

The Kitchen Area of Northolt Manor, Middlesex

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THE site of Northolt Manor lies on a spur of London Clay, at a height of 141 ft. above O.D. It has a commanding position overlooking the Thames valley, the North Downs being visible on a clear day. The medieval village was at the NW. foot of the hill on both sides of a stream. The church, which is mentioned in Domesday Book, is built at the end of the spur with the fourteenth-century moated site immediately to the NE. higher up the ridge (FIG. 56).

Between 1953 and 1958 the south-eastern third of the area inside the moat, marked kitchen area on the general plan, was excavated completely. There are ten periods dating between 650 and 1750, comprising levels IA to IE (all in the original ground profile) and II to VI, thus:

| Period | Main Features | Associated Features | Date |
|--------|--|-----------------------------|--------------------------------|
| IA | Three inhumation graves. | No structures. | Late 7th to early 8th century. |
| IB | Undefined timber building. | Scatter of pottery. | 700-1050(?) |
| IC | Three timber buildings. | Ditches and palisades. | 1050-1150. |
| ID | Large three-roomed cob or timber building. | Surrounded by ditch system. | 1150-1225. |
| IE | Undefined timber buildings. | Recutting of ditch system. | 1225-1300. |
| II | Rectangular half-timbered kitchen and cooking area. | First moat dug. | 1300-1350. |
| III | Addition of bakehouse and other out-buildings. | Larger moat II dug. | 1350-1370. |
| IV | Partial demolition and rearrangement of rooms. | New courtyard laid. | 1370-c. 1475. |
| V | Kitchen block demolished. | Very few finds. | c. 1475. |
| VI | Old kitchen area a courtyard. Main building elsewhere. | Scatter of pottery. | Tudor. |

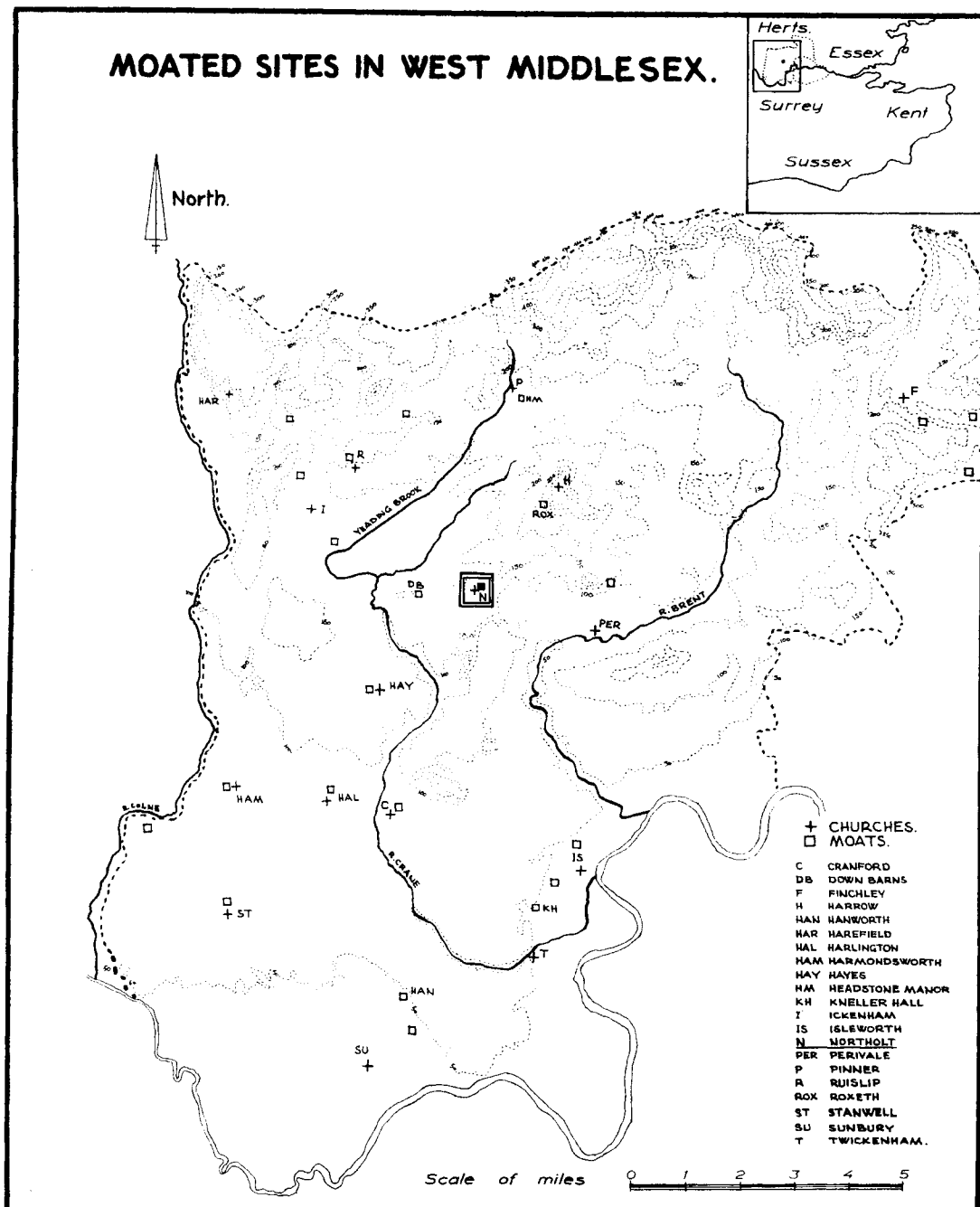


FIG. 55

SKETCH-MAP OF W. MIDDLESEX SHOWING POSITION OF NORTHOLT AND OTHER
MOATED SITES (p. 211)

SUMMARY OF RESULTS

PERIOD 1A (PAGAN SAXON, c. 700). FIG. 59

There are three graves of the late seventh or early eighth century. Two were side by side, the third was 45 ft. to the north. *Grave 1* contained the semi-crouched skeleton of a young male with a blue glass bead. *Grave 2* was disturbed by a medieval pit and produced only a jumble of bones, a bronze ring and a fragment of a bone plate. *Grave 3* contained the skeleton of a male of about thirty, lying supine with a long seax by his left leg. A fragment of a pattern-welded blade was found in a medieval level further to the south and possibly comes from another disturbed grave. There are, as yet, no remains of domestic structures of the pagan period.

PERIODS IB-IE (700-1300). FIG. 57

All the structures during these periods were of timber or cob and are very hard to distinguish, for during these 600 years an occupation-deposit, varying in thickness from 6 in. to 1 ft., was built up on the old soil and the ground was trodden down, turned over and dug so many times that the pottery was not stratified within it. Only features which were dug into the underlying clay can be identified and dated (PL. XXXII, B). Unfortunately very few of these ditches, slots, post-holes and floors contained pottery and they make a very bewildering pattern (FIG. 57); an attempt at interpretation is made in FIG. 59. The filling of most of the features cut into the clay is similar to the grey layer above; in section no distinction can be seen. Analysis, however, shows differences between the filling of the features of different dates and the occupation-layer above them (p. 284). It is assumed that all features were cut from the top of the layer as it was at the time they were cut; during the excavation they could not be recognized until the grey layer was cleared away and they showed up as dark marks in the natural clay. See, further, the discussion on p. 284.

Only the ditches and a few post-holes which contained pottery can be dated with any certainty. Only a summary interpretation of the various structures and their dates can thus be given, especially as it is not certain, until further excavation takes place, whether the area at present excavated is the centre of the late Saxon to early medieval occupation or peripheral to it.¹

PERIOD IB (SAXON, 700-1050). FIG. 59

There was a considerable scatter of Saxon pottery on the site, but this is all in later or disturbed levels, except for that in a group of three post-holes and a cesspit towards the SW. corner of the area excavated, from which no satisfactory structure could be reconstructed. There was a remarkable lack of Saxon pottery within the area of these four features, most of it coming from the occupation-levels to the NE., where a pebble floor may be of this date. No features in this area,

¹ A twelfth-century pit was found in 1950 under the Period-II hall, 30 ft. NW. of the ditch 1-2 system. A trench outside the moat 150 ft. to the NE. showed an extensive complex of late Saxon and early medieval structures: *Med. Archaeol.*, III (1959), 317.

however, contain Saxon pottery only. There is documentary evidence for a manor during the tenth century.

PERIOD IC (EARLY MEDIEVAL, 1050-1150). FIG. 59

All traces of occupation in this period lie NE. of a ditch running across the site from NW. to NE., then turning N. to drain into a sump. Within this area were three buildings, two yards, and palisades along the inner edges of the ditches, which were quite small and clearly only for drainage, not defence.

These structures provide a most tantalizing glimpse of the plan of an eleventh-century manor. The buildings at this time must have been very extensive. It is clear, therefore, that only a small part of the SE. corner of the manor as it existed at this time has been excavated. It is not known how much more is to be found to the NW., but to the SW. ditch 55 seems to limit the site. Moats I and II may have cut away the centre of the site, which extended for at least 200 feet in a SW.-NE. direction. It would be rash, therefore, to interpret the flimsy structures found as anything more than outbuildings of the manor. This view is supported by the absence of hearths or other signs of cooking.

It is also possible that these structures might be peasant houses of the Saxon village, which may originally have been on the hill-top by the church and not at the foot of the hill by the stream, as today. The Mandevilles held the manor during this period, but it could not have been of much importance, as there is no sign of a castle or any other defensive structure.

PERIOD ID (1150-1225). FIG. 59

This comprises a small enclosure, 45 ft. by 35 ft., with a timber or cob building, inside, consisting of three adjoining rooms built on massive pebble foundations. The main room is trapeze-shaped, 15 ft. by 10 ft., with an entrance from the south-east. To the west the building has two other lesser rooms surrounded by a ditch-system. These buildings are datable to the time when the D'Ows held the manor of the Mandevilles. Again it is not clear what purpose the buildings served. They seem to form a small compact dwelling rather than a manor house.

PERIOD IE (1225-1300). FIG. 59

The Period-ID ditch was, in this period, recut deeper and wider and encloses a larger area not certainly defined. A series of square and round post-holes may be assigned to this period, but they do not seem to form any coherent pattern. During this time the manor was held by the Botelers.

PERIOD II (1300-1350). FIG. 61

This is the period of the first stone buildings and the last to be built on the old ground surface. The first moat, 20 ft. wide and 6 ft. deep, belongs to this period. It enclosed an area about 150 ft. square and runs roughly on the same

lines as the visible moat, but in a smaller area; its line is shown by the hachures at the top of the slope on the plan (FIG. 56). From this period onwards the layout of the manor is clear and the area dealt with is the kitchen and outbuildings in each subsequent period. A detached rectangular kitchen, 30 ft. square, was built. It was a flimsy half-timbered structure with a central hearth and post-holes for a spit or fire hood. The west quadrant had a tiled floor. Little cooking seems to have taken place in this building, but to the SW. there was an extensive pebbled area with numerous hearths and evidence of intense burning. There was also a large tiled hearth with an oven in the corner. The manor was still held by the Botelers during this period and the rebuilding in stone presumably shows increasing prosperity in the family.

PERIOD III (1350-1370). FIG. 56 AND FIG. 62

This was the heyday of the manor, when its buildings were very extensive. A large new moat, 30 ft. wide and 10 ft. deep, enclosed an area about 200 ft. square. The first six periods were built on the sloping NW. side of the hill, but the spoil for this new moat was spread over the site to a depth of 6 in. on the SE. side and 2 ft. on the NW. side, to make it more level. There was still, however, a slope of 2 ft. from the SE. to the NW. side of the site. The Period-II moat was left partially filled in and silted up forming a terrace around the enclosure, on which outbuildings were built.

The great hall was stone-built, 30 ft. by 15 ft., with a dais at the west end and a central hearth formed of tiles set on edge in a diagonal pattern 9 ft. square. At the east end there was a screens passage and beyond a cellar. These have not yet been fully excavated and will be described in a later report.

The kitchen of Period II was retained, most of the floor being tiled at a new, higher level. There was a central oven and three hearths along the NW. wall. To the NE. was a long room, 20 ft. by 30 ft., with a large oven, 10 ft. across, at its SW. end. This is thought to have been the manorial bakery. Other rooms to the NE. were presumably store rooms, as there was no sign of occupation.

To the SW. the tiled hearth was retained, so that this room was at a lower level. An extension was built of tile and brick at one end. To the SE. was another room with a pebble floor and two hearths with an oven in the S. corner. Further to the SW. was a large area with signs of occupation. Along the NW. side was a large drain running into the moat. On either side of the kitchen and the bakery was a pentice. That on the SE. provided access under cover to various rooms. That on NW. was divided into three rooms, two of which had hearths.

This rebuilding on a grand scale may be equated with the purchase of the manor by Simon Franceys about 1346. His son married the daughter of a local family, suggesting that they lived at Northolt. It is very difficult with many of the earlier lords to decide which of their properties was the most important, and, consequently, whether they ever lived permanently on this site.

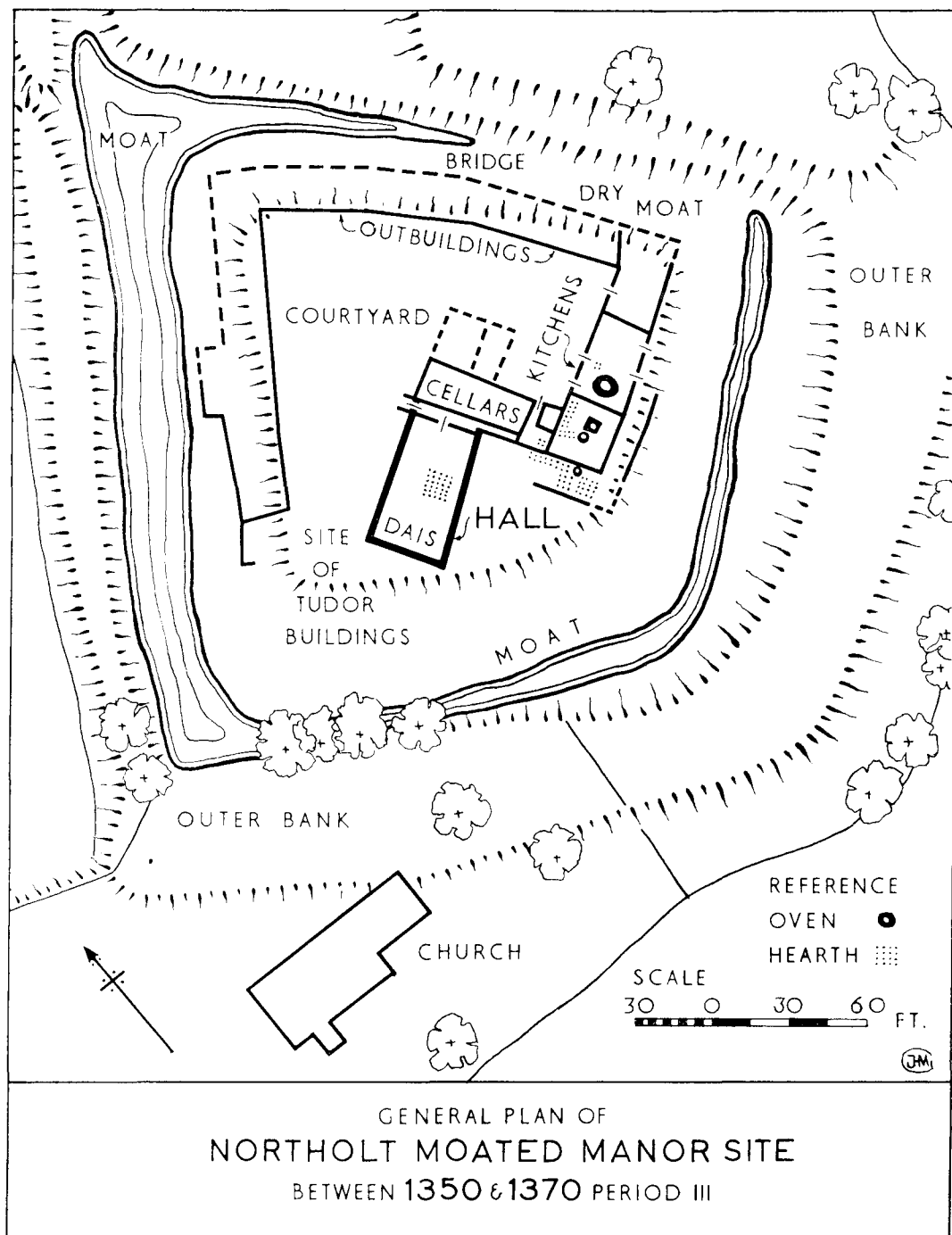


FIG. 56

GENERAL PLAN OF NORTHOLT MANOR IN PERIOD III (p. 215)

Showing also the relationship of the moated site to the church

Finds since 1956 are not included

PERIOD IV (1370 TO c. 1475). FIG. 63

In this period the site was further levelled up, but only by a few inches in the kitchen area; the Period-III buildings still remained in use, with new floors, except for the demolition of the pentice on the NW., the rearrangement of some of the rooms and the building of new hearths and ovens. A number of new outhouses were built in the S. corner and a path was built down to the edge of the moat. These works were carried out by Sir Nicholas Brembre during his short occupation between 1370 and his execution in 1388.

PERIOD V (c. 1475)

The kitchen block was demolished in the late fifteenth century, but it is difficult to assign a precise date to this until the main buildings of this period to the SW. of the great hall are excavated. This could have been early in the fifteenth century, or else much later, if the kitchen area remained unoccupied. There is very little occupation-material of this period.

PERIOD IV (TUDOR)

This will be discussed in a further report, as it is only represented in the area of the medieval kitchens by a scatter of pottery of the sixteenth and seventeenth centuries.

HISTORY OF THE SITE

By C. H. Keene

Although there is no reference to Northolt itself before 962,² there is evidence of a pagan Saxon settlement and centre of worship at Harrow-on-the-Hill,³ which is near by. In 704 land at Ealing was the subject of a Saxon charter,⁴ now lost; in 757 Aethelbald of Mercia granted land amounting to seven hides and lying to the east of the Yeading Brook⁵ to one of his followers, and this could have included the Northolt site. In 845 land at Greenford and Roxeth, both almost adjoining Northolt, was the subject of a charter.⁶ Northolt was therefore surrounded by Saxon settlements, mentioned in early charters.

² The history of the manor of Northolt is well documented, thanks to the work of Walter Harvey Lancelot Shadwell, the last steward and lord of the manor, who, between 1879 and 1905, made a collection of all the relevant documents he could obtain and also calendared the archives in the possession of the family. He transcribed the court rolls and the various records relating to Northolt in the British Museum, the Public Record Office, Westminster Abbey and the Bodleian Library. All his work is now preserved in the Muniment Room at Westminster Abbey.

The initial research on these documents was carried out by Mr. J. W. Franklin and Mr. R. E. Parslow in 1951 and 1952. Since then further details have been checked by the compiler of this section. Thanks are due to Mr. L. E. Tanner, Keeper of the Muniments at Westminster Abbey, for making the Northolt documents available for study and for his constant help and interest.

³ Sir Frank Stenton, *Anglo-Saxon England*, pp. 54 and 101 and *Place-Names of Middlesex* (English Place-Name Soc., XVIII, 1942), p. 51.

⁴ *English Historical Documents* (ed. D. Whitelock), I (c. 500-1042), 448, 61.

⁵ W. de G. Birch, *Cartularium Saxonicum*, pp. 182 and 265.

⁶ *Ibid.*, p. 448: *Place-Names of Middlesex*, p. 33.

The name Northolt (North Healum) does not appear until 'after 962', when reference is made in a Saxon document⁷ relating to a land dispute at Sunbury, Middlesex, and Send in Surrey. The events related in the story took place some time about 950, when Aethelstan of Sunbury fled and took refuge with Wulfgar at North Healum.

Domesday Book lists Northolt (Northala) under the possessions of Geoffrey de Mandeville. This estate was formerly held by Asgar the Staller, who had inherited from his father Aethelstan, who in turn had inherited from his father Tofi the Proud. A 'Tofi Pruda' witnessed several documents before 1033 and he may be the 'Tofi minister' of a document of 1018.⁸ There is no evidence of how 'Tofi Pruda' came into possession of his estates. Aethelstan, his son, had been deprived of his inheritance by Edward the Confessor, but Asgar was restored to favour only to have all his possessions confiscated by William the Conqueror in 1067. It was at this time that Geoffrey de Mandeville began to acquire the two castles and 181 manors which constituted the family estates by 1086. It cannot be said that Northolt was an important part of his domains.

From Domesday Book we learn that there were 15 hides assessed for geld at Northolt; there were 8 hides in the demesne, 10 ploughs, a priest (which postulates a church) and 26 villeins, cottars and slaves; this suggests at least a score of village houses. There was pasture for the cattle of the vill, woodland enough to feed 200 swine and the value of the manor had declined since the time of King Edward.

The de Mandeville family were lords of the manor until 1227, when the last of the family to hold the manor, Maud, wife of Henry de Bohun, and daughter of Geoffrey Fitzpiers, 4th earl of Essex, leased the manor to a Thomas D'Eu. Members of this family, variously recorded as D'Ow, Augo, D'Eu or D'O, witnessed many documents relating to Geoffrey de Mandeville, the first earl of Essex,⁹ but Thomas does not appear except in the Northolt context. Joanna D'Eu held one knight's fee at Northal in 1242/3.¹⁰

In 1231 Thomas D'Eu released the manor to Peter Pincerna, or Boteler, at a yearly rent of one pound of pepper. The *Book of Fees* for 1235/6 shows Peter le Boteler to be holding three-quarters of a knight's fee at Northall and a note states that he was obviously the 'Peter Pincerna' who had bought the manor in 1231. After this the Boteler family held the manor for over 100 years. Little is recorded of their activities at Northolt, although the family had branches in many counties and seem to have been connected with the large Butler clan. A Peter le Botiller, who had died about 1317, had been coroner of Middlesex¹¹ whilst the *Nomina Villarum* shows a Peter le Botiller holding the manors of Northall, Greenford Parva and Ickenham in 1316.¹² A Peter le Botiller sat in Parliament

⁷ Westminster Abbey Muniments (henceforth cited as W.A.M.), charter no. viii; A. J. Robertson, *Anglo-Saxon Charters*, pp. 90-1, 15 and p. 337.

⁸ F. Harmer, *Anglo-Saxon Writs*, p. 560.

⁹ J. H. Round, *Geoffrey de Mandeville*, pp. 81, 242, 390; Sir W. Dugdale, *Monasticon*, iv, 134 ff.

¹⁰ *Book of Fees*, II, 898.

¹¹ Cal. of Close Rolls, 1318-23, p. 628.

¹² *Feudal Aids*, III, 373.

in 1325 and was probably the son of the Peter deceased by 1317.¹³ A Stephen le Botiller and Isabella, his wife, released the manor to a John Frend in 1332, but it was returned to Stephen almost at once. Stephen and Thomas le Botiller, both of Northolt, were acknowledging debts to various persons in 1338 and 1339,¹⁴ but Stephen, in 1339, released it to John Russell, citizen of London and a girdler, the first of many city merchants to acquire the manor, at an annual rent of 20 marks and a bond of £60 for quiet enjoyment.¹⁵ This money was still owing in 1340 and was levied on Botiller's lands and chattels.¹⁶ In January 1341/2 the manor was made over entirely to John Russell,¹⁷ who in the same year is shown to be paying £6 as his share of the Tax of Ninths on sheaves, fleece and lambs.¹⁸ A Geoffrey de Wychingham, sheriff of London in 1344 and mayor in 1346,¹⁹ began to acquire land and property in Northolt in 1342 from a John de Waleys, in 1343 from William le Boteler and in 1346 from Stephen le Boteler.²⁰ This began a complicated system of feudal tenures at Northolt which continued until the death of Nicholas Brembre in 1388. It seems that the le Botelers were still holding land in Northolt as late as 1347.²¹ The transaction of 1341/2, as recorded in the *Feet of Fines* of London and Middlesex, included the whole of the manor of Northolt with woods, lands, pastures, fisheries, customary rents, wards, dowers, escheats, reliefs and heriots, which is a clear indication that Russell held the whole manor estate together with other land outside the demesne.

In 1346 the manor changed hands once more and was bought by Simon Fraunceys.²² He was a prominent city merchant, a member of parliament, sheriff of London in 1328 and mayor in 1342 and 1355.²³ In 1347 he bought more land from Boteler;²⁴ in 1351/2 Agnes Russell, widow of John Russell, released all her rights of dower²⁵ to Simon and in 1354 he acquired the neighbouring manor of Downe from Sir Thomas Holland and his wife, Joan of Kent, later the wife of the Black Prince.²⁶ In 1355 Fraunceys had the manor released to himself and Thomas Loughtborough, together with a messuage, 40 acres of land and 2 acres of wood.²⁷ These same properties were the subject of another release in 1356.²⁸

¹³ *Ibid.*

¹⁴ Cal. Close Rolls, 1337-9, pp. 238, 278, 386, 403.

¹⁵ W.A.M., 386; B.M. Add. Charters, 7559.

¹⁶ Cal. Close Rolls, 1339-1341, p. 275.

¹⁷ W.A.M., 391.

¹⁸ Statutes 14 and 15 Edward III.

¹⁹ John Stow, *The Survey of London* (6 ed. 1754), II, bk iv, 70.

²⁰ W.A.M., 385 and 390.

²¹ W.A.M., 359.

²² W.A.M., 362.

²³ *Op. cit.* in note 19, pp. 70-1.

²⁴ W.A.M., 359.

²⁵ Cal. Close Rolls, 1349-1354, p. 468.

²⁶ B.M. Add. Charters, 1606-1658.

²⁷ W.A.M., 392.

²⁸ *Op. cit.* in note 27.

Simon Fraunceys died in 1358 and was succeeded by his son Thomas. The inquisition taken on his death²⁹ shows him holding manors in Middlesex, Kent, Cambridgeshire and Bedfordshire and tenements and lands in Middlesex and the City of London, with Northolt first worth 100s. per year. Thomas Fraunceys had married Alice Rislip, the daughter of John Rislip, who owned Rislip's Place at Northolt, which later became known as Islips and was acquired by the manor lord in the early eighteenth century. Thomas succeeded to his father's estates at the age of twenty-six and was apparently married before his father's death. From this it could be inferred that the Fraunceys family were living at Northolt in the mid-fourteenth century. Thomas released the manors of Northolt and Downe to Richard Pyriton, John Alban and Thomas Loughtborough in 1360³⁰ and they in turn released to him for his life and the life of his male heirs. Thomas Fraunceys died in 1368, leaving two young sons who, however, are not mentioned after 1370. Thereupon a complicated situation arose, for Alice Fraunceys, Thomas's sister who had married Sir Thomas Travers, retained the manor subject to the life interest of Alice Fraunceys, widow of Thomas, on the strength of the fine of 1360. In 1368 Alice Travers and her husband released both manors to a number of persons, but there is evidence that Alice, the widow of Thomas Fraunceys, was receiving rents from her sister-in-law in 1369.³¹ Further releases took place in 1370, in which the widow Alice was concerned.³² These complex changes were presumably mortgages.

The year 1370 marks the beginning of the decline of the manor of Northolt, for in July of that year Alice Fraunceys was the subject of an inquiry by the sheriff of Middlesex into acts of waste and destruction committed by her at Northolt. She is alleged to have dug up and sold two acres of land containing marl and pottery clay, pulled down and sold the timbers of a hall and an inner court for £100, four chambers to the value of £20 a piece, a grange for 100 marks and a cattle shed for £30; to have pulled up and sold oak and ash trees together with 2,000 oak saplings and to have destroyed orchards of apple and pear

²⁹ Cal. Inq. P.M., x, no. 439. Summary of Inquisition *Post Mortem*, Simon Fraunceys, 4 July, 32 Edward III:

- | | |
|---------------------|--|
| <i>Middlesex</i> | <ol style="list-style-type: none"> 1. The manor of Northall. 2. The manor called Downe in the town of Northalle. 3. The manor of Stanmore held jointly by Simon and Maud his wife, the gift of Ellis Fraunceys. 4. Tenements, unspecified, in Acton. 5. Tenements of the bishop of London in Finchley. 6. Tenements of the archbishop of Canterbury in Harrow. 7. 57 acres of land and 3 of meadow held of the prior of Okeborn at Ruislip. |
| <i>Essex</i> | <ol style="list-style-type: none"> 1. The manor of Beauchamp Roding. 2. A manor called Bedyks, held with his wife Maud. 3. A tenement called Coggeshalles. |
| <i>Bedfordshire</i> | <ol style="list-style-type: none"> 1. A messuage and 120 acres of land held of the prior of Coldewell at Holcwell and two acres of land of the abbot of Westminster. |
| <i>Kent</i> | <ol style="list-style-type: none"> 1. A tenement called Rowehulle held with his wife. 2. A tenement called Hegheland held as above. |

³⁰ *Op. cit.* in note 26.

³¹ W.A.M., 367.

³² W.A.M., 366 and 399.

trees.³³ Whether this was done out of spite, since she had not inherited the estate direct from her husband, or whether it was done merely to raise money, we do not know. The answer she made to the allegations is not available, but this destruction seems to have started the gradual decline of the manor house, which was at its best period of development during the life of Simon Fraunceys.

It was in 1370 also that Nicholas Brembre began to take an interest in properties in Northolt.³⁴ He first acquired land in the vill and then secured the manors of Northolt and Downe by stages. Brembre was sheriff of London twice and mayor four times.³⁵ From 1374 to the execution of Brembre in 1388 many releases took place,³⁶ but he seems to have had the forethought to protect his wife Idonia's interests, for she was allowed to keep the manor and to purchase the goods forfeit to the crown on his execution.³⁷ There is no evidence that Brembre ever lived at Northolt, although his arms appear on the church font. During his time the manor house was rebuilt on a smaller scale, and since he had many manors throughout Middlesex and Kent, and a residence in the city of London, together with various tenements, it cannot be claimed that Northolt was any more important than any of his other manors. An important fact emerging from an inquisition on his death is that Northolt was the one manor in Middlesex which yielded a list of household effects as distinct from agricultural implements, seed and sheep or cattle.³⁸ Idonia Brembre probably continued to hold her late husband's estates until 1396. In 1389 Thomas Kemp, the escheator for Middlesex, was ordered 'to meddle no further with the manors of Northolt and Downe and to deliver the effects to Idonia the late wife of Nicholas Brembre as Nicholas himself had held the premises as jointly enfeoffed with her'.³⁹

In 1396 the manor of Northolt was ratified in the possession of Sir Richard Waldegrave, Speaker of the House of Commons,⁴⁰ whilst in 1399 the manor,

³³ W.A.M., 416.

³⁴ W.A.M., 415 and B.M. Add. Charters, 1658.

³⁵ *Op. cit.* in note 19, pp. 71-2.

³⁶ W.A.M., 363.

³⁷ Patent Roll, 1385-1389, p. 481.

³⁸ Summary of Inquisition taken at Westminster Tues. after Feast of St. Edmund (Patent Rolls 12, 1385-1389, p. 481):

| | |
|-----------------|---|
| <i>Hanworth</i> | 1 brass pot, 1 lead pot, 14 oxen, 2 draughts oxen, 2 ploughs with fittings, 3 horses and harness, 3 harrows, 6 winnowing fans, 1 cart of wood, for manure, 628 sheep, 23 pigs, 4 boars, 2 sows, 6 piglets, quantities of wheat, rye, oats, and peas, 1 gander, 3 geese, 1 cock, 8 hens, 8 farm carts. 15 acres sown with barley. All valued at £45 5s. 4d. |
| <i>Downe</i> | Quantities of wheat, beans and oats, 1 boar, 1 sow, 6 piglets, 2 geese, 1 gander, 2 farm carts. 21 oxen, 3 horses, 2 ploughs with fittings, 390 sheep, 40 acres sown with wheat. All valued at £62 9s. 4d. |
| <i>Northall</i> | Quantities of wheat, beans, peas, oats, and barley, 30 farm carts, 1 boar, 2 sows, 3 piglets. 20 oxen, 4 draught oxen, 2 iron-bound carts, 2 ploughs and fittings, 320 sheep, 3 tables and 3 pairs of trestles, 3 cupboards, 4 benches, 3 chests and 1 aumbry, 7 pairs of hand-irons, 1 cauldron and tripod, 2 lead pots, 5 brass pots, 1 great iron spit, 3 basins, 1 old ewer, 1 spindle of a mill and a 'royne' (metal support for upper mill stone). All valued at £56 15s. 1d. |
| <i>Roxeth</i> | Quantities of wheat, beans, peas and oats, 3 farm carts, 1 boar, 1 ram, 2 pigs, a gander, 2 geese, 1 bull and 24 cows, 11 oxen, 3 horses, a plough and harness, 40 acres sown with wheat, a cart for wood and 1 for dung and a debt of 78s. owed by the vicar of Harrow. All valued at £33 6s. 2d. |

³⁹ Cal. Close Rolls, 1385-1389, p. 580.

⁴⁰ Pat. Roll, 1391-1396, p. 690.

with Downe, was granted to the abbot and convent of St. Peter, Westminster,⁴¹ by Richard II to endow a tomb for his queen, Anne of Bohemia. The manor then remained in the possession of the abbey until the dissolution in 1540.

There is some evidence in the abbey records of the tenant farmers who leased the property from the abbot, but it would appear that until 1498 the abbey administered the estate directly, since it was so near Westminster. From the year 1461 the court rolls are extant,⁴² and they contain valuable evidence from that date onwards for the working of the manor and, from 1540 on, of the descent of the manor. In 1489 John Thornedon and Thomas Cyresnoth, yeomen, held a lease for 20 years of the manor of Northolt, paying to the abbey £15 8s. per annum with the stipulation that the abbot kept the feudal dues and profits of the manor courts.⁴³

In 1502 a Henry Tuornon or Turner was farming the manor lands.⁴⁴ In 1513 he received a lease for 24 years at £15 8s. per annum,⁴⁵ but this lease did not run its course, for in 1524 his son, Thomas, and his widow, Maria, were leasing at the same rent. This lease again did not run the full term, for in 1529 the manor was leased to Anne Jefford and her son John Jefford for 40 years at the same rent as before. In 1534 four lessees are recorded and in 1538 a Richard Devenyssh submitted an account roll.⁴⁶ Devenyssh had married Anne Jefford, for about this time he was being sued by William Taylour, free-mason, of Westminster, for the detention of deeds relating to property in Northolt.⁴⁷

There is evidence of some rebuilding in 1534, for in that year some 33,500 bricks, 15,000 tiles, together with sand, lime and loam, were brought to Northolt;⁴⁸ this material was sufficient for a fairly substantial building. The leases of the tenant farmers came to an end at the dissolution, for in 1540 the abbot and convent surrendered to King Henry VIII all their possessions⁴⁹ and Henry used the manor of Northolt, with others, to endow the new bishopric of Westminster.⁵⁰ The bishopric was not a success and Edward VI granted the manors of this endowment in 1550 to Sir Thomas Wroth, a gentleman of his bedchamber and strong court favourite.⁵¹

The manor⁵² remained in the hands of members of the Wroth family until 1616, when it was alienated to Sir John Bennett, master of the Court of Chancery and judge of the Prerogative Court of Canterbury. In 1622 it came into the possession of William Pennyfather, citizen and sheriff of the city of London,

⁴¹ *Cart.* 21-3, Ric. II.

⁴² W.A.M., Shadwell Collection, N. 1-16.

⁴³ W.A.M., *Reg. Book* 1, folio 41.

⁴⁴ W.A.M., 394.

⁴⁵ W.A.M., *Reg. Book* II, folios 208b and 257b and ch. 396.

⁴⁶ W.A.M., *Reg. Book* II, folios 208b and 257b.

⁴⁷ *Early Chancery Proceedings*, VII, file p. 11, nos. 10-13.

⁴⁸ W.A.M., 373.

⁴⁹ Augmentation Office: Deeds of Surrender, 260.

⁵⁰ Pat. Rolls, 1538-1547, p. 699.

⁵¹ W.A.M., Shadwell Colln. N. 58.

⁵² Northolt Manor Court Rolls, 1550-1920, and Court Minute Books, W.A.M., Shadwell Colln. N. 1-16, 17-21.

who alienated to John Hulse in 1638. It passed rapidly through the hands of the various members of this family until in 1654 the manor was held by Elizabeth, widow of John Hulse and now wife of Christopher Eyre. In effect trustees held the manor for Elizabeth until 1671, when she and Eyre held the manor freely for the first time. Eyre had been knighted in 1666. The Lady Elizabeth died in 1674 and the manor passed to Charles Goode, who had married Lettice, the daughter of John Hulse and Elizabeth, later the wife of Christopher Eyre. Lettice had died in 1667 and consequently was heir to the estate to which Goode had succeeded despite attempts to deprive him of it. Goode was a very unworthy manor lord, for the property was constantly mortgaged and ultimately was acquired by Edward Leigh, one of the mortgagees. In 1687 it was held by Leigh alone; by 1691 there were two mortgagees who were executors of Leigh.

In 1701 the manor passed to John Walker, assistant clerk of the House of Lords and when he died in 1715 it was purchased by James, earl of Carnarvon for £9,000. Carnarvon in turn sold to William Peere Williams, a Chancery lawyer, in 1722. Sir Hutchins Williams inherited from his father and later sold to the Childs, a family of bankers. The manor was held by the Childs from 1757 to 1804, when Sara Child married George Villiers, earl of Jersey, who thus became lord of the manor. The Jersey estates were sold in 1827 to Sir Lancelot Shadwell, the last vice-chancellor of England, and remained with that family until 1919, when the estate began to be sold for development. Various speculators acquired land from the former demesne and schemes were prepared for obliterating the manor site and building a housing estate over it. Fortunately the parish of Northolt had been incorporated in the borough of Ealing in 1928 and in 1935 the site of the moated manor was acquired by the borough as a public open space and at present is part of Belvue Park. In 1961 the moat was partly filled in but the shape of the banks has been retained.

THE EXCAVATION

Excavation began in 1950, with the intention of obtaining the plan of a typical manor house, since few complete plans are available of medieval moated sites. Trial-trenching around the edge of the site took place at Easter 1950⁵³ and a grid of trenches 30 ft. apart was dug over the main part of the site during three weeks in the summer vacation.⁵⁴ These showed that the manor buildings of the fourteenth century were mainly situated in the W. and S. quadrants of the site, and that the rest of the area was a pebbled courtyard. Excavation down to the natural subsoil located a cellar and a complex series of levels going back to Saxon times.

Excavation was pursued in 1951 to open up the fourteenth-century manor house and obtain its complete plan. 24 squares of 15 ft. each were opened in three weeks and it was soon clear that there was no simple manor complex of hall, solar, kitchen, but a very large establishment comprising seven groups of

⁵³ *Archaeol. News Letter*, III (1950), 37.

⁵⁴ *Ibid.*, III (1951), 149-50.

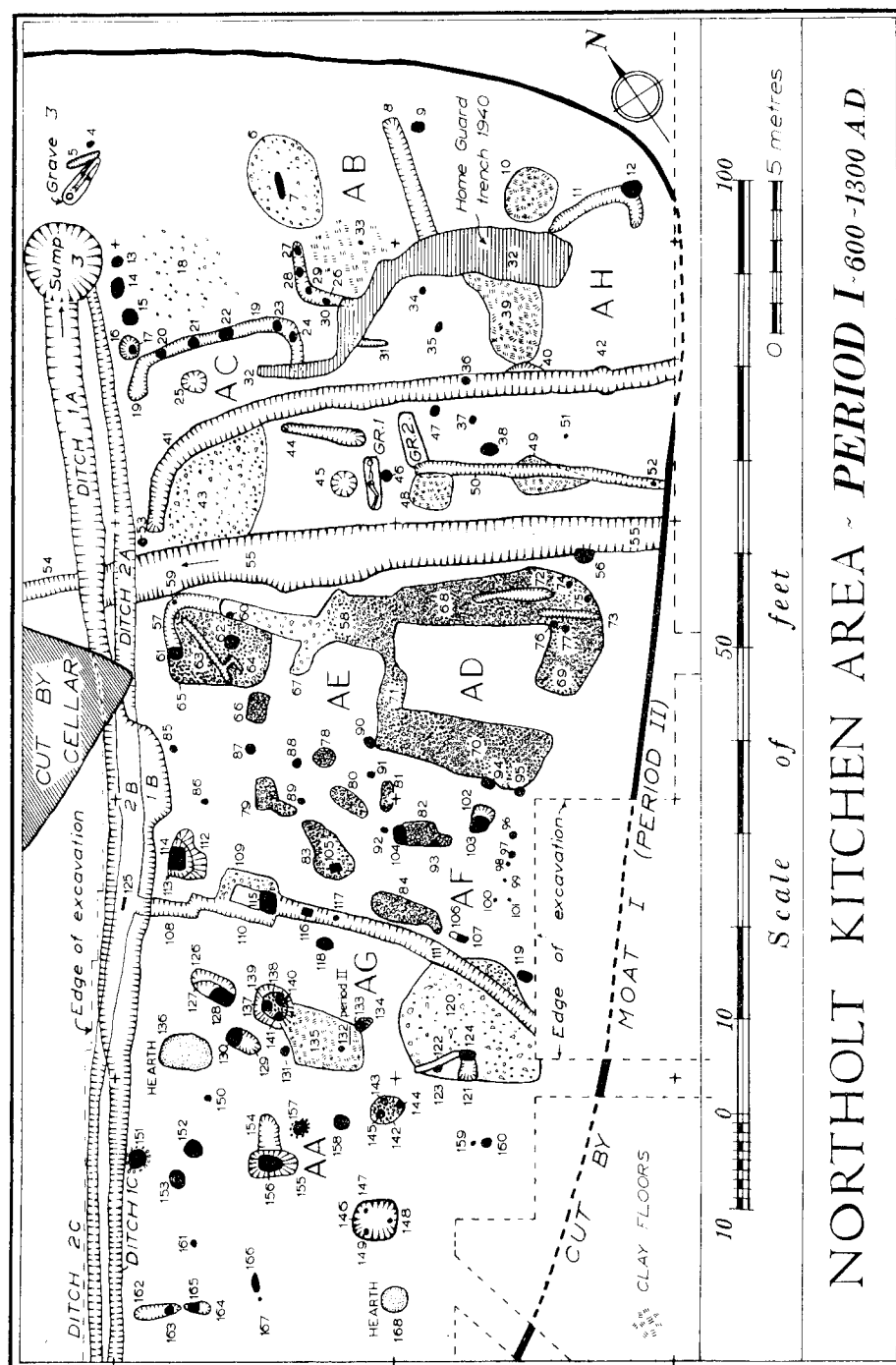


FIG. 57 (p. 213)
For key to symbols see FIG. 61

buildings set round three courtyards, so that the plan could not be completed in one season.⁵⁵

From 1952 my official duties with the Ministry of Works have prevented any further concerted work, but the excavation has continued ever since on Saturday afternoons, weather permitting. In 1952 the aim was still to complete the excavation of a fourteenth-century (Period-III) manor, but owing to the intermittent nature of the work more time was spent in keeping the grids weeded than in digging. From 1953, therefore, we decided to dig one 15-ft. square at a time (and more if the spasmodic appearance of labour permitted), excavate this down to natural subsoil, and then move on to the next square, backfilling into the previous one. The plan and building sequence has, therefore, been built up piece by piece, and no large areas have been open at the same time. This solved the serious problem of weed control and long barrow runs to dumps outside the excavation, which were not only time-consuming but led to large dumps, which, as the excavation has been run with hardly any funds, presented a serious backfilling problem.

Between 1953 and 1958, therefore, forty 15-ft. squares were completely excavated and backfilled, forming an area of 150 ft. by 30 ft., i.e. the SE. third of the site. This area provides a fixed unit in the fourteenth century, as it forms the kitchen area of the manor, while in the thirteenth century a large ditch across the site from NE. to SW. defines this area for the earlier periods also. It has, therefore, been decided to publish this part as a separate report. Further reports will be published as the excavation, which aims at total excavation of the moated area, continues. It was thought in the early stages that it would be possible to obtain the plan and dating evidence for the various building periods by trial-trenching, but the complexity of the post-holes, pits, sleeper trenches and ditches of the first six periods is so great that total excavation is the only way to obtain the whole story.

The site lies on the London Clay, there some hundred feet in thickness at least. About a mile to the S. brickearth deposits are marked; the greater part belongs to the Later Taplow Terrace, which adjoins them to the east and consists—like the Boyn Valley gravel marked about 1½ miles SW. of the site—predominantly of flint gravel.⁵⁶

PERIOD IA (c. 700)

The earliest features are the three Saxon graves found towards the N. of the area excavated (FIG. 59).

Grave 1, orientated NE.-SW., contained a semi-flexed skeleton of a youth of about 17 years lying on his left side. The grave was cut about 2 ft. into the clay. The bones were very badly decayed and little more than the shadow of the body was obtained (PL. xxxii, c and FIG. 65, Sect. 7). Only the teeth were in good condition. Just under the jaw was a blue glass bead, the only find.

⁵⁵ *Ibid.*, IV (1952), 111-12.

⁵⁶ Information kindly supplied by the Geological Survey and Museum.

Grave 2, orientated more nearly N.-S., lay 4 ft. to the E. This had been disturbed in medieval times and the disturbed bones were so much decayed that no pattern could be obtained. The grave goods comprised a small bronze ring with over-lapping ends and a fragment of a bone plate with circle-and-dot decoration. It is possible that this grave might have been that of a woman. PL. XXXII, B, shows this feature before excavation, illustrating how clearly it showed up as a dark mark in the clay.

Grave 3 was quite separate, lying 45 ft. to the N. and orientated W.-E. The body of a man of about 30 years lay supine at full length in a very shallow grave, dug barely 3 in. in the natural clay. By his left leg was a long seax of the late seventh to early eighth century, and the tip of an iron knife.

No other graves have been found so far, but a fragment of a pattern-welded blade (which could be medieval, see p. 288) lay 90 ft. to the S. in a medieval level. We seem, therefore, to have isolated burials rather than an extensive cemetery. The orientation is also markedly different. No structures can be associated with this early phase and there may be a gap between the seventh-century burials and the late Saxon occupation in the tenth century (p. 231).

It is possible (though evidence of date was lacking) that the post-holes 46 and 4, which are so close to graves 1 and 3, may have been for marking-posts. They do not seem to fit with any other period. The narrow slot 5, which cuts across the bottom of grave 3 destroying the man's feet and the tip of the seax, could be a child's grave in which all the bones have decayed. Pit 45, which is 1 ft. deep, could also be connected with this early period.

THE SAXON OBJECTS

By Miss V. Evison

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Grave 1. At neck, translucent blue glass *bead* (FIG. 58, no. 1), diam. 1.6 cm., formed by coiling a rod round a stick, the ends pressed together.

Grave 2. *Ring* (FIG. 58, no. 2) of bronze wire, diam. 2.2 cm., tapering at each end and overlapped. *Bone fragment* (FIG. 58, no. 3), $3 \times 0.7 \times 0.1$ cm., one long edge original, the others broken; row of circle-and-dot stamps.

Grave 3. *Seax* (FIG. 58, no. 4), length 60 cm. (tip missing), tang 24 cm., blade 36 cm., width 4.2 cm.; tapering point. Oval guard at juncture with tang, which joins the back at right angles, but slopes to the cutting edge. Decoration by four grooves running along the back on each face to within 7 cm. of the guard, where the two outer grooves continue, but the two inner grooves stop short of a zone of yellow metal wires inlaid in a zig-zag pattern representing a formalized cable. This pattern has been revealed by cleaning on one side only, but a radiograph shows the pattern repeated on the other side. Tip of a *knife blade* (FIG. 58, no. 5), length 6.3 cm. Two *iron fragments*, length, 2.5 and 3.5 cm.

The small objects are of no great distinction and are common among pagan Anglo-Saxon grave-goods. The bone fragment is too tiny for its use to be identified, but part of a comb or decorative fitting for a box is its most likely function.

A similar twist of bronze wire was found at Ruskington.⁵⁷ The presence of a single blue glass bead at the neck of a male skeleton in grave 1 points to function as a kind of fastening.

Most important, of course, is the weapon from grave 3—a large and heavy knife with a single cutting edge. The term 'scramasax' has often been used of

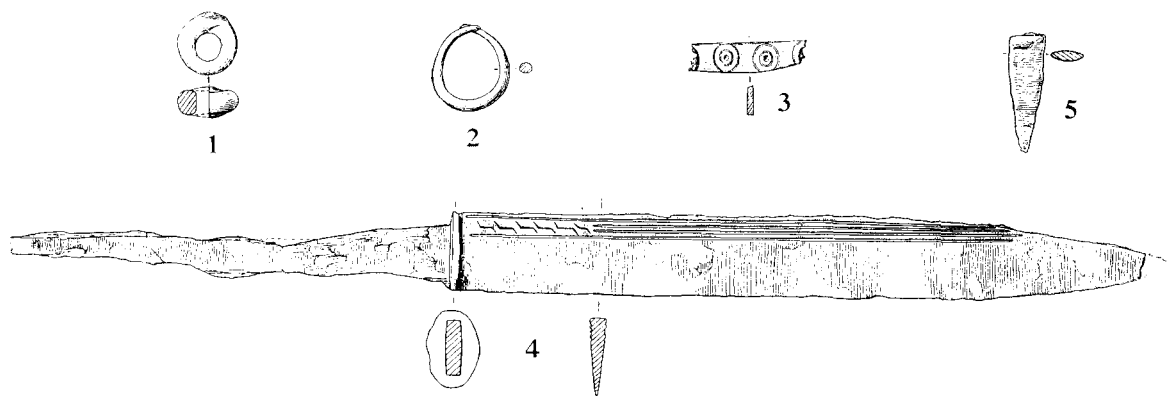


FIG. 58

KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX: FINDS IN SAXON GRAVES (p. 226)

1. Blue glass bead, grave 1; 2, 3. Bronze ring and bone fragment, grave 2; 4, 5. Iron seax and knife, grave 3.
1-3. Sc. $\frac{1}{2}$; 4-5. Sc. $\frac{1}{4}$

this type of weapon, because of a passage in Gregory of Tours,⁵⁸ where the murder of Sigibert is described as being carried out by boys with *cultris validis quos vulgo scramasaxos vocant*. This reveals no more than that this name was applied to strong knives used by the Franks in the sixth century, without giving further details. Supporting evidence for the first part of this word is to be gleaned from the *Lex Visigothorum* where *scramis* are mentioned in connection with *scutis*, *spatis*, *lancis*, *sagittis*.⁵⁹ Cognates are well in evidence in other Indo-European languages, (cf. mod. German *Schramme*, 'a scratch') so that no doubt can be attributed to the word used in this one instance by Gregory of Tours, but there can be no definite idea of what sort of strong knife was meant.

The common word in use in Anglo-Saxon for knife was *seax*, of which certain compounds such as *hup-seax*, *peoh-seax*, *walseax* (hip-, thigh-, slaughter-knife) show clearly that it was applied to knives of substantial size which were slung from a belt and used as weapons. It seems most suitable, therefore, that *seax* should be used as a general term for a knife that served as a weapon.

In dealing with this type of weapon in the Trier district, K. Böhner has

⁵⁷ *Antiq. J.*, xxvi (1946), pl. x, 1.

⁵⁸ *Historia Francorum*, iv, 51; O. M. Dalton, *History of the Franks*, II, 160.

⁵⁹ J. Pokorny, *Indo-germanisches Etymologisches Wörterbuch*, I (1959), 945.

reviewed previous studies on the subject⁶⁰ and has distinguished three main types, the narrow seax, the broad seax and the long seax, which, in that order, represent a chronological and typological development. Most of the seaxes found in pagan Saxon graves in England are of the nature of a long knife with a narrow blade, although sometimes the tang is long enough to allow a two-handed grip,⁶¹ which is surprising, for it hardly seems practicable to use such a light weapon in this way. The normal type with shorter tang occurs at Kempston, Beds.,⁶² Chessell Down, I.O.W.,⁶³ North Leigh, Oxon.,⁶⁴ Burwell, grave 47, Cambs.,⁶⁵ Sittingbourne, Kent,⁶⁶ Shudy Camps, grave 61, Cambs.,⁶⁷ Folkestone⁶⁸ and Dover,⁶⁹ Kent, Chadlington, Oxon.,⁷⁰ and Burton Dasset, Warwicks.⁷¹ These would all come into the category of the narrow seax, which was in use in the Trier region during the period 450-600, and they were no doubt imported to this country in the first place. However, a number of the English weapons are fitted with a pommel and an upper guard which curved towards the blade, e.g. from Shudy Camps, grave 36 (with a long grip),⁷² Sibertswold, Kent,⁷³ and Winchester, Hants.,⁷⁴ and as Frankish parallels are usually set on a straight guard⁷⁵ it looks as though this may be an insular development. Few are associated with other objects, except at Dover, where grave 93 may be ascribed to the end of the sixth century, but the cemeteries of North Leigh, Chadlington, Burwell and Shudy Camps belong to the latest group, and the tall, conical shield-boss found in Sibertswold, grave 177, is also a late seventh-century feature. This type of seax must have been in use here mainly in the period following its continental career of 450-600.⁷⁶

The broad seax, a heavier weapon with broader blade, occurred mostly during the seventh century across the channel, and is found in a few graves here, two from Long Wittenham, Berks.,⁷⁷ one from St. Neots, Cambs.,⁷⁸ and one from

⁶⁰ K. Böhner, *Die Fränkischen Altertümer des Trierer Landes*, I (1958), 130-145.

⁶¹ G. Baldwin Brown, *The Arts in Early England*, III, pl. xxviii, 2. This was found at Snodland, Kent, where there was a late cemetery and other separate pagan burials, *Archeol. Cantiana*, LXX (1956), 84-140, so that a grave-deposit origin is possible.

⁶² B.M. Reg. no. 91. 6-24. 103.

⁶³ B.M. Reg. no. 69. 10-11. 55.

⁶⁴ *V.C.H. Oxon.*, I, pl. xxix; *Oxoniensia*, V (1940), 21.

⁶⁵ T. C. Lethbridge, *Recent Excavations in Anglo-Saxon Cemeteries in Cambs. and Suffolk* (1931), p. 57, fig. 29, 5.

⁶⁶ B.M. Reg. no. 83. 12-13. 622.

⁶⁷ T. C. Lethbridge, *A Cemetery at Shudy Camps, Cambs.* (1936), fig. 3. 1.

⁶⁸ *Op. cit.* in note 61, pl. xxviii, 6.

⁶⁹ Grave no. 93, M.O.W. excavation.

⁷⁰ *V.C.H. Oxon.*, I, pl. xxix, top; *Oxoniensia*, V (1940), 27.

⁷¹ *Oxoniensia*, V (1940), 29, note 2.

⁷² *Op. cit.* in note 67, fig. 7.1.

⁷³ Grave 177: G. Faussett, *Inventorium Sepulchrale* (1856), p. 132.

⁷⁴ *Antiq. J.*, XI (1931), 5, fig. 2; the curved pommel is seated on a straight iron guard.

⁷⁵ *Op. cit.* in note 60, pl. 25.6.

⁷⁶ A seax about 45 cm. long was apparently included in the Sutton Hoo ship burial (*The Sutton Hoo Ship Burial* (British Museum, 1961), p. 31, pl. 24). This length is on the border line of the narrow and broad seaxes.

⁷⁷ B.M. Reg. no. 62. 7-19. 5, found with umbo, two knives or spear, total length 40.5 cm., width 5.5 cm.; and no. 62. 7-19. 6, total length 46.2 cm., width 4.3 cm.

⁷⁸ *Op. cit.* in note 67, p. 32, fig. 13.

Purton, Wilts.,⁷⁹ including one, perhaps, from Uncleby, Yorks.,⁸⁰ although the length of this may bring it into the next class. The seax from Clipston, Northants., probably came from a grave as it was found with a knife and spearhead in 1867.⁸¹ The fine, long specimen from Kidlington, Oxon.,⁸² together with another (find-spot not recorded) in Bristol Museum, are of the long type which belongs to the first half of the eighth century. No example is known from an Anglo-Saxon grave, and although this one was found at Kidlington with a skeleton, there are no other finds, and it does not seem to be from a known cemetery.

The measurements of the Northolt seax correspond most closely to those of the seax with pommel and curved guard from Purton, Wilts., and although this is developed from the series of the narrow seaxes with pommels mentioned above, its measurements (total length 57 cm., blade length 37.5 cm., width 4.7 cm.) bring it into the class of the broad seax with double-handed grip. One groove is visible along the back, and there are the remains of a lower guard. There is similarity in the transition from tang to blade in a right-angle at the back and slope at the front, but the number of grooves and sharpness of the point differ. Also in the grave was a knife and a blue glass bead of irregular shape, very similar to that found in grave 1 at Northolt. Decoration by means of grooves along the back is very common, but up to now very few inlaid seaxes of this period have been noticed,⁸³ although engraved designs, both geometrical and zoomorphic, do occur, a similar angular cable pattern, but incised, appearing on a Finnish seax of the end of the eighth century⁸⁴ and others on Alemannic seaxes from Hailfingen.⁸⁵ The pattern itself, in metal wire inlay, is common on Merovingian jewellery,⁸⁶ and a seax with yellow metal inlay along its back was found in the Rhine at Mainz.⁸⁷ These tentative beginnings in metal-inlaid decoration on seventh-century seaxes came to a sophisticated fruition in later developments of the weapon, such as the seax from Sittingbourne with its geometric and acanthus decoration.⁸⁸

The Northolt seax, then, belongs to the broad type which is a rarity in Anglo-Saxon graves. The Purton grave must be of similar date, and the unusual presence of a single blue bead in a male grave also connects the two sites. As the Purton seax is a development of the type with a metal pommel, guards and occasionally a long grip which occurs in England at Winchester, Shudy Camps (grave 36) and Sibertswold, all graves likely to have been deposited after the middle of the seventh century, it is probably to be ascribed to a time not far from the turn of the

⁷⁹ *Devizes Mus. Cat.*, II, 252, pl. lxxxva; *Wilts. Archaeol. Mag.*, xxxvii, 606-8. The 'two iron knife-blades' appear to be blade and tang of the same knife.

⁸⁰ *Op. cit.* in note 61, pl. xxviii, 7.

⁸¹ Northampton Museum, D215/1955-6. There is a broad seax (find-spot not recorded) in Devizes Museum (D.M.64), length 57 cm., blade 44 cm., width 5 cm.

⁸² *Op. cit.* in note 61, pl. xxviii, 20.

⁸³ E. Salin, *La Civilisation mérovingienne*, III (1957), 55.

⁸⁴ H. Salmo, 'Die Waffen der Merowingerzeit in Finnland,' *Finska Forn. Tidskrift*, XLII, 133, fig. 40.

⁸⁵ H. Stoll, *Die Alamannen Gräber von Hailfingen* (1939), p. 29, fig. 4, 1 and 4, 3, pl. 31.

⁸⁶ E. Salin and A. France-Lanord, *Le Fer à l'époque mérovingienne* (1943), pls. xxiv, 1-5.

⁸⁷ L. Lindenschmit, *Altertümer unserer heidnischen Vorzeit* (1858-1911), IV, pl. 66, 3 and 3a.

⁸⁸ *British Museum Guide to Anglo-Saxon Antiquities* (1923), p. 95, fig. 116.

seventh and eighth centuries. This should apply also to the Northolt seax which conforms closely in dimensions. Although graves 1 and 2 are unusual in their orientation, the W.-E. direction of grave 3 and the general sparseness of the grave-goods support the probability of this dating.

Mr. L. Biek reports:

'X-radiographic examination (W. E. Lee, A.M.Lab.) indicated non-ferrous inlay on both surfaces of the seax, and clarified the outlines and natures of all pieces. Microscopic examination has failed to reveal any traces of copper corrosion products on either surface as received, or at the junctions between yellow metal and rust as subsequently revealed (E. S. Cripps, A.M. Lab.) on one surface by grinding away 1.1-1.5 mm. of rust over the inlaid area. The blade has been examined by Mr. H. S. Campbell (British Non-Ferrous Metals Research Association) who confirmed that, although lack of corrosion of a small area of copper in contact with a large volume of iron would be expected in these circumstances (corrosion of the iron being normally accelerated and protecting the copper), in practice the present appearance was remarkable, and would be in agreement with a generally slow rate of attack. Proximate tests kindly carried out on a minute amount of the yellow metal by Mr. J. S. Forbes (Goldsmiths' Hall) confirmed the absence of gold in any but trace quantity; the main constituent is copper, and little tin, if any, appears to be present, pointing to a zinc-rich copper alloy. Traces of "fossilized" woody grain are clearly visible on all parts of the tang but have not been identified.'

THE HUMAN REMAINS

By C. B. Denston

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Two individuals are represented in the remains received for examination:

Grave 1. An extremely broken and fragmentary skeleton, comprising some 400 pieces. The bones recognized are, femur, parts of the skull, ulna, humerus, pelvis, tibia and carpals. Some epiphyses were obviously separate, and the fact that one molar was not fully developed, suggests an age for the person of about 15-17 years. It is not possible to sex the specimen with any confidence, but the male sex seems more probable. Parts of 18 teeth were identified, none showing caries.

Grave 3. Broken eroded fragments, mainly of the skull and long bones, were examined. The size and robustness of the femur head and shaft suggests masculinity. The person may well have been fully adult, although the degree of wear on the teeth points to an individual of not more than 30 years. None of the five molars examined displays caries.

PERIOD IB (700-1050). FIG. 59

There is a considerable scatter of Saxon hand-made pottery and St. Neots ware on this part of the site, but as they are not found in features separate from each other, it is likely that they are contemporary and no features in the kitchen

area are datable before about 900. There is evidence for grass-tempered ware lasting until 1050 at Old Windsor⁸⁹ so this pottery could be placed anywhere within this hundred and fifty years. There was certainly occupation by the middle of the tenth century, as is shown by the historical evidence (p. 218). In the autumn of 1961 the first middle Saxon building, containing hand-made Saxon pottery only, was discovered in the corner between the ditch complex and the cellar (see note and plan in *Med. Archaeol.*, VI (1962), forthcoming), so it is now possible to put occupation definitely back before 900 and many of the stray sherds may now be assigned to this earlier period.

The greatest concentration of Saxon pottery is in the NE. half of the area excavated, but in this area no features contained this pottery unmixed with later types. In the SW. half, however, there are four features which contain pottery of this date (137, 142, 146 and 155). The first three are very similar in plan but are of very different size. 137 is a hole cut 3 in. into the natural clay with three equally-spaced rounded post-holes, 9 in. deep (139, 140, 141), set in a hole, 138, 6 in. deep (FIG. 65, Sect. 6). The post-holes were filled with a dark grey soil markedly different from the rest of the grey fill, which had a mixture of pebbles. 142 was a similar feature with three post-holes (143, 144, 145) set in a similar pattern in a single hole, but the posts were much smaller and they were only cut 6 in. into the clay. They showed up as grey circles in a darker grey fill packed with pebbles. 146 had a similar setting of posts (147, 148, 149), but here the hole was 2 ft. deep and the post-holes hardly larger than for stakes (FIG. 64, Sect. 4). They did not show until the bottom of the pit was reached, when they appeared as grey circles in a yellow green silt which is thought to be the remains of sewage (p. 284). This pit is interpreted as a cesspit, the stakes either being used to hold a lining to the pit or to hold some superstructure. Buildings with planks held in place by groups of three post-holes are known from late Saxon sites both in England⁹⁰ and abroad,⁹¹ but it is hard to make a structure out of these, though two parallel walls could be envisaged. 155 comprised a large post-hole (156), 2 ft. across and 2 ft. deep, set in a large hole, 1½ ft. deep (FIG. 64, Sect. 4). This cut across an earlier shallow slot, 6 in. deep (154).

At the N. end of the site pebble floor 6 contained one sherd of Saxon pottery and appears to be cut across by slot 7 of Period IC. Ditches 41, 50 and 55 all contained Saxon pottery but also later material. As there is a considerable scatter of Saxon pottery in the area it is assumed that this came in with the other occupation-material that lay around.

DATING

There were no finds in 137-141, but in 142-145 were two sherds of gritty Saxon pottery. It is assumed that both these features are of the same date in view of their similar form. Pit 146 contained two Saxon sherds and 15 St. Neots sherds

⁸⁹ Information from Mr. B. Hope-Taylor: cf. *Med. Archaeol.*, II (1958), 183-5.

⁹⁰ *Med. Archaeol.*, III (1959), 310, fig. 103. At Maxey, Northamptonshire, building A has 3 large post-holes on each side of the entrance; information from Mr. P. V. Addyman.

⁹¹ R. Schindler, *Ausgrabungen in Hamburg* (1957), p. 49, fig. 13.

in the bottom half.⁹² No difference could be seen in the section, but clearly the pit was half filled in when, in Period IC, it was levelled with later rubbish as there were 29 sherds of twelfth-century ware with red surfaces and incised decoration (FIG. 69, nos. 87-90) in the top half. Post-hole 156 contained 13 sherds of rough gritty hand-made Saxon pottery (p. 256). No features other than the pebble floor 6 contained only Saxon or St. Neots pottery, but as so many features were barren any number of them could be of this period. There was a considerable scatter of Saxon pottery over the whole of the NE. half of the site, no less than 88 sherds being collected. In the SW. half, except for the features, only 16 sherds were found.

PERIOD IC (1050-1150). FIG. 59

The main features belonging to this period were all NE. of ditch 55, which was first cut in this period. Ditch 54 is very much narrower and shallower than 55, so cannot be regarded as a continuation of it. It is therefore assumed that ditch 55 turned sharply NE. and drained into sump 3, the evidence being destroyed by the later recutting in Period IE (p. 237). Inside this enclosed area was a pebbled yard (18) on the E. side of which was a building (AB). The E. wall was formed by timber slot 8, 1 ft. deep, and the SW. corner by rounded-corner trench 26. This was 6 in. deep and contained four evenly-spaced posts, about 9 in. diameter (27-30) which penetrated a further 3 in. into the natural clay. The W. end of the building was destroyed by home-guard trench 32. Along the W. side, on the same line as 26, was a small length of narrow slot (7), 6 in. deep, cut into the Period-IB floor 6. The N. end was much disturbed and this end of the building was destroyed during the cutting of moat 1. The only internal feature was a small post-hole (33) on the central axis. Nearly opposite the N. end of the E. wall (8) was another post-hole (9). Both post-holes were nearly 1 ft. deep, though 33 was only 6 in. across, while 9 was one foot. In the west quadrant of the building was a very black occupation-deposit from which came most of the pottery associated with this structure.

On the S. side of floor 18 was a long trench (19) with curving ends and five post-holes, 20-24, spaced irregularly along it. This was very similar to feature 26 with a depth of 6 in., the post-holes penetrating 9 in. into the natural clay. It would appear to form the N. end of a building (AC), but no traces of other walls were found. Inside this building was pebble floor 43 (FIG. 65, Sect. 6), the E. side of which ended along a projection of feature 19, if this had been continued. In the SW. corner was a small post-hole (53), which could have formed the corner. The only other internal feature was pit 25, which was 1 ft. deep and off the central axis (FIG. 65, Sect. 5).

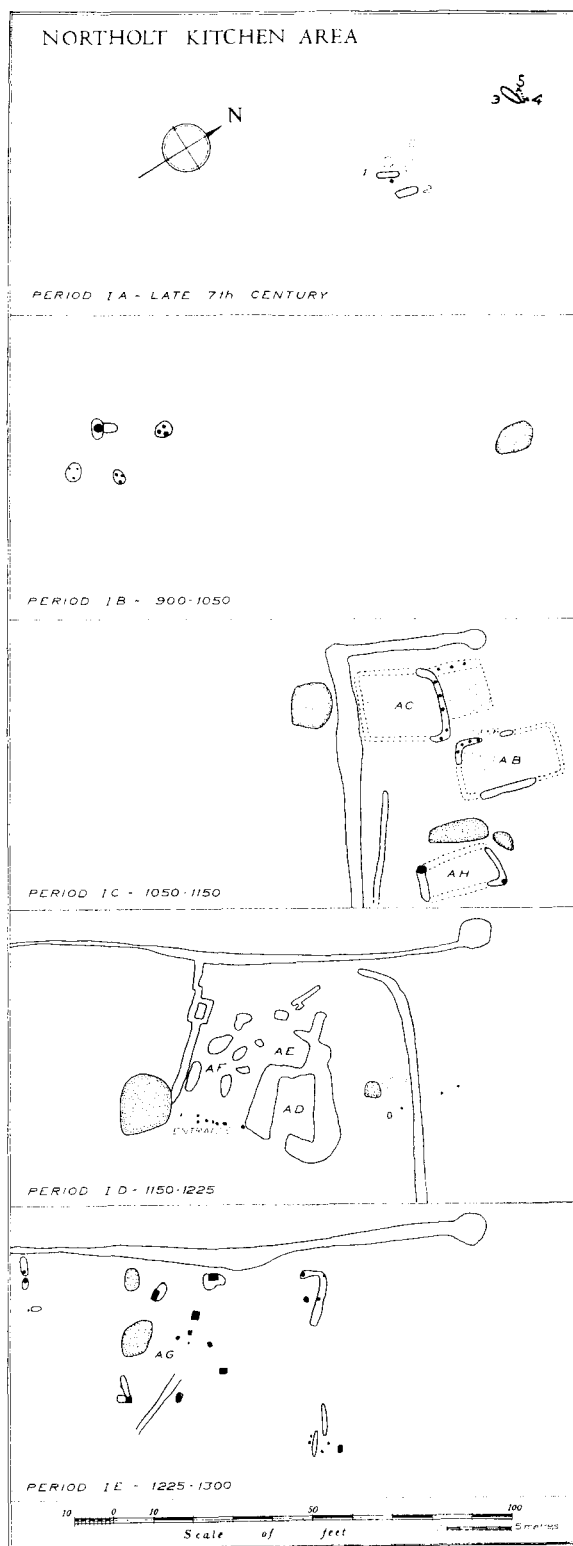
The W. side of floor 18 is bounded by a line of four post-holes about 2 ft. apart (13-16), which might form a fence dividing the yard from the drainage ditch 1 and sump 3. On the other hand they seem unduly large for this purpose, being about 2 ft. across; they were 6 in. deep and post-hole 16 contained the

⁹² There were no rims, but a typical sagging base (FIG. 66, no. 11) and a cresset (FIG. 66, no. 4).

decayed remains of its post, showing that the posts were about 9 in. in diameter. It is more likely therefore that the rectangular pebble floor 18 defines a lean-to building which was mainly supported by post-holes 13-17, the NE. and SE. walls of which have left no trace.

SE. of this complex was one other feature of this period, an occupation-area of dirty clay (39). The NE. part of this was cut away by home-guard trench 32 and it is likely that the similar area 10 was part of this same feature. No structures were associated with these apparent floors, but timber slot 11 seems to form the N. wall of a building (AH) with post-hole 12 at its NE. corner. The NW. corner would have been destroyed by home-guard trench 32, but floor 39 ends on a sharp line which could define the line of the W. wall. The E. wall could have been cut away by moat I, and the S. wall destroyed by, or incorporated in, ditch 41. The change of line E. of 42 (which could be the corner-post), where the ditch turns slightly further N. making it parallel with 11, is significant. Between

FIG. 59
KITCHEN AREA, NORTHOLT
MANOR, MIDDLESEX
Suggested division of Period I (700-
1300) into five phases
(p. 213)



this and ditch 55 was a long narrow slot (50) parallel with the ditch. This was only 6 in. deep and had more the appearance of a timber slot than a drainage-ditch, especially as there was already a much more adequate drain only 5 ft. SW. of it. Also at the SE. end, just before it was cut off by moat I, there was a small post-hole (52). It is thought, therefore, that this may have been a trench for a palisade dividing the occupation-areas to the NE. from the boundary ditch, though it is some distance away and does not appear to extend all the way between them.

DATING

Grave 2. This contained about a dozen sherds including hand-made Saxon, St. Neots, early medieval and twelfth-century fabrics. The grave therefore seems to have been disturbed not later than the early twelfth century towards the end of Period IC.

AB Building. Occupation over floor 6 and in NW. quadrant of building. St. Neots rim, developed St. Neots (FIG. 66, nos. 12 and 16), early medieval (FIG. 66, nos. 20-21 and FIG. 67, no. 32), early twelfth-century (FIG. 67, no. 31), and other sherds of developed St. Neots.

Slot 8, E. wall of building AB. Small early St. Neots rim and sherds, early medieval sherds, developed St. Neots ware including straight-sided bowls with simple and stamped thumbing (as FIG. 69, nos. 81-2), and early twelfth-century incised sherds with wave and trellis patterns (as FIG. 69, no. 88).

Slot 26, SW. corner of AB building. Early medieval sherd and two early twelfth-century sherds, one with red surfaces, the other with incised decoration (as FIG. 69, no. 92).

Between Buildings AB-AH. Hand-made Saxon (FIG. 66, no. 3), St. Neots rims (FIG. 66, nos. 7-8), and early medieval (FIG. 66, no. 19).

AH Building. Slot 11, N. wall of building AH. Developed St. Neots rim (FIG. 66, no. 15), hand-made Saxon and early medieval sherds.

AC Building. Slot 19, N. wall of building AC. Rim of developed St. Neots bowl (FIG. 66, no. 18), St. Neots and early medieval sherds.

Floor 43, occupation in building AC. Single abraded hand-made sherd.

Over feature 45. St. Neots and twelfth-century sherds.

Slot 50. Hand-made Saxon rims, St. Neots rim, early medieval rims, early twelfth-century rim, and sherds of all these types.

Ditch 55. St. Neots sherds, developed St. Neots thumbled cooking-pot (FIG. 66, no. 14) and bowl (FIG. 66, no. 17), early medieval rim (as FIG. 66, no. 21), early twelfth-century expanded rim (as FIG. 67, no. 30) and incised sherds (as FIG. 69, no. 88).

Floor 65. Early medieval sherd.

PERIOD ID (1150-1225). FIG. 59

Ditch 55 was abandoned and a very much smaller new ditch (41) was dug parallel, 12 ft. NE. (FIG. 65, Sects. 5 and 7). This ditch did not drain into the new main ditch 2, which was dug straight across the site from SW. to NE.,

crossing the abandoned ditch 55 and running 2 ft. SE. of the original ditch 1A to finish in the same sump 3. Only one feature in the main area of earlier occupation can be attributed to Period ID, an occupation-area 48. The main area occupied was in between ditch 2, ditch 41 and the area cut away by moat I. In fact ditch 41 seems to define the limit of intensive settlement to the NE. in the same way that ditch 55 limited the extent of occupation to the SW. in Period IC.

The hundred different features which were found within the area bounded by ditch 2, ditch 41 and moat I are very difficult to date and even more difficult to disentangle into sensible structures. They may be divided into three main groups: 1. Pebble foundations; 2. Square post-holes; and 3. Round post-holes of varying date and size. No. 1 appear to belong to Period ID, no. 2 belong to Period IE (p. 237), and no. 3 will be discussed under Period IE, although the date of most of them is uncertain.

Feature 108-111 has various puzzling features. At the NW. end (108) it appears to be a ditch draining into ditch 2, but after running for 6 ft. it takes a right-angled bend that is cut too sharp for a ditch and becomes a rectangular feature one side of which (109) has a black filling with sparse pebbles and the other (110) contains the usual grey soil. It then continues as 111 on a different line. It is not clear how much farther beyond post-hole 117 it went, as it was recut on a curving line in Period IE. 108 and 111, therefore, have the appearance of drainage-ditches similar in size to ditches 2 and 41, and presumably enclosing a rectangular area, while 109 and 110 look more like sleeper-trenches.

THE PEBBLE FOUNDATIONS

The main building (AD) in Period ID was a complex in the rectangle formed by ditches 111, 2 and 41. This comprises a series of pebble foundations usually about 6 in. thick and of considerable width up to six feet. The largest formed by ditches 111, 2 and 41. This comprises a series of pebble foundations (70) tapered from a width of 6 ft. at its S. end to 5 ft. at the W. (FIG. 64, Sect. 2). The NE. foundation (68) tapered in the same direction from five to four feet. The NW. foundation (71, FIG. 65, Sect. 7) changed abruptly from 3 ft. to 2 ft. wide, suggesting a doorway. There was a gap (presumably the main entrance) in the S. corner on the SE. side, where the foundation was 6 ft. to 5 ft. wide (69, FIG. 64, Sect. 1A). To the NW. a wide foundation (58, FIG. 65, Sect. 7) continued for 6 ft., then turned to form a narrower foundation at an obtuse angle (67). All these foundations were made of pebbles set in a sharply-cut trench, 6 in. deep. To the SW. was a series of similar foundations but these consisted of about 3 in. of pebbles only, much more casually put down. 66 (FIG. 65, Sect. 6), 79 (FIG. 64, Sect. 2 and FIG. 65, Sect. 6), 83, 80 (FIG. 64, Sect. 2) and 81 (FIG. 64, Sect. 2 and FIG. 65, Sect. 7) form a rectangle (AE) with the major foundation 58, 16 ft. by 8 ft., at its NE. end. The two other foundations 84 (FIG. 65, Sect. 7) and 82 are presumably part of a third room (AF) of indefinite size. Feature 78 is central in the second room. It cannot be determined if any of the odd post-holes fit in with this building. The pebble foundations seem unnecessarily wide to

support a timber building and it is possible that this building was of cob, which would need a much greater width.⁹³

Two timber slots (72-3) are cut through pebble foundation 69. It is hard to see how they, or post-holes 74-7, could fit in with this structure to form a corner, so it is likely that they are later, possible Period IE. They contained no dating evidence.

Between foundation 70 and ditch 111 is a series of 7 post-holes almost in a straight line (95-101). These seem to form the S. wall of room AF, but if so they show an entirely different form of construction. On the other hand, as they end at feature 70, they seem to be of the same date. There would be an entrance between 100 and ditch 111.

Ditch 41 could not have lasted very long into Period ID as it contained no pottery later than c. 1175. A line of post-holes, 34-38, which is later than ditch 41, as post-hole 36 is cut into its filling, could therefore be a fence line belonging to the end of Period ID or early in IE. It should also be noted that the pebble foundations do not overlap ditch 55. This, therefore, still seems to have been open when this structure was built. It contained late twelfth-century pottery in its topmost filling.

DATING

Ditch 41. St. Neots rim (FIG. 65, no. 5) and sherds, early medieval rim (as FIG. 66, no. 20), early twelfth-century rim (FIG. 67, no. 29), incised sherds (as FIG. 69, no. 88), hammer-headed twelfth-century bowl. Almost all the pottery is of Period IC but as it contains a few ID sherds and cuts across the Period-IC buildings, it must be later, though it does not seem to have been open much after 1175. The early pottery in this ditch would naturally fall in if the ditch was cut through the centre of the earlier occupation.

Floor 48. One sherd of early thirteenth-century grey ware, so we cannot say whether this is Period ID or IE.

Room AD. Over walls 68, 58 and 70. Mixed twelfth and early thirteenth-century pot, with some later pottery trodden in from above, confirms the Period-ID date for the pebble foundations.

Room AE. Feature 83. St. Neots sherd and twelfth-century incised sherd in bottom, but late twelfth-century and early thirteenth-century rims above. It is assumed this feature belongs to Period ID and that the earlier two sherds are strays, for it seems likely that all the pebble foundations are the same date.

AE room occupation. Mainly early thirteenth century (bowl, FIG. 67, no. 48), but also mixture of later thirteenth (bowl, FIG. 67, no. 49). Also St. Neots and early medieval sherds.

Room AF. Feature 84. Stray Saxon and early medieval sherds, but the feature must be dated by the early thirteenth-century sherds; there are no rims.

Room AF occupation. Mixed late twelfth to thirteenth century, so it is

⁹³ Mr. J. T. Smith points out, that, if the building had been of cob, there should be some traces of collapsed cob, in view of the grey layer beneath. As there are none he is of the opinion that the buildings are more likely to have been timber ones and the wide foundation may have been more in the nature of a working platform or possibly to provide good drainage.

dangerous to draw too firm conclusions, but large numbers of early sherds confirm Period-ID date as for room AD. Rim of brown ware with grey surfaces (p. 270).

Slots 109-110. Saxon and early medieval sherds, but these must be strays and this feature is dated by a typical rough medieval rim (FIG. 67, no. 39).

Over 110. Mainly early to middle thirteenth-century pottery.

Slot 63. Three typical rims of rough medieval wares (FIG. 67, nos. 41-43), with similar sherds.

On floor 120. Mixed middle and late thirteenth-century pottery (bowl, FIG. 67, no. 35), but must be Period ID as it is cut by ditch 111.

PERIOD IE (1225-1300). FIG. 59

The development of the *ditch system* during this period is very complex and the interpretation is not helped by the unlucky fact that one of the earliest trial-trenches dug on the site was sited straight along the section of ditches 1 and 2 where they run concurrently (125). At the SW. end of the site ditch 2C was abandoned and ditch 1C was cut about 2 ft. to the SE. In the central part of the site the narrow deep line of ditch 2B was still used and the ditch system still drained into sump 3 via ditch 2A. In the second phase of this period the SW. end of ditch 1C was maintained and the remaining parts of ditch 2B were abandoned, a new

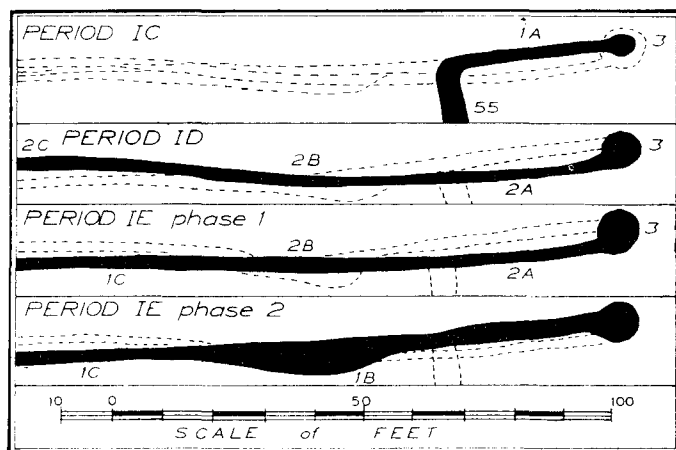


FIG. 60

KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

Suggested development of main ditch system of Period I

wider, shallower ditch 1B being dug on the same line in the central sector while in the NE. part the new ditch 1A was dug 2 ft. NW., parallel with ditch 2A and along the original line of the Period-IC ditch, the whole still draining into an enlarged sump 3. FIG. 60 shows a schematic representation of these changes in the line of this ditch, as they are hard to make clear on the general plan (FIG. 57). 125 was a large fragment of oak(?) which was apparently thrown into ditch 2. Another piece of timber, 2-3 ft. long, was found vertically in sump 3 (p. 294). Ditch 111 was extended, or recut, on a curving line at its southern part. It could not have been open to the NW. of post-hole 117.

The *square post-holes* form a roughly rectangular area (AG). The largest

is 114, which is $2\frac{1}{2}$ ft. by $1\frac{3}{4}$ ft. and 1 ft. deep. It is set into a larger hole (113), 6 in. deep, and this in turn in a shallow 3-in. hole (112). Very similar is number 128 which has similar dimensions and is set in the same type of double hole 127 and 126 (FIG. 64, Sect. 3). Twenty ft. SE. were a similar-spaced pair of square post-holes, though they are smaller and constructed differently. 104 is 2 ft. square and only 6 in. deep and is cut into the end of one of the Period-ID pebble features (82). 107 is smaller, being $1\frac{1}{2}$ ft. by 1 ft. and 6 in. deep, set in a slightly larger hole (106), 3 in. deep. These four posts form a rectangle, 22 ft. by 15 ft., but walls built using these as corners would be very irregular even by medieval standards. There are also three more square post-holes placed at random inside this rectangle. 115 ($2\frac{1}{2}$ ft. by $1\frac{1}{2}$ ft. and 9 in. deep, FIG. 65, Sect. 6) and 116 (1 ft. square and 1 ft. deep) are set into feature 108-111 (p. 235). While the impressions of the other square posts only showed as deeper holes in the surrounding holes these showed up as very black squares, and were full of charcoal, but this was composed of beech and oak twigs and was not therefore remains of the post. 105 is similar to 116, being 1 ft. square and 9 in. deep, also full of black soil and charcoal, inserted into feature 83. The eighth square post-hole, 124, was by itself, 11 ft. S. of the others, $1\frac{1}{2}$ ft. by 1 ft. and 6 in. deep, set in a larger hole (121), 3 in. deep.

Two of these square post-holes (107 and 115) are dated by pottery to Period IE and 115, 116 and 124 are cut into Period-ID features. The complex of square post-holes is therefore part of the latest building on the site before Period II. If all the square post-holes are plotted they make no coherent plan (FIG. 59, E), though their shape suggests a similar technique of construction and therefore the same period. In this general area is the dirty occupation-area 135, which may be equated with Period IE and presumably forms part of the floor or yard of whatever building was built here.

Of the *round post-holes* 117, 118, 162 and 167 contained late thirteenth-century pottery. It is therefore possible that the others are of this date also, but they do not make any coherent plan. They are not likely to belong to Periods IC or ID, as the main buildings of these periods were further NE., but they could belong to Period IB. 136 is a cooking-pit filled with charcoal fragments (too small to be identified) and ash.

DATING

The pottery from the pebble foundations is mainly late twelfth- and early thirteenth-century rough medieval ware, but a typical hard medieval rim (FIG. 67, no. 45) from beside post-hole 60 suggests that this addition is later than the main structure and rooms AE and AF, which all have rough medieval pottery only.

Square post-holes. 107. Rough and hard medieval sherds, no rims. Late Period ID or early IE.

115. Two early thirteenth-century sherds, but also a typical hard medieval rim (FIG. 67, no. 46) and a glazed sherd of the second half of the thirteenth century.

112. No pottery; but early to late thirteenth-century pottery in the grey layer above Period IE.

Round post-holes. 117. Four minute sherds, certainly hard medieval.

118. Rim of brown ware with black surfaces which it is suggested (p. 270) is thirteenth-century (FIG. 67, no. 47).

162. Two sherds of hard medieval ware, possibly middle thirteenth-century.

167. Late thirteenth-century sherds.

Hearth 136. Two very hard medieval sherds, late thirteenth-century.

Ditch 111, south end. Mainly hard grey rims, but some of the rims are twelfth-century rather than thirteenth-century in aspect (FIG. 68, no. 52). Others are the more usual squared type (FIG. 68, nos. 51 and 53). The presence of glazed sherds and one base glazed inside puts the filling of this ditch towards the end of Period IE.

PERIOD II (1300-1350). FIG. 61

At this time the whole series of scattered ditches of the later phases of Period I, belonging to the thirteenth century, were filled in and the first moat was dug, forming a similar enclosure to the present one, but slightly smaller (200, 203, 252, 253). In Section 203 the outer edge of the bottom of the moat is only just visible (FIG. 64, Sect. 1A) but in Section 252, as it turns the corner, it can be seen that the moat was 20 ft. wide and 6 ft. deep assuming the outer slope to be the same as the inner (FIG. 64, Sect. 4A).

It is significant that the moat was not constructed until *c.* 1300 and that all the earlier buildings were surrounded by a system of shallow drainage-ditches never more than 2 ft. wide. As excavations of moats proceed it is being increasingly recognized that many were not cut until the thirteenth century at the earliest and many not until the fourteenth century. Examples of moats where the earliest occupation was surrounded by small drainage-ditches and not wide, deep moats may be cited from many excavations.⁹⁴

The first stone buildings on the site belong to this period, all the Period-I buildings being of timber or cob. Only one post-hole from Period II reaches down to the natural clay (132, FIG. 57). Very few of the walls from Periods II-V survive, except as robber-trenches. There is therefore considerable ambiguity in date, for these cannot be equated with the associated floor-levels, and finds date from the destruction rather than the building of the walls.

BUILDING C, KITCHEN

The main building of Period II, on this part of the site, is 30 ft. square, comprising three robbed walls (206, 207, 208) and a surviving wall built of clunch and flint blocks (221, 222, 223). The reason for the survival of this wall and the robbing of Section 223 will be discussed under Period V (p. 253). The walls were set into the grey occupation-level and in some places reach down to the natural clay (FIG. 64, Sect. 1 and 2 and FIG. 65, Sect. 6 and 7). There is no

⁹⁴ E.g. Milton, Hampshire; Ashwell, Herts.; St. Cross Nunnery, Somerset, etc.; reports forthcoming.

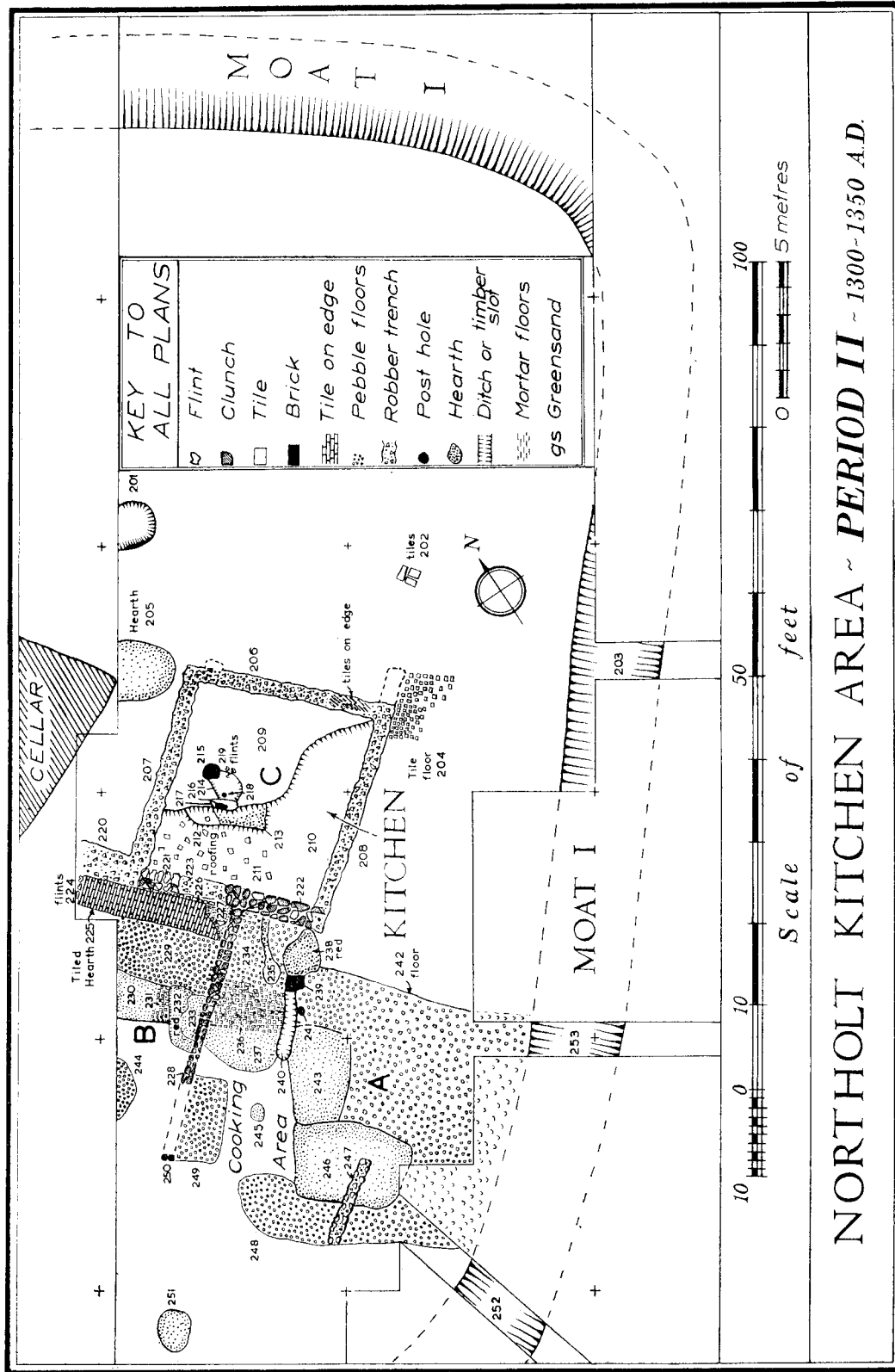


FIG. 61 (pp. 239-43.)

sign of any entrance. The robber-trenches and walls are continuous, but evidence from Period IV suggests there was an entrance in the middle of the SE. side (p. 252).

The floor is on two levels, the N. quadrant (209) being about 3-4 in. higher than the other three (210, 211). The W. quadrant (211) was roughly floored with roofing-tiles laid at random. There were two central hearths (213, 214), 213 being at a lower level than 214 which was itself in a slight depression. Fires were lit directly on the soil and this was burnt black with a thick spread of charcoal fragments on it, comprising ash, hazel and hornbeam twigs and a beech branch (p. 294). At either end of hearth 214 was a post-hole (215, 216). These could have supported a spit or a hood over the hearth, though they were only 6 in. deep (FIG. 64, Sect. 2 and FIG. 65, Sect. 6). The position of the post in 215 could not be seen, but the central part of 216 was deeper (217), showing that the post was about 6 in. across. There was a small post-hole (218), 6 in. deep, near the W. corner of hearth 214, while to the E. was a small group of flints (219, FIG. 63, Sect. 2).

There were no other post-holes or evidence for the roofing of this building, which may be regarded as the detached kitchen of the manor. Rectangular kitchens of this type are well known.⁹⁵ The walls were only about 18 in. wide as opposed to the 3-ft.-wide walls of the cellar and the hall, which will be discussed in a later report. It is likely, therefore, that the kitchen was a half-timbered building of flimsy construction, as was the usual practice in the fourteenth century.⁹⁶

COOKING AREAS

A. The fact that there were only two hearths, and the lack of other signs of occupation in the kitchen, suggests that the main cooking for the manor was carried out elsewhere. Evidence for this was provided by an area to the SW. which contained an oven and nine hearths. Only three walls were found. 228 consists of a narrow wall built of clunch blocks and a few flints. Parallel to this and 9 ft. S. was a sleeper-trench for a wooden beam 8 ft. long (240) with a large post-hole at the E. end (239). Parallel to this again and 12 ft. S. was a stretch of partly robbed wall originally built entirely of flints. Between walls 228 and 240 was a small section of much-robbed wall running obliquely. In the area of the three walls was an extensive pebble floor (234, 242, 248) and five hearths all set on soil between the pebble areas. The small hearth 245 shows intensive burning, the soil being burnt red to a depth of 6 in. All the hearths did not remain in use until the end of the period, as hearths 243 and 246 were abandoned and covered with a rough floor of broken roofing-tiles (FIG. 64, Sect. 4), so that the capacity was reduced by nearly half. To the W. was a further isolated hearth (251) some way from any other evidences of occupation.

Walls 228, 240 and 247 suggest a series of lean-to buildings rather than a

⁹⁵ M. E. Wood, *13th Century Domestic Architecture in England* (Suppl. to *Archaeol. J.*, cv, 1950), p. 111 gives documentary references. There is a good surviving example at Glastonbury abbey. For an excavated example see *Trans. Bristol & Gloucs. Archaeol. Soc.*, LXXV (1956), 8, fig. 2.

⁹⁶ Half-timbered kitchens, where the main buildings were built of solid stone, are fairly common. See T. H. Turner & J. H. Parker, *Domestic Architecture of the Middle Ages*, 1 (1851), 61.

solid structure. These would be just sufficient to keep the rain off people working at the hearths but not massive enough to cause embarrassment if burnt down.

B. To the N. of this pebbled area was a large, long hearth built of roofing-tiles set on edge, 18 ft. long by 4 ft. wide (225, PL. XXXIII, B). Between this and the 221 wall of the kitchen was a row of tiles laid flat in a line ten tiles thick (226, PL. XXXIV, B and FIG. 65, Sect. 6) set in a cob-like clay (p. 285). In the angle of walls 222 and 228 was the remains of an oven with a setting of broken roofing-tiles round the front and a single thick oven tile *in situ* (227). The spaces between the tiles were filled with clay which had been fired by the heat and turned red or black with the consistency of pottery (p. 285). Charcoal fragments comprising beech, chestnut and pyrus-type twigs were found in and in front of this hearth. The tops of the tiles were much discoloured by the heat and fractured.

Tiled hearths of this kind are extremely common on all types of medieval site during the thirteenth and fourteenth centuries. There was a more complex hearth in the great hall, which will be described in the next report. The floor (229) in front of the hearth was constructed of a solid 6-in. layer of pebbles (FIG. 64, Sect. 3 and FIG. 65, Sect. 6). Analysis of samples from hearth 225 suggests use for cooking (p. 285). To the S., against the 228 wall, was a hearth. Fires were lit directly on the ground and the soil was burnt red to a depth of 6 in. in the centre (233) and black round the edges (232). In front of this hearth broken roofing-tiles had been thrown down to make a rough floor (231) and to the NW. was another hearth (230). To the W. was the start of another pebble floor (244).

NE. of the kitchen a large stretch of ground, 70 ft. by 60 ft., was devoid of buildings, though large quantities of pottery and occupation-debris were dumped there. Close to the kitchen, however, there were several features. Outside the E. corner was a fairly carefully laid floor of roofing-tiles (204) which tapers out to the NE., but which is defined on the NW. by a projection of the kitchen walls. The rectangularity of floor 204 suggests that there was a lean-to structure of some kind at this point against the E. corner of the kitchen, where there is a suggestion of a projection or buttress continuing beyond the main corner. Twelve ft. NE. lay a setting of three nearly complete roofing-tiles (202). Outside the N. corner of the kitchen was a hearth comprising an area of burnt soil and charcoal between the kitchen and the cellar (205, FIG. 64, Sect. 1). Twelve ft. NW. was a hollow cut into the earlier occupation-debris (201).

DATING

The dating for Period II depends on the date of the changeover from the squared thirteenth-century rimmed cooking-pots to the off-white flange-rimmed Surrey cooking-pots. This point is discussed further on p. 273, but assuming a date of c. 1300 in round figures, it was very shortly after this that Period II started. In ditch 1, which was sealed by Period II, there were 3,199 thirteenth-century sherds and only six Surrey sherds (Table I), so that Period II started just as the first Surrey off-white pots were coming in. In the general Period-II occupation-level there were 7,296 thirteenth-century sherds and only 99 off-white

sherds. This is, however, deceptive, as the occupation-level contains all the Period-IE pottery as well as that from Period II and the pottery cannot be distinguished, except on the floor levels. In the cooking-areas A and B there are 577 thirteenth-century and 295 off-white sherds on the floors and hearths, suggesting that about the time these went out of use the Surrey pottery was firmly established. An early fourteenth-century jetton was found on this floor (p. 288) and on the other side of the site (to be described in the next report) a farthing of Edward I was found on level II. These must both have been lost by the 1340s at the latest, so in round figures this period has been assigned to 1300-1350.

Wall 222. Two rims, one typical hard grey medieval ware (FIG. 68, no. 54), the other possibly earlier (FIG. 68, no. 55) and a sherd of mid thirteenth-century ware with vertical thumbled band.

Wall 228. Three late thirteenth-century glazed sherds, two (from different jugs) with vertical strips of diamond-notch rouletting (as FIG. 73, no. 11), the third a fragment of base.

Wall 247. Sherd of typical hard late thirteenth-century cooking-pot with vertical thumbled band, glazed sherd with white band, and glazed sherd with white slip under the green glaze (as FIG. 72, no. 12), but undecorated.

Floor 229. Typical hard medieval rims (FIG. 68, nos. 61-3) and large Surrey vessel with flared expanded rim (FIG. 68, no. 64).

Floor 234. Mixture of hard medieval sherds (FIG. 68, nos. 59 and 60) and Surrey wares including two rims (as FIG. 68, no. 71).

Hearth 236. Surrey thumbled base (as FIG. 72, no. 29) and glazed Surrey sherds.

Floor 237. Mixture of hard medieval and Surrey cooking-pots (FIG. 68, nos. 65 and 66) and jugs.

Hearth 238. Surrey base glazed inside, with earlier thirteenth-century sherds.

Hearth 243. Mainly Surrey glazed jugs and cooking-pots (FIG. 68, no. 70).

Hearth 246. Lid of hard grey-buff ware (FIG. 69, no. 78), base of strap handle, and jug rim.

Post hole 215. Thirteenth-century hard grey rim (FIG. 68, no. 56).

Room C hearth. Mixed hard grey rims (FIG. 68, no. 57-8) and Surrey wares.

PERIOD III (1350-1370). FIG. 62

Moat II was dug about 20 ft. farther out all round the site from moat I (PL. xxxiii, A). The resulting clay was spread over the site to level up the slope which previously dipped from E. to W. About 6-12 in. were put on the kitchen area and up to 2 ft. or more on the W. side. Moat I was only partially filled in and the result was a terrace all round the site. The enlarging of the moat did not, therefore, greatly increase the raised area inside, but on the NE. and NW. sides buildings were constructed on this terrace in Periods III and IV.

KITCHEN, ROOMS A-C

In the kitchen area Room C survived. A mortar floor, 336, was laid on the

clay layer in the W. quadrant (FIG. 65, Sect. 6). In the S. (337, FIG. 65, Sect. 7) and N. (335, FIG. 64, Sect. 2 and FIG. 65, Sect. 7) quadrants roofing-tiles were laid at random on a rubble spread. The N. quadrant 331 and a central strip 339 (FIG. 65, Sect. 7) were left with no laid floor. Slightly off centre there was an oven (333, FIG. 65, Sect. 6) with a circular floor constructed of pebbles and roofing-tiles set on edge (p. 285). The entrance to the SE. was set with pebbles and in front of the oven was a rake-back comprising a thick layer of charcoal (334). Only two of these fragments were large enough to be identified and they were oak branches. Along the NW. wall (207) were three hearths (330-332, FIG. 64, Sect. 2 and FIG. 65, Sect. 6) laid directly on the clay floor, this being burnt orange and brownish-red to a depth of 3 in. Analysis of samples suggests the hearths were disturbed after going out of use. In the centre was a foundation of flints.

To the SW. in Room B the tiled hearth, 225, and oven, 227, were retained, but an extension was built consisting both of bricks⁹⁷ and roofing-tiles set on edge (342, PLS. XXXIII, B, XXXIV, A; FIG. 64, Sect. 3 and FIG. 65, Sect. 6). Wall 228 was demolished and the area pebbled over on top of the clay spread, two areas being burnt where fires with a fair degree of heat had been lit (345, FIG. 64, Sect. 3 and 346, FIG. 65, Sect. 6, p. 285). The whole was surrounded by new walls 340, 341 (FIG. 65, Sect. 6), 318 and 343 to form Room B, possibly with a pentice roof coming down from the main kitchen roof. There was an oven in the S. corner (347). The W. corner has not yet been interpreted, but there is likely to be a doorway at the end of wall 341. There was another door (344) in the E. corner.

Along the SW. wall, 341, were three timber slots, 349, 350 and 352, with stone foundations at their ends, 348, 351, 353. These presumably held the back wall of a lean-to to building or outshot, though no parallel wall was found to the SW. It is also not clear why wall 341 could not have been used instead of a double wall being necessary. The area to the SW., right down to the edge of the moat, comprised a well-trodden floor with occupation-debris, charcoal, shell, etc. (354 and 355, FIG. 64, Sect. 4). There was a hearth, 362, at its S. extremity. This had every appearance of being inside, as most of the courtyards were pebbled—a necessity on the sticky London clay—but there was no sign of any enclosing walls and the size, 40 ft. by 50 ft., would also be rather large. It is possible that some form of paving has been removed.

Running across this area towards the moat was a drain, sunk 1½ ft. below the floor, which, near the main buildings, was 3 ft. wide. Part of wall 228 continued in use on the other side and a small retaining wall, 360, was built. The

⁹⁷ Yellow stock bricks were certainly in general use in the London area much earlier than is generally realized. It has been said that the earliest known examples in London are those with which the founder's tomb at the Charterhouse were built in 1372 (D. Knowles and W. F. Grimes, *Charterhouse* (1954), p. 49, pl. iva), but here at Northolt they were in full use by 1350. In the kitchen area they were used only for hearths but in the main house (as will be discussed in the next report) most of the windows and other decorative features must have been turned in bricks as numbers of moulded examples have been found. Mr. P. E. Curnow tells me that many bricks are built into the curtain wall at Eltham Palace, which was built in the first quarter of the fourteenth century. They were, therefore, common during the first half of the fourteenth century and should be looked for in other buildings of this period.

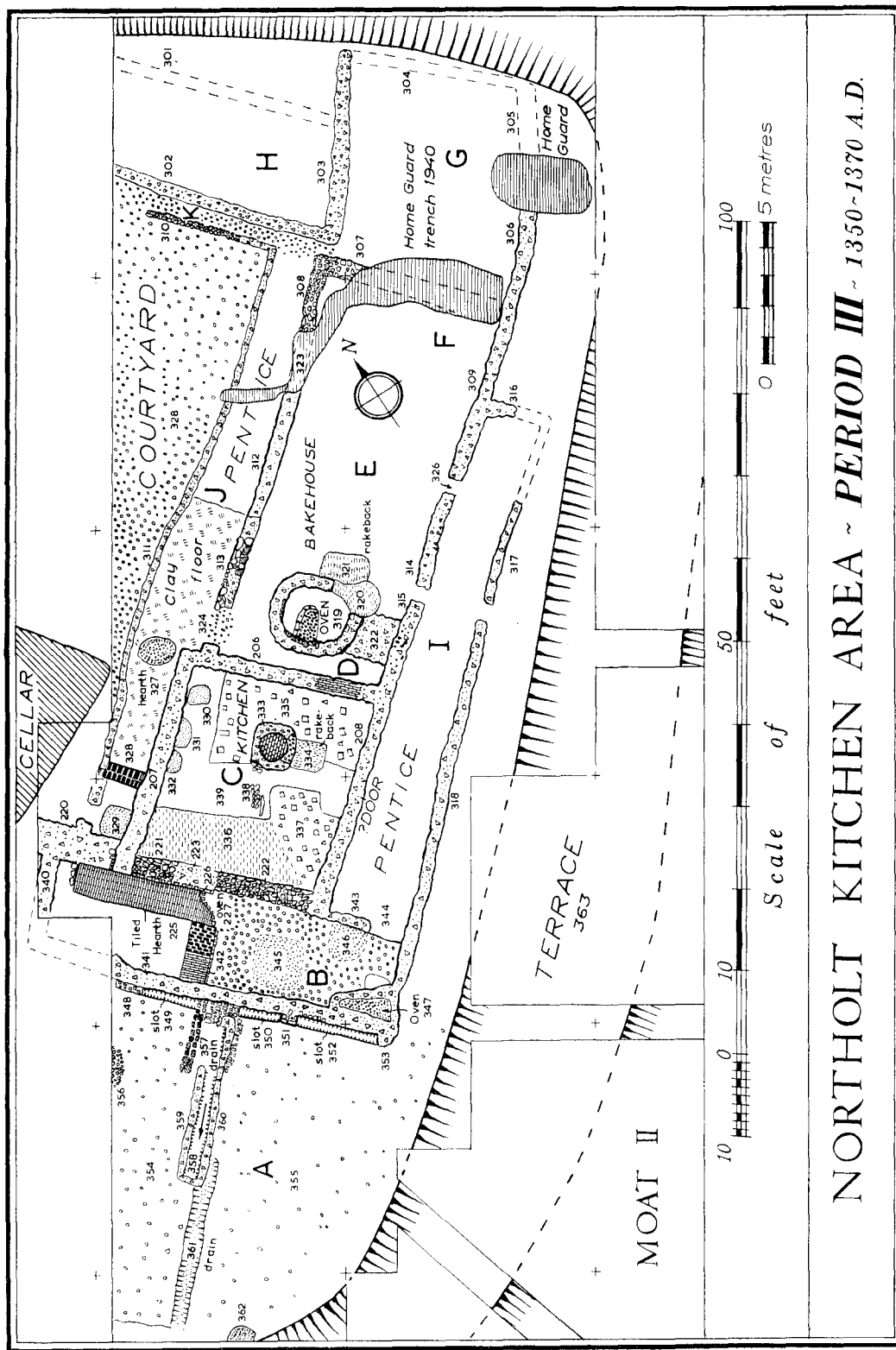


FIG. 62 (pp. 243-9)
For key to symbols see FIG. 61

bottom was constructed of roughly-laid roofing tiles. Against the main wall was a small sump and the actual entrance to the drain was constricted to a width of 1 ft. with a pebbled base. After a length of 6 ft. the width of the drain was halved. Wall 360 was continued, but the use of wall 228 was abandoned and a new wall, 359, built. This section of the drain was 12 ft. long and had no floor, though the pebble floor, 249, would have served (FIG. 64, Sect. 4). At the end the drain was closed by a wall which contained some bricks, 358. This formed a trap which could presumably be kept clean. The water then ran away down a U-shaped drain 2 ft. wide made of mortar, 361. This was 22 ft. long and ended at the edge of floor 354. The water presumably ran straight into the moat after this point. No evidence was obtained for the covering of this drain. The pebble floor, 356, is the start of a feature which continues in the area yet to be excavated and will be discussed in the next report.

BLOCK D-G

NE. of the kitchen, Room C, were a series of four rooms D to G, forming a block nearly 70 ft. long by 20 ft. wide, 2 ft. narrower than the kitchen, C. The walls, as usual, only remained as robber-trenches, except in two cases which are of interest. Section 313 survives showing that this part was built of flints with a few blocks of clunch. It is clear that it survived because it was between two doorways. The robbers dug along the walls and stopped finding flints at the door. They did not start again until after the second door, so left the foundations here almost intact, though the upper courses must have been removed. The corner, 307 and 308, also survives, showing that this section was constructed entirely of flints. Unfortunately all this end of the site is much disturbed by the home-guard trench, 32, but on the analogy of section 313 it is suggested that there was a door into Room F from J where the trench cuts through the wall, and a similar door right over by wall 306 between Rooms F and G.

In Room D there was a large oven, 8 ft. by 7 ft. internally, 319. This comprised an oval chamber very much robbed but with a few internal facing stones in place to show that it was built entirely of clunch blocks (PL. XXXIV, D). At the entrance was a mortar floor burnt red, 320, and outside a rake-back with large quantities of charcoal, 321, including fragments of oak branches. Inside there was part of a floor consisting of pebbles with a robbed surround (FIG. 65, Sect. 7). Between the oven and wall, 315, was a large area of robbed walling, 322. It is assumed that this was the remains of the foundation for a chimney and that this was the manorial bakery.

Room D had traces of a mortar floor round the oven area. Further NE. there was no evidence for floors. Room D had two doors on the NW. side. 324 gave access to the area behind the oven. Only 9 ft. NE. was a second door. It is possible that door 324 was cut in Period IV, though the area behind the oven may have been partitioned off and have required a second entrance. It is unlikely the second door was cut in Period IV (p. 252). On the SE. side there are also two doors. 315 gives access direct to the oven from I. The second door, 326,

hardly seems necessary unless this entered a separate room. In view of the change in flooring from the mortar of Room D a separate room is envisaged here (E) with a wooden partition which has left no trace. On the other hand the NE. half of Room D could have had a separate purpose which required an entrance that did not pass the oven.

Room F was entered from J by a door cut away by the home-guard trench, 32. Areas E and F were one room in Period III and as there were no traces of floors or occupation they must have been used for storage.

Room G has been very much disturbed and it is not possible to plan it exactly. The only intact wall is 303, for 307, of which part of the foundations survive intact, has been almost entirely destroyed by the home-guard trench, 32. The SE. wall, 306, has been cut away by what seems to be further digging by the home guard. There is no trace of the NE. wall, 304, but the line of it has been dotted as it should be if the room was a rectangle. There is a steady drop in level in this room, which was built on the terrace formed by the partly filled-in moat I of Period II.

Room H is the first of a series along the NE. side of the enclosure, which were built also on this terrace. Wall 302 (PL. xxxiv, c) was a large robber-trench but there was no trace of the outer wall, 301. The line has been dotted as a projection from the outer wall found farther to the north. It is possible that walls 301 and 304 were destroyed in Period V when a causeway was constructed across the moat in this area, but if so it is strange that the foundation of 303 survived intact. It is unlikely that the outer walls would have had timber foundations only, as their bases would have been lapped by the water in the moat.

On either side of the block of rooms comprising the kitchen, Room C, the bakery, Room D, and the storage rooms E, F, were Pentices J and I. That on the SE. side, I, ran from the S. corner of the kitchen, and its outer wall was on the same line as the SE. wall of Room B. It extended E. as far as wall 316, level with Room F. It was not carried any farther because the moat gets progressively closer to the buildings at this point and it could not have continued much farther on the upper terrace. For this same reason the pentice gets progressively narrower towards the E., starting 9 ft. wide and ending 6 ft. wide. The E. corner has left no trace, but the rest of the wall 317 and 318 (FIG. 64, Sects. 1, 2 and 3) survives as a narrow robber-trench. There is one entrance, opposite door 315 into the bakery, giving access to the lower terrace formed by moat I. It is likely that the roof of the kitchen and Rooms D-G came straight down to cover the pentice in the same line. No clerestory need be envisaged. This would not be necessary, or indeed possible with the outbuildings, and is unlikely with the kitchen. Sufficient light would come through the outer openings in the pentice, which may have been largely open in the form of a veranda for most of its length.⁹⁸

Pentice J runs from the junction of Rooms H and G to the thick wall (220) joining the kitchen to the cellar. It is one long structure, 65 ft. long, but at the SW. end a small room is divided off by a surviving foundation made of alternate

⁹⁸ I am indebted to Mr. J. T. Smith for his advice on this problem and others connected with the building construction and roofing.

batches of roofing-tiles and bricks laid on edge (328). This survives, as walls 311 and 207 were robbed straight along their lengths in Period V and the robbers did not bother to turn left or right. Compare the similar survival of wall 221-2 (p. 253). A fire was lit in this room directly on the clay (329), on which were fragments of charcoal representing beech timber and twigs, oak and pyrus-type twigs (p. 294). The fact that the clay floor only continues half way along J suggests a wooden partition dividing it into half. These two divisions and the two hearths suggest that J was a series of rooms rather than a corridor but no doors in wall 311 can be identified.

Pentice K is very narrow (2 ft. wide) and runs along the SW. wall of Room H. This survives as a flint foundation for most of its length, being clearly not worth robbing. In the angle of these three ranges was a pebbled courtyard, 328 (FIG. 64, Sect. 1 and FIG. 65, Sect. 5), closed on the SW. side by the cellar and on the NW. by the range of buildings dotted on the general plan (FIG. 56) which recent excavations have shown to join up with the continuation of the range starting with Room H.

There are various problems connected with how the kitchen and the pentice join up with the cellar block and the hall. These will have to await the results of further excavation and will be discussed in a later report.

DATING

Everything in level II is sealed by a layer of clay from the digging of moat II, which was spread to build up the site for the Period-III buildings. The latest objects in Period II must therefore provide a date for the beginning of Period III. These include the coins of the early fourteenth century which must have been lost by the 1340s (p. 288). A round date of 1350 has therefore been suggested for the starting of Period III and the rebuilding on the vast grand scale of this period may be equated with the acquisition of the site by Simon Fraunceys during the 1340s, so that, from an historical point of view, the building might be expected shortly after 1346 when he obtained full control of the manor. The end date is clearly given by the documentary evidence for the destruction of most of the manor in 1370 (p. 220). The archaeological evidence confirms that Period III did not last very long, as all the floors had been kept clean and no occupation-debris was found anywhere. Also only about 250 sherds were found in the whole kitchen area belonging to this period and 50 of these could have come from one pot.

Area A. Drain 357-8. Surrey rod handle and 17 sherds. Jug rim.

Drain 361. Five Surrey sherds.

Floor 354. Over 50 sherds, nearly all from one Surrey cooking-pot (FIG. 69, no. 74).

Floor 355. Jug rim and two Surrey rims (as FIG. 69, no. 74).

Room B. Surrey rim (FIG. 69, no. 73) and 41 sherds.

On hearth 225. Two Surrey rims (FIG. 68, nos. 67-8) and 14 sherds.

Kitchen C. Footed red jug base, Surrey strapped handle, stabbed, and two sherds.

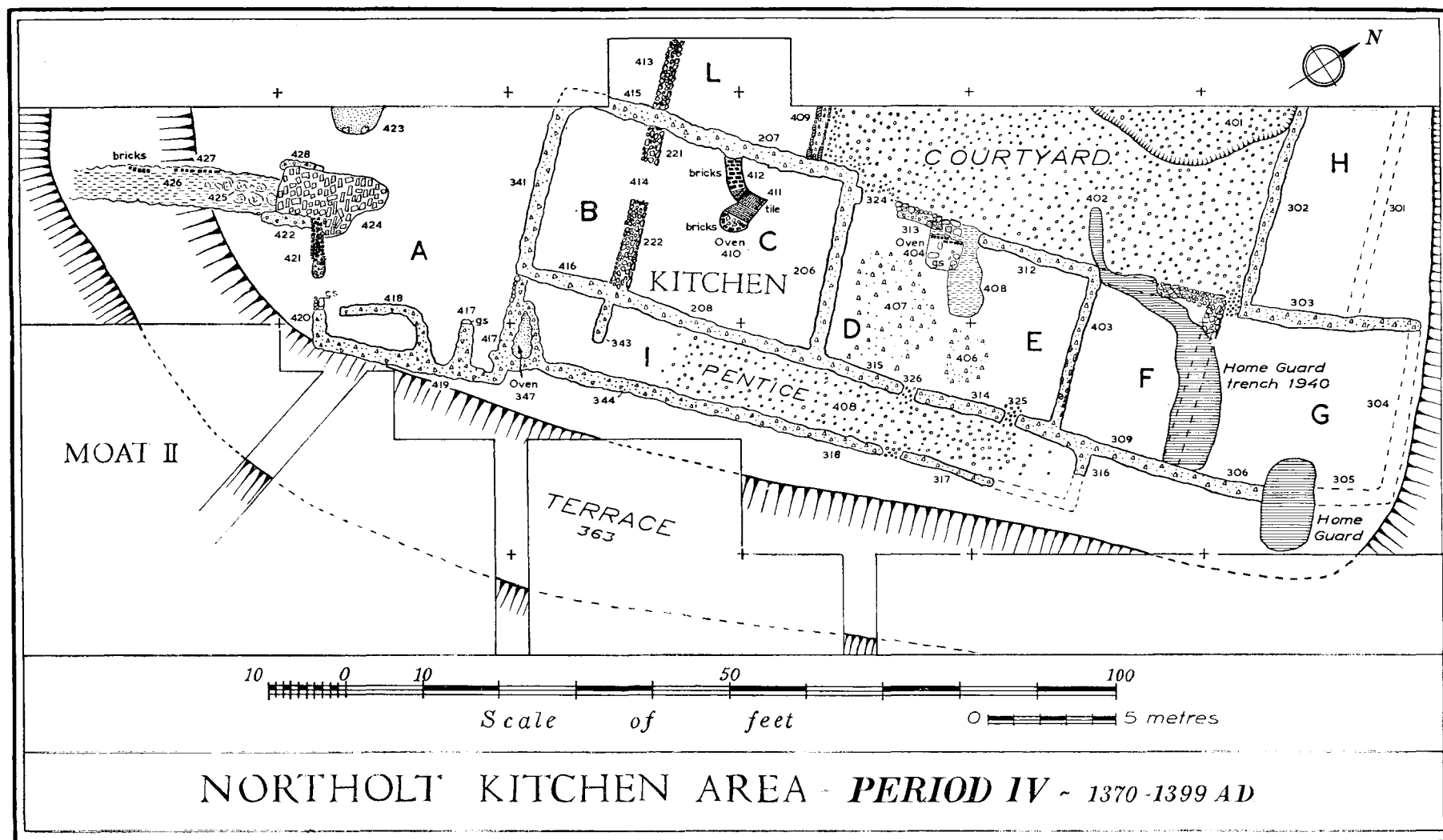


FIG. 63 (pp. 249-53)
For key to symbols see FIG. 61

face page 246

Room D. Wall 313. Twelfth-century sherd and late thirteenth-century decorated sherd.

Bakehouse E. Entrance to oven 320. Surrey sherds, thick mottled green glaze inside.

Chimney robber-trench 322. Buff sherds with internal mottled green glaze.

Room F. Surrey sherd, glazed inside.

Room G. Two sherds of fourteenth-century glazed jug, pink micaceous with grey outer surface, mottled green glaze and horizontal incised lines.

Room H. Two Surrey sherds.

Pentice I. Three Surrey sherds.

Courtyard 328. Three Surrey sherds.

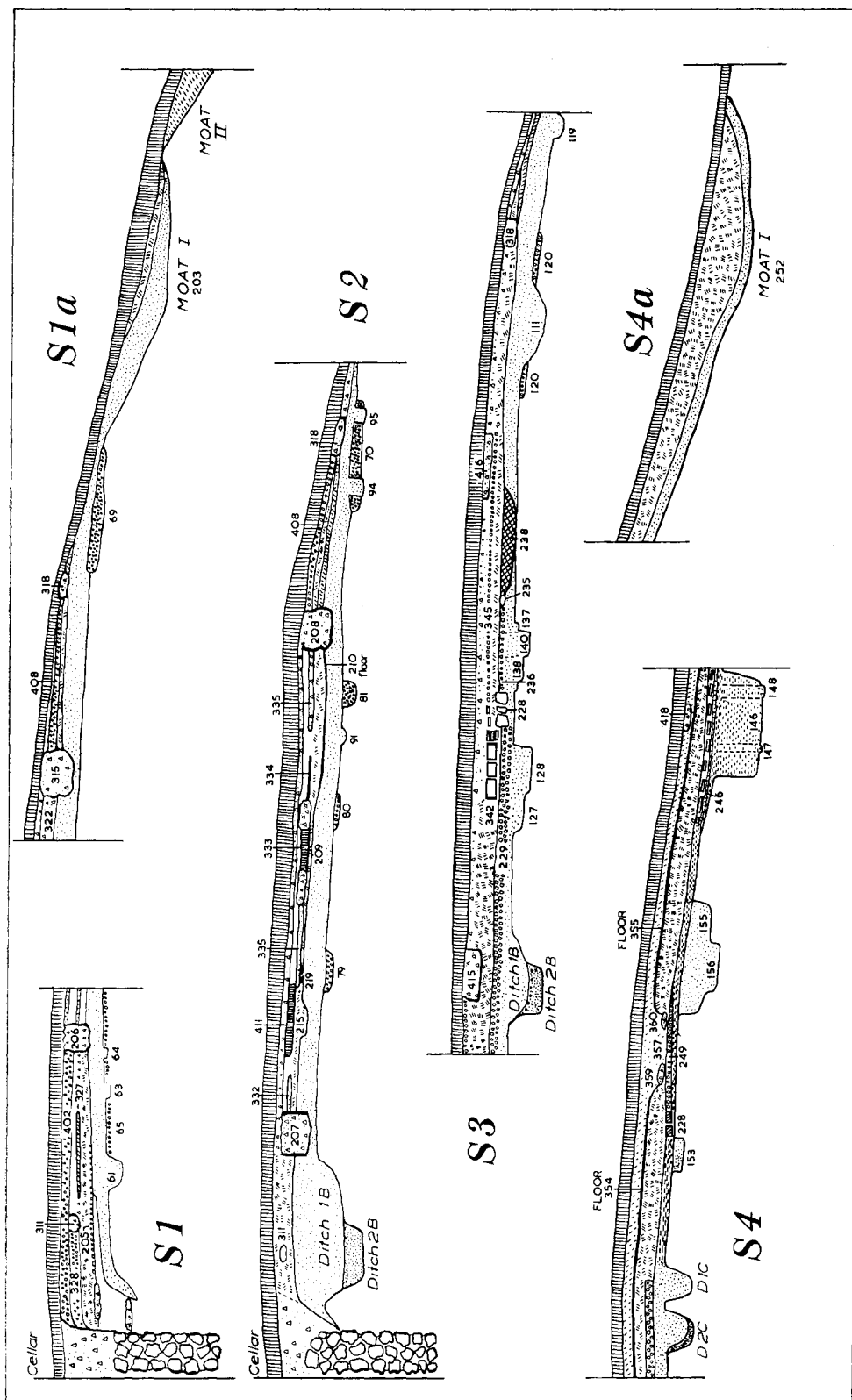
PERIOD IV (1370-c.1475). FIG. 63

In Period IV the Period-III moat was retained apparently without change. The site, was, however, further levelled up with another layer of clay, though this was only a matter of inches in the area under discussion. Over the NW. half of the site the levelling was much more substantial, making the original sloping site almost level.

In 1370 the main parts of the manor, including the hall and the cellar, were pulled down (see p. 220) and the solid stone buildings with 3-ft.-thick walls were replaced, by Sir Nicholas Brember, with half-timbered walls set on narrow foundations, as the kitchen block always had been. In the kitchen area the main rooms C to H seem to have remained standing, only internal changes being made. The Pentice J was demolished and a new courtyard, 402, laid over the top (FIG. 64, Sect. 1 and FIG. 65, Sects. 5 and 6), right up to the walls of these rooms, 302, 313. In the N. corner is the start of a depression (401, FIG. 65, Sect. 5), which is part of a larger feature which will be discussed in the next report. At the SW. end the new buildings (L) replacing the cellar came right up to join the kitchen, 409 and 413. Wall 409 was rubble-filled and faced with squared clunch blocks. The parallel wall 413 was made entirely of flints, laid at random.

Room B, which in Period III was a building set against the kitchen, presumably with its roof sloping down from the main kitchen roof, was drastically remodelled, to make it the same width as the kitchen. New walls 415 and 416 (FIG. 64, Sect. 2) were built extending the kitchen walls 207 and 208 on the same line. The end wall, 341, was retained. Pentice I was extended to include the SE. part of the Period-III Room B. It is not clear if oven 347 was retained, as, in this part of the site, Periods III and IV are contiguous with little or no clay between them. In Room B the hearths were abandoned and the new, smaller room was only used for storage. A wide doorway, 414, was cut through wall 221/2 to give direct access from the kitchen. There was no new floor, though the pebbles, 345, were so close to the surface that they could still have been used.

The floor of the kitchen, Room C, was raised 6 in. all over and a new oven was placed slightly off centre, as before, but on a different site. There was a circular central feature, half of it floored with flat bricks with a brick surround and



KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

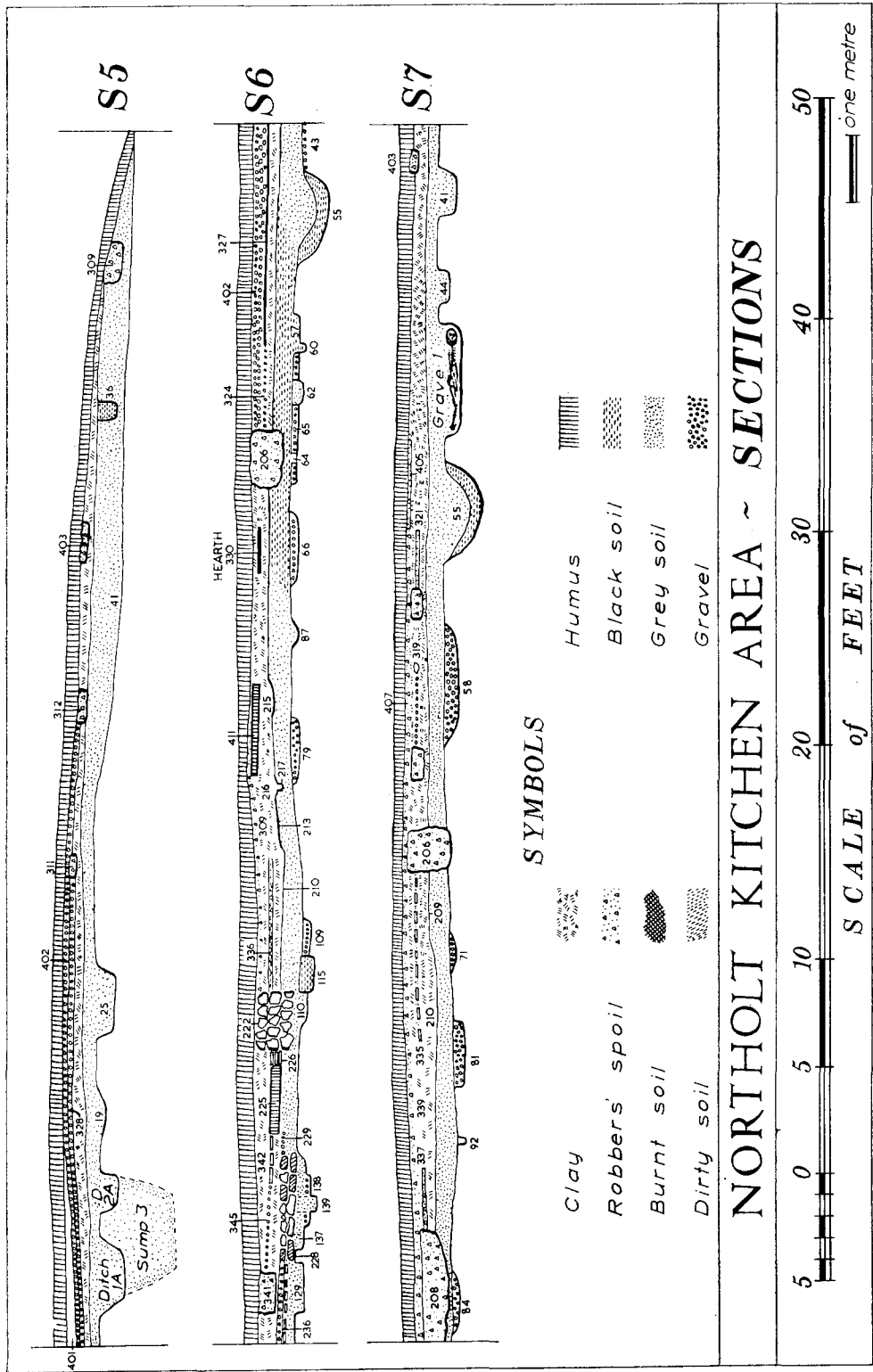


FIG. 65
 KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX
 Sections 5-7 across area from NE. to SW.

the other half of roofing-tiles set on edge (410, PL. XXXV, A). To one side was a rake-back for the oven made of tiles set on edge (411, PL. XXXV, A; FIG. 64, Sect. 2 and FIG. 65, Sect. 6); charcoal fragments included an oak branch. At an angle between this and the wall was a hearth made of bricks set on edge (412, PL. XXXV, A). All showed extensive traces of burning.

In Room D oven 319 was abandoned and the floor raised by 6 in. (407, FIG. 65, Sect. 7). A new oven was constructed against wall 313, between the two doors. This was made of a superstructure of greensand blocks⁹⁹ that had been robbed and collapsed into the centre of the oven, which was surrounded with bricks, many still *in situ* (404, PL. XXXV, B). The presence of ash and charcoal, containing a fragment of a pyrus-type twig (p. 294) suggests that the embers of the last fire in the oven were not cleared away, but left incompletely consumed and undisturbed. The room had a mortar floor (408, PL. XXXV, B; FIG. 65, Sect. 7) of which extensive traces remained. The most puzzling feature is the fact that the oven partly overlaps the doorway. It cannot be said that this was the Period-III doorway, which was replaced by 324 in Period IV, a much more sensible arrangement, because the mortar floor extends from the room to include the doorway.

If there was a partition between Rooms D and E this was removed and a new one built between Rooms E and F on a narrow foundation some of which survives *in situ* in the form of clunch blocks (403, FIG. 65, Sects. 5 and 7). Nothing can be usefully said about Rooms F, G and H during Period IV as the levels III and IV are coterminous. There is no evidence for any change except for the destruction of pentice J outside. It is possible that pentice K survived, as it is not fully covered by the Period-IV courtyard nor was it removed (310, FIG. 62).

Pentice I was retained and the central stretch between doorway 325 into Room E and the centre of the kitchen, Room C, was floored with pebbles (408, FIG. 64, Sects. 1 and 2). As the pebbles end at the E. end just at doorway 325, it is suggested that one of the missing doorways into the kitchen was in the middle of the SE. side where the pebbles end, 208, especially as in Period III this would be opposite the unfloored central portion (FIG. 62).

In area A the drain was filled in and a yard was formed with a number of outhouses along the edge of the moat. The outer wall, 419, was 2 ft. nearer the moat than the line of the pentice, 344. Wall 417 formed two small sheds 6 ft. by 3 ft. and 6 ft. by 4 ft. Wall 418 (FIG. 64, Sect. 4) formed a larger shed 12 ft. by 5 ft. with a door at the W. corner. The SW. side of the yard was formed by walls 420 and 421 with a doorway between. Some of the foundations of this wall survive and show that it was made of small clunch lumps with greensand¹⁰⁰ quoins for the door, which gave access to a small square area which may have

⁹⁹ Mr. G. H. Collins of the Geological Survey and Museum has identified a sample from oven 404 as Gatton stone and reports further that the variations in colour are probably due to heating by an open fire, Gatton stone being a famous hearthstone.

¹⁰⁰ Mr. G. H. Collins reports that a sample of this stone matches their samples of Gatton stone, Upper Greensand in age, from the Reigate district of Surrey. Greensand is only found in Period IV and provides further clear evidence, besides the pottery (p. 273) for contacts during the fourteenth century.

been a garden. This was bounded on the NW. by wall 422, which itself bounded a path down to the moat edge. The path was surfaced with mortar most of which had worn away, 425. On the other side was a wall for part of the way, 428. The depression over the drain at the start of the path was filled in with masses of broken roofing-tiles from the destruction of the Period-III buildings, 424. Beyond wall 428 the path was bounded on the NW. by a line of reused broken bricks, 247. In the W. corner of the yard was a hearth, 423, with part of a clunch surround.

DATING

The rebuilding of Period IV belongs to the short occupancy of Sir Nicholas Brember, for the Inquisition *Post Mortem* at his death shows furniture at Northolt, so the manor must have been rebuilt during his time and not left in decay. Many Period-IV walls are built directly on the Period-III robber-trenches before they had time to grass over. Only 37 sherds may be assigned to this period, and these are nearly all Surrey buff wares, showing that they must now have replaced the earlier Surrey off-white wares. The lack of pottery is very striking and cannot be explained fully by the change over from pottery to metal vessels, especially as many East Anglian sites have large quantities of fifteenth-century pottery.¹⁰¹ There must have been very little occupation and it may not have lasted beyond Brember's execution in 1388.

Courtyard over Pentice K. Surrey bifid rim (FIG. 69, no. 76).

Over floor 355. Surrey bifid rim (FIG. 69, no. 75).

Depression 423. Two Surrey sherds.

Tile area 424. 21 Surrey sherds, base glazed inside.

Path 426. 10 Surrey sherds.

PERIOD V (c. 1475+)

The moat remained as it was and all the kitchen block with its main rooms, store rooms, outhouses and pentices was pulled down and the resulting rubble spread over the site to form a level courtyard for the main buildings which were situated in the W. quadrant of the moated area at this time. This destruction-level is coterminous with the Period-IV floor-level, which is why it is hard in most of the rooms to know exactly how they were floored during that period. The courtyard 402 was retained, the rubble courtyard only being over the sites of the buildings. Depression 401 was filled in with clay and the area within the moat was finally levelled so that it was flat to within a matter of an inch or two all over the top of the site.

As has been discussed above, the robbers tended to rob the walls along straight lines, to avoid corners and miss out bits between doors. In this way, in Rooms B and C, the walls 207-415 and 208-416 were robbed straight along leaving the cross wall 413, 221-223 intact below ground. Wall 409 was preserved in the same way. The other stretches of foundation left were in Room D, stretch 313

¹⁰¹ E.g. Writtle and Maidens Tye: reports forthcoming.

was left between two doors and 307-308 similarly in Room F. In the yard A the small stretches of 420 and 421 did not seem to be worth robbing nor were parts of the 403 dividing wall between Rooms E and F. These were all helpful in indicating the materials used in the various walls but also showed that there was a very great variation within each period. There was a large dump of broken roofing-tiles from the Period-IV building in part of the 206 robber-trench between Rooms C and D. The general rubble spread also contained many small fragments of tiles.

DATING

The dating of Period V is obscure in the kitchen area since this comprises only destruction and no rebuilding. Better evidence may be obtained when the new buildings of this period are excavated to the west of the great hall. Only one rim may be assigned to this period, a red ware simple everted rim of East Anglian type (FIG. 69, no. 77). This seems to replace the Surrey wares during the fifteenth century (p. 275). The second piece of dating evidence is a late fifteenth-century jetton from wall 302 robber-trench (p. 288). The third is the silver signet ring of *c.* 1475 (p. 293). These three items together suggest a date of *c.* 1475 for the demolition of the Period-IV kitchen area. It is assumed that the fifteenth-century tenant farmers lived on the moated site, though there is very little evidence for them in the kitchen area. Even if the buildings were pulled down one would expect a scatter of pottery, especially since there is a steady sprinkling of seventeenth-century pottery from the Period-VI buildings in the bottom of the turf all over the kitchen area.

Pentice I. Destruction level, an East Anglian red rim (FIG. 69, no. 77).

Robber trench 202. Fifteenth-century jug-rim with line of white paint and fifteenth-century jetton.

Robber trench 207. Four Surrey sherds.

THE FINDS

ROMAN OBJECTS

The only Roman pottery found on the site was 5 large fragments of tegulae, which had presumably been brought from some other site for, if there had been Roman occupation near by, there would have been at least a scatter of Roman potsherds. The tegulae were in wall 308 (3 examples), in wall 313 (1) and from the floor of the kitchen, Room C(1), so they were probably brought to the site about the middle of the 14th century.

SAXON AND MEDIEVAL POTTERY

The importance of the pottery from Northolt is that, for the first time in the London area, it provides a complete stratified sequence from Saxon times until the 18th century. It has unfortunately, not been possible to equate the various periods with historical events with any certainty except for the end of Period III in 1370, and this was a time when the pottery styles were not changing significantly. The most important change from grey wares (Group *k*) to the Surrey wares (Group *l*) belongs to *c.* 1300 according to the coin evidence; otherwise the dates have had to be derived from evidence else-

where; a broad range of dates has therefore been given to most of the groups. It is not possible to present a set sequence as there is so much overlapping and interaction. As will be pointed out elsewhere¹⁰² excavators have tried to date their sites much too closely and with such a long period of time at Northolt this is doubly dangerous.

The pottery from the kitchen area may be divided into 14 groups providing a complete sequence from Saxon times to the end of the 15th century. Elsewhere on the site the pottery continues right on to the 18th century and these later groups will be described in a future report. The groups are:

- a. *Saxon: grass-tempered*. Rough hand-made grass-tempered ware, friable and badly fired, with smooth surfaces. Period IB.
- b. *Saxon: sandy*. Hand-made often with smooth, almost burnished, surfaces. Period IB.
- c. *Saxon: gritty*. Harsh surface. Period IB.
- d. *Saxon: shell-tempered*. Period IB.
- e. *St. Neots, 900-1050*. Soft shelly wheel-thrown ware with much minute crushed shell. Soapy surfaces due to firing at low temperature. Usually purplish brown with black core. Imported from the centre of production in East Anglia. Period IB.
- f. *Thetford-type, 900-1050*. Hard sandy brown-grey ware, wheel-thrown. Period IB.
- g. *Developed St. Neots, 1050-1150*. As (e) but larger vessels of medieval form. Period IC.
- h. *Early medieval, 1050-1150*. Very hard gritty grey ware, well fired but only roughly and unevenly thrown on a wheel with hand finishing. Simple upright or slightly everted rims. Period IC.
- i. *Developed early medieval, 1100-1200*. Typical 12th-century cooking-pots in hard grey ware with reddish surfaces, expanded rims, and combed decoration. Periods IC, ID.
- j. *Rough medieval, 1150-1250*. Cooking-pots with expanded and squared rims in a rough friable gritty fabric, usually light grey or orange-brown in colour. Period ID.
- k. *Hard medieval grey, 1225-1325*. Hard grey gritty well-fired ware with expanded and squared rims, many with internal bevel. Ware very uniform although there are variations in colour. Period IE to II.
- l. *Off-white Surrey, 1300-1400*. Thin sandy off-white fabrics with flat-topped flanged rims which become bifid in the last quarter of the 14th century. Many cooking-pots glazed green inside or with splashes on rim. Periods II, III and IV.
- m. *Buff Surrey, 1350-1425*. As (l) but harder buff fabric. Periods III, IV.
- n. *East Anglian red, 1425-1500*. Hard sandy red and brown wares with moulded everted rims and white paint, but no sgraffito. Normal East Anglian type showing return to contacts with this area in late medieval times. Period V.

HAND-MADE SAXON, 700-1050

- a. *Grass-tempered*. About 15 sherds of hand-made pottery of typical Wessex variety. Soft roughly-made black fabric with large quantities of grass-tempering burnt out leaving the characteristic impressions. Many of the sherds have reddish-brown surfaces.

FIG 66, no. 1. Much abraded rim of a small cooking-pot with almost upright rim, a stray in ditch 1. One of the commonest rim forms of Saxon times.¹⁰³

Not illustrated. A very small sherd with simple rim and small hole pierced on the shoulder, from near grave 1.

- b. *Sandy*. About 15 sherds in a rough but hard brown or black sandy ware often with smoothed surfaces.

FIG. 66, no. 2. Thin black sherd with smooth brown-black surfaces. Simple everted rim of small cooking-pot, from over grave 1.

FIG. 66, no. 3. Thicker brown sherd with larger sand grains and one large piece

¹⁰² See J. G. Hurst, 'White castle and the dating of medieval pottery,' *Med. Archaeol.*, vi, forthcoming.

¹⁰³ For pagan examples see Bulmer, Essex, *Med. Archaeol.*, iii (1959), 284, and for middle Saxon see Whitby, *ibid.*, p. 27.

of flint grit. Simple everted rim of larger cooking-pot, from between buildings AB and AH.

The grass-tempered and sandy sherds are spread evenly over the site and are associated together in features, so there is no evidence that they are of different dates on this part of the site, as none of the features contained hand-made pottery by itself, it being always associated with St. Neots or later pottery. Grass-tempered pottery continues until the 11th century at Old Windsor,¹⁰⁴ so it is not impossible for it all to be of late date. In the autumn of 1961, however, the first structure was found containing hand-made Saxon pottery only (see p. 231). This should date before A.D. 900 so it is now reasonable to assume that some at least of the hand-made pottery belongs to the 8th or 9th century and that the occupation was continuous on the site from the time of the burials of *c.* 700.

- c. *Gritty*. Scattered over the site were 6 sherds of a very rough gritty ware usually black with brown surfaces. The grits are mainly flint and some are as large as $\frac{1}{4}$ in. across. Many of them stick out of the surfaces giving an extremely rough appearance, because the outer surfaces are eroded.

Not illustrated. Simple everted rim of a cooking-pot as FIG. 66, no. 3, many small grits, one of which, $\frac{1}{4}$ in. across, sticks out from the surface just under the rim.

Two features contained this pottery. *Post-hole 156* had 13 sherds of rough black fabric with brown surfaces and many small flint grits, those near the surface sticking out to give a very harsh eroded surface. Eleven of these apparently come from the same large vessel, but it is not possible to reconstruct it.

Post-hole 142 had 2 gritty sherds, one with many small grits, the other with very large flint and stone grits up to $\frac{1}{4}$ in. across.

On first sight all these gritty sherds might be regarded as prehistoric, but there is no other evidence on the site for such an early date. It is now known that much Saxon domestic pottery has remained unrecognized, being thought to be iron-age, and it is suggested that these sherds are Saxon as well.¹⁰⁵

- d. *Shell-tempered*. FIG. 66, no. 5. Three sherds from a small globular cooking-pot with constricted neck and sharply-everted rim. The fabric is typical of St. Neots ware, being black and shelly with purplish-brown soapy surfaces. The pot is, however, hand-made. The sherds vary in thickness and the rim has a characteristic rough hand finish. It came from ditch 50 associated with St. Neots ware and early medieval pottery, but as there were also hand-made Saxon sherds it is not possible to tell if this is a local hand-made copy of St. Neots ware or a precursor of it.

SAXO-NORMAN

- e. *St. Neots, 900-1050*. Sherds of St. Neots ware¹⁰⁶ were all associated with early medieval pottery except in feature 146. All are in the typical black shelly ware with purplish-brown soapy surfaces.

FIG. 66, no. 4, from pit 146. Top half of a pedestal lamp, rough girth grooves on the outside and strongly everted rim, which is unusual, as most lamps have simple upright rims. Thetford-ware lamps are common¹⁰⁷ but there are not very many St. Neots examples.¹⁰⁸ This developed rim probably indicates a late date.

FIG. 66, no. 5, from ditch 41 and FIG. 66, no. 6 from slot 8, building AB. Two very small rims of cooking-pots. No. 5 with the slightly everted rim should be early

¹⁰⁴ *Med. Archaeol.*, II (1958), 183-5 and III (1959), 23.

¹⁰⁵ *Med. Archaeol.*, III (1959), 17; *Norfolk Archaeol.*, XXXI (1957), 407. Recent excavations at Maxey, Lincolnshire and Buckden, Huntingdonshire, have produced 'typical' iron-age sherds in clear Saxon contexts.

¹⁰⁶ See *Proc. Cambridge Antiq. Soc.*, XLIX (1955), 43-70, for full account.

¹⁰⁷ *Med. Archaeol.*, III (1959), fig. 12, no. 8, and Thetford report by G. M. Knocker, forthcoming.

¹⁰⁸ *Op. cit.* in note 106, fig. 7, no. 10.

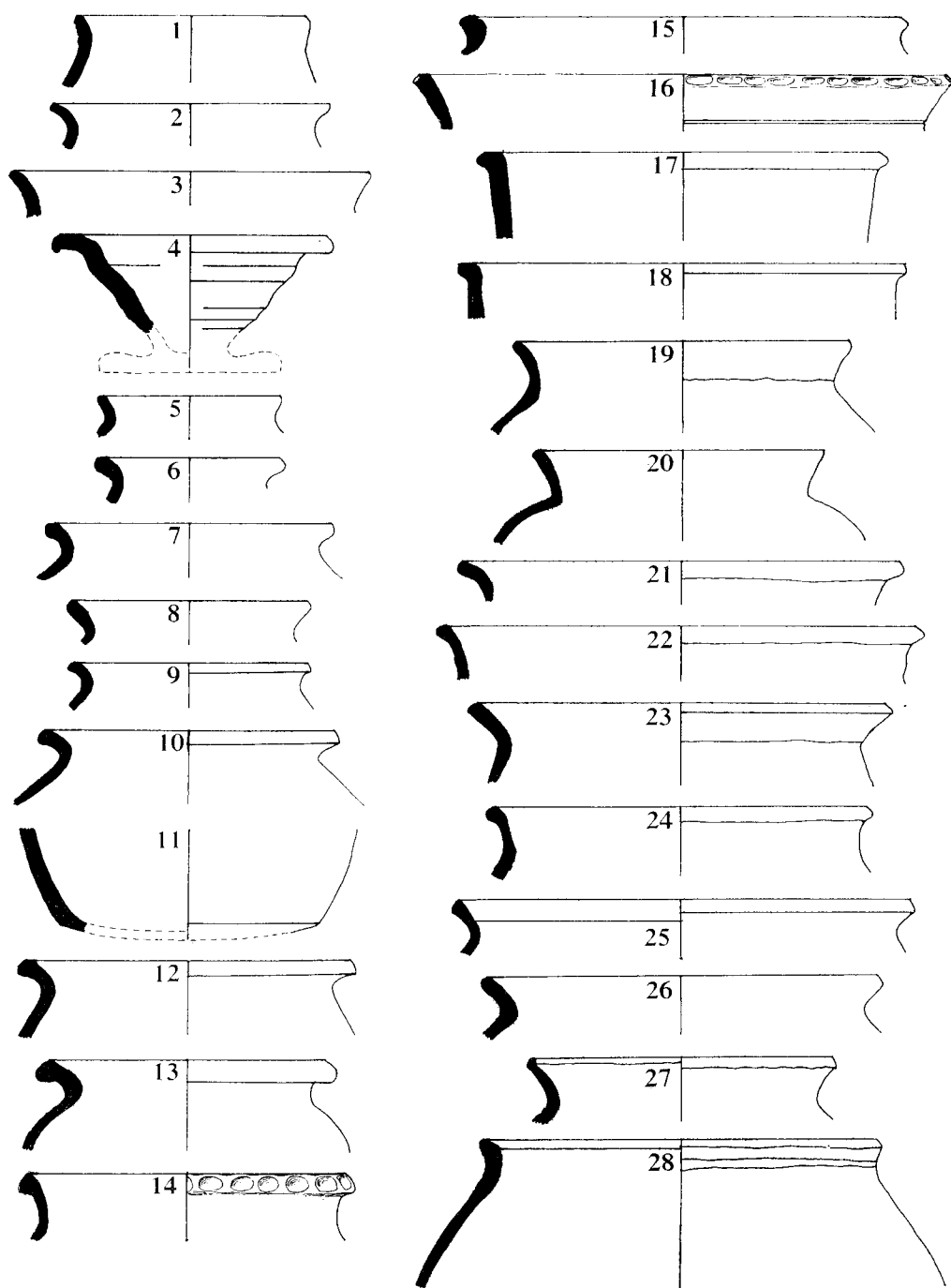


FIG. 66

POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

1-3. Saxon hand-made pottery (p. 255); 4-11. St. Neots ware (p. 256); 12-18. Developed St. Neots ware (p. 258); 19-28. Early medieval ware (p. 259). Sc. $\frac{1}{4}$

(9th or 10th century), as, indeed, both should be, from their small size, which is comparable with the earliest material from St. Neots.¹⁰⁹

FIG. 66, nos. 7 and 8 from between buildings AB and AH and FIG. 66, nos. 9 and 10 from between building AB and ditch 41. Four typical St. Neots cooking-pot rims. The larger ones (nos. 7 and 10) should be 11th century and the others earlier, though it is thought that the small forms were still made side by side with the larger ones.

FIG. 66, no. 11, from pit 146. Typical sagging base from a large 11th-century cooking-pot.

There were no early St. Neots bowls of the inturned type.¹¹⁰

- f. *Thetford-type Ware, 900-1050*. Northolt is very near the limits of the distribution of St. Neots ware¹¹¹ and it is perhaps remarkable that there should be so much of it. It is well outside the main area of Thetford ware,¹¹² though there is a Thetford-ware cooking-pot from the Tower of London.¹¹³

FIG. 67, no. 29. Everted rim of Thetford-type cooking-pot.¹¹⁴ Hard grey sandy ware with brownish surfaces. A fair amount of mica is present, suggesting a different source of manufacture from that of the normal ware. This ware is very similar to some Thetford-type sherds from Oxford.¹¹⁵

No Stamford ware has as yet been found on the site.

- g. *Developed St. Neots Ware, 1050-1150*. The fabric is the same as normal St. Neots ware, black with various tones of purplish-brown surfaces. It is still shell-tempered but also has a certain amount of sand tempering, which makes the surface harsh to the touch instead of soapy. This ware overlaps with the Saxo-Norman and early medieval periods as it has shapes typical of both.

FIG. 66, no. 12 from occupation building AB, FIG. 66, no. 13 from between buildings AB and AC and FIG. 66, no. 14 from ditch 55. Three cooking-pot rims still in the usual late Saxon form but with developed everted rims and (no. 14) thumbing on the rim, an early medieval feature not appearing on Saxo-Norman cooking-pots. This deep thumbing is datable after 1100 in the Oxford region (p. 261).

FIG. 66, no. 15, from occupation building AB. Large cooking-pot with medieval shape but thickened Saxo-Norman type of rim.

FIG. 66, no. 16, from wall 11 of building AH. Large cooking-pot of early medieval type with simple flared rim, thumbled on top. Groove at junction of neck and shoulder.

Most developed St. Neots bowls have sloping sides and hammer-headed rims,¹¹⁶ but at Northolt there seems to be an entirely different type with almost vertical sides and rims with a thick external flange. This type of rim is typical of late Thetford-ware bowls¹¹⁷ and of its derivatives in Lincolnshire at Torksey,¹¹⁸ but it is not usual in St. Neots ware. These bowls also have an applied thumbled-strip decoration, a development of that usual on Stamford-ware bowls, but again, not usually known either in Thetford or St. Neots ware. The thumbled strips on Stamford bowls are usually vertical but there is a sherd of a bowl from Stamford castle with an arc strip similar to FIG. 69, no. 80.¹¹⁹

¹⁰⁹ *Ibid.*, fig. 8, no. 1.

¹¹⁰ *Ibid.*, fig. 8, nos. 4-12.

¹¹¹ *Proc. Cambridge Antiq. Soc.*, LI (1957), 62, fig. 6, no. 5.

¹¹² *Ibid.*, p. 58, fig. 5, no. 3.

¹¹³ Information from Miss S. Butcher.

¹¹⁴ *Proc. Cambridge Antiq. Soc.*, L (1956), 29-60.

¹¹⁵ Information from Mr. E. M. Jope.

¹¹⁶ *Berks. Archaeol. J.*, L (1947), 47.

¹¹⁷ *Op. cit.* in note 114, p. 44, fig. 6.

¹¹⁸ *Op. cit.* in note 107, p. 44, fig. 19.

¹¹⁹ For vertical thumbled strip see *op. cit.* in note 111, p. 43, fig. 1, no. 4; for arc thumbled strip see *ibid.*, p. 54, and fig. 2, no. 45.

FIG. 66, no. 17 from ditch 55 and no. 18 from slot 19, building AC. Straight-sided flanged bowls.

FIG. 69, no. 80, from occupation building AB. Sherd from the side of a large bowl with applied curved thumbled band.

FIG. 69, no. 81, from occupation between ditches 41 and 50. Sherd from the side of a bowl thinner than no. 80, with horizontal applied thumbled strip. In the bottom left-hand corner of the sherd there is the start of a thumbled strip which seems to be leaving the horizontal strip at an angle. This suggests that the decoration on these bowls consisted of horizontal bands with arcs below, of which no. 80 would be part. Horizontal thumbled bands with a wave pattern in between are found on Thetford storage vessels,¹²⁰ so there is no need to look outside the Saxo-Norman traditions for this form of decoration.

FIG. 69, no. 82, from ditch 55. Sherd from a thick straight-sided bowl with vertical applied band decorated with individual cross stamps.¹²¹ Stamps are common on Thetford storage vessels¹²² and are known in southern England on vessels of the 11th and 12th centuries.¹²³ They have not been recorded before on St. Neots bowls or their derivatives.

Nos. 80 and 81 have a fair amount of grit in them as well as shell, but no. 82 is entirely shell-tempered and therefore much smoother to the touch. This suggests that no. 82 is earlier than the other bowls.

MEDIEVAL

- h. Early Medieval, 1050-1150.* A very distinctive group which is now becoming increasingly recognized in East Anglia.¹²⁴ It represents a revival of the Saxon tradition underlying the intrusive Rhenish Saxo-Norman Thetford, St. Neots and Stamford wares. It starts at a yet undetermined date in the early 11th century. The forms of the cooking-pots are medieval in character and, in this group, we see for the first time the typical large baggy cooking-pot which is wide and squat in contrast to the Saxo-Norman tall narrow olla shape. The rims are usually very simply everted or have a simple thickening. The fabric is very hard and well-fired and, at Northolt, is usually sandy and black, often with a glossy semi-burnished outer surface, though some sherds have the red surfaces which are more common in East Anglia. The sherds are usually much thicker than the early medieval examples from Norfolk, which are remarkably thin. It is of considerable interest to find this ware at Northolt, for there was a gap hitherto between other groups of this period.

It is thought that the medieval type of cooking-pot developed from vessels of the 8th and 9th centuries in SE. England,¹²⁵ at a time when in the rest of England the small pagan Saxon hand-made cooking-pot continued in use, and that it became fully developed by the early 11th century, when it started to spread and oust the solidly entrenched Saxo-Norman wares of eastern England. In Oxford a similar group of pottery was emerging, though in a rougher fabric.¹²⁶ In East Anglia there are similar rough early medieval wares in Essex,¹²⁷ but in a belt from Norfolk across Cambridgeshire to Nottingham (in fact in the main Thetford, St. Neots and Stamford areas) early medieval pottery takes on a distinctive form with a very hard fabric, possibly as a result of the influence of the hard Saxo-Norman fabrics. Despite this competition the Saxo-Norman wares do not seem to be ousted until the middle of

¹²⁰ *Op. cit.* in note 114, fig. 8, no. 1.

¹²¹ Cf. *Oxoniensia*, xxiii (1953), fig. 8, B 1 B 3.

¹²² *Op. cit.* in note 114, fig. 8, nos. 7, 15 and 44.

¹²³ *Op. cit.* in note 107, fig. 11.

¹²⁴ *Ibid.*, pp. 44-8 (Dunning, Group 5). The term 'Early medieval' is used as defined there.

¹²⁵ *Ibid.*, pp. 31-4 (Dunning, Group 1).

¹²⁶ *Oxoniensia*, xvii-xviii (1952-3), 77-112.

¹²⁷ E.g. Rayleigh castle, *Trans. Essex Archaeol. Soc.*, xii (1913), 147-86.

the 12th century, though in other regions, such as the Oxford area to which it was exported, Saxo-Norman pottery is largely superseded by 1100.¹²⁸

The Northolt group is therefore of importance in showing how far south towards London this hard, early medieval ware came. On the other hand in many ways the parallels are closest with the early medieval pottery from Winchester,¹²⁹ where the ware is hard as at Northolt and has the same thickening and semi-burnished surfaces. The significance of this is hard to assess at present as there are so few dated finds between. It is, however, of interest that the slightly later incised pottery (p. 261) may also be paralleled at Winchester. There seem to be three main groups at present; 1. the thin hard wares of East Anglia, 2. the rougher thicker wares of the Oxford region, and 3. the hard thick wares of the south. This shows that by the time medieval pottery was starting regional variations are already very much in evidence. On the other hand not all the early medieval pottery in East Anglia is thin, for that found by A. H. A. Hogg at Northampton Street, Cambridge, is thick and hard like that at Northolt, but without the sheen of the Northolt and Winchester examples.¹³⁰

There is no evidence to show how soon the Northolt pottery of this group finished, nor how early it started. Round dates of 1050-1150 have therefore been suggested, though it may well have started much earlier. Similar fabrics with the same hand finishing, but quite well developed thickened rims, have been found by J. P. C. Kent at the motte and bailey castle of South Mimms, Middlesex, which is datable *c.* 1144. It is wheel-thrown, but rough hand finishing is shown by the uneven treatment on the necks which is so typical of early medieval pottery.¹³¹

FIG. 66, no. 19, occupation between buildings AB and AH. Cooking-pot with simple everted rim. Black sandy ware but with an unusual number of quartz grits which gives a rougher surface than usual. Typical roughening at the junction of the neck and shoulder.

FIG. 66, no. 20, occupation in building AB. Cooking-pot with simple everted rim and marked shoulder. Grey sandy ware with red surfaces exactly comparable with East Anglian early medieval wares from Norfolk, except for the extra thickness.

FIG. 66, no. 21, occupation building AB. Large cooking-pot with everted rim of Saxo-Norman type. The fabric is rough and sandy, unlike the usual early medieval ware, but may be assigned to this period by its shape and stratification. Being so far from the Saxo-Norman centre more rough sherds might be expected, but this is the only really rough one, though FIG. 66, nos. 19 and 28 contain some grits.

FIG. 66, no. 22, occupation building AB. Large cooking-pot with slightly everted thickened rim. Very hard black sandy ware with smooth surface. Most early medieval cooking-pots have simple everted rims, but thickened rims are known at least by the third quarter of the 11th century.¹³²

FIG. 66, no. 23, between building AB and ditch 41. Cooking-pot with thick bell-shaped rim. This is a very typical form of this type and of its precursors in SE. England.¹³³ Sandy brown-grey ware with a few larger grains giving a harsher surface than usual.

¹²⁸ *Op. cit.* in note 121, p. 45.

¹²⁹ *Proc. Hants. Field Club*, xxi (1960), 139, fig. 2, nos. 5-7; cf. also more recent excavations, especially by Mr. M. Biddle on the site of the cathedral car park in 1961, which have produced typical sherds with the semi-burnishing in a group of *c.* 1100. If the Northolt material is influenced from Hampshire it is of the greatest interest in view of the recent evidence at Laverstock, Wiltshire, for Stamford ware imported from the Saxo-Norman area; *op. cit.* in note 107, p. 70, fig. 39.

¹³⁰ Report forthcoming, *Proc. Camb. Antiq. Soc.* The only other pottery on which this semi-burnishing of the surface has been noted is Torksey ware (*Med. Archaeol.*, III (1959), 44 and fig. 19). It is not found on Thetford ware.

¹³¹ *Op. cit.* in note 121, p. 52. I am grateful to Mr. E. M. Jope for noticing this feature.

¹³² *Op. cit.* in note 107, fig. 9, no. 9. Stratified under Norwich castle mound.

¹³³ *Ibid.*, fig. 9.

FIG. 66, no. 24, occupation between building AB and ditch 41. Cooking-pot with nearly upright neck and thickened rim. Very hard sandy black ware. Closely comparable with the rim found underneath the Norwich castle mound.¹³⁴

FIG. 66, nos. 25-6, by building AD, but clearly strays from period IC. Two cooking-pots in very hard grey-brown sandy ware with smooth surfaces.

FIG. 66, no. 27, by building AD. Cooking-pot in hard black sandy ware with everted rim and slight internal and external beading. This may be placed early in the development of the typical 12th-century expanded rims (FIG. 67, nos. 30-31).

FIG. 66, no. 28, in top of ditch 55. Cooking-pots with unusual upright rim and straight sides (most early medieval cooking-pots have a marked neck and shoulder). Hard black sandy ware with some flint grits, typical rough hand finishing under the rim.

FIG. 67, nos. 33-4, occupation building AB. These are most interesting bowls with straight sides and thickened rims exactly comparable to those in developed St. Neots ware (FIG. 66, nos. 17-18) but in the distinctive early medieval hard grey sandy fabric with smooth surfaces. It is thought that the developed St. Neots ware and early medieval ware were in use concurrently, so this provides a very close link, which is not revealed by the cooking-pots which show an independent development.

FIG. 69, no. 83, from ditch 41. Spout from a spouted bowl in typical hard grey sandy ware with brown surfaces.

FIG. 69, no. 84, from ditch 1. Another spout from a spouted bowl, longer than no. 83 with an expanded end and erratically spaced stabs.¹³⁵ These seem to be decorative, and not functional so as to let moisture out of the thicker parts of the spout during firing, as they only occur on the end and the top of the spout. Typical early medieval grey ware with a great deal of rough finishing by hand. Spouted bowls are another typical Saxo-Norman feature¹³⁶ and provide a close link, as do the forms of the bowls themselves (FIG. 67, nos. 33-4).

Glazed pottery was not stratified in any levels before the early 13th century and is very scarce even in the later levels (p. 270 and Table II).

- i. *Developed Early Medieval, 1100-1200.* A small group of cooking-pots in a hard sandy grey ware with red or brown surfaces. Small grits stand out, making the sherds harsh to the touch. The rims are everted and expanded both inside and out and slope outwards in all cases. This is a typical 12th-century rim form which is common over large parts of the country.¹³⁷ The fabric is similar to early medieval ware, especially pieces which have some grits, and may be regarded as a development from it during the 12th century. The thumbing on the rim does not usually occur on early medieval pottery in East Anglia, but it occurs on the developed St. Neots ware (FIG. 66, no. 14) and on 11th-century cooking-pots in the Oxford region,¹³⁸ lightly done, and after about 1100 more deeply pressed.¹³⁹

A distinctive feature of the Northolt group is the incised decorated pattern. This is hard to parallel in early contexts but is found on a few pots in the south, for example on 12th-century vessels from St. George's Street, Winchester,¹⁴⁰ and on other vessels, unpublished, in Winchester Museum, at Oxford¹⁴¹ and at Wareham castle.¹⁴² Nearer to Northolt there are very similar sherds from J. P. C. Kent's

¹³⁴ *Ibid.*, fig. 9, no. 9.

¹³⁵ *Op. cit.* in note 121, p. 42, fig. 13, no. 22.

¹³⁶ *Op. cit.* in note 107, fig. 12, no. 12 and fig. 15, no. 4, and *op. cit.* in note 106, fig. 7, no. 20.

¹³⁷ The type is best shown in a group from Exeter. *Antiq. J.*, xxxi (1951), 180-5.

¹³⁸ *Op. cit.* in note 126, p. 84, fig. 33.

¹³⁹ *Op. cit.* in note 121, p. 46, fig. 16.

¹⁴⁰ *Op. cit.* in note 107, fig. 10, and *op. cit.* in note 129, pp. 134-6.

¹⁴¹ *Op. cit.* in note 126, p. 42, fig. 14, no. 23.

¹⁴² *Med. Archaeol.*, iv (1960), fig. 19, no. 25.

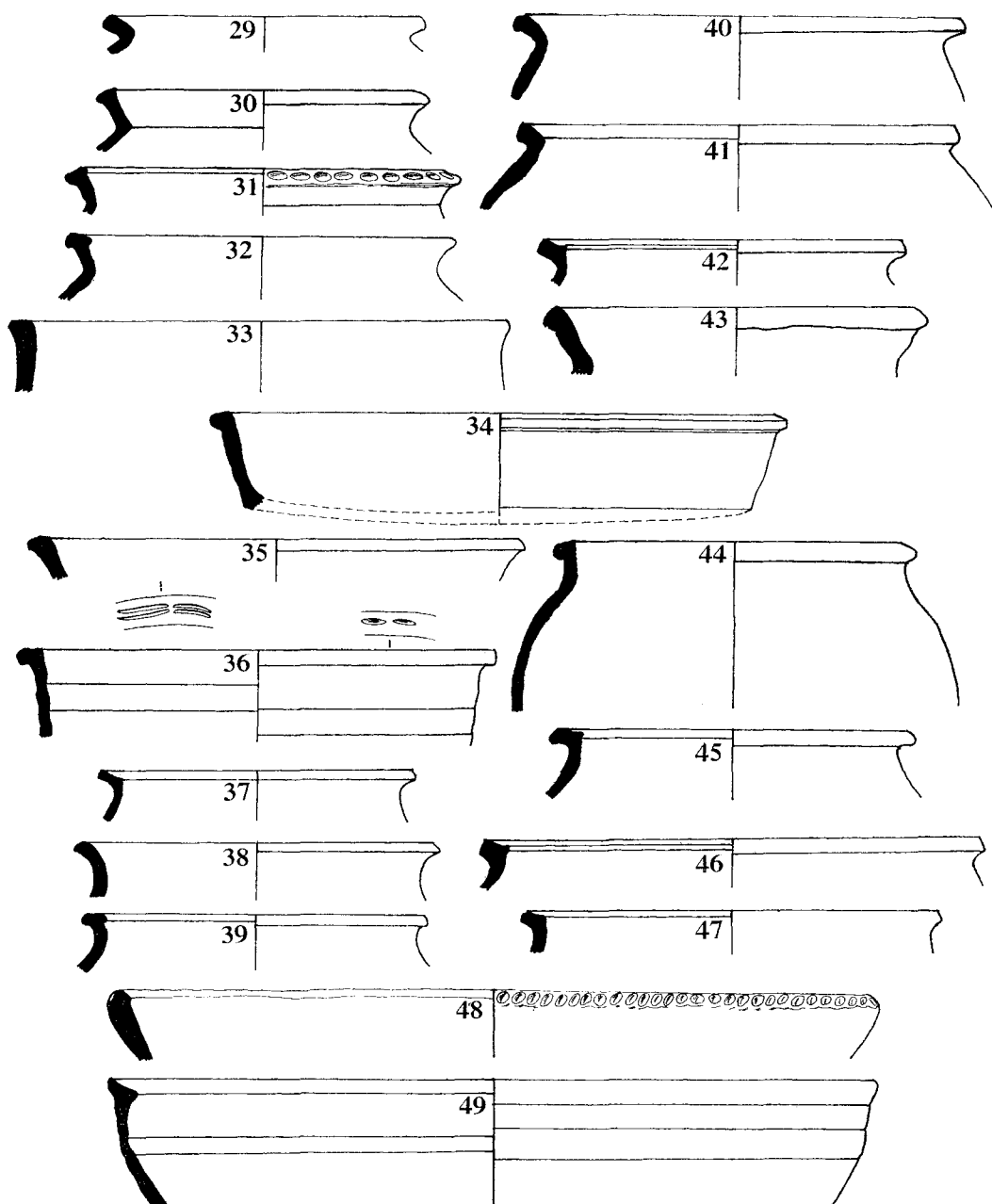


FIG. 67

POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

29. Thetford-type ware (p. 258); 30-1, 35. Developed early medieval ware (p. 263); 33-4. Early medieval ware (p. 261); 36-7, 47. Hard-brown ware with black surfaces (p. 270); 32, 38-43, 48. Rough medieval ware (pp. 263-5) 44-6, 49. Hard medieval ware, before 1300 (pp. 267-70). Sc. 1

excavation of the motte and bailey at South Mimms, Middlesex, in a context of c. 1144.

FIG. 67, nos. 30-1 are typical expanded rims of this group. No. 30 is from between building AG and ditch 111, no. 31 is from ditch 41 and another similar rim came from ditch 55. All the rims slope outwards; none is flat or slopes inwards.¹⁴³ The ware is similar in all examples, grey sherds with red surface predominating.

The decorated sherds are shown in FIG. 69, nos. 88-91. It is not possible to reconstruct a complete pattern of decoration, so sherds with different types of decoration have been drawn separately. They all come from pit 146 and appear to be from the same pot of which FIG. 69, no. 87 is the rim. This has the typical expanded rim sloping outwards and there are light finger-impressions on the slope. The decoration is incised deeply with a three-toothed comb giving a trellis pattern (no. 88), and a rectangular grid pattern, which is only just shown by the sherd (no. 89) over which a five-toothed comb has been drawn obliquely. No. 90 is incised with a six-toothed comb, but it is not clear if this is part of a trellis as the lines are curved. No. 91 has a series of overlaid horizontal combed lines similar to another rim from the same pit, FIG. 69, no. 86. This is a much smaller cooking-pot than no. 87 and most of the sherds have too large a radius to have come from it.

FIG. 69, nos. 92-3 are from similar cooking-pots although here the decoration seems to consist of overall horizontal grooves.¹⁴⁴ The sherds are not of sufficient size to show if this was done with a many-toothed comb, or if each groove was incised separately. No. 92 is from occupation building AB and no. 93 from ditch 41. See also p. 270. FIG. 69, no. 94 from Building AD, bearing wide horizontal grooves. These deeply grooved sherds provide another link with the south, as there are similar sherds from the George hotel, Winchester (in the Winchester Museum) and from the base of the east wall of the chapel of Porchester castle, Hampshire (in Portsmouth Museum). Again this type is found at South Mimms in a mid 12th-century context.

FIG. 67, no. 35, found on floor 120. Bowl with expanded rim and a broad incised pattern on top. The fabric is brown and sandy, unlike any of the other wares, but it is suggested that it belongs to this group.

Rough Medieval, 1150-1250. By the middle of the 12th century the hard early medieval wares and their successors seem to be dying out and the developed St. Neots ware has become very rough and debased. For the next 100 years or so the Northolt pottery is very rough and the rims show a development from simple everted forms to expanded and squared types which predominate in the 13th century. The ware contains much grit and is harsh to the touch. It is well made on a fast wheel but is not so well fired as the earlier or later wares. Its colour is its most distinctive feature, being usually a very light grey, almost an off-white, with brown surfaces. So far it has only been recognized on two other sites, The More¹⁴⁵ and Cheshunt, Hertfordshire.

FIG. 67, nos. 38-43 shows a typical series of these cooking-pots with simple everted rims (no. 38), expanded rims with a flat top (no. 39) and more developed rims becoming more squared (nos. 41-2). 162 different rims were found and they all show minor variations. FIG. 67, no. 38 is from over building AH, nos. 39-40 from slot 110 and nos. 41-3 from slot 63.

Some sherds of rough medieval ware are found in later levels. For example FIG. 68, no. 58 from hearth 214 (early 14th century) is in the typical rough early 13th-century fabric. Large numbers of 13th-century hard grey sherds were found in the late 14th-century level (Table I). In both cases they may be regarded as strays from earlier levels turned up during various works, rather than as survivals.

Bowls are very rare, one only being recognized among 1,032 sherds. This was

¹⁴³ *Op. cit.* in note 137, p. 183, fig. 1, nos. 7 and 9.

¹⁴⁴ *Op. cit.* in note 121, p. 42, fig. 14, no. 26.

¹⁴⁵ *Archaeol. J.*, cxvi (1959), 161.

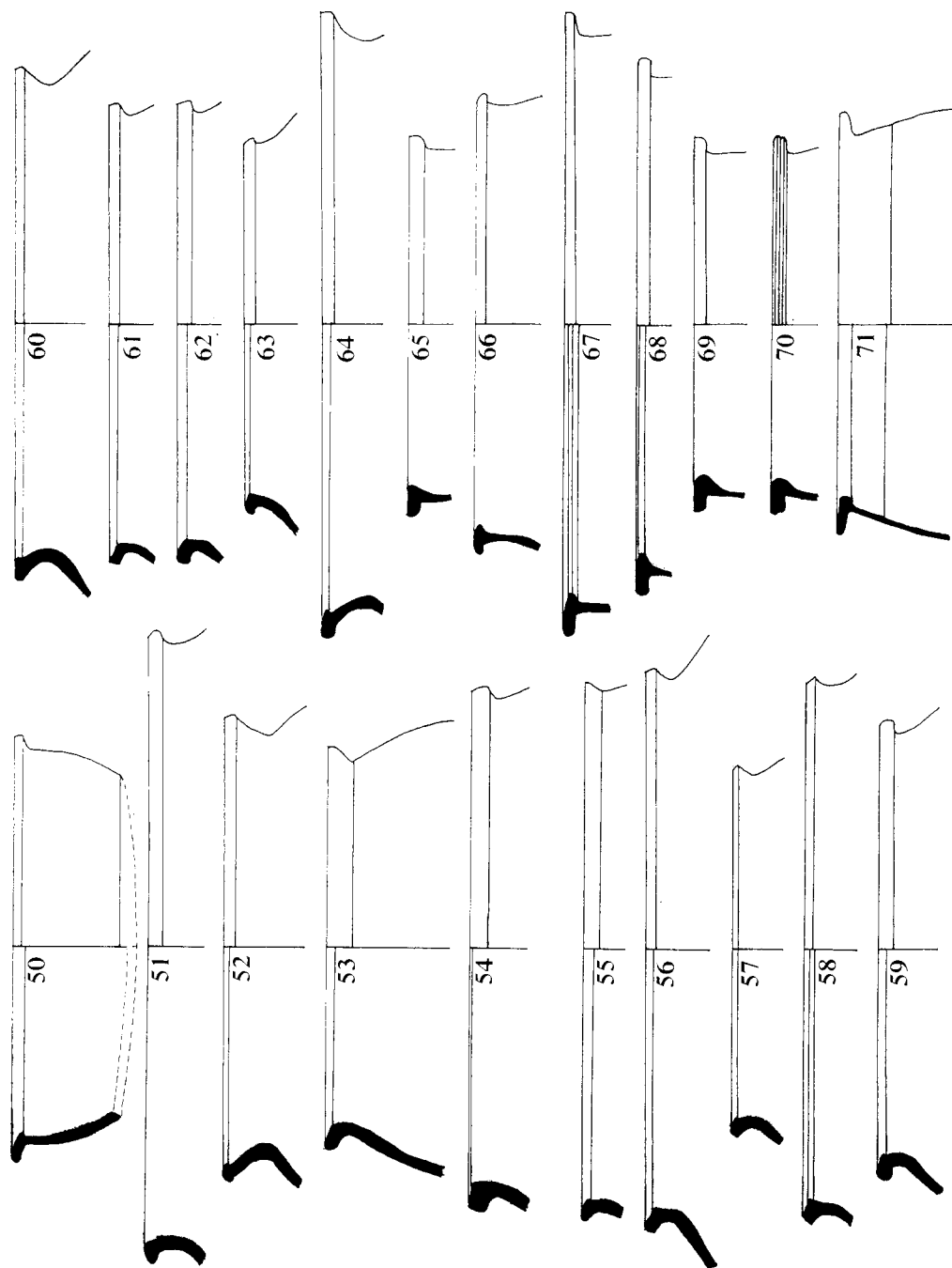


FIG. 68

POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX
 50-63. Hard medieval ware (pp. 267-70); 64-71. Off-white Surrey ware (p. 273 f.). Sc. $\frac{1}{4}$

FIG. 67, no. 48, from building AE, a large bowl with rough internal beading and oblique slashing on the rim.

FIG. 67, no. 32 from occupation building AB, falls into an intermediate group between *i* and *j*. It has the typical expanded rim of the 12th century, sloping slightly inwards, while the fabric is very rough and gritty, but quite unlike group *j*. It may be regarded as of the middle 12th century.

Two sherds from ditch 1B come from cooking-pots with roughly-thumbed applied bands on the shoulder. FIG. 69, nos. 95-6.

The only sizable fragment (FIG. 71, no. 1) of a late 12th- to early 13th-century jug came from ditch 1. It is roughly made with a very uneven top in light grey ware with a light brown outer surface. It has an applied U-shaped spout under the rim and, underneath, roughly applied strips forming a tree pattern. The leaves have been roughly scored with a blunt-ended tool. The handle is round and undecorated except for a thumb-impression on each side near the top and a deeply scored pattern between this and the neck. It is hard to find a parallel. The spout is clearly at the end of the Saxo-Norman series, though this U shape is rare in late contexts. The tree decoration is an early example of this type of decoration which is common in the second half of the 13th century. This jug therefore stands in between these two types, providing a most interesting link between the two traditions.

FIG. 69, no. 85, is a thick coarse sherd with the start of a large strap-handle and a circular hole pierced at the start of it. At first an attempt was made to restore this as a large two-handled bowl, but it is very coarse and rough for this. Mr. G. C. Dunning suggests that it is in fact a *firecover* or curfew and this makes a much more reasonable interpretation as this explains the hole which lets air in. Firecovers or couvre-feu were a common feature in late medieval times. Before the invention of matches it was essential to keep the fire alight at night and, by scraping embers together and covering them with a firecover, the fire was kept going and danger of the fire spreading to the timber superstructure of the room while the people were asleep was avoided. There is an exactly comparable sherd with a similar hole from Hangleton, Sussex, and a complete strap-handle with a hole at each end from Ipswich is in the Ipswich Museum.

It was not, however, until the finding of complete examples from Laverstock, Wiltshire, and Winchester that the full significance of these covers was realized by G. C. Dunning. The Laverstock example has the same two holes at the base of the large strap-handle. This was found with decorated jugs on a kiln site suggesting a date in the second half of the 13th century. The other complete example from Westgate, Winchester, had a large number of holes and was found associated with a glass lamp and other pottery of the 13th century.¹⁴⁶

It has not been possible to locate any medieval references to firecovers as such. According to the Oxford English Dictionary the earliest references to curfew already refer to the ringing of the bell and not the cover itself. Metal firecovers are very rare in 17th-century inventories. Mr. M. W. Barley informs me that he has not come across any and amongst 245 inventories in Essex Francis Steer only found two references (*Farm and Cottage Inventories of Mid-Essex 1635-1749* (1950), p. 34, Inventory 140, and p. 209, Inventory 166). There are surviving late metal examples in the

¹⁴⁶ Firecovers are dealt with by J. G. N. Renaud in 'Een middelceeuwse Vuurstolp,' *Berichten van de Rijksdienst voor het oudheidkundig bodemonderzoek*, vii (1956), 109-110 and *ibid.*, v (1954), 142, fig. 6, nos. 3 and 5, pl. xxxi. For the Hangleton piece, see *Sussex Archaeol. Coll.*, forthcoming; for Laverstock, *Museums J.*, ix (1961), 253. E. M. Jope originally listed four examples (*Oxoniensia*, xi-xii (1946-7), 169, fig. 24, nos. 3 and 4) from Newbury, Berkshire, Enstone, Oxfordshire, Avebury, Wiltshire and Wootton Bassett, Wiltshire. To these he added another from Brough-under-Stainmore, Westmorland in 1955 (*Trans. Cumb. & West. Archaeol. & Archit. Soc.*, lv (1955), 87). T. C. M. Brewster found the top part of a firecover at Flixton (*Two Medieval Habitation Sites in the Vale of Pickering* (Yorkshire Museum, 1952), p. 24, fig. xv, no. 27. This has the typical two holes and the fire blackening inside, not on the outside as would have been the case with the lid. Some of these finds take firecovers back to the 12th century.

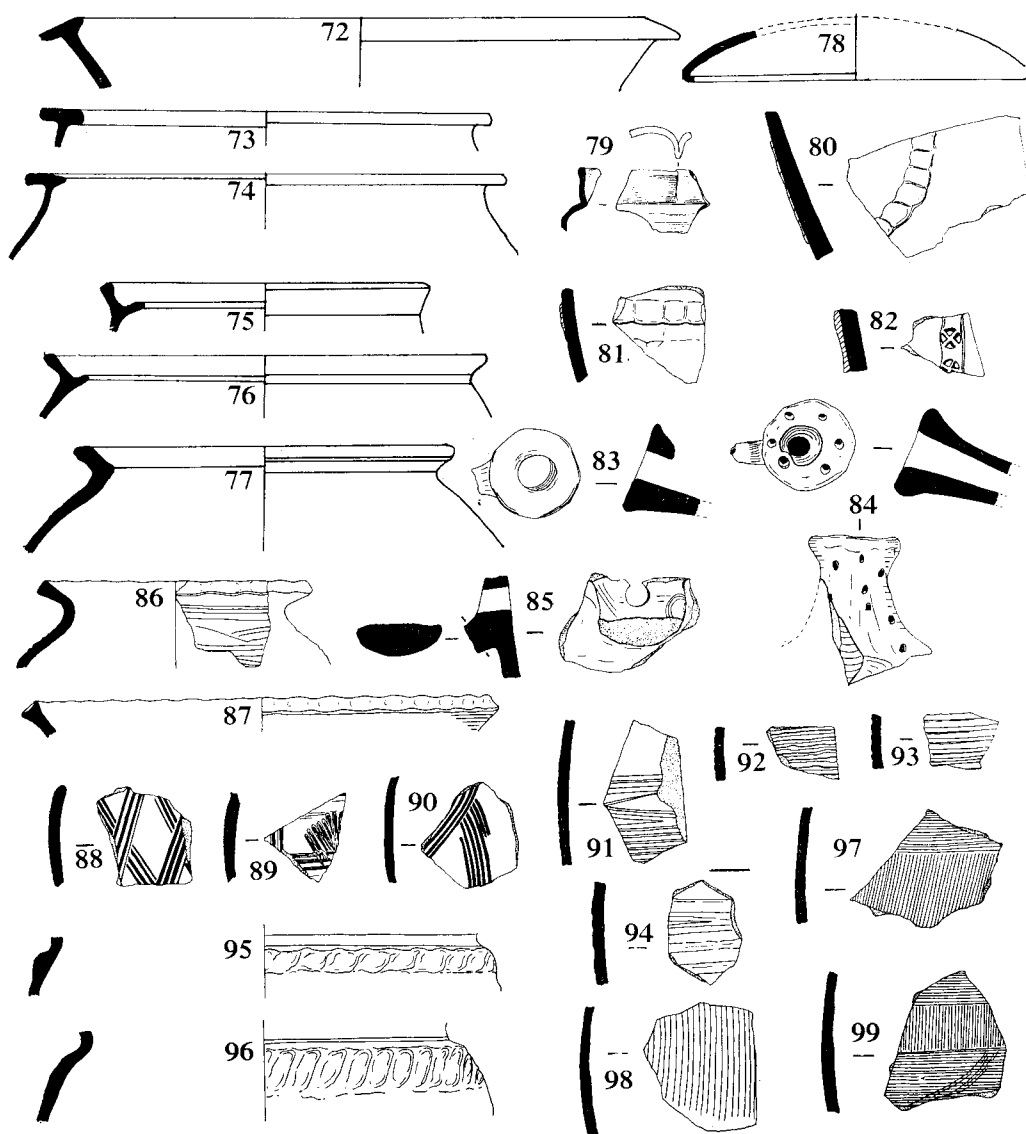


FIG. 69

POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

72-6, 78. Surrey ware (p. 274); 77. East Anglian red ware (p. 275); 79. Lobed cup (p. 274); 80-2. Developed St. Neots decorated bowls (p. 258); 83-4. Early medieval spouted and handled bowls (p. 261); 85. Firecover (p. 265); 86-94. Developed early medieval decorated cooking-pots (p. 263); 95-6. Rough medieval decorated cooking-pots (p. 265); 97-9. Hard medieval decorated cooking-pots (p. 270). Sc. $\frac{1}{4}$

Brighton and Hastings museums (*Sussex Notes and Queries*, v, (1934), 92) and another is reproduced by William Hone, *The Every-day Book*, I (1826), 243 from an article in Francis Grose's *Antiquarian Repertory*, I, 89. The illustration is again reproduced and the custom discussed in Chambers, *Book of Days* (1864), II, 333-4. I am greatly indebted to Mr. J. H. Harvey for providing me with these references.

- k. *Hard Medieval Grey Wares*, 1225-1325. This forms the largest group of pottery on the site. Nearly 12,000 sherds were found. As with the smaller groups, these were very fragmentary and it was only possible to reconstruct the complete profiles of three cooking-pots from ditch 1. The ware is hard and grey with large numbers of small flint grits giving a surface harsh to the touch. It is clearly a development from the earlier rough medieval ware, most of the differences being in harder firing and more developed moulded rims.¹⁴⁷ Few rims were stratified; 400 were in the occupation-level in the grey layer, which could belong to any time before 1350. Those which have been drawn are typical. They may be divided into two sub-groups;

1. sealed under Period-II features (before 1300);
2. after 1300.

1. By far the largest quantity comes from ditch 1, comprising, 3,199 sherds of which 299 were rims. No attempt has been made to draw them (except for three complete examples) as time has not been available for the statistical analysis it was hoped to make. The types are well represented from other areas and a fuller study of ditch 1 may be made in the next report.

Only three complete profiles were obtained of cooking-pots, all from ditch 1. FIG. 70, no. 1 is a very small cooking-pot though the shape is typically medieval, being wider than it is high. The rim is simply everted and only slightly squared off. The whole outer surface of the pot is very much blackened by fire and clearly this pot has been much used for cooking.

FIG. 70, no. 2 is a medium-sized cooking-pot with everted rim rounded outside. The surfaces are covered by horizontal marks made by a brush while the pot was still wet. There are four spaced vertical applied bands, lightly thumbbed and again vertically brushed. The inside of the sagging base, which seems to be very deep, shows clear marks of the potter's fingers, which have not been removed. The largest proportion of cooking-pots is of this size and many of them show blackening from cooking over a fire.

FIG. 70, no. 3 is a very large cooking-pot or storage vessel, with rim of the more usual squared type. There are seven thumbbed strips spaced six and a half inches apart. Cooking-pots of large size are known, but it is difficult to be precise about the use of pots like this one.¹⁴⁸ There is no reason why they should not be used for cooking as metal cauldrons are as large, but they could also have been used for storage. There are no marks of burning on the base.

FIG. 67, no. 46, from post-hole 115. A typical squared rim of the most common type with an internal beading which is a common feature of this type of pottery in East Anglia.

FIG. 68, nos. 51-3 is a small selection of the rims from the south end of ditch 111, showing the wide range in form which is possible in material of presumably the same date. Many of the differences, where there is a large variation, are simply due to different placing of the potter's fingers, and a study of the different forms is not,

¹⁴⁷ L.c. in note 145. The same development occurs at the More. This ware was possibly made at Elstree: *Trans. St. Albans Archt. and Archaeol. Soc.*, 1961, pp. 65-76. Squared rims with internal beading are dated 1294 at Bungay castle (*Proc. Suffolk Inst. Archaeol.*, xxii (1936), 334-8). It must not however be assumed that all pottery of this type is late 13th century. On the contrary this date is towards the end of the life of these squared rims (see group I below).

¹⁴⁸ *Proc. Isle of Wight Nat. Hist. and Archaeol. Soc.*, II (1937), 678, fig. 2. The large cooking-pot from Walthamstow is very similar in fabric to the Northolt example but the thumbbed strips are horizontal: *London Mus. Med. Catal.* (1940), p. 221, fig. 72.

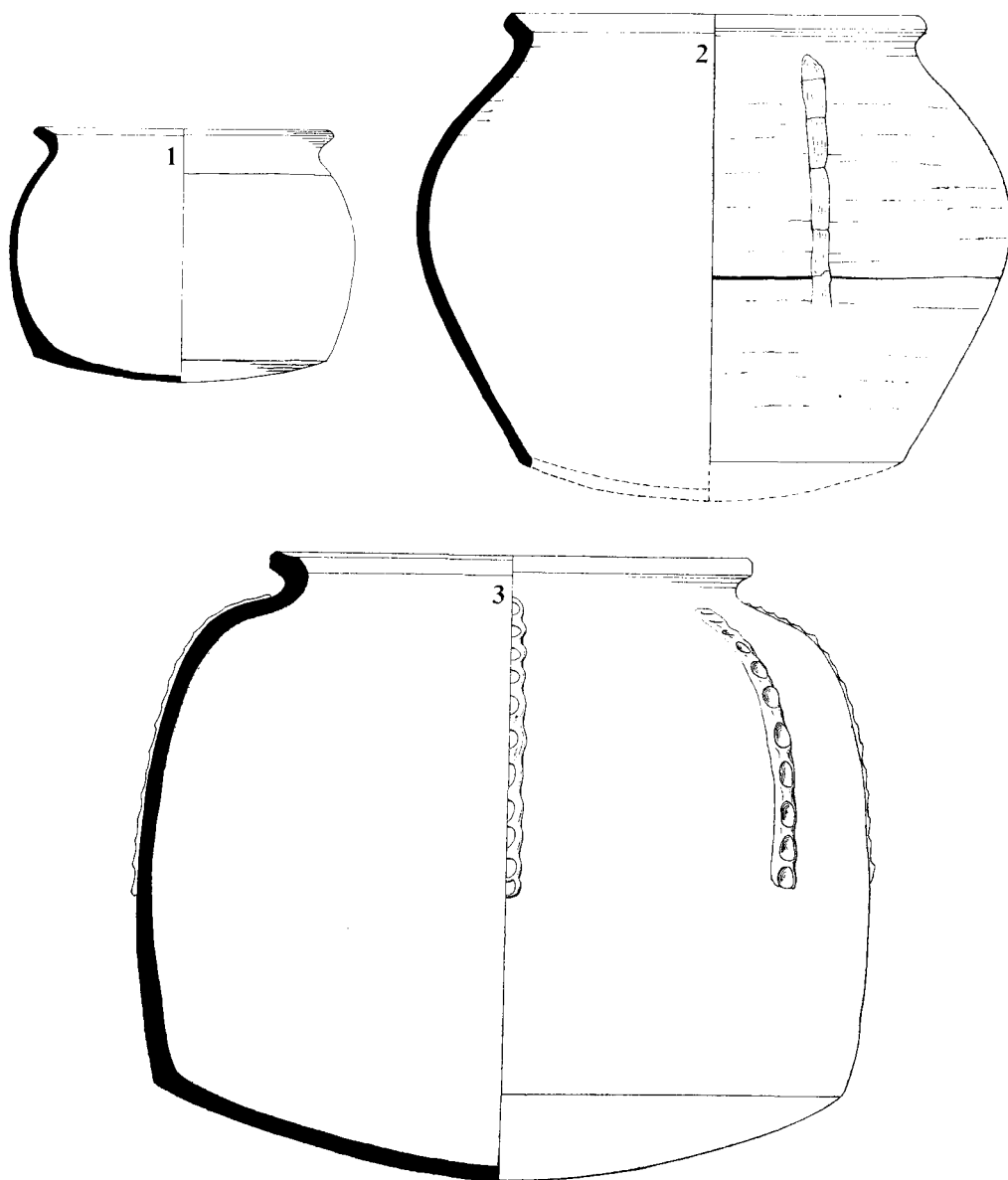


FIG. 70
POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX
Cooking-pots of hard medieval grey ware from ditch I (p. 267). Sc. $\frac{1}{4}$

therefore, of much value. This variation does, however, suggest individual manufacture of the pots, rather than mass production of certain types, as is apparent in group *l*.

Only two of the 400 rims which were unstratified in the grey occupation layer have been drawn; FIG. 67, no. 44, because it has the largest amount of profile of any

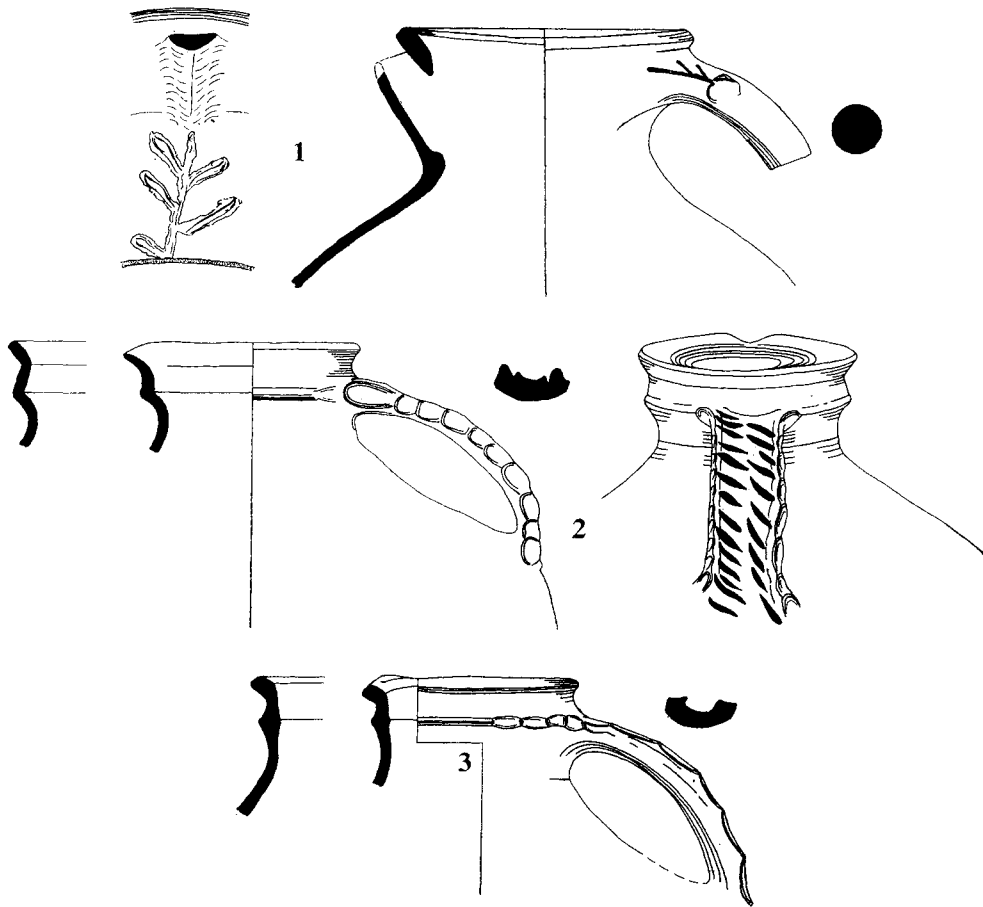


FIG. 71

POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

Unglazed jugs from ditch I (pp. 265, 273). Sc. $\frac{1}{4}$

of the sherds, and FIG. 67, no. 45, because it shows the widening of the flange which heralds the rim forms of group *l*.

2. Quite a number of rims were found in Period-II levels belonging to the first half of the 14th century, when the pottery was changing from group *k* to *l* (p.276). These are of interest in showing that there are few new types which were not current before 1300 and that few of them were influenced by group *l* forms, FIG. 67, no. 45 being an exception.

FIG. 68, nos. 54 and 55, from the foundations of wall 222, are not later than *c.* 1300. FIG. 68, no. 56 is from post-hole 215 and no 57 from hearth 214 in the kitchen. FIG. 68, no. 59 and FIG. 68, no. 60 are from floor 234 and FIG. 68, nos. 61-3 from floor 229. While all these should be of the early 14th century it may well be that some of them are earlier strays, in view of the ubiquitous nature of these hard grey wares (Table I).

The lack of bowls is most remarkable, for out of over 12,000 sherds there were only three, all illustrated.

FIG. 67, no. 36, found on floor 120, is a straight-sided bowl with flanged rim and stabbing along the top. This is in a hard brown ware with black surfaces which it is hard to place in the series, but it is possible just a different firing of the usual grey wares, the fabric being exactly the same.

FIG. 67, no. 49, found over building AE but under the Period-II kitchen, is a large bowl with expanded rim hollowed inside.

FIG. 68, no. 50 is a small bowl with flanged rim.

No. 36 is clearly a development from the early medieval straight-sided bowls but the other two are in a different form, though the lack of comparable material makes it difficult to say more.

There are also a number of cooking-pots in a ware like no. 36, two of which are figured. FIG. 67, no. 37 has a thin everted rim hollowed on top and FIG. 67, no. 47 is similar but thicker. These are from the grey occupation-layer NE. of the kitchen and from post-hole 118. See also the unglazed jugs, FIG. 66, nos. 23, 26 and 28, p. 273.

Nearly 50 sherds of group *k* have horizontal and vertical grooving. This does not seem to be intentional decoration as in group *i* (p. 261), but rather some form of surface finishing with a rough leather or other instrument. FIG. 69, no. 97 shows both vertical and horizontal treatment, no. 98 is entirely vertical and no. 99 alternately vertical and horizontal in bands with some cross-scoring as well. This feature is known from several sites in East Anglia and may be regarded as typical of the later 13th century. No. 97 is from Period II, area B, no. 98 on floor 242 and no. 99 from the grey layer NE. of the kitchen.

GLAZED SHERDS

Although a few glazed sherds may be placed in group *j* the main bulk belong to groups *k* and *l*. The percentage in the late 13th century is only about 1 per cent. This may be partly due to the area so far excavated being the kitchen area where the preparation of food would explain the large number of cooking-pots, but even so the number is very small and almost all are of thumb-nail size giving tantalizing glimpses of the types of decoration then current.

These sherds all fall into four main groups of glazed jug all of which are typical of the London area, with the exception of no. 16 which is an import. (1) Grey-ware jugs with a green glaze and plain or rouletted strips or scales in the same colour, FIG. 72, nos. 9, 11, 14, and 15. (2) Brown-ware jugs with zonal decoration of yellow strips and blobs on a red-brown background, FIG. 72, nos. 1, 8, 19 and 20. (3) Jugs with an overall white slip under a mottled green glaze and combed decoration, FIG. 72, nos. 12 and 18. (4) Buff-ware jugs with a yellow glaze and polychrome decoration of green strips and scrolls with red rosettes, FIG. 72, no. 10. Of more exotic forms aquamaniles are represented by FIG. 72, nos. 2-4 and 6 and face-jugs by FIG. 72, no. 7.

Seventy-five out of 207 of the sherds from glazed jugs came from ditch 1, thirteen being figured (FIG. 72, nos. 1-13). Only one fragment was of any size (FIG. 72, no. 1), the middle part of a globular jug with an arcaded pattern of two parallel yellow painted strips (horizontal lines) with red applied strip (stippled) between.

The jug is in a hard reddish ware. The constriction at the shoulder and the base is a typical London feature.¹⁴⁹

FIG. 72, nos. 2-4. Three fragments of an aquamanile in a sandy micaceous brown ware with a dull green glaze. It is not possible to reconstruct the shape from the fragments, but no. 2 has the start of an opening which may be the base of the head of the animal. The body is covered with erratic shallow stabs, a common feature.

FIG. 72, no. 5. Fragment from the neck of a jug in hard buff ware, yellow green glaze with a decoration of alternate vertical strips in green (stippled) and stamped rosettes in red.

FIG. 72, no. 6. Fragment of an aquamanile in the form of a ram. Hard buff-ware rim-fragment from the top of the head, with yellow green glaze. The curving strip is a curled horn on one side of the face. These are a common London type and there are two examples in the London Museum, one A3912 and the other A16796, both from unknown find-spots in London.

FIG. 72, no. 7. Fragment of the rim of a jug in grey sandy ware with brownish surfaces, upright knob projecting above the rim with deep vertical slashing below. It is not certain if there were two or more of these in between a handle and a spout. Darkish green glaze. This has the appearance of being a degenerate face-jug with the slashing underneath. Knobs of this kind were found at St. Catherine's Hill, Winchester (*Proc. Hants. Field Club*, xi (1930), fig. 26, no. 44).

FIG. 72, no. 8. Very small fragment of jug, red sandy ware with red brown glaze and yellow blobs in an overall pattern. This is a very typical London form.¹⁵⁰

FIG. 72, no. 9. Sherd of a jug of hard off-white ware with dark-green glaze and vertical strips decorated with square-notch rouletting. This is a very widespread form of decoration, and typical of London. See example in the London Museum, A27226 from an unknown find-spot in London.

FIG. 72, no. 10. Rough pinkish buff sherd with yellow-green glaze and decoration of vertical green strips (stippled) and in red (oblique lines). This polychrome effect in yellow, green and red is an attempt to imitate in plastic form the French polychrome jugs which are painted in several colours¹⁵¹ that are found on many sites in London.¹⁵²

FIG. 72, no. 11. Fragment from the shoulder of a buff gritty jug with lustrous green glaze. Vertical strips decorated with diamond-notch rouletting. This is typical of London. See examples in the London Museum, A26665 from Leadenhall Street and A17129 from King William Street, London.

FIG. 72, no. 12. Fragment from the side of a jug in sandy brown ware covered outside with a white slip and mottled green glaze; erratic combed pattern. This technique is again a very common London feature.¹⁵³

FIG. 72, no. 13. Thumbed base of a jug, grey sandy ware with brown surfaces, patches of green glaze. This is illustrated as a typical base of which there are several examples. There are also small fragments of plain footed bases of baluster jugs.¹⁵⁴

FIG. 72, nos. 14-21 shows a representative series of glazed sherds from other parts of the site all belonging to Period IE or II.

FIG. 72, no. 14, from floor 204. Grey sandy sherd with brown surfaces and rough green glaze, decoration of vertical strips of the same colour sharply tooled on each side.

¹⁴⁹ Cf. jug from St. Stephen's Walbrook in the Maidstone Museum, B. Rackham, *Medieval English Pottery* (1948), pl. 79.

¹⁵⁰ Cf. jug from Lime Street in the London Museum: *London Mus. Med. Catal.* (1940), pl. lxiii.

¹⁵¹ *Archaeologia*, lxxxiii (1933), 114-138.

¹⁵² Cf. jug from the Greyfriars, Smithfield, in the London Museum (*op. cit.* in note 149, frontispiece) and jug from Swan Street, Southwark, also in the London Museum (*op. cit.* in note 150, frontispiece).

¹⁵³ Cf. jug in the Victoria and Albert Museum from London, *op. cit.* in note 149, pl. 25.

¹⁵⁴ *Op. cit.* in note 150, p. 216, fig. 69, no. 5.

FIG. 72, no. 15, from floor 210, kitchen. Hard grey ware with green glaze and overall pattern of scales, another common London feature.¹⁵⁵

FIG. 72, no. 16, from floor 242. Sherd of very fine off-white ware with a dull yellow glaze, decoration of alternate vertical strips and scales in the same colour.

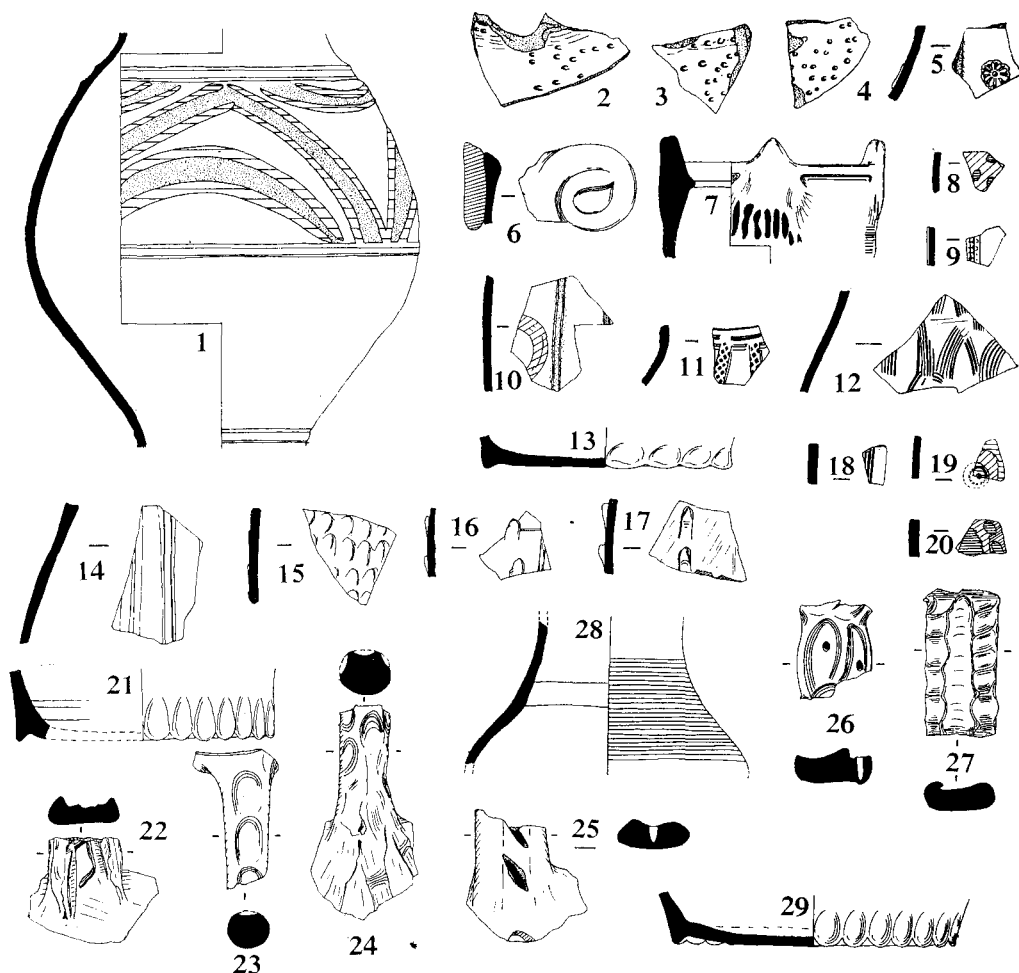


FIG. 72

POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

1-21. Glazed jugs, late 13th to early 14th century (pp. 270-3); 22. Rough medieval jug handle, early 13th century (p. 273); 23-8. Hard medieval unglazed jugs (p. 273); 29. Surrey jug (p. 274). Sc. $\frac{1}{4}$

This is a very fine quality fabric which is very different from all the others. There is a similar sherd with a pattern of scales in a heraldic pattern from another part of the site (to be described in the next report). It is thought that both these may be imports from France.

FIG. 72, no. 18. Sherd from another jug with white slip under a mottled green

¹⁵⁵ E.g. jug from St. Bartholomew's Hospital in the British Museum, *op. cit.* in note 149, pl. 11.

glaze with vertical combed decoration. FIG. 72, nos 19 and 20. Two sandy red-ware sherds with decoration of yellow blobs, stamps, and strips on a red background as no. 8. Nos. 18 and 19 from the grey layer NE. of the kitchen and no. 20 from wall 228.

FIG. 72, no. 21, from floor 249. Base of a jug of the type with the white slip. Base thumbed all round as no. 13, but pressed down more vertically to make a longer impression.

UNGLAZED JUGS

The unglazed jugs are in the same hard grey ware as the cooking-pots and may be regarded as coming from the same source. Few fragments have survived, except for the handles, and five of these are figured to show the range of types (FIG. 72, nos. 23-27).

FIG. 72, no. 23, from ditch 1, is in the variant brown ware with black surfaces (see nos. 36-7 and 47) and comprises the top half of an oval handle thumbed down the centre.

FIG. 72, no. 24, from floor 209, kitchen, is in the normal hard grey ware and is the bottom of a rough rod handle thumbed up the centre and on each side with three applied thumbed strips splaying out from the bottom. The handle has been inserted into a hole made in the side of the jug. G. C. Dunning's map of these jugs with deeply thumb-pressed handles (*Archaeologia*, xc (1944), 122 f.) has recently been brought up to date by M. Biddle (*Trans. St. Albans Archit. and Archaeol. Soc.*, 1961, pp. 65-76).

FIG. 72, no. 25, from floor 242, is the base of a strap-handle with oblique slashing.

FIG. 72, no. 26, from hearth 246, is another strap-handle in the brown ware with black surfaces, as no. 23, with much more grit than usual. The handle has deep overlapping thumbings which are heavily stabbed.

FIG. 72, no. 27, from under wall 318, is a strap-handle in the usual hard grey ware thumbed down each side.

FIG. 72, no. 28, found on hearth 233, is the only drawable body-fragment of the plain jugs in the variant brown ware with black surfaces, as nos. 23 and 26. The shoulder of the jug is deeply reeded.

The only two sizable fragments of plain jugs were the top halves of two jugs in the usual hard grey ware, exactly the same as that of the cooking-pots. They both came from ditch 1. FIG. 71, no. 2 is from a large globular jug with a thin everted rim and collar below and pinched-out lip. The strap-handle is thumbed on each side and has two rows of oblique slashing. FIG. 71, no. 3 is from a similar jug with a more squared rim and a cordon rather than a collar. The strap-handle is thumbed on each side ridge and the thumbings continue round the cordon.

- l. *Off-white Surrey Ware, 1300-1400*. All the previous groups of pottery have either been of local origin or have come from East Anglia. With group l there is a complete change of orientation, looking to the Surrey kilns which, during the 14th century, began increasingly to supply London.¹⁵⁶ The date when this happened has long been uncertain, but is roughly ascribed to the early 14th century.¹⁵⁷ The evidence from Northolt, based on coins (p. 288), suggests that it began before 1300 and was accounting for half the pottery by 1325, while by 1350 the pottery was all of Surrey type. It is however disconcerting to find, just at this time, documentary evidence for pottery manufacture in the Northolt area itself (p. 220). It is not known on how large a scale this was and it is possible that some of the local wares continued to be made after the middle of the 14th century. This applies specially to those sherds which are half grey and half white, giving the appearance of poor copies of the imported

¹⁵⁶ *Surrey Archaeol. Coll.*, xxxv (1924), 79-94.

¹⁵⁷ This dating is discussed further in *op. cit.* in note 145, p. 162.

wares. But as there is so little pottery from the late 14th century it is unwise to press this suggestion too far.

The Surrey pottery is very distinctive and easily differentiated from all the earlier fabrics. The sherds are thin and very well made and fired. The fabric is sandy and off-white in colour. The cooking-pots have a characteristic flange which is usually sharply undercut outside and rounded inside. This form develops out of the squared 13th-century rims during the 14th century over most of SE. England, but the East Anglian wares are either grey¹⁵⁸ or red.¹⁵⁹

FIG. 68, no. 64, found on floor 229 (Period II, 1300-50) is a remarkable expanded rim which could well be at home in the 12th century, but in a half grey and off-white fabric which may either be regarded as transitional between groups *k* and *l*, i.e. an early product of the Surrey potteries, or a result of local potters trying to copy the new fabric, but still using their old rim forms.

FIG. 68, nos. 65-71 are typical Surrey-ware cooking-pots. Nos. 65 and 66 are from hearth 237. No. 65 has a splash of green glaze on top of the rim, a very common feature of this group. Nos. 67-8 were on hearth 222, no. 69 from tile floor 204, no. 70 from floor 243 and no. 71 from floor 246.

FIG. 69, no. 72, the only Surrey bowl, comes from the grey occupation-level to the south of the cooking area and presumably belongs to Period II.

The sherds of the jugs are too fragmentary to reconstruct the shapes, but there are several sherds with a rich green glaze outside and slashed strap-handles. The bases are still thumbled all round. FIG. 72, no. 29 illustrates a typical example from hearth 214, kitchen.

FIG. 69, nos. 73-4 (Period III, 1350-70) are two typical Surrey cooking-pot rims showing that there is little change between the rim forms of the second and the third quarters of the 14th century.

m. Buff Surrey Ware, 1350-1425. All the early 14th-century Surrey sherds are off-white in colour, but towards the end of Period II buff sherds start. These are the same in form and fabric but the colour is either buff all through or off-white with buff surfaces. In Period II there are 11 buff sherds and 295 off-white sherds, while in Period III 36 and 181, showing a steady increase of the buff ware. By Period IV, at the end of the 14th century, the buff sherds predominate. Though the numbers of sherds found are too small for statistical analysis, the fact that there are only 5 off-white sherds and 30 buff sherds clearly shows the trend. It is not clear whether the flanged rims continue, but both of the rims stratified in Period IV show the developed bifid type. This rim form develops in many parts of the country during the 15th century¹⁶⁰ as a more efficient means of providing a seating for a lid. One of these lids, the only one found on the site, is shown in FIG. 69, no. 78. This is, however, earlier, being from hearth 246 and therefore before 1350. It is in the transitional grey to off-white ware discussed above (p. 273). FIG. 69, nos. 75-6 shows these 2 bifid rims, one from floor 355 in Period IV and the other from Pentice K.

Also from floor 355 was a lobed cup (FIG. 69, no. 79). While Period IV must commence very soon after 1370, because the walls of this period were built directly on the robbed walls of Period III, before they had become grassed or their line had been lost, it is not possible to tell how far into the 15th century it survived or occupation continued. Lobed cups are usually ascribed to the end of the 15th century,¹⁶¹ but there is increasing evidence that they may start before 1450. Un-

¹⁵⁸ E.g. at Sandon Mount: *Trans. St. Albans and Herts. Archil. and Archaeol. Soc.*, IV (1933-5), 182, fig. 6, nos. 2-3; and Cambridge: *Proc. Cambs. Antiq. Soc.*, VIII (1891-4), 268, pl. xiii, no. 2.

¹⁵⁹ Especially in Essex in the area of white painted jugs and sgraffito.

¹⁶⁰ E.g. Oxfordshire: *Oxoniensia*, XIV (1949), 78-9; and Yorkshire: T. C. M. Brewster, *Two Medieval Habitation Sites in the Vale of Pickering* (Yorkshire Museum, 1952).

¹⁶¹ *Oxoniensia*, VI (1941), 88-90.

fortunately they very rarely occur on stratified sites and where they do they are often in late 15th-century levels.¹⁶² The pottery from Mrs. E. H. Rudkin's 15th-century kiln at Toynton, Lincolnshire, with which a lobed cup was found, would fit much better typologically into the first half of the 15th century than into second. At Hangleton in Sussex a lobed cup was found with an early 15th-century coin and a Siegburg jug of early 15th-century type.¹⁶³ Though they need not all be the same date, the evidence is suggestive. There is also no need to link them with the Tudor green wares, which do not start before about 1475, for it is more likely that the lobed cups are developed from the fine 14th-century French green-glazed wares, to which they are very similar.¹⁶⁴

- n. *East Anglian Red Ware, 1425-1500*. It is not proposed to dwell on Period V in this report, as this is only represented in the area excavated by the destruction of the Period-IV buildings. It is hard to tell which pottery comes from the Period-IV floor-level and which from the destruction above it. Only one sherd is certain and this was found in Pentice I.

FIG. 69, no. 77. Cooking-pot in hard red-brown sandy ware, everted rim sharply squared and moulded. This is typical of 15th-century pottery in Essex¹⁶⁵ and shows a complete reversal of the 14th-century trend and a return to the earlier contacts with East Anglia. While in the London area the Surrey Cheam wares continue throughout the 15th century,¹⁶⁶ at Northolt the import of these stops and trade is again with Essex. As said above, there is no evidence for date, but at the More, Hertfordshire,¹⁶⁷ Surrey pottery is replaced by similar East Anglian red wares after the major rebuilding of 1426. So, allowing an overlap, the Surrey wares may be thought of as ending at Northolt about 1450 and the East Anglian red wares as coming in about 1425. This, together with the difficulty of being sure all the Surrey sherds (of which there are only 35) are on the Period-IV floor and not in the destruction, suggests a date of *c.* 1450-1475 for the demolition of the kitchen block. It is hoped, however, that more positive evidence will be obtained from the main buildings of this period when they are excavated.

Pottery Spindle-whorl, Period IE, 1250-1300. FIG. 76, no. 34, from under floor 209, kitchen, Room C. Much worn spindle-whorl made from a sherd of a roughish red sandy ware jug. The sherd came from a large globular jug of 13th-century type and the curve of the vessel is plainly visible.

STATISTICS OF THE POTTERY

Table I shows that when ditch 2C was abandoned 70 per cent of the pottery was of early 13th-century type. Ditch 2B was abandoned later as there was only 55 per cent of the early pottery, while when ditch 2A was abandoned the proportion of early 13th-century pottery is down to 28 per cent. By the time ditch 1, on its final line, was filled in only 0.5 per cent of the pottery was of the early 13th century. The first four columns therefore illustrate the gradual changeover from the early 13th-century rough medieval wares to the late 13th-century hard grey medieval fabrics, as the ditch 1-2 system was recut. It also shows the very large bulk of pottery found in ditch 1, most of it in section 1C. The six sherds of Surrey pottery show that this ware was just starting as ditch 1 was filled in about 1300.

¹⁶² E.g. Kirkstall abbey: *Trans. Thoresby Soc.*, XLII (1954), 66, fig. 18, no. 7.

¹⁶³ *Trans. Essex Archaeol. Soc.*, 3 ser. I (1961), 5.

¹⁶⁴ I am indebted to Mr. K. J. Barton for this suggestion.

¹⁶⁵ E.g. Writtle and Pleshey, Essex: information from Mr. P. A. Rahtz.

¹⁶⁶ *Op. cit.* in note 156.

¹⁶⁷ *Op. cit.* in note 145, p. 162. The statement there that this red ware is already found in Period III at Northolt has been proved wrong by the full examination of the pottery made since that report was written in 1956.

TABLE I

| Group | Name | Ditch 2C | Ditch 2B | Ditch 2A | Ditch 1 | I-II Grey Layer | Period II | Period III | Period IV | Total |
|-------------|---------------------------|-------------|-------------|-------------|------------|-----------------------|--------------|---------------|--------------|--------|
| <i>a-d.</i> | Saxon | 2 | — | — | 1 | 61 | — | — | — | 64 |
| <i>e.</i> | St. Neots | 1 | — | — | — | 80 | — | — | — | 81 |
| <i>g.</i> | Developed St. Neots | — | — | — | — | — | — | — | — | 137 |
| <i>h-i.</i> | Early Medieval | 1 | — | — | 7 | 624 | — | — | — | 632 |
| <i>j.</i> | Rough Medieval | 87 | 55 | 84 | 13 | 793 | — | — | — | 1,032 |
| <i>k.</i> | Hard Medieval | 124 | 190 | 299 | 3,199 | 7,296 | 577 | 235 | — | 11,920 |
| <i>l.</i> | Surrey Off-white | — | — | — | 6 | 99 | 295 | 181 | 5 | 778 |
| <i>m.</i> | Surrey Buff | — | — | — | — | 12 | 11 | 36 | 30 | 89 |
| <i>n.</i> | East Anglian Red | — | — | — | — | — | — | — | 2 | 2 |

TABLE II

| Group | Name | Cooking Pots | | | Decor- ated | Lids | Handles | Glaze | | Total |
|-------------|---------------------------|--------------|-------|--------|----------------|------|---------|-------|----|--------|
| | | Rims | Bases | Sherds | | | | Out | In | |
| <i>a-d.</i> | Saxon | 6 | — | 58 | — | — | — | — | — | 64 |
| <i>e.</i> | St. Neots | 12 | 7 | 62 | — | — | — | — | — | 81 |
| <i>g.</i> | Developed St. Neots | 9 | 15 | 107 | 2 | 4 | — | — | — | 137 |
| <i>h-i.</i> | Early Medieval | 87 | 37 | 2 | 2 | 30 | 6 | — | — | 632 |
| <i>j.</i> | Rough Medieval | 162 | 107 | 728 | 1 | 24 | 5 | 5 | — | 1,032 |
| <i>k.</i> | Hard Medieval | 788 | 679 | 9,933 | 3 | 317 | 12 | 207 | — | 11,920 |
| <i>l.</i> | Surrey Off-white | 24 | 213 | 474 | 1 | — | 2 | 31 | 33 | 778 |
| <i>m.</i> | Surrey Buff | 11 | 8 | 55 | — | — | — | 5 | 10 | 89 |
| <i>n.</i> | East Anglian Red | 2 | — | — | — | — | — | — | — | 2 |

It is hard to differentiate the pottery in the grey occupation-layer I-II but its great bulk, comprising over 8,000 sherds, is seen. In Period II the hard grey wares are found side by side with the Surrey wares during the first half of the 14th century; in fact only about 33 per cent of the sherds are Surrey ware. By Period III the proportions are more nearly equal, but it is suggested that many of the 13th-century sherds are strays, as every time the ground containing 12,000 sherds of this period was turned over they were bound to appear in later levels. The small number of finds from Period III and (especially) Period IV is brought out by the last two columns.

Table II shows the proportions of the different types of ware and also the numbers of rims, bowls, glazed fragments, etc. In all periods the overwhelming bulk of sherds comes from cooking-pots and the 788 rims, over 700 of which come from different vessels, shows that the 12,000 hard medieval grey sherds represent a large number of vessels. There is a remarkable lack of bowls in all periods. There are a fair number of decorated sherds, but only one lid. The small number of glazed sherds, less than 2 per cent is also remarkable, as is the very small number (only 5 out of 1,000) of 12th- and early 13th-century rough-glazed jugs.

THE SCIENTIFIC EVIDENCE: GENERAL

By L. Bick

Ancient Monuments Laboratory, Ministry of Works

Objects or specimens of twenty different types of material were subjected to specialist examination, and over thirty scientific or technical reports are incorporated in the descriptions which follow. Close contact with the excavator has made possible

not only the integration of the scientific data into the main body of the report, but also the appraisal of the scientific evidence *in toto*, at a scientific level. Although the benefits are, in general, self-evident, several items seem worthy of special comment.

From the scientific point of view, the identification of the phosphatic nodule in the cesspit 146 (p. 284), and detection of probably significant quantities of phosphate in another pit under the hall,¹⁶⁸ are important in the given circumstances. They may contribute to a more definite interpretation of the 'grey layer', perhaps the crucial scientific problem on this site, in the course of further work. Other facets of interest include the complexity of materials met with in the forked strap-end (p. 291), and the states of preservation of various materials, which again largely reflect soil conditions.

The state of the gold was proverbial, the silver (p. 293) better than might have been expected, and the complete absence of copper corrosion products on the 'brass' inlay of the seax (p. 230) quite remarkable. Corrosion of iron, and of copper alloy, seems to have been normal, however; although relatively smooth, and in the case of iron conducive to the 'preservation' of some attached organic structure, its course may, on the horse-furniture, have been further modified significantly by the latter's state previous to burial.

So far, the only 'good' preservation of 'organic' material has been observed in the fragment of textile (p. 291), saved by its contact with copper alloy in the forked strap-end, and consequent impregnation with copper salts. However, virtually permanent waterlogging could be inferred in some places; the 'timbers' in ditch 2 and sump 3 (p. 294) had clearly remained under such conditions for most (if not all) of the period of burial, although it was not possible to be precise on the basis of their dried-out state. At least in one case (ditch 2) an envelope of *grey* clay, some 1 in.-1½ in. thick, was still found to surround even the dried-out wood—presumably due, as elsewhere observed, to the maintenance of reducing conditions by the wood. Moreover, in another case (a step from the cellar—see next report) a large oak beam was substantially 'preserved', and a recent discovery, in 1961, has clearly shown wood and iron to have been exceptionally well preserved in a pit, still at a moderate depth (6 ft. from existing surface), under clearly anaerobic, waterlogged conditions, similar to those encountered at Hungate.¹⁶⁹ It is thus likely that other waterlogged deposits will produce further well-preserved material of value in assessing conditions at various periods of occupation on the site.

Preservation of bone was not good; once again, cut fragments (without soft tissue) and polished artefacts appeared to have fared better. Investigations showed extensive permeation by iron (and manganese?) compounds, normally producing light brown 'patination', but in places amounting to intensely dark mottling deceptively like effects of charring.

Results of correlation were particularly valuable in suggesting possible iron smelting (p. 287), providing cross-checks for some of the evidence from stone specimens and soil-samples, and giving a useful basis in the results of soil-tests for interpreting the fired areas.

The meagre ecological evidence suggests that conditions were in general comparable to those of the present day; certainly there is no evidence for any major change in the soil-profile. The balance cattle/sheep/pig, and the slight changes in it through the periods may be significant. The marine shells indicate a fair range.

From the archaeological point of view, the scientific evidence raises again the question of how far industrial waste such as slag and tile wasters can be 'spread'. Circumferential distribution-studies on sites showing intensive working would yield valuable results. The possible differential preservation of horse-furniture would seem to be another feature worthy of study.

¹⁶⁸ To be described in the next report.

¹⁶⁹ *Op. cit.* in note 145, pp. 107-9.

STONE

WHETSTONES¹⁷⁰

FIG. 73, no. 1. Grey layer I-II over floor 18, early medieval to 1350. Broken fragments of a large roughly-made whetstone. Possibly a ferruginous sandstone.

FIG. 73, no. 2. Hearth 243, Room A, Period II, 1300-1350. Small finely-made

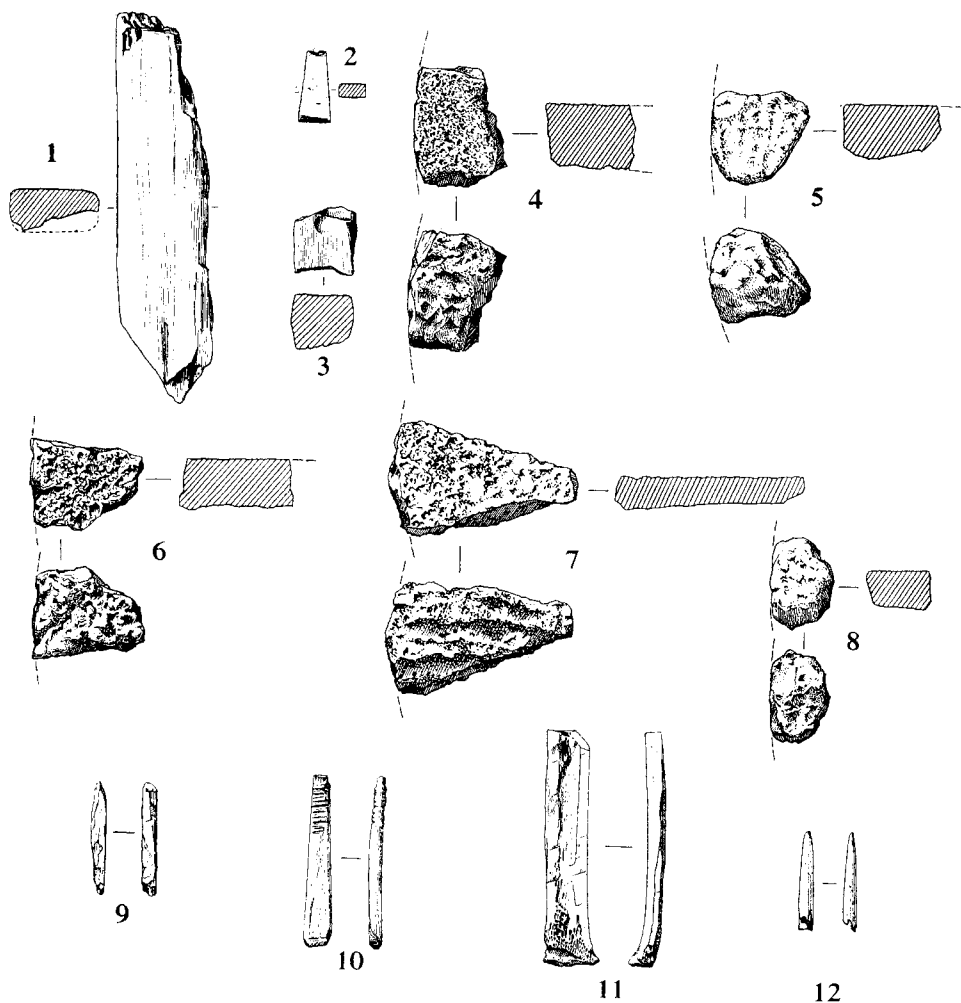


FIG. 73

STONE AND BONE OBJECTS, KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

1-3. Stone hones (p. 278); 4-8. Mayen lava querns (p. 279); 9-12. Bone (p. 295). Sc. $\frac{1}{4}$

trapeze-shaped whetstone of fine-grained sandy limestone, broken at the top, where there was a small hole for suspension. These small whetstones were presumably carried at the belt.

¹⁷⁰ Identifications by Helen A. H. Macdonald, Petrographical Department, Geological Survey and Museum.

FIG. 73, no. 3. On grey layer II north-east of kitchen, Room C, Period II, 1300-1350. Fragment of a large whetstone of mica-schist, an erratic possibly of Scottish or Scandinavian origin.

LAVA QUERNS

Twenty fragments were found in Periods ID, IE or II levels dating between 1150 and 1350. Mr. G. H. Collins, of the Geological Survey and Museum, examined a sample and confirms that it is similar to the lavas of Niedermendig. It has been shown recently,¹⁷¹ however, that most of the medieval lava querns were produced at Mayen and only traded through Niedermendig.

Most of the fragments were too small to determine either the diameter or the thickness, but one fragment, from under hearth 242 (FIG. 73, no. 4), shows from its curve a diameter of 18 in. and varies in thickness between 30 mm. and 35 mm., with a smooth grinding surface on one side. A fragment from ditch I (FIG. 73, no. 5), is 25 mm. to 30 mm. thick and has part of the edge, enough to show the curvature as, again, about 18 in. diameter. A third fragment from the grey occupation-layer NE. of the kitchen (FIG. 73, no. 6), varies between 24 mm. and 28 mm. in thickness, and has an edge too uneven to show the diameter. Also from this layer are two other fragments, one very thin, 15 mm.-18 mm., with a well-smoothed surface on one side and grooves on the other (FIG. 73, no. 7), while the other is a small rough fragment 20 mm.-22 mm. thick (FIG. 73, no. 8). Thirteen other fragments of varying sizes came from the grey occupation-layer I-II and the earliest were two from ditch 41. It is possible, therefore, that all were earlier than 1300, as the sealed examples came from ditch 41 (Period ID), ditch I and under hearth 242 (Period IE), but the occupation-layer was not sealed until about 1350. None was found in the kitchen deposits of Period II.

STONE MORTARS (by G. C. Dunning, Inspector of Ancient Monuments, Ministry of Works)

Pieces of seven stone mortars were found at Northolt in contexts which date them between 1250 and 1350, but before 1300 rather than later. The fragments show varying degrees of wear, suggesting that the mortars were in use for some time before being discarded, and this accords with a main period of use during the second half of the 13th century. Four mortars are made of grey Purbeck marble containing fossils of the freshwater snail *Viviparus*, and the other three are made of yellow broken shell limestone or burr-stone, a softer rock of the same geological suite as Purbeck marble. Between them the seven specimens illustrate the main shapes and varieties of detail that are met with on medieval stone mortars (FIG. 74).¹⁷²

Purbeck marble

FIG. 74, no. 1. Side of mortar, nearly to base. Hollowed rim. Rectangular lug at rim-level, below which is a flat rib down the side. The mortar is eight-sided between the ribs. Built into wall 220, c. 1300.

FIG. 74, no. 2. Side of mortar. Flat rim. Rectangular lug at rim-level, with shallow runnel on top. From ditch I, late 13th century.

FIG. 74, no. 3. Hollowed rim and part of side. Rectangular lug at rim-level, with flat rib below. Layer I-II SE. of kitchen, 1250-1350.

FIG. 74, no. 4. Side only of mortar. It shows the lower end of a pierced handle on the lower part of the side. From moat I, early 14th century.

¹⁷¹ F. Hörter, F. X. Michels and J. Röder, 'Die Geschichte der Basalt lava industrie von Mayen und Niedermendig. Pt. I: Vor- und Frühgeschichte,' *Jahrbuch für Geschichte und Kultur des Mittelrheins und seiner Nachbargebiete*, II-III (1950-1), 1-32 (summarized in *Antiquity*, XXIX (1955), 68-76): *id.*, Pt. II 'Mittelalter und Neuzeit,' *Jahrbuch für Geschichte und Kunst des Mittelrheins und seiner Nachbargebiete*, VI-VII (1954/5), 7-32.

¹⁷² In FIGS. 74-5 the tooling of the surface is shown realistically as far as possible. Chiselling is indicated by parallel lines and pecking is stippled.

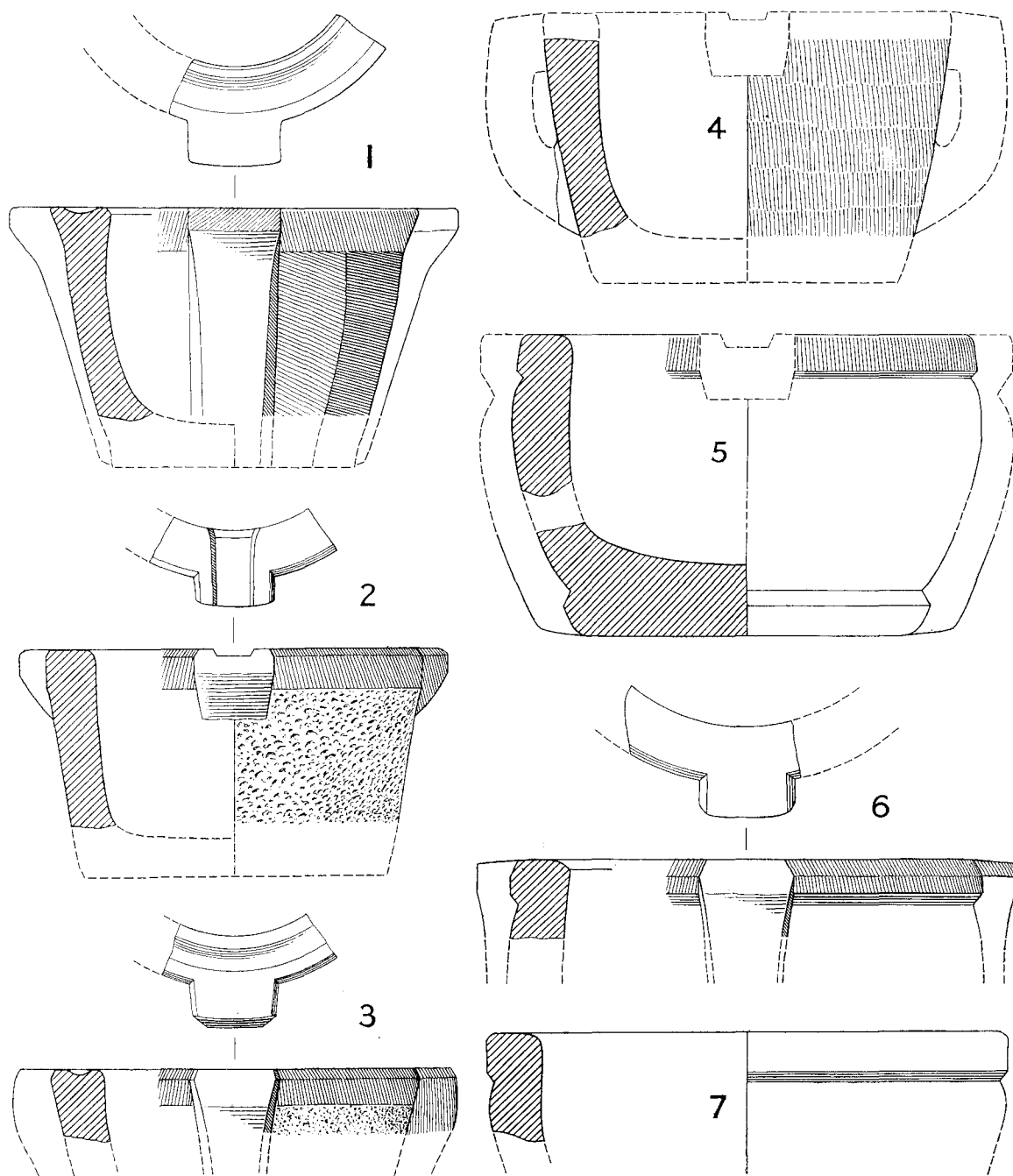


FIG. 74

STONE MORTARS FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

1-4. Purbeck marble; 5-7. Burr-stone (pp. 279-82). Sc. $\frac{1}{4}$

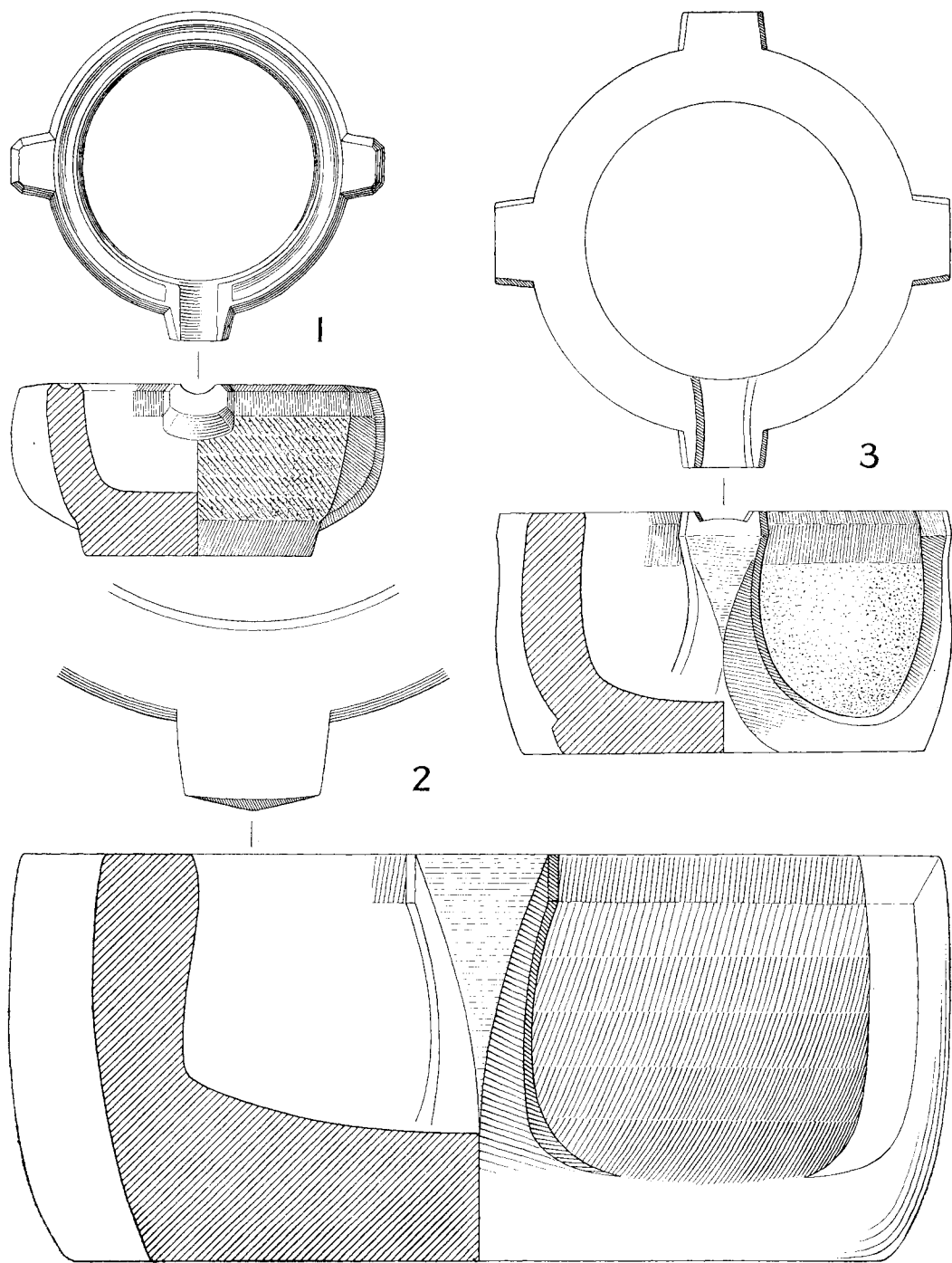


FIG. 75

STONE MORTARS

1-2. Purbeck marble, from Winchester (Hants.) and Saffron Walden (Essex); 3. Burr-stone, from Boston (Lincs.) (p. 282). Sc. $\frac{1}{4}$

Burr-stone

FIG. 74, no. 5. Separate pieces of rim and side, and of side and base of the same mortar, Flat rim, offset from curved side. The edge of the base is moulded, and from it a narrow but prominent rib passes up the side. Built into wall 220, *c.* 1300.

FIG. 74, no. 6. Flat rim, offset from curved side. Rectangular lug at rim level, with rib below. From Room D, *c.* 1300.

FIG. 74, no. 7. Flat rim, offset from curved side. From under floor 236, late 13th century.

The shape of the medieval stone mortar as made at Purbeck, and represented at Northolt by a comparatively long series, appears to be determined to some extent by the nature of the stone used. Mortars of the harder Purbeck marble are straight-sided or only slightly curved in profile (FIG. 74, nos. 1, 2 and 4), and the rim is either hollowed on top (FIG. 74, nos. 1 and 3) or flat (FIG. 74, no. 2). On the other hand mortars made of the softer burr-stone have curved sides, sometimes bulging beyond the rim, which is often offset from the side and usually flat on top (FIG. 74, nos. 5-7).

As the mortars found at Northolt are fragmentary, a few mortars found elsewhere are illustrated (FIG. 75) to show more of the features and the range in size. Nos. 1 and 2 are of Purbeck marble, from Winchester, and Saffron Walden, Essex, respectively, and no. 3 is of burr-stone, found at Boston, Lincs. Normally there are four lugs at rim-level, spaced equally round the side. One lug, rarely two on opposite sides (no. 3), has a shallow groove or runnel cut in the top, and the other lugs are plain. All the lugs are rectangular in plan, sometimes with the angles chamfered (no. 1).

The treatment of the side varies, and mainly affects the shape of the ribs or handles below the lugs. On this basis the mortars may be divided into the following types:

Type 1. On this the lugs at each side are prolonged downwards to the base by a flat rib or fillet, as on FIG. 74, nos. 1, 3 and 6 from Northolt. This is the most frequent type and occurs on mortars both of Purbeck marble and burr-stone.

Type 2. Sometimes, as here, the ribs, instead of merging into the side, broaden out lower down and may even join up at the base. The side then appears as a series of four bulbous parts bounded by the ribs in relief, as on a large mortar, formerly used as a font in the church, in the Saffron Walden Museum, and the mortar from Boston (FIG. 75, nos. 2-3). Another large example of this type (made of a different stone) was found in Salisbury.¹⁷³

Type 3. On this, another leading type, the ribs are narrower but more prominent, and tend to curve outwards beyond the side of the mortar. Examples both of Purbeck marble and burr-stone are Northolt, no. 5, and mortars from Winchester (FIG. 75, 1), and Rayleigh, Essex.

Type 4. On this the rib actually takes the form of a vertical handle, with a slot-like hole between it and the side of the mortar. This is a rare type, as yet represented only in Purbeck marble by two mortars at Colchester, one from Old Hunstanton, Norfolk, and Northolt, no. 4.

The open handles of type 4 are not appropriate to mortars made of stone, least of all to Purbeck marble, which is fissile and the handles would easily be fractured and broken off. The shape suggests that they are made in imitation of the loop-handles on mortars of metal, such as bronze, to which this form of handle is suitable and easily made by casting in one piece with the mortar. Metal mortars provided with loop-handles on opposite sides are well known in England and the adjacent parts of the continent in late- and post-medieval times, but seldom datable before the 15th century. The earliest accurately-dated mortar of this type is that made for St. Mary's abbey at York¹⁷⁴ in 1308, but it is not known how much earlier such mortars were in use in England. Taking this form as a prototype, it is possible to arrange certain of the stone mortars

¹⁷³ *Salisbury Museum 1860-1960* (Salisbury Museum publication, 1960), fig. 69.

¹⁷⁴ *Connoisseur*, LXXXIII (1929), 162, fig. 1.

in a typological series according to the shape of the handle or rib. Thus mortars with pierced handles (type 4) would stand in closest relationship to the metal mortars with loop-handles, and those with prominent solid handles (type 3) would represent the next stage of development, or rather departure from the metal form. The fact that both pierced and solid handles were found together at Northolt need cause no surprise, since early stages of development persisted alongside the later in other minor industries of the middle ages.

Similarly the mortars with flat ribs or fillets below the lugs (type 1) could be related to another metal prototype. This is the mortar with a series of vertical flanges on the side between the pierced lug-handles.¹⁷⁵ Examples of this type are rarer than the other, and ultimately it is oriental in origin. The flat ribs on the stone mortars would represent the metal flanges, reduced in number and aligned below the lugs on the rim for ease in cutting. It may be noted that the flat ribs of type 1 involved the removal of far less material between the ribs to fashion the outside of the mortar than the projecting handles of types 3 and 4, and this technical facility accounts for mortars of type 1 being the commonest shape.

Finally, the special features of mortars of type 2 remain to be considered, since they differ in two respects from other mortars. First, the curvilinear treatment of the ribs seems to remove them from the developmental sequence proposed for the rest. Secondly, the shaping of the outside of the mortar into four lobes is quite different from the usual circular plan of the bowl, which results from the regular, almost mechanical, cutting down of the material between the ribs after the mortar had been blocked out. These mortars are more individual in character than the rest, and the technique and style suggest carving to produce a sculptured effect. It is therefore suggested that mortars of type 2 were dressed by masons influenced by, if not actually engaged in, carving Purbeck marble for decorative and monumental purposes.

Mortars of Purbeck marble and burr-stone were produced in quantity in the medieval period. Those found in dated contexts, as at Northolt and at Patchesham manor, Surrey, belong to the 13th century; while at the manor of the More, Rickmansworth, the mortars are dated later, in the 14th century.¹⁷⁶ As yet stone mortars of the types described above appear to be lacking in the 12th century, though simple stone bowls or mortars without lugs were certainly made then.¹⁷⁷ The mortars belong to a period of intense activity in the working of Purbeck marble for building materials such as columns and capitals, and also effigies, and they may be regarded as a side-line of the industry. In this respect the medieval mortars are precisely analogous to the mortars produced in the Roman period, when the main industry at Purbeck was also in the production of building materials and slabs for inscriptions.¹⁷⁸

A word may be added on the distribution of medieval mortars made at the Purbeck quarries. In addition to those illustrated and mentioned already, examples are known from London, Old Sarum and Salisbury, Shaftesbury abbey, Dover castle and Stonar, Kent. In East Anglia examples are also known from Langley, Essex, and Whittlesford, Cambs. Further north the occurrence is more sporadic, and as yet limited to a mortar at Lincoln,¹⁷⁹ and the base of a large mortar at Byland abbey, Yorkshire. These examples, noted at random, show that the mortars may be expected on medieval sites over a wide area of southern England, East Anglia and the midlands at least. Mortars of Purbeck

¹⁷⁵ *Op. cit.* in note 154, p. 207, pl. lvii. Another example is in the Ashmolean Museum, Oxford.

¹⁷⁶ *Op. cit.* in note 145, p. 189.

¹⁷⁷ A pit-group found on the site of Barclay's Bank, 96 High Street, Winchester, is dated by pottery to the early Norman period and includes the greater part of an eight-sided stone bowl, about 5 in. in diameter and 3½ in. high, made of burr-stone. The finds are exhibited at Barclay's Bank, Jewry Street, Winchester.

¹⁷⁸ G. C. Dunning, 'The Purbeck marble industry in the Roman period,' *Archaeological News Letter*, March 1949.

¹⁷⁹ This mortar is made of coarser stone than usual, and the lugs are semicircular in plan, without ribs on the side. It may well be later in date than the others.

marble also went abroad, though the evidence is too scanty yet to support an export trade. The first to be noted was found in one of the hamlets on the coast of west Flanders near Ostend, which were destroyed by the sea in the tempest of 1334. This example¹⁸⁰ is the lower part of a large mortar, 12 in. in diameter at the base, with prominent ribs on opposite sides, as on the mortar from Winchester.

SOIL SAMPLES

By L. Biek

The site was visited on two occasions and (a) several series of samples were taken. Samples were also taken (b) by the excavator and submitted with specific questions. All the significant samples were (c) subjected to the normal ignition tests¹⁸¹ at the Laboratory by Mr. W. E. Lee, who also carried out (d) a close, sometimes microscopical, examination of selected samples.

In an attempt to throw some light on the nature of the 'grey layer' I-II (p. 213), some of the samples were in addition submitted to (e) examination for diatoms, and some of the separations made at (d) were (f) given a cursory inspection from the botanical point of view. Two bone fragments recovered during (a) were identified (g) by Miss J. E. King, British Museum (Natural History).

RESULTS

(h) The details of (c), (d) and (g) will be included in the next report.

(j) Mr. R. Ross, British Museum (Natural History), during (e) found scarcely any diatoms, and those he found (from the moat 2 ft.-4 ft.) were not capable of being used for diagnostic purposes.

(k) Dr. C. R. Metcalfé, Royal Botanic Gardens, Kew (after (f)), felt that the state of preservation of the specimens separated at (d) was such that a close botanical examination was unlikely to yield any significant information.

DISCUSSION

On the basis of the control samples taken from the moat, and those down the existing profile (some from sections to be published in the next report), there appears to be some iron depletion from layers rich in organic matter, in the normal manner—probably by means of organo-iron complexes—as might be expected in the circumstances.

Extrapolating backwards in time from such assumptions, and from complementary experience with post-hole fillings,¹⁸² it seems reasonable to distinguish ditch fills from the 'grey layer'. Intermediate conditions indicate disturbed or 'mixed' levels, produced either by silting or 'artificially'.

It also seems reasonable to suggest that the 'grey layer' might have been laid down in the process of levelling the ground with material cleared from the moat. If certain dimensions are assumed for the moat section existing at that time, the volumes involved would seem to be in agreement with such a hypothesis. But final interpretation, now that this work is complete, must await further field-work to determine the nature of the deeper levels in the moat sections, and the precise significance of the intermediate material. It is hoped to return to this problem in the next report.

¹⁸⁰ In the Musée d'Histoire locale at Ostend: A. Chocqueel, *Les Civilisations préhistoriques et anciennes de la Flandre occidentale* (Brussels, 1950), p. 89. pl. ii, middle of bottom row.

¹⁸¹ *Proc. Suffolk Inst. Archaeol.*, xxviii, pt. i (1958), 27.

¹⁸² *Chew Valley Lake, Som.*, H.M.S.O., forthcoming.

BURNT CLAYS AND TILES

By L. Biek

Samples submitted by the excavator were examined in groups, as below, in an attempt to elucidate the general appearance and suggest possible refinements in interpretation.

Period II, 1300-1350, Tiled Hearth 225. From the comprehensive series of samples it is possible to suggest a fairly clear picture. The centre of the hearth showed red tiles with clay burnt light orange between them. Radially outwards, this passed gradually into a black annulus, in which both the (originally red fired) tiles and the interstitial clay were (burnt) almost jet black right through. For the tiles, it must be assumed that organic material (in the vapour phase?) was able to penetrate the tiles and be charred *in situ*. Further out, there was similar gradation via grey into a brown material. No 'normal' clay was here available to compare with the other (oven 404), but it seems that the much lighter-coloured clay supplied from between the tiles laid flat (226) at the back of the hearth was deliberately more calcareous (i.e. 'cob-like') than the normal material.

The general picture emerges of a large and permanent hearth fired at a relatively low temperature, and heating material very rich in organic matter that is allowed to seep into the tiles (and vaporize?) to a very large extent. One might be justified in distinguishing this from the other features here considered, as predominantly a 'cooking' hearth (in the widest sense) used over a period.

Period III, 1350-1370, Clay Hearths 330-2. The colours, varying from orange to brownish red, and other materials (mortar, charcoal, etc.) suggest much post-firing disturbance.

Pebble and Tiled Oven 333. Deep russet-red colour, but unevenly spread, even within individual 'crumbs' (c. $\frac{1}{2}$ in. cube) and pebbles, as submitted; this would indicate heterogeneity of the matrix, either before or (caused) after firing. Its more sandy texture, possibly greater overall iron content, and content of ironstone-like material sets it apart from all the other samples here considered, but without controls it is not possible to say more. The evidence as now seen could, however, be taken as consistent with a 'naturally' uneven iron distribution (almost an iron 'pan') having been fired *in situ*.

Pebble Hearth 345. This is entirely different from all the others in consisting only of pebbles, all of which are uniformly fired to an extent similar to pebbles in oven 333, suggesting a fair degree of heat for an unspecifiable period.

Period IV, 1370+, Oven 404.

- (a). 'Black top'.
- (b). General sample.
- (c). 'Red base'.
- (d). Normal clay by hearth.

It might seem, at first sight, as if the matrix of the red base (and to some extent also of the general sample) were different in basic texture from the normal clay. In (b), colours similar to those in oven 333 could be seen in patches; some places were distinctly sandy, others contained mortar residues—as in some of the other material above—and even small lumps of chalk, which presumably came from the mortared surround of the oven.

To some extent, however, close inspection of (d) showed that mortar, chalk, limestone and charcoal fragments were present here, also. [This was disturbed material, being the make-up for the Period-IV floor. J. G. H.] Although a pronouncedly sandy texture was here absent, it is probable, therefore, that (c) does in fact represent (d) fired, and largely undisturbed after that. This is supported by the presence, here only, of reduced-fired material *in situ* on the top of the fired area: much charcoal, and some recognizably 'ashy' matter, suggesting that this fired area, unlike all the others con-

sidered here, was in fact found with the embers incompletely consumed, and largely undisturbed.

The sample, otherwise very friable, contains several 'hard' crumbs of unfired clay, one of which, when broken open, showed 'coring': a brown oxidized skin surrounding a core that was still grey—shrinkage and drying having presumably been more rapid than oxidation, after removal from the ground of this particular lump of unburnt clay.

Oven 410. The material consisted of fired clay scraped away from between the tiles of which this structure was composed. The predominantly orange colour was uneven, but the clayey nature and other 'intrusive' material suggested that this was here due to post-firing disturbance.

'OVER-FIRED' (CLAY) TILES (*by J. Shipley, School of Ceramics, Royal College of Art*)

Period IE, Ditch 1B. 1. Oxidized-fired sandy tile fragment, with local superficial glaze resulting from (accidental) fluxing with charcoal ash under reducing conditions, and showing some iron contamination.

Grey Occupation Layer, Period I-II. 2. Similar, but in addition locally bloated by over-firing in a reducing atmosphere to temperatures probably not less than 1300° C. Over Ditch 1B.

3. Similar.

4. Similar to 1, only thinner, though possibly spalled?

5. Badly over-fired, severely slagged clay tile-fragment, evidently subjected to temperatures in the region of 1400° C. or more, in an oxidizing atmosphere out of direct contact with flux or glaze-forming material.

The specimens represent a range of material and a variety of conditions, but could all have been produced in different parts of the same kind of 'fire'. These might have been hot spots in a timber fire, but the specimens are perhaps more likely to be wasters from a tile-kiln.

BURNT CLAY, METALWORKING RESIDUE, AND HAEMATITE (*by L. Biek*)

The clay fragments were examined visually, and X-radiographically (by Mr. W. E. Lee), with the results given below:¹⁸³

TABLE III

| No. | Site Ref. No. | Firing atmosphere in evidence | Relative hardness | Cracquelure and 'inclusions' | Interpretation |
|-----|-----------------------------|--|-------------------|---------------------------------------|-----------------|
| 1. | Period IC Ditch 50 | (Mostly) reducing; ?core, only | Hard | Fine | Fired structure |
| 2. | " | Almost entirely oxidizing, with small reduced 'surface' area | Soft and crumbly | Faint, coarse; 'lath-like' inclusions | Burnt daub |
| 3. | Period II Cooking Area A | Oxidizing with <i>c.</i> equal thickness of reduced core present | Hard | Medium | Fired structure |

The distinction between the interpretations is tentative and more work requires to be done before firmer deductions are possible in general. However, the evidence does suggest (when taken together with other details not given) that specimens 1 and 3 once formed part of structures moulded carefully and fired deliberately to a fairly high temperature—such as a hearth, smelting furnace or pottery-kiln. In the absence of other evidence it is impossible to go further.

¹⁸³ For method, see *Chew Valley Lake, Som.*, H.M.S.O., forthcoming.

The single fragment of *cinder* (Period IC, ditch 50), is typical of products resulting from the heating together under reducing conditions of siliceous material with iron oxides to a temperature in the region of 1000° C. The fracture appears dark bluish-to-brownish grey-black, glossy, vesicular and fairly homogeneous. Despite its porosity, the fragment is comparatively heavy. The shape of the vesicles suggests that the fragment was incompletely fused. Although such material could be produced by the fusion of coal ash rich in iron 'oxide' content,¹⁸⁴ it is here more likely to have been the result of iron smelting. In view of the archaeological association in ditch 50 with one of the (?) furnace fragments above, and with a piece of *haematite*,¹⁸⁵ there would seem to be some evidence (however meagre) for iron smelting.

For various reasons, among them absence of any obvious signs of copper in the 'cinder', iron smelting is more likely than copper smelting (although the latter cannot be ruled out) despite the presence of a fragment of corroded *copper (alloy) dross* from floor 211, kitchen, Period II, and the absence of comparable ferrous evidence. The 'copper' fragment is shaped and appears to have 'run' within definite confines. It is, however, virtually completely mineralized and evidently consists almost entirely of a porous mass of cuprite and malachite and/or other basic salts of copper, containing tiny specks of metal sparsely distributed throughout. It is most unlikely ever to have been (part of) an object but is consistent with scum or dross from copper (alloy) melting.

MORTAR

It is proposed to deal with the mortar in full in the next report.

'WHITEWASHED' WALL-PLASTER

Period II outside the kitchen near hearth 205. Five small fragments of wall-plaster. No others were found in the kitchen area and it is thought that these therefore come from the walls of the main buildings of the manor, where plaster was found in larger quantities.

Mr. Biek reports:

'Of five small fragments, two were found to carry a thin skim-coat of clean white "paint" on the smoother surface. The mounted cross-section of one fragment showed that only one "layer" was present, and microchemical tests proved the "pigment" to be calcium carbonate, i.e. whiting.'

GLASS AND ENAMEL

Prunt or *knob* from a glass vessel (FIG. 76, no. 32). From grey layer I-II NE. of kitchen, 1250-1350. Dr. D. B. Harden reports: 'The colour of the metal of this piece cannot be seen, but there is no reason to suppose that it is anything else but dark green, i.e. normal medieval glass. The pitted weathering, too, is very typical of medieval glass, both vessels and windows. The object is presumably a prunt or knob that was affixed to a vessel: it shows double in section. The rim or edge of the prunt portion seems to be missing and it is hard to guess what its original shape was, nor are there any obvious parallels.'

Enamel 'jewel' (FIG. 76, no. 33). Period IE-II, 1250-1350, over ditch 1C. Opaque greenish white enamel from a ring or decorated box or casket. There are signs of wear on the convex side. (Examined by Mr. G. H. Collins, Geological Survey and Museum.)

Window-glass. There were no fragments of window-glass from the kitchen block, but fragments were found in the main building from Period III (1350-1370) onwards,

¹⁸⁴ High Cross, Leics.: report forthcoming.

¹⁸⁵ Mr. G. H. Collins of the Geological Survey and Museum reports that X-ray crystallographic examination confirms that this is haematite. It is not local but possibly comes from the Drift.

together with fragments of leading. There is increasing evidence for the use of window-glass in domestic buildings from the 14th century onwards.¹⁸⁶

JETTONS

By S. E. Rigold

Inspectorate of Ancient Monuments, Ministry of Works

Cooking Area A, Period II, 1350-1350. Jetton, English, diam. 19 mm., pierced, as usual. Obv.: Fleur de lys between 2 birds regardant; Rev.: Cross moline. The obv. design, with badges of Edward III, in place of sterling head, normal in the first quarter of the 14th century, would tend to place this jetton in the second quarter.¹⁸⁷

Destruction from Robber Trench Wall 302, Period IV, Late 15th Century. Jetton, diam. about 27 mm. Degenerate variety of late 14th-century semi-official French type (possibly an early Nuremberg imitation—the garbled legends support this, but obv. lettering quite good). Perhaps mid-late 15th-century. Obv.: Shield of France, but ‘powdered’ with large lys (as though ‘France Ancient’), 4 pellets in field; Lombardic E between 2 pellets on all sides of shield, legend + I○ ADCX CVFMTST ○DV○DVD. Rev.: Cross fleury in quatrefoil, O in each spandrel. For general technique compare F. P. Barnard, *The Casting Counter and the Counting Board*, pl. vi, 44 (J’oie, desire a l’amoureux, which may suggest the lettering on this one.)

METAL

(The notes in small type are comments by Mr. Bick, after examination in the laboratory.)

IRON

Grey Layer under Kitchen (i.e. before 1300). Fragment of pattern-welded blade. As the object was found in a medieval level it seems worth while to publish the X-radiograph (PL. XXXII, A, 2) together with comparable views of a pattern-welded sword from the Thames at Brentford (PL. XXXII, A, 1),¹⁸⁸ and of a knife blade with inlaid silver decoration from the Wandale at Wandsworth (PL. XXXII, A, 3).¹⁸⁹

There is very little doubt, especially from the characteristic ‘shoulder sweep’, that the Northolt object is pattern-welded. It must be remembered that the best available comparison (PL. XXXII, A) has a core of 3 composite rods, as against 2 in our object.

X-radiographic examination showed:

Number of composite rods—2.

Type of pattern welding—?double—standard.¹⁹⁰

All evidence obtained from X-rays of this kind must remain, in the last analysis, conjectural because the superimposition in double patterns may produce effects that might be interpreted in various ways, none of which could be proved without metallographic examination and even this might not be possible owing to the state of preservation. A fragment of dagger or small sword, with a multiple pattern-welded core of unusually narrow composite rods, was found in a medieval context at Seacourt, Berks.¹⁹¹

Occupation Level, Building AB, West Corner, Period IC, 1050-1150.

FIG. 76, no. 1. Small knife of common medieval shape.

FIG. 76, no. 2. Horseshoe nail of fiddle-key type, typically early medieval.

Ditch IB Bulge, Period IE, 1225-1300.

FIG. 76, no. 3. Small knife.

The X-radiograph shows this to be strongly waisted and the tip of the tang is turned over.

¹⁸⁶ D. B. Harden in *Studies in Building History* (ed. E. M. Jope, 1962), p. 56 f.

¹⁸⁷ Cf. F. P. Barnard, *The Casting Counter and the Counting Board*, ‘Anglo-Gallic’ type, pl. i, 3.

¹⁸⁸ Layton Collection, London Museum (O.2110).

¹⁸⁹ Sheffield Museum (L.1903.19).

¹⁹⁰ The technical terms used have been evolved on the basis of the work done in copying the technique, and which is described in this volume, above, pp. 71-93.

¹⁹¹ M. Biddle in *Oxoniensia*, xxvi-xxvii (1961-2), 175, fig. 29, no. 9.

Ditch IC, South-West End.

FIG. 76, no. 4. Barrel padlock key with looped bit of the usual 13th-century form, cf. *London Mus. Med. Catal.* (1940), p. 148.

The X-radiograph clarifies the wards and bow.

Ditch 55 North-West End, Periods IE-II, 1225-1350.

FIG. 76, no. 5. Armour-piercing arrowhead of 13th-century type, cf. *L.M. Med. Catal.*, p. 68, type 7.

The X-radiograph shows this to be hollow to within about 1 in. of the tip.

North-East of Kitchen Room C, Period I-II, Grey Layer, 1250-1350.

FIG. 76, no. 6. Piece of iron with a square tapering section at one end and a chisel-like section at the other, with a shoulder in between. Mr. J. W. Anstee suggests that it is very much like the teeth found on primitive crushing machinery (e.g. apples in the cider country), usually two rotating wooden rollers nearly touching, both having lines of these teeth meshing to tear and cut the fruit (or something similar). The edges of these teeth are always forged sharp and cannot be driven in the drum by a hammer. This explains the curious shoulder on one side, to take a punch.

FIG. 76, no. 7. Iron boss with a flange which has been broken off. Either a decorative boss, or (as these are more usually of bronze) possibly the foot of a small box or casket.

The X-radiograph suggests that the present 'edge' is largely a broken one; and, also, that the object was originally hexagonal at the base, possibly fitting into a suitable plate.

FIG. 76, no. 8. Flat-sectioned triangular arrowhead; tang broken off. Tanged arrowheads are not so common as socketed examples, but are found on 13th-century sites, cf. *L.M. Med. Catal.*, p. 69, fig. 17, no. 11.

By Hearth 232-3, Period II, 1300-1350.

FIG. 76, nos. 9-12. Fragments of a chain and swivel hook. As this was found near a hearth it is likely to have been used for suspending a cauldron over the fire. Also in the same group (all these objects were found in a closely packed pile) were three nails (FIG. 76, nos. 13-15), rectangular in section, which may have been part of the top of the chain where it was fixed to a wooden beam.

All the nails show clear evidence of having been driven well into wood, mineralized 'woody' grain residues being well 'preserved' along most of all surfaces. On the two larger nails the grain is clearly running parallel to the length of the nail; on the third one it is at an angle of about 75° to the long axis. If associated, originally, in the same piece of (evidently substantial) timber, the first two would seem to have been driven in at right angles to the third; there is no evidence from any of the surfaces of any joints in the timber.

Near by was a flesh-hook with three prongs and a tapering tang (FIG. 76, no. 16), cf. *L.M. Med. Catal.*, pl. xxiv, no. 3. There seems to be no difference of date between tanged and socketed flesh-hooks.

Under Tiles, 237, on Hearth 237.

FIG. 76, no. 17. Part of a second cauldron chain with a bronze ring.
On Hearth 243.

FIG. 76, no. 18. Portion of flat curved blade.

The X-radiograph suggests that the 'incursion' shown was in fact originally a perforation, and that the 'convex' edge differs (at least in part, now) from the concave one. There may be a slight thinning from concave to convex edge. To some extent, a certain symmetry is also indicated for the object as a whole. The difference between the two edges lies mainly in a subtle 'skin' effect which has in other instances been associated with effects of fire or certain kinds of uniform wear. It may, therefore, be linked, here, with such heat treatment and/or abrasion as might be connected with a sharp cutting tool.

Mr. J. W. Anstee has suggested that it may be connected with the treatment of animal skins, being similar to some early razors, or that it was a blade fixed with a wooden stock via two symmetrical holes. The poor condition of the object makes its use difficult to assess.

On Clay Floor, Kitchen (Room C) by Feature 338, Period III, 1350-1370.

Fragment of knife-blade, twisted and crushed; small perforated fragment of the tang.

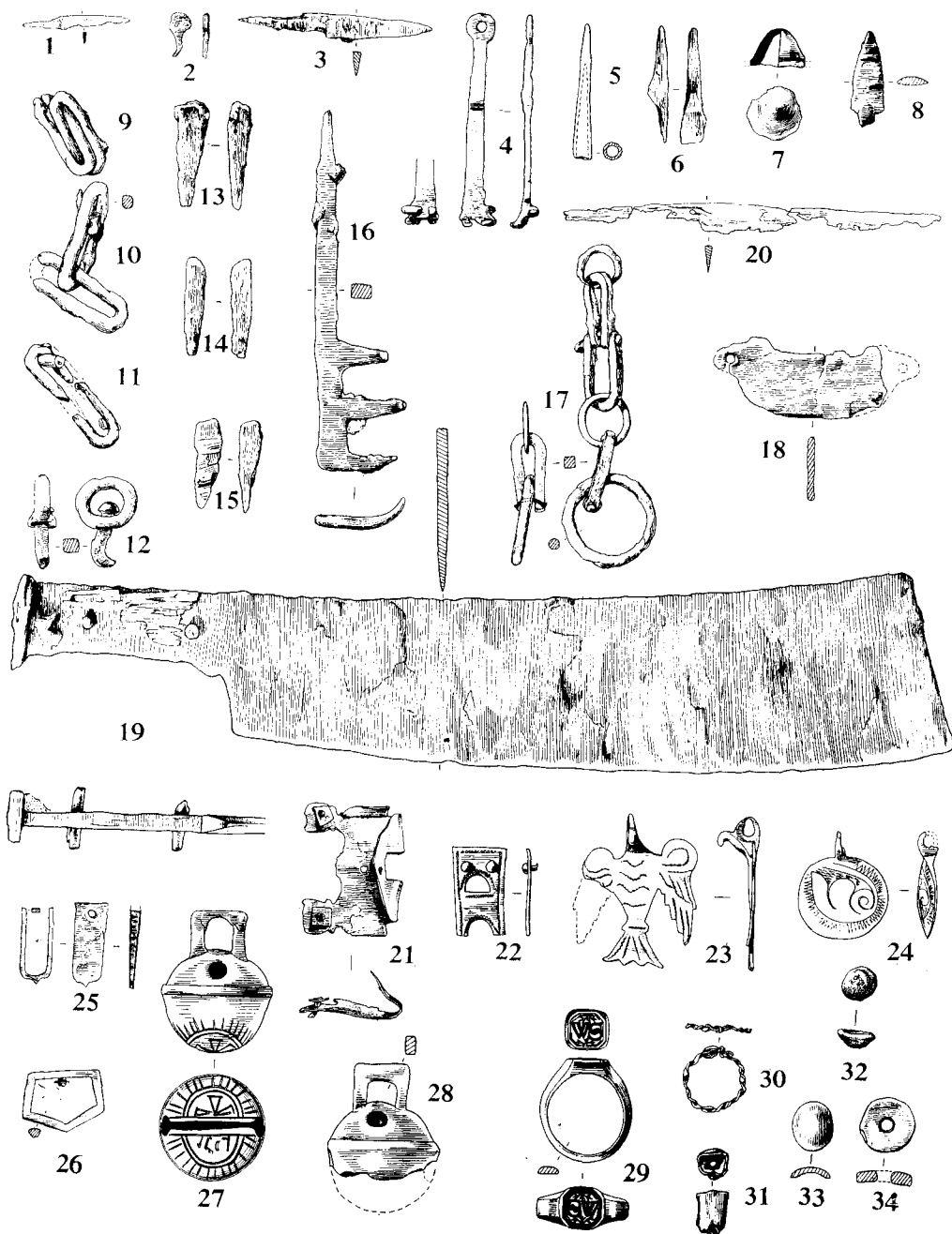


FIG. 76

OBJECTS OF METAL, GLASS AND POTTERY FROM KITCHEN AREA, NORTHOLT MANOR, MIDDLESEX

1-20. Iron (pp. 288-91); 21-8. Copper alloy (pp. 291-3); 29-30. Silver and gold (p. 293); 31. Lead (p. 294); 32-3. Glass and enamel (p. 287); 34. Pottery (p. 275). Sc. 21-33, $\frac{1}{2}$; remainder, $\frac{1}{4}$

On Floor 355 under Tiles 424, Area A.

FIG. 76, no. 19. Large butcher's cleaver. The handle consisted of two wooden plates, each c. 14 mm. thick, fixed on each side of the tang, as is shown by the rivets.

The X-radiograph failed to reveal any significant marks. Thin slivers of the wooden handle remain attached in a mineralized condition on the tang in places.

Another cleaver, though of different shape, was found by M. W. Thompson in the kitchen at Rievaulx abbey, Yorks.

On Floor 408, Room E, Period IV, 1370-1475.

FIG. 76, no. 20. Large knife, badly corroded, with flat tang and a rivet-hole remaining.

COPPER ALLOY

Over ditch 1C.

FIG. 76, no. 21. Bronze book-clasp with traces of gilding on the outside. The length of the rivets shows that the cover was 5 mm. thick. End bent over to hold fastening-pin. *In I-II Grey Layer NE. of Kitchen (Room C), Period IE or II, 1225-1350.*

FIG. 76, no. 22. Part of a punch-decorated fitting, certainly half if not more of which is missing.

From the rivets it would appear to have had another, possibly symmetrical, piece of metal attached in a parallel plane. There is no firm evidence about the open edge. From its present appearance, the two short lengths of it parallel to the opposite edge might have been broken, but on balance it seems more probable that they have been cut deliberately. Whether or not such a cut would have been part of the manufacture (and the object is complete in itself as part of a fitting) or whether a cut was made subsequently, it is impossible to say, because one could not on this evidence distinguish a 'rough' from a 'finished' cut.

In I-II Grey Layer NE. of Kitchen (Room C) by Tiles 202.

FIG. 76, no. 23. Eagle-shaped pendant. Symbol of St. John. *Guildhall Museum Cat.* (1904), pl. lxxix, 3, p. 328, no. 63. There is a very similar one in Northampton Museum from the castle.

The back shows a comparatively poor finish unlike FIG. 76, no. 24. No trace of gilding was visible at any time. Decorated with a fine chisel.

By Post-hole 112 under Kitchen (Room C) Floor, Period IE, 1225-1300.

FIG. 76, no. 24. Decorated heraldic pendant from horse-harness, cf. *L.M. Med. Catal.*, p. 118, type IV.

This carried considerable traces of gilding, which had remained largely untarnished. Firm lines punched, thinner lines incised.

On Floor 229, Room B, Period II, 1300-1350.

FIG. 76, no. 25. Forked chape or strap-end.¹⁹²

When received, the object easily separated into the three metallic fragments and revealed a thickness of organic material which had been preserved between them. The hidden surfaces of the metallic parts on cleaning clearly showed substantial traces of white metal, presumably solder, which would at first sight suggest that the pieces must have been so formed into a sheath before any organic material was inserted. The reports on textile and fibre remains (below) indicate that the object was the strap-end or chape of a narrow belt made of a bast fibre other than flax or hemp. A 'suspicion' of leather fibres could not be confirmed by Miss B. M. Haines, of the British Leather Manufacturers' Research Association. In a similar chape from Seacourt, Berks.,¹⁹³ the presence of 'probable' leather remains was indicated but no trace of textile was found; this chape is more robust. It seems as if the same principle, suitably modified, was in use for both materials and the two methods must have had a mutual influence. In a buckle-plate from Seacourt residues of both materials were detected.

¹⁹² There was a rather pointless controversy during the 1930s concerning the use of these objects (*Antiq. J.*, xiii (1933), 169; xiv (1934), 183; xv (1935), 204). As early as 1863 they were clearly recognized as strap-ends by the Rev. A. Hume in his *Ancient Meols: Antiquities from the Sea Coast of Cheshire*. This book, incidentally, contains what still remains one of the finest published series of medieval small finds and I am greatly indebted to Dr. Graham Webster who first drew my attention to it some years ago. In 1940 J. B. Ward Perkins again clearly stated their proper use (*L. M. Med. Catal.*, p. 268), citing survivals in the Guildhall Museum with the strap still in position. Other recent finds have remains of the strap, e.g. at Seacourt, Berks. (see below) and Wharram Percy (Yorks.), House 6, not yet examined.

¹⁹³ *Op. cit.* in note 191, p. 168 f., fig. 28, no. 8.

The most significant clue to the method of assembly probably lies in the residues of 'solder', which would originally also inhibit the 'lateral movement' that has hitherto proved a stumbling block to full interpretation. Two possible methods appear to be more likely than others. In one, the sheath would be soldered together first, the folded-over tongue of material inserted to the fullest extent, and the whole finally consolidated by riveting. In the other, the fold of material would be taken over (and pierced by) the tip of the fork, after which the assembly would be riveted and finally touched with solder (along prepared surfaces and edges) to consolidate. There is some evidence that the fold was used in this way on the buckle-plate from Seacourt mentioned above, although there was no (need for) solder there. This method would account for all the observed facts and give the most stable assembly, but it depends on adequate wetting by the solder and resistance of the material to it, and awaits experimental proof.

Miss E. Crowfoot reports: 'A fragment of textile, c. 1.3 cm. by 8.9 mm., preserved by the bronze tag, comes from a tablet-woven braid, presumably a narrow belt. The braid was folded double at the end, the rivet passing through two thicknesses; both edges are missing, but the original width would have been about 1 cm. There is very little spinning direction, but a slight S-twist appears in some threads of warp and weft. Warp count, c. 4 twists per 2.5 mm., i.e. 16 per cm., weft, 8 threads per 5 mm., i.e. 16 per cm.'

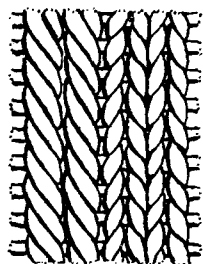


FIG. 77
NORTHOLT MANOR,
MIDDLESEX

Enlarged sketch of tablet twists (p. 292). (left, 4-hole; right, 2-hole in chevrons)

'The surface of many of the threads has deteriorated and broken, and the whole fragment is too brittle to be dissected; there is a suggestion of diagonal pattern, but this may only be accidental staining. One fairly clear area shows tablet twists in chevrons, i.e. threaded left and right; in some places these do not appear to meet in perfect chevrons but touch at a slant, as in a twill or diagonal weave; but at the broken edge there are a few unmistakable regular 2-hole tablet twists. Another area, and one edge on the wider part, show clear 4-hole tablet twists, some probably not in chevrons; the opposite edge had one 4-hole twist, followed by a 2-hole twist, FIG. 77.'

'Diagonal tablet-weaves on 4-hole tablets from Cambridge (Saxon)¹⁹⁴ and Felixstowe, Suffolk (medieval)¹⁹⁵ and on 2-hole tablets from near Eastbourne (13th-century)¹⁹⁶ have been published by Mrs. G. M. Crowfoot; Dr. Margrethe Hald describes 2-hole tablet braids from Mammen, some with diagonal patterns;¹⁹⁷ and the Orkney hood, an undated bog-find in the National Museum of Antiquities of Scotland, has a broad border that Miss Audrey Henshall has demonstrated to be in stripes of 4- and 2-hole tablet twists.¹⁹⁸ As individual tablets in the pack can be threaded and manoeuvred to change the pattern, the variations in tablet weave depend on the skill and inclination of the weaver; unfortunately the deterioration of the surface of the Northolt piece makes it impossible to say exactly what decorative combination was used on it.'

Miss Cecily Malpas and Miss Brenda Lomas, of the Cotton, Silk and Man-made Fibres Research Association, report: 'The loose fragments included a very short length of yarn containing a knot. The fibres of this yarn are bast fibres resembling flax or hemp, although the ultimates appear rather finer than those in samples of flax and hemp in our laboratory collection. Fragments of Z twisted singles yarns, not discoloured, exhibit cross-markings in polarized light and their behaviour in staining tests indicates that they are flax fibres.'

'Apart from the knot there are numerous fragments of similar fibre elsewhere in the sample. The fibres are readily distinguishable, but on treatment with certain reagents they show evidence of fairly serious chemical degradation and probably

¹⁹⁴ Grace M. Crowfoot, 'Textiles of the Saxon period,' *Proc. Cambridge Antiq. Soc.*, XLIV (1951), 26 ff.

¹⁹⁵ *Id.*, 'A mediaeval tablet-woven braid,' *Proc. Suffolk Inst. of Archaeol.*, xxv (1950), 202 ff.

¹⁹⁶ *Id.*, 'A 13th-century bronze buckle with attached braid from Bramble Bottom,' *Antiq. J.*, xxxiv, (1954), 234 f.

¹⁹⁷ Margrethe Hald, *Olddanske Tekstiler* (København, 1950), figs. 226-234.

¹⁹⁸ Audrey Henshall in *Proc. Soc. Antiq. Scot.*, LXXXVI (1951-2), 9-14.

some signs of microbiological tendering, although the effects are difficult to separate. Fragments of two-fold yarns, with folded yarns S twisted and singles Z twisted, are very brittle and discoloured; it is impossible to identify them further than as bast fibres.

'A very few short lengths of wool fibre have been found in the sample and also several fibre bundles which we believe are leather. We have little experience of this fibre structure, but the fibre bundles in question resemble in appearance, and in behaviour in various reagents, fragments of leather obtained for comparison. On re-examination (at the request of Mr. Biek) no fragments of leather or anything similar in appearance to leather could be found, however.

'In addition we have noted a small group of fibre bundles giving a reaction for cellulose in Shirlastain A. They were slightly coarser than the fibres in the knot and showed no characteristic cross-markings or other distinguishing surface features. They appear to be fragments of stalk, but we are unable to identify them as textile fibres.

'The textile is woven from two-fold yarns. The folded yarns are twisted in the S direction and the singles in the Z direction. The yarns are composed of bast fibres that do not contain any nodes or dislocations. The microscopical appearance and behaviour of the fibres in staining tests indicates that they are not flax or hemp and we regret that we are unable to identify further.'

On Hearth 343.

Fragment of (?) bronze sheet, bent in two places, and showing remains of two rivets of the type familiar in repaired cauldrons.

In Courtyard 408 (FIG. 64, Sect. 1A), Period IV, 1370-1425.

FIG. 76, no. 26. Bronze swivel fitting with sharply tooled faceted surfaces, presumably from horse-harness.

This is crudely finished and has file marks on all sides; but the marks show very clearly and corrosion has been slow and uniform, almost a patination.

In Room F.

FIG. 76, no. 27. Brass pack-horse bell with iron pea. Complete.¹⁹⁹

From the exceptional state of preservation, it must be concluded that conditions were unusual. Normally, one would have expected the iron pea to have corroded very much indeed, to the extent (usually) of completely enveloping the bell and 'disappearing' in the process. Here, one would infer very dry and constant conditions of burial, quite unlike any of those which clearly produced corrosion of the other objects of copper alloy from the site, except, evidently, for the other bell fragment (FIG. 76, no. 28), and the swivel fitting (FIG. 76, no. 26). Alternatively, it may be the result of contact with the horse.

By Wall 316.

FIG. 76, no. 28. Top part of a similar brass pack-horse bell. The lower part has been broken off and the pea lost.

GOLD

In Grey Layer I-II NE. of Kitchen (Room C), 1200-1350.

FIG. 76, no. 30. Small ring twisted from a single strip of gold wire rectangular in section, not very suitable for a finger-ring, so possibly part of an ear-ring.

Mr. J. S. Forbes, of Goldsmiths' Hall, reports that it is approximately 18 carat, i.e. about 75 per cent gold, remainder silver and copper.

SILVER

From the Destruction Level Period IV, 15th century.

FIG. 76, no. 29. Silver signet-ring, not hall-marked, large man's size, probably for

¹⁹⁹ Rev. A. Hume, *Ancient Metals* (London, 1863), pp. 259-60, and p. 253, pl. xxvi.

thumb; mean internal diam., 2 cm., plain band, 5 mm. wide, 2.5 mm. thick. *Mr. S. E. Rigold* reports: 'The engraved plate or bezel bears Lombardic initials **CS**, with schematic foliage-sprays above and below, in octagonal frame (a chamfered square of 1 cm.). The W is composed of two nearly coincident Vs with serifs united, the S has the thickened centre sharply recurved and the tail-serif long, but since the forms of Lombardic lettering were more or less fixed by the middle fourteenth century and only survived for special purposes in the fifteenth, the octagonal frame is more relevant for dating. Pending the recognition of a sealing from this ring, a date about the third quarter of the fifteenth century seems to be a fair median: the various parallels are simply called "fifteenth century".'²⁰⁰

Mr. J. S. Forbes reports that it is of high standard silver, approx. 1 per cent gold. Hall-marking began in 1300, but small items were often not marked till very much later.

LEAD

From Ditch 1.

FIG. 76, no. 31. Lead plug or socket. Possibly intended to be set into a stone to hold a door pivot. It is round at the bottom and is rectangular in section at the top. The part of a door pivot which is set into the stone is usually this shape and then rounded above. The rough outer surface makes it difficult to identify as a ferrule.

On the other hand, close microscopical examination has failed to reveal any evidence of iron or copper-based metal ever having been in contact with this piece for very long; certainly no such metal or any other material was buried with the piece. The perforation is angular in section, and in a few places appears 'grainy' in the direction of the long axis; its external end shows a small, very flat area with high polish, but only a non-metallic object (other than perhaps a piece of lead or similar metal) could presumably have been wedged in. A more likely material would seem to be wood(?); but this may only have been used in the finishing of the item.

Mr. W. W. Robson, of the Associated Lead Manufacturers' Research Association reports as follows on other finds of lead:

'*Period II Hearth 243, 1300-1350.* (a) Thin sheet, fairly hard—may contain tin. It is folded several times, and clearly a waste strip; it also shows scoring marks, possibly produced by a knife, chisel or similar cutting tool and one corner of (b) fits into a matching, scored angle on it so precisely that it is tempting to suggest (b) was actually cut lying on (a). [They were found in the same layer 15 feet apart.—J. G. H.]

'*Between Floor 249 and Hearth 251.* (b) Small sheet fragment, gauge about 6 lbs./sq. ft. Perhaps made by casting. It has been cut on all four sides with a knife and hammer, or similarly, but not with 'snippers' or a similar tool. Lack of corrosion on edges suggests a fairly dry environment during burial.

'*On Floor 242.* Casting, poured fairly cold into a (?) shell shaped-mould or similar depression; complete in itself.

'*Between the Tiles on Hearth 225, 1300-1350.* Twelve fragments of cast metal solidified mostly in irregular shapes, but with a sufficient number of flat areas and regular angles to suggest that it may have been cast into joints. Some bright red rhombic oxide is present, but the overall orange-pink effect is due to material not derived from the lead, but probably associated with fired clay and earth. It is reasonable to suppose that the vertical hearth-tiles were deliberately, if crudely, jointed in this manner; accidental spillage would not have penetrated in the same way.'

²⁰⁰ The ring is closely paralleled by nos. 537, 538, 539 (pl. xxiii) in C. C. Oman, *Catalogue of Rings* (Victoria and Albert Museum, 1930), all of silver, with Lombardic initials, sacred or personal, in octagons. Among the few octagonal armorial signets in the *Catalogue of Seals in the Department of MSS, British Museum*, III, are those of Louis Robesart Ld. Bouchier, 1429 (no. 13,018) and Thomas Wytham, 1464 (no. 14,656). A. B. Tonnochy, in 'English Armorial Signets' (*J. Brit. Archaeol. Assoc.*, 3 ser. x (1945-7), 39) quoting C. H. Hunter-Blair in *Archaeol. Aeliana*, 3 ser. xvii, 283, defines signets as 'small personal seals made to fit a finger-ring, or otherwise carried on the person' and 'coming into use about the beginning of the fifteenth century'.

WOOD AND CHARCOALS
By J. F. Levy
Department of Botany, Imperial College of Science

TABLE IV

| Period | Reference | Ash <i>Fraxinus</i> sp. | Beech <i>Fagus</i> sp. | Chestnut <i>Castanea</i> sp. | Hazel <i>Corylus</i> sp. | Oak <i>Quercus</i> sp. | <i>Pyrus</i> type Various spp. | ?Hornbeam ? <i>Carpinus</i> sp. | Total |
|-------------------------------|--|--|--------------------------------------|------------------------------------|--------------------------------|------------------------------|---|---------------------------------------|-------|
| IC 1050- 1150 | By Floor 10 between Buildings AB and AH | | | | | | T | | 1 |
| ID 1200- 1250 | Ditch 2 (125) | Severe disorganization makes identification doubtful. Once waterlogged, now dry and very much distorted, probably by shrinkage ²⁰¹ | | | | | WOOD ??? L | | 1 |
| IE 1225- 1300 | Ditch 2 | | | | | 4L (one slow grown) | T | | 5 |
| | Post-hole 115 | | T | | | T | | | 2 |
| | Ditch 111 | | | | | B (3 in. dia.) | | | 1 |
| | Sump 3 | As for ID (Ditch 2) ²⁰¹ | | | | | WOOD ??? L | | |
| II 1300- 1350 | Kitchen Room C Hearth 214 | T | B | | T | B (very slow grown) | | T | 5 |
| | Room B Tiled Hearth 225 | | 2T (one very slow grown) | T | | | T | | 4 |
| | Hearth 246 | T | T | | | | | | 2 |
| III 1350- 1370 | Room D Bakehouse Oven 319 | | | | | B | | | 1 |
| | Hearth 331 | | | | | T+2B | | | 3 |
| | Kitchen Room C Rake-back Oven 334 | | | | | 2B | | | 2 |
| IV 1370+ | Oven 404 Room D | | | | | B | T | | 2 |
| | Kitchen Room C Oven 410 | | | | | B | | | 1 |
| IC to IV 1050- 1370+ | | 2 | 5 | 1 | 1 | 15 (52%) | 4 | 1 | 29 |

The material consisted of fragments of charcoal, except where otherwise stated. For the purpose of this report, the following indications of original diameters of cross-sections have been used:

T = Twig, a small branch, less than 2 in. diam.

B = Branch or small trunk, 2-6 in. diam.

L = Log, from branch or trunk exceeding 1 foot diam.

²⁰¹ Samples were submitted to the Forest Products Research Laboratory, D.S.I.R., of material (a) as received, and (b) mounted in Marco resin; both proved very intractable. Dr. E. W. J. Phillips, reports: 'The structure has largely been destroyed by crushing and biological and/or chemical deterioration. The few pores present suggest hardwood and their size indicates a larger-pored type such as elm or oak but we can go no further. The material has proved resistant to our reconditioning treatment. We are unable to hazard a guess at the original form or dimension of the specimens.'

BONE

ARTEFACTS²⁰²*Period ID, 1150-1225.*

FIG. 73, no. 9, on floor 65. Small worked limb bone fragment.

FIG. 73, no. 10, top of ditch 55. Bone handle, with cut grooves on each side, from limb bone; medium high polish, dark brown patchy stains on surface.

Ditch 1.

FIG. 73, no. 11. Waste from making a bone implement (from ox metatarsal), surface relatively fresh and clean.

I-II Grey Level.

FIG. 73, no. 12. Polished bone point. High polish, brown patination. The exact position was not recorded as it was not identified as an artefact when found, but placed in the general bone box for this layer.

ANIMAL BONES (*by Miss J. E. King, British Museum (Natural History)*)

Animals represented in the collection from Northolt are: horse, ox, sheep or goat, pig, roe deer, fallow deer, dog, rabbit, and bird.

It has not been possible to take very many measurements, but those taken show that although there is a certain amount of variation in size, in general the animals were small. The oxen were about the size of a Chillingham ox, and the horses, although slightly larger than a New Forest pony, were also small. Sheep and pig bones also represent small animals. Small dog bones are present in several layers, though always in very small numbers. Bones of a very young dog are also present. Roe deer occurs only once, in Period IB. A few rabbit and bird bones were also identified. No difference in size of the animals could be correlated with the dates of the various layers. The measurable bones were:²⁰³

Period IB, 900-1050, Pit 146.

Ox. Incomplete metatarsal: wp. 45 (54). Astragalus: l. 67 (58).

Period IC, 1050-1150, Buildings AB, AC, AH and Ditches 50 and 55.

Ox. Proximal end metacarpal: w. 53 (67). Proximal phalange: l. 56 (57).

Period ID, 1150-1225, Pebble Features and Ditch 41.

Horse. Metatarsal: l. 250 (228).

Ox. Distal end tibia: w. 50 (65). Proximal phalange: l. 56 (57).

Sheep or Goat. Distal end humerus: w. 29 (34). Distal end tibia: w. 24 (30).

Period ID, 1200-1250, Ditch 2.

Horse. Distal end radius: w. 70 (61).

Ditch 1-2 Overlap.

Ox. Astragalus: l. 62 (58).

Sheep or Goat. 2 distal ends humeri: w. 25 (34).

Ditch 1, 1250-1300.

Horse. Skull fragments: l. lower tooth row 154 (143). Metacarpal: l. 251 (190). Proximal phalange: l. 69 (67).

Ox. Metacarpal: l. 193 (189). Proximal end metacarpal: w. 51 (67). 2 metatarsals: l. 203, 206 (207).

2 proximal phalanges: l. 60, 62 (57). Proximal end radius: w. 73 (82). 2 astragali: l. 62, 66 (58).

Sheep or Goat. 3 distal ends humeri: w. 32 (34). 2 proximal ends radii: w. 26, 31 (34). Proximal end meta-

carpal: w. 23 (25). Proximal end tibia: w. 39 (47).

Pig. Proximal end radius: w. 26 (45).

²⁰² These were all examined by Miss J. E. King, but identification was only possible in one case.

²⁰³ All measurements are in millimetres.

Ox bones are compared with those of a Chillingham ox.

Horse bones are compared with those of a New Forest pony.

Sheep bones are compared with those of a Scotch ram.

Figures in brackets are those of the museum animal.

w = width; wp = proximal width; wd = distal width; l = length.

*Period IE, 1225-1300, Ditch 111.**Horse.* Proximal end metatarsal: w. 44 (42). 2 middle phalanges: l. 40, 44, (40).*Ox.* 2 proximal ends radii: w. 74 (82). 2 metacarpals: l. 175, 182 (189). Proximal end metacarpal: w. 55 (67). Metatarsal: l. 209 (207). 4 proximal ends metatarsals: w. 35, 36, 42, 50 (54). 7 proximal phalanges: l. 51, 55, 56, 58, 61, 65 (57).*Period II, 1300-1350.**Horse.* Metacarpal: l. 228 (190).*Ox.* 2 proximal ends radii: w. 82 (82). Metacarpal: l. 179 (189). Distal end tibia: w. 71 (65). Distal end metatarsal: w. 56 (59).*Sheep or Goat.* Proximal end radius: w. 29 (34). Proximal end metacarpal: w. 21 (25). 3 distal ends tibiae: w. 24, 25, 26 (30). Proximal end metatarsal: w. 19 (23).*Grey Layer I-II, Mixed Early Medieval to 1350.**Horse.* 3 distal ends humeri: w. 67, 73 (62). Metacarpal: l. 223 (190). Distal end tibia: w. 62 (58). Metatarsal: l. 253 (228).*Ox.* Distal end humerus: w. 60 (74). Proximal end radius: w. 77 (82). 3 incomplete metacarpals: wp. 50, 57 (67). 2 distal ends metacarpals: w. 50, 68 (65). 3 incomplete metatarsals: wp. 41, 49 (54). 5 proximal phalanges: l. 54, 56, 58, 70 (57).*Sheep or Goat.* 3 distal ends humeri: w. 27, 28 (34). 3 incomplete radii: wp. 33 (34). Metacarpal: wp. 20 (25). 4 distal ends tibiae: w. 24, 24, 25, 26 (30). Proximal end metatarsal: w. 18 (23).*Pig.* Tibia: wd. 33 (43).*Period III, 1350-1370.**Ox.* Proximal end radius: w. 71 (82). Proximal end metacarpal: w. 61 (67). Metacarpal: l. 184 (189). Distal end metatarsal: w. 48 (59).*Sheep or Goat.* 2 proximal ends radii: w. 28, 30 (34). Radius: l. 145 (173). Proximal end metacarpal: w. 21 (25). 2 distal ends tibiae: w. 23, 26 (30).*Pig.* Radius: wp. 30 (45).*Period IV+.**Ox.* Proximal end metacarpal: w. 57 (67).*Sheep or Goat.* Proximal end radius: w. 33 (34). Distal end humerus: w. 29 (34).BIRD BONES (*by* Margaret Joje, Queen's University, Belfast)*Period IE, 1250-1300, Ditch 1.*

| | |
|------------------------------------|---------------------|
| Domestic Fowl (<i>Gallus</i> sp.) | Scapula (L) |
| | Ulna (L) |
| | Femur (R) |
| | Tarsometatarsus (R) |

Grey Layer I-II, Mixed Early Medieval to 1350.

| | |
|--|-------------------------------|
| Domestic Fowl (<i>Gallus</i> sp.) | Humerus (L) |
| | Radius (L) |
| | Ulna (R) |
| | Tarsometatarsus (L) with spur |
| | Tarsometatarsus (R) immature |
| | Tarsometatarsus (L) immature |
| | Lumbosacral vertebrae |
| Goose (<i>Anser</i> sp.) | Ulna (L) |
| | Carpometatarsus (R) |
| | Tibiotarsus (L) |
| Partridge (<i>Perdix perdix</i> or possibly <i>Alectoris</i> sp.) | Humerus (R) |

Period III, 1350-1370

| | |
|------------------------------------|---------------------|
| Domestic Fowl (<i>Gallus</i> sp.) | Scapula (R) |
| | Femur (R) |
| | Tarsometatarsus (R) |

Period IV+

| | |
|------------------------------------|--------------|
| Domestic Fowl (<i>Gallus</i> sp.) | Humerus (L) |
| | Humerus (R) |
| | Digit (Leg) |
| | Digit (Wing) |

In the following Table (compiled by L. Biek) the total number of recognizable bones/(teeth) identified to date at this site are analysed:

TABLE V

| SPECIES | Ox | Sheep or Goat | Pig | Red Deer | Fallow Deer (?) | Horse | Dog | Cat | Rabbit | Bird | PERIOD TOTALS |
|-----------------------|----------------------|----------------------|----------------------|-------------|-----------------------|-----------|-------|-----|--------|------|------------------|
| IB PERIOD 900-1050 | 3 (1) | — | — | 3 | — | — | — | — | — | — | 6 (1) |
| IC 1050-1150 | 9 | — | 3 | — | — | — | — | — | — | — | 12 |
| ID 1150-1225 | 13 (4) | 7 (2) | 5 (9) | — | — | 3 | 1 | — | — | — | 29 (15) |
| ID, ditch 2 1200-1250 | 3 | — | — | — | — | 1 | 1 | — | — | — | 5 |
| IB-ID 900-1250 | 28 (5) | 7 (2) | 8 (9) | 3 | — | 4 | 2 | — | — | — | 52 (16) |
| % (see note) | — /54 16·4/7·3 | — /13 6·7/1·9 | — /15 12·3/2·1 | | | | | | | | — 13·5 |
| Ditch I-II | 6 (11) | 7 (11) | 2 (7) | — | — | — | — | — | — | — | 15 (29) |
| IE, ditch 1 1250-1300 | 31 (11) | 42 (25) | 33 (10) | — | — | 3+ | — | — | 1 | 4 | 114 + (46) |
| % | 42/27 18·2/7·6 | 100/36·4 40/10·3 | 100/28·8 50·8/8·1 | | | | | | | | 70 27·8 |
| IE 1225-1300 | 43 (34) | — | — | — | — | 5 (7) | — | — | — | — | 48 (41) |
| % | 58/89·7 25·3/10·5 | 0 | 0 | | | | | | | | 30 11·8 |
| IE Total 1225-1300 | 74 (45) | 42 (25) | 33 (10) | — | — | 8+(7) | — | — | 1 | 4 | 162 + (87) |
| % | — /45·7 43·5/18·1 | — /25·9 40/10·3 | — /20·3 50·8/8·1 | | | | | | | | — 39·6 |
| II Grey 1300-1350 | 14 + (6) | 14 (7) | 1 (9) | — | — | 1 | 1 | — | — | — | 31 + (22) |
| I-II Early med.-1350 | 33 (11) | 22 (5) | 18 (10) | — | — | 14 (13) | 5 (1) | 2 | 2 | 11 | 107 (40) |
| III 1350-1370 | 11 (8) | 11 (2) | 3 (1) | — | — | (2) | — | — | — | 3 | 28 (13) |
| IV+ 1370-?? | 4 | 2 (1) | (3) | — | 1 | — | (1) | — | — | 4 | 11 (5) |
| II+ 1300-?? | 62 + (25) | 49 (15) | 22 (23) | — | 1 | 15 (15) | 6 (2) | 2 | 2 | 18 | 177 + (80) |
| % | — /34·8 36·5/15·1 | — /27·5 46·6/12·0 | — /12·3 33·8/5·4 | | | | | | | | — 41·2 |
| TOTAL 900-?? | 170 + (86) | 105 (53) | 65 (49) | 3 | 1 | 27 + (22) | 8 (2) | 2 | 3 | 22 | 406 + (212) |
| % | 41·8 | 25·7 | 15·9 | 0·7 | 0·2 | 6·6 | 2·0 | 0·4 | 0·7 | 4·9 | |

Note on percentages:

Where given, the figures represent the following:

Total in preceding line, expressed as percentage

- Top left: of total of *species subgroup* (i.e., of next, limited total reading down)
- Top right: of total of *period* (i.e., of total at end of line reading across)
- Bottom left: of total of *species* (i.e., of total at bottom of column)
- Bottom right: of *grand total* (i.e., of 406)

Within each box, (a) and (b), and (c) and (d), are separated by obliques, thus:

| |
|---------|
| (a)/(b) |
| (c)/(d) |

SHELLS

By Dr. S. P. Dance and C. P. Castell, British Museum (Natural History), the late A. G. Davis (then at the British Museum), and Dr. M. P. Kerney, Department of Geology, Imperial College of Science.

TABLE VI

| Period | Reference | Marine | | | | | | Terrestrial | | Seen by | Totals |
|-----------|-------------|-------------------------------|-----------------------------------|--------------------------------|-------------------------------------|--|---------------------------------|--|--|------------------|--------|
| | | Oyster | Common Whelk | Common Cockle | Common Winkle | Netted Dog Whelk | Common Mussel | | | | |
| | | <i>Ostrea edule</i> L. | <i>Buccinum undatum</i> L. | <i>Cardium edule</i> L. | <i>Littorina littorea</i> L. | <i>Nassarius reticulatus</i> (L.) | <i>Mytilus edulis</i> L. | <i>Helix hortensis</i> (Müller) | <i>Helix</i> (<i>Cepaea</i>) sp. <i>indet.</i> | | |
| IC | Ditch 55 | | | | | 1 | | 5 | 1 | C.P.C. M.P.K. | 7 |
| ID | Oven 65 | | 1 | | | | | | | C.P.C. | 1 |
| | Slot 63 | | 1 | | | | | | | C.P.C. | 2 |
| IE | Ditch 1B | | 1 | | | | | | | C.P.C. | 1 |
| | Ditch 111 | | 1 | | | | | | | C.P.C. | 2 |
| II | Kitchen 209 | 6 | 11 | 1 | 1 | | | | | A.G.D. S.P.D. | 20 |
| | On 234 | | 3 | | | | | 1 | | M.P.K. | 3 |
| | On 248 | | | | | | | | | C.P.C. | |
| | Hearth | | | 1 | | | | | | C.P.C. | 1 |
| III | Kitchen 339 | | 8 | | | | 1 | | | S.P.D. C.P.C. | 9 |
| IC-III | | 6 | 26 | 2 | 1 | 1 | 1 | 6 | 1 | | 44 |
| 1050-1370 | | | | | | | | | | | |

All these are such as could have been utilized for human food. The *terrestrial* species is common today on London Clay, particularly on hedgebanks and damp waste land, but no really useful information can be gleaned from isolated, selected specimens. The preservation is good, and smaller species would clearly have remained; if they had been made available for examination they might have yielded valuable information.²⁰⁴ A 1-2 lb. sample of the (buried) surface would normally be required for a full examination.

ACKNOWLEDGEMENTS

The initial suggestion to excavate the site came from the then Rector of Northolt, the Rev. G. L. Phillips. The Ealing Corporation readily gave permission to excavate and have since helped with the loan of tools and financial assistance. The 1950 seasons were under the joint direction of J. G. Hurst and H. T. Norris, and labour was provided by the Cambridge University Archaeological Field Club. The Northolt Village Community Association provided the accommodation and the work was financed by a grant from Trinity College, Cambridge. The 1951 season was jointly directed by J. G. Hurst and W. Matthews, with the help of members of the Cambridge University Archaeological Field Club and the Oxford University Archaeological Society, financed by a grant from the Society of Antiquaries. Since 1952 the excavation has been on a weekend basis and many dozens of helpers, too many to name, have assisted. The week-by-week organization of the excavation, and a good deal of the digging, has been done by Mr. C. H. Keene, without whose assistance the continuation of the dig would not have been possible. Valuable help has been given by the following schools: Brentside, Drayton, Ealing Girls' and Boys' Grammar, Greenford County, Horsendon, and Stanhope Schools; by Shoreditch Teachers Training College, Harrow School and Westfield College Archaeological Societies. Mr. L. G. Matthews and Mr D. Keene have nobly supervised

²⁰⁴ See, e.g., B. W. Sparks on the Land Mollusca from Arretton Down, *Proc. Prehist. Soc.*, xxvi (1960), 299-301.

the volunteers for most of the period. Thanks are due also to the Parks Superintendent, Ealing Corporation, to Mrs. M. Young and Mrs. J. Raven for continued local assistance and to Mr. L. James, who took most of the photographs.

The plans and sections were drawn by Mr. P. A. Rahtz, the metal objects by Mrs. E. Fry-Stone, the decorated pottery by Mr. B. Edwards and the coarse pottery by J. G. Hurst. Especial thanks are due to the Ealing Corporation who have made these drawings financially possible. Thanks are also due to Dr. F. A. Toufar of the Ealing Public Library and Mr. H. V. Radcliffe of the Gunnersbury Park Museum for continuous help and assistance, to all the various experts who have contributed specialized reports and to Mr. L. Bick for arranging and correlating most of these.

The finds are deposited in the Gunnersbury Park Museum, Ealing.