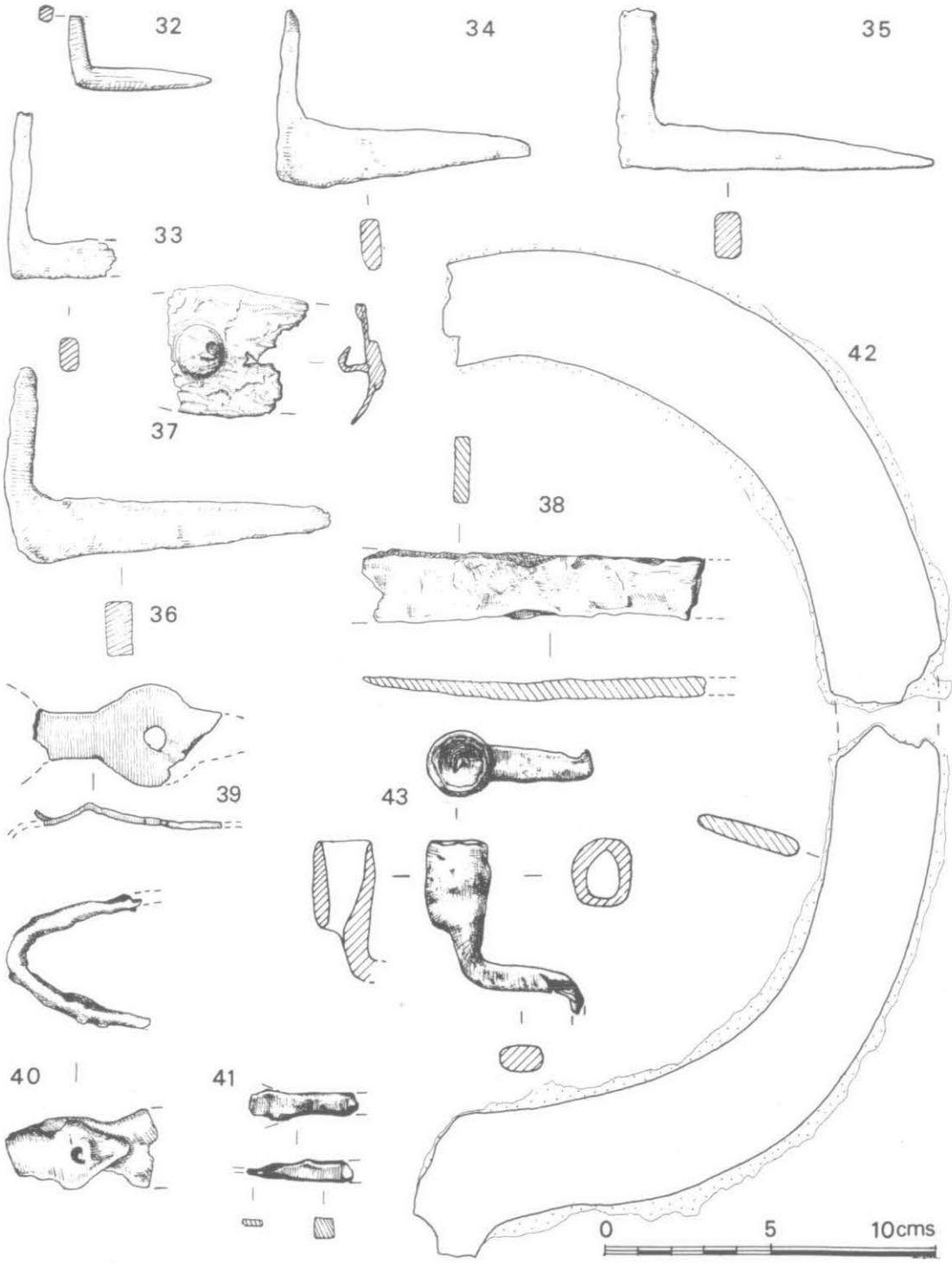


FIG. 27

Iron objects: 32–36. hinge pivots; 37–40. strap hinge fragments; 41. binding strip; 42. strip from trivet; 43. candle holder. Scale $\frac{1}{2}$.

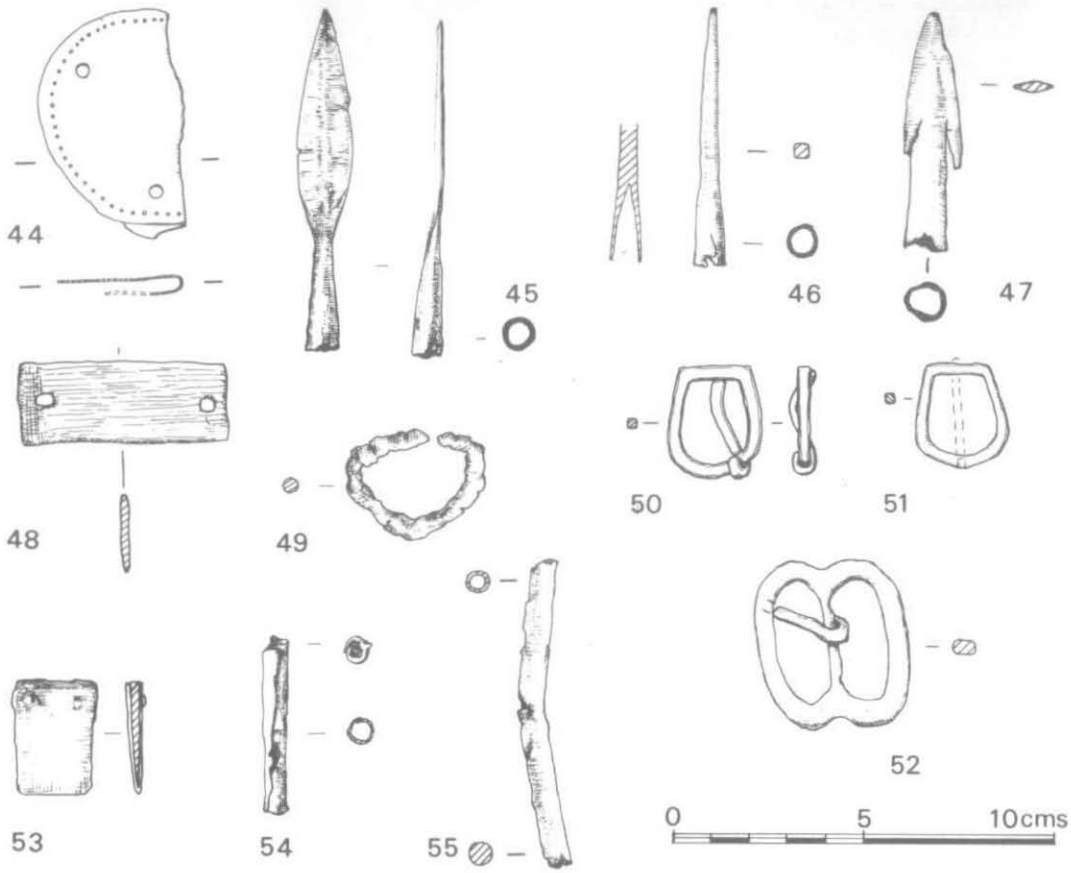


FIG. 28
Iron objects: 44. disc; 45–47. arrowheads; 48–53. personal fittings; 54, 55. tubes. Scale ¼.

37–39 Strap hinge fragments, no. 37 with a nail, no. 39 having a shaped and perforated terminal (37. *Lin* SF23, L28, Ph 6a; 38. SF587, L201/1, Ph 7; 39. SF637, L105, Ph 10).
40 U-shaped loop from strap hinge. A nail formerly passed between and through the two perforations, and the loop sat on a hinge pivot (SF379, L49/1, Ph 10).
41 Fragment of binding strip, flattening towards a former perforated terminal (*Lin* SF29, L28, Ph 6a).
42 Two incomplete lengths of iron strap, perhaps forming part of a trivet (SF187, L110, Ph 10).
43 Socketed candleholder with angled stem (SF231, L105, Ph 10).

FIG. 28

44 Disc with four holes within an outer ring of small perforations (SF638, L105, Ph 10).
45–47 Socketed arrowheads, no. 47 barbed (45. SF489, L225/7, Ph 2; 46. *Lin* SF32, L28, Ph 6a; 47. SF624, L44, Ph 11).
48 Buckle plate with non-ferrous plating (SF312, L125/2, Ph 9).
49 Buckle frame with non-ferrous plating (SF212, L105, Ph 10).
50, 51 Buckles with non-ferrous plating, no. 50 retaining its pin, now misplaced (50. SF118, L49, Ph 10; 51. SF168a, L44, Ph 11).
52 Double-looped buckle with incomplete pin and non-ferrous plating (SF69, L2/3, Ph 13).
53 Double riveted belt end, plated with non-ferrous metal (SF633, L105, Ph 10).
54, 55 Sheet iron tubes with closed ends (54. SF334a, L137/1, Ph 8; 55. SF333, L137/1, Ph 8).

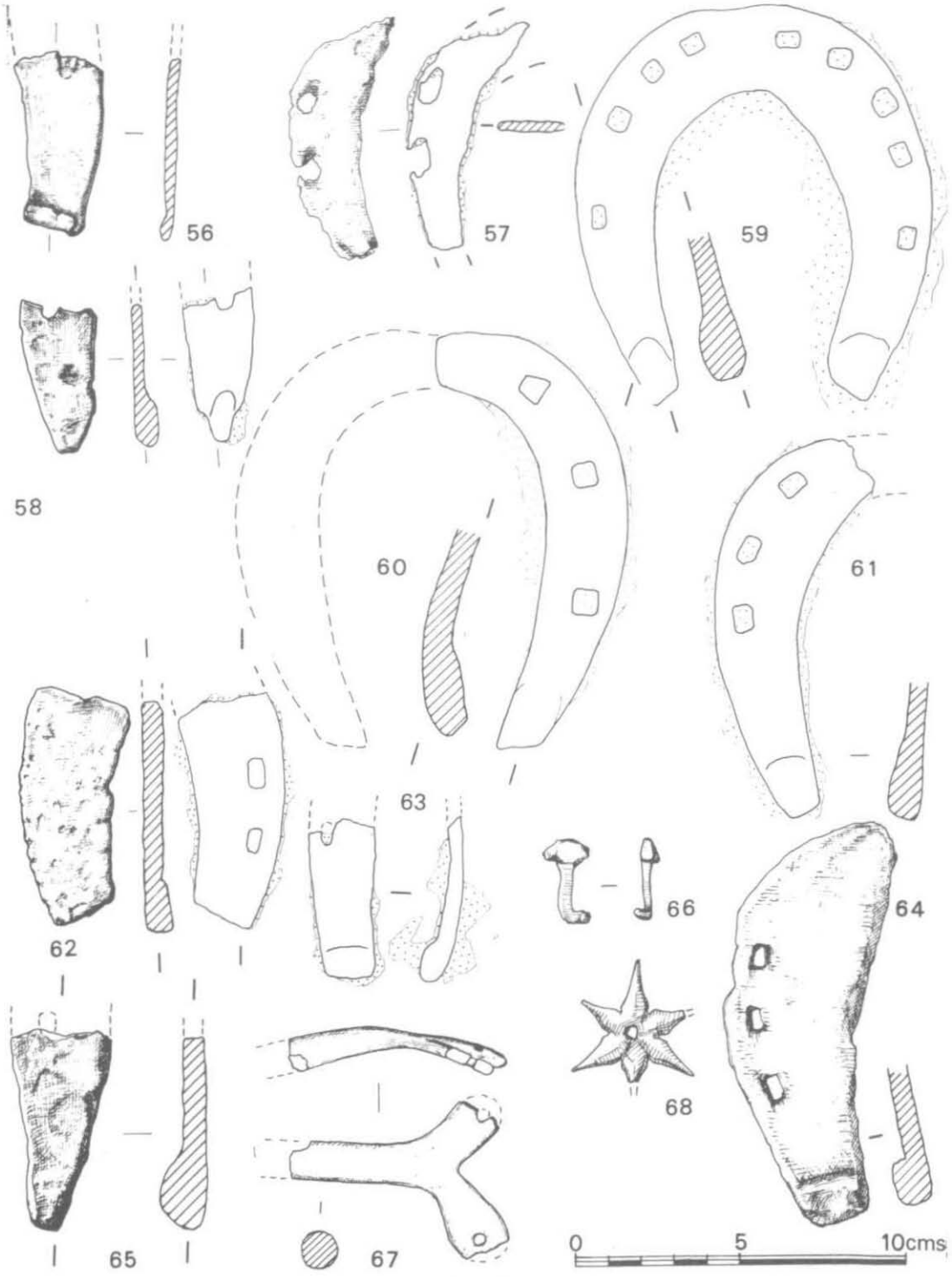


FIG. 29

Iron horse furniture: 56–65, horseshoes; 66, fiddle-key nail; 67, curry-comb handle; 68, rowel. Scale ¼.

FIG. 29

56–65 Horseshoes, nos. 56–8 of early medieval type with countersunk nailholes, corroded out in no. 57, the remainder of the succeeding type with rectangular nailholes (56. SF388, L209, Ph 4; 57. *Lin* SF59, L24/3, Ph 6b; 58. SF302, L125/2, Ph 9; 59. *83* SF7, L64, Ph 10; 60. *83* SF17, L15/1, Ph 10; 61. SF205, L110, Ph 10; 62. SF247, L119, Ph 10; 63. SF642, L110, Ph 10; 64. SF132, L53, Ph 11; 65. SF54, L2, Ph 13).
66 Fiddle-key horseshoe nail, used with horseshoes such as nos. 56–8 (*Lin* SF20, L24/3, Ph 6b).
67 Curry-comb handle with bifurcated terminal and incomplete tang (*83* SF5, L64, Ph 10).
68 Six point rowel with non-ferrous plating (SF177, L43, Ph 12).

COPPER ALLOY OBJECTS. By ALISON R. GOODALL and IAN H. GOODALL

FIG. 30

1 Buckle with forked attachment and side plates, one of which has rocked-tracer decoration. Pin missing. A strap-end buckle of similar form was found at Lyveden, Northants,[152] and a comparable decorated buckle-plate comes from Mildenhall, Wilts., in Devizes Museum (DM 2611) (SF133, L53, Ph 11).
2 Buckle with forked attachment and undecorated plates; pin missing (SF154, L44, Ph 11).
3 Buckle with D-shaped plates; pin missing (SF257, L119, Ph 10).
4 Gilt buckle-plate, decorated on one face (SF228, L53/6, Ph 11).
5–8 Buckle-plates. No. 6 had iron rivets (5. SF290, L125, Ph 9; 6. SF207, L53/8, Ph 11; 7. SF208, L105, Ph 10; 8. SF32, L26, Ph 13, not illustrated).
9–11 Rectangular buckles. No. 10 has an iron pin. They are similar to an example from Goltho, Lincs.[153] (9. SF8, L25/1, Ph 13; 10. SF171, L53, Ph 11; 11. SF168, L44, Ph 11).
12–13 Double-looped buckles; pins missing (12. SF106, L44, Ph 11; 13. SF181, L53/6, Ph 11).
14 Fragment of a D-shaped buckle frame (SF213, L105, Ph 10).
15 Fragment of a buckle or clasp arrangement (SF203, L105, Ph 10).
16 Buckle pin (SF120a, L54, Ph 13).
17 Fragment of a belt loop (SF235, L110, Ph 10).
18 Hinged strap attachment retaining a fragment of leather (SF149, L54, Ph 13).
19 Elaborately decorated strap-end.[154] The end of the strap was enclosed by the rectangular box at the top, and secured by the two rivets. Below this is a large, lyre-shaped terminal. Analysis by Robert Hedges, Research Laboratory for Archaeology, Oxford University, showed the object to be of bronze of about 90% copper and 5% each of tin and zinc, with a surface plating of about 70% tin and 30% silver (SF223, L105, Ph 10).
20 Strap-end; the forked central piece has an acorn knop and one plate has rocked-tracer decoration. *Cf.* an example from Hangleton, West Sussex.[155] (SF173, L53, Ph 11).
21 Plate from a similar strap-end with incised ornament. Other examples come from Goltho, Lincs.[156] and Pontefract Priory, West Yorks.[157] (SF377, u/s, Ph 10–11).
22–24 Strap-ends with forked central portions; No. 24 is a single plate (22. SF192, L53, Ph 11; 23. SF170, L44, Ph 11; 24. SF190, L53, Ph 11).
25 D-shaped strap-end enclosing part of the leather strap: the sides are closed by a crescentic strip (SF244, L53/9, Ph 10).
26–28 Strap-ends, no. 26 with rocked-tracer decoration on one face. Nos. 26 and 28 retain part of the leather strap (26. SF174, L53/6, Ph 11; 27. SF141, L93/1, Ph 13; 28. SF327, L137/1, Ph 8, not illustrated).
29–30. Strap-end hooks (29. SF195, L105, Ph 10; 30. SF311, L137, Ph 8).
31 Clasp plate, *cf.* one from Cambridge[158] (SF101, L46, Ph 11).

FIG. 31, except where otherwise stated

32–46 Buttons. Nos. 32–35, the earliest, are globular with wire loops. Those from Phase 13 contexts are of three main types: nos 36–42 are flat discs, between 14 and 26 mm. in diameter, with rear attachment loops; no. 43 is similar but has a flange, and nos. 44–46 have bone backs with decorated, thin sheet metal fronts (32. SF301, L132/1, Ph 9; 33. SF268, L125, Ph 9; 34. SF381, L49/4, Ph 9; 35. SF128, L53, Ph 11; 36–46. SF6, L25/1, Ph 13; SF29, 38 and 39, L26, Ph 13; SF44, L31, Ph 13; SF50, L26, Ph 13; SF65, L31, Ph 13; SF66, L41, Ph 13; SF55, L31, Ph 13; SF145, L94/2, Ph 13; SF30, L26, Ph 13). Nos. 32–33, 35–45 not illustrated.

[152] J. M. Steane and G. F. Bryant, ' Excavations at the Deserted Medieval Settlement at Lyveden. Fourth Report ', *J. Northampton Mus.*, 12 (1975), 109 and Fig. 42, 21.
[153] I. H. Goodall in G. Beresford, *The Medieval Clay-land Village: Excavations at Goltho and Barton Blount.* Soc. for Medieval Archaeol. Monograph Ser. 6 (1975), 91 and Fig. 43, 11.
[154] See *LMMC*, 268–9 and Fig. 85, 1 and *Antiq. J.*, 19 (1939), 197–9.
[155] J. G. Hurst and D. G. Hurst, ' Excavations at the Deserted Medieval Village of Hangleton. Part II ', *Sussex Archaeol. Collect.*, 102 (1964), 135 and Fig. 13, 2.
[156] Goodall, *op. cit.* note 153, 91 and Fig. 43, 3.
[157] C. Vincent Bellamy, ' Pontefract Priory Excavations 1957–1961 ', *Publ. Thoresby Soc.*, 49 (1962–64), 124 and Fig. 25, i and j.
[158] P. V. Addyman and M. Biddle, ' Medieval Cambridge: Recent Finds and Excavations ', *Proc. Cambridge Antiq. Soc.*, LVIII (1965), 127 and Fig. 21, 4.

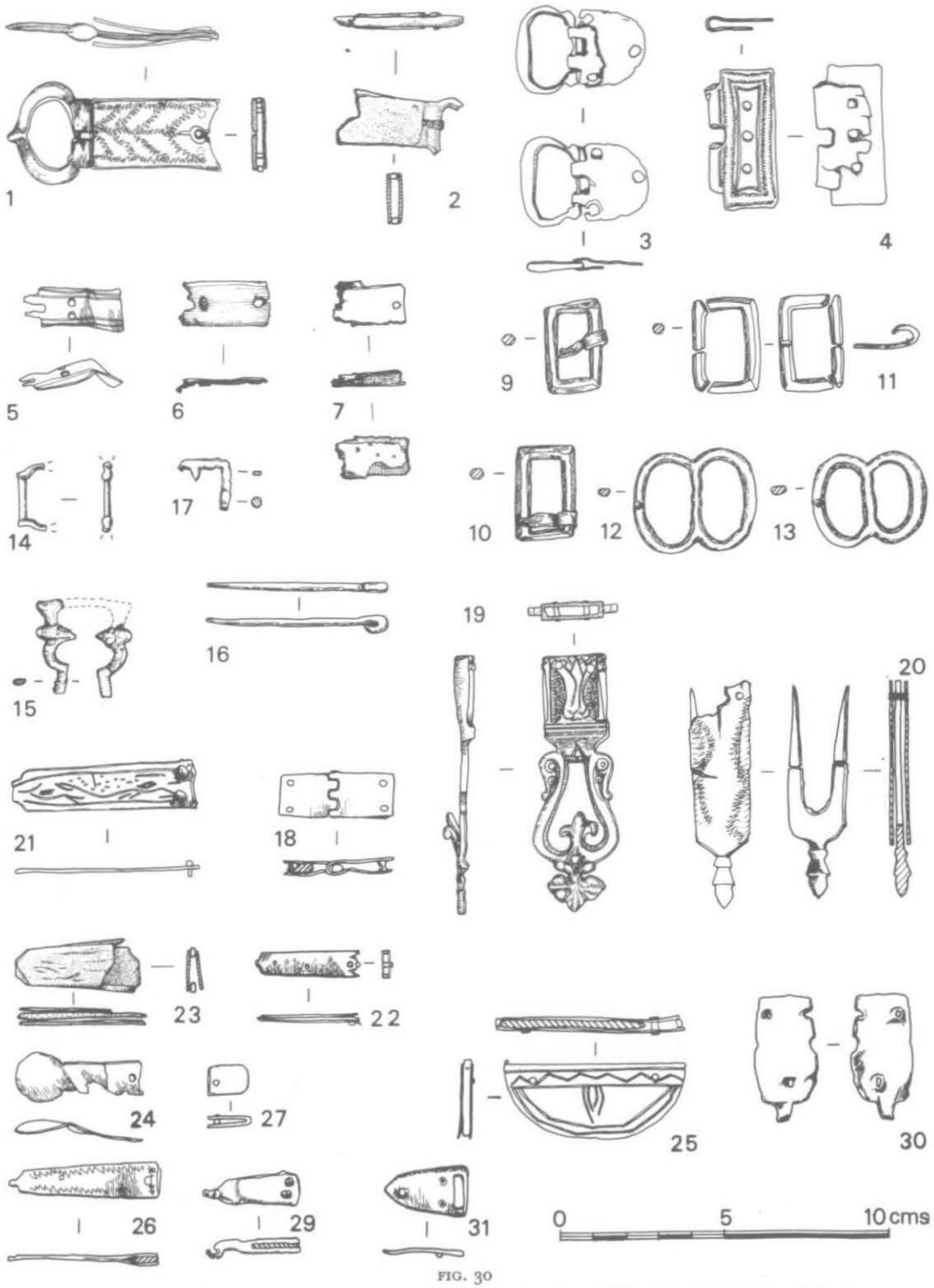


FIG. 30

Copper alloy objects: 1–16. buckles; 17. belt loop; 18–30. strap fittings; 31. clasp plate. Scale ½.

FIG. 31
Metal objects: 34–85, copper alloy; 87, lead. Scale ½.

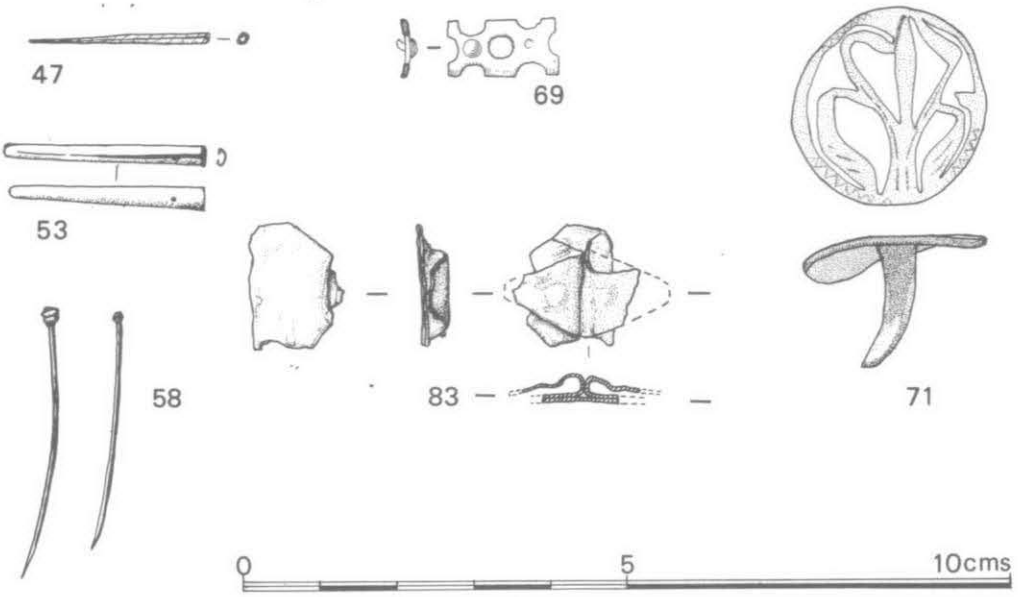


FIG. 32

Copper alloy objects: 47 and 53. lace ends; 58. pins; 69. mount; 71. stud; 83. patch. Scale ½.

47–53 Lace-ends, all of sheet metal, nos. 47–49 and 53 with pins below the open end (47. SF232, L119/2, Ph 10; 48. SF83, L43, Ph 12; 49. SF183, L19, Ph 12; 50. SF89, L42/3, Ph 13; 51. SF74, L19, Ph 12; 52. SF43, L31, Ph 13; 53. SF18, L2, Ph 13). Only nos. 47 and 53 illustrated (FIG. 32).
54 Finger-ring with decorated surface (SF139, L44, Ph 11).
55–57 Thimbles (55. SF248, L119, Ph 10; 56. SF124, L29/1, Ph 13; 57. SF81, L43, Ph 12, not illustrated).
58 Pins, all with coiled-wire heads. In the more common type, represented by 59 examples, the wire for the head is wound twice round the shank. Their lengths range between 22 and 46 mm. and they are from contexts of Phase 10 (SF182, SF461), Phase 11 (SF97—2 pins, SF100, SF111, SF161), Phase 12 (SF71—2 pins, SF183, SF279), Phase 13 (SF14—43 pins, SF15—5 pins). Fifteen pins have once-coiled heads and range in length from 34 to 72 mm. They come from contexts of Phase 11 (SF130, SF161, SF186—3 pins), Phase 12 (SF72, SF618) and Phase 13 (SF64—6 pins, SF87). In addition there were 26 incomplete pin shanks from contexts of Phase 8 (SF324), Phase 10 (SF218—2 pins), Phase 11 (SF96, SF153—2 pins, SF161—3 pins), Phase 12 (SF98), Phase 13 (SF14—13 pins, SF15—3 pins). Only SF461 (Ph 10) and one pin from SF168 (Ph 11) are illustrated (FIG. 32).
59–61 Sheet metal rumbler bells; no. 59 has an iron pea, no. 61 is the base half only (59. SF380, L49/3, Ph 9; 60. SF103, L36, Ph 11; 61. *83* SF8, L64, Ph 10).
62 Gilt strip with perforated cinquefoil terminal, two bosses and two rivet-holes (SF437, L137/1, Ph 8).
63 Strip with row of pellets (SF285, L53/8, Ph 11).
64 Binding strip with rivet-hole at one end (*83* SF15, L16, Ph 9).
65 Mount in the form of a cockerel (SF166, L66/1, Ph 12).
66–68 Decorative studs, no. 66 in the form of a scallop, nos. 67 and 68 having five and six petals respectively. Nos. 66 and 67 have shanks for attachment, 68 has two rivets with washers (66–68. SF237, SF175 and SF227, L53/6, Ph 11).
69 Decorative mount with two rivets (SF259, L119, Ph 10) (FIG. 32).
70 Riveted mount (SF298, L123, Ph 9).
71 Inlaid decorative stud. X-ray fluorescence analysis by Robert Hedges, Research Laboratory for Archaeology, Oxford University, showed the inlay to be a low potassium glass, either white due to 0·5% lead or pale yellow due to a trace of antimony. Inlay is shown without stipple on the illustration, FIG. 32 (*Lin* SF9, L19/3, Ph 8).
72–73 Studs: no. 73 has a plain domed head, 32 mm. in diameter and 8 mm. deep. (72. SF288, L132, Ph 9; 73. SF11, L26, Ph 13, not illustrated).
74–75 Drop handles; no. 74 is from a metal chafing dish[159] (74. SF163, L65/2, Ph 12; 75. SF138, L44, Ph 11).
76 End-plate from a knife handle, with a hole which fitted over the tip of the tang (SF180, L53, Ph 11).

[159] See J. M. Lewis, ' Some Types of Metal Chafing-Dish ', *Antiq. J.*, 53 (1973), 61, Fig. 1, F2 and Pl. XIIId.

77 Key with ring bow and simply moulded stem with projecting tip (SF326, L137/1, Ph 8).
78 Loop from cheekpiece of a bridle-bit (SF349, L159, Ph 6b).
79 Fragment of a perforated disc (SF353, L159, Ph 6b).
80 Pendant loop (SF239, L110, Ph 10).
81 Collar with an iron rivet (SF193, L53/6, Ph 11).
82 Sheet plate (*Lin* SF38, L29/2, Ph 6a).
83 Sheet metal patch (SF202, L105, Ph 10); FIG. 32.
84 Curved, lozenge-shaped plate, 23 mm. across, with a central slit for use with a patch (SF150, L54, Ph 13, not illustrated).
85 Length of twisted wire (*Lin* SF2, Ph 12–13).
86 Fine wire, approximately 600 mm. in length and of *c.* 0·4 mm. gauge, wound into a 30 mm. diameter spool (SF375, L49, Ph 10, not illustrated).

Other lengths of wire, suitable for making pins and twist-loops, came from contexts of Phase 10 (SF199 and SF375), Phase 11 (SF104, SF161 and SF227), and Phase 13 (SF73); not illustrated.

LEAD OBJECTS. By IAN H. GOODALL (FIG. 31)

87 Shaped rod[160] (*Lin* SF8, F20, Ph 10).
88 Weight, 24 mm. long, 9 mm. diameter, formed from rolled round sheet (SF266, L119, Ph 10, not illustrated).
89–91 Short lengths of H-shaped window came (89. SF230, L110, Ph 10; 90. SF120, L44, Ph 11; 91. SF271, L53/8, Ph 11). Not illustrated.

METAL-WORKING SLAG

Slag was recovered from provenances in Phases 1, 2 and 6a to 13. The quantity was small in every case, and only in Phase 6b was it sufficiently concentrated to suggest a metal-working floor. Most of the material was of a glassy consistency, as would be expected to result from light forging.[161]

OBJECTS OF STONE AND SPINDLE WHORLS (FIG. 33)

1 Segment of jet ring, perhaps a bracelet; length 90 mm., diameter 20 mm. Mr. G. C. Jones of the Mineralogy Department, British Museum (Natural History), has analysed a chip of the material and finds that when it is ignited in air the material gives a loss of weight of 88% and emits a smell of burning coal, and spectrographic analysis shows traces of iron and silicon, with smaller amounts of manganese, magnesium, aluminium, calcium, copper and titanium. All this is consistent with the specimen being jet, which is a variety of coal. Martin Henig writes that jet objects are known from medieval provenances, but this might well be Roman[162] (*83* SF4, L50, Ph 7).
2 Pottery spindle whorl, Fabric *B*; diameter 42 mm., piercing 11 mm. (SF403, L226/1, Ph 1).
3 Part of stone spindle whorl; limestone, perhaps local; diameter 38 mm., piercing 13 mm. (SF392, L215/1, Ph 3).
4 Irregular lump of chalk, pierced; presumably not a spindle whorl, perhaps a weight, diameter 45 mm., piercing 10 mm. (SF411, L214/1, Ph 4). Also note bone spindle whorl from this Phase (FIG. 37, No. 7).
5 Spindle whorl; diameter 35 mm., piercing 10 mm. (*Lin* SF13, L24/2, Ph 6b).
6 Spindle whorl; limestone, perhaps local; diameter 42 mm., piercing 7 mm. (SF512, L7/1, Ph 8).
7 Spindle whorl; limestone, perhaps local; diameter 30 mm., piercing 10 mm. (SF343, L148/1, Ph 9).
8 Spindle whorl; limestone, possibly middle Jurassic, Oxfordshire; diameter 33 mm., piercing 10 mm. (SF219, L105, Ph 10).[163]
9, 10 Two spindle whorls; limestone, perhaps local; diameters 35 mm., 37 mm., piercing 10 mm. (SF238, SF240, L110, Ph 10).

HONES AND QUERNS[164] (FIG. 33). By D. T. MOORE

11 Pale grey, fine grained limestone honestone, 150 × 46 × 18 mm.; consistent with Ellis group IVA, and could be from the Purbeck or Jurassic Oolite belt, and from the north-east Midlands to Yorkshire (SF425, L220/1, Ph 3).
12 Quern fragment; coarse to medium grained somewhat weathered rock containing quartz and feldspar. Perhaps Millstone Grit from central or northern England (SF404, F218, Ph 4).

[160] Lambrick and Woods, *op. cit.* note 2, Fig. 12, 30.
[161] I am grateful to Robert Hedges for this information.
[162] For jet objects from medieval provenances, see D. M. Waterman, ' Late Saxon, Viking and Early Medieval Finds from York ', *Archaeologia*, 97 (1959), 94; also two jet beads in Lambrick and Woods, *op. cit.* note 2, Fig. 13, No. 44. For Roman armlets, see A. J. Lawson, ' Shale and Jet Objects from Silchester ', *Archaeologia*, 105 (1975) 250–4, Fig. 4.
[163] Mineral identifications by C. P. Palmer, Palaeontology Department, British Museum (Natural History).
[164] Mineral classification of hones according to S. E. Ellis, ' The petrography and provenance of Anglo-Saxon and Medieval English honestones, with notes on some other hones ', *Bull. Br. Mus. Nat. Hist.* (*Miner.*) 2 (1969), 135–87. Descriptions of the thin sections of Ellis-types will be lodged with Oxfordshire Museums Service, Woodstock.

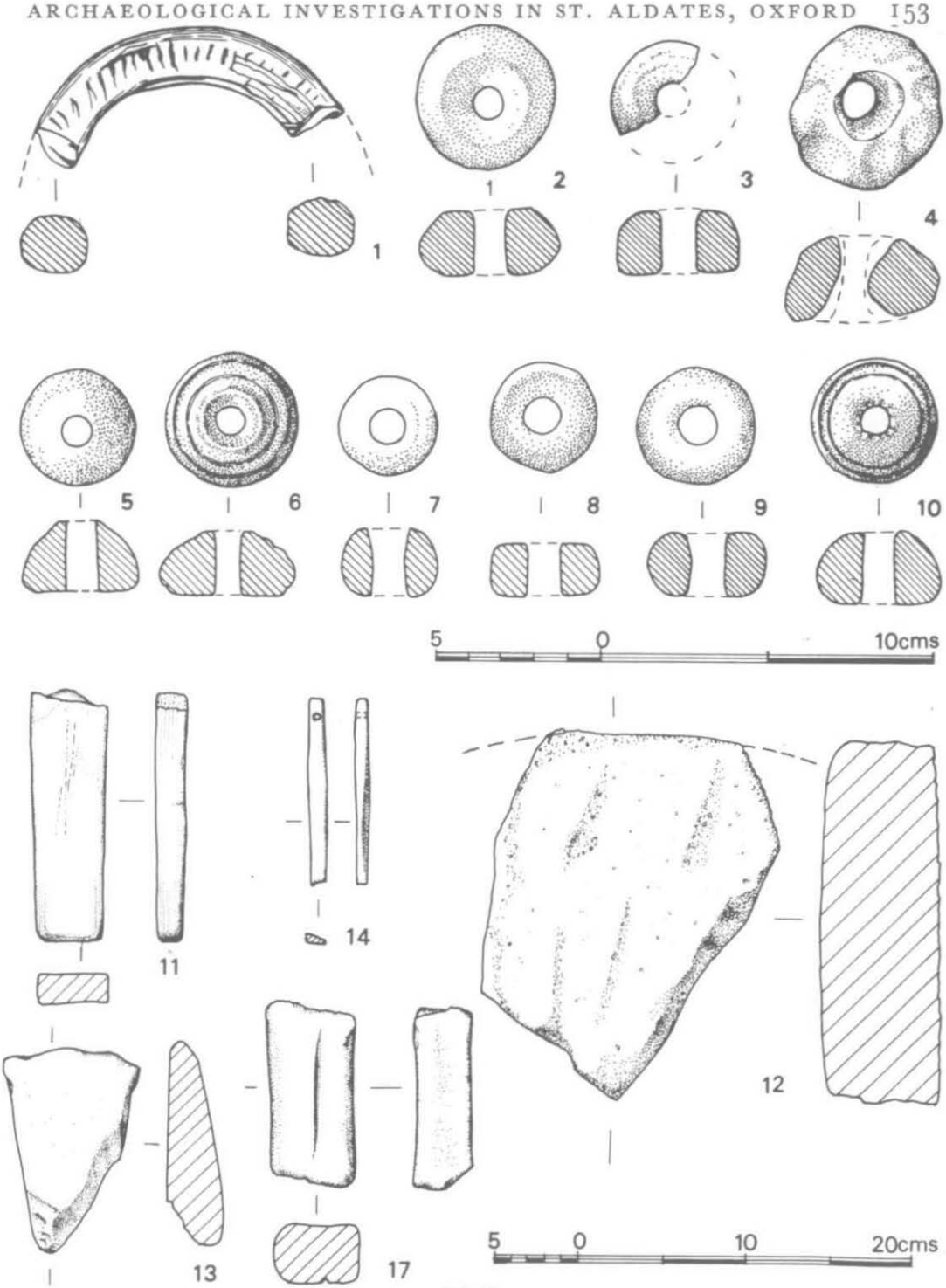


FIG. 33

Stone objects: 1, 3–10 ($\frac{1}{2}$); 11–13, 17 ($\frac{1}{4}$) and a pottery spindle whorl: 2 ($\frac{1}{2}$).

13 Quern fragment; pinkish medium to fine grained feldspathic stone, which in thin section is seen to contain abundant quartz, some plagioclase, alkali feldspar and ferruginous alteration products. This is consistent with Millstone Grit from central or northern England (*Lin* SF36, L30, Ph 6a).
14 Pale grey, worn schistose hone-stone, Ellis type IA(1) from Eidsborg, Telemark, Norway (SF352, L167/1, Ph 7).
15 Large rough silver grey schist hone, 102 × 56 × 24 mm., Ellis type IA(1) from Eidsborg (SF251, L123, Ph 9, not illustrated).
16 Blue grey schistose hone, 55 × 30 × 10 mm., Ellis type IA(1) from Eidsborg (SF287, L123, Ph 9, not illustrated).
17 Brown micaceous fine grained hone-stone marked by a point scratch, 109 × 51 × 36 mm. In thin section the rock is seen to be composed of angular quartz, muscovite, and fibrous ferruginous material in strips and patches. The fabric is consistent with that of the Pennant Grit of the Bristol Coalfield which is of Carboniferous age. Ellis and Moore (in Press) consider that Hanham just east of Bristol is the likely source of this material.[165] Ellis type IIB(6) or (7) (*83* SF2, L29/2, Ph 9).
18 Silver grey worn schist hone, 156 × 30 × 21 mm., Ellis group IA(1), almost certainly from Eidsborg (SF246, L119, Ph 10, not illustrated).
19 Silver grey schist hone 71 × 20 × 13 mm., Ellis type IA(1) from Eidsborg (SF249, L110/1, Ph 10, not illustrated).
20 More or less fashioned silver grey schist hone, 89 × 28 × 20 mm., Ellis type IA(1) from Eidsborg (SF261, L110, Ph 10, not illustrated).
21 Silver grey small worn honestone, 64 × 20 × 11 mm., Ellis type IA(1) from Eidsborg (SF265, L119, Ph 10, not illustrated).
22 Smooth grey blue schistose mullion, 181 × 58 × 32 mm., Ellis type IA(1) from Eidsborg (*83* SF12, L60, Ph 11 not illustrated).
23 Blue grey schistose mullion with a deep point groove, 108 × 26 × 28 mm., Ellis type IA(1) from Eidsborg (*83* SF18, L60/2, Ph 11, not illustrated).

TEXTILES. By ELISABETH CROWFOOT

1 Fragments of spun thread of three different types were found in a late twelfth–early thirteenth-century cess pit. These are all now dark brown.
(i) Two similar threads, adhering side by side but not attached by any other thread, coarse fibres S plyed; 47 mm. long, tapering, diam. *c.* 8 mm. at thickest, 5 mm. at thin end.
(ii) Three fragments coarse yarn, S spun, Z ply, measuring (a) 95 mm., (b) 106 mm., and (c) 56 mm. long. Pieces (a) and (c) have closed end loops. Adhering to (b) are lumps of unspun fibres (d).

The tapering appearance of the parallel threads of sample (i) and the closed loops at the end of two pieces of (ii) seem to indicate that both probably come from fringes. The hard coarse fibres of (i) suggest a rug or mat, the softer wool of (ii) and the unspun fibres (iid) perhaps the warp-end fringe of a blanket with a teasled surface.
(iii) Four pieces of Z spun yarn, 70 mm., 60–70 mm., *c.* 80 mm. and *c.* 18 mm. long. Thread overspun.

With the exception of the first piece, which is unravelling, the threads seem to retain the shape of a narrow piece of weaving, perhaps a band *c.* 25 mm. in width, but this appearance may be due to overspinning, forcing the yarn to kink. This could possibly have been the weft of (ii).

H. M. Appleyard, of the Wool Industries Research Association, who examined the fibres, reports that three of the samples (ii, iid and iii) are very well preserved and can be definitely identified as wool; some of the fibres of (iid) are coarse and medullated.

The sample from (i) is much degraded, but can still be recognised as animal fibres, some coarse and medullated. The scale structure was not visible but their general appearance, including the type of medulla, suggests that they could be wool.

It is difficult to say whether the brown colour is due to dye or staining through the years (SF506, L237/2, Ph 8).
2 The remains of the end of a fabric belt, replaced by metal oxide, can be seen at the edges of a bronze tag (FIG. 30, no. 29). Width of weave visible at end, 8 mm., probably 13 warps; at the sides these can be seen as Z spun threads. This could be a tablet-woven braid as in No. 3 (SF195, L105, Ph 10).
3 A tag (FIG. 30, No. 7) was opened to show a fragment of woven belt, length preserved 17·5 mm., width 8 mm. incomplete, both edges missing, full width probably 10–12 mm. Tablet-woven braid, *c.* 12 warps preserved, most Z spun, but a few apparently S spun; weft Z or possibly Z ply, count 12 threads per cm. The variety of tablet-weave used, similar to that in an Anglo-Saxon strap end from Cambridge[166] and a medieval one from Felixstowe, Suffolk,[167] is one in which the tablet-twists, instead of meeting in regular chevrons, touch at an angle (FIG. 34). The method of weaving is described as follows by Grace M. Crowfoot:

> The tablets are threaded right and left, but instead of being turned all together, half (the odd tablets) are given a ¼ turn and the weft passed through, and then the other half (the even tablets) are turned a ¼ turn and again the weft is passed through; the weave repeats on eight turns.

[165] S. W. Ellis and D. T. Moore, ' The Medieval Hones ' in *Winchester Excavation Reports* (in press).
[166] G. M. Crowfoot, ' Textiles of the Saxon Period in the Museum of Archaeology and Ethnology ', *Proc. Camb. Ant. Soc.*, XLIV (1950), 28–30, Fig. 2.
[167] G. M. Crowfoot, ' A Medieval Tablet Woven Braid from a buckle found at Felixstowe ', *Proc. Suffolk Inst. of Archaeol.*, XXV, pt. 2 (1951), 202–4, Pl. XXX.

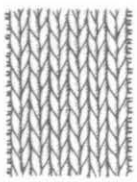


FIG. 34
Diagram of tablet-weave braid in a fourteenth-century belt end (Textile No. 3).

Both these braids were made of flax, and patterned, the Cambridge braid with linked diamonds in blue and white, the Felixstowe one with chevrons in two shades of light brown. No pattern is visible in the Oxford braid; the blueish colouring in the middle is probably due to bronze staining; but at one broken edge the spinning in the first three twists preserved seems to be S, Z, S, perhaps indicating coloured lines at the edge of the braid (SF208, L105, Ph 10).

OBJECTS OF WOOD. By MARTIN HENIG (FIG. 35)

1 Rough wooden bowl; part of base-angle only; diameter *c.* 55 mm.[168] (SF457, L225/3, Ph 2).
2 Short pole of ash, with four oak pegs; 465 mm. Brian Durham writes: ' The object is now distorted, but was described at the time of excavation as a ' pointed stake with transverse pegs broken off flush '. The ' stake ' shape suggests that it is not a roof batten;[169] possibly one arm of a large rake (*Lin* SF35, F29, Ph 6a).
3 Beech-wood peg with spoon-like end pierced by ovoid hole; 101 mm. (*Lin* SF38a, L29/1, Ph 6a).

LEATHERWORK. By J. H. THORNTON (FIGS. 35 and 36)

A number of fragments of leatherwork and waste leather were recovered from water-logged deposits stratified at the western end of the site. The identifiable fragments are described below, the details of the footwear fragments being tabulated for ease of comparison (TABLE 3). A complete report will be lodged with Oxfordshire Museums Service, Woodstock, Oxon.
4 Buckle-end of strap, folded over with a hole for the prong in the folded edge; buckle now missing. The folded-over portion is fastened down with a thong passing through three holes in a V-formation. Width 43 mm.; length 57 mm. (SF419, L226/1, Ph 1).
5 Piece of cutting scrap, now delaminated into grain and flesh layers so that it is not clear whether the leather was originally thick enough to have been cut into soles, as the present re-entrant curves suggest. There is a cutting error at one place showing where a fresh start had been made with the knife (SF483, L225/6, Ph 2).
6 Strap *c.* 205 mm. long cut lengthways centrally to within 27 mm. from one end. All three ends taper and the maximum width of each ' leg ' is *c.* 11 mm. This may have been intended for use as a shoe tie (SF494, L225/7, Ph 2).
7 Triangular piece with two stitched edges and a thong knotted to narrow end; it would appear to be a shoe instep tie-strap. The longer top edge has edge/flesh holes 3–5 mm. apart and is scalloped, indicating that an edge binding had been over-stitched here, continuing forward from the quarter of the shoe. The shorter near edge has edge/flesh stitches 3–5 mm. apart where it was butted to the fore-end of the quarter. A fragment which was the mirror-image of this strap, without a thong, was found with No. 17. This may have been the tie-strap of the opposite quarter of the shoe (SF515, L226/3, Ph 1).

Shoes and fragments of footwear

Details of the construction of the shoes have been set out in TABLE 3 so that comparisons can be made.[170] All the recognisable fragments are of the ' turnshoe ' type of construction. Such a shoe is generally made inside-out, using comparatively soft leather for both upper and sole, so that it can be turned right-side-out when finished.[171] All the shoes employ a single serpentine thong to join sole and upper, with thread-stitching to complete the upper and to attach bindings.

[168] *cf.* K. M. Richardson, ' Excavations in Hungate, York ', *Archaeol. J.*, 116 (1959), 85–6, Fig. 20.
[169] For nailed battens see C. Platt and R. Coleman-Smith, *Excavations in Medieval Southampton 1959–1963* (1975), II, Fig. 235, Nos. 1691–3.
[170] The terminology is explained in J. H. Thornton, *Textbook of Footwear Manufacture* (1964); J. H. Thornton, ' The Examination of Early Shoes to 1600 ', *Trans. Museum Assistants Group* 12 (1973).
[171] It should be noted, however, that using a coarse thonged seam working from the toe backwards, it would be possible to make such a shoe without turning it. This method has been seen used in India.

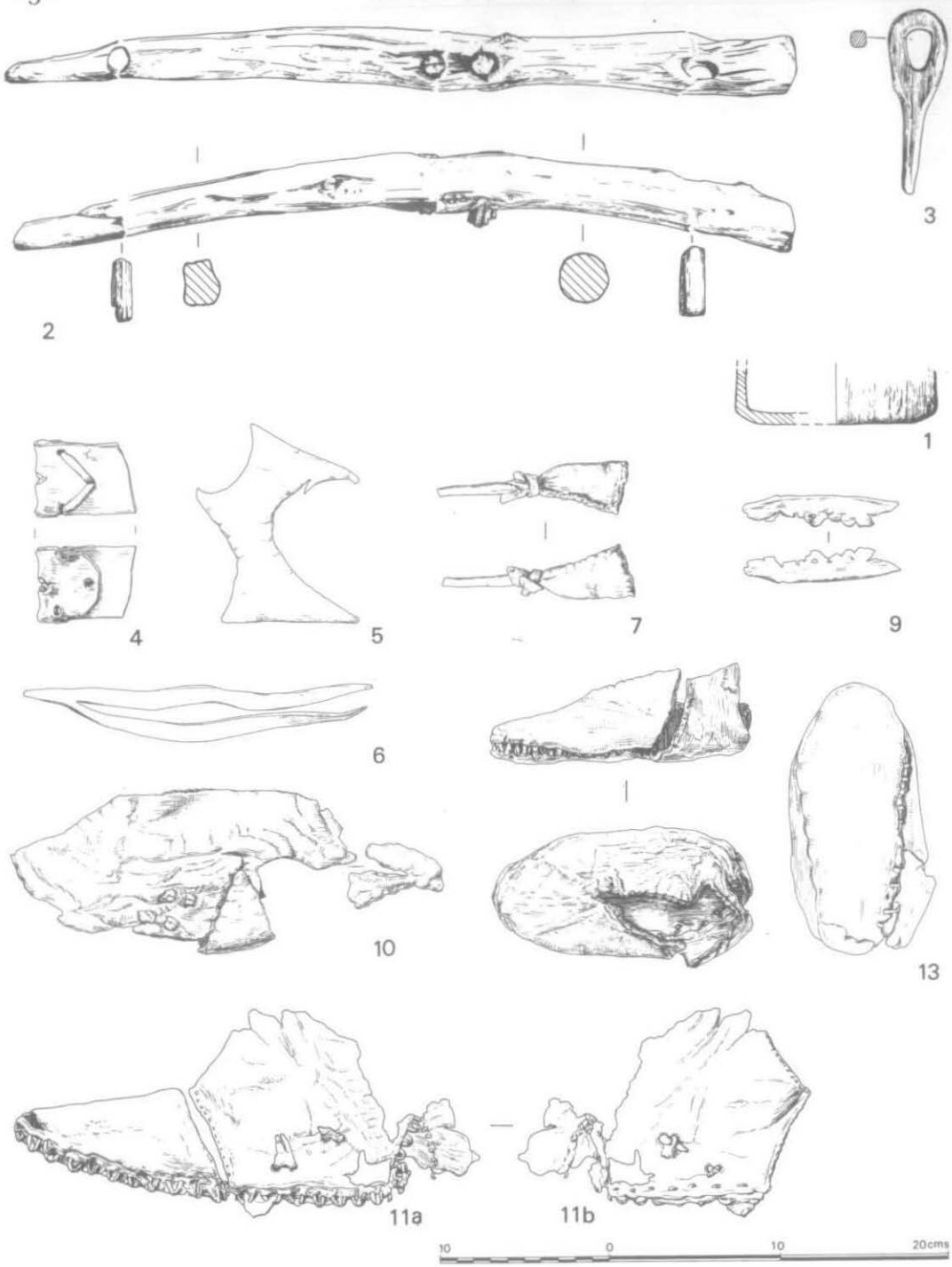


FIG. 35

Objects of wood; 1–3, and leather: 4–13, from Late Saxon levels: 10. V-Back, from rear; 11a. grain side; 11b. flesh side. Scale ¼.

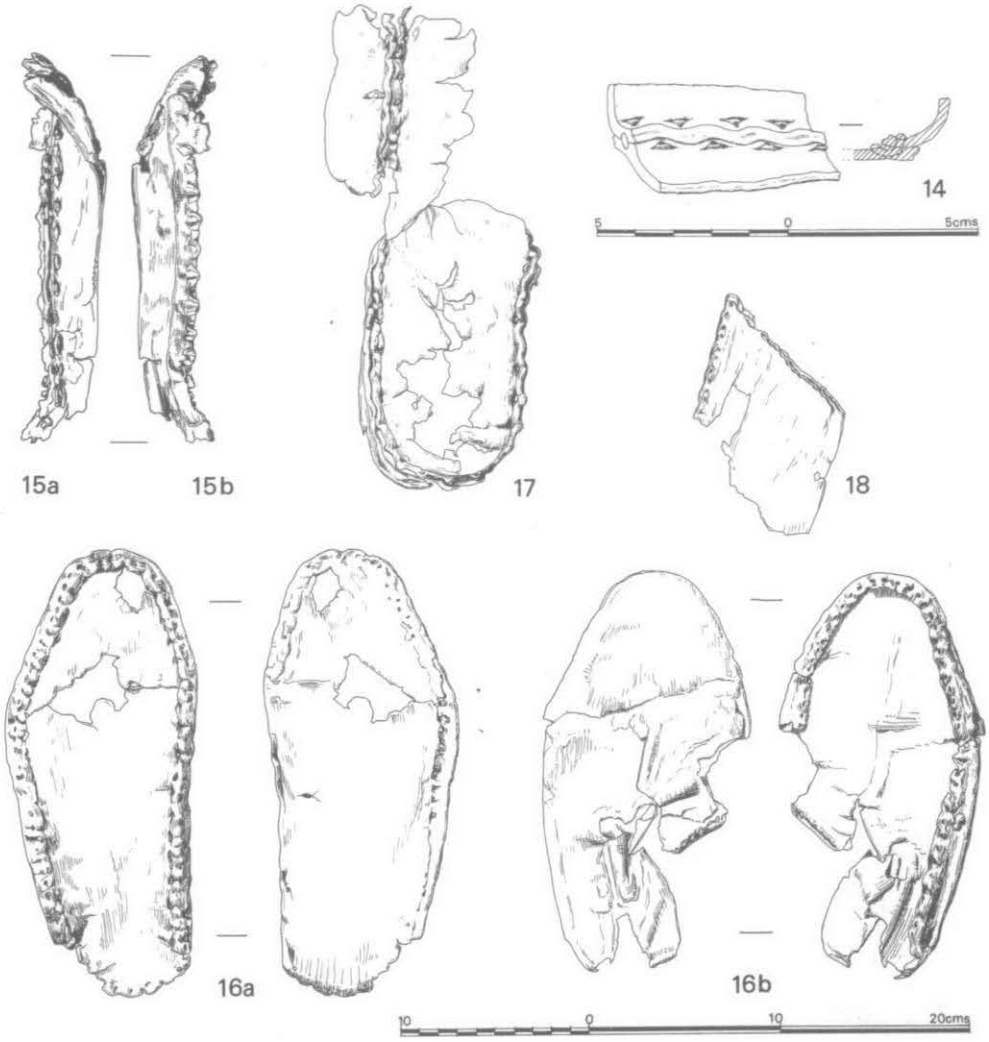


FIG. 36

Ninth-century leather shoe fragments: 15a, flesh side; 15b, grain side from below; 16a, sole; 16b, upper; 17, flesh side. Scale: 14 ($\frac{1}{2}$); 15–18 ($\frac{1}{4}$).

The upper seems in each case to have been made of a single piece of leather, joined by a single thread-stitched seam on the inside quarter (Nos. 13 and 16). The Phase 1 shoe (No. 16) appears to have had a bulky ' close ' seam in this position, while the Phase 2 shoes had butted seams (Nos. 11 and 13). The Phase 2 shoes also show evidence of a binding around the top edge and throat, represented by edge/flesh stitches; a decorative stitch in this position would normally have been taken over the edge, giving grain/flesh holes, as in a hem-stitch. Fragments of binding strip were found with one of the shoes (No. 10). There is no evidence of binding in the single Phase 1 shoe where the upper survived (No. 16). The only clear decoration on any of the fragments is the pattern of three ridges on the upper of one of the Phase 2 shoes (No. 13).

In all cases the soles were worn, and often fragmentary. They did, however, provide the most conspicuous comparative point; all three Phase 1 soles had rounded seats (heel

TABLE 3
Leather footwear fragments from *79–80* phases 1 and 2 (FIGS. 35 and 36)

Object	Left/right Length	Upper	Sole	Thonging	Instep tie	Small find no. Provenance
8. Fragment, possibly margin of thonged turnshoe (not illustrated).				As No. 13. Heavy scalloping, stitch length 6–7 mm.		SF458 L225/4 Phase 2
9. Fragment, possibly margin of turnshoe sole.			3·5 mm. thick.	Stitch length 10 mm.		SF460 L225/3 Phase 2
10. Quarters of thonged turnshoe, with fragments of top edge binding and V-backed sole.		Top edge has 6 mm. wide binding, attached with *c.* 6 mm. edge/flesh stitches.	V-back only survives, with edge/flesh holes.	Serpenting thonging, heavily scalloped. Sole: edge/flesh stitches. Stitch length 4·25 mm.	Paired thongs, each passing through 3 slits in quarter. Fixing unclear.	SF477 L225/4 Phase 2
11. Incomplete turnshoe upper with thonging and fragments of sole.	Right foot 200 mm., Child size 12.	Top edge has 4 mm. edge/flesh holes, presumably for binding. Vamp-wing/quarter butted seam sloping forward 30°, 5 mm. stitches.	V-back only survives, joined by 'close' seam thonging.	Serpentine thonging. Upper: grain/flesh stitches, leaving 4 mm. lasting marging. Sole: flesh/flesh stitches, channels at 4 mm. and 13 mm. Stitch length 6·5 mm.	Paired thongs, each with bifid terminal, one arm threaded through other to fix.	SF479 L225/6 Phase 2
12. Fragments of sole and upper of turnshoe (Not illustrated).				Serpentine thonging. Stitch length 5·0 mm.		SF484 L225/6 Phase 2
13. Entire child's shoe.	Right foot 150 mm. Child size 6.	Single-piece upper, vertical butted seam on left quarter with 5–6 mm. stitches. Top edge has 4 mm. holes as in No. 11. 3 decorative ridges.	Round toe. Nearly symmetrical. V-back.	Serpentine thonging, *via* edge/flesh holes in both sole and upper, giving heavily scalloped butted seam. Stitch length 7·5 mm.	None.	SF488 L225/7 Phase 2

14. Stitched margin of turnshoe, possibly entire (part only illustrated).			Round seat (heel end)	As No. 11. Stitch length 7 mm.		SF499 L226/1 Phase 1
15. Part of upper and sole of thonged turnshoe.	*c.* 210 mm.			As No. 11. Stitch length 7 mm.		SF 503 L226/2 Phase 1
16. Almost entire thonged turnshoe.	Left foot, 240 mm.	No evidence of binding. Vamp-wing/quarter seam stitch length 5·0 mm., probably originally edge/flesh (but see No. 18).	Round seat (heel end).	As No. 11. Upper lasting margin up to 12 mm. Sole stitching channels 4 mm. and 14–15 mm. from edge. Stitch length 6–7·5 mm.	No evidence on surviving part of upper.	SF504 L226/2 Phase 1
17. Parts of sole of thonged turnshoe.	Possibly right foot *c.* 240 mm.	Fragmentary.	Round seat (heel end).	Close seam thonging. Upper: grain/flesh titches. Sole: grain/flesh or edge/flesh. Stitch length 6·5 mm. Evidence of repaired seam.		SF516 L226/3 Phase 1
18. Fragment of upper, may be right quarter of No. 16.		Matches vamp-wing seam of No. 16, sloping forward 30°. *N.B.* grain/flesh stitches.		Stitch length 5–6·5 mm.	As No. 16.	SF519 L226/1 Phase 1

end), while all three Phase 2 soles were turned upward at the seat to form a V-back (see Nos. 10 and 11). This construction is paralleled by shoes found at York[172] and in Sweden.[173] The V-back of the York shoe (No. 4) is more pronounced than the Oxford examples; the change of seam, however, from flesh/flesh stitches in the sole to a 'close' seam in the V-back, is almost identical to that in one of the Oxford shoes (No. 11). It is suggested that this type of construction implies a Scandinavian influence in Phase 2. The overall shape of the sole could be seen clearly in only two cases, one being almost symmetrical (No. 13, child's shoe), the other being clearly a left foot (No. 16).

The upper was attached to the sole in each case by a single thong, the serpentine stitches causing scalloping in the leather due to the tension of the thong. The stitch length, *i.e.* the average distance between holes, varied from 4·25 mm. to 7·5 mm., with a questionable measurement of 10 mm. for one fragment (No. 9). There were three basic methods of forming the seam. The commonest, found in both Phases, had stitches formed within the flesh of the sole (see drawing, FIG. 36, No. 14). The holes formed two channels, set in from the edge of the sole, with a ridge between them (see FIG. 36, No. 16a). A slightly cruder construction was found in one of the Phase 1 shoes, a 'close' seam formed by grain/flesh stitches in both sole and upper (No. 17). Lastly, the child's shoe in Phase 2 (No. 13) appeared to have a neat butted seam formed by edge/flesh stitches in both sole and upper. This evidence might indicate a refinement of craftsmanship from Phase 1 to Phase 2, but it is suggested that the child's shoe was the exception in being generally a better quality piece of work.

Instep ties were present on two of the Phase 2 shoes (Nos. 10 and 11) and absent on a third (No. 13). They seem also to have been absent on the single Phase 1 shoe where there was any evidence (No. 16). However, there were two unattached fragments in Phase 1 which appeared to be instep tie straps (see No. 7), which contrasted with the simple thongs attached low on the quarters of the Phase 2 shoes.

The numbers of shoes recovered were too small to enable firm conclusions to be drawn. It may be suggested, however, that there was a general improvement in craftsmanship by the second Phase, implied by the following: a 'close' seam was used for the vamp-wing/quarter join in a Phase 1 shoe; there were no edge bindings on this shoe; and 'close' seam thonging was used on another Phase 1 shoe. Other conclusions which can be suggested are that the craftsmanship of the child's shoe in Phase 2 was generally superior to any other in the group and may represent a special case; and that the change to a V-back construction in Phase 2 was not necessarily a refinement, and may imply a cultural change.

Leather Tanning

I am indebted to the British Leather Manufacturers Research Association for a report on samples of leather. The following comments were made:

> The results are, as expected, somewhat inconclusive. They are however, not inconsistent with the possibility of oak galls as the source of the vegetable tanning constituents. The presence of considerable amounts of iron could suggest a combination tannage but I think it is more likely that it is the combination of iron from metallic objects in the vicinity that have reacted with the vegetable tanning materials, and so become an intrinsic part of the leather.
>
> Results of the chromatography and ashing will be lodged with the Oxfordshire Museums Service, Woodstock, Oxon.

OBJECTS OF BONE, ANTLER AND SHELL. By MARTIN HENIG

Species identification by BOB WILSON

FIG. 37

1 Ice-skate (*Equus* radius); polished lower surface and rough cuts above; front end missing. 230 mm.[174] The use of bone skates in late twelfth-century London is described as follows: 'When the great marsh that

[172] I. M. Stead, 'Excavations at S. Corner Tower, Roman Fortress, York', *Yorks. Archaeol. J.*, XXXIX (1956), 527, 529.

[173] E. Jäfvert, *Skomod och Skotillverkning* (Stockholm 1938) Pl. 8.

[174] J. Radley, 'Economic Aspects of Anglo-Danish York', *Medieval Archaeology*, XV (1971), 55, 56; *cf.* Ashmolean Museum 1836.68; see also A. MacGregor, 'Problems in the Interpretation of Microscopic Wear Patterns: the Evidence of Bone Skates,' *J. Archaeological Science*, 2 (1975), 385–90.

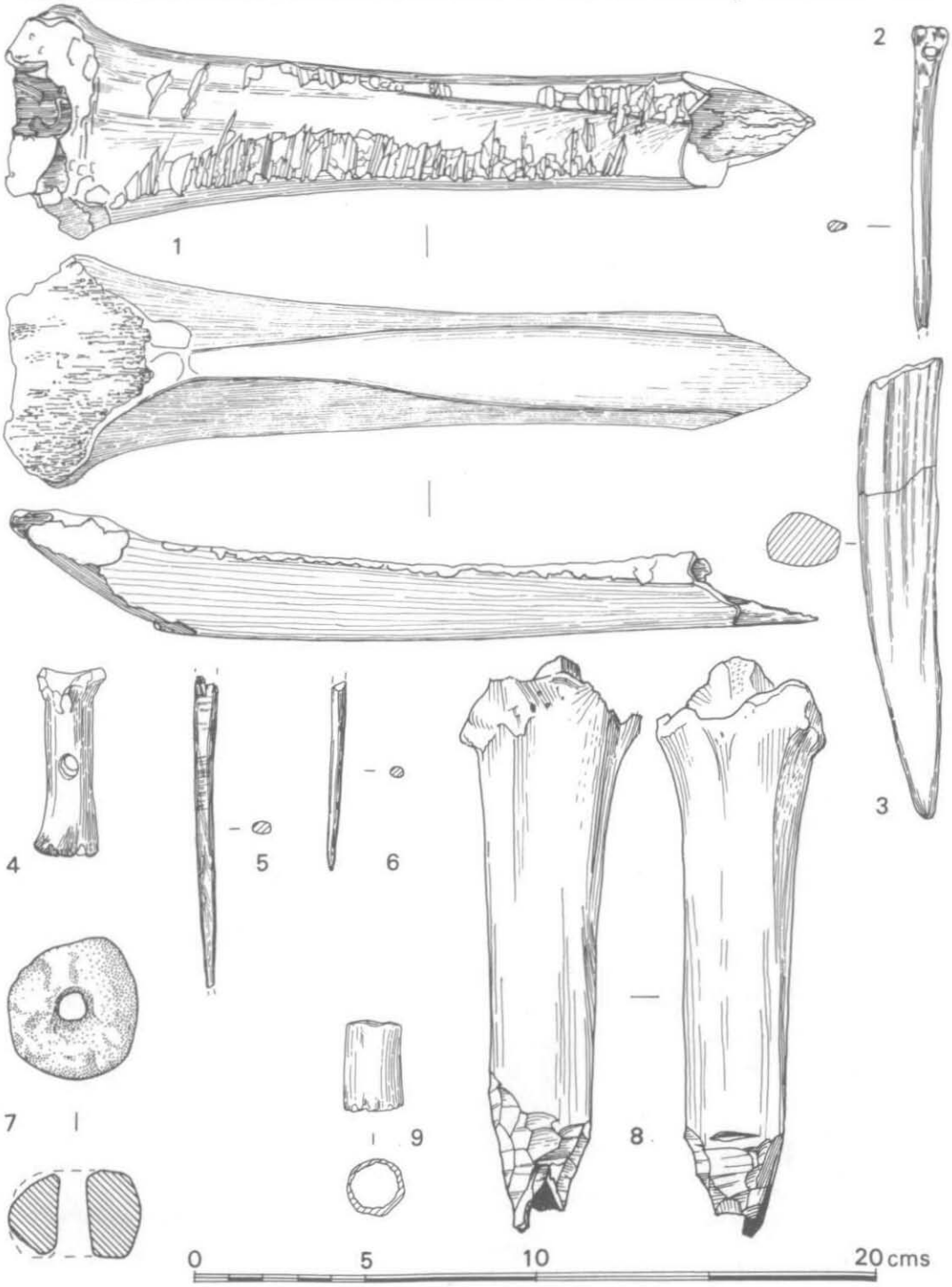


FIG. 37
Late Saxon objects of bone and antler. Scale ¼.

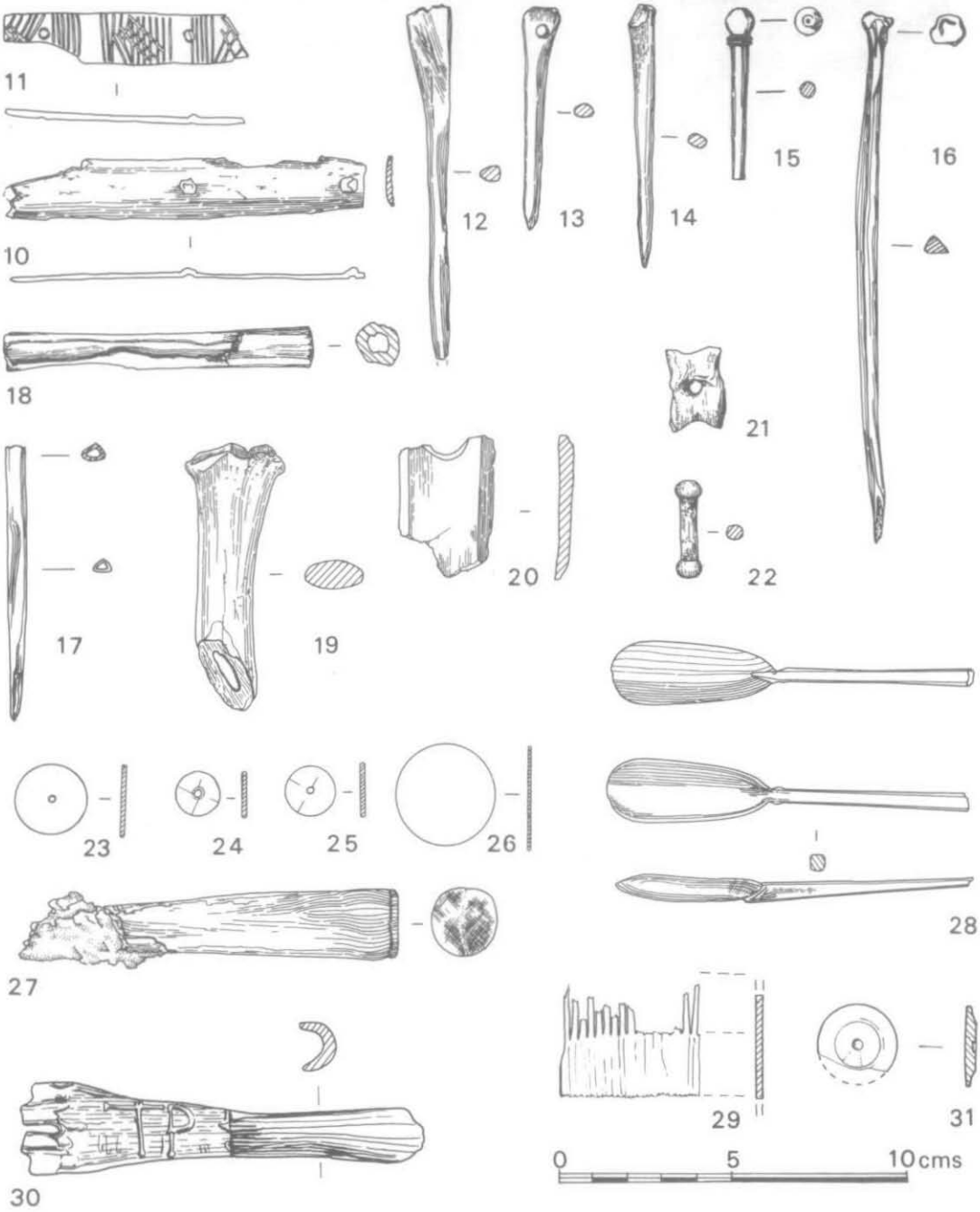


FIG. 38
Objects of bone, ivory and shell. Scale ½.

washes the Northern walls of the City is frozen, dense throngs of youths go forth to disport themselves upon the ice . . . (the more skilled) fit to their feet the shin-bones of beasts lashing them beneath their ankles, and with iron-shod poles in their hands they strike ever and anon against the ice and are borne along swift as a bird in flight or a bolt shot from a mangonel.'[175] (SF478, L225/6, Ph 2).

2 Bodkin, cut roughly to a point; pierced at broad end (*Sus* fibula), 89 mm.; *cf.* Nos. 5, 12 and 13 (SF486, L225/6, Ph 2).[175a]

3 Tine of antler, possibly Red Deer, with simple cut (SF396, L214/3, Ph 3).

4 Toggle with central piercing (*Sus* metapodial), 54 mm (SF401, L214/3, Ph 3).

5 Bodkin, roughly cut, broken across eye; 91 mm.; *cf.* Nos. 2, 12 and 13 (SF412a, L209, Ph 4).

6 Pin or needle, point only survives; 56 mm. (SF412b, L209, Ph 4).

7 Irregularly shaped spindle whorl made from head of *Bos* femur; diameter 40 mm. (SF439, L211/1, Ph 4).

8 Distal end of tibia of *Bos* cut roughly to a point; 168 mm. (*Lin* SF55, L28, Ph 6a).

9 Piece of long-bone shaft forming a cylinder; 25 mm. (SF513, L7/1, Ph 7).

FIG. 38

10 Plate from knife handle (or possibly a comb) with three rivet-holes, two iron rivets surviving; *Bos* rib; 100 mm. (SF383, L158, Ph 8).

11 Plate from knife handle or comb, with decoration of vertical and transverse lines; two rivet holes, one with iron rivet surviving; *Bos* rib; 69 mm.; *cf.* No. 10 (SF359, L137/1, Ph 8).

12 Bodkin, roughly cut to a point, pierced at wide end; *Sus* fibula; 101 mm.; *cf.* Nos. 2, 5 and 13 (SF328, L137/1, Ph 8).

13 Bodkin, cut to a point and pierced at wide end; epiphyseal end of a small long-bone; 63 mm (SF313, L125/2, Ph 9).

14 Point of bodkin; 75 mm (SF304a, L123, Ph 9).

15 Turned pin with ovoid head; no point, terminating in flat, smoothed end; 48 mm. Despite lack of iron pin it resembles the so-called styli which David Brown has suggested to me may have been used for pricking out parchment;[176] possibly an unfinished object of this type (*83* SF1, L16, Ph 9).

16 Radius of goose (*Anser anser*) cut obliquely, perhaps for lengthening a broken quill;[177] 149 mm. (*83* SF21, L86/2, Ph 9).

17 Radius of goose with oblique cut; head of bone missing; 78 mm; *cf.* No. 16 (*83* SF20, L86/1, Ph 9).

18 Tube, roughly facetted; *Ovis* metatarsal; 87 mm (SF304b, L123, Ph 9).

19 Radius of *Ovis*, cut obliquely to make a tool, perhaps an awl; 76 mm. (SF382, L125/1, Ph 9).

20 Strip of bone with bevelled sides and semicircle cut at one end, perhaps part of a knife-handle; 40 mm. (SF282, L53/8, Ph 11).

21 Pierced knuckle-bone, probably used as a toggle; 25 mm. (piercing 4 mm.) (SF688, L44, Ph 11).

22 Small turned reel with ovoid ends; 28 mm. (SF278, L53/8, Ph 11).

23 Button; sawn and polished disc of bone; diameter 20 mm., piercing 2 mm. (SF158, L53, Ph 11).

24 Button; diameter 13 mm., piercing 2 mm. (SF61, L31, Ph 13).

25 Button; diameter 14 mm., piercing 2 mm. (SF49, L26, Ph 13).

26 Disc of bone or ivory, perhaps the base of a pill box; diameter 28·5 mm. (SF16, L26, Ph 13).

27 Handle, of circular section, with part of iron tang of knife; diameter 19 mm., length of handle 78 mm., overall 105 mm. (SF33, L26, Ph 13).

28 Spoon, elongated bowl; handle extends from rib beneath bowl and expands towards its end; 104 mm. (SF31, L26, Ph 13).

29 Comb, one end of a double-sided comb; some teeth survive on the coarse side; surviving length 40 mm. (SF23, L2, Ph 13).

30 Apple-corer, *Ovis* metacarpal, with letters TP. From beneath floor-boards of former 81 St. Aldates *c.* eighteenth–nineteenth century (SF453, Ph 13).[177a]

31 Disc of mother-of-pearl, with sides bevelled inwards; circular depression on underside; perhaps knob from handle; diameter 23 mm. (*83* SF13, L60, Ph 13).

BONE INSTRUMENT PEGS (FIG. 39)

String-tensioning pegs of two types of musical instruments were found in the detrital flooring material of the Phases 10 and 11 buildings, and there was evidence that one type at least was being made in the yard in the later Phase. I am grateful for the assistance of Frances Cooper, Graeme Lawson and Betty Robinson in the preparation of this report.

[175] William Fitz Stephen, ' A description of London ' trans. H. E. Butler in F. M. Stenton, *Norman London*, Hist. Assn. Leaflets 93–4 (1934), 31.

[175a] *cf.* Ashmolean Museum 1941.9.

[176] M. Henig in T. Tatton-Brown, ' Excavations at the Custom House Site, City of London, 1973 ', *Trans. London and Middlesex Archaeol. Soc.*, 25 (1974), 198, Fig. 41, Nos. 214–8.

[177] *cf. Ibid.*, 198, Fig. 40, 187.

[177a] *cf.* Ashmolean Museum 1886.3.

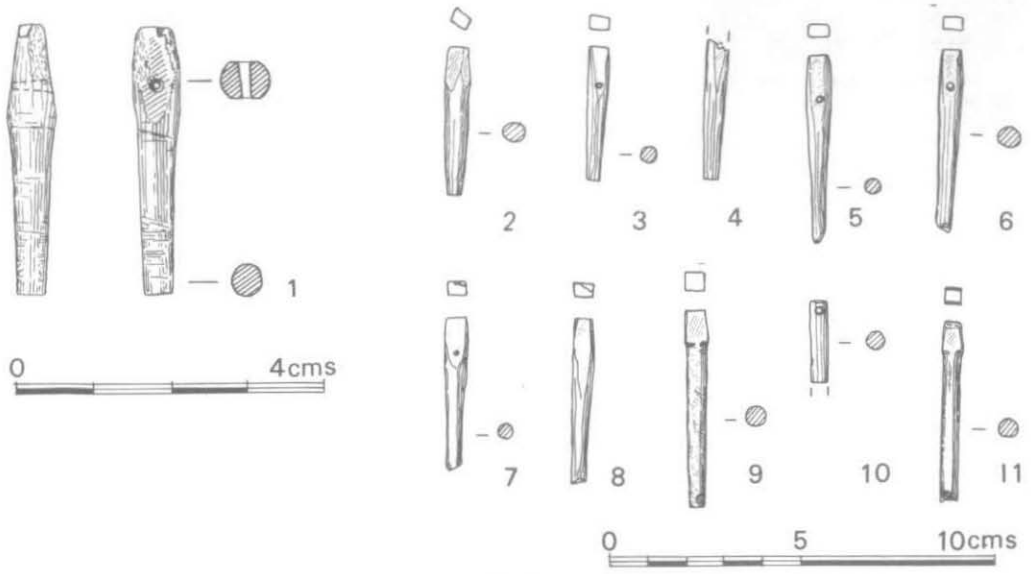


FIG. 39

Fourteenth-fifteenth-century bone instrument pegs from 79–80 St. Aldates: psaltery-type pegs, 1 (1/1), 2–8 (1/2); harp/fiddle-type pegs, 9–11 (1/2).

1 Entire psaltery-type peg, knife-trimmed and perhaps slightly polished; length 35 mm.; shaft with score-marks from use; head chipped from right-handed turning of wrench; hole 1·5 mm. tapering to 1 mm.; deep brown colour throughout (SF211, L105, Ph 10). From this floor there were also two fragments of squared waste.

2 Unpierced psaltery-type peg, knife-trimmed but with the medulla of the bone exposed on one side, perhaps accounting for its rejection; length 39 mm. (SF91, L46, Ph 11). From this floor there were also an unfinished shaft and a squared fragment. Also *cf.* No. 9.

3 Entire psaltery-type peg, knife-trimmed; length 35 mm.; hole tapering to 1 mm.; no evidence of use, but no obvious reason for rejection (SF233/2, L53/6, Ph 11). *cf.* No. 1.

4 Shaft only of a psaltery-type peg, knife-trimmed; length from hole to foot 35 mm.; hole tapering to 1 mm.; no evidence of use, possibly snapped as the drill broke through, or deliberately destroyed because of a small area of exposed medulla on the shaft (SF179, L53/6, Ph 11).

5 Entire psaltery-type peg, knife-trimmed; length 48 mm., hole tapering to 1·2 mm. No obvious reason for rejection (SF233/3, L53/6, Ph 11).

6 Entire psaltery-type peg, knife-trimmed, length 46 mm.; hole tapering to 0·7 mm. Again no obvious reason for rejection (SF221, L118/1, Ph 11).

7 Entire psaltery-type peg, knife-trimmed but with medulla of bone exposed over one-third of surface, *cf.* No. 2; length 39 mm., hole tapering to 1 mm.; grey-brown colour throughout (SF233/1, L53/6, Ph 11).

8 Unpierced psaltery-type peg, knife-trimmed; length 42 mm., head chipped, possibly during the sawing of end. This chip may have accounted for its rejection (SF225/1, L53/6, Ph 11).

Associated with the pegs from the yard area were *c.* 80 fragments split from horse metapodials, apparently waste material from the manufacture of pegs (PL. X, B). It seems that the shafts of the bones were split lengthwise by hammering on a knife, ultimately producing strips of bone of *c.* 7 mm. square section. At the ends of the strips, where the dense cortex of the bone was not so thick, it would have been impossible to make pegs without retaining some of the honeycomb structure of the medulla (*cf.* Nos. 2 and 7). 41 fragments seemed to be from such unusable ends, sawn off either to square-up before starting, or as the remnant of the strip from which no further pegs could be cut. 13 small chips may have resulted from knife-trimming, 15 were too irregular or burnt to ascribe an origin and only 10 fragments showed serious wastage of good bone. If these assemblages are representative of waste from the entire process, the bone-worker was probably quite efficient. Not one fragment, however, suggested that he might have made anything other than psaltery-type pegs (SF233, L53/6; SF272, L53/8; Ph 11).

9 Entire harp/fiddle-type peg, head polished, shaft finished with a file; length 51 mm.; shaft slightly twisted; hole tapering to 2 mm.; no evidence of use, the twisted shaft being the only obvious reason for rejection (SF93, L46, Ph 11).[178]

[178] Steane and Bryant, *op. cit.* note 152, Fig. 52, 10.

10 21 mm. of the shaft of a harp/fiddle-type peg, knife-trimmed; hole 1.5 mm. untapered; deep brown throughout. A notch leading from the hole suggests that the peg had been used, although it had no score-marks on the shaft (SF82, L43, Ph 12).

11 Entire harp/fiddle-type peg, knife-trimmed, head slightly polished; length 41 mm.; hole tapering to 1·2 mm., so close to the foot that it must have been drilled before the peg was cut to length; no sign of use, although opposing faces of the head had been damaged. The insecure hole may have accounted for its rejection. The bone itself was better preserved than any other, with a waxy sheen (SF5, L24, unphased).

Graeme Lawson has kindly identified Nos. 1–8 as probably belonging to an instrument of the zither family, in a fifteenth-century context most likely a psaltery.[179] Frances Cooper of the Victoria and Albert Museum writes:

> The psaltery consists of a shallow box covered by a soundboard across which strings are stretched from side to side. It may take the form of a trapezium, and in some cases the peg-boards which form the converging sides are given a concave shape so that it resembled a stylised representation of a pig's head (see PL. X, C). The tuning pegs are inserted into the top of the peg-boards, and because of this arrangement the holes for threading the strings are at the same ends as the shaped sections which fit the tuning wrench. There is little evidence to indicate the material with which they were strung, although seventeenth-century examples are known to have been strung with wire, and this may have been the case from the thirteenth century onwards. The psaltery was played with a plectrum; the same instrument could also be played with hammers, in which case it was called a dulcimer.

Nos. 9–11 are less easy to ascribe to a particular instrument. With the hole at the opposite end to the squared head, they must have been used as an instrument whose peg-board was accessible from either side, for threading or tensioning. Such instruments include lyres, frame harps, lutes and fiddles. Graeme Lawson considers the pegs to be rather short for any known medieval harp; the alternative is a fiddle, although the possibility of a medieval lyre cannot be discounted.[180] If the fiddle is the true interpretation, it implies that the player carried a wrench for tuning his three strings, unlike the modern violin player who can turn his tuning keys by hand.

The quantity of working waste in the Phase 11 yard leaves little doubt that psaltery pegs were being made there (see under No. 8). Although the knife-finishing gave a product rather cruder than other contemporary artifacts (FIG. 38, Nos. 15 and 22) the nature of the waste bone suggests that the worker was quite efficient, and his ability to make smoothly-tapered string-holes supports this. He may therefore have been a craftsman, producing pegs of various lengths which appeared in various areas and levels of the site, suggesting a modest trade rather than a 'hobby'. If, however, he was a craftsman bone-worker, it is surprising that he made nothing other than psaltery pegs, possibly not even the 'fiddle' pegs, and that he did not use a lathe. The implication is that his main skill was in another craft, possibly connected with the instruments themselves. If he had been repairing instruments one would expect more than a single worn peg (No. 1). It seems improbable that he would have had the privilege of stringing new instruments made elsewhere, and the possibility must be considered that he was indeed an instrument maker. As such he would have been principally a joiner and perhaps a wood-carver; an auger bit was the only associated tool, too large to make the peg-holes (FIG. 26, No. 21) but perhaps used in another part of his craft.

The possibility of instrument-making on the site is described in its structural context under the relevant Phases, and it will be noted that a spool of fine bronze wire (No. 86) might have been suitable for an instrument string (see p. 194).

(Since this report went to press, Christopher Page has drawn my attention to the remarkable number of Oxford documentary references to the craft of 'harpmaker'. He has found eleven people in fourteenth- fifteenth-century England with nick-names or occupational surnames concerned with this craft, and no less than four are from Oxford. One

[179] See H. Panum, *Stringed Instruments of the Middle Ages* (1940), 146–58.

[180] D. K. Fry, 'Anglo-Saxon Lyre Tuning Pegs from Whitby, N. Yorkshire', *Medieval Archaeology*, XX 1976), 137–9.

name he could not ascribe to any town – Thomas Briker, harpemaker – was one of fourteen men mainly from the west of England named in a 1467 commission for arrest for counterfeiting the king's money.[180a] The name which appears in the 1453 Oseney rental for tenements SW18 and SW18a is *Thomas Brikar*.[180b] The surname seems to be unique in England, and without leaping to conclusions it seems likely that some at least of the excavated pegs were made by him. Mr Page tells me that this is the first tangible evidence of a medieval instrument-making workshop in England.)[180c]

HUMAN FOETAL BURIAL

A group of small bones from a Phase 9 floor level are identified by Mary Harman as human. She writes: ' The group consists of parts of the thorax and arms of a one-month-premature foetus '.[181] The outline of the grave was not seen; since the group included a fragment of squared bone-working waste it is probable that the interment occurred in the late fourteenth or fifteenth century when the manufacture of psaltery pegs was producing similar waste. (SF299, L125/1, Ph. 9.)

ANIMAL BONES. By B. J. MARPLES

The material consists of the bones of mammals, birds and fish, together with some mollusc shells from all levels of the *79–80* site except Phases 5 and 14. More than three-quarters of the identifiable pieces, which number 2647, consist of the bones of sheep, ox and pig. Horse, red deer, dog, hare, rabbit, rat, birds and fish are also represented in small numbers (TABLE 4). Identifiable bones and fragments were counted, together with loose teeth, and no attempt was made to determine the minimum number of individuals. There were also some 1500 fragments of mammalian bones which were not identified. Measurements were made where possible of the length of the bone and the preaxio-postaxial and dorso-ventral dimensions at each end and at the middle of the shaft. The numbers are too small to make possible comparisons between the Phases. The figures are deposited with the Oxfordshire Museums Service.

Sheep, Ox and Pig

TABLE 5 shows the percentage occurrence of these dominant bones. It will be noted that the total numbers from Phases 7 and 12 are very much smaller than the others. The relative abundance in the whole collection is 56% sheep, 35% ox and 9% pig, and these general proportions apply throughout, with the exception of Phase 2 where the ox is more abundant than the sheep, and Phase 4 where they are equal. Ox is slightly more abundant in the first half of the series than in the second, while sheep varies in the opposite direction. Phase 1, however, has a high proportion, 66%, of sheep. The relative numbers of bones of pig vary irregularly but are always small, seldom more than 12%.

Note was taken of whether the bones were immature as shown by epiphyses or unworn teeth, and whether they had been cut, gnawed by dogs or charred. Considerably more bones of the pig were immature than of the others, 23% as against 7% and 4% for ox and sheep respectively. 11% of all bones showed cuts made during butchering, commonly the vertebrae and ribs, but nothing significant could be deduced. Only a few bones, 1% of the total, showed traces of having been gnawed by dogs. These occurred in the first three or four Phases, with a few also in Phases 6 and 8. Only one bone was observed to have been gnawed by a rat, a sheep bone in Phase 13. Charring also was very seldom seen, 0·4% of the total, suggesting perhaps that roasting was less common than boiling.

[180a] *Cal. Pat. Rolls, Ed.IV-Hen. VI*, 1467–77 (1900), 53.

[180b] *Op. cit.* note 6, III, 266.

[180c] I am very grateful for permission to quote from C. Page, ' Stringed Instrument-making in medieval England, and some Oxford harpmakers 1380–1466 ', *Galpin Society Journal*, XXXI (1978) (in press).

[181] Age estimated by comparison of diaphysis lengths on a chart prepared by Miss R. Powers (British Museum, Natural History).

The occurrence of different parts of the skeleton was recorded for each Phase, but with such small numbers no satisfactory conclusions can be drawn. There is a slight suggestion that the distal parts of the limbs are commoner after about Phase 7, and the distal parts of the limbs of pig are specially noticeable. This might suggest that cow heel and pig's trotter were eaten, but it applies also to sheep. The infrequent occurrence of the femur and proximal part of the tibia in ox and pig may indicate that, as so often happens today, the meat was brought home and the bones left with the butcher. On the other hand, the best joints of meat may not have come to this site.

Minor Mammalian Bones

Horse. Seldom found. There are 2 parts of bones in Phase 1, 4 teeth in Phase 2, and 1 in Phase 7. Part of a metapodial occurs in Phase 10, probably in connection with the manufacture of bone instrument pegs which took place in this and the next Phase.

Red Deer. Represented only by a fragment of skull with teeth in Phase 1, and a fragment of the base of a shed antler in Phase 3.

Dog. The only remains of dog are part of a small jaw in Phase 8. Gnawed bones occur in this Phase.

Hare One metacarpal in Phase 9, and a rib probably of this species in Phases 2 and 10.

Rabbit. Three possible metapodials in Phase 8, one part of a pelvis in Phase 11, and 8 bones, 2 immature, in Phase 13.

Rat. In Phase 8 is a tibia possibly of the black rat, *R. rattus*, and in Phase 13, 4 bones of at least 2 individuals of immature brown rat, *R. norvegicus*.

Bird Bones

Bird bones occur in all Phases, and where identifiable prove to be almost exclusively the domesticated fowl and goose. I am indebted to Mr. D. Bramwell for some identifications. TABLE 6 shows the total numbers of bird bones, and the numbers of those of fowl and goose, expressed as percentages of the total mammalian bones in each Phase. From the inspection of Table 3 it seems that the fowl, which was present throughout, became more common after Phase 7, but it was also relatively common in Phase 1. The goose occurs in small numbers after Phase 4, but is absent in the earliest Phases. Measurements were made where possible, but there is no apparent difference in size of the fowls. A few other birds can be distinguished: a jackdaw and a stock dove in Phase 8, a waterhen in Phase 9, perhaps intrusive as the bone is very clean, and a sparrow in Phase 10. There are fragments of species of duck in Phases 10 and 13.

Fish

Fish bones are uncommon and consist of vertebral centra and a few fragments. I am indebted to the Fish Section of the British Museum of Natural History for the identifications. It is interesting that all are marine species except one, a roach, *Rutilus rutilus*, found in Phase 13. Most of the bones belong to gadid species, *Gadus morhua*, the cod and *Molva molva*, the ling. The distribution is as follows: Phase 1, 1 unidentifiable fragment; Phases 4 and 6, 1 *Gadus*; Phase 8, 5 *Gadus*; Phase 9, 5 including 2 *Molva* and 1 plaice, *Pleuronectes platessa*; Phase 10, 6 probably *Gadus*, 2 Gurnard *Trigla sp.* and 3 flatfish; Phase 11, 2 including *Molva*; Phase 12, 1 probably *Gadus*; Phase 13, 1 roach, *Rutilus rutilus*.

Molluscs

Oyster shells, *Ostraea sp.*, occurred throughout except in Phases 5, 6 and 14. The numbers per Phase are as follows: 3, 19, 6, 10, 0, 0, 1, 8, 4, 18, 27, 1, 14. Mussels, *Mytilus sp.* were uncommon, 2 in Phase 2, 2 in Phase 3, 1 in Phase 4, 3 in Phase 11.

TABLE 4

79–80 St. Aldates: total numbers of identifiable bones and shells

Sheep	1234	Dog	1	Fish	34
Ox	766	Hare	2	Oyster	111
Pig	190	Rabbit	12	Mussel	5
Horse	8	Rat	5		
Red Deer	2	Bird	277		

TABLE 5

79–80 St. Aldates: relative frequency of the bones of Sheep, Ox and Pig, not including fragments

Phase	Total	% Sheep	% Ox	% Pig
1	104	66·3	25·9	7·8
2	114	35·0	56·1	8·7
3	213	48·3	40·8	10·8
4	140	40·0	40·0	20·0
6	171	58·4	30·9	10·5
7	38	63·1	34·2	2·6
8	690	55·4	37·7	6·6
9	262	67·5	25·1	7·2
10	270	60·0	33·3	6·6
11	107	63·6	23·3	13·0
12	16	50·0	50·0	0·0
13	65	66·8	24·6	7·6
total	2190	56·0	35·0	9·0

TABLE 6

79–80 St. Aldates: avian bones expressed as % of (total) mammalian bones

Phase	Total mammal	% All birds	% Fowl	% Goose
1	125	5·6	4·8	0·0
2	169	2·3	2·3	0·0
3	276	1·8	1·4	0·0
4	244	2·0	2·0	0·0
6	297	3·4	2·3	0·6
7	49	4·0	4·0	0·0
8	865	10·9	7·6	1·7
9	560	6·0	4·1	1·4
10	671	12·2	7·1	2·9
11	268	7·0	5·2	1·5
12	28	10·7	3·5	3·5
13	98	14·2	11·2	1·0

AN ARTIST'S PALETTE (LATE THIRTEENTH CENTURY)

The shell of a swan mussel contained thin layers of red, blue, green and yellow pigments, and some plaster-like material. Robert Hedges of Oxford University Research Laboratory for Archaeology has examined it and writes:

> The blue and green both contain much copper and little else, and are probably azurite and malachite respectively (other blue pigments, *e.g.* ultramarine, would have been possible). The red is mercuric sulphide, cinnabar (some type of iron oxide would be more usual), and the yellow is lead antimonate, ' Naples Yellow ', which again seems rather exotic, although this is common in, for example, yellow enamels.

Michael Wilcox writes:

> These pigments are known from references in medieval technical treatises such as *De diversis artibus*, where the preparation of cinnabar from sulphur and mercury is described, and also the use of ' lazur ', probably azurite, in wall painting.[182] Malachite has been recognsed in surviving illuminations, but there are fewer references to it, probably because it was treated in a similar way to azurite.[183]
>
> Different media, such as egg-white or resin, were added to the pigments to make them suitable for particular kinds of painting or illumination. The small quantities of the present sample, and the presence of azurite, which when washed was especially reserved for pen work,[184] suggest that this is the palette of a manuscript illuminator. In the thirteenth century, workshops arose in Catte Street, and a little later around the Northgate, to supply the needs of the university for books.[185] St. Aldates lies well away from these centres, however, and the present find suggests more elaborate productions than cheap student texts. Such work may have been carried out at the Blackfriars nearby,[186] whence the palette may have originated (SF252, L123, Phase 9).

' PRIMEVAL ' AND PHASE I ENVIRONMENTS

1. *Plant Remains.* By ANDREW BROWN

Two samples from the ' primeval surface ' beneath the clay bank were investigated (Samples 523 and 507), also a column 0·72 m. in height through the silting above gully F254 (Sample 524), and samples from the Phase 1 and Phase 2 silting against the clay bank (Samples 500 and 495 respectively).

Methods

Soil samples of volume 200–400³cm., were soaked for two to four days in 5% sodium hydroxide solution or 7% hydrochloric acid to break them up, then washed under the running tap through 30 mesh and 100 mesh sieves in turn. Both fractions were examined for fruits and seeds under a binocular dissecting microscope and a representative sample of each fraction counted. Results are expressed as ' frequency ' of the fossil type rather than absolute numbers since the incorporation of the plant remains into the material is unlikely to be random and the sampling process cannot approach randomicity. For these reasons individual samples cannot be directly compared. The frequency terms used cover the following actual numbers per sample: 1–4, rare; 5–9, occasional; 10–19, frequent; 20–39, abundant; 40+, very abundant.

Nomenclature follows that of Clapham Tutin and Warburg for flowering plants[187] and that of the Census for non-marine molluscs.[188] Types of *Juncus* sp. are as grouped by Körber-Grohne on the basis of epidermal cell patterns.[189] The term 'cf.' indicates close similarity of available reference material to the fossil material. It does *not* exclude other taxa.

Sample 523, from the ' primeval surface ', L251

From the top of the sample (54·02 m. O.D.) there was: dark brown clay with black and orange blotching, the black blotching being carbonised rootlets, to 0·10 m. below datum; a transition to 0·13 m. below datum; buff silty clay with black and orange blotching, the black blotching resulting from penetrating rootlets, to 0·17 m. below datum; shelly silt to 0·20 m. below datum. Two bulky samples, 0·10–0·15 m. (Sample 523A), and 0·15–0·20 m. below datum (Sample 523B) were examined. Both contained ostracods and molluscan shell fragments and sheets of fine plant tissue. There was little humic material present.

[182] Theophilus, *De diversis artibus*. Translated from the Latin with Introduction and Notes by C. R. Dodwell (1961), I, 14–16, 34.

[183] D. V. Thompson, *The Materials of Medieval Painting* (1936), 160–2.

[184] *Ibid.*, 132–3.

[185] For book production in Medieval Oxford, see C. H. Talbot, ' The Universities and the Medieval Library ' in F. Wormald and C. E. Wright (eds.), *The English Library before 1700* (1958), 68–71.

[186] Lambrick and Woods, *op. cit.* note 2.

[187] A. R. Clapham, T. G. Tutin and E. F. Warburg, *Flora of the British Isles* (1962).

[188] A. E. Ellis, ' Census of the distribution of British non-marine mollusca. 7th Ed.', *J. Conchology*, 23 (1951), 151.

[189] U. Körber-Grohne, *Bestimmungsschlüssel für subfossile Juncus-Samen und Gramineen-Früchte* (1964).

Sample 523A

Pale persicaria (*Polygonum lapathifolium* or *nodosum*)	fruits	v. abdt.
Stonewort (Chareae)	oospores	fqt.
Water mint (*Mentha aquatica*)	nutlets	occ.
Crowfoot (*Ranunculus* subgen. *Batrachium*)	fruits	occ.
Horned pondweed (*Zanichellia palustris*)	achenes	occ.
Golden dock (*Rumex maritimus*)	perianths	occ.
Fine-leaved water dropwort (*Oenanthe aquatica*)	fruits	rare
Rush (*Juncus articulatus-type*)	seeds	rare
Rush (*Juncus effusus*-type)	seeds	rare
Grass (Gramineae)	caryopses	rare
Sedge (Cyperaceae)	trigonous nutlets	rare
Golden Dock (*Rumex maritimus*)	fruits	rare
Bublous buttercup (*Ranunculus bulbosus*)	fruits	rare
Fringed water lily (*Nymphoides peltata*)	seeds	rare
Stonewort (Nitelleae)	oospores	rare

Sample 523B

Stonewort (Chareae)	oospores	abdt.
Stonewort (Nitelleae)	oospores	fqt.
Horned pondweed (*Zanichellia palustris*)	achenes	fqt.
Crowfoot (*Ranunculus* subgen. *Batrachium*)	fruits	fqt.
Rush (*Juncus effusus*-type)	seeds	occ.
Water mint (*Mentha aquatica*)	nutlets	occ.
Pale persicaria (*Polygonum lapathifolium* or *nodosum*)	fruits	rare
Golden Dock (*Rumex maritimus*)	perianths	rare
Grass (Gramineae)	caryopses	rare
Rush (*Juncus articulatus*-type)	seeds	rare
Mare's tail (*Hippuris vulgaris*)	fruits	rare
Stinging nettle (*Urtica dioida*)	fruits	rare
Greater celandine (*Chelidonium majus*)	seeds	rare
Pondweed (*Potamogeton* sp.)	fruits	rare
Fringed water lily (*Nymphoides peltata*)	seeds	rare
Silverweed (*Potentilla anserina*)	fruits	rare

Sample 507, from the ' primeval surface ', L251

Blotched unlaminated buff and ochre clay with abundant fine plant fragments and pyritised common reed (*Phragmites communis*) rhizomes. Slight humic content.

Water mint (*Mentha aquatica*)	nutlets	occ.
Stonewort (Chareae)	oospores	occ.
Stonewort (Nitelleae)	oospores	rare
Stinging nettle (*Urtica dioica*)	fruits	rare
Rush (*Juncus articulatus*-type)	seeds	rare
Rush (*Juncus effusus*-type)	seeds	rare
Rush (*Juncus* sp. undiff.)	seeds	rare

These three assemblages of fossils indicate the deposits to be of riverine origin since they are composed almost wholly of aquatic and marsh species. The non-aquatic plants *e.g.* stinging nettle, greater celandine and silverweed are weedy species of hedgerow and wasteland, although the nettle is also common on river banks in disturbed or highly organic soils. The abundant oospores of stoneworts indicate water of high calcium content that is slow moving over muddy substrata, but at the same time is fairly clear.

Sample 524, a column through gully F254 (see FIG. 9)

The top of the column was at 54·84 m. O.D. Below this was:
viii; dry orange-yellow sandy clay, very heterogeneous to 0·08 m. below datum (L226);
vii; grey and black silty clay with shells, very heterogeneous with blue blotches in the matrix, and animal bone, to 0·27 m. below datum (L226);
vi; dark brown blotchy silty clay with charcoal and stones to 0·35 m. below datum (L226/1);
v; dark brown and buff silty clay grading upwards to blotched orange buff, to 0·47 m. below datum (L226/1);
iv; braided clay and silt, fawn, orange and black, to 0·49 m. below datum (L226/1);
iii; dark brown organic silt with fresh wood, to 0·60 m. below datum (L226/2);
ii; black, fissile, very coarse detritus mud, to 0·655 m. below datum (L226/4);
i; buff clay, blotched orange and dark brown, homogeneous, to 0·72 m. base (L223, clay bank).

The clay of the bank (layer *i*) contains no recognisable plant remains but has abundant small shell fragments. Layer *ii* contains abundant fibrous material in the fine fraction; charcoal fragments and dipteran pupae occur occasionally as well as moss fragments including tufts of *Cratoneuron filicinum* (Hedw.) Roth.

Other fossils present:—

Primulaceae[190]	seeds	v. bdt.
Flax (*Linum usitatissimum*)	seeds	abdt.
Flax	capsules	abdt.
Cabbage/mustard (*Brassica* sp.)[191]	seeds	occ.
Long rough-headed poppy (*Papaver argemone*)	seeds	rare

The *Linum* seeds are within the size range of both modern flax and English flax (*L. anglicum*) seeds. However capsule segments containing the seeds had the distinctive acuminate tips of modern *L. usitatissimum*, the true flax.[192] The *Brassica* seeds could be any of several weedy species of *Brassica* and *Sinapis* occurring as escapes of cultivation on arable and streamside habitats. The primulaceous seeds may be any of seven different species but considering the other species of the assemblage the scarlet pimpernel (*Anagallis arvensis*) seems the most likely candidate.

Layer *vii* has a heterogoneous clay matrix which, however, contains elements of the flora of Samples 523 and 507:—

Water mint (*Mentha aquatica*)	nutlets	fqt.
Rush (*Juncus articulatus*-type)	seeds	occ.
Rush (*Juncus effusus*-type)	seeds	occ.
Rush (*Juncus* sp. undiff.)	seeds	occ.
Grass (Gramineae)	caryopses	rare
Crowfoot (*Ranunculus* subgen. *Batrachium*)	fruits	rare
Umbelliferae	fruits (fragmented)	rare

The following snail species were present: *Planorbis vortex* L., *Bithynia tentaculata* L., and other *Planorbis* spp. unidentified.

The heterogeneity and bone content of this layer suggest that it was dumped by man but some of it must have originally been derived from the river.

Sample 500, from the Phase 1 silting against the clay bank (L226/1)

A coarse, unsorted detritus mud, coarsely fissile, with bright blue blotchings in the matrix. It contained abundant humic material.

Fine-leaved water dropwort (*Oenanthe aquatica*)	fruits	v. abdt.
Fat hen (*Chenopodium album*)	seeds	abdt.
Corncockle (*Agrostemma githago*)	seeds	occ.
Common orache (*Atriplex* cf. *patula*)	seeds	rare
Grass (Gramineae)	caryopses	rare
Pale persicaria (*Polygonum lapathifolium* or *nodosum*)	fruits	rare
Nipplewort (*Lapsana communis*)	fruits	rare
Curled dock (*Rumex crispus* or *obtusifolius*)	fruits	rare

Freshwater snail spp:—
Planorbis carinatus Müller
P. contortus L.
P. vortex L.
P. leucostoma Millet
Bithynia tentaculata L.

Fine-leaved water dropwort alone amongst the plants can be considered as surely indicating a waterside habitat, although *Polygonum lapathifolium* or *nodosum*, even when they grow away from open water are characteristic of wetter places. The remaining plants are all typical of arable fields, especially corncockle. The snail species are all indicators of slow-flowing or standing fresh water, many thriving amongst riverside tree roots. This detritus mud probably originated as a collection of flotsam in an area of quiet water.

Sample 495, from the Phase 2 silting against the bank (L225/7)

An unsorted agglomeration of the moss *Neckera complanata* (Hedw.) Huben, large fragments of oak wood and hazel wood and rhizomes of aquatic plants. *Neckera complanata* is a moss typical of tree trunks in lowland woodland. This assemblage seems to be a riverine flotsam.

Summary of events displayed in the St. Aldates section

Samples 523 and 507 indicate that the level beneath the ' primeval surface ' is river silt which was overgrown by reeds before the formation of the clay bank. Later on, deposition of river detritus took place against the clay bank, presumably in sheltered water (Sample 500). It may have been at the same time or later that the lined gully in the bank was filled with water. The abundance of flax seeds, capsules and stem fragments with

[190] Primulaceae includes *Primula veris*, *P. elatior*, *P. vulgaris*, *Lysimachia nemorum*, *L. nummularia*, *Anagallis tenella* and *A. arvensis*.

[191] *Brassica* sp. includes any of *Brassica oleracea*, *B. napus*, *B. rapa*, *Sinapis arvensis* and *S. alba*.

[192] J. G. Vaughan, *The structure and utilisation of oil seeds* (1970).

associated field weeds in the basal detritus suggests that the ditch was used for retting flax, the wattle fencing giving protection against flood scouring (but *cf.* APPENDIX 1). The organic silt and wood fragments of layer *iii*, immediately above, imply that the ditch fell into disuse, the wattle collapsing. It was later filled with riverine silt, some of which must have been dumped (layer *vii*), since deposition did not occur in an aquatic environment. Sample 495 indicates that as the embankment height increased, riverine detritus was continually deposited against its sides, presumably in still water.

2. *Molluscan and Insect Remains.* By MARK ROBINSON

Two samples from the 79–80 St. Aldates site and one from the Linacre site were examined for molluscan and insect remains:
Sample 523 (L251, the ' primeval surface '): 3 lb. of the botanical sample 523;
Sample *Lin* 10 (*Lin* L36, the ' primeval surface '): 7 lb. of buff silt;
Sample 408 (L226/1, Phase 1): 3 lb. sample of black organic silt laminated with almost completely decayed ' reeds ', corresponding approximately to botanical samples 524 *iv–vi*.

The samples were washed through a series of sieves down to 0·5 mm., and the residue sorted for insect and molluscan remains. Seeds from Sample *Lin* 10 were retained for radiocarbon dating (HAR 209, see p. 174).

Results

All samples produced a few insect remains, and Samples 523 and *Lin* 10 a good number of molluscan shells, many of the bivalves being articulated. In addition to the insects, Sample 408 produced a shell of *Planorbis planorbis* (L), an ?operculum of *Viviparus* sp., a flowing water species, and a fish vertebra.

The minimum number of individuals for each species of mollusc from Samples 523 and *Lin* 10 are given in Table 7.[193] In addition, a short description of their habitat presence has been given for freshwater species.[194] Slum species are those able to live in water subject to stagnation and drying up; catholic species can tolerate a wide range of conditions except the worst slums; ditch species require clean slowly moving water; flowing water species require no more than a small clean stream and are as able to occur in clean lakes. Mostly it is the inability to tolerate adverse conditions which is the limiting factor, and tolerant species also occur in better habitats. *Planorbis albus* has been added to Spark's list of Catholic species;[195] *Theodoxus fluviatilis*, *Pisidium supinum* and *Planorbis carinatus* have been added to the list of flowing water species. The other two groups are marsh dwellers and terrestrial species which can live in marsh habitats.[196]

The minimum number of individuals for each species of insect (all beetles) is given in Table 8.[197] *Noterus clavicornis* (Deg.) is the species once known as *N. capricornis*[198] (Hbst.). Habitat and food information is also given.[199]

Interpretation

The molluscs from beneath the clay bank (Samples 523 and *Lin* 10) suggest this layer to have been the bed of a clean flowing river or stream. Only three individuals from these two samples are obligate non-aquatics (*Succinea* sp. and *Hygromia hispida*) out of a total of 176 specimens. In comparison, an alluvial deposit from beneath the Blackfriars Church, Oxford, which was interpreted as forming on a flood meadow or marsh suffering periodic flooding, contained a much higher proportion of obligate non-aquatic species.[200] It is, however, by no means certain that Sample 523 and *Lin* 10 were permanently under water even though their origin was fluvial. Similar molluscan faunas dominated by aquatic species were found from alluvium covering an Iron Age site at Farmoor, Oxon., which must have been deposited on land.[201] Unlike Farmoor, though, many of the bivalves

[193] Nomenclature following that of Ellis, *op. cit.* note 180, 171–243.
[194] Following B. W. Sparks, ' The Ecological Interpretation of Quaternary Non-Marine Mollusca ', *Proc. Lin. Soc. Lond.*, 172 (1959–60), 76.
[195] A. E. Boycott, ' The Habitats of Fresh-Water Molluscs in Britain ', *J. An. Ecol.*, 5 (1936), 136, 141, 144.
[196] Following J. G. Evans, *Land Snails in Archaeology* (1972), 199–200.
[197] Nomenclature following G. S. Kloet and W. D. Hinks, *A Check List of British Insects* (1945).
[198] F. Balfour-Browne, ' Problems in Nomenclature ', *Entomologists' Monthly Magazine*, 90 (1954), 41.
[199] F. Balfour-Browne, *British Water Beetles* 1, The Ray Soc., (1940); H. Freude, K. W. Harde and G. A. Lohse, *Die Käfer Mitteleuropas* (1964–74). N. H. Joy, *A Practical Handbook of British Beetles* (1932). C. H. Lindroth, *Handbook for the Identification of British Insects. Coleoptera, Carabidae*, The Royal Entomological Society (1974).
[200] M. Robinson, ' The Natural Alluvium and Dumped Clay Under the Blackfriars Church ', in *op. cit.* note 2.
[201] G. Lambrick and M. Robinson, ' Farmoor, the Archaeology and Biology of an Iron Age and Roman Site by the Thames '. *C. B. A. Monograph Series* (forthcoming).

were articulated, suggesting that they died *in situ*. The one water beetle (*Hygrotus versicolor*) is a species of moving water. The two phytophagous beetles agree well with the list of plant remains from this deposit (p. 170), some species of *Donacia* feeding on some of the plants, and *Chaetocnema* on *Polygonum* sp.

The two snails from Sample 408 together with those extracted from the botanical sample, also indicate clean, probably flowing, water. The single water beetle (*Noterus clavicornis*) inhabits stagnant water. *Donacia semicuprea* is of interest because the aquatic larvae tap the roots of reed grass (*Glycera maxima*) for oxygen. This plant grows in water at the edges of rivers and ponds. Whilst the two beetles which feed on decaying vegetation may have fallen into the water, they fit Dr. A. Brown's suggestion (above) that this deposit was flotsam.

Conclusions

This work shows that the St. Aldate's clay bank had been deposited onto an alluvial layer which could have been the bed of a river or lake but it is possible that it was seasonally flooded land. Whilst the molluscan and entomological evidence cannot provide proof, it does not go against the suggestion that St. Aldates Layer 226/1 was flotsam deposited onto the bank's edge.

TABLE 7

'Primeval surface': the Mollusca and their habitats. (F, Flowing water; D, 'Ditch'; C, 'Catholic'; S, Freshwater 'slum'; M, obligate marsh dweller; (M), terrestrial species which can live in marshes. See text for further details.)

Mollusca	Number of Individuals Sample 523	Sample *Lin* 10	Habitat
GASTROPODA			
Prosobranchia			
Neritidae			
Theodoxus fluviatilis (L.)	1	—	F
Valvatidae			
Valvata cristata Müll.	1	1	D
V. piscinalis (Müll.)	3	12	F
Hydrobiidae			
Bithynia tentaculata (L.)	4	19	F
Pulmonata			
Limnaeidae			
Lymnaea truncatula (Müll.)	–	18	M, S
L. palustris (Müll.)	–	2	C, M
L. peregra (Müll.)	1	8	C
Planobidae			
Planorbis carinatus Müll.	–	1	F
P. planorbis (L.)	–	20	C
P. leucostoma Milt.	–	4	S
P. albus Müll.	8	8	C
P. crista (L.)	–	4	C
Planorbis sp.	–	3	
Succineidae			
Succinea sp.	–	2	M
Helicidae			
Hygromia hispida (L.)	–	1	(M)
BIVALVIA			
Sphaeriidae			
Pisidium amnicum (Müll.)	1	4	F
P. supinum Schmidt	–	17	F
Pisidium spp.	8	25	M, S, D, C, F
Total	27	149	

TABLE 8

The Coleoptera and their Habitats or Food

COLEOPTERA	Minumum No. of Individuals Sample 523	Sample *Lin* 10	Sample 408	Habitat or Food
Carabidae				
Bembidion cf. *guttula* (F.)	1	–	–	Terrestrial—often near water
Feronia cf. *nigrita* (F.)	–	1	–	Terrestrial—often near water
Dytiscidae				
Noterus clavicornis (Deg.)	–	–	1	Aquatic—stagnant water
Hygrotus versicolor (Sch.)	1	–	–	Aquatic—flowing water
Hydrophilidae				
Cercyon sp.	–	–	1	Decaying vegetation and dung
Staphylinidae				
Philonthus cf. *politus*	–	–	1	Decaying vegetation and dung
Chrysomelidae				
Donacia cf. *semicuprea* Pz.	–	–	1	*Glycera maxima* (Hartm.)
Donacia or *Plateumaris* sp.	1	–	–	Aquatic plants
Chaetocnema concinna (Marsh)	–	1	–	*Polygonum* esp. *P. aviculare* L.

HUMAN PARASITE OVA. By M. J. MARPLES

A soil sample from a waterlogged late twelfth–early thirteenth-century cess pit was examined. Abundant ova of *Trichuris* and *Ascaris* were observed. The eggs are well preserved, and both fertile and infertile forms of *Ascaris* ova are present. The pit can be presumed to have been used as a latrine, since both *Trichuris* and *Ascaris* are human parasites, and the eggs are present in large numbers. No eggs were found of the species *Dicrocoelium dendriticum* reported from Winchester.[202]

PHYSICAL DATING EVIDENCE

Seven physical dates for events in the survey area have been obtained by radiocarbon analysis of small timbers, and by measurement of the thermoluminescence of sherds from the earlier Phases. I am indebted to Dr. R. L. Otlet of the Harwell Radiocarbon Laboratory, and Dr. M. J. Aitken and Dr. S. J. Fleming of the Oxford Research Laboratory for Archaeology, for the results and for much subsequent discussion.

Radiocarbon values

The quoted results are based on a half-life of 5570 years, and without Bristlecone Pine correction, as recommended by the publishers of *Radiocarbon*. The quoted error is for a 68% confidence level.

TABLE 9

Radiocarbon determinations

Determination	Sample	Phase	Age before 1950	Date
HAR 79/85	Stake (diam. 30 mm.) fence F229	Ph 1b	bp 1120±110 yrs.	ad 830±110 yrs.
HAR 125	Stake (diam. 30 mm.) fence F246	Ph 2	bp 1140±110 yrs.	ad 810±110 yrs.
HAR 209	Seeds, ' primeval surface ', *Lin* L36	Pre-Ph 1a	bp 2600±120 yrs.	bc 650±120 yrs.
HAR 717	Charred twigs (diam. 15 mm.) L123/2	Ph 8	bp 870±70 yrs.	ad 1080±70 yrs.
HAR 718	Charred stake (diam. 30 mm.) F223	Ph 2	bp 1150±90 yrs.	ad 800±90 yrs.

Thermoluminescence values

The quoted date is the weighted average of a number of samples, the quoted error taking account of all known sources of error, at a 68% confidence level.
OX TL 141 c, from pottery of silting layer L225/6, Phase 2: A.D. 750±62 years. 4 determinations.

[202] A. W. Pike and M. Biddle, ' Parasite eggs in Mediaeval Winchester ', *Antiquity*, XL (1966), 293–6.

OX TL 141 d, from pottery of the earliest silting above the clay bank, L226/2, Phase 1b: A.D. 705±74 years.

The earliest value, HAR 209, came from what was stratigraphically the earliest of the deposits, but there is considerable doubt as to whether it indeed pre-dated the other deposits by such a large factor (see p. 176, p. 178). It is possible that, being a fresh-water deposit, there had been some metabolism of dissolved carbonates from the hard water, but it is difficult to see this having a major effect in very shallow water.

Two radiocarbon values refer to events in the silting against the clay bank, HAR 79/85 and HAR 125, and a third to the earliest major event on the bank itself (HAR 718). If they are each recalculated using the 5730 year half-life, corrected for Bristlecone Pine calibration,[203] and 10 years added to compensate for the *c.* 25 years overall growth of each of the sample stakes, the results would be: HAR 79/85, A.D. 870±110 years; HAR 125, A.D. 850±110 years; HAR 718, A.D. 830±70 years. In view of the fact that these dates reverse the indisputable sequence of the stratigraphy, Dr. Otlet has suggested that the best course is to average the three corrected values, giving a result of A.D. 850±70 years for a mid-point in the sequence, *i.e.* early Phase 2. It must be stressed that this does not represent a date for the construction of the causeway, or even for the Phase 1b reshaping. Such dates can only be estimated from the likely duration of the intervening events, notably the accumulation of 0·70 m. of river silt (see p. 180).

The Thermoluminescence values also reverse the sequence of the stratigraphy, and it is again appropriate to average them, giving a linear mean of A.D. 740±60 years. There was no Thermoluminescence sample from late Phase 2, equivalent to HAR 718, but the average should still be broadly comparable to the radiocarbon result of A.D. 850. On the assumption that mundane pottery is unlikely to have had a life of more than twenty years between manufacture and its final resting place beside the causeway, the discrepancy of 110 years between the two techniques is considerable. Dr. Fleming is prepared to concede that the wider application of the radiocarbon technique means that most reliance should be placed on those results, and that at present it is not appropriate to try to average the two. He does, however, make the point that if a decision were required between dates of *c.* A.D. 790 and *c.* A.D. 910 as two alternative historical possibilities for the construction of the causeway, the thermoluminescence results would make the later date most unlikely.

The physical dating results can also assist the internal chronology of the site; the stratigraphic inversion of the results by both techniques means that the duration of Phases 1 and 2 can be assumed to have been relatively short.

It is concluded that the corrected radiocarbon results would place the early Phase 2 events in the mid-ninth century. If historical considerations required a decision between the late eighth or the early tenth centuries for the construction of the causeway, however, the thermoluminescence results would strongly favour the earlier date.

DISCUSSION AND INTERPRETATION

The account below is an attempt to bring together the results of all the excavation, survey and specialist work. It is based on the *79–80* Structural Phases, being the largest site with the most chronological evidence, but Mark Robinson's conclusions from the 83 St. Aldates excavation (see above) are included at the appropriate points. Stratigraphic evidence has not been repeated here, feature/layer numbers being quoted instead, as cross-references to descriptions, plans, sections and the *79–80* stratigraphic diagram in the earlier part of the report.

[203] According to P. D. Damon, A. Long and E. I. Wallick, 'Dendrochronological Calibration of the Carbon-14 Time Scale', *Proc. 8th International Conference on Radio-carbon Dating, Lower Hutt City* (1973), 1, 45–59.

The Primeval Surface and Phase 1a

The geology of the area is discussed above. For the purpose of this account it will be assumed that the balance of the evidence favours the clay bank as man-made, rather than a natural sediment (L233, *Lin* L35), the ambient surface being the drowned flood plain (L251, *Lin* L36). There was no evidence of human activity on the surface of the plain, perhaps not surprisingly if it was a permanent lake-bed, but more surprisingly if, as will be suggested, it had previously been a normal, dry, flood plain until temporarily drowned for a period in Saxon times. Excavation was very limited at this depth, however, and until there are further sightings, the only conclusion that can be drawn is that it would have been flat and wet.

Dating of the construction of the embankment is difficult. The direct evidence is not corroborative: a radio-carbon value from the lake-bed deposit suggests that this horizon was sealed in the early Iron Age (HAR 209), but Regina Haldon notes that a sherd from deep in the embankment is more likely to be mid-Saxon than earlier (SF490). The only way to settle this point is by consideration of the likely purpose of the dumping. The re-shaping of the embankment in Phase 1b, and the Phase 2 silting, are dated to the first half of the ninth century A.D. on physical dating evidence. There is no evidence of any substantial settlement in the vicinity prior to this date. The subsequent development of the St. Aldates area is what might be expected of a causeway: a deluge of river silt followed by signs of human activity on top of the embankment in Phase 2, evidence of building from Phase 3 onward, and evidence of a stable road frontage from Phase 6 when the alignment can be identified with the Norman causeway of Grandpont. There is hence superficial justification for thinking of the primary embankment as simply the first stage in the development of this causeway. Further factors must, however, be considered.

A ' turf line ' over a thin layer of silt (L226/2, L226/3) and a 0·30 m. depth of discolouration of the clay itself (see p. 101), both confined to the original surface of the embankment, are evidence of weathering of this surface prior to the Phase 1b re-shaping. The period of weathering may be guessed as three years at least, possibly considerably more. The apparent lack of heavy silting in this period may mean either that the river had not yet suffered serious constriction, or that the primary bank was something other than a causeway. What is known of its shape does not immediately suggest a causeway, being perhaps 32 m. broad and no more than 0·60 m. high (see FIG. 40). A gully, occasionally cleaned out, could however have been a roadside ditch (F253), assuming the carriageway to have been under the mid-line of the nineteenth-century road. An area of trample and a collapsed fence line (L226/3, F255 etc.) may have dated from the laying-out of the bank, but this could not be proven, and no other primary features were recorded. No parallel has been found for an embankment of this type, but it is not impossible in an eighth-century context. It would have required about 18 cubic metres of clay for each metre of length, about the same volume as a 4 m. high earthen rampart, or a ' V '-shaped ditch 8·5 m. wide. Defensive earthworks of this scale were constructed in the eighth century for mile after mile of difficult Welsh Borderland terrain.[204] Boroughwork and bridgework are mentioned in Mercian charters from

[204] Sir Cyril Fox, *Offa's dyke* (1955), Figs. 31, 32, Table p. 68; D. Hill and D. Wilson, ' Frontier Dykes in the Wrexham area—recent work, 1972 and 1973 ', *J. Chester Arch. Soc.*, 58 (1975), 93–6, Fig. 1.

OXFORD *ST ALDATE'S*

COMPOSITE SECTION SHOWING CLAY FEATURES

N.B. VERTICAL SCALE IS TWICE HORIZONTAL SCALE

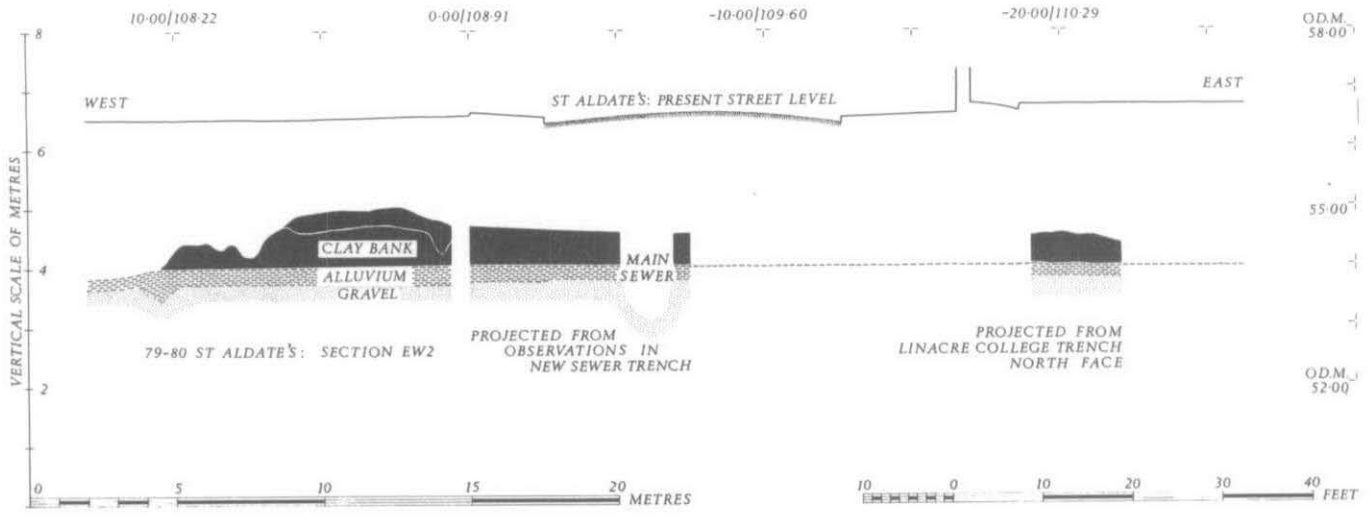


FIG. 40

the mid-eighth century, up to a century earlier than in Wessex charters.[205] The water-encompassed second terrace at Oxford would have been ideal for a settlement to command a strategic river crossing on Mercia's southern frontier. A low broad causeway would have acted as a long weir in times of flood, protecting other embankments and fords, and if it had a firm carriageway, perhaps of timber, traffic would have been able to move through shallow flowing water. This still does not explain the extravagant width, but perhaps the builder had experience of Thames floods and was being cautious. If so, his foresight was to result in space for building beside the carriageway, utilised from Phase 3 onwards.

Three radiocarbon values give very good agreement for a mid-ninth century date for Phase 2, but reverse the sequence of the stratigraphy, so must be considered as only an approximation (HAR 79/85, HAR 125 and HAR 718). The thermoluminescence determinations give dates substantially earlier and it has been suggested by both laboratories that the results should only be used to indicate the most likely of various historical possibilities. Stenton concludes that on charter evidence the northern part of Berkshire was in Mercian hands in the early ninth century[206] possibly from soon after 779 when Cynwulf of Wessex was defeated by Offa of Mercia at Bensington (Benson, Oxon.)[207] The fact that Berkshire was held by a Mercian ealdorman from a Mercian king only five years before Alfred's birth at Wantage (849), suggests that by this time Mercia and Wessex were co-existing here.[208] It is probably fair to assume that any defended settlement associated with the St. Aldates causeway was at the north end, to become Oxford, rather than the less defensible Hinksey end. The causeway therefore makes sense as a Mercian initiative, and since it seems to have pioneered the route, is more likely to have been built in a mood of belligerence or expansionism than in a subsequent period of *status quo*. The next recorded territorial expansion across the Thames was apparently a peaceful one in the other direction, when in 911 (912) Edward the Elder of Wessex succeeded to the lands of his brother-in-law Ethelred, ealdorman of the Mercians.[209] In the interval between the reigns of Offa and Edward it is difficult to see either Mercia pioneering new communications with the south, or Wessex establishing a defended settlement on the north bank of the river. Bearing in mind that the mean corrected radiocarbon date of A.D. 850±70 applies to the earlier Phase 2 silting, after the Phase 1b reshaping and the deposition of up to 0·70 m. of river silt, a date towards the end of the reign of Offa (757–96) for the Phase 1a causeway construction would fit better than a date in the early tenth century, and the thermoluminescence results would support this. It will therefore be assumed that the St. Aldates causeway was pioneered towards the end of the reign of Offa, and was associated with Mercian expansion into Berkshire. The Iron Age radiocarbon value from the drowned flood plain must therefore be misleading, since this horizon would have been exposed

[205] N. Brooks, 'The Development of Military Obligations in Ninth and Tenth Century England' in P. Clemoes and K. Hughes (eds.), *England Before the Conquest* (1971), 71, 72.
[206] F. M. Stenton, *The Early History of Abingdon Abbey* (1913), 25, 26.
[207] *The Anglo-Saxon Chronicle, A Revised Translation*, ed. D. Whitelock with D. C. Douglas and S. I. Tucker (1961), 33.
[208] Stenton, *op. cit.* note 206, 28.
[209] *Op. cit.* note 207, 62.

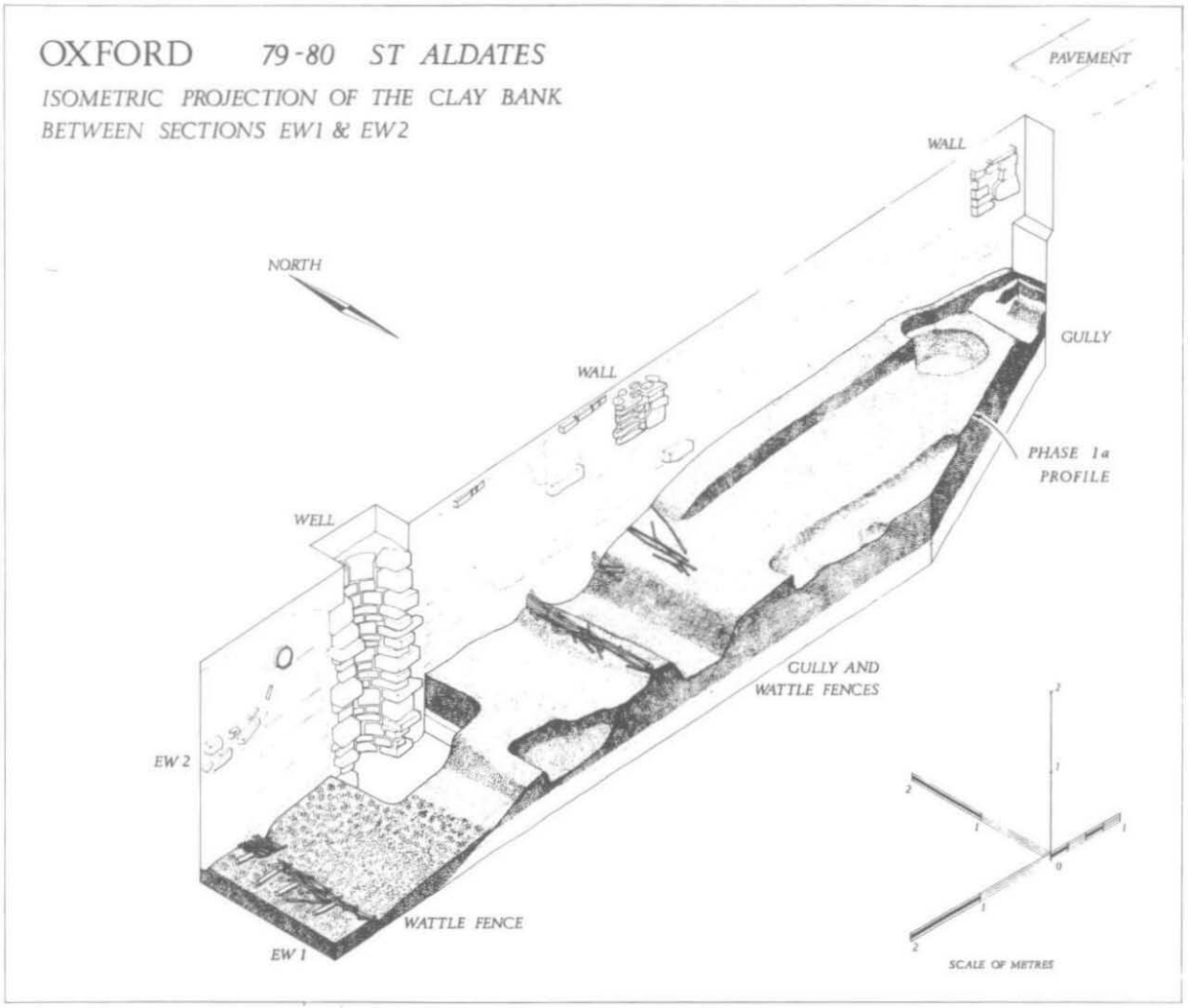


FIG. 41
Showing elements of sub Phases 1a and 1b.

until just prior to the dumping. The error may have resulted from genuinely ancient peaty material being washed onto the plain from elsewhere.

It is concluded that the earliest demonstrable human activity in the Survey Area was the creation of a broad low clay embankment, possibly a causeway, possibly in the eighth century A.D. and possibly as part of a planned consolidation of the southern frontier of the Kingdom of Mercia.

Structural Phase 1b (FIGS. 8, P; 42, 1)

The earliest explicit evidence of human activity on the site was a gully lined with fences (F254, F229, F232) dug into the edge of the primary embankment, the

clay perhaps having been used to accentuate the height of the crown of the bank (L225/1, see FIG. 9). The overall north–south alignment of these features is shown by FIG. 41. A dramatic increase in river silting, by which they were rapidly to be sealed (see FIG. 9) suggests a major interference with the flow of the river, and there can be little doubt that by this stage the embankment was acting as a causeway for a river crossing. It is difficult to visualise a purpose for a fence-lined gully on the riverward side of a causeway; it was rather small and shallow for a flax-retting ditch (see Appendix 1) but the abundance of flax seeds must mean that retting was being carried out in the immediate neighbourhood (perhaps in Pit F233/1). The gully itself may have been connected with some other craft utilising water from beside the causeway.

The earliest artifacts were probably those incorporated in a layer at the edge of the bank where the clay was apparently trampled (L226/3) into the lake-bed, including several fragments of leather footwear (FIG. 35, No. 7; FIG. 36, No. 17). There was no evidence to show whether a collapsed fence in the lake-bed just to the west was associated with this or the previous sub-Phase, and no purpose can be suggested (F255—258), although it should be noted that other fences were sectioned by the sewer realignment trench.

The dating of these events depends on an estimate of the period of weathering of the primary embankment before reshaping, and the duration of the subsequent silting, both subjective. For the purpose of discussion it will be taken as the end of the eighth or beginning of the ninth century, within twenty years of the speculative date for the primary embankment. Accepting that the embankment was by now functioning as a causeway, it is worth noting Mrs. Lambrick's work on north Berkshire roads. She collected a convincing body of evidence that a Roman road from the Wantage area, perhaps from Mildenhall, Wiltshire, came over Boars Hill, crossed the Thames at a causeway known in Saxon times as Langford, and joined the Alchester road below Shotover. She suggested that there is sufficient evidence to regard the St. Aldates track as a pre-Norman route which would have met this causeway at Stanford (stone ford), and utilised it for the last 500 m. to the Berkshire bank.[210]

The rate of silting would have been rapid (L226/4, L226–L226/2), to judge from the state of preservation of the fences and other organic material (see PL. IX, B), and from the closeness of the radio-carbon dates. Artifacts incorporated in it included a small iron knife (FIG. 25, No. 6) and some leatherworking waste; a strap-end with the buckle cut out (FIG. 35, No. 4); and the entire thonged margin of a shoe, the upper and sole leather apparently having been salvaged (FIG. 36, No. 14). There were also sherds of hard sandy wheel-made pottery, unparalleled elsewhere in Oxford (Fabrics *F* and *Q*). This would have been a long way to bring rubbish from a settlement on the town site, and may perhaps have been litter left by travellers, or craftsmen occasionally working on the causeway. It should be noted that all the fragmentary shoes from this and the previous sub-Phase had soles with rounded heel-ends, contrasting with those of Phase 2, which had pointed heel-ends turned up to give a ' V '-back to the shoes (see TABLE 3).

[210] G. Lambrick, ' Some Old Roads of North Berkshire ', *Oxoniensia*, XXXIV (1969), 78–92.

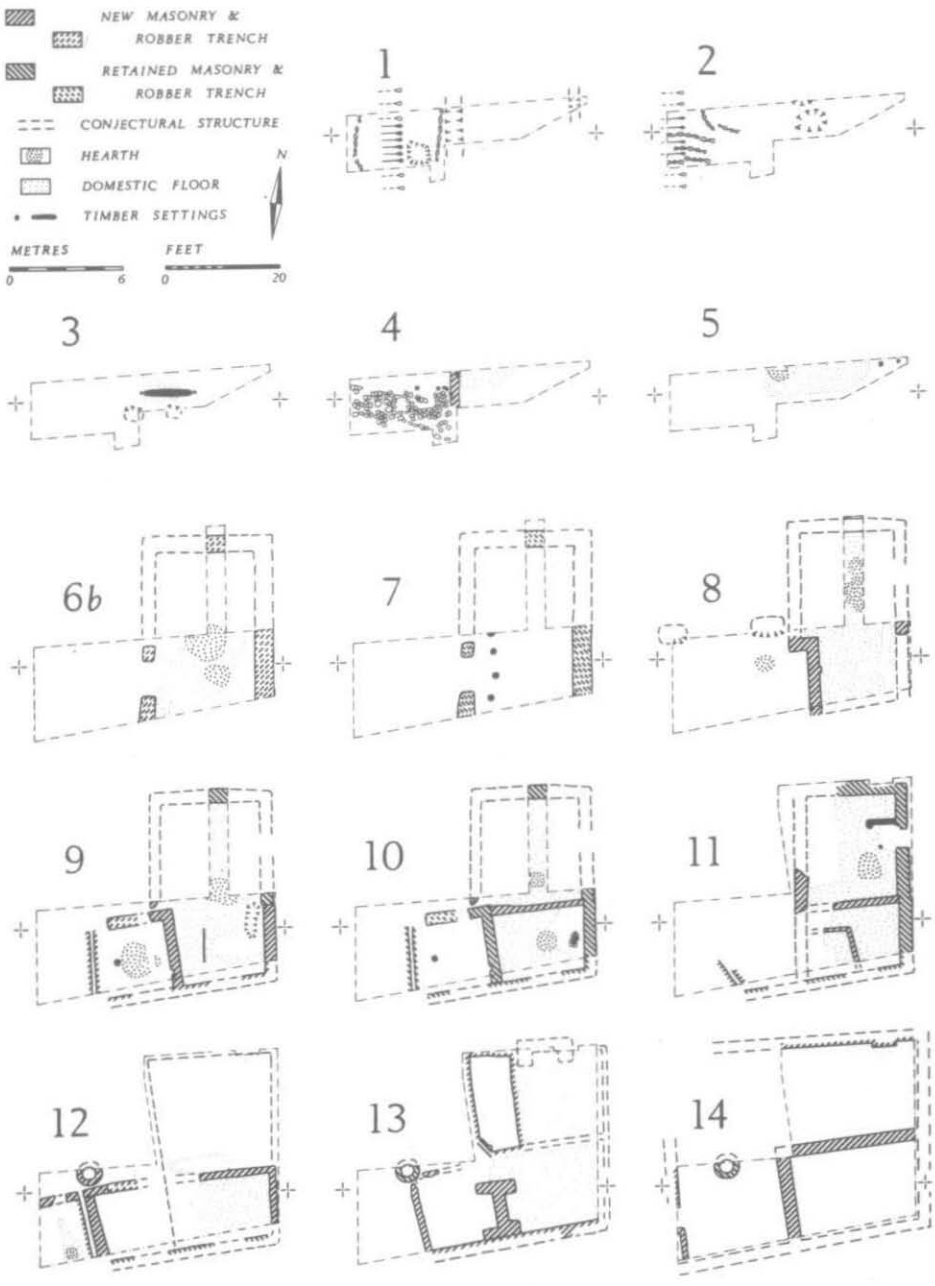

79-80 ST ALDATES STRUCTURAL DEVELOPMENT
NEW MASONRY & ROBBER TRENCH
RETAINED MASONRY & ROBBER TRENCH
CONJECTURAL STRUCTURE
HEARTH
DOMESTIC FLOOR
TIMBER SETTINGS
N
METRES
0 6
FEET
0 20
1
2
3
4
5
6b
7
8
9
10
11
12
13
14

FIG. 42

After the initial silting there would have been a change in conditions, resulting in the deposition of silt which was free of layers of trapped vegetation (L226A). If this contrast implies seasonal silting in a generally drier environment, it may have been a result of the river stabilising itself after the construction of the causeway, or of a deliberate attempt to drain the flood plain and make a water meadow. It is concluded that in *c.* A.D. 800 the embankment was in use as a causeway, with the height of the crown accentuated, the outer edge possibly used initially for flax-retting, but very soon deluged with river silt into which refuse would occasionally have been discarded. Conditions would later have become drier.

Structural Phase 2 (FIGS. 8, N; 42, 2)

The division between the first two principal Phases was initially set in a rather arbitrary way, but has proved useful in distinguishing a return to marshy conditions after the even silting at the end of the previous Phase. This implies that new river crossings were again constricting the flow of water. More rubbish would have been discarded into this silt (L225/6, L225/7), amongst which was a socketed iron arrow-head (FIG. 28, No. 45) and a child's shoe of unusual quality (FIG. 35, No. 13). The shoes from this Phase were, without exception, of the 'V'-back type, in contrast with those of Phase 1. J. H. Thornton suggests that this was not necessarily a technical improvement, and may perhaps imply a cultural preference, 'V'-back construction being associated with York and Scandinavia.

Into the silt and rubbish a number of wattle fences would have been inserted, mainly aligned down the slope of the bank (F244–F248, F250). Their close spacing may mean that they had been replaced regularly as they rotted, but there was no evidence for this, all being set in roughly the same silting horizon. They may have been groins to prevent erosion; they would at the same time have trapped new silt and helped to consolidate the causeway, much as rafts of brushwood are used today for land reclamation.[211] This does not, however, explain several large, oblique stakes (F242, *etc.*). Five large timbers may have been flotsam stranded on the fences (F243, *etc.*). The latest silting (L225/2 — L225/6) accumulating around and over the fences, yielded yet more artifacts including an iron key-bit (FIG. 25, No. 3) and a bone ice-skate (FIG. 37, No. 1). The mean of the three radiocarbon values suggests that these events occurred about the middle of the ninth century, but the thermoluminescence results and the stratigraphic inversion by both techniques favour a slightly earlier date. The implication is that, in no more than fifty years from the Phase 1 reshaping, approximately 0·70 m. depth of river silt had accumulated at the edge of the bank (see PL. IX, A). There may, then, be reason for suspecting that the 1 m. average depth of alluvium on the Blackfriars site, 150 m. upstream,[212] accumulated as a direct result of the St. Aldates causeway, over a period of four and a half centuries before the establishment of the priory.

It was not possible to follow individual silting layers over the crown of the bank, so there was no way of relating events in these two areas of the site. It is

[211] I am grateful to Dredging and Construction Company Ltd., for photographs of erosion prevention on the Great Ouse. The photographs will be lodged with Oxfordshire Museums Service, Woodstock.

[212] Lambrick and Woods, *op. cit.* note 2.

probably fair, however, to say that a small ash pit was dug (F223/2) soon after the insertion of the fences, and then sealed by the last silting before the construction of a larger burnt pit (F223). The latter was the earliest substantial evidence of utilisation of the causeway area; the partly fired clay in its back-fill implies that it may originally have had a clay dome, in the manner of an oven. The charred end of a stake protruding from its floor furnished a radio-carbon date of A.D. 800 ±90 years, but by comparison with other dates it is concluded that *c.* 850 would be more reasonable (HAR 718).

On the eastern side of the causeway it is likely that there would have been a slow, fairly continuous build-up of silt (*Lin* L32/1), and on ceramic evidence this would have continued to *79–80* Phase 6a. There is evidence that the rise in ground level over this period lagged behind that on the *79–80* site by 0·30 to 0·40 m. at any given time.

It is concluded that at the beginning of the ninth century there was a return to marshy conditions beside the causeway, perhaps as a result of more constrictive river crossings, and followed by what may have been attempts to consolidate the bank. By the middle of the ninth century the causeway would have become dry enough for an ' oven ' to be built on top.

Structural Phase 3 (FIG. 42, 3)

The earliest event in this Phase would have been the importing of clean sand and gravel, to form a *c.* 0·15 m. layer set into the silt over most of the excavated area (L220, etc.). The patchy layer above this was described as a ' laminated ashy floor ' (L214/3, see p. 101). Similar layers were found in Excavation Stages C to G, J, L and M. In the medieval Phases they were invariably and incontrovertibly associated with the interiors of buildings. Their characteristics may be summarised as: fine particles only, with ash and charcoal being major components; level, even, firmly-packed and laminated, with good surfaces at each lamina, suggesting that they had never become muddy, or been disrupted by frost or the formation of a turf layer; often interspersed with floors of gravel, sand, clay or mortar; located on the street frontage, and enclosed by buildings in all cases where structure could be demonstrated. It is suggested that they were generated by the adhesion of fine ash, dust and other domestic detritus to damp floors. They would probably have survived normal sweeping, but may occasionally have been bodily dug out. They will be referred to as unweathered detrital floors.

The evidence suggests that L214/3 was typical of this type of surface, and would therefore have been the floor of a building. The gravel layer beneath it would, then, have been a ' platform ' preparatory to the earliest building on this part of the causeway (L220, *etc.*). A layer of partially burnt clay above the floor may have resulted from the destruction of daub walls of the building (L214/2), but two large post-holes were only loosely associated and cannot be said to be evidence of a wall (F222, F224, see FIG. 42). A fine oolitic hone would have been dumped with the gravel (FIG. 33, No. 11); a spindle whorl and bone toggle were associated with the building (FIG. 33, No. 3; FIG. 37, No. 4). An isolated timber slot, the most conspicuous structure in the respective Excavation Stage, would have been inserted

through the building layers at a late date, possibly having no connection with the building itself (F216).

It should be noted that the gravel platform lay in two scrapes separated by a ridge of the underlying layer (see Stage M). This was the only point in the main stratigraphical sequence where there was evidence of a general removal of spoil from the site. It implies that flooding was no longer a threat. It also means, however, that with the disturbance caused by the Phase 4 yard, almost an entire horizon had been removed, possibly including evidence for the time lapse between this and the previous Phase. Phase 4 has been dated to the second half of the tenth century, and it will be prudent to think of Phase 3 as only a little earlier, perhaps in the second quarter of that century. This implies a lapse of at least seventy years since the use of the oven in the previous Phase, during which period there was no evidence of activity on the site.

The Anglo-Saxon Chronicle for 911 records that Edward the Elder of Wessex succeeded to London and Oxford and the lands that belonged to them.[213] The implication is that Oxford existed as an administrative centre which could be mentioned in the same breath as London. If it was not already a fortified burh, it is likely that Edward would have made it so, as he did at Buckingham three years later.[214] This would have provided additional security for those prepared to build on the causeway.

It is concluded that building commenced on the *79–80* site in Phase 3, perhaps in the second quarter of the tenth century.

Structural Phase 4 (FIGS. 8, L; 42, 4)

The interpretation of this Phase depends again on the assumption that detrital floors imply a building (see Phase 3). The earlier floors (L214, L214/1, L213/1) would have covered much the same area as the Phase 3 floor, but again with no evidence of walls. They may have continued a tradition interrupted only by the Phase 3 timber slot. There were two artifacts of interest, a chalk weight (FIG. 33, No. 4) and the iron tang and blade of an awl (FIG. 26, No. 17).

At this point there would have been a slight change in the building plan of the site. A ' wall ' would have been built on a north–south alignment (F210) resting on the surface of the earlier floors, with a further series of floors subsequently accumulating against its east side. The wall, having no foundation trench, may have been made of mud, although differing from a normal shuttered cob wall in that posts were apparently incorporated in its faces (F212, F218). Within the inferred building, occupation would have begun with the laying of an extensive layer of clean sand (L213/1) and the accumulation of detrital material (L213 followed by L209/2). A layer of sticky clay would later have been dumped to the north, apparently not a suitable material for flooring and possibly implying that this was the north-west corner of the building (L209/1). The accumulation would have continued with a further detrital floor, the last within this building (L209), containing two bone needles (FIG. 37, Nos. 5, 6) and a heckle tooth (FIG. 26, No. 18).

[213] *Op. cit.* note 207, 62.
[214] *Ibid.*, 64.

Outside the building, to the west, there would have been a yard with large stones cast at random into heavily stained gravel with no attempt at a metalled surface (F211). It is worth noting that much of this stone would have been excellent building material, indeed some of it was to be robbed in Phase 6a (L157/2). The inference is that stone was available at this time, but perhaps not used in buildings because other materials were preferred. It is possible that animals were kept here, accounting for the staining, and that the large stones were essential to maintain a surface. A stake-hole and a small pit at the north-east margin may have been associated with a fence (F221, F219).

The dating of Phases 3 and 4 requires some discussion. There was evidence that the Phase 3 platforms could have destroyed a previous horizon, implying a possible break in the surviving structural record of the site. There may later have been a break in the ceramic sequence too, since there was no period when St. Neots-type ware predominated (Fabric *R*), as has occurred in pit groups on several other Oxford sites. The result is that there is no way of dating these Phases on internal evidence, and evidence from other sites must be considered. The most valuable is All Saints Church where two radio-carbon values and a coin of Edward the Confessor strongly imply that the predominance of Fabric *R* was during the first half of the eleventh century, and that the *79–80* Phase 4 assemblage would have dated from the second half of the tenth century.[215] The only major contradiction is a pit group from the site of the castle, where an overwhelming predominance of Fabric *R* was associated with a coin of Eadred, 948–952, but Maureen Mellor warned that too much reliance should not be put on this stratigraphically isolated group.[216] It will be assumed, then, that the Phase 4 structures existed in the second half of the tenth century, those of Phase 3 just earlier, and that the pottery-free layers of Structural Phase 5 represented occupation of the site during the period when St. Neots-type ware predominated elsewhere.

It is concluded that Phase 4 may have begun with a building plan carried over from the previous Phase, to be replaced by a more enduring building, possibly with cob walls, possibly with a farmyard behind, occupying the site during the second half of the tenth century.

Structural Phase 5 (FIGS. 8, K; 42, 5)

This was deduced to be a new phase of structure because there was a new floor (L204, L205) with a hearth (F208) directly overlying the Phase 4 cob wall. This implies a radical alteration or even a new building. A number of post-holes and stones at the eastern end of the trench (F231, F235, *etc.*), being only loosely related to the floor layer, cannot safely be used to interpret a building. No pottery or small finds were recovered, but it is assumed that the structures occupied the site in the first half of the eleventh century, when St. Neots-type ware would have been the predominant pottery elsewhere (see p. 138). Phase 5, therefore, must have been a structural alteration leaving no other traces.

[215] B. G. Durham, ' All Saints Church ', forthcoming.
[216] Hassall, *op. cit.* note 56.

Sub-Phases 6a and 6b

Despite the larger area of excavation there was still very little consistent structural evidence for interpreting the usage of the site. This is especially unfortunate because it is the first point where pottery comparisons with dated Oxford groups become possible, and where there is a reasonable body of documentary evidence to create a background to the findings. Sub-Phase 6a, of the mid to late eleventh century is a contrived interpretation of a few structural elements; sub-Phase 6b, of the first half of the twelfth century, is interpreted as the germ of the medieval tenement plan.

The historical background is well described by Rev. H. E. Salter: a pair of pre-Conquest mills on man-made leats flanking a trackway leading across the river plain towards South Hinksey, the river-crossing apparently subsequently improved by Robert d'Oilly, the first Norman Sheriff.[217] The first sub-Phase would have begun on the *79–80* site with a build-up of very ashy detrital material in the road-frontage area (L159/2), covering the Phase 5 floor and hearth. If it is correct to interpret this as another internal horizon, then one of the walls that enclosed it may have stood on a loose stone footing along its south edge (F199) separating it from a cleaner, contrasting floor on the south side (L200). Perhaps this was a domestic building to the south with a workshop to the north, the latter being open to the road with a heap of ashy material spilling out from it (F169, see FIG. 9). A small quantity of slag recovered from the workshop area may indicate that light forging was being done here, but the only iron-work recovered was a padlock key and a hinge pivot (FIG. 25, No. 2; FIG. 27, No. 34). The building would have been further forward than the previous Phases, and its frontage line may have been obliterated by the medieval footings. The position of the presumed cross-wall (F199, Stage J) was, however, not related to any of the later alignments. It may be speculated that this building occupied part of one large plot, subsequently to be split up to create the lane, its tenements, and the St. Frideswide tenements (SW 18/19 and SW20) on the St. Aldates frontage (see FIG. 43).

On the eastern side of the road the silting process would have continued (*Lin* L28), but now incorporating appreciable amounts of pottery enabling the deposits to be fitted into the *79–80* chronology. With this material were two of the best iron small-finds from any of the trenches, a padlock bolt (*Lin* FIG. 25, No. 1) and a socketed arrowhead (*Lin* FIG. 28, No. 46). Any building must have been forward of this line, with two circular rubbish- or cess-pits in the back yard (*Lin* F29, *Lin* F30).

Salter regarded the western mill leat as man-made, and the Eynsham mill itself as pre-Conquest.[218] Since the leat does not seem to have penetrated the gravel (see ' Sewer Realignment '), it was presumably purpose-built, and not a re-used drainage channel. Once the mill had been built, its access lane might be expected to have stabilised the building plan of the corner plot. Since this stabilisation seems not to have occurred until after Phase 6a, it tends to push the construction of this building back to the middle of the eleventh century, the mill being just later;

[217] Salter, *op. cit.* note 4, 15.

[218] *Ibid.*, 14 and 15; Salter seems here to have disregarded the Nicholas Bishop manuscript which shows two mills granted to Eynsham in 1006, quoted previously in *Eynsham Cartulary*, I, ed. H. E. Salter, O.H.S. XLIX, (1906–7), viii.

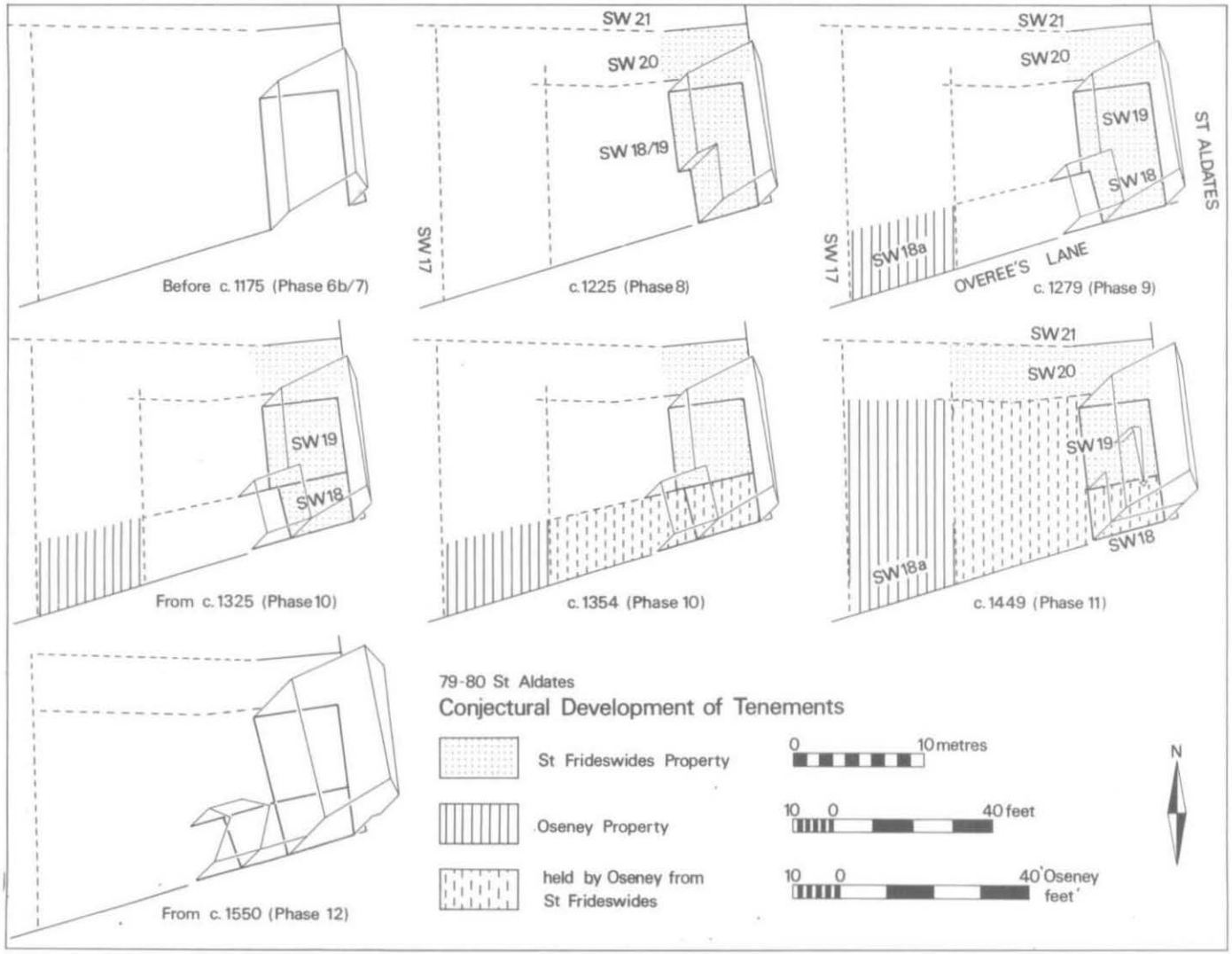


FIG. 43
Conjectural buildings are shown in axonometric projection.

the mill might then have been thought of as ' erected some time ago ' in a charter of 1091.[219]

It should be noted that there was no evidence of destructive fires on either side of the road. The isolated position of the causeway might have protected these properties from the town fire of 1009,[220] but it might have been more vulnerable in a siege. In no less than four places the Chronicle of Abingdon Abbey credits the building of Grandpont to Robert d'Oilly the new Norman Sheriff.[221] It can now be stated that when he built his ' bridge ' he was adding to a causeway system of some antiquity, and possibly some sophistication (see Phase 1b). There may indeed have been bridges here before the Conquest, merely rebuilt by D'Oilly, to great acclaim.

It is conjectured, therefore, that during the second half of the eleventh century, a dwelling and workshop existed on the site which determined the future frontage line, occupying part of a large plot which would subsequently be reorganised to improve access to the Eynsham mill.

Sub-Phase 6b (FIGS. 7, J; 42, 6b; 43, 6b)

There was, again, little conclusive evidence, but this seems to have been the largest medieval building on the site, and the one which established a general plan for all subsequent medieval Phases. It is conjectured that it began with the insertion of stone footings on the road frontage and the northern end (robber trenches F177, F261) and a discontinuous western footing (' robber trenches ' F175, F176). The south footing is assumed to have been just outside the excavation with the lane beyond. The roof span would have been 6·0 m. between centres, compared with spans varying from 4·8 m. to 5·8 m. for later medieval buildings. Warmington considers that such a building could easily be spanned by a simple tie-beam truss roof.[222] There would have been no deliberate attempt to lay a clean floor within the building, the thick detrital build-up (L159) being in some areas indistinguishable from the workshop floors of the previous sub-Phase (see FIG. 9). A large, well-made stone hearth would have been roughly central (F168) with other areas of burning to the south (F171, F172). Lumps of slag in no less than five ashy deposits in this area strongly suggest that the light forging of the earlier sub-Phase would have continued, but again little iron-work was recovered, just a heckle tooth (FIG. 26, No. 19) and a few nails. In the main floor detritus, a rim sherd of a fine jug from Andenne in Belgium (FIG. 19, No. 3) should be noted. A mid twelfth century date is suggested by a fragment of a cut halfpenny (Coin 1) which bears a resemblance to a coin of Stephen (1135–1154), a reminder that the period of anarchy is another occasion when Oxford might have suffered destruction, but again St. Aldates seems to have escaped.

Little need be said of the east side of the road, beyond noticing that the fine silts would have at last given way to a back yard-type of level (L24/3, L24/2) with increasing quantities of domestic refuse implying continuing occupation of the frontage.

[219] *Ibid.*, 15.
[220] *Op. cit.* note 207, 90.
[221] *Chronicon Monasterii de Abingdon* ed. J. Stevenson (1858), II, 15, 25, 123, 284.
[222] R. Warmington, ' Reconstruction of the Buildings ', in P. V. Addyman *et al.*, ' Anglo-Saxon Houses at Charlton, Hampshire ', *Medieval Archaeology*, XVI (1972), 24–8.

The real importance of the sub-Phase is a lasting reorganisation of the 79–80 building plan, perhaps as a result of the splitting up of a large property. Pressure for building space may have resulted from an improvement of the river crossing, and from a renewal of the strategic importance of the ' great water fortress '.[223] It is concluded, then, that about the beginning of the twelfth century a large building was constructed on the frontage in a new position which may have reflected a reorganisation to improve the lane, and which, with an internal modification in Phase 7, was to survive to late in the century, defining the outline of all subsequent Phases.

Structural Phase 7 (FIGS. 7, J; 42, 6b; 43, 6b)

It was assumed during the excavation that the Phase 7 post-bases represented the earliest of a sequence of medieval west walls signalling the rebuilding of the property, and were hence accorded a principal Phase number. The previous building seems, however, to have set a precedent for the use of stone footings, and the post-bases would be the sole exception. After careful consideration of all aspects of the stratigraphy and dating evidence, it has been reinterpreted as no more than an internal reorganisation within the innovative Phase 6b building, forming a passage against the west wall (F191, F198, F201, F202). No floors or internal features could be shown to be associated with it (see FIG. 9), but its function can be conjectured by making comparisons with the Phase 8 and 9 buildings (FIG. 42). It will be conjectured that the relative positions of the west walls and hearths in these Phases imply that the south end of the Phase 8 building incorporated an attic or first floor which had been salvaged from Phase 7, where, being made of joists too short to span the building, it had been supported on the row of posts. This may have been an *ad hoc* arrangement, if perhaps the building ceased to be used exclusively as a forge, and some domestic accommodation was required. The re-siting of the hearth in Phase 8 would have kept it clear of the attic, and possibly in Phase 7 too, if it had been possible to demonstrate a contemporary hearth. One of the post-bases was heavier (F191), the others lighter, not strictly in line, and with a close spacing which suggests that they were wall-studs rather than load-bearing posts.

Much of the pottery from this Phase came from the backfill of robber trenches and from a restricted midden level (L123/3). There was thus relatively little, but sufficient to show a progressive change in emphasis from Group I to Group III wares, *i.e.* limestone to sand tempering (see FIG. 14). Regina Haldon suggests a date in the second half of the twelfth century for this transition. A similar assemblage in the Linacre College sequence was associated with the appearance of the earliest building ' structure ' (Robber Trench *Lin* F25). It would have been a wall on an alignment which was to persist, with two rebuilds, to the fifteenth century. At a distance of up to 13·5 m. behind the nineteenth-century frontage, this implies rear development on the north side of the property, *i.e.* not along The Rack (see ' Medieval Documentation '). A similar pottery assemblage occurred at the deepest excavated level at 83 St. Aldates (83 Phase I) which Mark Robinson describes as a ' marsh '. The conditions in this area may have been affected by a mill pool to the west,

[223] F. Barlow, *The Feudal Kingdom of England 1042–1216* (3rd Edn. 1972), 222.

embanked to create a head of water, leaving a damp area to be gradually reclaimed by the dumping of rubbish.

It is concluded that *79–80* Phase 7 was no more than the addition of an attic floor, but this was indirectly to influence the plan of the next two Phases where it may have precipitated the division of the property, while the smaller sites would have seen stages in the process of rear development.

Structural Phase 8 (FIGS. 7, G; 11; 42, 8; 43, 8)

This is the earliest Phase from which stone footings survived, as opposed to the robber trenches of the previous two Phases, and it means that a more convincing case can be made for the new building. The pottery is typical of Oxford late twelfth- and early thirteenth-century assemblages which agrees with the admittedly unsatisfactory coin dating evidence which would put the beginning of Phase 7 *c.* 1150 and the end of Phase 9 *c.* 1325.

For the sake of argument, the date of construction of the new building may be estimated at *c.* 1175. The ' stepped ' plan of the west footing was clearly original, since there were no construction trenches for any intermediate arrangement (see FIG. 7, G). Despite considerable differences in the construction of the footings, part mortared and part dry-stone (see PL. X, A), there was no reason to think that this would have been anything other than a single contiguous build. What then would be the reason for the shape of the west wall? It might be that the Phase 6b/7 building had ended with separate tenants at each end and that the in-step reflected the division of their interests. What seems more likely, however, is that the attic floor suggested for Phase 7 was still in good enough condition to be re-used, and therefore the new wall was built precisely over the Phase 7 post-bases to accommodate the joists, while the northern end of the building maintained a broader span. This would account for the hearth in the northern end (F241). The roof trusses could have again been of the simple tie-beam type, but it is conjectured that they were to be re-used in the Phase 9 building, and this may imply that they were more sophisticated. The construction date of *c.* 1175 would be early for known crucks, but a radio-carbon value of A.D. 1275±50 has been recorded for a surviving building in Harwell.[224] The only other hint of architectural detail was an offset stone and a deep socket (F156) in the west wall which may indicate the position of a door onto the yard (see FIG. 7, G). Within the building an earth floor would have been laid at an early stage (L158), although there is evidence that detrital floors at the north end of the building were the earliest deposits (L158/2, L159/3).

The yard area would by this time have been accumulating a considerable thickness of dumped material (L137/1, L123/2). In the specialist sections it has been described as a ' midden ', and since the pottery assemblages matched those of the floors of the building, this may be a fair assessment. There would have been various posts and a small pit set in it. The pottery has been illustrated in greater

[224] J. Fletcher and C. Currie, ' Two Early Cruck Houses in North Berkshire identified by radiocarbon ' *Medieval Archaeology*, XVI (1972), Table 1, 137.

detail (see FIG. 21) because it was a large group with many sizeable sherds. Two continental imports should be noted; the handle of a blue-grey ware ladle and the stamped rim of a Rouen jug (FIG. 21, Nos. 20, 21).

It was in this Phase that the only example of a cess-pit was found (F237), excluding those of the nineteenth century, and it is a suitable point to discuss the sanitation arrangements over the ages. The only Oxford site in which entire tenements have been excavated is 31–34 Church Street, where medieval pits were distributed over the entire site, some possibly within buildings.[225] The comparatively high water table at St. Aldates would have meant that pits like F237 were permanently wet, and therefore offensive and put as far away from the dwellings as possible. Similar ground conditions would have existed at Lower Brook Street, Winchester, but the only discrete group of pits were the twenty-one assumed to have served the Tanner Street Cottages, a different social and economic situation.[226] At St. Aldates, pit F237 may represent the southernmost of a group serving the property up to its partition in late Phase 9, *c.* 1300; the two tenements may then have shared for a period; after 1354, when Oseney held S.W.18, 18a and possibly the remainder of the ' garden ' as delineated in a lease of 1439 (see Phase 11), the St. Frideswides tenants in SW19 would have been dependent on Oseney's tenant for use of the yard; by 1439 they were held in common. Mrs. Marples' investigations of parasite ova from the excavated pit should be noted (p. 174).

Little need be said of the Linacre site in this Phase beyond drawing attention to a decorative iron hasp (FIG. 25, No. 4), from what would have been an internal floor associated with the building described previously (see Phase 7). An enamelled stud (FIG. 32, No. 71) would possibly have been associated with a later internal wall on the same alignment (post-holes *Lin* F25/2, *Lin* F25/3). Rapid changes on the 83 St. Aldates site would have seen a short-lived building on a stone footing (Phase III) erected over the Phase II garden area, subsequently to be removed as the area reverted to a yard, with a single recut pit (Phase IV). It is concluded, then, that during the late twelfth and first half of the thirteenth centuries there was a new, asymmetrical building on the *79–80* site, possibly of cruck construction, possibly with an attic; that disposal of waste had become a problem on this restricted property, with an extensive build-up of midden, and pits encroaching on the excavated area; on the 83 St. Aldates site there would have been the first, ephemeral rear development.

Structural Phase 9 (FIGS. 6, F; 42, 9; 43, 9)

For most of the preceding Phases the exact dating has not been critical, since documentary evidence has not been used in any but the more speculative extensions of the argument. In this Phase, however, Regina Haldon has drawn close comparisons with the Group C pottery assemblages at the Bodleian Extension and other Oxford groups of the second half of the thirteenth century. It seems therefore to fall within the period of the Hundred Rolls of 1279,[227] a survey so complete and detailed that it can legitimately be used to supplement the stratigraphical evidence.

[225] Hassall, *op. cit.* note 1, XXV (1970), 9.
[226] M. Biddle, ' Excavations at Winchester, 1970: Ninth Interim Report ', *Antiq. J.* 52 (1972), 99.
[227] *Op. cit.* note 9, II, 788–811.

This, however, depends on establishing the contemporaneity of structure and document.

Two coins of the second half of the thirteenth century occurred in Phase 10 floor levels (Coin 3, Coin 4). They are suspect, however, because a later coin and jetton occurred, though admittedly in less certain levels, in Phase 9 (Coin 2, Jetton 18). The stratigraphy and dating of the Phase 10 coins is the better, but there remains a marginally greater chance of their being residual than of the Phase 9 coins being intrusive. I have chosen to compromise with a date of *c.* 1325 for the change from Phase 9 to Phase 10.

Another potential source of chronology is the Hundred Roll itself, because the conclusion of the documentary work was that, in 1279, the *79–80* frontage consisted of two tenements, whereas until the end of Phase 9 there was no excavated evidence of a partition. This apparent contradiction requires some discussion. In the absence of any trace of a persistent boundary in Phases 6b–8, I would be reluctant to assume that there had been two tenements (see FIG. 42). By the time of the Fairway lease in 1439, therefore, a process of division must have occurred (see Phase 11). There was a certain amount of structural evidence that the division process was ' evolutionary ' rather than ' revolutionary ': initially at the beginning of Phase 9, the exact superimposition of the lean-to wall (F116) over the in-step in the Phase 8 wall, and the limited replacement of the frontage footing (F78); later in Phase 9, the appearance of three internal post-holes on this alignment (F146, F148, F149); finally, in Phase 10, evidence of the foundation for a partition wall (F76). At what point in such an evolutionary process would the documents be expected to evince separate tenements? Probably at the very beginning, when the property was divided between two persons who would each pay rent to St. Frideswides, while allowing the tenements to be jointly occupied.

The lack of a partition is therefore not completely inconsistent with the record of two tenements, and in itself does not outweigh the other dating evidence. It has been decided for this reason to place most weight on the well-tried chronology of Oxford pottery, and to assume that this, the third medieval building, was constructed about the middle of the thirteenth century. The ' property ' will henceforward be described as the north and south ' tenements '.

The south tenement would have been entirely rebuilt from the footings upward (see FIG. 42). The north tenement would probably also have been rebuilt, on the evidence of a fragment of west footing which must have been new (F190, see FIG. 9), but the remaining footings of this tenement would have been retained. In Phase 8 it was postulated that the shape of that building had been conditioned by the re-use of timber elements salvaged from its predecessor. The same might conceivably apply again. The span of the northern end would have been about 5·80 m., compared with 5·75 m. for Phase 8, and the new southern room tapered to a 4·8 m. gable end, an identical dimension to its predecessor. These correlations between successive plans justify some speculation about the buildings themselves. Perhaps the Phase 8 building was indeed constructed around three framed trusses, and due to rot in the bases of the frames, or alternatively to a rise of 0·20 m. in the back yard level (L137/1), it was worth dismantling completely and rebuilding with a slight realignment of the west wall of the southern tenement.

Within the building, the hearth would have been in a new position, central between the two tenements (F188). It will be recalled that this was its position in the Phase 6b building, before the inferred addition of an attic floor in Phases 7 and 8; its return to a central position may imply that the trapezoidal ground-plan of the new southern tenement had prevented the attic floor being used yet again. A second hearth may have existed to the south (L120/2), but the stratigraphy was unclear due to an oven-base built over it in the following Phase (see FIG. 6, E). There would have been a partition forming a 1·40 m. wide passage or chamber along the west wall in this part of the building, made of wattles stabbed into the floor between heavier stakes (F131). Against the front wall there would have been a trough, perhaps not a permanent structure but carefully lined with puddled clay, presumably to make it watertight (F164). There was nothing in its fill to suggest a purpose; perhaps for soaking or quenching a workpiece. Around these features there would have been a gradual build-up of detrital material (L125, L125/4) above the original gravel floor (L125/1) over both tenements. Three post-holes along the dividing line must have been very late additions (L146, L148, L149), a prelude to the stone-based partition of the following Phase. The absence of contrasting floors on either side of the posts, or of structure between them, may mean that they were supporting a beam to carry north–south joists of a new attic floor, in an otherwise open-plan building. Very few finds gave any hint of the life of the occupants during this period; two buckle plates, one of bronze, one of iron (FIG. 30, No. 5; FIG. 31, No. 48) and a horseshoe tip (FIG. 32, No. 58).

The lean-to behind the south tenement would have been supported on its open side by a single post set initially in the ground (F166) but later resting on a stone base (F135). Heavy burning within it would perhaps relate to some sort of light industry (F136), but again there were few finds to indicate the type of usage, just a stud and a button (FIG. 31, No. 72, FIG. 31, No. 32) with some slag elsewhere on the floor (L147/1). Beyond would have been a well-built stone gully in a position to catch rainwater from the roof (F109A). Further to the west would have been another of those levels described as ' midden ', with no evidence of a yard surface (L123). Small-finds from this material included an early fourteenth-century ' Sterling ' jetton assumed to have been intrusive (Jetton 18), and a swan mussel shell containing pigment which may have been used as an artist's pallette (see p. 168).

Having established a general picture of the Phase, it may be possible to learn something about the process of partition of the property. The coincidence of four independent alignments over three Phases (FIG. 42) implies an evolutionary process. If a single tenant had wanted to divide the property, he would surely not have done it in such an insidious way; he would not have felt constrained to perpetuate the Phase 8 in-step by putting the lean-to wall directly over it, if the entire property was his; he would be unlikely to replace the frontage footing in such a strictly partisan way. The coincidences can be more easily explained by assuming that in Phase 8 the plot was divided between two persons who co-operated on the re-building, but, not wishing to impair the efficiency of the property by a partition, simply fixed their boundary by the lean-to wall. It is possible that the work was carried out by Augustine Textor and Walter Longus *alias* Textor, named as the former tenants in the Hundred Roll. If they were brothers, they may have jointly inherited the

tenancy from Reginald Textor who held the adjoining SW20 in *c.* 1225,[228] and this might account for the progressive way in which the property was split up.

In the absence of comparable pottery assemblages from the Linacre College excavation, it is assumed that the structures mentioned under the previous Phase would have persisted, but without demonstrable floors. Meanwhile, the 83 St. Aldates site would have continued as a yard with pits. It is concluded, then, that the Phase 9 building occupied the *79–80* site during the second half of the thirteenth century, that its ground-plan could have been conditioned by the re-use of trusses salvaged from the previous building, and that there would have been a gradual evolution from a single building to a partitioned building, possibly as a result of the property having been jointly inherited by two brothers in the previous Phase.

Structural Phase 10 (FIGS. 6, E; 42, 10; 43, 1325/1354)

This Phase covers events in the later life of the Phase 9 building, when the installation of the earliest structural partition would at last have fully established the independence of the two tenements (F76). Gravel floors would have been laid on either side against the new stone footing (L49/1 to the north, L119/3 to the south). The limited area of the northern tenement available for excavation showed a well made rectangular hearth, perhaps conservatively placed (F240) as close as would have been safe to the position of the pre-partition hearth. The new hearth of the southern tenement would have been almost exactly central (F120), possibly echoing the position of a second hearth of the previous Phase (L120/2); the circular shape may in this case imply that it was the base of a clay oven. The detrital accumulation of the northern tenement was excavated as one (L49), but the larger available area of the southern tenement made possible the investigation of several horizons (principally L119, L105). Each would have had a complement of narrow stakes, as in the previous Phase, some singly, some in triads and tetrads, some in long bands. They may have supported light furniture or screens, but cannot all have been contemporary, otherwise the total of 138 stakes for this Phase would have left very little room for the occupants (F128, F115, F96)! At an intermediate stage a small area of stone cobbling would have been inserted close to the front wall of this tenement, which might imply the position of a street door (F153).

A greater variety of artifacts than previously was to be discarded on the floors of the southern room and lost in the detritus; a bronze thimble and buckle and two whetstones in the earlier material (FIG. 31, No. 55; FIG. 30, No. 3; FIG. 33, No. 18; FIG. 33, No. 21), and in the later material a stone spindle whorl (FIG. 33, No. 8), a very handsome strap end (FIG. 30, No. 19) and several fragments of bronze buckles. It is possible that the room was lit from an iron candle-socket (FIG. 27, No. 43). By far the most interesting artifacts are, however, two square-ended bone pegs identified as string-tensioners of a psaltery. One showed signs of use (FIG. 39, No. 1), the other being unfinished. With others from later horizons they suggest that towards the end of this Phase, and into Phase 11, a craftsman was making such instruments here. A spool of bronze wire in a floor of the northern tenement could conceivably have

[228] Salter, *op. cit.* note 5, II, 24.

been an instrument string (Copper alloy 86), since in the following Phase the craft was to be associated with that tenement also; an iron auger bit cannot, however, be claimed to have made the holes in the instrument pegboards, its diameter being too great (FIG. 26, No. 21). A one-month-premature foetal burial found in a Phase 9 floor may have been interred at this time, since it was associated with peg-working waste.

The lean-to would have been retained (F116, etc.), refloored with a layer of gravel (L110/2) and accumulating a hard-packed earth floor (L110), but without the intense burning of the previous Phase. A compromise date of *c.* 1325 for the installation of the partition at the beginning of this Phase is discussed under Phase 9. The end of the Phase is just as problematic. Numismatic evidence encourages the view that the Phase 11 building was constructed in the last quarter of the fourteenth century or the first quarter of the fifteenth (Coin 6, Jetton 19) and in the absence of any more secure evidence a date of *c.* 1400 will be assumed. This means that the Phase 9/10 structure would have had a life of *c.* 150 years, longer than any on the site except Phase 13. During the earlier period of Phase 10, the south tenement (S.W.18) would have been a shop within the extensive holding of John Bibury, to be separately quitclaimed to Oseney Abbey after the Black Death. This would presumably have 'fossilised' the partition, since St. Frideswides seems to have had trouble in recovering any further rent from this part of the building, and possibly had recourse to forgery to substantiate their claim (see p. 87).

On the east side of the road, the post-hole wall suggested as 'internal' in the previous Phase would have been replaced by a wall on a stone footing (Robber Trench, *Lin* F18) and a second butted against it (Robber Trench *Lin* F20), both by now definely being 'internal' with detrital floors in each of three rooms. This implies a greater density of rear buildings. On the 83 St. Aldates site there would have been a second attempt at rear development (*83* Phase VI), once again as a wing along the north boundary of the property (see FIG. 12).

It is concluded that the division of the *79–80* building into independent tenements was completed with the installation of a partition at the beginning of the fourteenth century, later perhaps fossilised when S.W.18 was quitclaimed to Oseney. At 83 St. Aldates there would have been a second attempt at rear development.

Structural Phase 11 (FIGS. 5, D; 42, 11; 43, 11)

A fourth rebuilding of the west wall, overlying its predecessor (F104) and only interrupted by Phase 13 disturbances, implies new west walls for both tenements on the *79–80* site, and probably therefore a totally new building (F45). The minor changes in the alignment of this wall were of importance in dividing up the excavation; indeed, the tacit assumption that such structural upheavals would have been spaced out fairly evenly through the medieval period has been of some assistance in interpreting the other types of chronological evidence. This rebuilding has been dated, largely on numismatic evidence, to *c.* 1400. Only a fragment of the new wall survived for excavation, but it was enough to establish that a new gravel floor make-up was laid against it (L48, see FIG. 9). The remaining walls would have stood on footings reused from the previous building (F7, F23, F78, F259). It was presumably

a two-storeyed building since a ' solar above a shop ' is mentioned in a fifteenth-century lease (see ' Medieval Documentation '). Two post-settings in the top of the frontage footing should be noted (F57, F85, see FIG. 5, D). They suggest that ground-beams were not used, but in this position they might equally have been part of the Phases 8 or 9/10 buildings, and in the absence of a clear date or purpose no further conclusions can be drawn about the type of structure.

The domestic arrangements of these tenements were more clearly seen than in other Phases. Inside the northern jamb of a street door in the northern tenement there would have been a timber partition which Mark Robinson interprets as a ' vestibule ' (F16), the other side possibly supported by a single post (F21) close to the large hearth (F50). Other features are shown on the Excavation plan (FIG. 5, D). Around them there would have been a build-up of detrital material (L46). The southern tenement, by contrast, would have had a thinner clay floor make-up (L44), and no detrital accumulation. The partition was stratigraphically later than either make-up (F35), but how much later is not clear. A difference of 0·10 m. in level between the floors of the two tenements implies that there was a partition from the outset, and since there was no detrital material relating to any interim partition, it will be assumed that the excavated footing was effectively original.

The southern tenement apparently had no hearth, perhaps partly accounting for the lack of detrital build-up. An ' L '-shaped screen-footing in the south-west quadrant gives the room a superficial resemblance to the fourteenth-century St. Pancras Lane cottages at Winchester,[229] but the term ' shop ' in the documents implies an industrial or commercial function rather than a dwelling as in the Winchester case. Two bronze belt-ends, a bronze buckle and an iron arrowhead were amongst artifacts trodden into the floor of this room (FIG. 30, Nos. 2, 11, 23; FIG. 31, No. 47). In the northern room, there were further bone fragments similar to the psaltery pegs of Phase 10, and a finished peg of a different type, possibly from a fiddle (FIG. 39, No. 9). The apparent transference of the craft to the northern tenement in this Phase was not complete, however, since 101 fragments of working waste including three finished pegs were found in the yard behind the southern tenement.[229a] Another notable find from the yard was a fragment of an inlaid iron blade (FIG. 25, No. 5). The use of the term ' garden ' for this area (see p. 88) may imply cultivation, and a 0·25 m. depth of loam may have been deliberately imported topsoil which had incidentally protected the structures of the previous Phase.

There is little doubt that measurements given in a lease of 1439 refer to the southern tenement of this Phase (see ' Medieval Documentation '). A scale of feet has been added to FIGS. 42 and 43 to facilitate comparison of these measurements. There is a major disparity. The only measurement which can be checked directly is that ' along the high road ', which is substantially shorter than even the internal distance between the footings. By projecting the mid-line of the west footing, the distance ' along the lane ' can be checked, and that too is short by a comparable factor. Harvey notes that when William Worcestre later in the fifteenth century recorded horizontal dimensions of monuments in feet and inches, as opposed to

[229] M. Biddle, ' Excavations at Winchester, 1967: Sixth Interim Report ', *Antiq. J.*, 48 (1968), Fig. 3.
[229a] For Thomas Briker, harpemaker (1467), see under BONE INSTRUMENT PEGS.

'steppes', in all verifiable cases they were identical to modern linear measure.[230] It has been found in this case, however, that if the medieval measurements are increased by an abitrary factor of 1·20, not only do they correspond to the estimated mid-line of the footings, but the 'breadth of garden' dimension corresponds well with the estimated rear elevation of the twin tenements. Furthermore, by increasing the 'along the lane' and 'length of garden' dimensions by the same factor, and adding one metre for the Phase 13 encroachment on the high road, there is a good agreement with the common western boundary of 1876.[231] These figures are summarised in TABLE 10.

TABLE 10

Comparison of medieval and modern measurements of the fifteenth century tenement S.W.18.

	Medieval measurement, metric equivalent (x)	Excavated footings internal	between centres (y)	x/y
A, 'along high road'	10 ft. 1 in. (3·07 m.)	3·28 m.	*c.* 3·78 m.	1·23
B, 'along the lane'	16 ft. 2 in. (4·93 m.)	*c.* 5·00 m.	*c.* 5·86 m.	1·19
C, 'breadth of garden'	28 ft. 8 in. (8·74 m.)			
D, rear elevation		*c.* 9·75 m.	*c.* 10·25 m.	1·17
E, 'length of garden'	51 ft. 1 in. (15·57 m.)			
B+E+1 m. encroachment	70 ft. 6 in. (21·50 m.)			
1876 lane frontage			*c.* 26·50 m.	1·23

Two limitations must be borne in mind. Only the high road measurement could be checked directly, and if the surveyor had been working from the outside, he must have estimated the position of the partition, which has been shown to have been installed after the building was complete (see above) and may not therefore have corresponded to a visible structural frame-member. Secondly, he is most unlikely to have recorded the measurements 'between centres' of the footings, so the comparisons are quite artificial. There is, nevertheless, a superficial case for concluding that an irregular measure was being used.

An important inference from the measurements is that the 'garden' may have been the full breadth of the twin tenements. In 1428 Nic. Fairway apparently paid rent on S.W.18, but eleven years later he held S.W.19 and just the solar of S.W.18 (see 'Medieval Documentation'). The latter document may imply that he had sub-let the shop and was recovering it, but this should not have affected Oseney. What seems more likely is that Oseney, holding the shop and the entire garden, was confirming its boundaries beyond question at a time when the Fairways were effectively re-unifying the property. It should be noted that a St. Frideswides deed of 1517 seems to treat the building as a single tenement, reinforcing the view that S.W.18, which apparently still existed, was only the ground floor shop (see 'Medieval Documentation').

This is a convenient point to mention a short-lived stone-lined well on the 83 St. Aldates site. Mark Robinson suggests that the *83* Phase VI building would have disappeared by the end of the fourteenth century, and the well, dug through its footing, would perhaps have been protected by a lean-to. The well provided an excellent group of pottery which seems to date from the late fourteenth or early fifteenth centuries (see FIG. 24, Nos. 1–4, 6–7 and 9–12).

[230] J. H. Harvey, *William Worcestre Itineraries* (1969), xvii.
[231] First edition, Ordnance Survey.

It is concluded that for the first time since Phase 6b the *79–80* site was occupied by a nearly symmetrical building, perhaps a stage in a gradual reunification of the property which is possibly implied by the documents. A craft associated with psalteries would have continued, possibly being diversified to include fiddles. There was evidence that Oseney Abbey had used an irregular measure to survey the property.

Structural Phase 12 (FIGS. 5, C; 42, 12; 43, 12)

There seems to have been a complete replacement of the *79–80* building in the mid sixteenth century, but it was apparently of timber frame and the excavated evidence is very fragmentary. The Phase 11 partition footing seems to have been used again (F35); a new earth floor would have been laid against it to the south (L43) also abutting a new light footing on the frontage (F11). To the north a fragment of an apparently contemporary earth floor (L2/3) overlay the Phase 12 footing F45. It is therefore concluded that this was a replacement building, but the excavated evidence is clearly insufficient to infer a plan.

The building was presumably seen by Agas in the preparation of his map of 1578.[232] He does not depict Overee's lane, but in terms of numbers of houses there is good agreement with Loggan's map of a century later.[233] It can be assumed that S.W.20 is the fifth house south of the Trill Mill Stream, with a rear extension. S.W.18/19 would be the adjoining building to the south, also with a rear wing, the neighbouring cottages presumably being the lane tenements S.W.15–17. It is not impossible that the S.W.18/19 buildings depicted on both maps are identical; apart from encroachment of the frontage line, the Phase 13 building conjectured on FIG. 42 fits well on the Phase 12 plan, and it will be assumed that they were the same basic frame.

PLATE VII, B shows a late nineteenth-century copy of a drawing by Wm. Varley, dated 1813, showing the corner house. It appears to be largely of timber frame, with a seventeenth-century front. The excavated clay floor of this house (L2, Phase 13), extended over the Phase 12 frontage footing (F11) implying that the frontage wall had been brought forward to the line of an original second-storey jetty. It is fairly clear however that the gable wall is of stone, perhaps with stone mullioned windows. This must have been the excavated Phase 13 wall F67/68, apparently built before the chimney stack (F29, see p. 92); indeed, if the narrow stone extension straight-jointed to the second storey is the chimney stack,[234] the wall could have been substantially earlier than the stack. It was not, however, original to Phase 12, since it stood on the floor make-up of that building (L43). Why should such a wall have been inserted in a timber-framed building, on a line *c.* 0·5 m. behind the previous lane frontage? PLATE VII, B shows three fenders protecting the wall from traffic in the lane. It is possible that sixteenth-century traffic had damaged the original wall so badly that a replacement was needed, and that stone was made

[232] Agas's Plan of Oxford in *Old Plans of Oxford*, O.H.S., XXXVIII.
[233] Loggan's Plan of Oxford, *Ibid.*
[234] John Ashdown points out a similar tiled stack at No. 11, St. Michael Street, Oxford.

available on condition that the lane could be widened slightly.[235] Such a wall could have been constructed within the building, giving support to the frame members as it went. In the absence of any corroborative evidence, however, there is little to be gained from discussing the concomitant structural changes, *i.e.* shortening the roof, supporting the jetty, *etc.*

The trapezoidal ground plan of the building (see FIG. 42) has been deduced from the coincident alignments of the Phase 13 chimney stack and semibasement. This may have been an economical use of the plot, perhaps giving two narrow rooms to the north, and leaving the maximum lane frontage for a yard or subsidiary buildings. Re-use of the Phase 11 partition footing would have preserved the medieval tenement boundary for a fourth time (F35). A jetton of *c.* 1530–50 (Jetton 23) from the floor make-up suggests a mid sixteenth-century construction date. A chimney stack conjectured for the Phase 13 northern room (see FIG. 42) may have been built earlier; there may indeed have been a predecessor to the southern chimney stack, F29, since this end of the building must have been heated somehow, and the oak 'piles' (F99–101, F101/1) related to F29 may have been a precaution after a previous stack had suffered from subsidence.

The rear wing of the corner house depicted by Agas may in reality have been a detached building in the yard, of which an east footing (F65), north footing (F70), and internal floors (L71–72) were excavated. Down its east side would have run an internal gully (F66), draining southwards, as had a previous gully on this alignment (F109A, FIG. 6). The building is possibly dated by a jetton of *c.* 1520s (Jetton 22) lying centrally beneath the wooden floor of the gully. The north-west corner of the building lay over the construction shaft of a stonelined well (F94) which, though totally cleaned out in the nineteenth century, must have dated from this Phase.

Elsewhere in the survey area, the hall and crosswing house astride tenements S.W.21 and 22 would have been built about the beginning of the sixteenth century (see APPENDIX 2). Hugh Richmond has shown evidence that by the nineteenth century access to Littlemore Court was gained by use of the screens passage of the hall as an entry. The name Littlemore Hall seems to have originated in the sixteenth century, but was confined to the 'hall' and is never recorded as applied to the 'crosswing'. It may be that whoever had them built was unable to use them jointly and allowed the passage to be opened. They continued in common ownership, however, the 'crosswing' becoming the capital messuage, with the 'hall' divided into four tenements (see p. 89). It may be that the 'hall' enjoyed a brief period of independence as 'Littlemore Hall', as a result of which the name was perpetuated in the documents. Possibly further investigation of the hidden parts of the standing buildings will provide confirmation of this interesting development.

Structural Phase 13 (FIGS. 4, B; 42, 13)

Having established that Phase 13 was probably simply a series of developments of the Phase 12 timber frame, discussion can be brief. The chimney stack was

[235] Late sixteenth and early seventeenth century demolition of the Blackfriars may have brought increased traffic, see Lambrick and Woods, *op. cit.* note 2.

apparently the earliest addition (F29), butted against the stone gable wall (PL. VII, B). After the advancing of the frontage (see p. 92) the entire building would have been refloored with a layer of clay (L2), probably *c.* 1670 on the evidence of clay pipes sealed beneath it (see p. 139). The floor level would have been lowered in the north-western quadrant (F27, F38, *etc.*), perhaps at the same time, since an early seventeenth-century jetton (Jetton 25) lay beneath the wooden stair (F42). The three front doors on Varley's drawing (PL. VII, B) suggest a through-passage perhaps leading to this area, since the lane would have provided easier access to the yard. A ridge in the floor perhaps indicates the line of the passage (see FIG. 4). If it led only to the semibasement it would have left just enough space for a lobby and staircase beside the chimney stack of the southern dwelling, as at the former No. 47 Broad Street.[236] The broader hearth on the west side of the stack perhaps implies a kitchen in the single storey extension on Varley's drawing. Little can be said of the two-storey building beyond, except that a coin of *c.* 1770 (Coin 16) was found beneath a footing in this region (F88).

The semibasement would have been backfilled *c.* 1800 (pottery evidence), perhaps using material dug from the other floors since it contained seven coins, jettons and tokens of dates before 1718. Subsequently its north end was apparently used as an internal cess pit, with lime added. The condition of the property at this time is indicated by PLATE VII, B, repairs to the lattice glazing being apparent on many of the windows. To the rear, Bridewell Square would already have been opened up for development, a process described above by Tom Hassall and Hilary Turner.

APPENDIX I

THE POSSIBLE FLAX RETTING DITCH. By JOHN HEDGES

The lowest deposit of the Phase 1b gully F254 at 79–80 St. Aldates was thick with the seeds of cultivated flax (see botanical report) which suggested that it might have been used for retting flax.

There are numerous accounts of the growing and processing of flax;[237] the processes through which it has to go from field to fibre are rather predetermined by its nature, but vary in detail. The flax is pulled, not cut, in the early summer when it is not quite ripe, and is bundled. The bolls, which contain the seeds, are usually removed by a process known as rippling and the bundles are placed in water and weighted down. The fibres in the straws are held together by a cementing material which is attacked by certain bacteria in the water; this process of retting frees the fibres from one another. The straw may then be spread out on a field so that the retting, if incomplete, can be finished by the dew, and is afterwards set in stooks to dry. The final separation of the fibres from the rest of the stalk is achieved by beating bundles of the dry straw until the extraneous matter falls away.

The general siting of the ditch would have been ideal for the purpose suggested, well away from human habitation, dug into the impermeable clay of the causeway, and apparently with a lake on the west from which it could be replenished with water. On the other hand, it is nowhere near the depth and width usually associated with such a structure.

[236] W. A. Pantin, 'The Recently Demolished Houses in Broad Street, Oxford', *Oxoniensia*, II (1937), 174, Fig. 30.

[237] A. Andrews, *Instructions for the culture and preparation of flax in Ireland* (1872); R. Brown, *Flax: its culture and preparation* (1851); W. Charley, *Flax and its products in Ireland* (1862); W. G. Crory, *Plain directions for practical farmers on flax culture* (1864); E. F. Deman, *The flax industry and its importance and progress* (1852a); E. F. Deman, *Flax: its cultivation and management* (1852b); J. Sproule, *Flax: its growth and management* (1846).

One nineteenth-century writer suggests that the optimum depth is just over a metre and optimum width from four to six metres although he was referring to pools used industrially.[238] Even if a small pool was desired it is difficult to understand why wattle hurdles were used to increase the depth when the gully could simply have been dug deeper.

It is a little ironic that the seeds which first suggested retting provide a powerful argument against this idea. Flax is most commonly pulled when slightly immature, whereas the seeds found in the ditch were fully ripe. More importantly, the bolls which contain the seeds are usually removed from the flax before it is retted. The presence of the seeds makes the flax difficult to work and causes an intolerable stench while, if removed, they can be fed to cattle, pressed for linseed oil, or planted in the next season. This does not however close the case quite as firmly as might be thought, as several nineteenth-century writers, talking of the Irish linen industry, decry the great waste and inefficiency brought about by not rippling the flax before retting.[239] It is moreover difficult to give an alternative explanation for the presence of the seeds in the ditch. The surrounding area would have been quite unsuitable for growing flax or for grassing and drying it, and it would have been poor ground for keeping cattle on at times when they needed fodder. The abundance of seeds in the gully also suggests that they were not introduced by seasonal flooding.

On balance it would seem that the most plausible explanation is that the gully did indeed have some connection with retting. Due to the limitations of the excavation it is not possible to decide whether it was a retting pool in itself or just the outlet from one. It seems too badly designed to have been originally built for retting and may just have been a drainage ditch used for the purpose; certainly the presence of the seeds does not indicate that the users were particularly efficient.

APPENDIX 2

STRUCTURAL SURVEYS. By HUGH RICHMOND

82, 83 St. Aldates, Littlemore Hall (Salter S.W.21 & 22. RCHM Mon. 152) (FIG. 44).

This house has been described by the Royal Commission on Historical Monuments, and much of this account is based on that work.[240] Since 1939, however, new evidence has come to light and the building has undergone a major renovation.

The earliest surviving parts of the house are several moulded ceiling beams of *c.* 1500, in the ceiling of the N.E. ground floor room, and a section of *ex situ* timber-framing of perhaps similar date, now forming a part of the partition on the south side of the present through-passage. Also shown on a drawing of 1811 by J. C. Buckler[241] is a stone doorway of fifteenth-century date at the E. end of the passage. These elements suggest that by the early sixteenth century the building was of considerable quality, in part stone-built and possibly consisting of an open hall and crosswing, the screens passage of the hall being on the line of the present through-passage.

In the early seventeenth century the house was refurbished. The front wall was almost entirely rebuilt, the hall floored at first floor level and stacks built on the W. wall of the hall range and between crosswing and screens-passage. The roof space was converted and large dormers were built facing St. Aldates. A wall on the N. boundary of the site has two seventeenth-century windows at first floor level indicating that there was a rear wing behind the crosswing (excavation *83* Ph VIII). It is also possible that there was a wing behind the hall range but as this part of the building was entirely rebuilt in 1964 the only evidence is the description by R.C.H.M. of a seventeenth-century oriel window of three lights on the face and one on each return, supported on scroll brackets in the N. wall of the S.W. wing.

[238] Crory, *Ibid.*
[239] Charley, *op. cit.* note 237; Deman *op. cit.* note 237 (1852a); Sproule, *op. cit.* note 237.
[240] R.C.H.M. *City of Oxford* (1939), 174.
[241] M.S. Don. a. 2 (8).

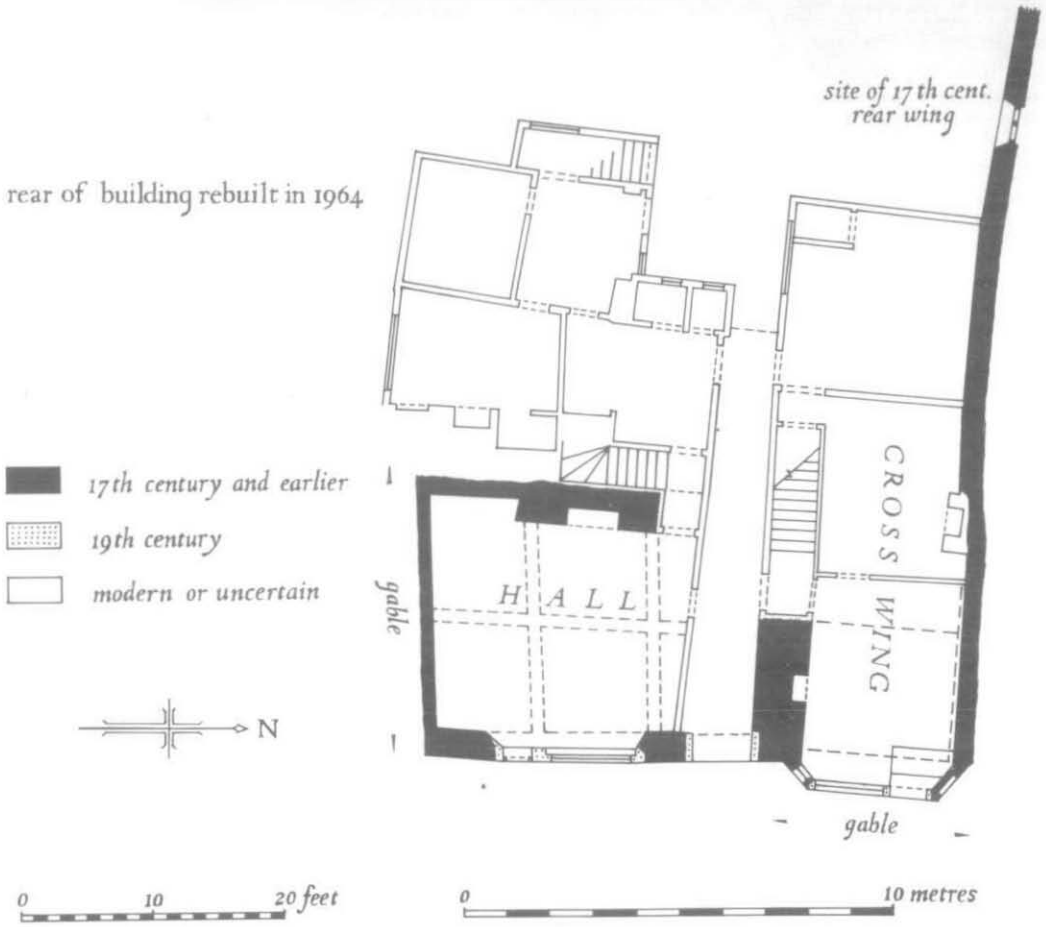


FIG. 44

Plan of Littlemore Hall, 82–83 St. Aldates. (Based on a survey made by Llewellyn Smith and Waters prior to alterations of 1964).

Owing to the very extensive restoration in 1964 only a few features of seventeenth-century date survive.[242] A clear picture of the seventeenth-century front elevation can however be gained by comparing the Buckler drawing of 1811[243] with a photograph of about 1910,[244] and the photographs and description published by the R.C.H.M. The front wall was built of stone and the hall elevation consisted of two large mullion and transom windows, each of six lights, set one above the other, the lower with a flat moulded label. In the roof were two very large gabled dormers with wide windows carried forward on pairs of shaped brackets. The screens-passage retained its fifteenth-century doorway of three orders with label and it is possible that above this was a small window.

The crosswing was fronted with a two-storey gabled bay window with splayed sides. The windows, also mullioned and transomed, had five lights in the front flanked by one at each side. The lower window also had a flat moulded label.

[242] Fifteenth-century beams were removed from it.

[243] See note 241. Varley's drawing of 1813 differs in having a greater number of lights in the ground floor window of No. 82 (see PL. VII, B).

[244] F. E. Howard, *Old Houses in Oxford*, O.A.H.S. (1920), 13, Pl. VIII.

Inside, the ground floor room of the hall range still retains early seventeenth-century panelling and a decorated plaster ceiling; the room above also has an early seventeenth-century decorated plaster ceiling. These are described and illustrated by R.C.H.M. The N.E. room on the first floor of the crosswing is lined with early seventeenth-century panelling and has a stone fireplace of similar date with a moulded hood.

By 1763 (see p. 89) the building had been subdivided, and by the later nineteenth century all the ground-floor rooms had become shops. This entailed the removal of the seventeenth-century windows and their replacement by timber shop fronts. Also by this time the fifteenth-century doorway had been replaced by a wider opening with plain jambs and a semi-circular head.[245] The postulated screens-passage had become an entry marked Littlemore Court and led to a slum at the rear of the site (see PL. VIII). The building remained in this sad state until 1964 when it was renovated by Llewellyn Smith and Waters. This work involved, of necessity, a great deal of rebuilding but much of importance has been retained and the front now broadly resembles that drawn by Buckler in 1811.

81 St. Aldates (Salter S.W.20) (PL. VII, B)

The building fronted on St. Aldates and lay at right angles to the street; its width was 3·90 m. and depth 8·30 m. On the north it abutted Littlemore Hall (82 and 83 St. Aldates).

Of late seventeenth-century date, it was built of timber frame, with three storeys and attics, one bay wide and three bays in depth and of single-room plan with a stair turret at the west end. The roof was clad with plain tiles. On the north it took support from the timber-framed gable wall of Littlemore Hall and on the S. the wall had been replaced in modern brickwork. The ends of the floor beams had been cut square and a floor joist removed to provide bearing, suggesting that this wall would originally have been timber-framed. The timber-framed wall of the stair turret survived up to the gable which had been replaced by modern studwork. The front wall was also of timber frame but had been heavily repaired and refaced in recent times with lath and plaster and applied half timbering. On the ground floor the wall had been entirely removed, and replaced by a late nineteenth-century shop front. The roof, gabled to the street, was of poor construction and consisted of paired rafters with collars and clasped purlins. The stair, also of late seventeenth-century date, ran the full height of the building. It had heavy turned balusters, a rectangular hand rail with a moulded top and a deep closed string, heavily moulded. The hand rail was morticed and pegged to square newel posts which carried ball-terminals and turned pendants. The frame was of soft wood and the balusters of oak. The stair was dismantled and is in the possession of the Oxfordshire Museum Service.

The Society is grateful to the Department of the Environment for a publication grant for this paper.

[245] *Ibid.*

A. St. Aldates excavation sites and derelict No. 81 St. Aldates from S.

Ph.: B. G. Durham

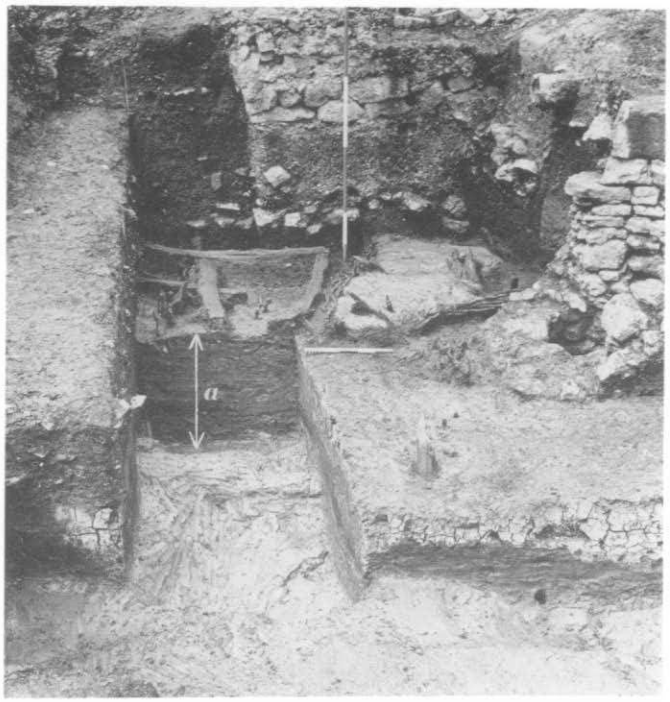
B. Copy of a drawing of the corner of Speedwell St. and St. Aldates. Original by Wm. Varley, 1813 (MS *Top Oxon* c. 312, P22).

Bodleian Library

Littlemore Court in 1910, looking E. (MS *Top Oxon* d 503, f 96). By H. Minn.

Bodleian Library

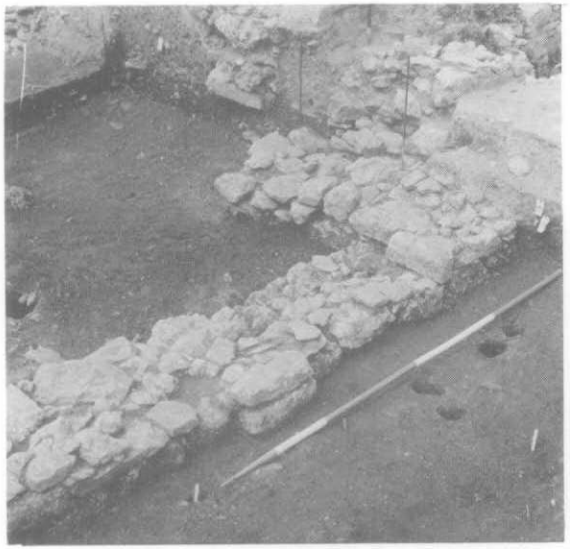
PLATE IX



A. 79–80 St. Aldates, similar views of wattle fencing showing accumulation of *c.* 0.60 m. of silt (a) between Phase 1 (below) and Phase 2 (above).

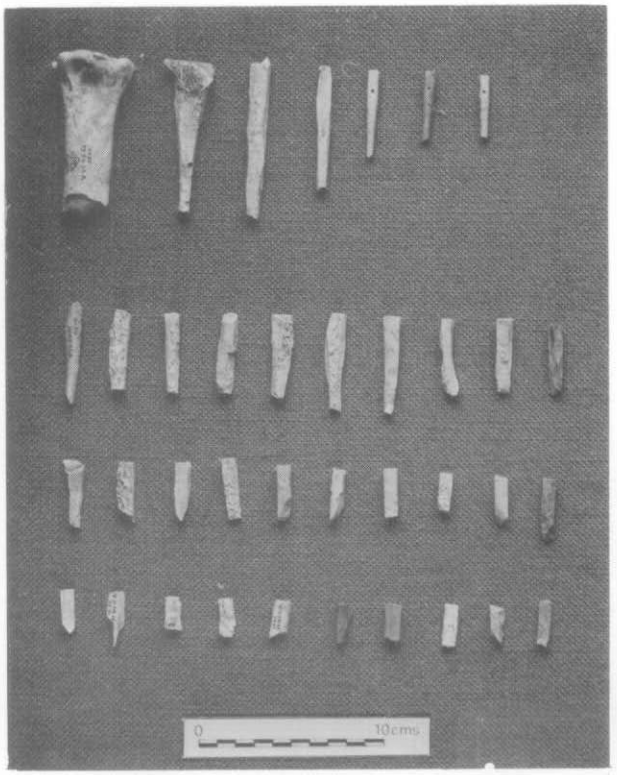
B. Preserved wattle fencing of Phase 1.

Phh.: David Carpenter



A. The earliest stone footing (*79–80*, F133, Ph. 8), with westward return presaging the line of tenement division. From SE., scale 2 m.

Ph.: David Carpenter



B. Bone psaltery pegs and working waste from *79–80* Ph. 11 garden.

Ph.: B. G. Durham

C Early fifteenth-century French illustration of fiddle and psaltery players (MS Douce. 144. fol. 28R).

Bodleian Library

PLATE X