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THE EXCAVATION OF A LATE ANGLO-SAXON SETTLEMENT AT MARKET FIELD, STEYNING, 1988–89

by Mark Gardiner

With contributions from Maureen Bennell, Pat Hinton, Duncan Hook, Nigel Meeks, Elisabeth Okasha, Clive Orton, Rod O'Shea, Ian Riddler, David Rudling and Leslie Webster

Excavations in advance of a housing development revealed a 10th-century enclosure, two buildings and associated pits. A sequence of ditches marked the boundary of the enclosure and an entrance way was indicated by two post-settings and a central stake-hole. The entrance is similar to those from other Late Anglo-Saxon sites. One of the buildings was constructed with planks set on end, the other with squared timbers and a central line of round posts. Three types of pits were identified and these seem to have served as wells, and for the disposal of rubbish and cess. Sealed groups of pottery were recovered from the pits suggesting that some activity on the site may date from the 9th century, though the main period of activity was in the following century. A notable find was an inscribed gold ring bearing the name of the owner discovered in a rubbish pit. Analysis of the metal suggests that it was made from primary gold, not recycled material. The bone assemblage from the pits shows it was mainly derived from food waste. Carbonised samples from sealed contexts suggest a variety of plants were grown including cereals, flax and vetch. The weed seeds reflect the environments in the area around the settlement.

INTRODUCTION

Since 1976 the Field Archaeology Unit of University College London has sought to examine the area of all major developments in Steyning as part of a programme of research into the origins of the town. Earlier excavations undertaken by Worthing Museum during the 1960s had located traces of Late Anglo-Saxon activity to the south of Steyning church and this reinforced speculation that the centre of early occupation was in the vicinity (Barton 1986; Evans 1986). An area to the south-west of the church was examined in 1977 by the Field Unit and further Late Anglo-Saxon remains were recorded (Freke 1979). Work on the south side of the High Street in 1985 confirmed that the early area of settlement was confined to the land close to the church (Gardiner 1988) (Fig. 1).

In 1988 outline planning permission was sought by the owners of land to the east and north-east of the church to build new houses. The area included a possible site of the 11th-century 'Port of St Cuthman' and land which may have been within the area of the Late Saxon town (*V.C.H. Sussex* **6,** i, 220; Hudson 1987; cf. Evans 1986, 81–3). Trial excavations isolated an area with Late Anglo-Saxon features and the following year the hillslope below the site of the former animal market was stripped and fully excavated.

Steyning church lies on a slight spur between two streams which drain northwards into an area of flat, low-lying, alluvial land. On the east side the land slopes gently upwards from the flat valley bottom to the site of the former railway station. Next to the station are cattle and sheep pens of the disused market (Fig. 2).

DOCUMENTARY EVIDENCE

The main area of excavation lay on land which, until sold for development in 1989, belonged to the Diocese of Chichester. It is shown on the Tithe Award map as part of Steyning glebe, which measured in total 38 acres (Fig. 1).[1] Seventeenth-century glebe terriers record a similar area and show that the excavated portion was then under plough.[2] In 1340 the glebe was 30 acres in extent, which allowing for the rounded figure, suggests that the same land was then held by the Church.[3] It is not known when the land was acquired by the Church, though it may be significant that part of the north, east and south sides of the glebe are coincident with the boundary between the parishes of Steyning and Bramber. This implies that the glebe was already a discrete block of land when the boundary was established.

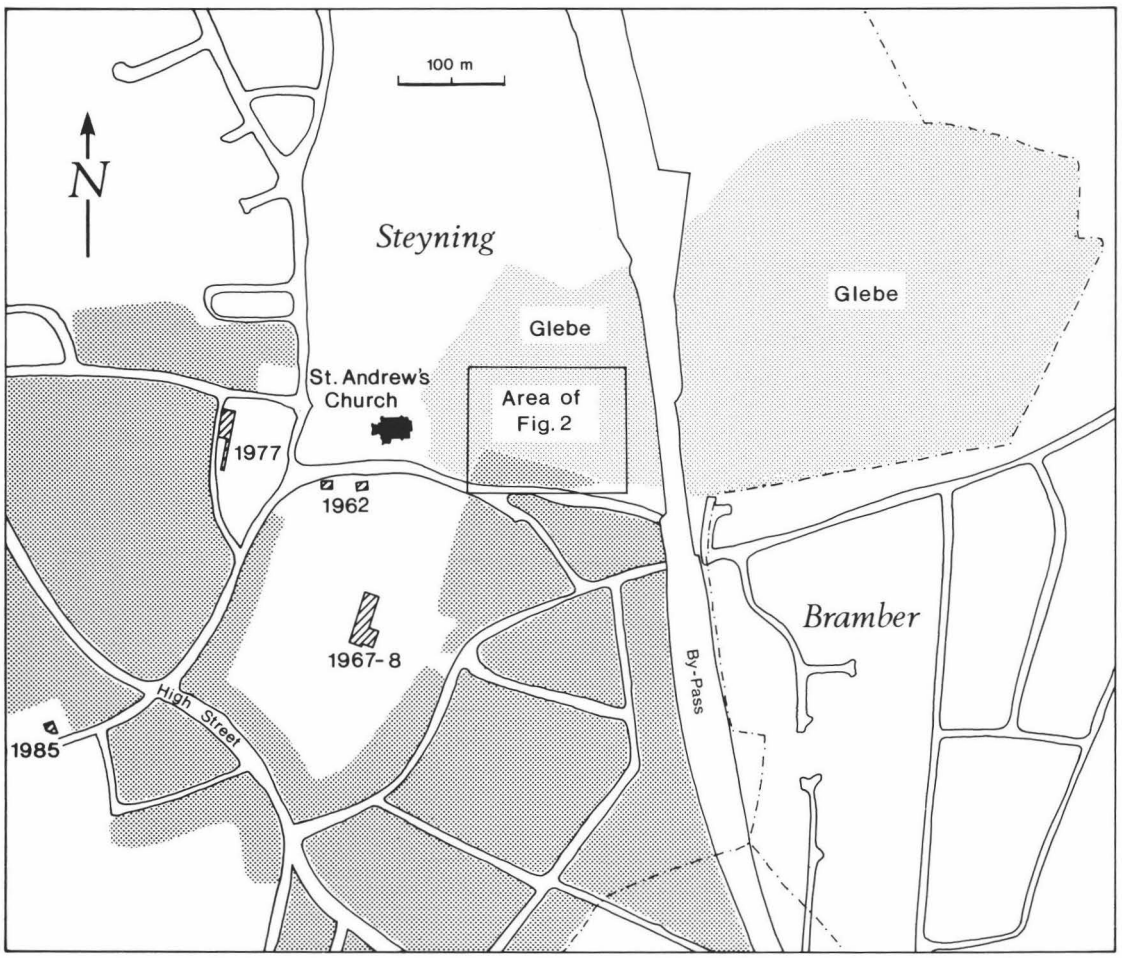


Fig. 1. Steyning showing the location of previous excavations (hatched), the main built-up area (dark tone), the glebe *c.* 1840 (light tone) and parish boundaries (dashed-and-dotted lines).

ASSESSMENT EXCAVATIONS

by Maureen Bennell

In May 1988 the Field Archaeology Unit undertook assessment work to determine whether archaeological remains were present in the proposed development area. A number of minor earthworks were recorded in the pasture fields, but a study of 19th-century maps suggested that these were likely to be of recent date. Three test pits were dug by hand and from one of these a coin of Eadgar was recovered (see below). A series of areas and transects were then stripped by machine and were expanded where necessary to record archaeological features.

No archaeological remains were found in the area on the north side of the alluvium. The lower part of the slope on the south side was covered with up to 2 metres of colluvium (hillwash) containing numerous abraded Saxo-Norman sherds (e.g. Fig. 2, Trench no. 3). At the top of the slope a number of archaeological features were recorded and these included a series of pits and inter-cut ditches. The area was progressively enlarged to record their extent. A number of transects were then excavated by machine to the west on the hillslope below the former animal market and revealed further pits indicating extensive remains (transects are not shown in Fig. 2 as they were subsumed in the later

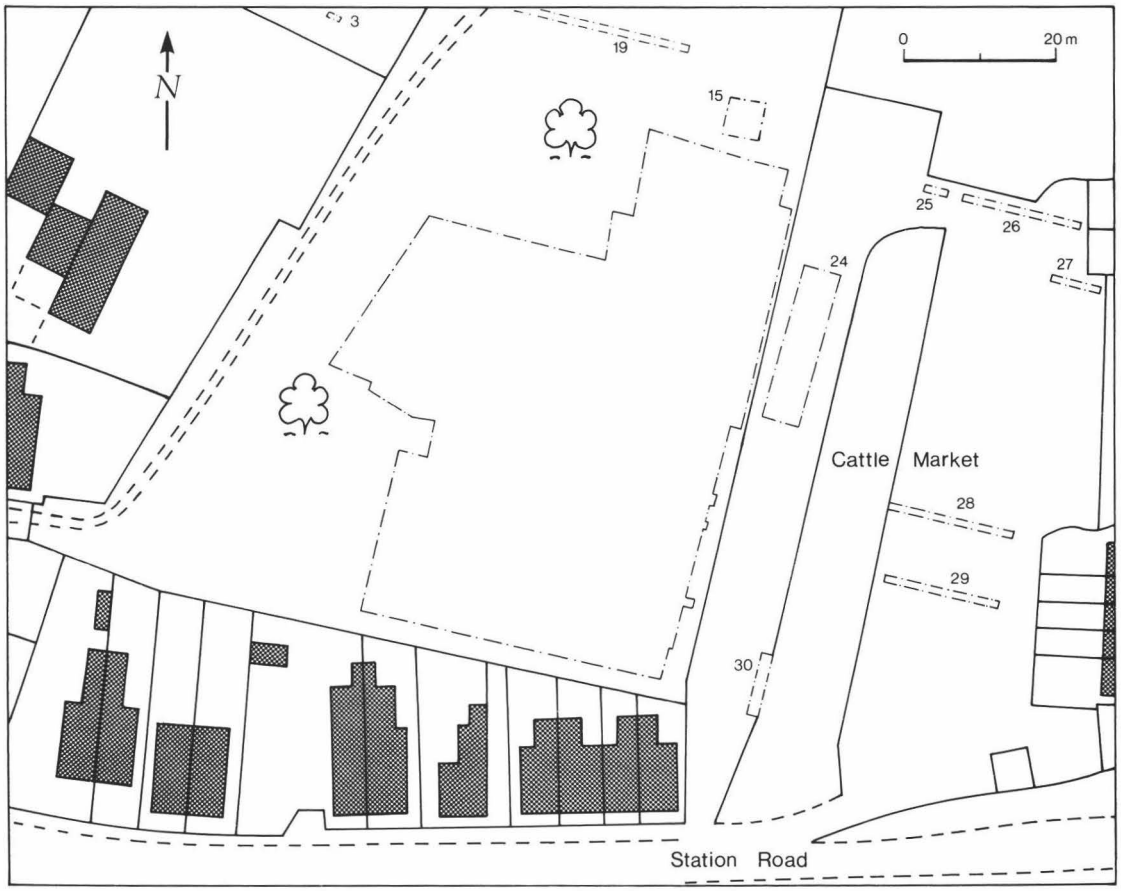


Fig. 2. Market Field, Steyning. Location of 1989 excavations and some of the 1988 trial trenches.

area excavation). These features were partially excavated by hand to obtain dating evidence. On the crest of the hill, in the area of the former cattle market, further machine trenches were cut. These showed that the ground below the concrete had not been truncated. The only feature discovered, however, was a single, undated post-hole (Fig. 2, nos. 25–30).

FULL EXCAVATION

The results of the assessment indicated that more extensive excavations were appropriate and in July 1989 work was resumed with funding from West Sussex County Council. The topsoil was removed with a JCB 3C and a 360-degree slew excavator to the level of the Upper Greensand. The presence of mature trees restricted the area excavated on the west side. After removing the topsoil, the remaining soil was allowed to dry and the site was then swept by brooms to reveal the features cut into the rock. The surface of these was then trowelled and the features planned before excavation (Fig. 3). Intermediate plans were made of some features during the course of excavation and at the end the whole site was replanned.

The site can be divided up into a series of areas or groups of features and these are described and discussed separately.

THE EASTERN DITCHES AND GATEWAY

(Figs. 4, 5 and 10)

A series of inter-cut ditches forming a complex sequence of boundaries lay parallel with the eastern

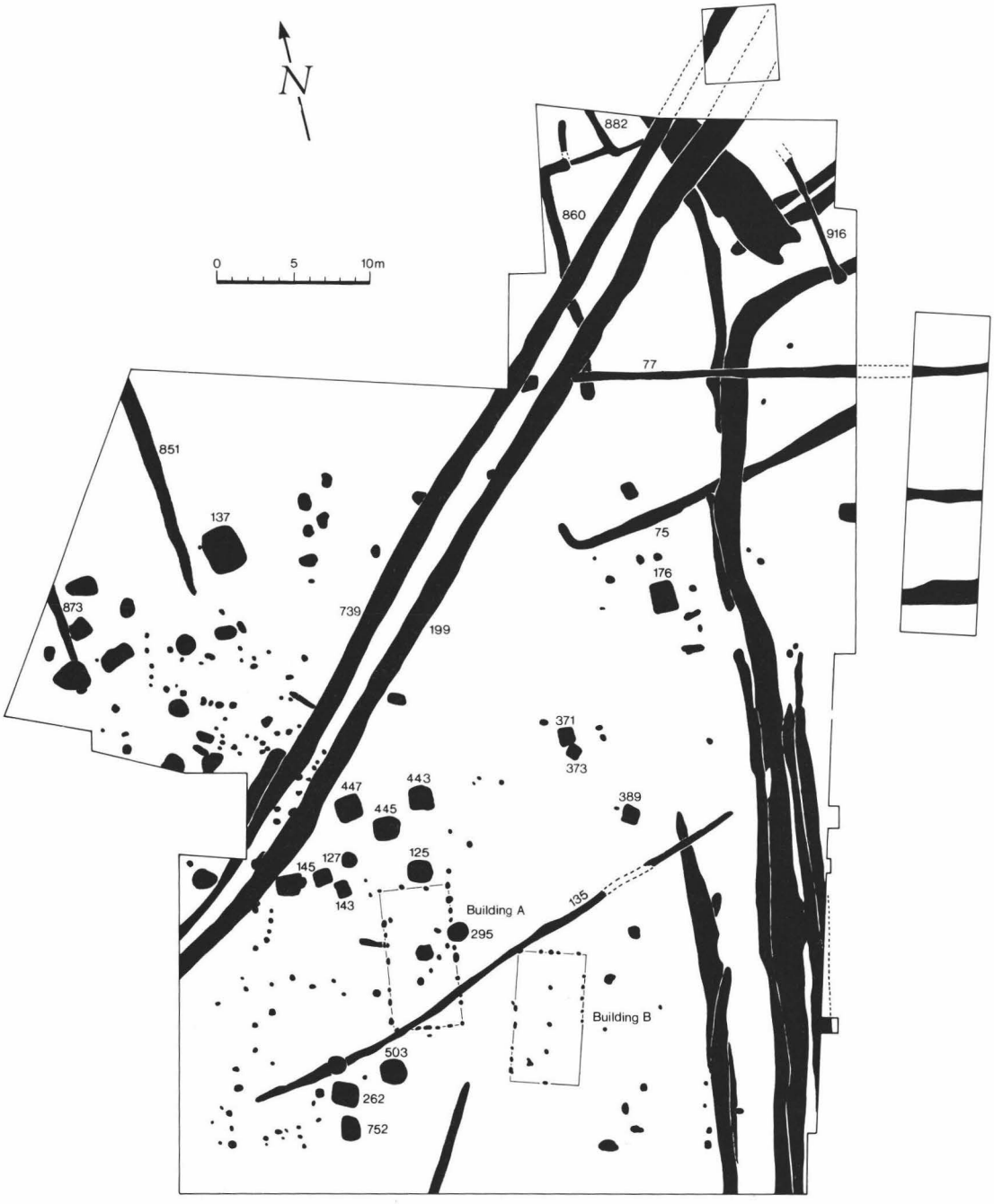


Fig. 3. Market Field, Steyning. Features recorded in 1988–9.

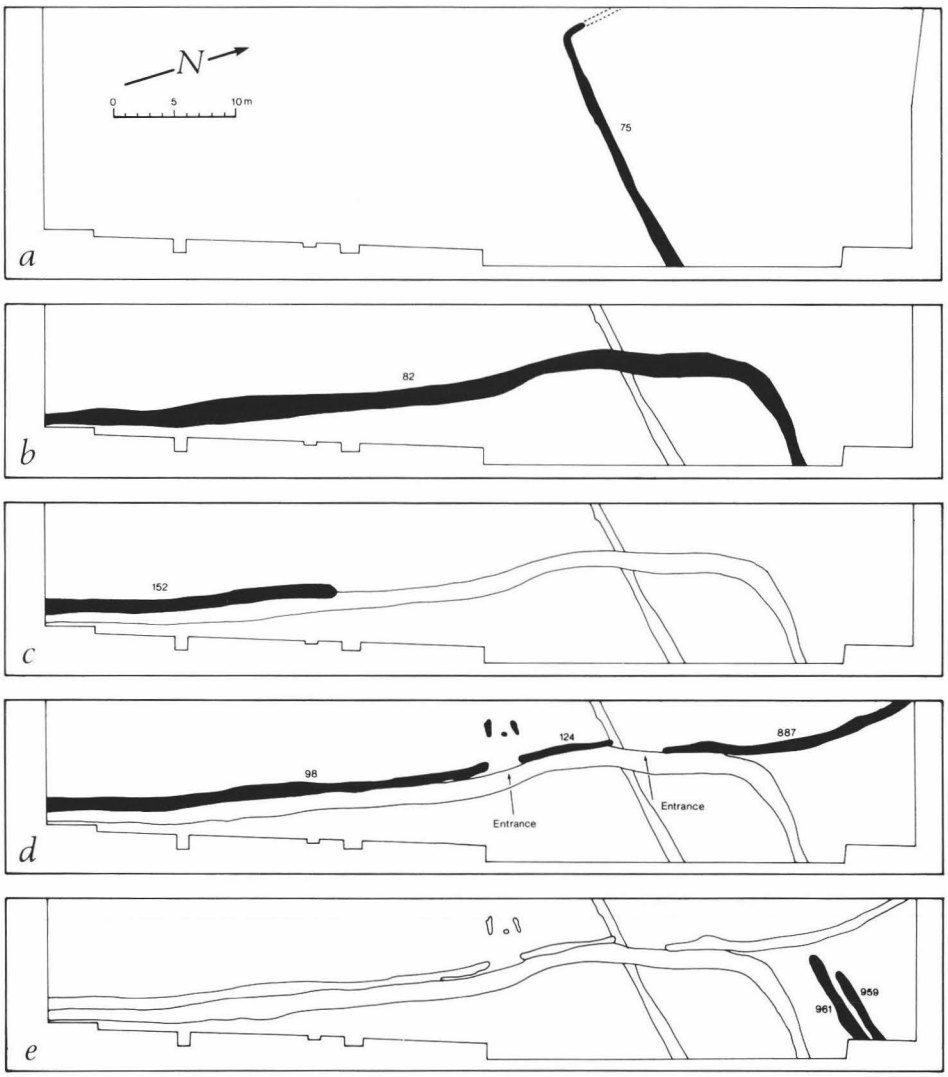


Fig. 4. Phase plan of eastern ditches. New features in each phase are shown solid; earlier features are shown in outline.

edge of the excavation. These were examined by digging one-metre wide sections every 3.5 metres and at other significant points. The ditch fills, which were often only subtly different, were then traced along their length.

The earliest ditch (75) ran almost at right angles to the main group. It may have enclosed a rectilinear area on the hillslope, but its extent could not be fully traced because the ditch ran out shortly after turning to the north (Fig. 4a). Trial trench 24 (Fig. 2) to the east of the main excavation failed to identify the continuation of the ditch, though it is not clear whether this was because the ditch did not continue, or did not survive at the level of excavation.

The first ditch was cut by a second broad, flat-bottomed ditch (82) which ran along the edge of the hillslope, turning eastwards as the land began to drop away to the north so that it enclosed the hill top (Fig. 4b). Later it had been recut on the same line

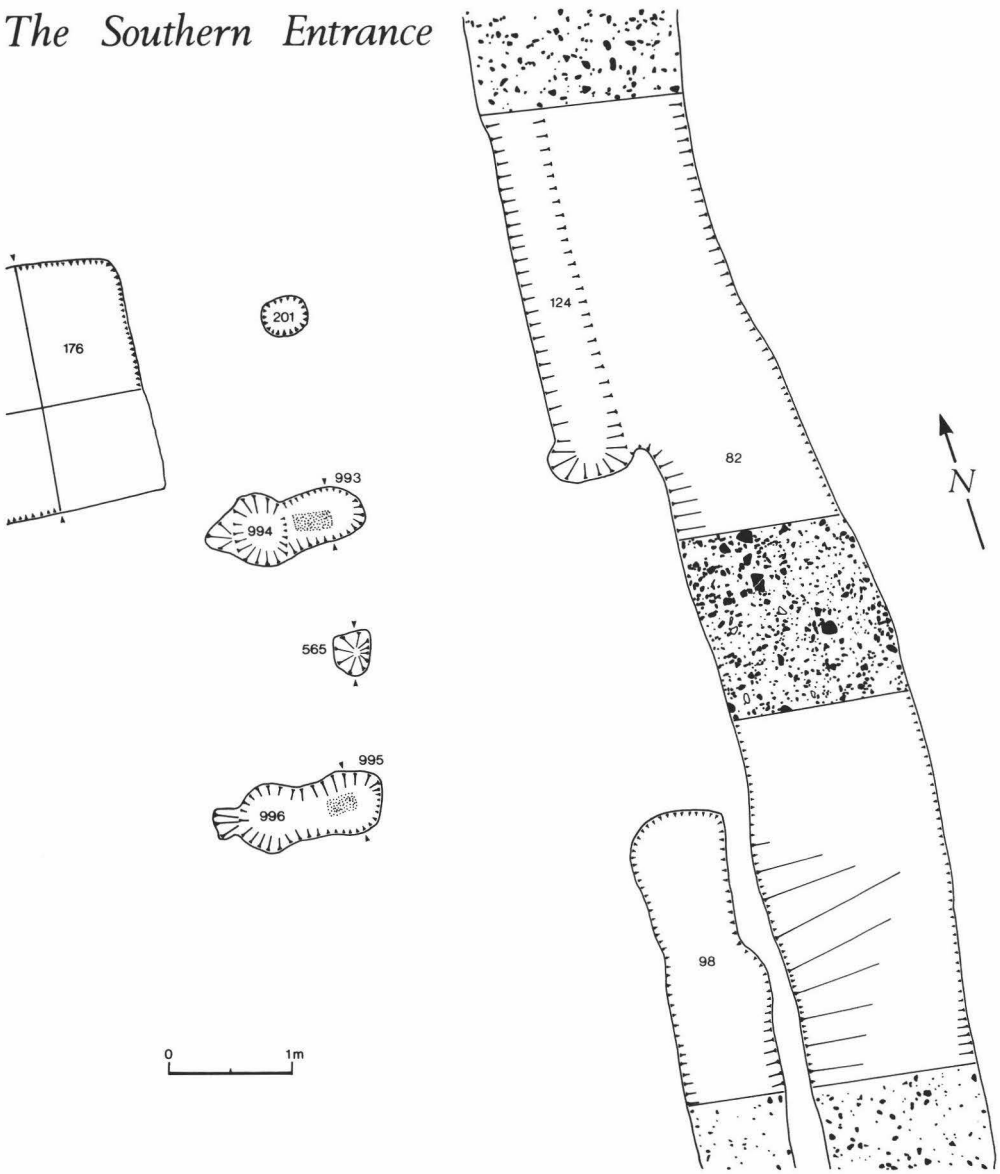


Fig. 5. South entrance to enclosure. The position of sections in Fig. 10 are shown by arrows.

with a more rounded profile (237). After it had silted up, a new ditch (152) was dug a little further to the west. This was notably different in section being much deeper and with more sharply sloping sides. The position of the north terminal was not recorded, but must have lain in an unexcavated length between two sections (Fig. 4c).

This ditch had partially silted up when rubbish, including layers of charcoal and burnt clay, had been dumped into it. It was then recut (98, 124, 887) and extended northwards so that it swung around to enclose the land on the west lying within the area of excavation (Fig. 4d). Two causeways across the ditch allowed entry to the enclosure. In line with the

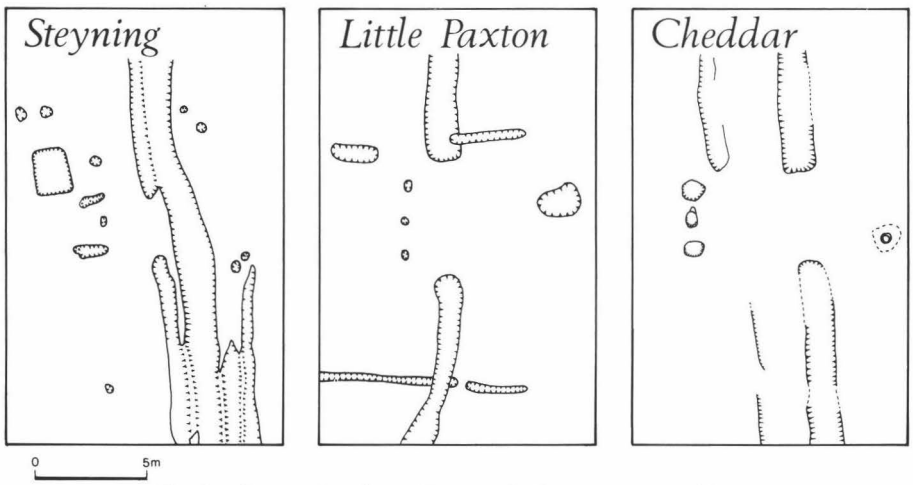


Fig. 6. Comparative plans of Late Anglo-Saxon entrances with gates: Steyning, Little Paxton (after Addyman) and Cheddar (after Rahtz).

more southerly entrance, but set back within the enclosure, were two pairs of post-holes (993, 994, 995, 996; Figs. 5, 10). These marked the position of successive pairs of post-settings. Traces of darker fill in one pair suggested they held squared posts with a cross-section of about 300 by 140 mm. set about 2.3 metres apart. Between these two was a single hole with an unusually sharply-pointed profile (565) (Fig. 10).

The more northerly causeway was not marked by any entrance structure and lay within 10 metres of the first. The causeway here was larger, measuring 4 metres between the two terminals. It may be significant that the south terminal of the north causeway coincided with ditch 75 which may still have survived as an earthwork.

Sometime later the ditches around the western enclosure were recut and subsequently the ditch around the top of the hill (on the line of feature 82) was also cleared out. Digging out the latter ditch would have blocked the two entrances to the western enclosure. During excavation it was noted that the ditchfill in front of the southern causeway was particularly stony. This length may have been intentionally infilled to allow continuing access.

The final ditches (959, 961) lay on the north side of the excavated area and appear to separate the land on the hill top from the area to the north (Fig. 4e). Though there was no stratigraphic relationship with the ditches already described, they would make little sense if ditch 887 had not already been dug and for that reason they are placed at the end of the sequence.

On either side of the main ditch group were other lines of ditches (Fig. 3). The shallow outer lines had no clear stratigraphic relationship with the central group and attenuated to the north, so it was not possible to establish their full length. The western, inner line lay about 4 metres from the central ditches and comprised three successive cuts. The stratigraphy of the eastern line was less clear, but at least two, and probably three cuts were recorded.

Discussion of Ditches

With the exception of the earliest feature, 75, the ditches mark a boundary between two contemporary enclosures, one on the hill slope and the other on the hill top. The importance and longevity of this boundary are indicated by the repeated digging of new ditches to mark its line. At one stage an entrance was made to allow access to the property on the hill slope. The two posts set behind the causeway across the ditch may be readily interpreted as supports for a pair of gates (Fig. 5). The deep, narrow, pointed middle hole (565) between them made in the Greensand could hardly have been formed with anything but a metal object. It was presumably for a ground-fast bolt used to secure the gates when shut. The gates were placed more than 2 metres behind the edge of the ditch and probably in line with a bank thrown up on the west (inner) side of the ditch.

The two causeways across the ditch may have given access to separate areas within the enclosure. The broader entrance way on the north would have been more suitable for driving animals, possibly to pasture in the northern half of the enclosure. The southern entrance with its substantial gates gave access to the buildings, rubbish and cess pits, an area of domestic activity.

A close parallel for the enclosing ditch and entrance ways is found at the Late Saxon site at Little Paxton (Hunts.) (Fig. 6). The area excavated there included a ditched enclosure with one, and possibly two entrances. One entrance lay across a causeway between two lengths of ditches. Set back inside the enclosure about 1.2 metres were two post-holes, which seem to have held a pair of gates similar to those at Steyning, and a central catch post set between them. The distance between the outer posts was about 2.5 metres. A possible second, slightly broader entrance way lay 25 metres from the first, but there was no evidence for a gate. The excavator interpreted the enclosing ditch as a trench for a palisade, but the published section shows a ditch with one recut which had been filled by silting (Addyman 1969, 66–8).

A second site with a gateway of very similar type occurs at the royal palace at Cheddar (Som.). The enclosure was entered past a flagstaff or other free-standing post over a causeway between two lines of ditches, through a gateway of three post-holes and led directly to a door of a nearby hall (Rahtz 1979, 163–70). The parallels with Little Paxton and Steyning are so close, that it may be concluded that though shallow, the three post-holes almost certainly were for a double gate with central stop.

These three sites suggest that a standard pattern on Late Anglo-Saxon sites was an entrance approached over a causeway and closed by a pair of gates with a central catch post. Other entrances to the enclosures were sometimes provided for other uses.

THE BUILDINGS (Figs. 7, 8)

Traces of two buildings were identified during the planning of the site. Careful cleaning of the post-holes suggested that many of these had two fills. This was most apparent in Building A where a dark grey-brown silty clay loam with few pieces of Greensand could be differentiated from a mid brown silty clay loam with a large number of small pieces of Greensand. The fills of the post-holes were carefully planned at the scale of 1:10 and then excavated with sketch plans made after digging every 30 mm. In this way it was possible to show that the grey-brown fills had vertical edges. The two fills are interpreted as the 'ghosts' of wooden planks set on end and the packing of Greensand fragments used to secure them (Fig. 8). In Building B the contrast in soil was more subtle, but a number of ghosts were identified and recorded in a similar manner.

Building A (Figs. 7, 8)

Traces of the lines of all four walls of the building were recorded, though the post-holes of the west wall were particularly shallow owing to the fall in slope. Some of the post-holes for the wall may have been entirely lost. The line of the south wall was clearly marked by five post-holes including one corner post. Other posts had been removed by a later ditch. The carefully cut, rectangular post-holes were arranged symmetrically around a slightly larger central post (291). Plank ghosts were recorded in four of the post-holes showing that the timber had been set hard against the inner face of the vertically cut slots. No ghost was detected in the corner post (179), which was oval in shape with the long axis lying at 45 degrees to the wall lines. Behind the central plank was a circular hole (381) which may have held a bracing post, though it was set too close to be very effective.

The holes for the timbers of the west and east walls were less carefully cut. Some planks were set against the inside edges of the post-holes, but others were positioned centrally within the cut. The north wall was marked by four holes including the two corner posts (335, 343).

The building measured 8.88 by 4.38 metres internally and may have had an entrance either in the north wall between the two inner posts, or, since doors in the end wall are not very common, more probably in the west side between posts 357 and 997. The wall lines cut the fill of an earlier slot (365) and were themselves cut by a later ditch (135) and pit (295). Among the posts within the building, only 367, which lay on the central axis, is possibly related to the structure. This hole contained the ghost of a large circular post. Other features within or adjacent to the building were less certainly

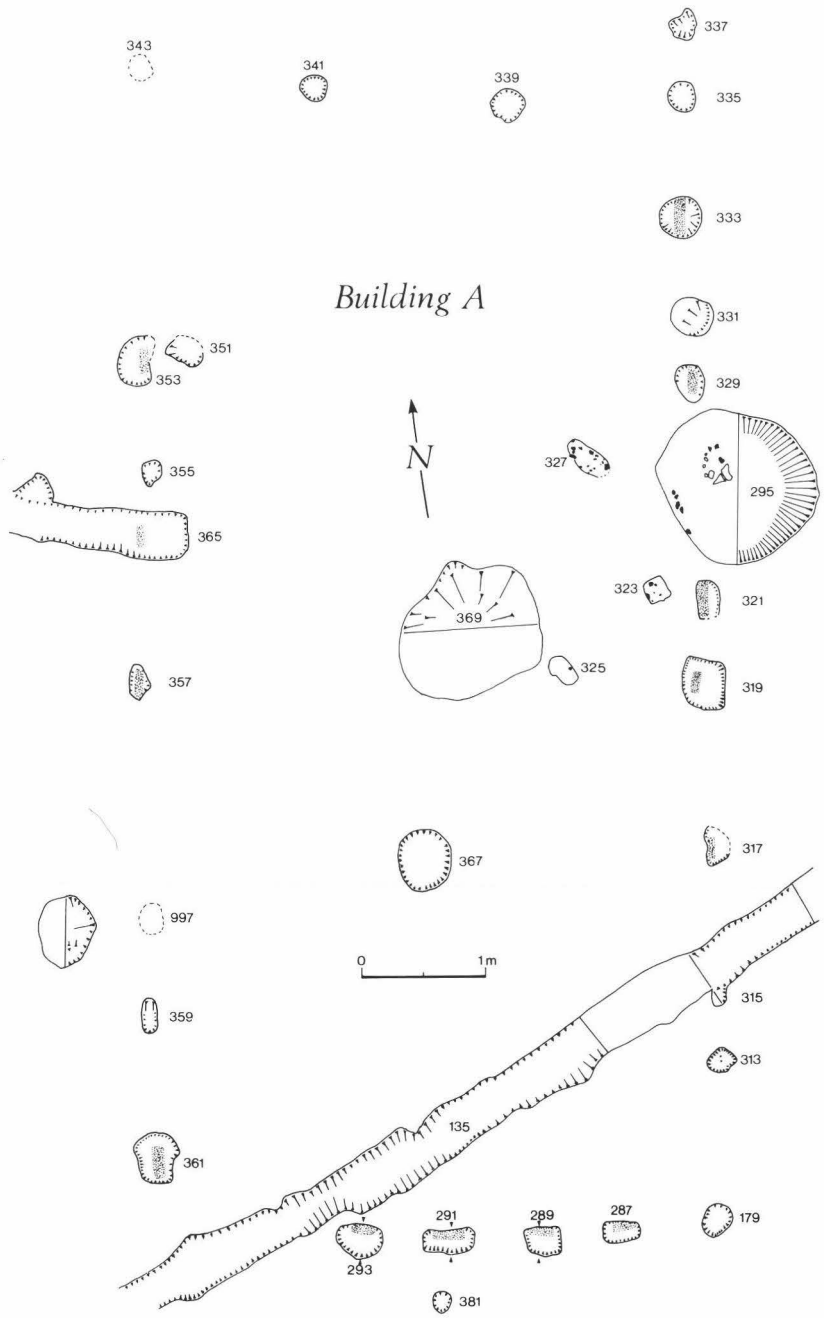


Fig. 7. Building A. The position of sections in Fig. 10 are shown by arrows.

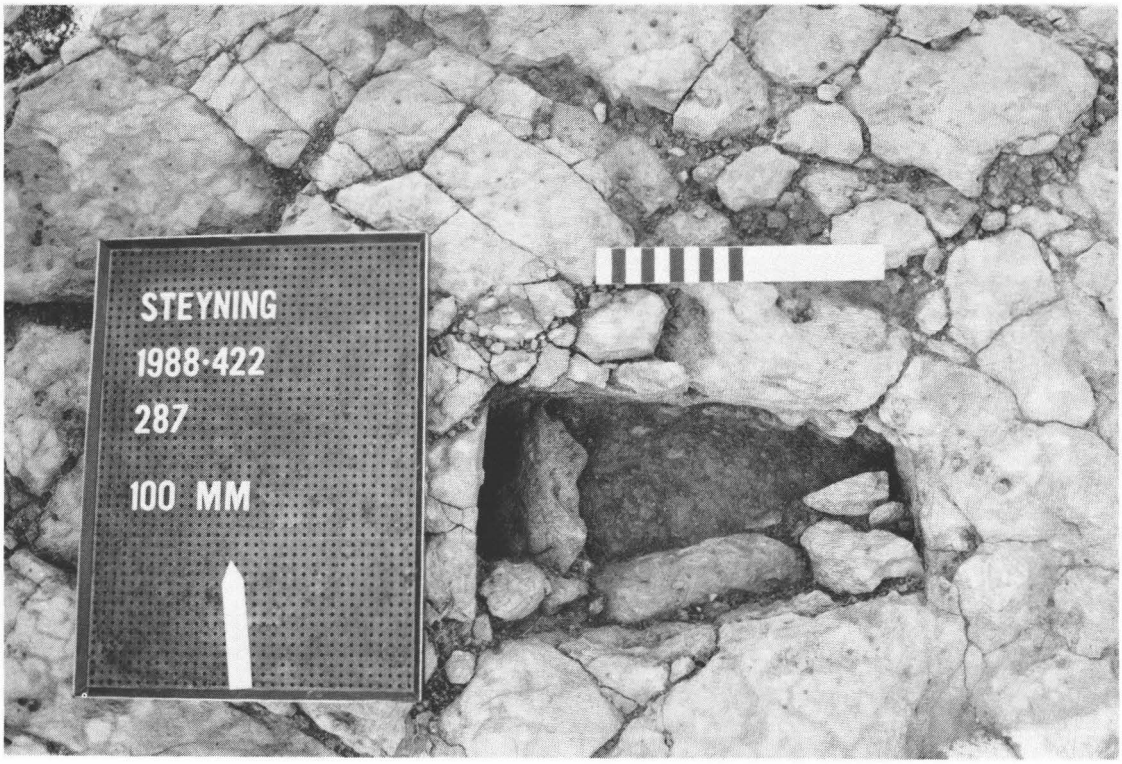


Fig. 8. Feature 287, showing the plank ghost and packing at the south side of Building A. Scale length 200 mm.

associated with the structure. A depression near the centre of the structure (369) was filled with clay and was without finds. It could not be determined if this was a natural depression. A post-hole (337) beyond the north-east corner aligned with the eastern wall was very shallow and no ghost was identified. Similar slight holes were found beyond the side walls of the nearly contemporary buildings, Structures B and D at Botolphs and it seems possible that they were for posts used in setting out (Gardiner 1990, Figs. 9, 11).

It was possible to measure the dimensions of the 10 plank ghosts. These had cross-sections which lay in the range 60 to 100 by 150 to 320 mm., though the majority measured about 80 by 220 mm. Some of the long faces of the planks were not parallel (Fig. 8), but were slightly tapering, producing a trapezoidal cross-section, a feature particularly apparent in the plank ghosts in holes 287 and 289. This suggests that the planks had been radially split, a type of working which it has been suggested may also have been used in the Early Anglo-Saxon plank buildings at Cowdery's Down (Hants.) (Millett and James 1983, 198).

Only a single sherd of pottery was found in the post-holes of Building A, but later features which cut the structure suggest a 10th- or 11th-century date.

Buildings B (Fig. 9)

The building was represented by the lines of three walls and a row of five central posts. The post-holes were less deep in the southern part of the building and the probable line of the south wall is represented by a single hole (405). The building had a single entrance on the west side which was marked by two rectangular post-settings (435, 437). The shapes of these suggest they had held planks, though no ghosts were identified. Three shallow post-holes of the west wall were found to the south of the entrance, but on the north side only the corner post-hole remained. The posts of the north wall were symmetrically arranged around the central hole (411). The post-holes at the corners of this wall

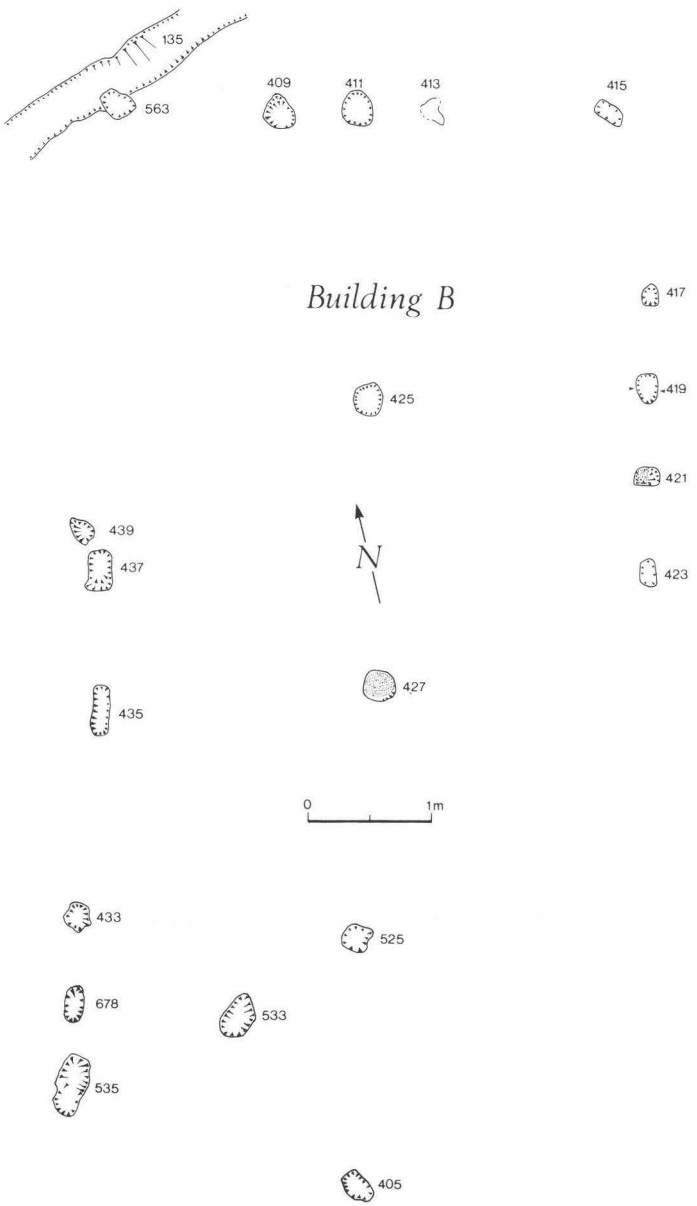


Fig. 9. Building B. The position of the section in Fig. 10 is shown by arrows.

(415, 563) were rectangular in shape and set at approximately 45 degrees to the axes of the walls. In the west and east walls the post-holes became shallower to the south and all trace disappeared before the south-east corner was reached. Ghosts were noted in the fill of holes 419 and 421 and indicated that the posts were rectangular, or nearly square in cross-section, and in both cases had been set hard against the inside edge of the cut. The post-holes in the centre-line were more substantial than the others and the ghosts identified in 411, 425 and 427 were circular in section.

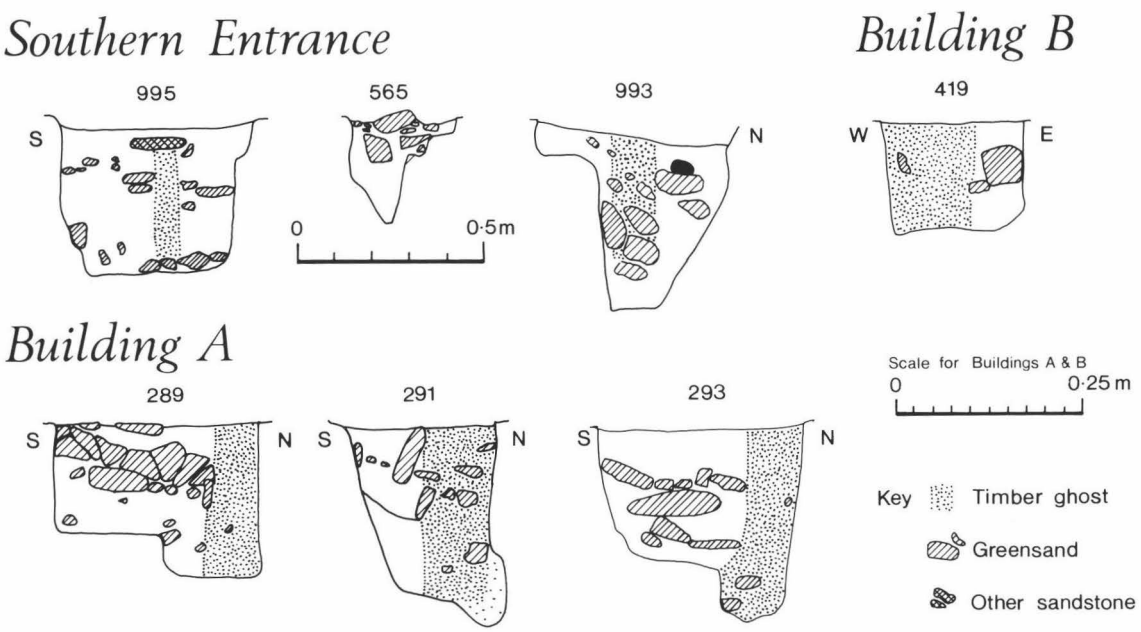


Fig. 10. Sections of post- and plank-holes.

The building measured internally 4.25 metres in width and, assuming post-hole 405 lay on the line of the south wall, 8.43 metres in length. On this assumption, the entrance would have been at the centre of the long wall, a very common arrangement in Anglo-Saxon buildings. No direct dating evidence was found for Building B, although the post-hole at the north-west corner (563) was cut by ditch 135, which contained Late Saxon or Saxo-Norman pottery.

Discussion of Buildings

The two buildings recorded in the excavation had a number of similarities. Their size was nearly the same, both had the double-square plan commonly found in Anglo-Saxon structures (James *et al.* 1984) and they were broadly aligned in the same direction across the fall in slope. Planks set on end were used in both buildings, but whereas they were employed for all the timbers in the walls of Building A, they were confined to the door posts of Building B.

Plank-on-end buildings have been excavated at Cowdery's Down (Hants.), Yeavering (Northumbria) and Cowage Farm, Foxley (Wilts.), but all of these sites have been dated to the Early or Middle Anglo-Saxon period (Millett and James 1983; Hope-Taylor 1977; Hinchcliffe 1986). The closest parallels for the Steyning buildings are those excavated at nearby Botolphs (Gardiner 1990). It is intended that the common features of the Steyning and Botolphs buildings and parallels from sites elsewhere will be considered in detail in a future article. Although the use of ground-fast planks in the walls of Later Anglo-Saxon buildings is not common, other structural features may be found in buildings of this date elsewhere.

The slight evidence from the Anglo-Saxon period has suggested that planks might be formed by radially splitting wood, and the trapezoidal shapes of some of the post-ghosts (Fig. 8) may indicate a similar process was used in the Steyning buildings. Splitting tree trunks is not necessarily more time-consuming than hewing squared posts (Darrah 1982, 221–2), but it is interesting that the use of planks is reserved only for the jambs of the doorway of Building B and that the other principal posts used squared timbers. The south wall of Building A makes an extravagant use of planks clearly exceeding the number required purely for structural purposes and it contrasts with the smaller number employed in the north wall. It is possible that this was the equivalent of close studding used in

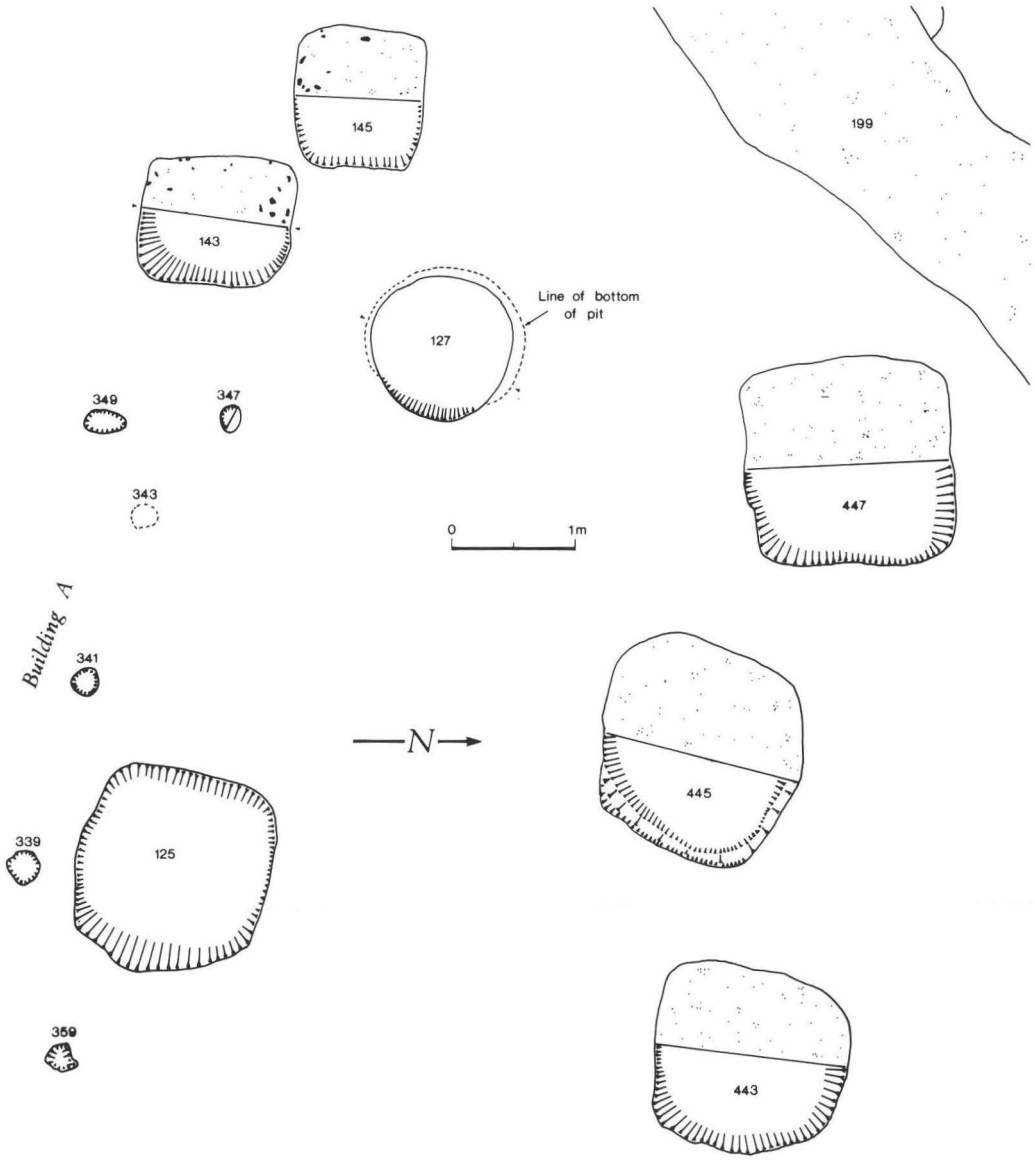


Fig. 11. Rubbish pits (125, 143, 145, 443, 445, 447) and a well (127) on the north of Building A. The positions of sections in Fig. 10 are shown by arrows.

later medieval buildings and served a similar purpose: to display the status and wealth of the owner. But as with close studding, the use of a large amount of timber on the faces of the buildings most likely to be seen by passers-by was not continued on the less visible, rear walls.

The roof of Building B was supported both on the wall posts and possibly also on the line of central posts. These may have supported a ridge purlin which ran the length of the building between what would have been two gable ends. The central posts were larger in section than the wall timbers and

were not squared, perhaps because they were mostly hidden from view within the building. The single post (367) which lies beneath the ridge line in Building A may have served a similar function.

The use of central posts to support the ridge is hardly known in the later medieval period, though it does occur in Anglo-Saxon buildings. Structures S, Z1 and Z2 at North Elmham (Norf.) and Building B at Maxey (Northants.) are both thought to have been constructed in this way (Wade-Martins 1980, 60–2, 64–7; Addyman 1964, 25–8). It implies a fundamentally different building structure with the roof timbers partly supported from the ridge piece and a roof construction that can only be conjectured.

It has been noted that the post-holes on the north side of Building B were aligned diagonally to the walls, suggesting posts set at 45 degrees to the wall line. The north-eastern post (415) was clearly set in from the line of the east wall, but on the north-west side the evidence was less clear. In Building A the pattern may have been similar, certainly on the south side. Post-hole 179 is slightly set in, and on the south-west corner, though the position of the post had been largely removed by a later ditch, it could not have been directly in line with the west wall. Given the care with which the buildings were laid out and the ability of the builders to align timbers, it is clear that the insetting of the corner posts was a deliberate feature. The aim was to produce buildings with rounded or diagonal corners. There are many parallels for this from other Anglo-Saxon sites. A local example is Portchester (Hants.) where Building S10 had diagonal corners and S15 rounded ends (Cunliffe 1975, 27–9, 41–3).

THE LARGER PITS (Figs. 3, 11, 12)

A number of pits were uncovered and partially sectioned during trial work. Although the finds from these were predominantly Late Anglo-Saxon in date, it was noted that the upper fills included later medieval finds. As the fills of the pits had collapsed, material from the topsoil had been introduced. It was not possible to distinguish an upper 'sag fill', but in the 1989 season the top 100 mm. of each pit was given a separate context number to isolate intrusive material.

In most cases only half of the pit was excavated. Thirty-litre samples of soil were taken for flotation from most of the larger fills and these were processed in a tank similar to the Siraf unit (Williams 1973). The flot was collected in 0.5 mm. and 1.0 mm. sieves and the residue was collected. The dried residue was sieved through a quarter-inch (6 mm.) grid and any larger finds were extracted. The fraction passing through the sieve was collected and carefully sorted after the excavation to extract small bones and unfloated carbonised material.

Sixteen large pits were excavated. These fall into three categories based upon their shape and size. The biggest group, represented by eleven pits (125, 143, 145, 262, 295, 371, 373, 389, 443, 445, 447) were sub-square in plan with slightly rounded corners. The sides had a mean length of about 1.35 metres and a mean depth below the surface of the Greensand of 0.7 metres. Two pits (373, 389) were particularly shallow, measuring less than 0.15 metres deep. One of the pits (371), though square in shape at the surface, had a shelf-like projection lower down where the Greensand had been incompletely dug away. The digging of this pit had not been finished.

The large quantities of bone and pottery in the fills show that these pits were dug for rubbish. Some of the pits contained layers of Greensand fragments, which may have been thrown into the pit to seal the rotting material beneath. Some evidence of the dumping of rubbish came from pit 262. The second fill (273) above the base 262 was finely laminated. This could not simply be the result of silt being washed into the pit, because the laminae were horizontal. The fill must have been water-laid and had accumulated from fine soil blowing or being washed into a puddle at the base of the pit. The laminated soil formed around and above the partially articulated vertebrae and skull of a juvenile sheep, which had presumably been thrown away after butchery, and clearly showed traces of the outline of flesh present on the bone at deposition (see bone report).

Most of the rubbish pits occurred at the ends of Building A and may be related to it. Pit 295, however, cuts the wall of the structure and must therefore be later. Among the finds from the pits were a Roman fibula, pieces of whetstone, fragments of lava quern, pieces of wall plaster and an inscribed gold ring. These are discussed below.

Two pits measuring 1.95 and 2.20 metres deep may be placed in a second category (137, 176).

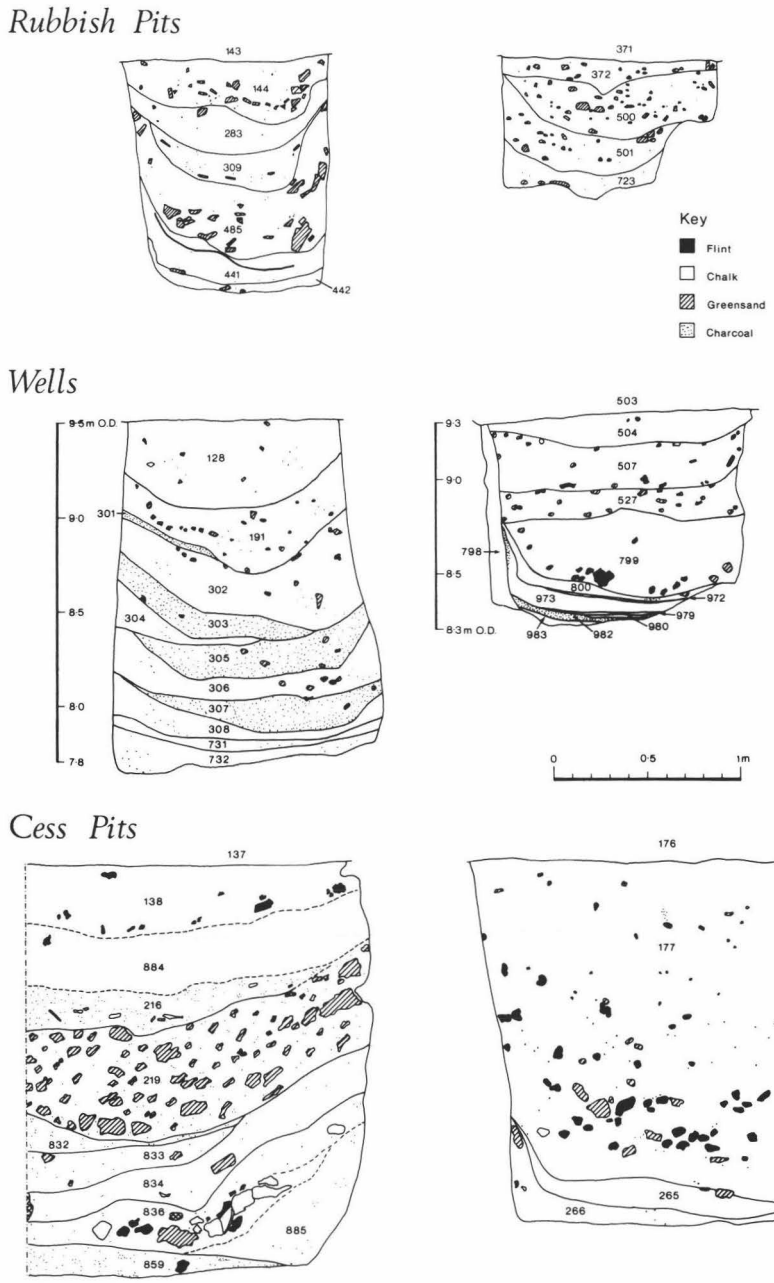


Fig. 12. Sections across selected pits.

These were larger than the pits in the first group and were sub-rectangular in shape. Pit 137 contained very few finds and had a largely homogeneous fill. Anaerobic conditions at the base of the pit had allowed the partial preservation of fine organic material, though this did not survive sufficiently well to allow identification. Pit 176 contained a greater density of finds and had more varied fills. A

thick layer (219) of Greensand fragments had been thrown in during the use of the pit to seal the deposits beneath.

Though the size and shape of the pits are similar, their fills could suggest different functions. The fill of pit 137 indicates that it served as a cess-pit. Pit 176 might have been used for general rubbish, but Hinton in her report on plant remains (below) suggests that the number of mineralised seeds from this feature may indicate the proximity of faecal material. This suggests that the pit was also used for cess. It is notable that pit 137 is set away from the other pits and from the buildings. It is possible that the cess pit could have been covered by a latrine building similar to those at North Elmham (Norf.), Faccombe Netherton (Hants.) or Cheddar, but if so the structure must have been so slight that it left no trace (Wade-Martins 1980, 125–131; Fairbrother 1990, 114; Rahtz 1979, 156–7).

The third group of pits is represented by three examples (127, 503, 752). These were roughly circular in plan with diameters between 1.22 and about 1.45 metres and were all more than 1 metre deep. Their fills were similar to the rubbish pits. There is some evidence that pit 503 was lined with wood or wattle, for the shape of fill 798 could hardly have been produced by a recut. If it was so lined, however, there was no evidence for the wood or wattle on the north side.

Some or all of the pits in this class may have been wells. The lining of pit 503 certainly supports this interpretation. Wattle- and barrel-lined wells are known from North Elmham and possibly from Thetford (Wade-Martins 1980, 74–94; Rogerson and Dallas 1984, 27). Pit 127 has a curious bell-shaped profile which may have been formed by frost-shattering around the water-line. Pit 752, by contrast, tapers towards the base. The need for wells so near the course of a stream is not evident, though the convenience of a water source near to the buildings may have justified the relatively small amount of work involved in digging these shallow pits. Although this may have been the primary use of the pits, they were later used for the disposal of rubbish. Hinton (below) has noted mineralised seeds in pit 127 and suggests that this may indicate the presence of faecal material.

The pits, with the exception of the top 100 mm. spits, contained closed groups of finds. To elucidate the sequence of pits the pottery within 10 of them was ordered by seriation. The results discussed below show that six of these could not be distinguished on the basis of their ceramics and this gives some grounds for indicating that they might be broadly contemporary. Pits 125 and 262 were separated by this technique and contain fabric types which are probably earlier.

THE WESTERN AREA (Fig. 13)

An area to the south-west of the excavation was cleared, but not further excavated because of the degree of recent disturbance. This confirmed the findings from the trial trenches, which showed that though Anglo-Saxon finds were present, they were residual in later contexts. In one of the trial trenches a coin of Eadgar was discovered in a deposit of recent building material.

On the west and north-west of Building A was situated a series of post-holes, shallow pits and ditches. Most of these could not be dated, but pottery from others showed they ranged from the Late Anglo-Saxon period to the present century. The earliest features were probably a group of pits set apart to the north and two of these (671, 673) may date from the 9th century. To the west of these were two shallow pits with metalworking debris. Both were half-sectioned and in pit 663 lumps of melted lead weighing 1.50 kg. were found. Pit 559 contained 2.21 kg. of smithing slag, and fragments of hearth lining. There was no evidence of burning at the base of either pit to show that the metalworking had taken place there. Small quantities of iron slag also occurred in the fills of three other adjacent pits, but it is uncertain if this was of significance.

The original function of most of the features on the western side of the site could not be determined. One ditch (873) evidently dated to the 13th or 14th century and a second parallel ditch (851) to the east, though it contained only Late Anglo-Saxon pottery, was probably contemporary for reasons discussed below. Two adjacent undated shallow pits (587, 589) nearby had been dug as graves to bury a dog and a pig.

LATER MEDIEVAL AND POST-MEDIEVAL ACTIVITY (Figs. 3, 13)

Settlement ceased on the site by the late 11th or 12th century and the evidence for later activity is relatively slight. A small ditch (873) and shallow pit

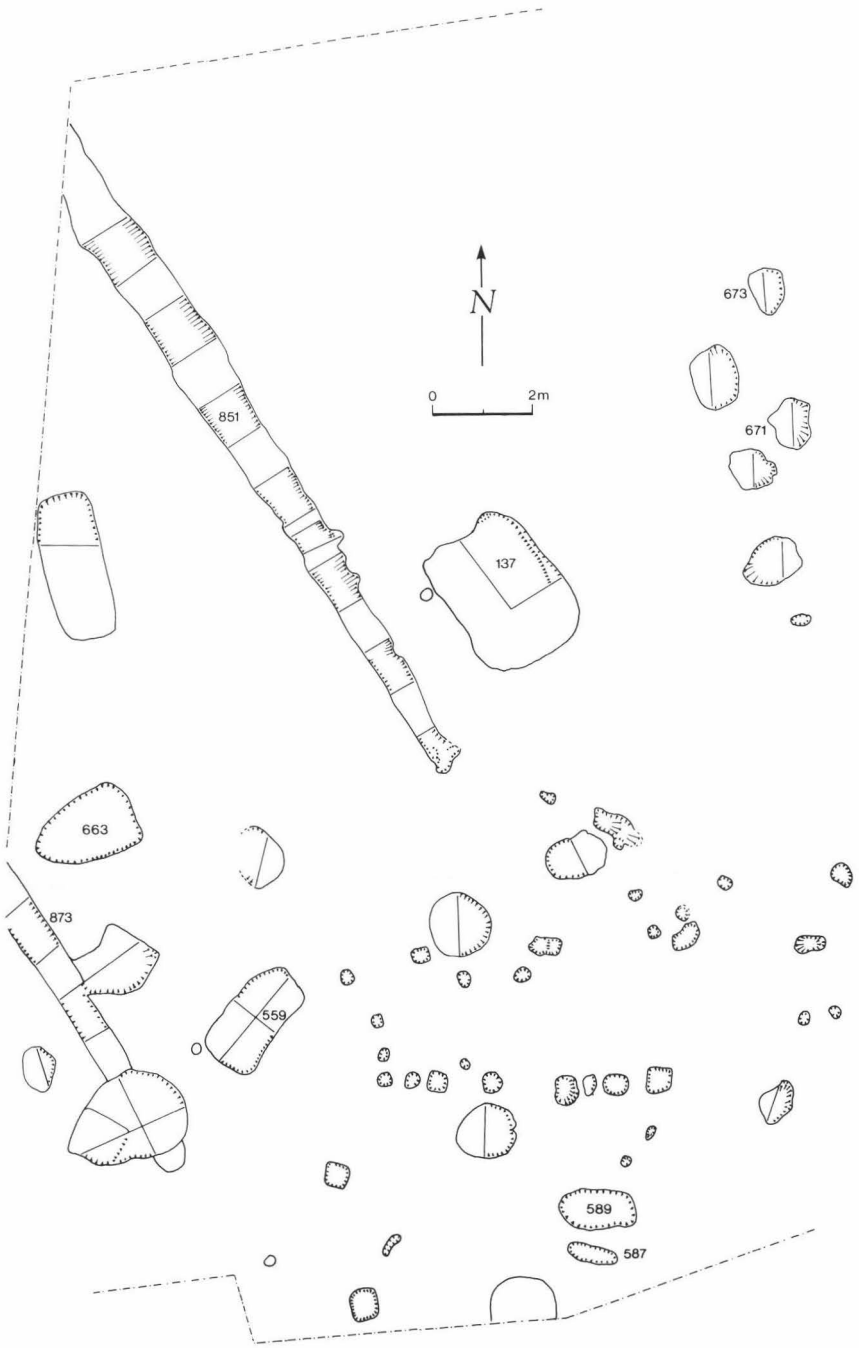


Fig. 13. The western area.

(922) in the western area contained later medieval pottery (Fig. 12). At the northern end of the excavation a series of shallow ditches (860, 882, 916) seem to belong to the 13th or 14th century, though the dating evidence is limited. They seem to delimit a series of small plots of land. It may be significant that the later medieval ditches 860, 873, 916 and probably 851 lie parallel to one another and have terminals which lie nearly in a line. These may be the ditches between a series of strip fields. Though ditch 851 contained only Late Anglo-Saxon pottery, it is likely that this was residual in a later feature.

The most significant features from the post-medieval period were two parallel ditches (199, 739) which crossed the site diagonally. These underlay a slight lynchet which was noted before topsoil was stripped and coincided with a field boundary shown on the tithe map. One of these ditches was cut by a channel (77) loosely filled with flints, probably a field drain made early last century.

DISCUSSION OF EXCAVATION

It was possible by stripping a large area in Market Field to recover the plan of a substantial part of an enclosure, two buildings and other features. But as on many rural sites, where there are few stratigraphic relationships, it remains uncertain how many of the features shown in Fig. 3 were contemporary. Some were clearly later, as the finds demonstrate, but many features contained Late Saxon or Saxo-Norman pottery. Pottery of this date was the most common found (Table 1) and it occurred as residual material in later features. The pottery gives little information that might allow the site to be tightly phased. Seriation applied to the pottery from 10 of the pits with larger collections of ceramics was not able to separate most of these and to suggest a clear chronological sequence. Two pits (125, 262), which have higher proportions of fabrics DJ and DL, however, were distinguished and these are probably earlier than the others (see below). Other features with similar high proportions of these fabrics are pit 445 and the two small pits, 671 and 673 (fig. 13) lying adjacent to one another. No clear pattern otherwise emerges from the distribution of the features with early pottery.

Stratigraphy does help to clarify some of the relationships. Ditch 135 cut the south-west corner of Building A and probably the corner of Building B, though the relationship here was not certainly established. It also cut one of the eastern ditches (849), but was itself cut by pit 906. The east wall of Building A was cut by pit 295, but the other pits seem to respect the building and indeed cluster around its two ends suggesting they may be contemporary. Groups of pits have been found to lie close to houses on a number of Late Anglo-Saxon sites (Astill and Lobb 1989, 84).

The evidence for the contemporaneity of Buildings A and B is yet more tenuous. Both are similar in size, but in other respects are contrasting. There is a clear difference in the standard of construction of the two buildings. The first makes use of timber planks which exceed purely structural needs and evidently were used for purposes of display. The second is much more modest and uses squared wood of a smaller scantling; the use of planks were restricted to the jambs of the doorway. The interior of the building was obstructed by a line of rounded posts. The rubbish pits and wells clearly cluster around Building A where food may have been prepared or consumed, but there is no similar grouping around the second structure. These differences may suggest that the two buildings served separate, but complementary, functions. Building A might tentatively be identified as a house in which meals were cooked and eaten. The building behind it was perhaps a storehouse or outbuilding. The entrance way was inconveniently narrow for stock and it is unlikely these were accommodated there.

Insofar as the Late Saxon features seem to form a coherent plan, there may be some basis for regarding the buildings, the main pits and probably the enclosure ditches (which were recut so many times that they must have been in use over a considerable period) as broadly contemporary. The pottery discussed below supports a date of the 10th century for the messuage, as it may fairly be called. The description of the excavation presented here has emphasized that the site may be broken down into separate areas. The whole was enclosed by a surrounding ditch in which were a pair of buildings set close together. An area of rubbish pits may be recognised, with the cess-pits set away from the building. On the north side the absence of features

suggests that this was a close of pasture land or a garden, or perhaps was what was termed, later in the medieval period, a forstal. The site at Steyning fits in with the emerging picture from other Late Anglo-Saxon rural settlements. Typically these had a small number of buildings set inside large ditched enclosures, sometimes with two-gate entrance ways (Astill and Lobb, 1989, 83–4).

Examination of the bones and carbonised plant remains from the pits casts some light on the economy of the settlement. The proportions of sheep, cattle and pig are similar to those found on many Late Anglo-Saxon sites. Horse is represented by a small number of bones. Hunting does not appear to have made a significant contribution to diet, though a few deer bones were found. Fish bones were found, but have not been identified. The fowl and geese found were presumably domesticated and kept in the farmyard.

The remains of cultivated wheat, barley and possibly of oats were found in the rubbish pits and ditches. Flax, and perhaps beans and vetch, were also grown. Hazel nuts, blackberries, apples, sloes, plums and rose hips were gathered from hedgerows or scrub. The seeds of the non-cultivated plants seem to reflect the types of environment around the settlement. Weeds from the light soils, such as those formed on the Greensand, and from the heavier soils, such as those on the clays immediately to the north of the settlement, were found. Waterside plants including sedges and bulrushes were found, and these may have come from low-lying ground beyond the settlement enclosure. It is interesting that plants include species likely to have grown near salt water, for the river Adur was sufficiently saline at this period to allow salt-working just to the east of Steyning and an inlet from the river occurs to the north of the site (Holden and Hudson 1981). All the cultivated and non-cultivated plants, therefore, may have come from the vicinity of Market Field.

The documentary evidence has shown that the land was held by the church in the 14th century and probably before. A connection between the excavated site and the church may be implied by the presence of wall plaster and mortar in one of the rubbish pits, because the only masonry building in the area at this date is likely to have been Steyning church. The proximity of the church graveyard is also emphasised by the presence of a piece of human femur found in the boundary ditch, which may have been moved by a scavenging animal. During the Anglo-Saxon period and until *c.* 1260 Steyning was a collegiate church and was served in later centuries by four priests (*V.C.H. Sussex* **6,** i, 241). The evidence from similar establishments at Christchurch (Hants.) and Bampton (Oxon.) suggests that the clergy lived in separate houses around the church and shared some communal buildings (Hase 1988, 52; Blair 1985, 140). The locations of the priests' houses are unknown, but there is no evidence that the excavated site was one of these (Hudson 1980, 14). There is indeed nothing to distinguish this excavated site from a typical Late Saxon farmstead.

The only find which is incongruous on an ordinary farmstead is the gold ring discovered in a rubbish pit. The circumstances of its loss can only be conjectured. The ring, which stylistically dates to the 9th century, and possibly to the second half of that century, may have been of some age when deposited. The pottery from the same pit is unlikely to be so early and probably dates to the 10th century. Analysis by the British Museum has shown that the gold in the ring was primary, which is unusual at this period when most gold is thought to have derived from recycled material.

The excavation at Market Field has helped clarify the topography of Steyning. The evidence for the location of the original centre of the town near the church and its later expansion towards the High Street has been discussed elsewhere (Gardiner 1988). The assessment showed no evidence that the settlement extended north of the church and produced no sign of the pre-Conquest Port of St Cuthman, which might have been on the low-lying ground there (cf. Aldsworth and Freke 1976, 58). The use of close-set planks on the south wall of Building A and the contrast with the north wall argues that it was the former side which would normally have been seen. The use of timbers on the most visible sides may have been the Late Anglo-Saxon equivalent of the later medieval practice of close studding on the public faces of buildings. It is also, perhaps, worth noting that there is a similar elaboration in the decoration on the south side of the church, though this was not constructed until the late 12th century. This argues that the area to the south of the excavated site was the more important, an interpretation supported by the absence of finds in the assessment in the area to the north. Hudson

(1980, 15) has suggested, moreover, that before the construction of a crossing over the River Adur at Bramber, probably in the later 11th century (Holden 1975), an important route passed to the south of the church. It was perhaps for display to travellers on this road that the south wall of Building A was built.

Some evidence was found of earlier periods in the excavation. David Rudling has noted in his archive report that the finds of Roman tile, pottery and the brooch discovered in medieval contexts are probably associated with a nearby building of 1st-century date. The flue-tiles indicate it would have had at least one heated room and the possible voussoir fragment appears to come from a bath house. Roman finds have been found in most of the excavations in Steyning, though the source or sources of this material has yet to be located.

It will be necessary shortly to review the evidence for the origins and development of Steyning, but it is clear that the early town has little resemblance to close-set tenements of later medieval towns or to the major Late Anglo-Saxon urban centres of London, York, Winchester and Thetford (Horsman *et al.* 1988, 116; Hall 1988, 130; Biddle 1975; Davison 1967). Excavations in Steyning, which collectively now amount to a considerable area, have shown no evidence for closely-set buildings. The elements found in the extensive excavations at Market Field, ditched enclosures and rubbish pits, are apparently repeated in the smaller areas examined elsewhere in the town. Nowhere has evidence been found for intensive occupation. The implication of this, especially if it is reinforced by future work in Steyning, is significant, for it may reflect more generally the charcter of minor Late Anglo-Saxon towns in England.

THE FINDS

POTTERY (Figs. 14–15)

The finds from Market Field allow the examination of medieval pottery in the Adur Valley begun at Botolphs to be continued (Gardiner 1990). The pottery from the latter site was divided into five main groups (A to E) according to broad date, and the subdivisions according to fabric indicated by a second letter. This nomenclature has been retained in the present report with the addition of the fabrics DK, DL and DM.

The pottery was examined and identified using a hand lens where necessary, and quantified by sherd number, weight and estimated vessel equivalent (EVE). Prehistoric, Roman, later medieval and post-medieval fabrics, lettered A, B, E and P respectively, were not further subdivided. These formed only a small part of the whole assemblage, 4% by sherd number (Table 1). The remainder of the locally produced wares were divided according to fabric. Reference should be made to the Botolphs report (Gardiner 1990, 245–55) for detailed descriptions of categories C and DA to DJ.

Nineteen sherds were recognised as Early to Middle Anglo-Saxon in date. Most pieces were found in contexts where they were evidently residual, but the pottery from pits 125 and 671 may have continued in use and overlapped with Late Anglo-Saxon fabrics such as DJ. The most common fabric of the earlier date was CB, which is tempered with coarse flint and shell. Little of this was found in the late 5th-/early 6th-century contexts at Botolphs and it seems to belong to a slightly later date (Gardiner 1990, 249). There were only two organically-tempered pieces, which by analogy with finds at Southampton and Portchester Castle

TABLE 1
Division of Pottery by Period

Total	*Prehistoric A*	*Roman B*	*Early/Middle Saxon C*	*Late Saxon D*	*Later Med. E*	*Post-Med. P*
Number						
3574	10	49	19	3254	173	69
Weight (kg.)						
31.17	0.08	0.26	0.25	29.03	0.87	0.68
EVE						
13.47	–	0.03	–	12.96	0.27	0.18

(EVE—Estimated Vessel Equivalent)

would date from before the later 9th century (Timby 1988, 111; Cunliffe 1970, 72).

The Early Anglo-Saxon tradition of burnishing the exterior of the pot and interior of the rim is found on some vessels and may represent a continuing tradition of decoration. The forms of an upright cooking pot in Fabric CB and a number of small pots in Fabric DJ (Fig. 14, 1, 5–7) resemble vessels from pit 135 at Portchester dated to the late 8th and 9th century and pots in Group IV fabric from Southampton (Cunliffe 1970, 73; 1975, Fig. 106, 107; Timby 1988, Fig. 6). Southampton Group IV seems very similar to the fabric called here DJ. These parallels and the dates obtained by radiocarbon and dendrochronology from sites to the south of Chichester (Gardiner 1990, 251) point to a later 9th-century date for the start of any significant activity on the site at Steyning. The fabrics probably attributable to this period are CB, DI and DJ, and, less certainly, DC which has a coarse flint temper.

As at Botolphs, a clear distinction is evident between the 9th-century and later Anglo-Saxon fabrics. The latter are generally oxidised, at least partially wheel turned and have characteristic forms and decoration. Raised applied bands, incised stick-end and stamp decoration, and 'pie-crust' rims, which are typical of this period, all occur on vessels from Steyning. Fabric DK, which is distinguished by numerous fine calcereous inclusions, may now be added to the other 10th- and 11th-century fabrics found in the Adur Valley. A rim in this fabric previously found at New Monks Farm, Lancing has been published as a sherd of Portchester-type ware, though this identification must be doubted (Holden and Hudson 1981, 142 and Fig. 5 no. 1). Some of the sherds at Steyning are closely rilled in the manner of the Lancing pot and others are decorated with a large lattice stamp (Fig. 15, no. 12).

A second new fabric, DM, also has affinities with pottery originating in Hampshire. Vessels with applied bands and small stamp decoration are known from Portchester and from the kilns at Michelmersh (Cunliffe 1975, Fig. 118, no. 335; Addyman *et al.* 1972, 129, Fig. 37c). The small number of sherds of Fabric DM found at Steyning may indicate that the site lies on the edge of the area of distribution.

The greater part of the Late Anglo-Saxon or Saxo-Norman pottery comprises fabrics tempered with flint sand of varying degrees of coarseness (Table 2). The most coarse flint-tempered fabrics DC, DI and DK are often reduced and were gradually superseded by oxidised pottery with finer temper. Pottery with calcereous tempers, DA, DB and DK, became common and these probably continued in production until about 1100 (Gardiner 1990, 251–4). The vessels are well made and the large size of some of the vessels (e.g. Fig. 15, no. 11) demonstrates the considerable ability of the potters. A group of kilns producing a similar fabric has been excavated at Chapel Street, Chichester, where there was a small pottery workshop (Down 1981, 136).

Fifteen sherds of imported pottery were discovered, some bearing traces of red paint. A single sherd had parallel lines characteristic of the 'ladder' decoration on Beauvais-type pottery. All the sherds are likely to be from a north French rather than a Rhenish source. Excavations at Tanyard Lane also recovered Beauvais sherds of a similar type (Freke 1979, 141). Imported pottery is commonly discovered in excavations in Steyning and the vicinity (Gardiner 1990, 255).

A considerable part of the assemblage was very fragmentary and no attempt was made to categorise vessels by form. Cooking pots and storage vessels predominated, but pieces of at least two lamps of the typical 'hour-glass' form were also found.

To examine the character of the assemblage further, the details of pottery from 10 pits with largest quantities of pottery were submitted to Clive Orton. Pottery from the top-most fill, which might have been contaminated by intrusive material, was excluded from the analysis.

TABLE 2
Later Anglo-Saxon Pottery

Fabric	*DA*	*DB*	*DC*	*DD*	*DE*	*DF*	*DG*	*DH*	*DI*	*DJ*	*DK*	*DL*	*DM*	*DP*	*Total*
Number	122	38	148	1056	733	185	1	89	71	308	364	120	3	15	3254
Weight (g.)	905	325	1298	1514	4304	788	2	1032	945	343	3283	1057	16	70	29032
EVE	0.06	0.11	0.12	5.14	1.60	0.48	–	0.27	0.91	2.30	0.99	0.88	–	–	12.86

TABLE 3
Pottery from Selected Pits
Indices of Agreement of Pottery Weight

Context no.	*262*	*125*	*127*	*137*	*176*	*143*	*503*	*443*	*389*	*447*
262	–	84	85	<	<	<	<	<	<	<
125		–	102	<	<	<	<	<	<	<
127			–	106	110	103	95	99	97	<
137				–	150	175	135	147	97	57
176					–	125	160	141	88	<
143						–	125	153	108	63
503							–	149	<	<
443								–	129	<
389									–	<
447										–

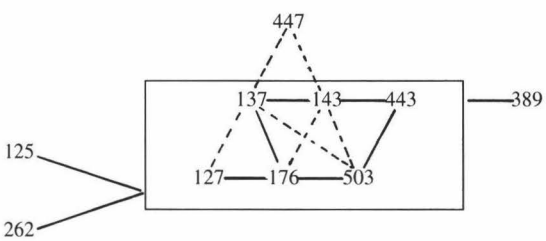
TABLE 4
Pottery from Selected Pits
Percentage of each Fabric by Weight

Context no.	*262*	*125*	*127*	*137*	*176*	*143*	*503*	*443*	*389*	*447*
Fabric										
DL	58	–	1	–	2	–	6	3	6	1
DJ	37	90	41	2	–	2	–	–	–	4
DD	5	6	26	42	27	48	25	46	78	20
DE	–	–	17	25	25	28	31	24	4	–
DC	–	1	4	4	6	4	8	–	–	–
DA	–	–	1	13	19	4	11	3	–	1
DB	–	–	2	3	6	–	–	–	–	–
DF	–	–	2	3	1	3	–	2	–	–
DH	–	–	1	2	11	1	18	19	12	–
DI	–	–	6	–	4	–	–	2	–	18
DK	–	–	–	6	–	9	–	–	–	55
Total	100	99	101	100	101	99	99	99	100	99

Seriation by Clive Orton

An attempt was made to seriate the pottery using Brainerd's (1951) index of agreement and the close-proximity method of Renfrew and Sterud (1969). This approach failed because there was a 'cycle' of five contexts 137, 143, 443, 503 and 176. More *ad hoc* methods were therefore employed.

There appears to be a 'core' of six contexts (those listed above plus 127), with two more (125, 262) related to one 'end' and one (389) to the other. The remaining context, 447, does not relate closely to anything, but formally is nearest 143 and 137. These relationships can be represented schematically as:



where solid lines represent close or fairly close relationships and dashed lines weaker ones. Within the 'core', there seem to be two distinct sequences, 137–143–443 and 127–176–503, which run in parallel.

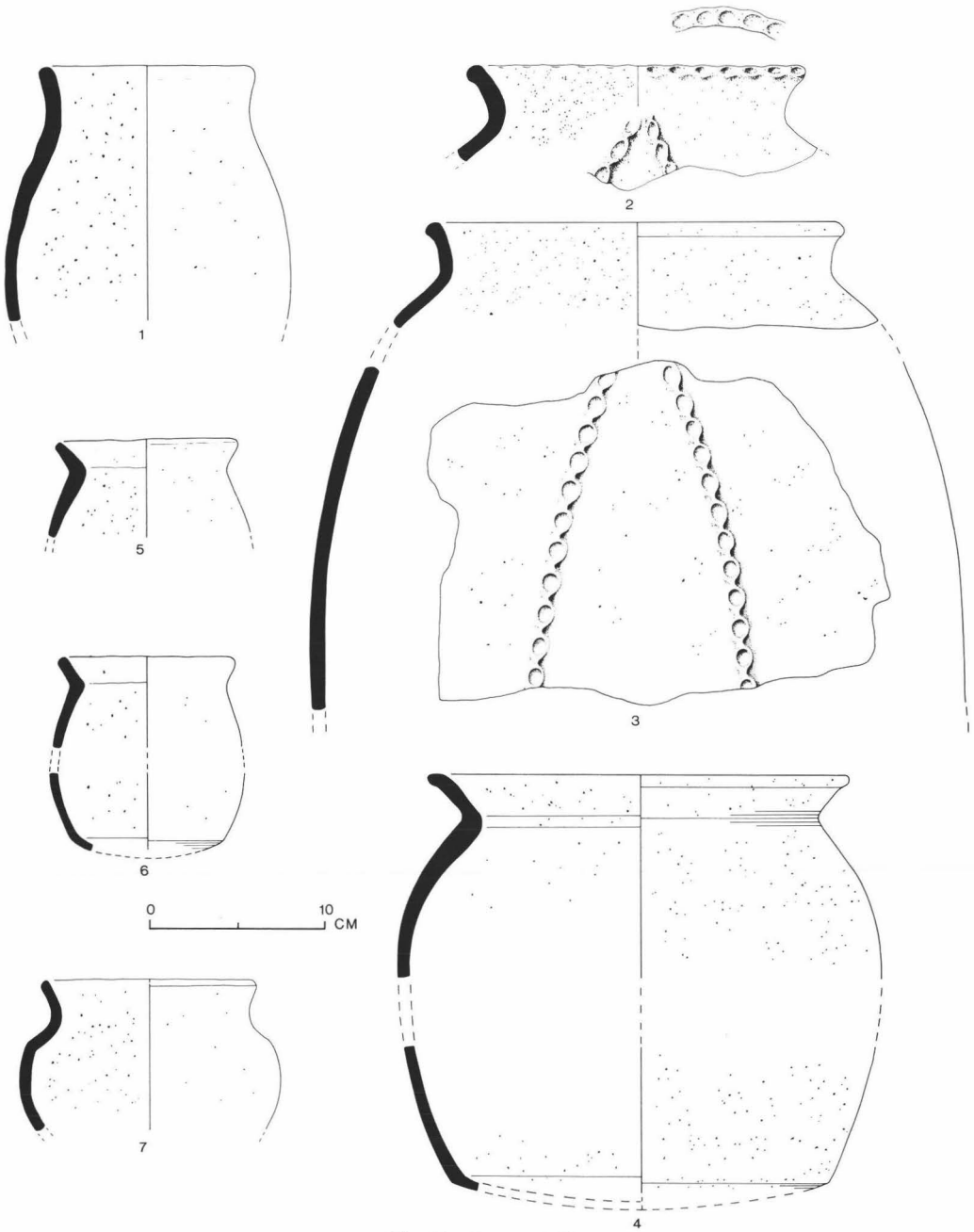


Fig. 14. Pottery (×¼).

The indices of agreement (< indicates values smaller than others in their row and/or column) and the ordered percentages of fabrics in pits are shown in Tables 3 and 4.

The analysis by Orton separates out on the one hand pits 125 and 262, which contain a high proportion of fabrics DJ and DL. These are types, which by comparison with other sites, would be

placed earlier than the other fabrics. At the other end it also identifies pit 389 with its very high percentage of fabric DD. The implication of this is not clear. The failure of seriation to separate the other pits is of interest. This *might* suggest the broad contemporaneity of these contexts.

Fabrics (Figs. 14–15)

CB—multi-coloured coarse platy flint temper up to 1.5 mm. across

1. A hand-made small, upright cooking pot with traces of sooting on the side. Context 948.

CC—similar with flint temper up to 0.25 mm. across

CE—tempered with fine to medium white sand grains or lumps of sandstone

CF—similar to CC, but with greater proportion of organic material

CH—distinguished by inclusions of fragments of shell

CI —water-rounded, sub-angular white or translucent quartz temper up to 0.75 mm.

DA—tempered with chalk and limestone fragments

DB—similar with greater quantity of fine sand quartz

DC—coarse flint temper greater than 0.75 mm. across

DD—finer flint temper less than 0.75 mm., coarser than DE

2. A storage vessel with wheel-turned, 'pie-crust' rim and narrow, raised applied straps. Context 390.
3. Rim and sides of a coil-built storage vessel with wheel-turned rim and applied straps similar to those of no. 2. Context 945.
4. Cooking or storage vessel with coil-built body and wheel-turned rim. There is no trace of sooting on the exterior to show that this was used for cooking. Context 900.
8. Rim of pot with deep groove marking the junction between the rim and body. Context 900.

DE—rounded flint or quartz temper

DF—medium to coarse sand quartz with occasional fragments of flint and chalk

DG—angular white or light grey flint temper

DH—similar to DE, but with greater proportion of chalk or shell

DI —handmade, reduced, tempered with sub-angular flint and chalk up to 2 mm., but usually less than 0.75 mm. across

DJ —unsorted platy, sub-angular flint and frequent shell

5. Small hand-made vessel. Context 900.
6. Small uneven, hand-made vessel with slight burnishing on exterior and interior of rim. Context 524.
7. Small hand-made vessel with sooting over most of exterior. Context 875.
9. Large coil-built vessel. Context 140.
10. Sharply everted rim from hand-made vessel. Context 827.

DK—oxidised and/or reduced surfaces and core, a hard fabric with jagged fracture which can be smooth or rough to feel according to the amount of flint added. It is characterised by the inclusion of copious fine shell or chalk (>2%), usually 0.5 mm. across or less, but occasionally larger. The quantity of fine sand and flint temper varies.

11. Storage vessel with strap handle. Context 899/900. Cf. Down 1978, fig. 11.4, no. 75.
12. Sherd with lattice stamp, one of a number of pieces from context 448.

DL—reduced and/or oxidised, a fairly soft fabric with jagged fracture and smooth to feel. It is tempered by very fine sand grade quartz, occasional fragments of chalk, shell and angular or rounded flint. Some vessels in this fabric are clearly handmade.

DM—orange-red faces and core, a fairly hard fabric with a slightly sandy feel and sharp, slightly laminar fracture. It is tempered with fine sand quartz (2%) and occasional pieces of sub-rounded multi-coloured flint up to 1 mm. across.

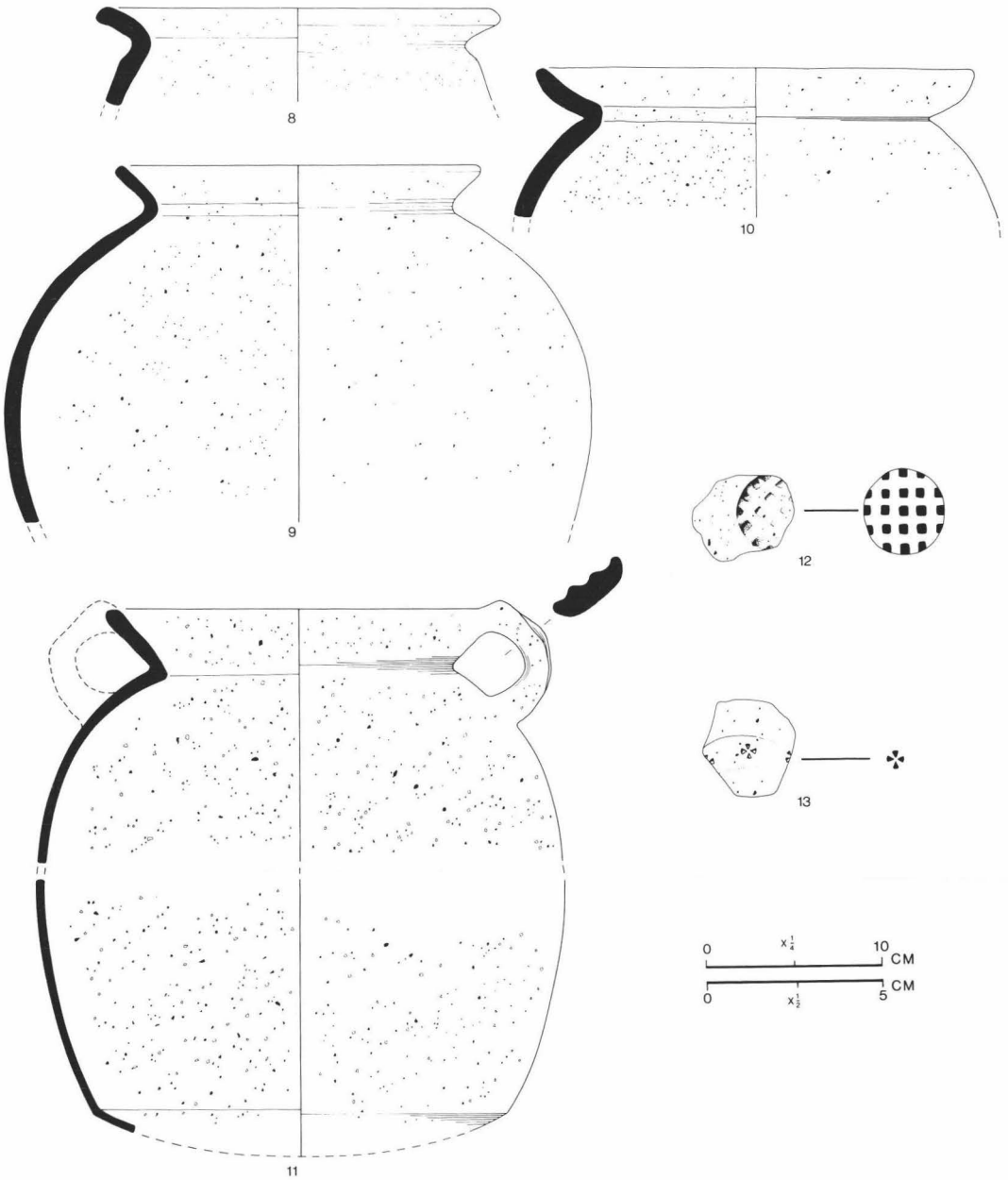


Fig. 15. Pottery (Scale: 8–11 ×⅓; 12–13 ×½).

Vessels in this fabric were decorated with thin slightly raised bands with a cross stamp 5 mm. in diameter.

13. Sherd with raised band decoration with small stamp. Context 832.

IRON OBJECTS (Fig. 16, nos. 14–27)

14. Socketed ferrule with pointed tip. A similar object from Thetford has been identified as the end of a pole used to propel people wearing bone skates (Rogerson and Dallas

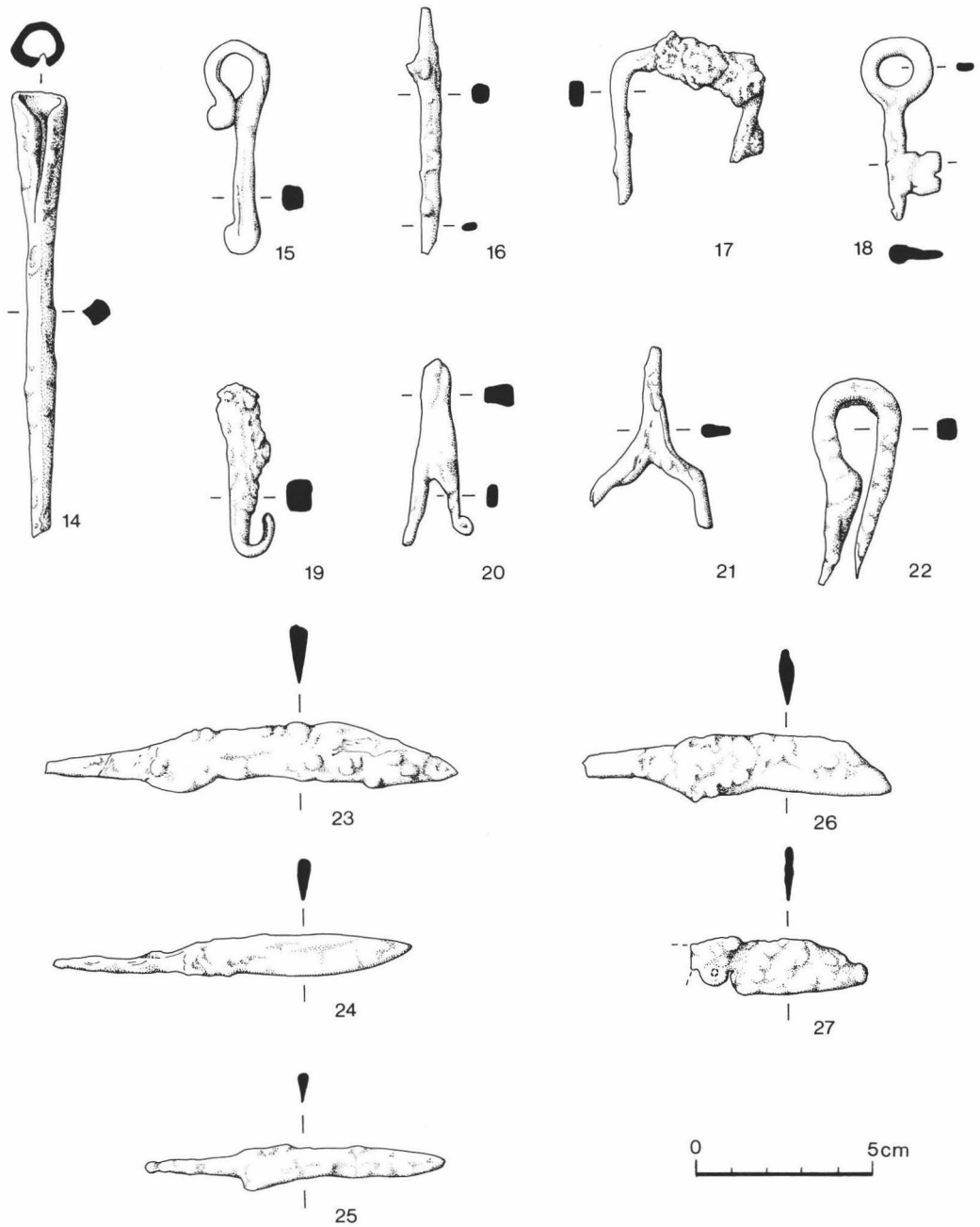


Fig. 16. Ironwork (×½).

1984, 97; Cunliffe 1975, Fig. 135, no. 41). Context 13, find no. 5 (1988).

15. Looped object with rounded terminals of uncertain function. Context 310, find no. 30.
16. Leatherworking awl (cf. Goodall 1990a, Fig. 9.1, nos. 47 ff.). Context 99, find no. 3 (1988).
17. Staple for binding together pieces of wood. The cross-bar has a rectangular section, but the feet are more nearly square. Both feet are broken. Context 519.
18. Padlock key. Similar keys are known from pre-Conquest contexts at Thetford (Rogerson and Dallas 1984, Fig. 132, no. 183) and Cheddar (Goodall 1979, Fig. 90, nos. 4, 15, 96). Context 136.
19. ?Hook of uncertain function. The broad end indicates this is not a wall hook. Context 830.
20. Wedge-shaped object with rounded terminals of uncertain function. Context 83, find no. 8 (1988).
21. Part of flesh hook or flesh fork. The terminals of the points do not survive. Context 551.
22. Wood staple. Context 304.

Whittle-tanged knives

23. Rising back which angles down to tip. Context 548, find no. 14.
24. Roughly parallel blade which narrows to tip. Context 136, find no. 10 (1988).
25. Worn, but originally parallel blade which narrows to tip. Context 310.
26. Parallel blade which angles down to tip. Context 505, find no. 9.
27. Fragment of a reversible or pivoting knife. This type of knife has recently been discussed by Goodall (1990b) and Pritchard (1991, 128).

NON-FERROUS OBJECTS (Fig. 17, nos. 28–32)

28. Lead off-cut with knife marks where it has been cut through. Context 31.
29. Lead roundel (cf. Geddes and Carter 1977, Fig. 131, no. 39). Context 845, find no. 23.
30. Large copper-alloy ?needle, bent and with a broken tip. Context 83, find no. 31.
31. Copper-alloy pin with head of uncertain form covered in corrosion product. Similar dress-pins are known from London, York and elsewhere (Pritchard 1991, 150). Context 765, find no. 16.
32. Roman copper-alloy brooch. David Rudling comments, 'Nauheim derivative brooch with no decoration, but a plain diminishing bow and solid catch plate. This type of brooch was very widespread at the time of the Roman conquest and it continued to be popular almost to the end of the 1st century (Mackreth 1973, 11; Hattatt 1982, 57–9). A similar brooch has recently been recovered from Rustington (Rudling 1990, 15). Context 126 (pit 125), find no. 7 (1988).

GOLD RING by Leslie Webster (Fig. 17, 33).

The ring consists of a gold band hammered into 11 facets, each incised with a framed letter (in one case, a pair of letters) of an inscription which reads ÆSCPVLFMEACAH. The ring has been distorted into an approximately oval shape. Maximum diameter 23.5 mm., minimum diameter 20.0 mm., height 5.0 mm., thickness 1 mm. Weight 3.65 grammes.

The inscription is lightly but fluently incised with a fine-pointed graver. With the exception of the M and E which share a frame, each letter is individually set within a simply sketched sub-rectangular frame, against a background generously speckled with wedge-shaped nicks produced by the point of a graver. The letters were executed after the frames were drawn, since they make regular use of the frame structure to form the edges; the speckling was added last of all.

The gold is pale, and the high silver content is confirmed by an XRF analysis which gives the surface constituents as 75% gold, 23% silver and 2% copper. Microscopic examination of the surface reveals several small nodules of silvery appearance: these are inclusions of osmium/iridium, which are characteristic of primary gold from an alluvial deposit that has not undergone refining or recycling processes. Unfortunately it is not possible to identify the source (see below).

The ring fits comfortably into a 9th-century horizon on a number of stylistic counts. Its subdivision of an ownership formula (X owns me) into neatly framed fields containing paired or individual letters is paralleled on the Bodsham ring (Okasha and Webster 1970); while the use of a pounced ground to highlight the lettering may be seen in the Lotmead Farm, Swindon, ring (Wilson

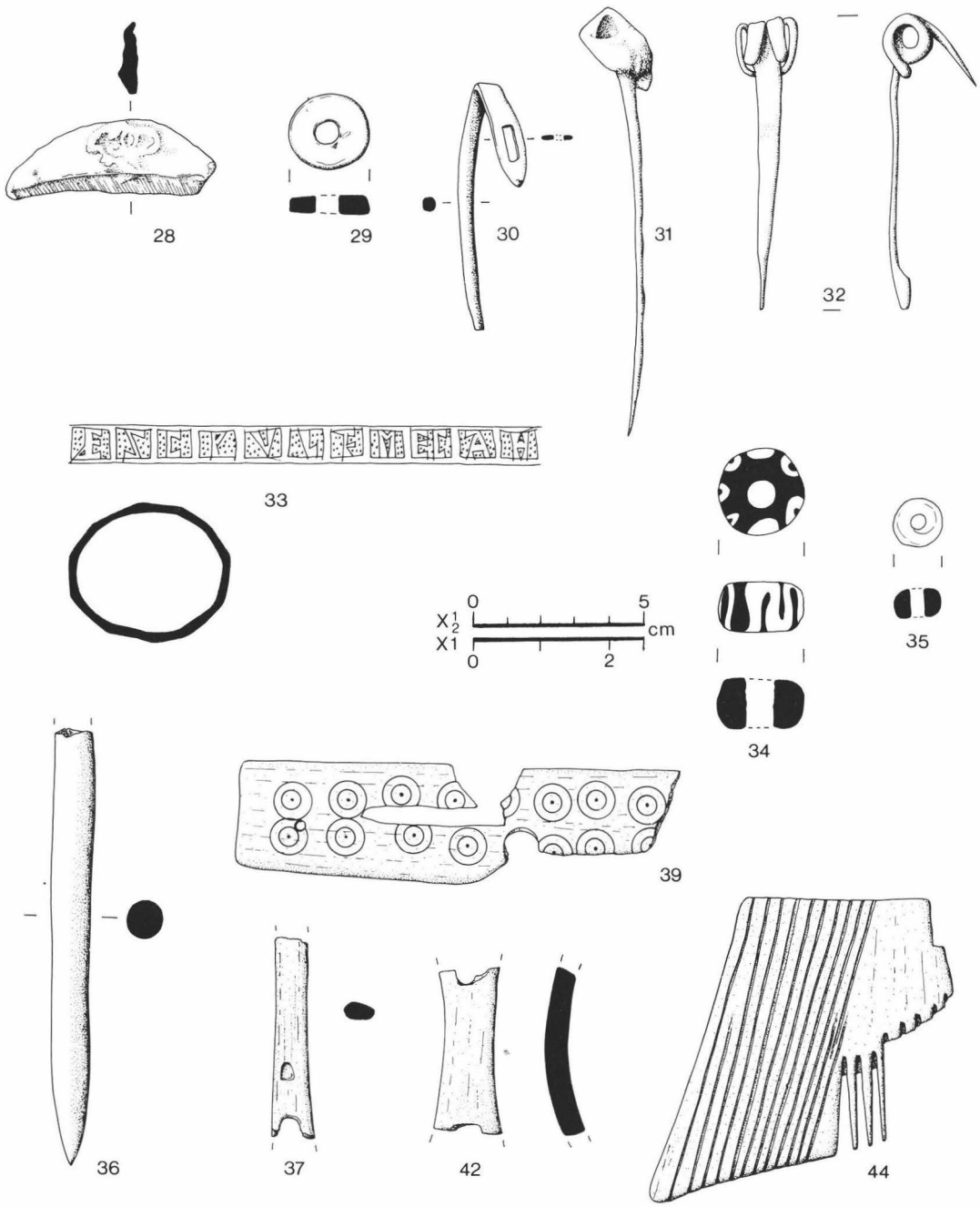


Fig. 17. Lead objects (28–9), copper alloy objects (30–2), gold ring (33), glass bead (34–5) and worked bone (36–44). Scale: 28–30 ×½; 33–44 ×1.

1964, cat. 85). This speckling, and the tendency to subdivide the inscription into small framed fields, are particular hall-marks of the Trewhiddle style. Faceting occurs on a number of plain gold rings of Late Saxon date, all from Wessex or the South-West: at Exeter (Devon), Trewhiddle (Cornwall), Corsham (Wiltshire) and Barton (Oxfordshire) (Graham-Campbell 1982; *Wiltshire Archaeological Magazine* **83** (1990), 234. Its use here, though otherwise unparalleled on decorated Anglo-Saxon rings, serves to accentuate the separation of the ornamental fields where the decoration is so reticently sketched in. Indeed, where the normal means at this period of emboldening ornament was to fill it with or reserve it against a niello inlay, this ring is unusual in its simple, but confidently-drawn decoration, which was clearly never intended to be emphasized by an inlay. Only the Swindon ring (Wilson 1964, cat. 85) comes close to it in effect and execution, but that is a somewhat more considered piece. Although clearly sketched in at speed, the fluent strokes of the graver on the Steyning ring show a craftsman wholly at ease with his medium, shaping the letters confidently and elegantly. This is indeed in notable contrast to the often clumsy lettering of nielloed inscriptions on, for example, the Æthelwulf and Bodsham rings (Wilson 1964, cat. 31; Okasha and Webster 1970).

This particular type of owner formula appears to have been popular on rings of the second half of the 9th century as identical formulae on the Lancashire and Bodsham rings (Wilson 1964, cat. 30; Okasha and Webster 1970) indicate; the Trewhiddle-style element in the decoration confirms this dating. The predominantly Wessex-centred distribution of other examples to which it is stylistically linked may indicate an origin in this region.

Inscription by Elizabeth Okasha

The gold finger ring is inscribed with an Old English text which is set completely around the outside of the hoop. The letters are placed in individual rectangular panels except for the letters EC of MEC which share a panel. Inside each panel the background is pounced and the lettering left plain. The script used is Anglo-Saxon Capitals. the text is legible and reads:

ÆSCPVLFMECAH |

The text has been transliterated using the following system:

A indicates a legible letter A
A indicates a letter A, damaged but legible
| indicates the end of a text.

The text divides into words as, ÆSCPVLF MEC AH, that is 'Aescwulf owns me'. This Old English owner formula is well recorded amongst Anglo-Saxon inscriptions occurring sometimes on its own, sometimes with other formulae (Okasha 1971, 8). It is used, for example, on a gold ring of probably 9th-century date, 66 Lancashire, whose text reads: +ÆDRED MEC AH EANRED MEC AGROF, that is '+Aedred owns me; Eandred engraved me' (*ibid.*, 89, no. 66 and Figs.).

The Old English name on the Steyning ring, *Aescwulf*, although not particularly common is recorded; it occurs twice, for example, in the 9th-century *Liber Vitae* (406, 423; Sweet 1885, 164–5). The spelling MEC for the accusative singular *me* occurs sporadically in Old English manuscript texts, more frequently in verse than in prose; it is quite common in inscribed texts of all dates, as on the Lancashire ring quoted above.

There is no linguistic evidence for dating the text. The use of the Old English owner formula suggests a date from the 9th century onwards, since no instances of its use are recorded earlier than this. There is only one dating feature in the letter forms used, the consistent use of angular forms of the letters, C, S and P. These are more common of objects dating earlier in the Anglo-Saxon period, the 7th to the 9th century, rather than from later.

The ring from Steyning joins a group of 15 other Anglo-Saxon inscribed finger rings known to me, of which the majority are gold (Okasha 1971, nos. 5, 13, 14, 33, 36, 66, 70, 86, 103, 107, 112, 115, 155, 156; the 15th is a newly-found ring from Flixborough, as yet unpublished). The most similar in workmanship is 115 Swindon (*ibid.*, 117 and Figs.). This ring is gold and also has plain lettering set against a pounced background, although without panels.

The Metal Composition by Duncan Hook and Nigel Meeks

The ring was analysed using x-ray fluorescence spectrometry (XRF) on an area of uncleaned surface metal. The figures quoted below should therefore be regarded as semi-quantitative only: 75% gold, 23% silver, 2% copper.

Silvery-coloured, platinum-group metal inclusions, were clearly visible in the surface of the gold. They were characterised using the scanning electron microscope (SEM) and were found to be of the Osmium/Iridium type; the ratio of Osmium to Iridium varying, with either element being dominant (e.g. Ogden 1977). This variation is a common feature of ancient gold objects. Ruthenium, an element which is sometimes present in platinum-group inclusions, was found to be low in all the inclusions analysed.

Inclusions of this type are common in gold from placer deposits. The action of refining, remelting and reusing gold generally removes the inclusions, and thus the presence of so many inclusions in this ring indicates that it was probably made of primary gold. However, it is not possible to use the composition of the inclusions to provenance the gold of the ring.

Context 539 (pit 447), find no. 13.

COIN by David Rudling

Eadgar, 959–75. Silver Penny. Pre-reform coinage (959–73). Cross type (B.M.C. *iii*).

Obverse: + EADGAR REX ANGLORVM, small cross pattée

Reverse: + EA'DGILD MONETA HA ∴, small cross pattée

i.e. the moneyer Eadgild of the mint of Southampton or Northampton (both mints shared the mint signature HA which is an abbreviation for HAMTVN, or, in the case of a few Southampton coins, HAMPIC). The moneyer Eadgild does not appear to have previously been recorded for either the reign of Eadgar or for the mints of Southampton or Northampton. A moneyer named Eadgild did, however, strike coins during the reign of Aethelstan (924–39) in the southern and Mercian areas of England (North 1980, 99).

The coins weighs 0.97 g. and has a die axis of 180 degrees. Context 3, find no. 1 (1988).

METAL-WORKING SLAG (identifications by Dr G. McDonnell)

A total of 5.3 kg. of slag-like material was recovered in excavation. It was sorted into smithing slag, cinder, hearth bottom and hearth lining. This material was found predominantly in Late Anglo-Saxon features. The two hearth bottoms had diameters of about 180 and 260 mm.

The presence of hearth-lining fragments suggests that smithing was taking place in the vicinity, but slag is a robust material and may remain on the surface or within the ploughsoil for some time before deposition.

LEAD

Lead weighing 1.5 kg. was found in pit 663 (context 830), which may be attributed to the Late Anglo-Saxon period on the evidence of the pottery within the same feature. The lead is in the form of large driplets and a single lump which had been poured on to a flat surface when molten.

GLASS BEADS (Fig. 17, 34–5)

Of the three glass beads found during excavation, two came from Late Anglo-Saxon contexts and one from cleaning the site. Necklaces of glass beads were often worn by women in the Early Anglo-Saxon period, but between the 9th and 15th century dropped out of fashion (Biddle and Creasey 1990, 660). Glass beads are rarely found on Late Anglo-Saxon sites, and where discovered may be residual. Certainly, the largest bead from Steyning (Fig. 17, no. 34) is indistinguishable from similar finds of an earlier date. The two others might be contemporary with the occupation of the site.

34. Opaque black glass bead with yellow pattern, diameter 13 mm., height 6.5 mm. Context 830, find no. 25.
35. Opaque light turquoise bead, diameter 7.2 mm. max., height 4.2 mm. Context 235 (site clearanace), find no. 15 (cf. Oakley and Hunter 1979, Fig. 130, no. 35).
36. Opaque mid turquoise bead, diameter 2.9 mm., height 1.9 mm. Context 83, find no. 13 (1988) (not illustrated). A similar minute bead was found on the Middle Saxon excavations at Melbourne Street, Southampton (Hunter, 1980, Fig. 11,6, no. 8).

WORKED BONE by Ian Riddler (Fig. 17, 36–44)

In the following text bone and antler are distinguished as raw material types, even though

antler is, in effect, a form of bone. In terms of the working of skeletal materials there are good reasons for making this distinction (MacGregor 1989, 107). The terminology used for combs follows that of Galloway (1976).

Anglo-Saxon

36. Double-pointed pinbeater—part of a double-pointed pinbeater of circular cross-section, of which only one end now remains. It is highly polished and has been burnt. Context 918.

The objects known variously as pinbeaters, threadpickers or 'pickers-cum-beaters' were first identified as weaving implements by Elizabeth Crowfoot (Dunning 1952, 50). Hoffman has described how they can be used with a warp-weighted loom to pick out threads and adjust the weft; as such they can be described as utilitarian weaving tools (Hoffman 1964, 126–7, 135–6). Double-pointed pinbeaters occur throughout the Anglo-Saxon period, effectively for as long as the warp-weighted loom was in use. In contrast, it has recently been suggested that the broader and generally shorter single-pointed variant which is first seen in the Late Saxon period can be related to the advent of the vertical two-beam loom (Biddle 1990, 204, 227–8; Pritchard 1991, 203–5). A study of double-pointed pinbeaters from 19 sites, mainly of Early Anglo-Saxon date, suggested that they occurred in two distinct lengths and that they may have been used in pairs (Riddler forthcoming a).

Anglo-Saxon/Early Medieval

37. Modified pig fibula—part of the head and shaft of a pig fibula, broken across a square perforation 3 mm. in diameter, with a secondary indentation below this passing nearly through part of the bone. Context 128.

Comparatively few bones of the pig were suitable as raw material in bone working and during the Anglo-Saxon and Saxo-Norman periods only the metapodia and fibulae were transformed into objects. The fibula was usually sharpened to a point at the proximal end and perforated at the distal end as here. The splayed distal end was sometimes trimmed and shaped.

Modified pig fibulae are commonly found in post-Roman British sites extending into contexts of the Saxo-Norman period. They have previously been identified as rudimentary dress pins (Leeds 1923, 182–3; Graham-Campbell 1980, 59; MacGregor 1982, 91–2; 1985, 120–1; Pritchard 1991, 207; Foreman 1991, 183–4). It is surprising, therefore, that they are largely absent from Early Anglo-Saxon burials, as well as from Scandinavian burials of the Viking period (Riddler forthcoming a). As an alternative, it has been suggested that they are implements used in textile manufacture or in basketry (Biddle 1990, 232–3; Riddler 1990b, fiche 3/17; 1991, 47; forthcoming a, b; Ulbricht 1984, 54–5; West 1985, 125; Williams 1987, 100). Their precise function remains uncertain, however, as does the significance of the lack of perforation on some examples.

38. (not illustrated) A small fragment from a decorated mount made from animal rib and impressed with double ring-and-dot designs. Context 859.
39. A fragmentary section from a decorative mount shaped from animal rib and decorated by paired double ring-and-dot motifs. A rivet hole at one end includes traces of iron corrosion. Context 372, find no. 1.

Strips of shaped animal rib incised with ring-and-dot motifs are commonly found in settlement contexts from the Late Roman to Early Medieval periods. At least 1700 such pieces came from a Roman context at Gloucester and they are often found on post-Roman sites both in England and on the Continent (Gabriel 1988; Hassall and Rhodes 1974, 73, Fig. 28.36; MacGregor 1985, 197–200; 1988, 191; Pritchard 1991, 210; Ulbricht 1984, 37–8, 55–7). Certain sections of rib bone, which were not decorated with ring-and-dot motifs, also formed parts of combs (Riddler 1991, 46, Fig. 36.26). The majority, however, were used as decorative casket mounts. Caskets of this type have come from Richborough, Caistor-by-Norwich, Emden, York, Ipswich, South Cadbury and Ludgershall Castle, as well as Schleswig and Oldenburg (Bushe-Fox 1949, 152 and Pl. LVII, 276g; Myres and Green 1973, 85–7 and Pls. XX–XXI; MacGregor 1985, 197 and Fig. 107; Waterman 1959, Pl. XVII; Ulbricht 1984, Tafn. 36–7, 83–4; Gabriel 1988, Abb. 18, 21). The

decorative patterns, although not figural, may nonetheless possess some iconographic significance (Elbern 1972).

40. (not illustrated) Comb connecting plate fragment—part of an undecorated connecting plate fragment for a double-sided composite comb of narrow, D-shaped section. There is a vestige of a rivet hole placed off-centre at one end. Marks from sawing of comb teeth have been cut decoratively into both sides, indicating that the comb originally possessed five teeth per centimetre on each side. Context 548.
41. (not illustrated) Comb tooth segment—part of an antler tooth segment for a single-sided composite comb, originally of six teeth per centimetre. The segment is centrally-rivetted and has been burnt. Context 554.
42. Comb connecting plate fragment—a section from an antler connecting plate for a double-sided composite comb, broken across rivet holes at either end. Corrosion traces about the holes indicate that the comb was originally fastened by iron rivets. The fragment is now distorted by incineration. Context 264.
43. (not illustrated) Horn comb connecting plates—five sections of animal rib, forming parts of two connecting plates for a double-sided horn comb. Tooth marks on both sides indicate that the comb originally possessed up to three teeth per centimetre on one side and nine on the other. It was fastened by two iron rivets at 96 mm. spacing. Context 524.
44. Comb end segment—an incomplete antler end segment from a single-sided composite comb originally of four teeth per centimetre. The segment is decorated on both sides by incised saw-lines which are generally parallel with its outer edge and extend inwards as far as the graduated comb teeth. The surviving comb teeth show no signs of wear. Context 532, find no. 12.
45. (not illustrated) Comb end segment—a fragmentary part of an antler end segment, probably for a double-sided composite comb which has been burnt and now lacks any traces of teeth or rivetting. The surviving pieces show that it was originally of rectangular shape, but no further detail can be discerned. Context 264.

The six fragments of combs stem from single- and double-sided composites and from a Late Saxon horn comb. It is conceivable that the end segment and connecting plate fragment (Fig. 17, 42) recovered from context 264 come from the same double-sided composite comb which has been heavily distorted by burning. The remaining pieces of combs, which included several small fragments retrieved from sieving, each represent distinct items and provided a minimum number of five combs from the assemblage as a whole.

Comparatively little remains of the comb fragments from context 264 or the small connecting plate from context 548 which also comes from a double-sided comb. It is possible that the combs were undecorated, although marks from the sawing of teeth have been carefully cut into one of them, and this itself can be regarded as a form of decoration. The fragments are generally too small to allow any certainty as to whether they were entirely undecorated along both sides and across their connecting plates and tooth segments.

Double-sided composite combs with little or no decoration are seen in contexts from the 6th century onwards and are particularly common in the Middle Saxon period. The slender nature of these combs, with their narrow connecting plates and even tooth values also imply a Middle Saxon date, although they are too fragmentary to be securely tied to that period. It has been observed that undecorated double-sided composite combs are found more frequently in settlements than within cemetery assemblages (Riddler forthcoming d). The deliberate cutting of tooth sawing marks into the connecting plates for decorative effect can be seen on combs throughout the Anglo-Saxon period.

The horn comb, also, is double-sided, with 2.5 to 3 teeth per centimetre on one side and nine on the other. The identification of such fragments of animal rib as the connecting plates of horn combs is based on the rare survival of combs with intact horn tooth segments. These have largely been recovered from London and York. One example was published by Winter at the beginning of the century, but they have otherwise remained unrecognised as an object type until recently (Winter 1907, no. 45; MacGregor 1985, 95–6; Pritchard 1991, 199–200; Mann 1982, 7–8). The fragments surviving here allow the comb to be allocated to Biddle's type A, for which connecting plates with two rivets secured

a single sheet of horn (Biddle 1990, 679, Fig. 187A). Evidence from *Hamwic*, Winchester and London suggests that double-sided horn combs were being produced from the 9th to 12th centuries (Pritchard 1991, 199–200, Figs. 3.80, 3.81; Biddle 1990, 683–4; Riddler forthcoming c). To judge from the situations where either the horn survives or tooth marks are present on the connecting plates, as here, it is evident that horn combs were invariably produced with overtly coarse and fine teeth. The reversion to the use of double-sided combs with teeth of two distinct finenesses, a practice seen in the Early Anglo-Saxon period (Elder and Riddler 1988, 141), forms one of a number of innovations in comb design apparently occurring in the 9th century.

Single-sided combs are represented by a fragment of tooth segment and by a decorated end segment (Fig. 16, 44). The latter can also be firmly placed in the Late Anglo-Saxon period. The well-defined point, and the extended form of the segment, which originally stretched some way beyond the end of the connecting plate, are both characteristic of elongated single-sided composite combs of this period. Similar types of extended comb can be seen at London, Winchester, Waltham, York and Canterbury, for example (Pritchard 1991, Fig. 3.76; Biddle 1990, Fig. 183.2158; Huggins 1976, Fig. 42.1; Waterman 1959, Fig. 16 and pl. XVIII; Riddler 1990a). The decoration of the end segment also reflects Late Anglo-Saxon practice. The use of the saw to cut bands of incised lines can be seen on comparable combs from Goltho and London (MacGregor 1988, Fig. 161.5; Pritchard 1991, Fig. 3.78). The London comb, in particular, appears to be an elaborate version of the Steyning end segment. Its closely-spaced, systematic rivetting (which follows contemporary practice and is not a consequence of poor workmanship) suggests that it is not earlier than the 10th century. It was retrieved from a context of the 11th or 12th centuries. The Goltho comb comes from a context of *c.* 850–950 (MacGregor 1988, 193) and all the indications are that the Steyning comb would also fit into this Late Saxon milieu.

FIRED CLAY OBJECTS (Fig. 18, 46–47)

Two nearly complete loomweights and six other fragments were discovered. All are the bun-shaped type defined by Hurst (1959, 23–5) characteristic of the Late Anglo-Saxon period. The two nearly complete weights and one of the fragments have grooves either side of the central hole to take the warp threads (Fig. 18, 46). These indentations have clearly been formed before firing and are not the result of wear. Similar grooves have been noted on loomweights from Faversham (Kent) and Medmerry (West Sussex) (Groves 1955, 209; White 1934, 339).

The two nearly complete weights (from context 900) have a mass of 888 g. and 1080 g., and must originally have each been about 1.1 kg. One loomweight fragment has dimple marks in the outside edge. Similar decoration has been noted on weights from nearby Old Erringham and elsewhere (Holden 1976, 315).

A nearly complete cone of fired clay (Fig. 18, 47) was found at the boundary of contexts 899 and 900. It is evenly fired in a yellow-white clay and shows no evidence that it has been later subjected to heat, which precludes its interpretation as a piece of kiln furniture. A further explanation of its function which may be discounted is that it served as part of a bell mould. Its irregular and faceted outside face is unsuitable for this purpose. Theophilus in the 12th century described a method of making bell moulds on a pole lathe to obtain an even core (Theophilus, n.d., Book 3, Chapter 85). Its purpose therefore remains undetermined.

ROMAN TILE by David Rudling

A total of 81 pieces of definite or probable Roman tile/brick were recovered from 44 contexts. A full report is included in the site archive.

One piece of flue-tile from context 214 is of particular interest. This is an example with relief-patterned keying, and is probably from a Westhampnett-type voussoir (Ernest Black, pers. comm.). The die is Lowther (1948) type 37. This and other 'Diamond and Lattice' patterned dies of the so-called 'London-Sussex Group' have been dated to the period *c.* 75–110 AD (Black 1985, 358; 1987, 86).

WALL PLASTER

Four fragments of wall plaster with mortar weighing 19 g. were discovered in rubbish pit 447,

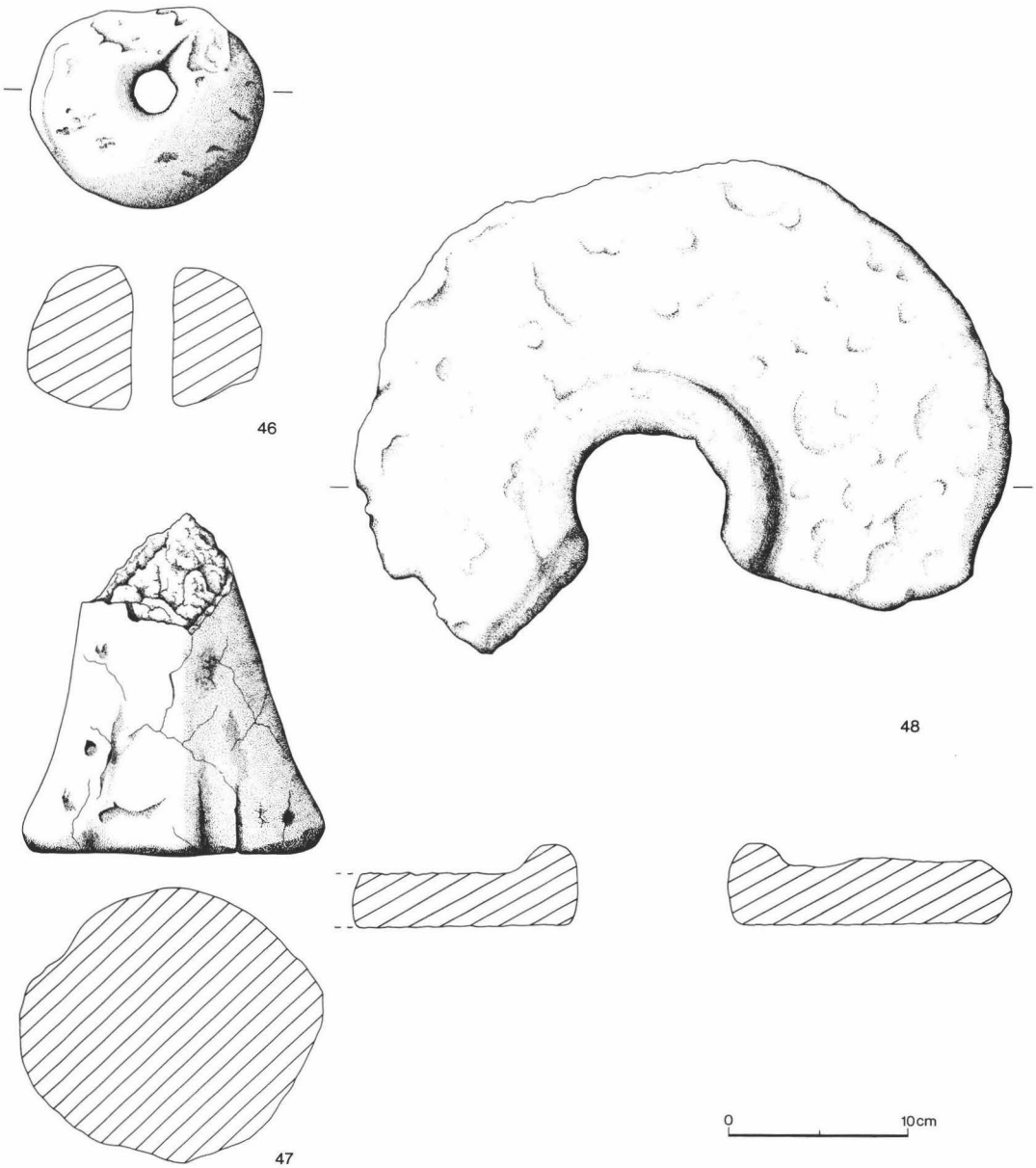


Fig. 18. Fired clay objects (46–7), lava quern stone (48) (×¼).

layer 539. The lime wash surface survives on two of the pieces. These pieces were firmly stratified in a Late Saxon context and it seems probable that they come from Steyning church, which is likely to have been the only masonry building in the vicinity.

STONE ARTEFACTS (identifications by John A. Cooper) (Fig. 18, 48)

The two main types of stone artefacts represented at Steyning were hones and querns. Most of the stone was from Wealden or other nearby sources. The

greatest number of hones were made from a slightly micaceous sandy limestone with fragments of ostracod and are probably of Wealden origin. Other stone types which were utilised for hones were a claystone with mica, limestone with fossil bivalves and a fine-grain Wealden sandstone. It is likely that all these stone types were from the Weald. A single hone which came from a later (post-medieval) ditch could be a sarsen stone, but otherwise might be from a non-local source.

The quern stones were from two sources. A total of 7.4 kg. of Lower Greensand which may be certainly identified as quern fragments, and 3.6 kg. which might have served the same function, were recorded. The Lower Greensand beds in the Weald have been exploited since the Iron Age as a source of stone for querns (Peacock 1987). Fragments of Mayen or Niedermendig lava querns from the Rhineland weighing a total of 9.1 kg. were also discovered. Querns of this type are a common discovery on Late Anglo-Saxon and Later Medieval sites. An almost complete upper stone with hopper was found in pit 447 (Fig. 18, 48). A single piece from a quern of quartzite sandstone, possibly sarsen stone, was also recovered.

One of the pieces of Lower Greensand quern had been pierced by two holes. A close examination of the wear marks around the holes suggests that after the quern had broken the piece of stone had been reused as a weight, perhaps for fishing or for a loom.

BONES by Rod O'Shea

A total of 6,721 bone fragments were examined, of which 51% were identified. Fragments were counted, but not weighed. Each fragment was put into one of five size classes, so that fragmentation indices could be calculated by the method of Levitan (1990). In fact, these data did not prove useful indices as the majority of fragments were in class 1 (less than 25% complete) and produced too little differentiation between contexts.

Sheep bones were most common in nearly all contexts examined. An attempt was made to separate sheep and goat bones following the techniques in Davis (1987), but all bones were either of sheep or fell outside the useful size ranges. Cattle bones were second most common, and one context illustrated the problems of fragment counting. There were 70 small pieces of cattle skull which gave a weighting to the calculations which would not have occurred with an intact skull. Third most common were pig bones, and other animals were represented by a few bones: deer, dog and cat. There were a small number of human bones. Some sieved samples were examined, and produced a few small mammal bones, and a number of probable sheep bone fragments.

The contexts examined were divided into groups as follows:

1. Pits
2. Boundary ditches
3. Ditch 135
4. Animal burials.

Percentages (of the number of fragments) of each meat species were calculated for each feature. As the calculations were to the nearest percentage point the totals do not always add up to exactly 100.

The Pits (Table 5)

Each pit is identified by its feature number, not that of the fills within it which contained the bones. All pits included bones with butchery marks, some gnawed bones and some with modern (excavation) marks.

The bones from pit 262 were divided into two and those from context 285 are not included in the totals given in Table 5. Context 285 contained the remains of at least three sheep and no other bones. There were skull and jaw bones from at least three sheep and vertebrae and parts of pelvis from two sheep. The only other contexts with bones of a single species were the burials of single animals. There is a possibility that context 285 contained an animal burial of some sort, but there is no evidence that it is not food debris.

Cattle formed a smaller proportion of the assemblage than sheep in all pits except 373. The fact that cow bones were the most common identified fragment in that pit is not significant as so many remained unidentified. Six horse bones without butchery marks were found in pit 127, a single bone in pit 262, three foot bones of a small horse in pit 447 and a single bone occurred in pit 503. Deer bones were found in pits 262 (a burnt metatarsus), 447 and 503. Pit 447 contained two mandibles of a dog and one of a cat.

Eleven pits out of the 17 contained rabbit bones. Other remains of small mammals were

TABLE 5
Bones from the Larger Pits

		Percentages						
	Bone number	*Sheep*	*Cattle*	*Pig*	*Horse*	*Burnt*	*Other*	*Unident.*
Pit 125	636	31	13	6	–	4	–	46
Pit 127	753	32	9	7	<1	1	–	50
Pit 137	611	52	12	10	–	<1	–	26
Pit 143	196	30	10	9	–	1	–	51
Pit 145	78	67	24	–	1	8	–	–
Pit 176	253	33	19	4	–	2	–	42
Pit 262	159	40	<1	4	–	3	<1	52
Pit 295	117	36	21	7	–	–	–	36
Pit 371	271	41	4	3	–	–	–	52
Pit 373	252	7	8	2	–	–	<1	83
Pit 389	130	13	5	5	–	–	–	77
Pit 443	426	55	5	5	–	–	–	38
Pit 445	341	26	10	2	–	<1	–	62
Pit 447	668	24	15	8	<1	2	<1	51
Pit 503	273	14	6	4	<1	6	<1	70
Pit 753	37	49	30	8	–	–	–	14

TABLE 6
Bones from Boundary Ditches

	Percentages						
Bone number	*Sheep*	*Cattle*	*Pig*	*Horse*	*Burnt*	*Other*	*Unident.*
1491	28	10	8	<1	<1	<1	54

house mouse bones in pit 127, two common shrew mandibles in pit 143 and a mandible of a wood (?) mouse in pit 445. All these are presumably intrusive.

The most common bird bones were those of galliforms, followed by domestic goose. Pit 262 contained pigeon and duck bones as well as chicken and goose. Pit 447 contained chicken and a skull of a chicken-sized bird, but not a modern breed, which had a butchery mark across the back of the cranium.

The Boundary Ditches (Table 6)
The bones from the boundary ditches were examined to determine if they showed any variation over time; but they do not appear to conform to any pattern. The bones seem to comprise a mixed accumulation of debris, rather than to come from organised dumping of food residue, although some butchery marks were recorded. In addition to the species shown in Table 6, the other bones represented included one piece of human femur, three bones of dog and also some chicken and rabbit bones.

Ditch 135
This ditch produced a reasonably-sized collection of 309 bones. Sixty-four *per cent* were sheep, 13% were cattle and 9% pig. Only 14% were unidentified. There were also some rabbit bones. Some bones showed evidence of butchery, gnawing and modern (excavation) marks. The bones from the fills of this context do appear to be more evidence of organised dumping rather than a random accretion.

Animal Burials
Two undated burials of animals were found lying adjacent. Context 587 contained the complete skeleton of a large, old dog. The vertebral epiphyses were well fused and the canine teeth were well worn

down, both suggesting an animal of some age. Context 599 contained the axial skeleton of a young pig. Other skeletal parts may have been excavated in adjacent contexts. As well as ribs and vertebrae, there were also a right scapula with modern breaks and a part of the pelvis. The only limb bone was the right patella.

Miscellaneous

A few examples of bone pathology were noted. Context 128 contained a sheep radius with a proximal growth of additional bone. Context 305 in pit 127 contained deformed rabbit phalanges and context 548 in pit 445 contained a sheep metacarpal with a slight addition of bone near the proximal end.

A number of measurements were made following von den Driesch (1976) and are kept in the site archive. Tooth wear data were collected following Grant (1982). There were few complete mandibles of sheep and none of cow and pig. The sheep mandibles had wear of, or around, Grant's stage g, which she states is a relatively long lasting stage.

Most contexts contained highly fragmented bone, and it was not possible to draw any overall conclusions.

PLANT REMAINS by Pat Hinton (Table 7)

The 'flot' and residue from samples of approximately 30 litres of soil were sorted with binocular stereo microscope at 7×—40× magnification. The majority of the seeds were preserved by charring but some were mineralised. Some seeds (one species) from several of the pits remain to be identified.

In Table 7 the cereals are listed first since they dominate all the other remains. The order and nomenclature of the remainder are in accordance with *Flora Europoea* (Tutin *et al.* 1964–80). With the plant names is a code to provide a very rough guide to the type of habitat in which the seeds may have originated.

Cereals are the most abundant plant remains, with grains of wheat, barley and oats present in most samples. There is also evidence of other cultivated plants in flax, poppy and possibly cabbage, mustard or a root vegetable such as turnip. Many of the other seeds are from characteristic weeds of arable fields and open areas such as trackways, others are from grassland plants, and some would have grown in damp or muddy ground or at the edges of streams or ponds.

Cereals

Most of the cereal grains which were counted are poorly preserved. They have the coarse vesicular structure resulting from charring in fierce heat and more or less open conditions and are distorted to varying degrees. Many samples also included fragments which were too small or damaged to be identified to species. In most cases the fragments probably equate to only one or two grains and these have not been listed. In the case of the sample from context 172 (a pit cut by an enclosure ditch), however, a large proportion of the sample consisted of small fragments and this has been estimated to be the equivalent of approximately another 900 grains, almost doubling the total.

Almost all the wheat grains which are sufficiently well preserved to study appear to be from free-threshing bread wheats, and the great majority of these are small, short grains of club wheat (*Triticum compactum*) type. Thirty-four of the few measurable grains in one-eighth of the larger sample from context 172 had a range in length of 3.4 mm. to 6.3 mm. with an average L/B index of 1.36. This sub-sample, however, included five more slender grains, from 3.8 mm. to 6.3 mm. in length, with an average L/B index of 1.7, which would come within the range of *Triticum aestivum* ss. In view of the difficulty of distinguishing the grains of these very closely related wheats, all apparently free-threshing grains have been listed as *Triticum aestivum* sl.

The few bread wheat rachis fragments unfortunately are very incomplete, but three from contexts 524 (one) and 172 (two), have the short, strongly curved internode of *T. compactum* type and clearly show the veins typical of hexaploid wheats on the outer surface.

Scattered throughout the samples are a few grains and chaff fragments which are comparable with the glumed wheats emmer (*Triticum dicoccum*) or spelt (*T. spelta*). One grain, from context 527, conforms in all respects to typical emmer, but most of the glume bases, in what can be seen of the remnants of their keels and venation, are probably those of spelt. This was the principal wheat of the Roman period but its presence as a

TABLE 7
Plant Remains

Pit			*125*				*127*								*137*				*143*		
			126	*132*	*140*	*298*	*128*	*191*	*274*	*301*	*302*	*305*	*308*	*732*	*859*	*832*	*833*	*834*	*284*	*441*	*309*
Triticum cf *spelta* L. (spelt wheat)	glume bases	C																			
Triticum cf dicoccum/ spelta (emmer/spelt wheat)	grains glume bases	C																1			
Triticum aestivum s.l. (bread wheat)	grains rachis frag.	C	15	19	2	2	17	6		5	1	2	1		16	42	56 2	21	28	19	107
Triticum sp. (wheat)	grains	C			1	1			4 1M		5	2							3		
Hordeum sp. including *Hordeum vulgare* L. (hulled barley)	grains rachis frag.	C	129	16	44	7	28	12	3	1	19	8			5	12	58	20	81	3	98
Avena sp. (oats)	grain awn frag.	C	6	1	1		1	4	2 1						3	2	1	3	5		6
Cerealia indet. (unidentified cereals)	grains	C	19	2	3	2	5	4	1	4	7	3		1	4	4	21	1	5	1	18
Corylus avellana L. (hazel)	shell frag.	H		6	4	1	3			1	1	2					3	5	4		4
Urtica dioca L. (stinging nettle)		O																			
Polygonum aviculare agg. (knotgrass)		O			1		1						1M				1	1			
Polygonum cf *lapathifolium* L. (pale persicaria)		O													1		2	1			
Bilderdykia convolvulus (L.) Dumort (black bindweed)		O	2					1													
Rumex cf *crispus* L. (curled dock)		OG	4	1		1	2			1	4					1	2		3		
Chenopodium album L. (fat hen)		O	16	1			1				1	1			1	1	1				
Chenopodium cf *polyspermum* L. (many-seeded goosefoot)		O	4													3	5				
Atriplex patula/hastata (common/hastate orache)		O	3														1				
Stellaria media/neglecta (chickweed)		O	3														1				
Agrostemma githago L. (corn cockle)		O	2																		
Lychnis flos-cuculi L. (ragged robin)		GW																			
Silene alba/dioica (white/red campion)		OH	2																		
Ranunculus repens/acris/ bulbosus (creeping/meadow/ bulbous buttercup)		GO	1																		
Papaver somniferum L. (opium poppy)		CO	2																		
Fumaria sp. (fumitory)		O																1			
Brassica oleracea/rapa (cabbage/turnip etc.)		OC	282	7			1	2	4	2	2								7		1

TABLE 7
Plant Remains

176		*262*				*295*	*371*		*443*				*445*			*447*			*503*		*171*	*75*	*523*
256	*265*	*268*	*271*	*273*	*285*	*299*	*500*	*501*	*506*	*517*	*549*	*554*	*505*	*548*	*555*	*516*	*524*	*538*	*507*	*527*	*172*	*532*	*531*
		10									1							2			9		
							1	1	1	2	1	1	1						1	1	12		1
							1														4		
2	13	3	2		2	29	10	10	23	46	15	22	30	16	18	62	78	114	14	30	1033	18	33
																	4	2			32		
2	20	3							20			17				9	20				35	2	
7	6	27	1		1	178	8	4	59	146	25	21	24	25	7	31	23	29	12	18	162	19	10
1	1																				5		
	1	1				3	1	1		9	5	12	2	5		8	9	5		3	88	3	3
																	1						
9	6	8	2	2	1	10	4	3	12	11	9	13	14	11	4	11	13	26	8	8	c900*	2	12
	3	1	10		1	1			1	3			1		1	2	14	2	2	7	7	3	2
1	2[M]																1			1			
1	1[M]	1								1	1			1				2	1[M]			1	1
																				1	1	3	1
						2																	
1		1				9	2	1		1	4	3	1	2	3	2	1	4	1	4	10	1	1
1	2	5						3	3					5		2	5	4		7	5	1	
						1	2	1	3		2						7			6	3	5	
	2[M]									1				1			1	3		2		1	
1	1	1			1	1	1					1		1						4	1		
	2[M]																						
						1																	
1	1						1																
	1[M]										1			1				1					
																							1
																							1
	2					11					1	2	4	7	1	2	1		1	1			
	8[M]																						

TABLE 7
Plant Remains

Pit			*125*				*127*								*137*				*143*		
			126	*132*	*140*	*298*	*128*	*191*	*274*	*301*	*302*	*305*	*308*	*732*	*859*	*832*	*833*	*834*	*284*	*441*	*309*
Sinapis sp. (charlock/mustard etc.)		O	55	3																	
Brassica/Sinapis spp			57																		
Raphanus raphanistrum L. (wild radish)	pod segment	O		1																	
Rubus fruticosus agg. (blackberry)		H																			
Prunus spinosa L. (sloe)		H																			
Prunus domestica s.l. (plum)		H																			
Rosa sp. (rose)		H												1[M]							
Malus sp. (apple)		H							2[M]				5[M]								
Vicia tetrasperma (L.) Schreber (smooth tare)		G			2			1			1				1						
Vicia cf. sativa L. (common vetch)		G			1			1			2						1				
Vicia faba L. (broad bean)		C																			1
Vicia/Lathyrus sp. (vetch/vetchling)					2	1			1[M]					1[M]					1		
Medicago lupulina L. (black medick)		G	1																		
Trifolium cf *pratense* L. (red clover)		G									1								1		
Linum usitatissimum L. (flax/linseed)		C													76	13	42	25	2		
Scandix pecten-veneris L. (shepherd's needle)		O																			
Apium graveolens L. (wild celery)		W																1			
Galium cf *palustre* L. (marsh bedstraw)		W					1									11	19	6			
Galium aparine L. (goosegrass, cleavers)		O	3	1				1			1				6	2	2		1		
Solanum nigrum L. (black nightshade)		O											1[M]								
Plantago lanceolata L. (ribwort plantain)		G																	1		
Valerianella dentata (L.) Pollich (narrow-fruited cornsalad)		O		2															1		
Anthemis cotula L. (striking mayweed)		O		2														2			
Matricaria perforata Merat (scentless mayweed)		O																			
Articum lappa L. (great burdock)		O																			

TABLE 7
Plant Remains

176		*262*				*295*	*371*		*443*				*445*			*447*			*503*		*171*	*75*	*523*
256	*265*	*268*	*271*	*273*	*285*	*299*	*500*	*501*	*506*	*517*	*549*	*554*	*505*	*548*	*555*	*516*	*524*	*538*	*507*	*527*	*172*	*532*	*531*
																			1				
										1										1			
																					1		
3									1	1	1							1					
1																							
2						2	1[M]													1[M]			
1																1							
1[M]			1							1		2		1	2						1		
						1		1			1		1	1	1		3	1	1	2	2		
																					1		
1											1					1	1				1		
2[M]																							
		1									1						2	2					
1[M]																							
																					1		
1[M]																							1
1									11	19	6					2							
1[M]																							
						1	1							2	1		1	2	1			2	
2[M]																							
			1								1												
	1																			1			
6			1		6			1			1					1				6	34	1	
							1																
1[M]																							

TABLE 7
Plant Remains

Pit		*125*				*127*							*137*				*143*		
		126	*132*	*140*	*298*	*128*	*191*	*274*	*301*	*302*	*305*	*308*	*732*	*859*	*832*	*833*	*834*	*284*	*441*	*309*
cf Festuca sp. (fescue)	G	2										1[M]		3	3		2			
Lolium cf *temulentum* L. (darnel)	O																			
cf *Poa annua* L. (annual meadow grass)	GO	6				1											3			
Bromus Sect. *Bromus* (brome grass/chess)	GO	32	1				3									2	1	1	1	1
Gramineae indet. (unidentified grasses)	G	1							1	2					1	2	1	2		
Scirpus maritimus L. (sea club-rush)	W															1				
Scirpus lacustris L. (bulrush)	W																			
Eleocharis palustris/ uniglumis (common spike-rush)	W	2		1		1									2	4				
Carex cf *otrubae* Podp. (false fox-sedge)	W															1	1			
Carex hirta/riparia (hairy sedge/great pond sedge)	GW	1								1										
Carex cf *nigra* (L.) Reichard (common sedge)	GW																			
Carex sp. (sedge)															1					

Key: C= Cultivated
G= Grassland
H= Hedge, scrub, woodland
O= Open ground (fields, waysides, waste)
W= Ditches, river sides, wetter grassland
M= Mineralised
*= Estimated from sub-sample

minor component in Steyning and other Late Saxon contexts, for example Wraysbury (Jones 1989) and sites in eastern England (Murphy in press) suggests that its cultivation may have been continued on a small scale, or that it persisted as a weed of other cereals.

Barley is present in all samples and surface features indicate that it is hulled barley. Recognition of the six-row form may be through the presence of asymmetric grains (from the lateral florets) which in theory should out-number straight grains by 2:1, but preservation here is not sufficiently good to distinguish these certainly from distorted grains. However, there are a few apparently naturally twisted grains and one of the rachis fragments (context 256) bears the scars of the three florets.

Oat grains also are present in most samples, but in smaller numbers. There is no evidence in the form of floret bases to indicate whether they are from cultivated or wild species.

Other cultivated plants

Flax (*Linum usitatissimum*) remains came mostly from pit 137, with a few seeds in two other pits. There is no evidence to say whether this crop was grown for fibre, or for the oil from the seeds.

TABLE 7
Plant Remains

176		*262*				*295*	*371*		*443*				*445*			*447*			*503*		*171*	*75*	*523*
256	*265*	*268*	*271*	*273*	*285*	*299*	*500*	*501*	*506*	*517*	*549*	*554*	*505*	*548*	*555*	*516*	*524*	*538*	*507*	*527*	*172*	*532*	*531*
											1										1		2
											1										2		
1		3		1		1	1										1			2	2	1	
	1[M]	2				4		1	1	2	1	1	3			2	2	3			1		
	1	2				2				2							1	2	1	2	7	22	1
										1												1	
																1	2						
1	1		9			1		1	2	4				1			2			11			
																						1	1
										1			3				1					1	
																	1						
	1		2							1													

The broad bean, or horse bean (*Vicia faba* var. *minor*), represented here only by two incomplete seeds, is edible but was often grown as animal feed. Common vetch (*Vicia sativa* spp. *sativa*) is also grown as a fodder plant, and the form and size of the charred seeds (2.9–(3.4)–3.9 mm.) perhaps indicates that they are of cultivated vetches rather than the slightly smaller wild grassland sub-species (*V. sativa* ssp. *nigra*), but these seeds are difficult to identify. Currie (1988) has documentary evidence for the purchase in 1206–7 of vetch seeds for sowing in Kent, implying that they were already being grown in southern England, but it is not known when they were first grown as a crop.

Seeds of *Brassica* and *Sinapis* species which possibly represent cultivated plants occur throughout, with a larger concentration in pit 125. Unfortunately these are difficult to identify to their various species and it is not possible to say whether they might represent plants used as vegetables (cabbage, turnip etc.), as flavourings (mustards) or whether they were troublesome weeds (charlock).

Seeds of the opium poppy (*Papaver somniferum*) were probably used for their oil and are not infrequently found in Roman and medieval sites in Britain. An earlier appearance, in fact, was in Sussex, at the Late Bronze Age site at Itford Hill (Helbaek 1957). Whether the plants were

deliberately grown at this time in Steyning cannot be said. The seeds have a long dormancy in the soil and will germinate when the soil is turned, and may persist as weeds.

Non-cultivated plants

Most of the seeds of the non-cultivated plants are those which grow in tilled fields, or in cleared spaces such as waysides, around houses or in open grassy places. Typical of arable weeds, which will grow in most soils suitable for crops, are black bindweed (*Bilderdykia convolvulus*) corn cockle (*Agrostemma githago*), fumitory (*Fumaria* sp.), wild radish (*Raphanus raphanistrum*), cornsalad (*Valerianella dentata*), shepherd's needle (*Scandix pecten-veneris*) and stinking mayweed (*Anthemis cotula*). Cornsalad and shepherd's needle, however, are particularly associated with light chalky soils, and stinking mayweed with heavier clays. Darnel (*Lolium temulentum*), often the host of the fungus ergot, was a particularly unwelcome contaminant of crops.

Hazel nuts (*Corylus avellana*), blackberries (*Rubus fruticosus* agg.), apples (*Malus* sp.), sloes (*Prunus spinosa*), plums (*Prunus domestica* sl.), and rose hips (*Rosa* sp.), readily available in hedgerow and scrub, were probably gathered fruits. In most samples the few fragments of nut-shell would represent only one or two nuts. The apple seeds cannot be distinguished between the wild crab apple and cultivated varieties. The one plum stone from context 265 is long and slender, (17.2 × 9.0 × 7.0 mm.) and slightly S-shaped. Hedgerows have long included a large range of wild, domesticated and feral *Prunus* species (cherry, sloe, bullace, plum) with a corresponding range in size and form of fruit stones which are often found in archaeological samples. The stone from Steyning however appears to be from one of the larger domesticated plums (*P. domestica* sl.). Stones of similar dimensions have been found in an 11th-century cess pit in Norwich (Murphy 1988).

Wild celery (*Apium graveolens*) which grows in damp places, usually near the sea, was probably used as a flavouring. Other plants indicative of wetter places are ragged robin (*Lychnis flos-cuculi*), marsh bedstraw (*Galium palustre*), the sedges (*Carex otrubae* and *C. hirta* or *riparia*, bulrush (*Scirpus lacustris*), and sea club-rush (*S. maritimus*), plants of riverside and ditches, the latter near the sea and spike-rushes (*Eleocharis palustris/uniglumis*) from muddy places. It could be that spike- and club-rushes were utilised, for flooring, bedding, and so on, but with such small numbers it cannot be said that these represent gathered plants. Indeed spike-rushes often occur in samples with charred cereals (Jones 1981) and they may have been troublesome weeds in poorly-drained fields.

The plant content of all the pits appears to represent domestic rubbish, probably from a variety of sources. Mineral replacement of seeds often occurs in proximity to faecal material in cess pits or middens and this may be the origin of mineralised seeds in pits 127 and 176. Pit 171, however, contained only cereals and, with the exception of the blackberry seeds, seeds of arable weeds; but since, as in all other samples, wheats, barley and oats are all present, it is unlikely to represent a single crop but is probably the result of the clearing of a barn, house or working area.

The plant remains from this excavation are very similar to those recovered from Tanyard Lane, Steyning in 1977 (Freke 1979) except that no evidence of oats was recorded from those samples and the only evidence there of wet-land plants was the single seed of the celery-leaved crowfoot (*Ranunculus sceleratus*). The larger number of sampled contexts from this excavation however has produced further evidence of glumed wheats continuing into this period, and of the occurrence of larger-fruited plums or bullaces. Definite evidence for cultivated vetches remains uncertain.

SITE FINDS AND ARCHIVE DEPOSITION

The finds and site records have been deposited in Worthing Museum, accession number 1988.422.

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Notes

[1] W(est) S(ussex) R(ecord) O(ffice) TD/W118.

[2] W.S.R.O. Ep. I/25/3.

[3] *Nonarum Inquisitiones in Curia Scaccarii*, ed. G. Vanderzee (1807), 386.

References

Addyman, P. V. 1964 'A Dark-Age Settlement at Maxey, Northants.', *Medieval Arch.* **8**, 20–73.

Addyman, P. V. 1969 'Late Saxon Settlements in the St Neots Area: II. The Little Paxton Settlement and Enclosures', *Proc. Cambridge Antiq. Soc.* **62**, 59–93.

Addyman, P. V., Hopkins, B. G. and Norton, G. T. 1972 'A Saxo-Norman Pottery-Kiln producing Stamped Wares at Michelmersh, Hants.', *Medieval Arch.* **16**, 127–30.

Aldsworth F. G. and Freke, D. J. 1976 *Historic Towns in Sussex: an Archaeological Survey.*

Astill, G. G. and Lobb, S. J. 1989 'Excavation of Prehistoric, Roman and Saxon Deposits at Wraysbury, Berkshire', *Arch. Jnl.* **146**, 68–134.

Barton, K. J. 1986 'Excavations at Cuthman's Field, Church Street, Steyning, 1962', *Suss. Arch. Coll.* **124**, 97–108.

Biddle, M. 1975 'Excavations at Winchester, 1971: Tenth and Final Interim Report: Part II', *Antiq. Jnl.* **55**, 295–337.

Biddle, M. 1990. *Object and Economy in Medieval Winchester* **ii** (Winchester Studies **7ii**). Oxford.

Biddle, M. and Creasey, S. 1990 'Beads', in M. Biddle (ed.), *Object and Economy in Medieval Winchester* **ii** (Winchester Studies **7ii**), 659–665. Oxford.

Black, E. W. 1985 'The Dating of Relief-Patterned Flue-Tiles', *Oxford Jnl. Arch.* **4**, 353–76.

Black, E. W. 1987 *The Roman Villas of South-East England* (B.A.R. British Series **171**). Oxford.

Blair, J. 1985 'Secular Minster Churches in Domesday Book' in P. H. Sawyer (ed.), *Domesday Book: a Reassessment*, 104–42.

Brainerd, G. W. 1951 'The Place of Chronological Ordering in Archaeological Analysis', *American Antiquity* **16**, 301–13.

Bushe-Fox, J. P. 1949 *Fourth Report on the Excavation of the Roman Fort at Richborough, Kent* (Soc. of Antiq. Research Report **16**).

Cunliffe, B. W. 1970 'The Saxon Culture-Sequence at Portchester Castle', *Antiq. Jnl.* **50**, 67–85.

Cunliffe, B. W. 1975 *Excavations at Portchester Castle 2: Saxon* (Soc. of Antiq. Research Report **33**).

Currie, C. R. J. 1988 'Early Vetches in Medieval England: a Note', *Economic Hist. Review* 2nd ser., **41**, 114–6.

Darrah, R. 1982 'Working Unseasoned Oak' in S. McGrail (ed.) *Woodworking Techniques before A.D. 1500* (B.A.R. International ser. **129**), 219–229. Oxford.

Davis, S. J. M. 1987 *The Archaeology of Animals.*

Davison, B. K. 1967 'The Late Saxon Town of Thetford: an Interim Report on the 1964–6 Excavations', *Medieval Arch.* **11**, 189–208.

Down, A. 1978 *Chichester Excavations* **3**. Chichester.

Down, A. 1981 *Chichester Excavations* **5**. Chichester.

Driesch, A. von den 1976 *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Peabody Museum Bulletin **1**). Cambridge, Mass.

Dunning, G. C. 1952 'Anglo-Saxon Discoveries at Harston', *Transactions of the Leicestershire Arch. Soc.* **28**, 49–54.

Elbern, V. H. 1972 'Ein neuer Beitrag zur Ikonographie des Unfigurlichen. Uber die bildliche Aussage beinerner Reliquienkastchen des fruhen Mittelalters', *Munster Zeitschrift fur Christliches Kunst und Kunstwissenschaft* **25**, 313–24.

Elder, J. M. and Riddler, I. D. 1988 'Objects of Bone, Antler and Ivory', in P. Blockley, 'Excavations at No. 41 St Georges Street, Canterbury, 1985', *Archaelogia Cantiana* **105**, 135–45.

Evans, J. 1986 'Excavations in Fletcher's Croft, Steyning, 1967–8', *Suss. Arch. Coll.* **124**, 79–95.

Fairbrother, J. R. 1990 *Faccombe Netherton: Excavations of a Saxon and Medieval Manorial Complex* (British Museum Occasional Paper **74**).

Foreman, M. 1991 'The Bone and Antler' in P. Armstrong, D. Tomlinson and D. H. Evans, *Excavations at Lurk Lane, Beverley, 1979–82* (Sheffield Excavation Reports **1**), 183–96. Sheffield.

Freke, D. J. 1979 'Excavations in Tanyard Lane, Steyning, 1977', *Suss. Arch. Coll.* **117**, 135–50.

Gabriel, I. 1988 'Hof- und Sakralkultur sowie Gebrauchs- und Handelsgut im Spiegel der Kleinfunde von Starigard/ Oldenburg', *Bericht der Romisch-Germanischen Komission* **69**, 103–291.

Galloway, P. 1976 'Note of Descriptions of Bone and Antler Combs', *Medieval Arch.* **20**, 154–6.

Gardiner, M. F. 1988 'Excavations at Testers, White Horse Square, Steyning, 1985', *Suss. Arch. Coll.* **126**, 53–76.

Gardiner, M. F. 1990 'An Anglo-Saxon and Medieval Settlement at Botolphs, Bramber, West Sussex', *Arch. Jnl.* **147**, 216–75.

Geddes, J. and Carter, A. 1977 'Objects of Non-Ferrous Metal, Amber and Paste', in H. Clarke and A. Carter, *Excavations in King's Lynn, 1963–1970* (Society for Medieval Archaeology monograph **7**), 287–91.

Goodall, I. H. 1979 'Iron Objects', in P. A. Rahtz, *The Saxon and Medieval Palaces at Cheddar* (B.A.R. British ser. **65**), 263–74. Oxford.

Goodall, I. H. 1990a 'Iron Objects', in J. R. Fairbrother, *Faccombe Netherton: excavations of a Saxon and medieval manorial complex* (British Museum occasional paper **74**), 403–25.

Goodall, I. H. 1990b 'Knives', in M. Biddle (ed.) *Object and Economy in Medieval Winchester* **ii** (Winchester Studies **7ii**), 835–60. Oxford.

Graham-Campbell, J. 1980 *Viking Artefacts.*

Graham-Campbell, J. 1982 'A Middle Saxon Gold Finger-Ring from the Cathedral Close, Exeter', *Antiq. Jnl.* **62**, 366–7.

Grant, A. 1982 'The Use of Tooth Wear as a Guide to the Age of Domestic Ungulates', in B. Wilson, C. Grigson and S. Payne (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites* (B.A.R. British ser. **109**), 91–108. Oxford.

Groves, L. R. A. 1955 'Archaeological Notes from Maidstone Museum', *Arch. Cantiana* **69**, 206–15.

Hall, R. A. 1988 'York 700–1050', in R. Hodges and B. Hobley (eds.), *The Rebirth of Towns in the West AD 700–1050* (C.B.A Research Report **68**), 125–32.

Hase, P. H. 1988 'The Mother Churches of Hampshire', in J. Blair (ed.), *Minster and Parish Churches: The Local Church in Transition 950–1200* (OUCA monograph **17**), 45–66. Oxford.

Hassall, M. and Rhodes, J. 1974 'Excavations at the New Market Hall, Gloucester', *Transactions of the Bristol and Gloucester Arch. Soc.* **93**, 15–100.

Hattatt, R. 1982 *Ancient and Romano-British Brooches.* Sherborne.

Helbaek, H. 1957 'Carbonised Cereals', in Late Bronze Age Settlement on Itford Hill, Sussex', *Proc. Prehist. Soc.* **23**, 206–11.

Hinchcliffe, J. 1986 'An Early Medieval Settlement at Cowage Farm, Foxley, Near Malmesbury', *Arch. Jnl.* **143**, 240–59.

Hoffman, M. 1964 *The Warp-Weighted Loom.* Oslo.

Holden, E. W. 1975 'New Evidence Relating to Bramber Bridge', *Suss. Arch. Coll.* **113**, 104–17.

Holden, E. W. 1976 'Excavations at Old Erringham, Shoreham: part one, a Saxon weaving hut', *Suss. Arch. Coll.* **114**, 306–21.

Holden, E. W. and Hudson, T. P. 1981 'Salt-Making in the Adur Valley, Sussex', *Suss. Arch. Coll.* **119**, 117–48.

Hope-Taylor, B. 1977 *Yeavering: An Anglo-British Centre of Early Northumbria* (Dept. of Environment Arch. Reports **7**).

Horsman, V., Milne, C. and Milne, G. 1988 *Aspects of Saxo-Norman London: I, Building and Street Development near Billingsgate and Cheapside* (London and Middlesex Archaeological Society special paper **11**).

Hudson, T. P. 1980 'The Origins of Steyning and Bramber, Sussex', *Southern Hist.*, **2**, 11–29.

Hudson, T. P. 1987 'A New Site for Steyning's Port?', *Suss. Arch. Coll.* **125**, 252.

Huggins, P. J. 1976 'The Excavation of an Eleventh Century Viking Hall and Fourteenth Century Rooms at Waltham Abbey, Essex, 1969–71', *Medieval Arch.* **20**, 75–133.

Hunter, J. 1980 'The Glass', in P. E. Holdsworth, *Excavations at Melbourne Street, Southampton, 1971–76* (C.B.A. Research Rep. **33**), 59–72.

Hurst, J. G. 1959 'Anglo-Saxon Pottery: A Symposium—III. Middle-Saxon Pottery', *Medieval Arch.* **3**, 13–31.

James, S., Marshall, A. and Millett, M. 1984 'An Early Medieval Building Tradition', *Arch. Jnl.* **141**, 182–215.

Jones, G. 1989 'The Charred Plant Remains', in G. G. Astill and S. J. Lobb, 'Excavation of Prehistoric, Roman and Saxon Deposits at Wraysbury, Berkshire', *Arch. Jnl.* **146**, 124–8.

Jones, M. 1981 'The Development of Crop Husbandary', In M. Jones and G. Dimbleby (eds.), *The Environment of Man: the Iron Age to the Anglo-Saxon Period* (B.A.R. Brit. ser. **87**), 95–127. Oxford.

Leeds, E. T. 1923 'A Saxon Village near Sutton Courtenay, Berkshire', *Archaeologia* **72**, 147–92.

Levitan, B. 1990 'A Method of Investigating Bone Fragmentation and Anatomical Representation', *Circaea* **7**(2), 95–101.

Lowther, A. W. G. 1948 *A Study of the Patterns on Roman Flue-tiles and their Distribution* (Surrey Arch. Soc. Research Paper **1**).

MacGregor, A. 1982 *Anglo-Scandinavian Finds from Lloyds Bank, Pavement and Other Sites* (The Archaeology of York **17/3**).

MacGregor, A. 1985 *Bone, Antler, Ivory and Horn. The Technology of Skeletal Materials since the Roman Period.*

MacGregor, A. 1988 'Objects of Bone and Antler', in G. Beresford, *Goltho: the Development of an Early Medieval Manor c. 850–1150* (English Heritage Arch. Report 4), 188–93.

MacGregor, A. 1989 'Bone, Antler and Horn Industries in the Urban Context', in D. Serjeantson and T. Waldron (eds.), *Diet and Crafts in Towns* (B.A.R. British ser. **199**), 107–28. Oxford.

Mackreth, D. 1973 *Roman Brooches.* Salisbury.

Mann, J. E. 1982 *Early Medieval Finds from Flaxengate, 1: Objects of Antler, Bone, Stone, Horn, Ivory, Amber and Jet* (The Archaeology of Lincoln **14–1**).

Millett, M. and James, S. 1983 'Excavations at Cowdery's Down, Basingstoke, Hampshire, 1978–81', *Arch. Jnl.* **140**, 151–279.

Murphy, P. 1988 'Plant Microfossils', in B. Ayers, *Excavations at St. Martins-at-Palace Plain, Norwich* (East Anglian Arch. **37**), 118–33.

Murphy, P. in press. Article cited by J. Greig, 'The British Isles', in W. van Zeist, K. Wasylikowa and K-E. Behre (eds.), *Progress in Old World Palaeoethnobotany* 1991, 315. Balkema.

Myres, J. N. L. and Green, B 1973 *The Anglo-Saxon Cemeteries of Caistor-by-Norwich and Markshall, Norfolk* (Soc. of Antiq. Research Report **30**).

North, J. J. 1980 *English Hammered Coinage* **1** (2nd edn.).

Oakley, G. E. and Hunter, J. 1979 'The Glass', in J. H. Williams, *St. Peter's Street, Northampton: excavations 1973–1976*, 296–302. Northampton.

Ogden, J. M. 1977 'Platinum Group Metal Inclusions in Ancient Gold Artefacts', *Jnl. of the Hist. Metallurgy Soc.* **11**, 53–72.

Okasha, E. 1971 *Hand-list of Anglo-Saxon Non-runic Inscriptions.* Cambridge.

Okasha, E. and Webster, L. 1970 'An Anglo-Saxon Ring from Bodsham, Kent', *Antiq. Jnl.* **50**, 102–4, Pl. XXI.

Peacock, D. P. S. 1987 'Iron Age and Roman Quern Production at Lodsworth, West Sussex', *Antiq. Jnl.* **67**, 61–85.

Pritchard, F. 1991 'Small Finds', in A. Vince (ed.), *Aspects of Saxo-Norman London: II, Finds and Environmental Evidence* (London and Middlesex Archaeological Society special paper **12**), 120–278.

Rahtz, P. A. 1979 *The Saxon and Medieval Palaces at Cheddar: Excavations 1960–62* (B.A.R. British ser. **65**).

Renfrew, C. and Sterud, G. 1969 'Close-Proximity Analysis: a Rapid Method for the Ordering of Archaeological Materials', *America Antiq.* **34**, 265–77.

Riddler, I. D. 1990a 'Two Late Saxon Combs from the Longmarket Excavations', in P. Bennett (ed.), *Canterbury Archaeology 1989–1990*, 54–5. Canterbury.

Riddler, I. D. 1990b 'Worked Bone', in M. F. Gardiner, 'An Anglo-Saxon and Medieval Settlement at Botolphs, Bramber, West Sussex', *Arch. Jnl.* **147**, 260–2.

Riddler, I. D. 1991 'The Worked Bone and Antler', in P. J. Fasham and R. J. B. Whinney, *Archaeology and the M3* (Hampshire Field Club Monograph **7**), 45–50. Gloucester.

Riddler, I. D. forthcoming a 'Objects and Waste of Bone and Antler', in R. Williams, *Anglo-Saxon Milton Keynes*.

Riddler, I. D. forthcoming b 'Objects of Bone and Antler from Bradwell Bury' in D. Mynard, *Medieval Milton Keynes*.

Riddler, I. D. forthcoming c *Organic materials and the Textile Industry* (Hamwic Small Finds **4**).

Riddler, I. D. forthcoming d 'Objects of Bone, Ivory and Antler' in L. Badenoch, *The Anglo-Saxon Cremation Cemetery at Loveden Hill, Lincolnshire. Excavations 1955–1971* (Nottingham Medieval Studies monograph).

Rogerson, A. and Dallas, C. 1984 *Excavations in Thetford 1948–59 and 1973–80* (East Anglian Archaeology **22**). Dereham.

Rudling, D. R. 1990 'Archaeological Finds at Rustington, West Sussex, 1986–88', *Suss. Arch. Coll.* **128**, 1–19.

Sweet, H. (ed.) 1885 *The Oldest English Texts* (Early English Text Soc. **83**). Oxford.

Theophilus, [n.d.] *On Divers Arts* (trans. J. G. Hawthorne and C. Stanley Smith), 167–70. New York, 1979.

Timby, J. R. 1988 'The Middle Saxon Pottery', in P. Andrews (ed.) *Southampton Finds, Volume 1: The Coins and Pottery from Hamwic*, 73–124. Southampton.

Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M. Valentine, D. H., Walters, S. M. and Webb, D. A. (eds.) 1964–80, *Flora Europaea* **I–V**.

Ulbricht, I. 1984 *Die Verarbeitung von Knochen, Geweih und Horn im mittelalterlichen Schleswig* (Ausgrabungen in Schleswig. Berichte und Studien **3**). Neumunster.

Wade-Martins, P. 1980 *Excavations in North Elmham Park 1967–1972* (East Anglian Archaeology **9**). Gressenhall.

Waterman, D. M. 1959 'Late Saxon, Viking and Early Medieval Finds from York', *Archaeologia* **97**, 59–105.

West, S. E. 1985 *West Stow. The Anglo-Saxon Village* (East Anglian Archaeology **24**). Gressenhall.

White, G. M. 1934 'A Settlement of the South Saxons', *Antiq. Jnl.* **14**, 393–400.

Williams, D. 1973 'Flotation at Siraf', *Antiquity* **47**, 288–92.

Williams, V. 1987 'Bone, Antler and Ivory Objects', in B. Ayres, *Excavations at St. Martin-at-Palace Plain, Norwich, 1981* (East Anglian Archaeology **37**), 100–107. Gressenhall.

Wilson, D. M. 1964 *Anglo-Saxon Metalwork 700–1100 in the British Museum*.

Winter, F. 1907 *Die Kamme aller Zeiten*. Leipzig.

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