II The Barton Court Farm Area

II.1 THE PHYSICAL GEOGRAPHY (Fig. 34)

The site lies approximately 1.5km NE of the centre of Abingdon and a similar distance SW of the village of Radley, on the edge of the Second (Summertown-Radley) Terrace, at a height of about 59.5m above sea level and 8m above the level of the Thames. The river Thames flows 700m due S of the site and is joined by the river Ock in Abingdon. The parish boundary between St Helens Without and Radley runs across the northern part of the site, but the area of excavation lies in Radley parish.

II.1.1 Geology (Fig 35)

The Upper Thames region is an area of classic, though far from simple, scarp and vale country (Martin & Steel 1954, 7-36). Barton Court Farm is situated close to the confluence of the rivers Ock and Thames, where the Vale of the White Horse merges with the Thames Valley. A belt of Kimmeridge Clay up to 4km wide and 30m thick lies in the bottom of the Vale of the White Horse and underlies Barton Court Farm. To the N and W rise the Oxford Heights, a ridge of Corallian limestone which runs between Oxford and Faringdon. The average height of the cuesta is little more than 91m (300ft), but it reaches 163m (535ft) at Boars Hill, 4km N of Barton Court Farm, where the Corallian is capped by Greensand.

Opposite Barton Court Farm the Thames cuts into the moderately steep and wooded slopes of Ferruginous sand at Culham, whose maximum height is about 76.2m (250ft).

The S side of the Vale of the White Horse is flanked by the steep scarp of the Berkshire Downs (actually in Oxfordshire since local government reorganization in 1974), which on a clear day is visible from Barton Court Farm about 11km away. The highest point, above the most dramatic section of the scarp, is at Castle Hill, Uffington, 16km WSW of Barton Court Farm.

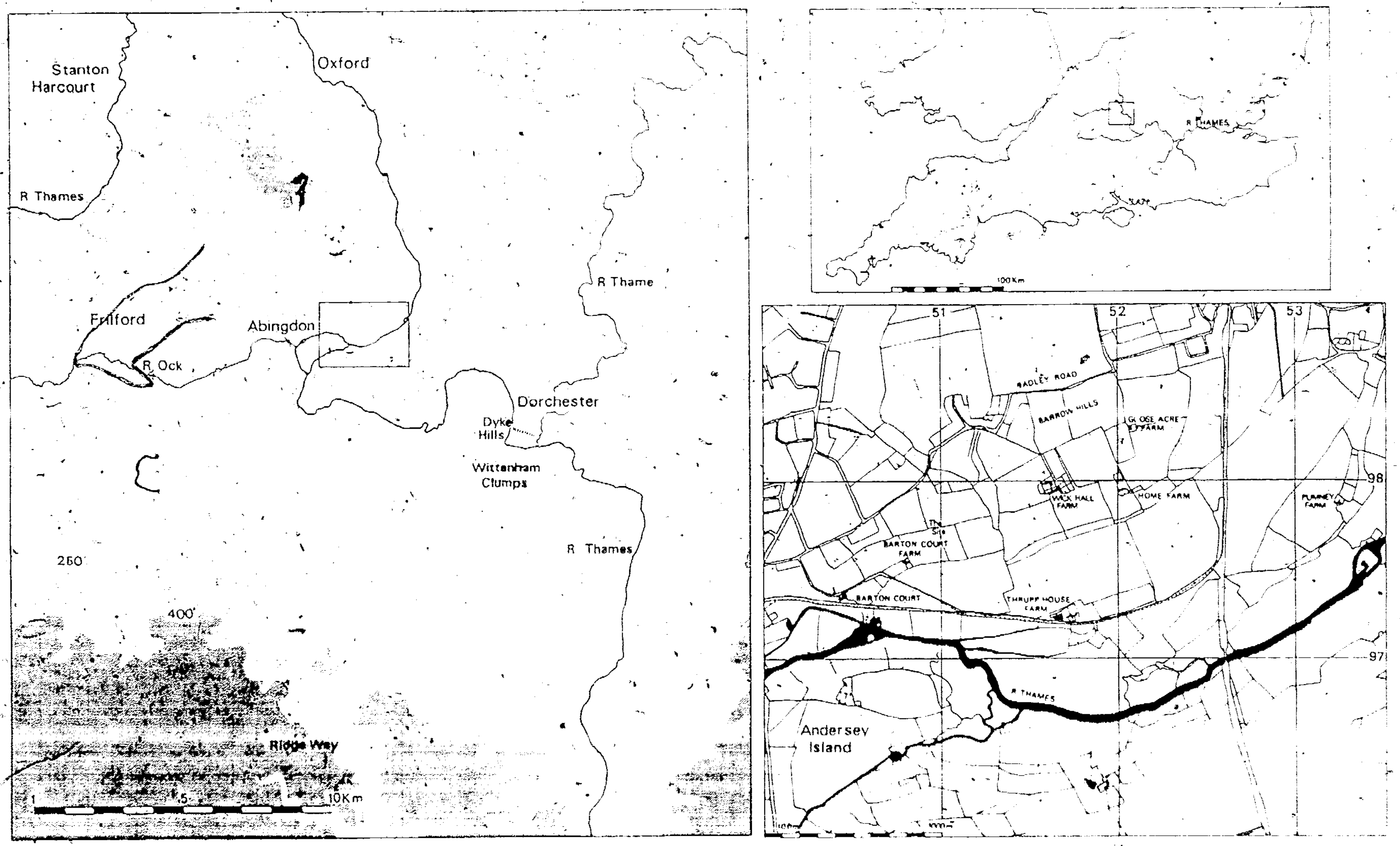


Fig 34 Barton Court Farm: location plan

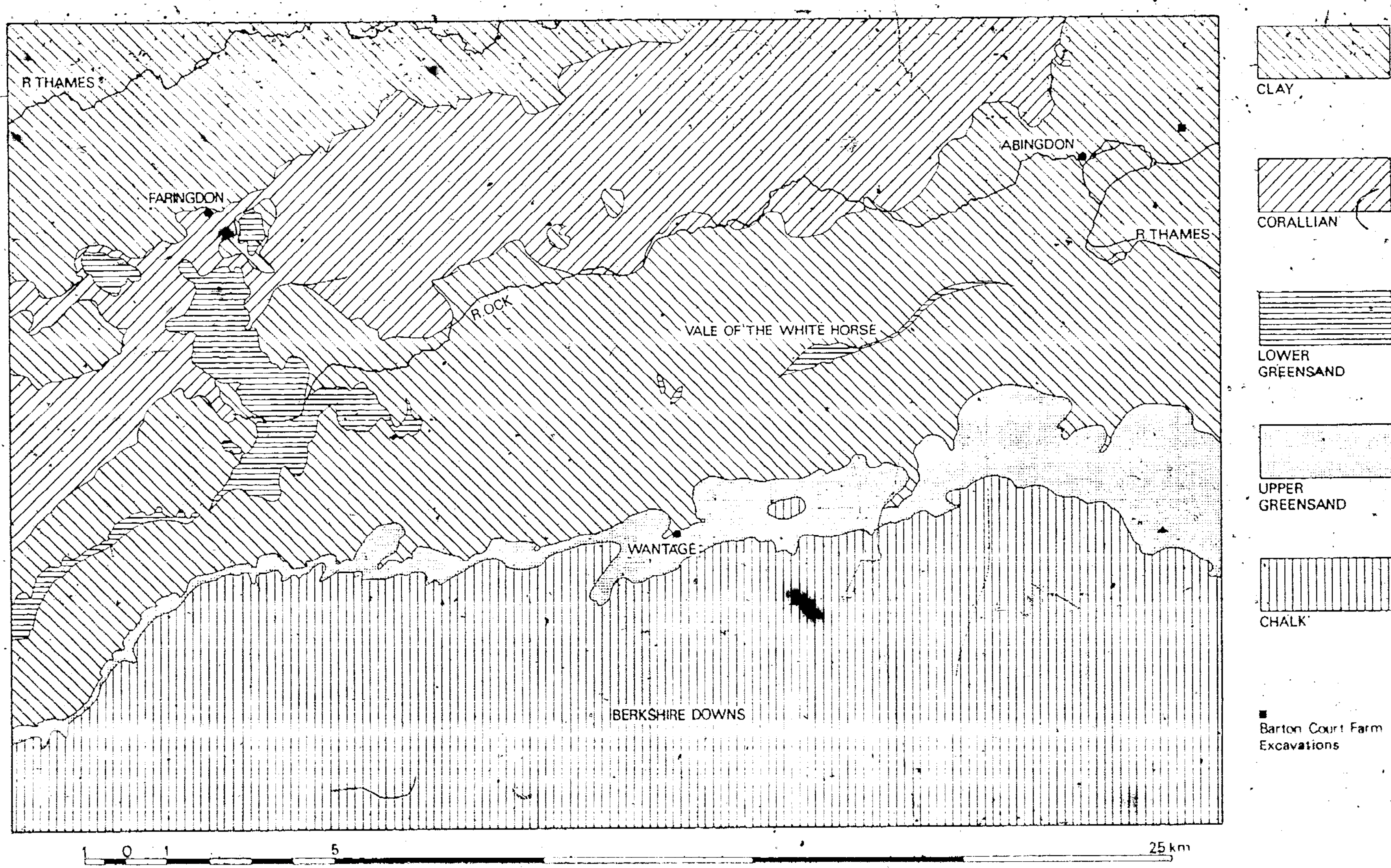


Fig 35 Geology of the Vale of the White Horse

II.1.2 Drift geology (Fig 36)

The character and topography of the area immediately around Barton Court Farm is governed more by the location of Late Pleistocene sand and gravel deposits than by the deceptively simple solid geology just described. The Upper Thames is flanked by four gravel terraces: the flood plain or First Terrace, the Second Summertown-Radley Terrace, the Third Wolvercote Terrace, and at a height of about 30m (100ft) above the river the Handborough or Fourth terrace. The Barton Court Farm site is situated on the edge of the most extensive of these, the second, Summertown-Radley terrace. This is made up chiefly of a vast quantity of oolitic limestone pebbles, eroded from the Cotswolds and deposited by the Late Pleistocene ancestor of the river Thames. The terrace is traditionally thought to have been laid down in two phases in the Wolstonian and Ipswichian, but the sequence is currently the subject of some debate (Sandford 1924; 1925; 1932; Mitchell et al 1973; Briggs & Gilbertson 1980).

Beneath the principal settlement area the gravel is approximately 2m thick, overlying the impermeable Kimmeridge Clay. Consequently the site is free-draining (hence the local name Dry Field). In some places patches of concretion form on the surface of the gravel as a result of cementation by secondary calcium carbonate (Sandford 1965). These are resistant to weathering and can be a hindrance to arable agriculture, though they are not so extensive at Barton Court Farm as at Stanton Harcourt, where the concreted blocks were used as megaliths by the builders of the Devil's Quoits henge monument.

The second terrace in pronounced at Barton Court Farm (and in fact exaggerated by the formation of a lynchet along the E-W boundary). Immediately S of the site the edge of the terrace slopes away very distinctly, down to the extensive flood plain. Some of the archaeological features run off the Second Terrace on to this slope, where the Kimmeridge Clay emerges at the surface.

II.1.3 Soils (Fig 37)

The soils of the Abingdon area have been fully described in a recent memoir (Jarvis 1973) which is particularly fortunate, as one of the aims of this archeological project was to test the correlaton between ancient land use and modern soils. The soils are more complex than the solid geology

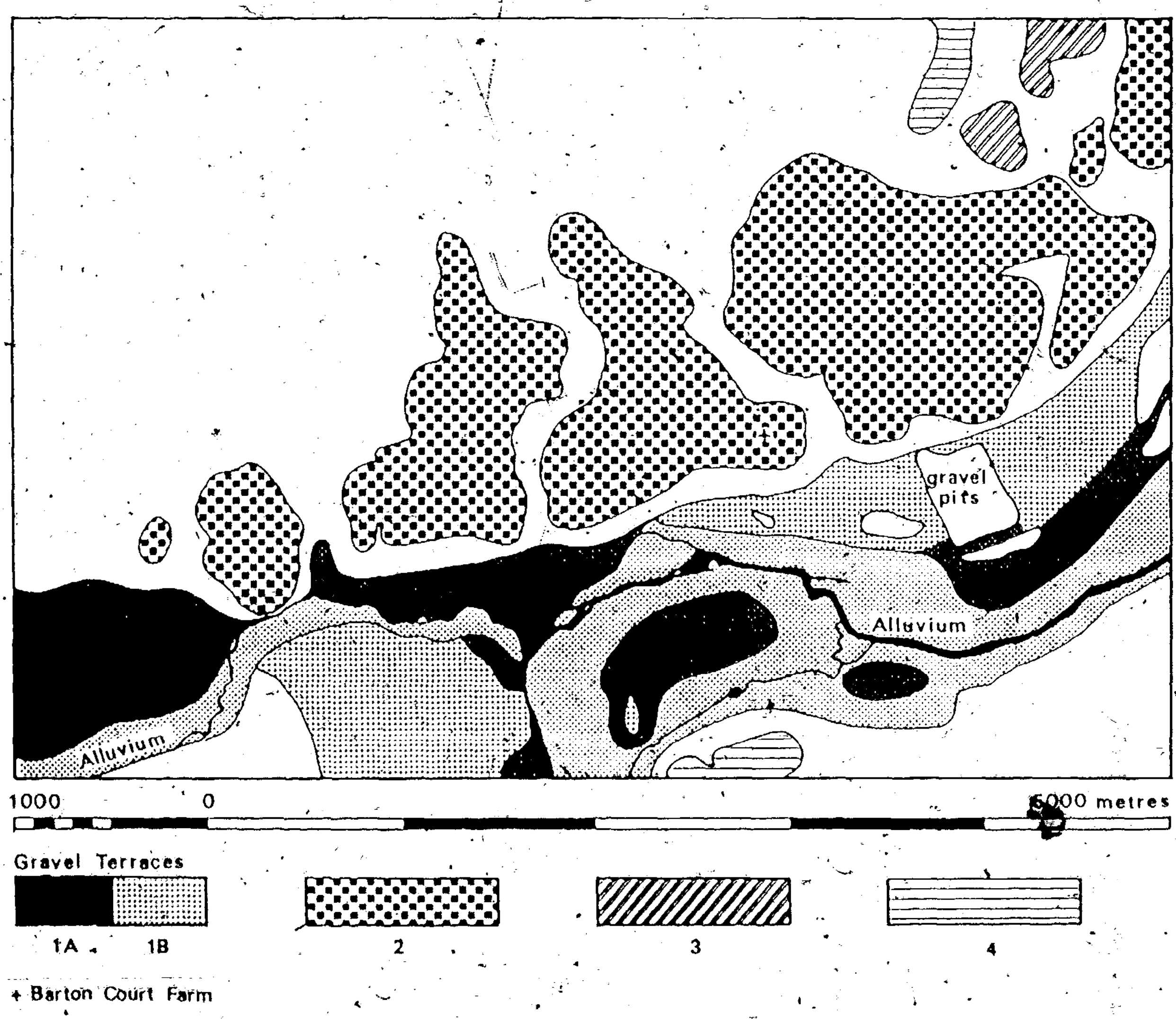


Fig 36 Drift geology of the Barton Court Farm area

and even the drift geology might suggest, and within a short distance of Abingdon there is a wide variety with substantially different characteristics.

The site itself lies at the end of a tongue of Sutton soil, a sandy loam overlying stony, calcareous gravel and averaging about 30cm in depth. Its pH is about 7.8. This is the characteristic soil of the Second Terrace and is prone to drying out. Sutton soil is also found on the First Terrace around Thrupp House Farm immediately to the S of the Barton Court Farm site on the terrace slope. Projecting to the E of the site is a belt of soil of the Isle Abbots series. This loamy drift over Kimmeridge Clay is prone to gleying and has a pH of about 6.7.

The third major belt of soil is that alongside the river, belonging to the Thames series. This clay loam, with a pH of about 7.4, is often poorly drained and subject to water flooding. Within the floodplain area are some low mounds capped by brown calcareous soils belonging to the Lashbrook series. These are quite well drained and during flooding generally remain above the water-level. The Badsey series are similar, though rather more low-lying.

II.1.4 Drainage

As already indicated, the Barton Court Farm site is particularly well drained. Water supplies are close at hand, however. The settlement itself is underlain by a bowl-shaped configuration of Kimmeridge Clay, beneath the gravel terrace, which holds a perched water table. The water level is subject to little seasonal variation and is at most 2.5m below ground. Water emerges at the surface below the terrace slope where at present there is a spring marked by willow trees, 150m SW of the site. Digging almost anywhere along the slope will soon create a water-hole.

A substantial stream flowing from the high ground behind Radley College bounded the Neolithic causewayed camp and fed the monastic fishponds of Daisy Banks, 300m NW of the site. The stream is now channelled to turn a right-angle and flow westwards at the foot of the terrace slope 200m S and approximately 7.5m below the site and drains into the Thames near the present ruin of Barton Court. This channel may be of some antiquity as it occurs on John Rocque's Map of Berkshire of 1761.

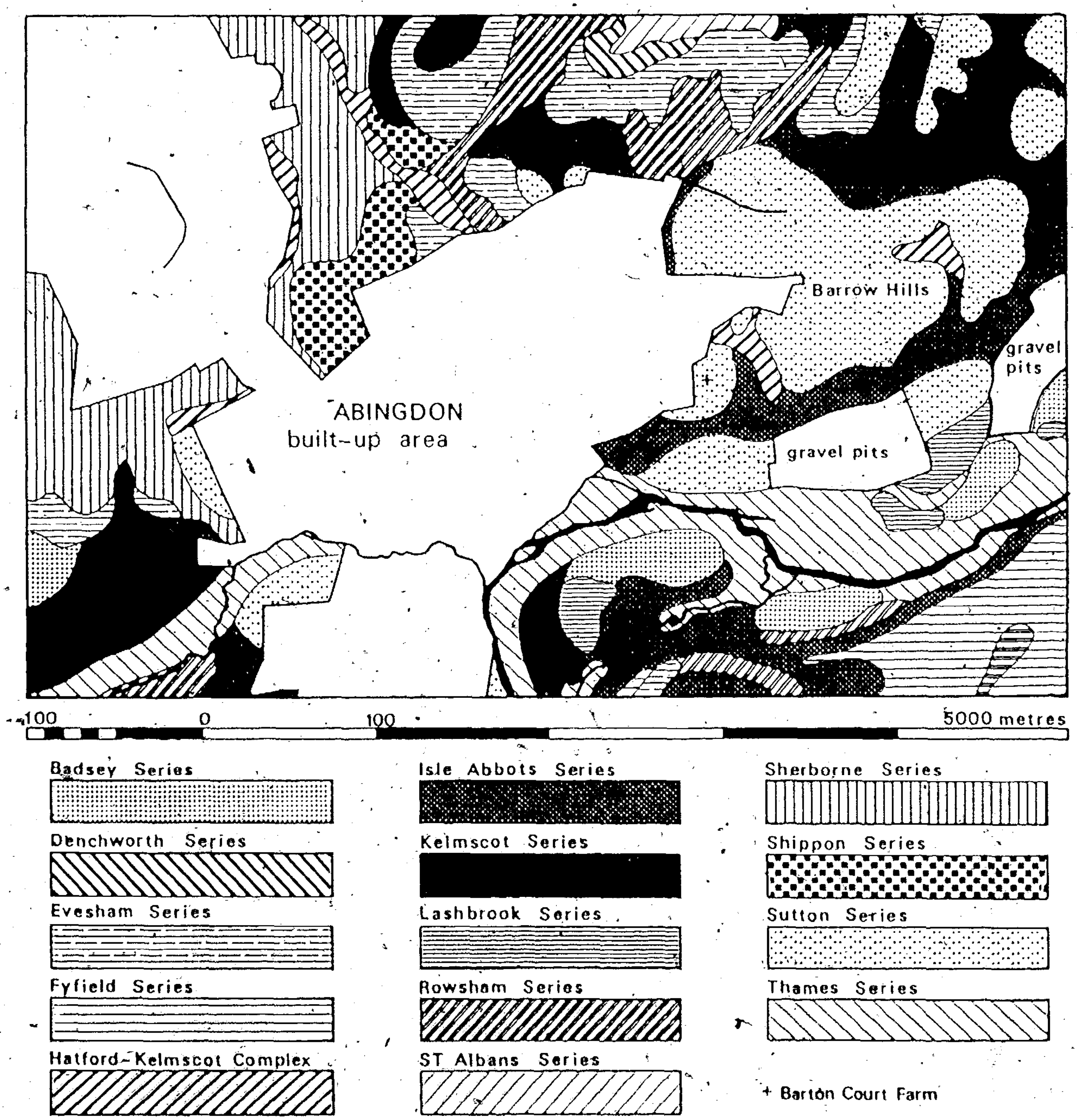


Fig 37 Soils of the Barton Court Farm area

II.1.5 Climate

I am grateful to the Meteorological Office, Bracknell, for this information. The mean monthly temperatures at Abingdon (1941-70) range from 3.5°C in January to 16.6°C in July. The temperatures on the Downs average 1°C lower. The growing season at Abingdon extends from the end of February until the end of November, a month or more longer than on the Downs (Jarvis 1973, 15).

Rainfall at Abingdon is probably the lowest in the region with an annual average (1941-70) of 617mm (24in); this is approximately 40mm less than on the summit of the Downs. Precipitation is fairly evenly distributed throughout the year, but with a late winter/spring minimum.

Wind speeds are not particularly high in the region and Abingdon is more sheltered than most areas. Prevailing winds are from the SW, most commonly at 3 or 4 on the Beaufort scale (ie, 8-18 miles/h). Winds are frequently from the N or NE also, particularly from February to June. Rarest of all are E and SE winds.

II.1.6 Modern land-use

Barton Court Farm is now within the suburbs of Abingdon, but until 1972 it had been an agricultural area. The site lies within three separate fields, the large northerly field on the Second Terrace and the two southerly fields on the terrace slope. Until 1968 that part of the N field which contains most of the settlement was used as allotments, traces of which were found during the excavations. Between 1968 and 1972, when the housing development began, the field was cultivated for barley. The farmer reported that the W half of the field was prone to dryness in some years, and as a result the crop tended to suffer. By contrast, the E half, with its Isle Abbot's soil, retained more moisture.

In the seven years prior to excavation the terrace slope fields each produced wheat, barley, four years of grass, and finally a crop of oil-seed rape. The pasture was needed for the farm's herd of dairy cows and these fields were nearest the buildings; otherwise, with extensive drainage, they produced better cereal yields than the area of the ancient settlement.

The field to the S of the stream on the First Terrace was good cereal land until extracted for gravel in the late 1960s. Supposedly restored, it is now poor-quality pasture. Most surprisingly, Barton Court Farm's fields by the river (SE of Thrupp House Farm) on Badsey-Lashbrook Soils produced barley continuously for sixteen years until taken over for gravel extraction in 1975-76. Massive drainage ditches carry away excess water for most of the year, but the crops here were always well supplied by the high water table. The Soil Survey's assessment of the potential of this riverside land is less optimistic than that of its most recent cultivator at Barton Court Farm (Jarvis 1973, 163, 181-2).

The fields immediately S of Thrupp House Farm and alongside the river to Barton Court have until recently remained principally as pasture, with underlying peat deposits. In the past three years commercial extraction of the peat has begun. Except for this area, the soils of Barton Court Farm are land use capability class 2s.

II.1.7 References (II.1)

Briggs, D J, & Gilbertson, D D, 1980 Quaternary processes and environments in the Upper Thames Valley, Trans Inst Brit Geogr, 5, 53-65

Jarvis, M G, 1973 Soils of the Wantage and Abingdon district Memoirs of the Soil Survey of Great Britain: England and Wales

Martin, A F, & Steel, R W, 1954 The Oxford region: a scientific and historical survey

Mitchell, G F, Penny, L F, Shotton, F W. & West, R G, 1973 A correlation of Quaternary deposits in the British Isles Geol Soc Land Spec Rep No 4

Sandford, K S, 1924 The river gravels of the Oxford district Q J geol Soc Lond, 80, 113-79

Sandford, K S, 1925 The fossil elephants of the Upper Thames basin Q J geol Soc Lond, 81, 62-86

Sandford, K S, 1932 Some recent contribution to the Pleistocene succession in England Geol Mag, 69, 1-17

Sandford, K S, 1965 Notes on the gravels of the Upper Thames floodplain between Lechlade and Dorchester Proc geol Ass Lond, 76, 61-75

II.2 THE ARCHAEOLOGICAL BACKGROUND

The site of Barton Court Farm was discovered from aerial photographs taken in 1969 and 1970 by the Cambridge University Committee for Aerial Photography and the Air Photographs Unit of the National Monuments Record (England). Fieldwalking by members of the Abingdon Archaeological Society and the staff of the Abingdon Excavation Committee produced large quantities of Romano-British pottery and building material over the whole area of the cropmarks, with a concentration to the S.

It may be more accurate to say this represents a rediscovery of the site. For in the 19th century Professor Rolleston (1865) reported that Roman relics were found at 'Barton Court Farm, on the estate of Sir George Bowyer MP a mile from Abingdon on the Oxford side'. These included Roman pottery, animal bones, a deep pit, possibly a well, and 'on several occasions human skeletons had to be disinterred near this spot during the process of digging for gravel.'

The exact position of these dicoveries was not specified, but the only known 19th century gravel pits on Barton Court Farm were immediately SW of the cropmarks observed in 1969. The hollows survive to the present day and the quarrying partially cut some of the linear cropmark features. It is probable that ours is the same site as that recorded in 1865.

The area around Abingdon and Radley is particularly rich in archaeological sites.

In 1926 E T Leeds found the ditches of an early Neolithic causewayed camp in a gravel pit adjacent to Radley Road (Leeds 1927; 1928; 1929). This was the first such site to be found in a river valley as opposed to what was considered the more customary downland position. Leeds's excavation and subsequent ones (Case 1956; Avery & Brown 1972; Case & Whittle, forthcoming) have all been on a relatively small scale and the site is now largely destroyed or inaccessible beneath housing.

To the E and SE of the causewayed camp the fields of the Second gravel terrace have for many years been a rich source of cropmarks. The first attempt to describe these was by J K S St Joseph (1965), who drew attention to two further possible Neolithic features, a sub-rectangular double-ditched enclosure about 30m long with a central 'pit', and a concentric arrangement of post holes about 15m in diameter. St Joseph suggested that these might be respectively a mortuary enclosure and a henge monument similar to site 1 at Dorchester (Atkinson et al. 1951, 5-18). The concentric post hole structure bears a close resemblance in shape and size to woodhenge and the buildings excavated inside the henge monuments of Durrington Walls and Mount Pleasant (Wainwright 1975, 65) (but has been shown to be the result of 19th century tree planting in excavations in 1983: pers comm R. Bradley).

Running NE from these previous features is a linear barrow cemetery of seventeen large ring-ditches (c30m diameter), three smaller ring-ditches (two with interrupted ditches), and two contiguous ring-ditches outlying the main group to the N. These were partially excavated between 1931

(Leeds 1934; 1936) and 1944 (Williams 1948; Atkinson 1952-53; see also Case 1963), the later work being carried out in advance of gravel extraction. Although the ring ditches have only been known since 1933, when they were photographed by Major Allen, the name of the field, Barrow Hills, is first recorded in 1547 (Gelling 1974, 456), indicating that the name was given when the barrow mounds were still upstanding.

St Joseph pointed out the likely existence of a cemetery of at least two dozen graves between the W end of the barrow cemetery and the causewayed camp. These have never been confirmed and dated by excavation, but the possible graves visible on aerial photographs are aligned N-S like those in the Romano-British cemetery 400m to the E, excavated in 1945 (Atkinson 1952-53) (Excavations in 1983 showed the cemetery to be Romano-British: pers comm R. Chambers).

Also in this area is an extensive spread of small square or sub-rectangular marks. St Joseph suggested that these might be the result of small-scale gravel diggings. It seems more likely that they are, in fact, the cropmarks of Saxon sunken huts, an interpretation which is supported by the discovery of similar features during house building immediately to the NW (Avery & Brown 1972) (confirmed as sunken huts in 1983).

On the First Terrace and floodplain below Barton Court Farm the Abingdon Archaeological Society, in the early 1970s, located and partially excavated Neolithic, Iron Age, and Roman features in gravel pits near Thrupp House Farm. Other small-scale excavations were carried out by Radley School at a Romano-British site 1.2km NW of Barton Court Farm and by Caldecott School under Barton Manor.

In 1972 the Abingdon Excavation Committee mounted a programme of excavation on various sites within the town centre. It was felt that a small market town like Abingdon should not be studied in isolation but within its rural hinterland. Added validity was given to this argument by the fact that the rural belt around the town was in the process of rapid destruction. In particular, large housing estates were planned and gravel extraction was in progress alongside the Thames, both NW and S of the town. The opportunity to examine the town and its exceptionally rich outskirts coherently was one that would have disappeared by the late 1970s.

The Barton Court/Barrow Hills/Thrupp archaeological complex was inevitably going to be lost in the gravel quarries of Thrupp, and in proposed housing devlopments and road schemes. In 1972 it was decided that the Barton Court Farm cropmarks should be excavated as a redevelopment programme on the site, involving the construction of 600 houses, was imminent.

With a limited budget of £5500 for the financial year 1972-73, the decision was taken to carry out a watching brief only at Thrupp Farm and this is still continuing in 1980.

II.3 THE CROPMARKS

The potential of the site can best be seen by a brief analysis of the aerial photographs (see Fig 1). On the basis of the photographs several phases of occupation are apparent in which the major features appear to be (not necessarily in chronological order):

1 A ditched enclosure with NW-SE axis, its substantial ditches (about 2m wide) becoming slighter on the W side.

2 A checkerboard pattern of rectangular enclosures bounded by a straight-sided ditch which on the E side runs along the edge of the Sutton soil (showing as a lighter area in the photograph). At the NE corner there seems to be an entrance with a trackway running WNW towards the Barrow Hills area. Breaks in the internal linear features suggest entrances within the complex. On its W side the boundary ditch of this block of enclosures is difficult to define exactly as there are several linear features on the same NW axis, almost coinciding with the present-day field boundary. On the S side there are slight traces of curvilinear features, apparently associated with the main regular grid, but these rapidly disappear in the less favourable Isle Abbots soil on the terrace slope.

3 In the SW corner of the main field containing cropmarks, features belonging to several phases overlap. The corner of an enclosure on a slightly different axis (NNE-SSW) to the previous ones suggests a third phase of occupation.

4 A substantial linear feature runs from the SW corner of the present main field, NW just inside the field boundary. After about 130m it turns E and runs across to Daisy Banks.

5 In the E half of the main field, on the moister Isle Abbots soil, parallel lines of furrows can be seen running ENE-WSW. These seem to indicate cultivation strips about 12m wide. They do not appear on the lighter Sutton soil.

6 A small rectangular enclosure adjacent to the N field boundary and on the same axis. It appears to have a central entrance on its S side.

7 Many other features of a less coherent kind can be seen in the photographs; some of these seem to be natural subsoil irregularities, pits, small-scale gravel diggings, recent cultivation marks, and land drains. With hindsight, as a result of excavation, it is possible to see and/or make sense of several cropmark features, such as the solid dark rectangle which indicates the cellar of the Romano-British villa building, but comparison between the aerial photograph and the excavation plan will show the potentially high level of information available in the former.

II.4 THE OXFORD ARCHAEOLOGICAL UNIT

In 1973 after the first season's work at Barton Court Farm, local government reorganization resulted in the transference of Abingdon and the Vale of the White Horse from Berkshire into the County of Oxfordshire. To coincide with this, the organization of local archaeology was radically altered. In place of the proliferating local excavation committees, a single umbrella organization, the Oxfordshire Archaeological committee with its executive arm, the Oxfordshire Archaeological Unit, became responsible for rescue archaeology within the new County (Cunliffe et al 1974).

One of the most pressing tasks facing the new Unit was the production of a survey of the Upper Thames Valley gravels in order to assess the archaeological priorities within the county (and, it was hoped, beyond). The production of this survey in early 1974 (Benson & Miles 1974) meant that the Oxfordshire Archaeological Committee could take a wider view of the needs of rural archaeology in the Upper Thames Valley, pinpoint zones where preservation was both desirable and practicable, and focus attention on those areas where fieldwork and excavation were likely to be most useful prior to redevelopment.

The survey highlighted the Abingdon area in general and Barton Court Farm/Barrow Hills in particular (Benson & Miles 1974, 59, 87-90) as requiring intensive and extensive archaeological examination. As the opportunity was available, it was decided to extend the work at Barton Court Farm. In addition, a watching brief was maintained at Thrupp Farm and other nearby pits, an excavation was mounted along the line of a new road across Barrow Hills (Parrington 1977), field-walking and aerial survey were carried out, and a further large-scale excavation was completed on an Iron Age settlement at Ashville Trading Estate W of Abigdon (Parrington 1978).

II.5 REFERENCES (II.2 - II.4)

Atkinson, R J C, 1952-53 Excavations in Barrow Hills Field, Radley, Berks 1944-45, Oxoniensia, 17, 14-35

Atkinson, R J C, Piggott, C M, & Sanders, N K, 1951 Excavations at Dorchester, Oxon

Avery, M, & Brown, D, 1972 Saxon Features at Abingdon, Oxoniensia, 37, 66-81

Benson, D, & Miles, D, 1974 The Upper Thames valley: an archaeological survey of the river gravels

Case, H J, 1956 The Neolithic causewayed camp at Abingdon, Berks, Antiq J, 36, 11-30

1963 Notes on the finds and on ring-ditches in the Oxford region, Oxoniensia, 28, 19-52

Cunliffe, B, Hass[illegible], T, & Rowley, T, 1974 The Oxfordshire Archaeological Unit, Antiquity, 4[illegible], 93-8

Gelling, M, 1974 The place names of Berkshire, II,

Leeds, E T, 1927 A Neolithic site at Abingdon, Berks (1st report), Antiq J, 7, 438-64

1928 A Neolithic site at Abingdon, Berks (2nd report), Antiq J, 8, 461-77

1929 Note on the Neolithic site at Abingdon, Antiq J, 9, 37

1934 Recent Bronze Age discoveries in Berks and Oxon, Antiq J, 14, 264-76

1936 Round barrows and ring ditches in Berks and Oxon, Oxoniensia, 1, 7-23

Parrington, M, 1977 Excavations in Barrow Hills Field, Radley, Oxon, 1976, Oxoniensia, 42, 30-41

1978 The Excavations at Ashville Trading Estate, Abingdon, Oxon, 1974-6, CBA Research Report 28

Rolleston, G, 1865 Archaeol J, 22, 82, 162-3

St Joseph, J K S, 1965 Air Reconaissance: Recent Results, Antiquity, 39, 60-3

Wainwright, G J, 1975 Religion and Settlement in Wessex, in Recent Work in rural Archaeology (ed P J Fowler), 57-71

Williams, A, 1948 Excavations in Barrow Hills Field, Radley, Berks in 1944, Oxoniensia, 13, 1-14

III. The Excavation

Excavation began in August 1972 with an average of fifteen people for six weeks. Work was continued in the winter of 1972–73 by four staff and volunteers from local schools and societies on the principal Romano-British building in advance of the supposedly imminent development. In June 1973 a further six-week season with fifteen people was completed. In May 1974, as the site was still available, the area E and S of the villa buildings was excavated, and a second Romano-British building located. Eight to twelve people worked for three months. In April 1975 a small-scale excavation was mounted with volunteers from Culham College of Further Education to locate the corners of some of the enclosures visible as cropmarks; a deep Romano-British well with rich botanical material was discovered.

As a result of the continuing delay in the building operations, a reassessment of the site's archaeological potential was carried out and the decision taken to extend the excavation substantially to the S. As a result an average of ten staff and volunteers worked for six months from April 1976. Observation continued during building work in 1977.

III.1 METHOD OF EXCAVATION

A number of trenches was excavated entirely by hand in order to establish the character of the soil and the stratigraphy, especially in an area 10m x 50m on the W part of the site. Smaller trenches were dug by hand in a number of other areas to determine the variations of stratigraphy. The larger part of the site was stripped by machine. After some initial experimentation it was found that the most reliable method was to use a JCB IIIc, preferably equipped with a toothless 5ft ditching bucket on its back acter. This procedure did not require the machine to run on the stripped area; instead, the operator was able to peel off the topsoil with considerable accuracy, placing the earth into one of two dumper trucks. Two workers armed with shovels were able to observe the topsoil stripping and cope with any loose material. This process left a clean undisturbed gravel surface in which features mostly showed very clearly.

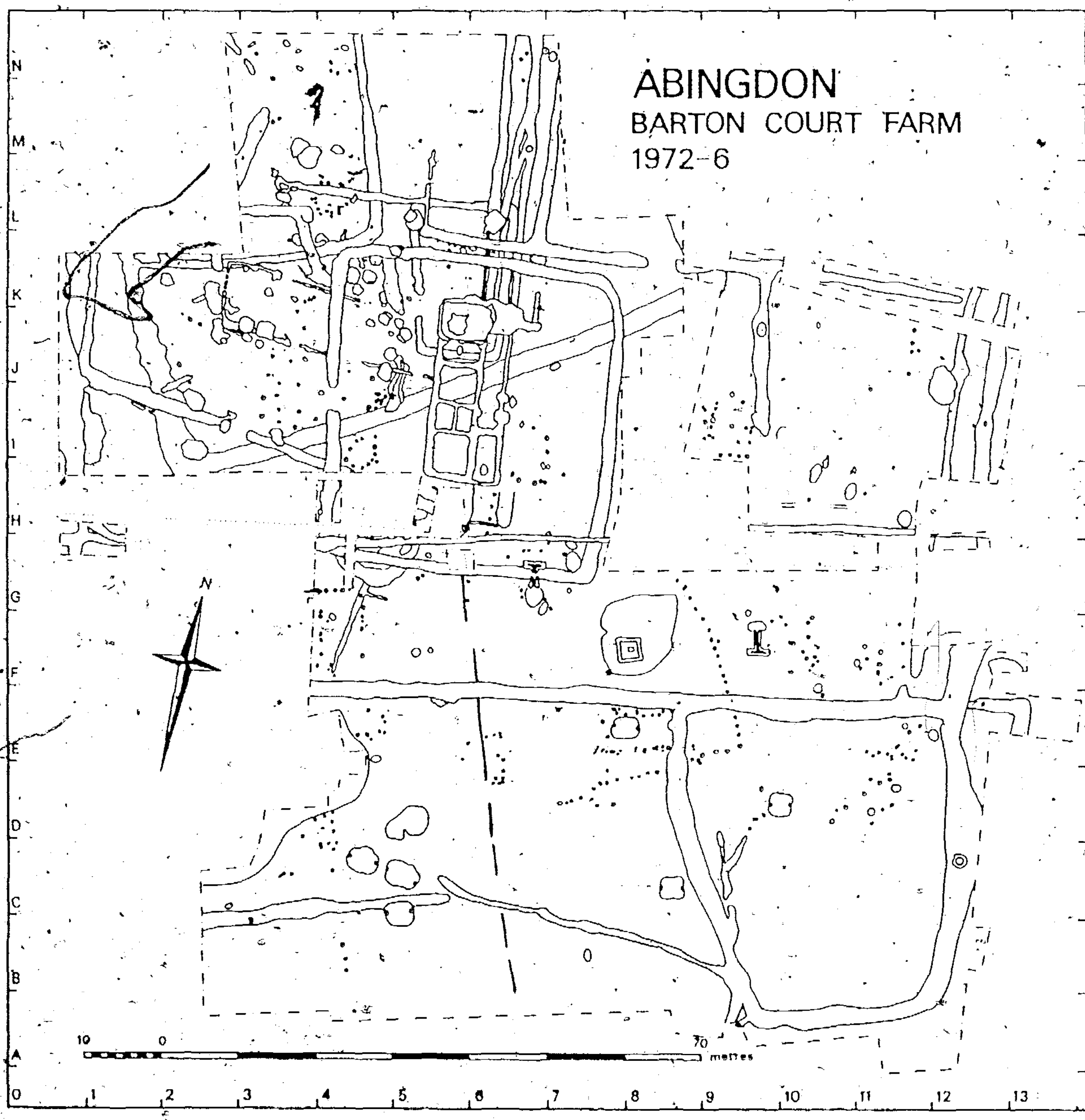


Fig 38 Barton Court Farm: the principal excavation area

After machining, the area was carefully trowelled over and often sprayed with water, particularly in dry weather. Because many features showed clearly in light-coloured calcareous gravel it was tempting to accept blank areas at their face value; most of the post holes, in fact, only appeared after persistent and careful searching.

Over most of the site topsoil cover was extremely thin (average 20–30cm) and modern ploughing had penetrated to the gravel surface. Consequently removal of the soil by machine was permissable.

A lynchet had been built up across the site, running E–W, preserving the only zone of vertical stratigraphy up to 1m deep (see Fig 38). Much of this area was excavated by hand, in particular Building 2 and the whole of the Romano-British farmhouse. North and south of the lynchet the topsoil became progressively thinner, creating a slight bowl effect, at the base of which modern ploughing had been most destructive (Miles 1980). Much of the lynchet was deliberately left unexcavated in order to preserve it as a landscape feature and boundary through the present housing estate.

III.2 THE RATIONALE OF THE EXCAVATION

The approach to the excavation was essentially a pragmatic one, conducted on a year-to-year basis, stimulated by a certain amount of wishful thinking but governed by very little medium-to long-term planning. The reasons for this shortcoming were twofold. In the first instance only three months were available to carry out the excavation on a site where the developers intended to build a large number of houses in as short a time as possible; the subsequent slump in the housing market provided an unforeseen but welcome opportunity to extend the archaeological programme. DoE annual funding was a second variable, which meant that prophecy needed to be as strong an element in a flexible research design as planning. Consequently, the excavation was approached conservatively with a series of limited short-term aims possible within each year's budget.

Initially a trench 60 x 30m was opened up in the W. part of the site (Fig 38). The principal aim was to reveal the phases of occupation on the site, and the aerial photographs showed the maximum number of overlapping enclosure ditches in this area. The first season succeeded in this limited aim as all the subsequent major phases were represented in the trench. The edge of the Romano-British building appeared in the first season and an advance on the following year's grant from the DoE enabled excavation of the whole building to take place during the winter of 1972-73.

Because of the developer's initially rapid programme the whole N part of the site was not available for excavation, except for one small trench. The opportunity to continue the excavation from 1973 enabled the aims to be reassessed and the subsequent extensions of the excavated areas were designed to examine the interiors of the Iron Age and Early Romano-British enclosures, clarify the function of the paddocks around the Romano-British villa, locate the Saxon settlement, ascertain the extent of settlement as a whole on the site in relation to the surrounding soils, and to a lesser extent attempt to find traces of ancient fields. The presence on the site from 1973 of three biologists also enabled us specifically to recover environmental data with the possibility of the samples being properly analysed. The biological evidence was felt to be a particularly important aspect of the study of change in the sequence of settlements at Barton Court Farm and in the Upper Thames Valley as a whole.

III.3 THE NEOLITHIC OCCUPATION (Fig 39)

III.3.1 Neolithic features (Figs 40 & 41)

Not all of the twelve hundred or so features on the site could be identified as belonging to specific periods of occupation, but six small pits or postholes, on the evidence of pottery (mainly Grooved Ware) and soil type in their fill represent late Neolithic settlement. A further three features containing flint material only may belong to this period and two postholes containing Neolithic pot are thought to be Saxon in date, (4:A14). The age of other features, lacking cultural material, cannot be diagnosed on the evidence of their soil type alone. The features are described in numerical order and sections appear on Fig 41 (3:A8). Feature numbers are those used in the original site record. Soil colours are described using Munsell notation.

544 (Figs 81, 41) Circular pit, 1.3m dia, 0.8m deep (from gravel surface) cut by a late Romano-British ditch 543; vertical-sided, flat-bottomed with complex layers of reddish brown sandy loam and gravel. 0.15m from the base of the pit was a concentrated layer of

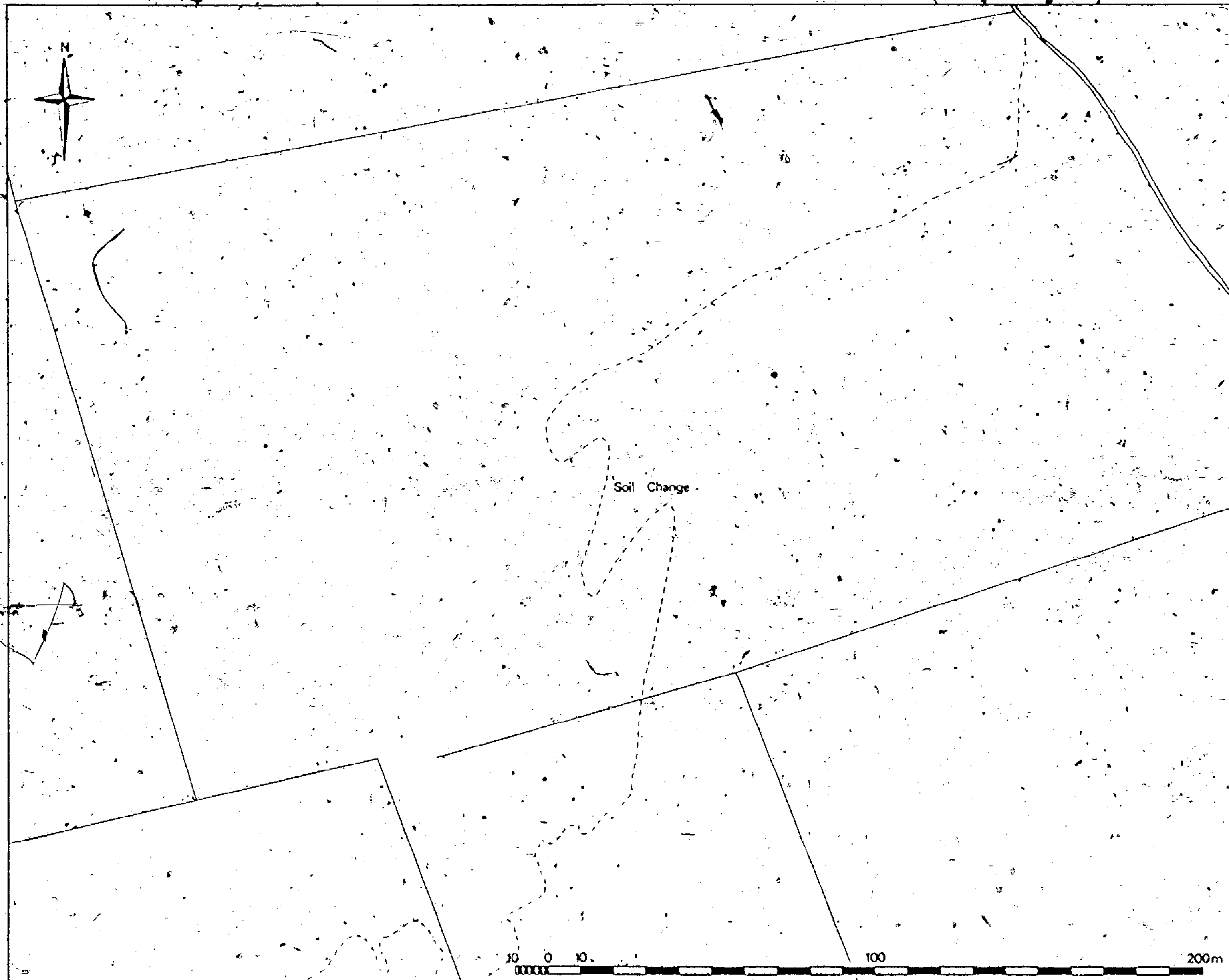


Fig 39 The distribution of Late Neolithic features

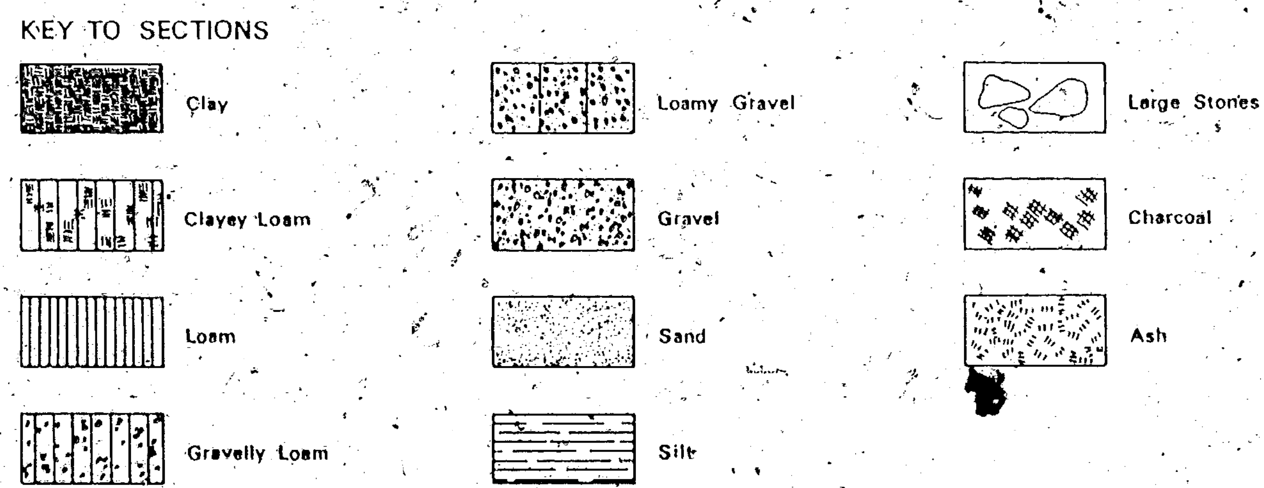


Fig 40 Key to sections

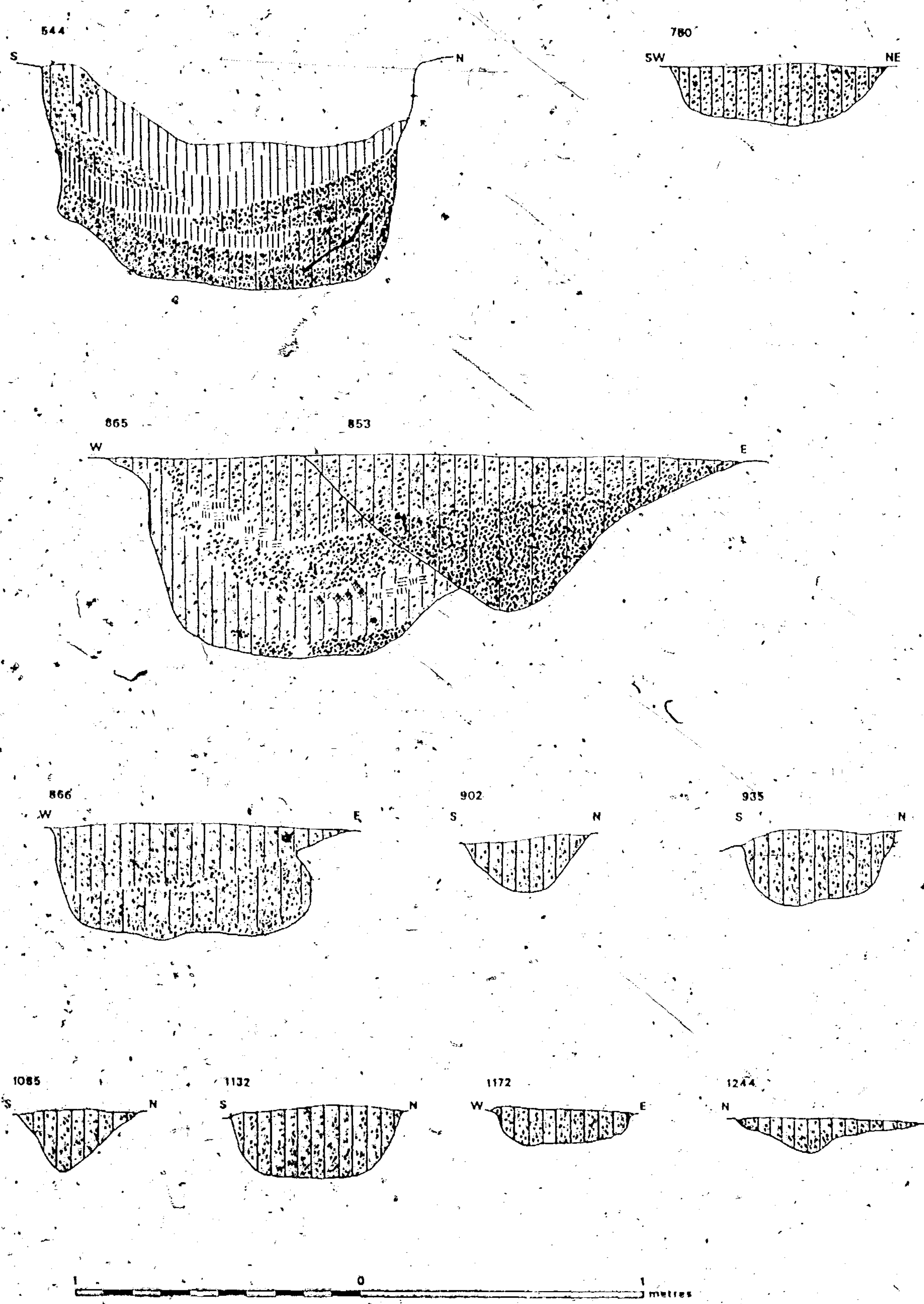


Fig 41 Sections of Neolithic features

carbonized material 0.05m thick containing plant remains. Pottery, flint, and animal bone found throughout the feature, including a red deer antler, which was used as a sample for radiocarbon dating.

780 (Figs 81, 41) Circular feature, 0.75m dia, 0.21m deep; sloping sides and rounded bottom. Brown loam fill contained flint and bone.

865 (Figs 83, 41) Circular pit, 1.2m dia. 0.70m deep; U-shaped profile, bellin on N side; cut by Romano-British ditch 853 Dark reddish- brown (5YR3/4) sandy loam flecked with charcoal, intermixed with layers of gravel and clay; layer of gravel on base. Contained flint and bone.

866 (Figs 84, 41) Circular pit, 0.9m dia, 0.40m deep; natural concretion on E side with erosion of gravel above and below it, resulted in belled profile. Dark reddish-brown sandy loam with some gravel contained flint, quartzite pebbles, and bone (radiocarbon sample).

902 (Fig 83, 41) Small circular posthole, 0.45m dia, 0.20m deep; flattened U-shaped profile. Brown sandy loam contained flint.

1084 & 1085 (Fig 84) Two small postholes containing Neolithic pot but believed to be Saxon features (see III.8.2.6)

1132 (Fig 82) Oval pit, 0.64m x 0.70m, 0.23m deep; flattened U-shaped profile. Dark reddish-brown (5YR3/2-3/3) sandy loam contained pottery and flint.

1172 (Fig 86) Shallow circular feature, 0.50m dia, 0.10m deep; reddish-brown sandy loam and gravel fill contained pottery.

1244 (Fig 85) Small circular pit, 0.65m dia, 0.12m deep; dark reddish-brown sandy loam and gravel contained pottery, burnt bone, burnt flint flakes, and fragments of fired clay. The sherds seemed to represent one or more inverted bowls, whose bases had been removed by modern ploughing. Carbonized material beneath the pot may be the remains of the contents.

III.3.2 Dating

The ceramic and flint assemblages suggest that these features belong to the late Neolithic. This is confirmed by two radiocarbon dates, one from antler in pit 544, the other from bone in pit 865/3. These produced uncalibrated dates of c 1960 bc and c 2080 bc respectively or a calibrated date of about 2500 BC (see 4:D6).

III.3.3 Discussion

In the British lowland zone the evidence for late Neolithic settlements consists almost entirely of pits, hearths, and spreads of debris (McInnes 1971). It is generally assumed that structures were of a sufficiently insubstantial type to leave little or no trace, like Indian tipis (Megaw & Simpson 1979, 148) or that sub-aerial denudation and ploughing have removed the surfaces that contained the evidence. It is now well know from the excavations of later period settlements that substantial timber structures need leave little or no archaeological trace. The lack of evidence on Grooved Ware sites need not imply flimsy structures.

The late Neolithic features at Barton Court Farm are fairly typical. They consist of small pits or postholes containing bone, flint and plant debris spread over about 0.6ha, mostly along the edge of the Second Gravel Terrace. Wainwright & Longworth (1971, 234-306) list 116 sites which have produced Grooved Ware (or Rinyo-Clacton Ware, depending on the fashion in ceramic terminology). Over half of them are represented by pits with apparently domestic debris.

On the Yorkshire Wolds a number of sites, such as Flamborough and North Carnaby Temple, have similar features to Barton Court Farm distributed over a comparable area (Manby 1974). Ten pits with Grooved Ware have also been recorded at sites along the northern edge of the Chilterns, notably at Puddlehill (Matthews 1976), several containing carbonized hazelnuts and with wild aurochs and domestic pig dominant among the animal bone samples.

Most late Neolithic pits are small and have been used to bury discarded rubbish (Wainwright & Longworth 1971, 250). It is sometimes assumed that Neolithic pits, or at least the larger ones, were used for grain storage, though until recently no Grooved Ware pit had produced carbonized grain (Field et al 1964). The Barton Court Farm pits are mostly small; only the largest (544, 865, 866) seem suitable for the storage of grain or other foodstuffs. The carbonized plant remains, which included cereals (10:A3), were found in the larger pits but also in very small features (such as 1244 under inverted bowls).

The plant remains are possibly discarded rubbish from crop processing or casual burning rather than stored material burnt in situ, with the possible exception of those in pit 544. Alternatively these deposits may be of a regular ritual nature. Many other Grooved Ware sites record pits with mixed and burnt debris; it seems likely that systematic sieving would have produced plant remains from some of these it it had been carried out. Recent cereals have appeared on other Grooved Ware sites: Skara Brae in Orkney (Clarke 1976), Mount Farm, Berinsfield, Oxfordshire, and Down Farm, Woodcutts, Dorset (M Jones, forthcoming).

In the Upper Thames region the late Neolithic and early Bronze Age are most clearly represented by ceremonial sites and burials. Major foci are known at Lechlade (cursus and barrows), Foxley Farm, Eynsham (beaker cemetery), Stanton Harcourt (Devil's Quoits henge monument and barrows), Drayton/Sutton Courtenay (cursus and barrows), Dorchester (Big Rings henge monument, smaller henges, cursus, and barrows), and North Stoke (cursus and barrows) (Benson & Miles 1974; Atkinson et al 1951; Case & Whittle, forthcoming). At Barrow Hills the presence of the barrow cemetery adjacent to the causewayed camp, which contained Grooved Ware in its upper fill, may indicate a continuity of social, economic, and religious activity in the area. Grooved Ware has been found recently in a small henge at Corporation Farm, south of Abingdon (Henderson 1973) and in a pit (probably not domestic) on Abingdon Common (Balkwill 1978).

In contrast, late Neolithic settlement sites are relatively rare. Pits of this period have been found at Sutton Courtenay (Leeds 1923; 1934), Stanton Harcourt (Case 1963), Cassington Pit 1 (Wainwright & Longworth 1971, 282), and Cassington, Tolley's Pit (Leeds 1940, 5-6), Roughground Farm and The Loders, Lechlade (Jones 1976). A Grooved Ware pit has recently been excavated at Mount Farm, Berinsfield, which also contained carbonized plant material (M Jones, pers comm). All these features have appeared during extensive topsoil stripping of know sites of other periods. It seems likely that this type of settlement will continue to appear as a by product of careful large-scale excavation. It is difficult to orientate towards this type of site specifically, even when activity areas are isolated by fieldwalking (eg Cowell & Miles 1980), owing to the extensive and slight nature of the remains.

The material from the Barton Court Farm pits gives only a limited picture of the economic activities of the settlement. The fired clay from pit 1244 may be residue from pottery manufacturing on the site. The flint assemblage is typical, with scrapers predominant, utilizing poor-quality local flint pebbles but principally material from the chalk downs to the south. A bone awl could have been used in leather working.

The carbonized plant remains are the most important material from the site. The bread wheat, emmer, and barley suggest that the soils of the local gravel terraces were cultivated, though to what extent cannot be estimated. Unfortunately the six taxa of weedy species do not give much information about the specific arable environment. The 'ditches' found beneath barrow 2 of the Barrow Hills group and visible on aerial photographs could represent field enclosures of early 2nd millennium date (Parrington 1977) but are more likely to be periglacial features.

Hazelnut and apple pips indicate that local woodland was still utilized for food products. The animal bones support this general picture of a mixed farming economy utilizing the natural resources. Pigs, which predominate in the albeit small bone sample with 181 bone fragments, were probably dependent on the local woodland for pannage. The red deer antler is also likely to have come from the same source. Cattle (20 fragments) and sheep (17 fragments) are present, though less well represented. The single pike bone is not surprising at a site so close to the river, though it is suggested that this could be intrusive. Hunting in the river margins is indicated by mallard bone. From the limited data base that we have the general impression is of a community sited at the margin of a variety of natural resources and making use of all of them: woodland, arable, pasture, and riverside.

III.4 THE NEOLITHIC FINDS

A R Whittle

III.4.1 Pottery (Fig 42)

A little over 1kg of Neolithic pottery was found in eight features at Barton Court Farm. The majority of the sherds are later Neolithic, mostly of Grooved Ware, while one feature yielded remains of bowls of the

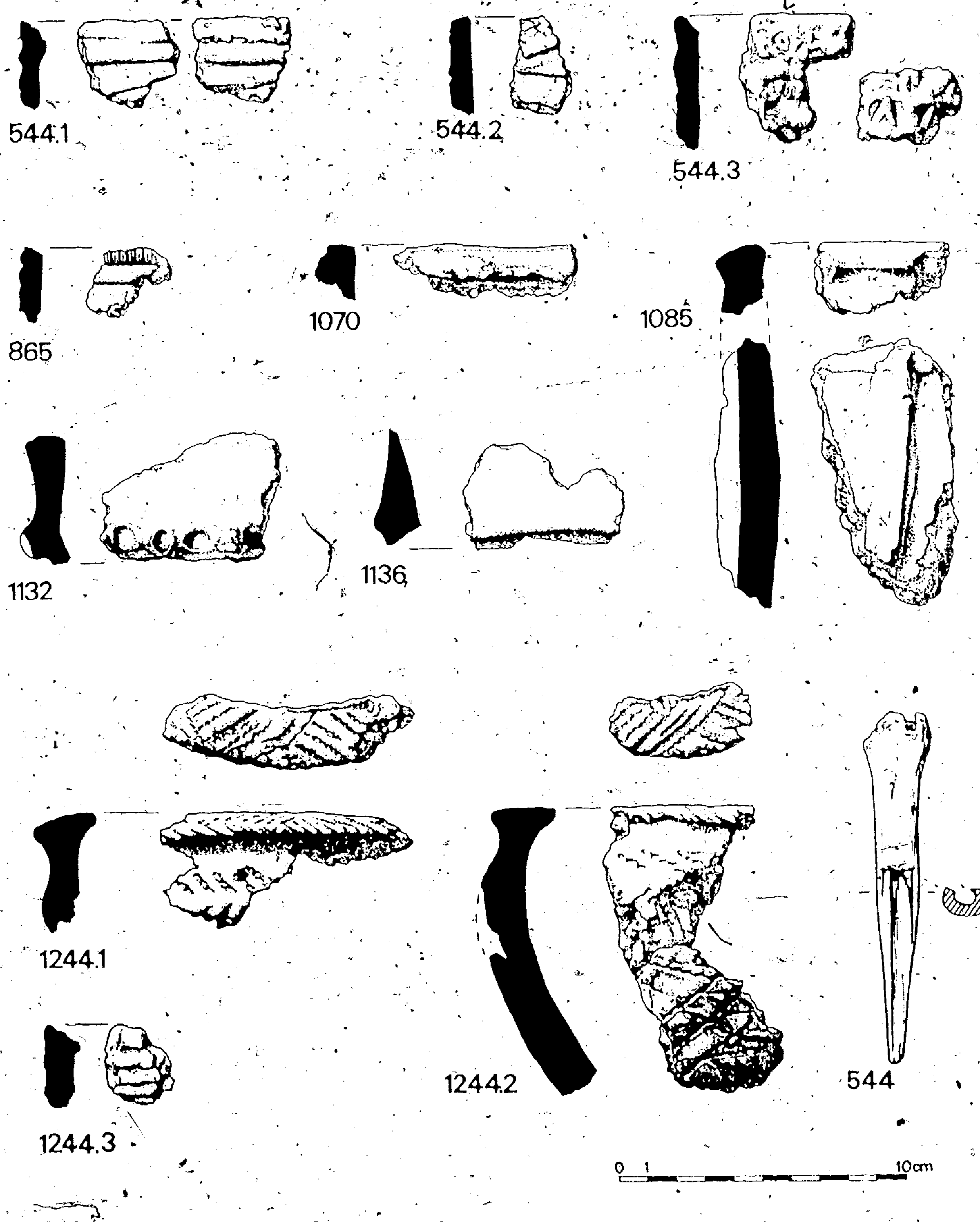


Fig. 42 Neolithic pottery and a bone tool: numbered according to feature

Peterborough tradition, in the Mortlake style; one shouldered sherd with shell-filled fabric appears akin to the earlier Neolithic Abingdon style pottery of the adjacent causewayed camp. In addition, a further 100g, of pottery were found in three of the features, mixed with the above, for which no certain affinities exist, though one sherd may belong to Beaker, Peterborough, or Grooved Ware pottery.

III.4.1.1 <u>Earlier Neolithic pottery</u>

<u>1172</u> (shallow pit) 1 shoulder sherd (10g). Light-brown exterior dark-brown core and interior. Smooth though slightly weathered exterior surface, interior surface partly destroyed. Compact fabric with dense shell filler 3mm, occasionally 8mm, with also occasional flint filler 5mm.

Though the fabric alone is not diagnostic, the combination of the gentle carination and the shell- and flint-filled fabric suggests close affinities with the pottery from the adjacent Abingdon causewayed camp (Case 1956; Case & Whittle, forthcoming).

Note that three other sherds from the same pit may belong to Grooved Ware pottery.

III.4.1.2 <u>Grooved Ware pottery</u>

<u>544</u> (small pit) 20 small and somewhat weathered sherds and other crumbs (140g), including 4 pointed, internally bevelled rims (Fig 42) and a possible flat base. Light-brown exterior dark core, light-brown to grey interior. Crumbly fabric with medium dense shell and flint filler 4mm. Majority are decorated, the rim-sherds and 6 others with rough, slashed horizontal cordons, the rest with finger-nail rustication (no sherd has a combinaton). Two of the rims have two small grooved lines on their inner bevelled surface, and one of these has also strips of clay applied to the rim itself. The other two rims are plain internally; possibly two bowls are represented.

The decoration is typical. The combination of horizontal cordons, the raised rim strips, and the rim form itself suggest close affinities with the Woodlands sub-style as defined by Wainwright & Longworth (1971), though rustication is usually absent in the style. A similar sherd from

Roughground Farm, near Lechlade, higher up the Upper Thames (MU Jones 1976, fig 2.1), suggests that the addition of rustication is a local variant of the sub-style.

865 (bell-shaped pit) 12 small unweathered sherds (40g). Light-brown exterior, dark core and interior. Smooth surfaces. Crumbly fabric with dense shell filler 6mm. 8 are decorated, 1 with rustication, 7 with slashed cordons, in two cases with transverse nicks across them. Similar affinities to 544 with the Woodlands sub-style, but note again the presence of a typical rustication (Fig 42).

1085 (small posthole or pit) 5 well preserved sherds (180g) including 1 flat-toped and slightly everted rim. Dark-brown to dark surfaces and core. Well preserved surfaces, made uneven by filler showing. Hard fabric with dense flint and quartz filler 8mm. The largest body sherd has a prominent vertical cordon, apparently ending (at the break of the sherd) at a knob or junction with another cordon (Fig 42).

Such decoration is typical of the Durrington Walls sub-style, as defined by Wainwright & Longworth (1971), though the rim is unusual for its out-turned form. The thickness of the sherds suggests a large bucket-shaped pot typical of the sub-style.

1132 (small pit) 10 reasonably preserved body sherds (300g), up to 18mm thick. Light-brown to reddish-brown exterior, grey core, light-brown interior. Smoothed though uneven surfaces. Hard sandy fabric with medium dense quartz filler 5mm, with occasional grog 5mm. 3 decorated with applied cordons (one certainly horizontal) with crude finger-tip impressions (Fig 42).

The decorated cordons are again a trait diagnostic of the Durrington Walls sub-style; a large bucket-shaped pot is probably again represented.

1070 (?) 2 damaged flat-topped rim sherds (20g). Dark surfaces and core. Surfaces smooth. Friable, slightly soapy fabric with medium dense flint and quartz filler 6mm.

These are probably Grooved Ware sherds, by comparison with the fabric of those in 1085; the rim-form is not uncommon in Grooved Ware pottery. (Flattened rims, though never so thick, also occur at the Abingdon causewayed camp, where a stone-gritted fabric is present in a minority (Case 1956; Case & Whittle, forthcoming). The fabric is also reminiscent of local Peterborough pottery.)

1084 (?) 2 dark heavily flint-gritted body sherds (40g), the better preserved 1cm thick. Probably Grooved Ware by comparison with the sherds in 1085.

Another sherd from this feature has uncertain affinities, though it is probably Neolithic.

1172 (small pit) 1 reasonably preserved body sherd and 2 crumbs (10g), the sherd 11mm thick. Light-brown exterior, dark core and interior. Smoothed though uneven surfaces. Compact fabric with medium dense flint and quartz filler 5mm.

The fabric appears comparable with that of other Grooved Ware pottery above.

III.4.1.3 Peterborough pottery

1244 (small pit) 18 poorly preserved sherds and other crumbs (300g), including 5 rims; probably 3 bowls represented. Brown exterior and interior, dark core. Smooth surfaces though quite weathered. Soapy crumbly fabric with medium dense shell and quartz filler 5mm, with occasional grog 5mm. 15 sherds decorated, and apparently also the majority of the fragmentary crumbs. Three big flat-topped T-shaped rims, one above a high narrowed neck and thickened body, have a lattice motif of filled triangles, made with impressed cord. (Fig 42, 1244.1,2); on the largest sherd this is combined with very weathered slightly diagonal lines on the body, made from larger twisted cord. Another rim, badly preserved, has internal beading and a ?flat top (Fig 42, 1244.1,2); it has horizontal lines on the body, probably of twisted cord. the last rim has a simple rounded top decorated with a deeply impressed herring-bone motif (not illustrated). The body sherds are decorated with bands of short cord-impressed lines, arranged in herring-bone fashion or one above the other. One badly weathered serd has a confused pattern of intersecting lines, probably originally cord-impressed too.

The rims and decoration are typical of Peterborough pottery, and particularly of the Mortlake style (Piggott 1954, 309; Smith 1974, 112) which has been recorded several times in the Oxford region: for example, Dorchester site 1 (Atkinson et al 1951), Tuckwell's Pit, Cassington (Leeds 1934, 275), Foxley Farm, Eynsham (Bradford & Morris 1941, 85), and Linch Hill, Stanton Harcourt (Leeds 1940, 6-9).

III.4.1.4 Possible Neolithic pottery

1244 (small pit) With the Mortlake bowls (Fig 42). 1 small sherd (2 x 43 1.5cm), interior surface damaged. Light orange-brown fabric with sparse crushed grog filler; exterior surface smooth. Decorated with shallow parallel grooved lines.

The colour, fabric, and decoration suggest possible affinities with Beaker pottery; grooved as opposed to notched or stamped lines are characteristic of Late Beakers in the region (as defined by Case 1977). The piece might also belong to Peterborough or Grooved Ware in which similar decoration occurs, though the fabric is unusual for those traditions.

544 (bell-shaped pit) With Grooved Ware. 9 small weathered sherds (20g), up to 15mm thick. Very sandy orange-red fabric, with one pale reddish smooth surface infrequently preserved. Date uncertain; perhaps again refired.

1084 (?) 1 much weathered sherd (5 x 3cm). Light-brown exterior, dark core and interior. The exterior surface is unusually contorted and uneven. Probably Neolithic by comparison with either the similarly filled Grooved Ware or the main fabric of the causewayed camp.

III.4.2.4 Discussion

Both the Grooved Ware and the Mortlake style bowls could on present indications be contemporaneous, and may date (on the uncorrected radiocarbon chronology) to the very end of the 3 millennium bc or a little later (Smith 1974). If the sherd in feature 1244 of uncertain attribution does belong to the local Late Beaker style, a slightly later date of 1800 bc or later may be suggested for it by comparison with other parts of southern England, though no dates are directly available for the Oxford region itself; and all three traditions could have been current at this date. The probably Abingdon style sherd belongs to the earlier Neolithic: radiocarbon dates from the inner ditch of the causewayed camp suggest occupation in the first half of the 3rd millennium bc, but hardly later, though a handful of Beaker, Peterborough, and Grooved Ware sherds were recovered from the upper parts of the outer ditch and uncertain positions in the inner (Case 1956, fig 3.18, fig 4.30, 35, 36). This sherd is likely then to have been a remnant, perhaps from occupation or activity outside the likely confines of the enclosure itself. A sherd of similar fabric was found in the central pit of ring-ditch 15 in the adjacent Barrow Hills field, Radley, associated with a Late Beaker flint scattered earlier neolithic activity beyond the enclosure. Later Neolithic sherds in the enclosure ditches may mirror this situation.

Grooved Ware and Peterborough pottery have regularly been found in close proximity in the Oxford region, as on occupation sites at Cassington or Stanton Harcourt (Case and Whittle, forthcoming), or at the Dorchester monuments (Atkinson et al 1951). Beaker burials are frequent in these areas, and Peterborough pottery was apparently found in grave 7 of the Late Beaker cemetery at Cassington (Leeds 1934, 272) and in the primary silts of some ring-ditches in the region (Case 1963, 41-7). Beaker pottery is only known from domestic contexts, however, belonging to the Late style, at Cassington (Case et al 1964/5, 59-63). Grooved Ware and Peterborough pottery may have then served largely domestic purposes in the region, and Beaker pottery (until its Late phase) sepulchral; all may have been used by essentially the same population.

Both the Woodlands and the Durrington Walls sub-styles of Grooved Ware are present in the Oxford region (Wainwright & Longworth 1971, figs 90-1), and the presence of both on the same site, as at Vicarage Field, Stanton Harcourt (Thomas 1955) underlines again the essential unity of this ceramic tradition (Wainwright & Longworth 1971, 243-4). The use of rustication with other traits diagnostic of the Woodlands sub-style is perhaps a local Upper Thames variation.

III.4.2 Other fired clay

Over 50 small pieces of fired clay (240g) were found in feature 1244 along with the Peterborough bowls. These are more probably potters' clay or waster rather than daub, since they are formless except for deep finger impressions and bear finger-prints. Light reddish-brown, occasionally dark brown, well levigated fabric with no filler.

Such potters' clay has been found on other Neolithic sites in southern England, as locally in an earlier Neolithic context at Ascott-under-Wychwood long barrow, Oxon, or in the upper levels of the ditches of the causewayed enclosure at Windmill Hill, Wilts., probably of the later Neolithic (Smith 1965, 82-4). These fragments are particularly common in Beaker contexts (R Bradley, pers comm). The fabric is here generally reminiscent of Beaker pottery, but in the absence of added filler it cannot suggest a greater presence for Beaker makers or users on the site than is represented by the possible Beaker sherd described above.

III.4.3 Struck flint (Fig 43)

5.9kg of struck flint were recovered from the excavations, the bulk (4.2kg) from the topsoil and Ir[illegible]e of Romano-British features or layers, but also 1.2kg from pits 544, 865, 1132 and 1244 containing later Neolithic pottery, and 0.5kg from two possible Neolithic pits (780, 866) and two postholes (902, 935). The industry in the Neolithic and possible Neolithic features is undistinguished. The assemblage from later contexts and the topsoil may have belonged largely to the later Neolithic occupation, though one leaf arrowhead may represent earlier activity and some Iron Age flint working cannot be discounted. The details of the assemblage are as follows:

	Cores	Core rejuvenation flakes	Waste flakes	Bevelled flakes	Serrated flakes	Scrapers	Knives	Leaf arrowheads	Barbed and tanged arrowheads	Polished axe fragments	Fabricator	Irregular retouched pieces	Awls	TOTALS
Neolithic pits	3	3	143			7	1							157
Possible Neolithic features	3		80			2								85
Later features	11	6	331	16	1	26	6		2			18		417
Topsoil, unstratified	1		111	2		11		1		1	1	8	1	137
TOTAL	18	9	665	18	1	46	7	1	2	1	1	26	1	796

The flints from the later features occurred in ones and twos, and they have been taken together for the purpose of this report; a detailed list of these finds by context has been deposited with the OAU.

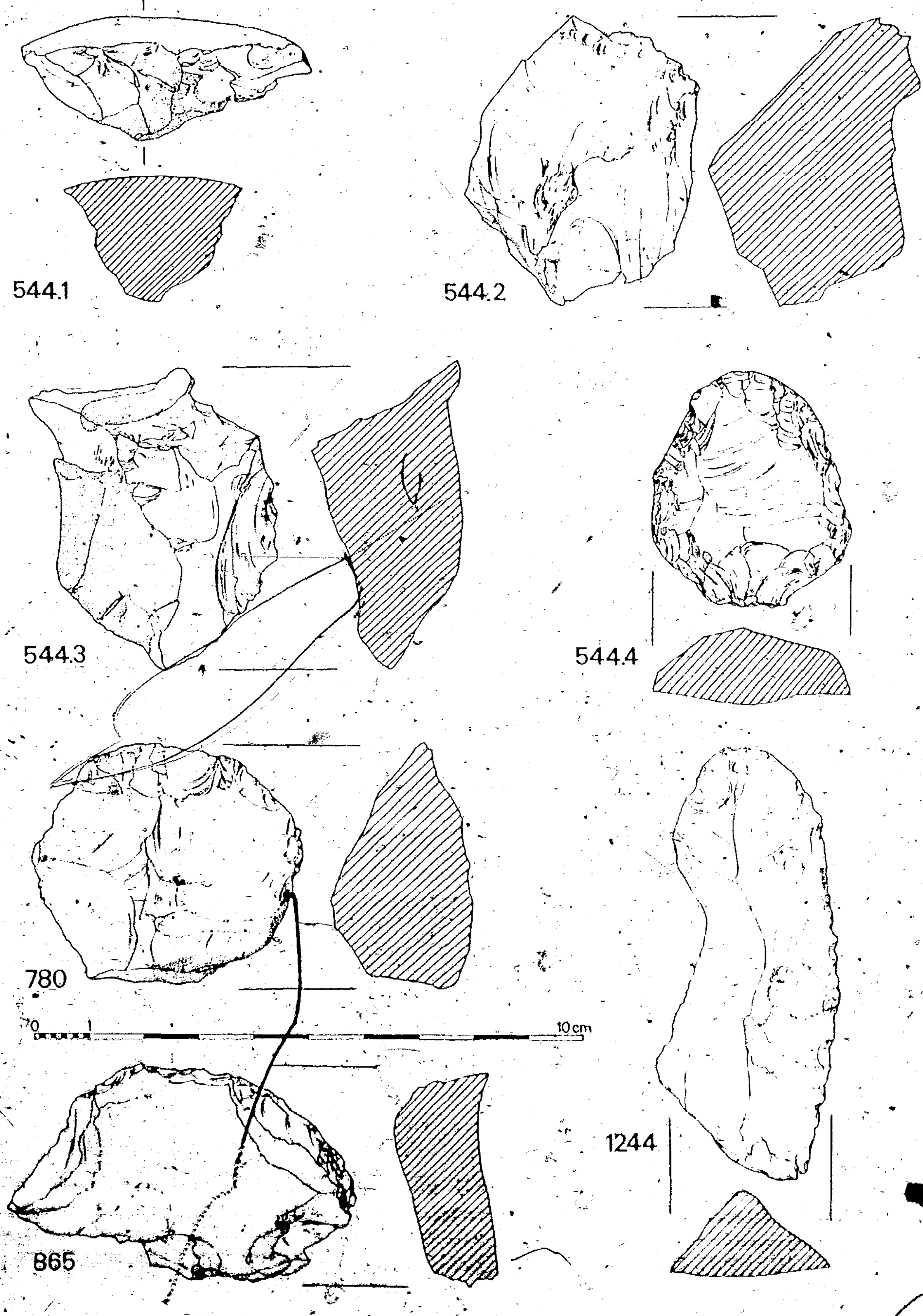


Fig 43 Neolithic flintwork: numbered according to feature

III.4.3.1 Raw materials

The gravel terraces around Abingdon are poor in workable flint, and most of the flint at Barton Court Farm, which is dark though generally lighly patinated (those from the topsoil tended to be more so) and has quite fresh light brown cortex, was probably brought to the site from the chalk some 11km to the S or the clay-with-flints of the Chilterns km to the E. There are no old fractured surfaces to suggest a surface origin on the chalk, though this may have been possible. A small proportion of the flint in both the Neolithic and later features was, however, probably derived locally. This comprises a dark flint with very worn cortex (found in 544 and two later features 355, 879) and a grey-brown, slightly cherty flint fund in 1132 and two later features (1066, 554), in one case with very battered and worn thin cortex. An unusual translucent brown flint was found in the later feature 606, and the creamy grey flint of the polished axe fragment is probably non-local and mined.

III.4.3.2 Neolithic pits

The industry is as follows:

	Cores	Core rejuvenation flakes	Waste flakes	Scrapers	Knives
544	3	2	54	4	–
365	–	1	75	2	–
1132	–	–	5	–	–
1244	–	–	9	1	1
TOTAL	3	3	143	7	1

Cores (Fig 43, 544.1-3) All weigh 40g and are well worked down. 2 are of class C with [illegible] platforms 1 class A2 with 1 platform worked part of the way round (Clark et al, 1960, 216). Their last flaked faces do not exceed 3.5cm in length, in contrast to the core rejuvenation flakes which were struck off worked faces over 5cm long.

Waste flakes These range from 1 to 6cm in length; 10 were wholly cortical. Because of the number of broken flakes, a reasonable sample was not available for metrical analysis but the most common shape seems to be the rather squat flake typical of later Neolithic industries (cf Smith 1965, fig 38; Case & Whittle, forthcoming).

Scrapers 6 were convex flake-scrapers, one worked virtually all round. The other (Fig 43, 544.4, 865) was worked straight across the end of a short broad flake. All were neat, and proportionately thin; all but 1 were under 5cm long.

Knife (Fig 43, 1244) This was an undistinguished burnt flake, 8cm long, with shallow retouch on one edge.

III.4.3.3 Possible Neolithic features (780, 866, 902)

Cores These were keeled cores of class D, from 40 to 60g; 1 (Fig 43, 780) was neatly worked, the others less so. Their last flaked faces did not exceed 4cm in length.

Waste flakes These are similar to those above.

Scrapers Both are neatly worked convex flake-scrapers under 5cm long.

III.4.3.4 Later features and topsoil

Cores Apart from 1 large quartering piece weighing 200g, all the cores were small (under 50g) and well worked down. 2 were class A2, and there was 1 each of classes B1, B2 and D; 5 were fragmentary.

Waste flakes These were again generally similar to those above; no metrical analysis was made. Several were utilized; 1 of these (from 609A) had a thin strip of gloss on its 5cm long edge.

Bevelled and serrated flakes The bevelled flakes were generally squat in shape; both edges and ends had short, steep, bevelled retouch. 1 broad broken blade had a strongly serrated edge.

Scrapers These were again largely neatly worked convex flake end scrapers under 5cm long, and proportionately thin; about half were broken. 3 were side scrapers, and 1 had an irregular edge; this had been retouched on an old patinated flake.

Knives 4 were made by shallow retouch down one edge of a flake. One triangular-sectioned flake, 4.8cm long, had neat scaling retouch on both edges, and another broken flake had steep retouch on one edge, and less neat shallow retouch on the other.

Arrowheads The leaf arrowhead is longitudinally asymmetrical and its unbroken end is rounded. Only 3mm thick, it has very fine covering pressure flaking. The barbed and tanged arrowheads are both small (under 2.5 cm long) with tangs probably in both cases longer than barbs; both are neatly retouched. There were found at the top of later features (853/1 and 1225/1).

Polished axe fragment Flake from the face of a polished axe.

Others there was a broken fabricator with D-section and slightly worn end, a unifacially retouched awl on a stout triangular flake, and various irregularly retouched pieces, including four with shallow notches.

III.4.3.5 Discussion

The flints associated with Grooved Ware are hardly diagnostic forms but the flakes and neat, relatively thin scrapers accord well with other local Grooved Ware flint assemblages as at Cassington and Sutton Courtenay (Case & Whittle, forthcoming). Scrapers are generally the most common tool type in Grooved Ware assemblages (Wainwright & Longworth 1971, 257). Flints associated with Peterborough pottery (as in pit 1244) in the region are rare and only the assemblage from Pit E at the Aerodrome, Stanton Harcourt can be cited in comparison (Case 1963, 19-21). The flints in the possible Neolithic features would fit with either Grooved Ware of Peterborough assemblages, though they too are undiagnostic.

The rest of the assemblage was probably largely derived from the later Neolithic occupation. The style and abundance of the scrapers directly supports this. A larger site than represented by the features may therefore be indicated. Fabricators, awls, and polished axes have been found in association with Grooved Ware (Wainwright & Longworth 1971, 256), the latter locally at Cassington (Case & Whittle, forthcoming). Though leaf arrowheads and barbed and tanged arrowheads have both been found associated with Grooved Ware pottery in one instance (Wainwright & Longworth 1971, 259), they probably here reflect other activity on the site, the leaf arrowhead presumably earlier (like the sherd in 1136). The barbed and tanged arrowheads are probably connected with the Beaker culture, possibly represented on the site by a sherd in 1244, and well represented locally in the ring-ditches in Barrow Hills Field, Radley ~~where similar points occur in no 4A (Williams 1948) and a slightly~~ more elaborate example in no 15 (Case & Whittle, forthcoming). As discussed above with reference to the pottery, these burial monuments may have belonged to essentially the same population which used Grooved Ware or Peterborough pottery on domestic sites. Some of the coarse flakes and irregular retouched pieces, including those reflaked on old patinated surfaces, might belong to the Iron Age occupation, as suggested tentatively at City Farm, Hanborough (Case et al 1964/5, 78); notched pieces were also found in some numbers at the North Stoke cursus, probably of the later Neolithic (Case & Whittle, forthcoming).

III.4.4 Utilized flint

One large cortical nodule of dark flint from the later feature 785 had been intensively used as a hammerstone. It weighed 160g.

III.4.5 Utilized bone

Bob Wilson & David Miles

From pit 544 (Fig 42): distal tibia shaft of sheep/goat. Part of the anterior face has been removed and the bone trimmed to a wedge-shaped point. The surface of the bone is highly polished from use, probably as an awl or a skinning knife.

Four worked mid-distal portions from range of 5th-10th ribs of cattle. One end of each piece is shaped at the edges and the outer curvature of the rib by abrasion of the solid outer bone to expose the cancellous bone tissue. One small end fragment is paraboloid in shape and is relatively thickened (5mm). A nearly complete fragment (c 150mm, ma width 42mm) also may have a rounded end where the cancellous bone is exposed. Another newly broken fragment (105mm) may be a double-edged 'blade' ground to 2mm from the natural rib thickness (7.5mm): much cancellous bone is exposed. A fourth fragment c 200mm in length has double, mainly straight edges narrowed to 0.5-1.0mm thick and from 36mm rib width to 30-31mm. Abrasion has exposed the cancellous tissue only at the rib edges. The abraded edges extend some 60mm but much of it is lost, possibly by ancient breakage.

The abraded rib curvatures are scratched or scored obliquely or transversely in an irregular pattern except on the thin blade, where many light striations are oblique, mainly on the blade and transverse away from it. The edges of the two extensively worked ribs suggest that these are bone knives prepared by grinding away the outer curvature, which would produce a flatter blade than grinding at the inner curvature. Some of the abrasion suggests that polishing and burnishing (eg. of leather or pottery) was carried out. The function of the rounded rib ends is obscure and all four pieces may be elements of a tool kit. A 16th century Venetian handbook describes the use of horse ribs for dressing kid shoes (Edelstein and Borghetty 1969, 177). The skin is rubbed with lime on the flesh side, left for half an hour, spread over a log, and shaved clean with the rib. This has the effect of cleaning and burnishing the skin and making it supple. Semenov (1964) describes the use of the narrow ends of ribs for skin preparation in a palaeolithic context: an experimental approach is required to provide an adequate explanation for ribs such as these.

III.5 THE IRON AGE OCCUPATION

III.5.1 Summary of settlement plan (Fig 44)

About two-thirds of the rectangular enclosure visible on the aerial photographs (Fig. 2) was uncovered in a single area excavation. A further small trench (Trench III, Fig 89) confirmed the position of the NE corner of the enclosure ditch and the accuracy of the cropmark plotting. Unfortunately the northern part of the enclosure was not available for formal excavation owing to the developer's need to lay estate roads and service trenches. These were observed for archaeological features but revealed little.

The Iron Age enclosure (Fig 78) was defined by a ditch up to 3m wide and cut 1.4m into the gravel subsoil (Fig 45). Its sides were 76m (S), 61m (W and E) and 66m (N), and the internal area was about 0.35ha (just under 1 acre). No evidence of an entrace was found. Within the main enclosure was a subsidiary one in the NW corner of 1020m^2 or

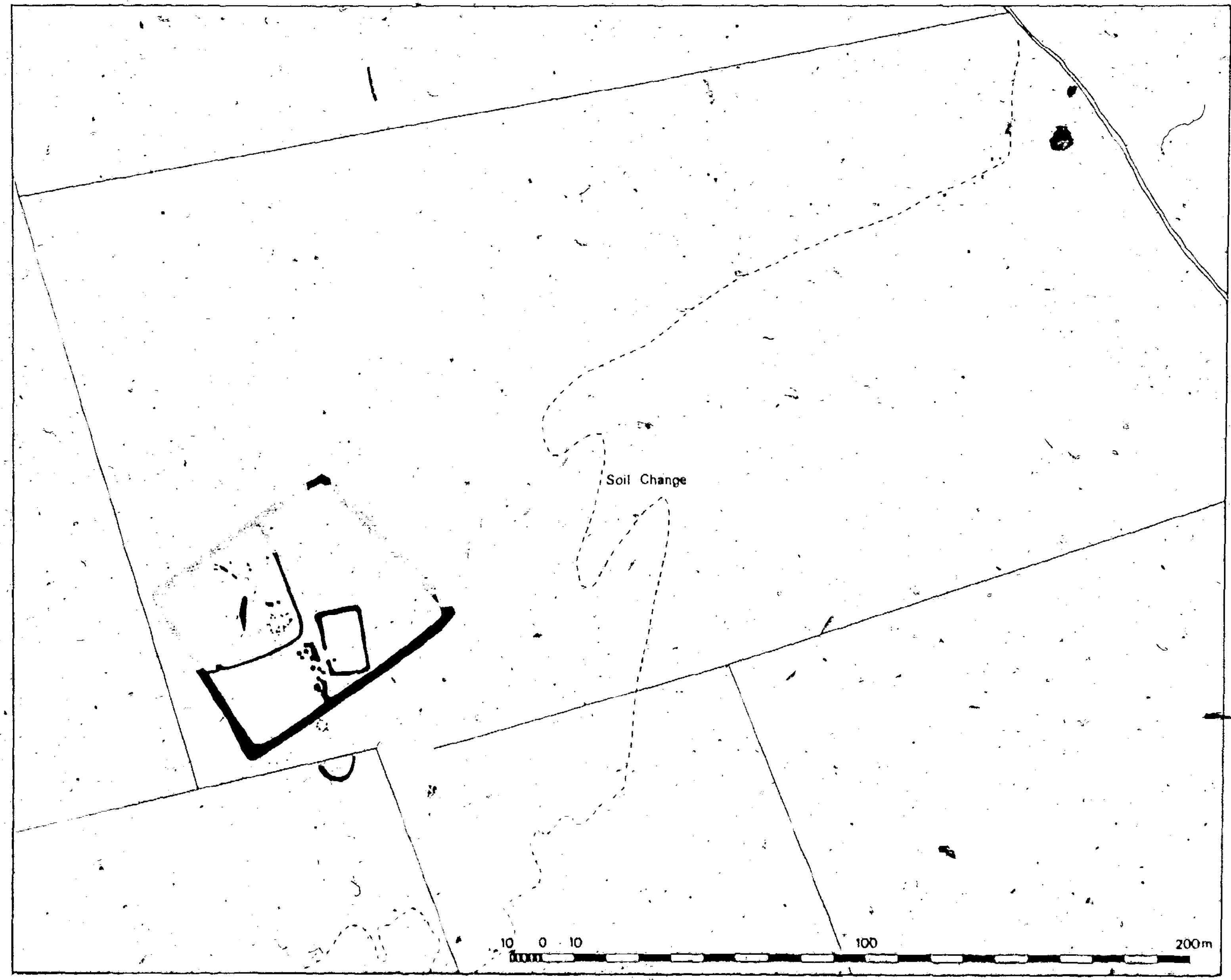


Fig 44 Plan of the late Iron Age settlement:
blacked-in areas excavated

0.1ha defined by a slighter ditch (Fig 76). This area contained the postholes of a circular building (Structure I), an associated storage pit, the inhumation burial of an adult, segments of curving ditch with an entrance on the east side, and a collection of possible postholes and pits.

In the rest of the main enclosure was a concentration of pits bounded by a shallow curving ditch (Fig 76). To the E of them a sub-rectangular ditched enclosure 20m x 14m had an entrance in its W side just S of centre. Just inside the entrance was a cremation burial. Outside the main enclosures, to the S, were contemporary Iron Age features (Fig 79). A recut ditch formed a semicircle; the rest of the possible circle lay beneath the field boundary and was not excavated. A small area of burning may indicate an associated hearth. Between this possible circular ditch and the main enclosure was a small oval collection of postholes (Structure II). These are included as part of the Iron Age settlement but produced no dating evidence and may belong to an earlier phase. No further Iron Age features were found in the extensive areas that were excavated to the S and E.

III.5.2 <u>The main enclosure ditch</u>

The whole of the S arm of the enclosure ditch was uncovered, along with part of the W side and the SE and NE corners. About 50m in length of the ditch was emptied or approximately 19% of the total.

On the S side of the Iron Age enclosure ditch (here labelled feature 5) was fairly uniform in size (see sections, Fig 45), averaging 2.5m in width and 1m deep below the gravel surface. The ditch profile was a flattened U shape. A thick deposit (c 0.5m) of clean gravel in the base of the ditch represented primary silting and the shoulder in the ditch profile (apparent in all the sections) suggests that this gravel came from rapid erosion of both the ditch sides. Little cultural material was found on the base of the ditch or in this gravel layer, but immediately above it were found considerable quantities of animal bone and pottery in a more slowly accumulating loam and gravel layer. The least gravel was usually to be found in the top layer of the ditch, which consisted of a reddish-brown sandy loam with pottery and animal bone. It was noticeable that features of this period were as a rule considerably more red in colour than the darker ones of the Roman period.

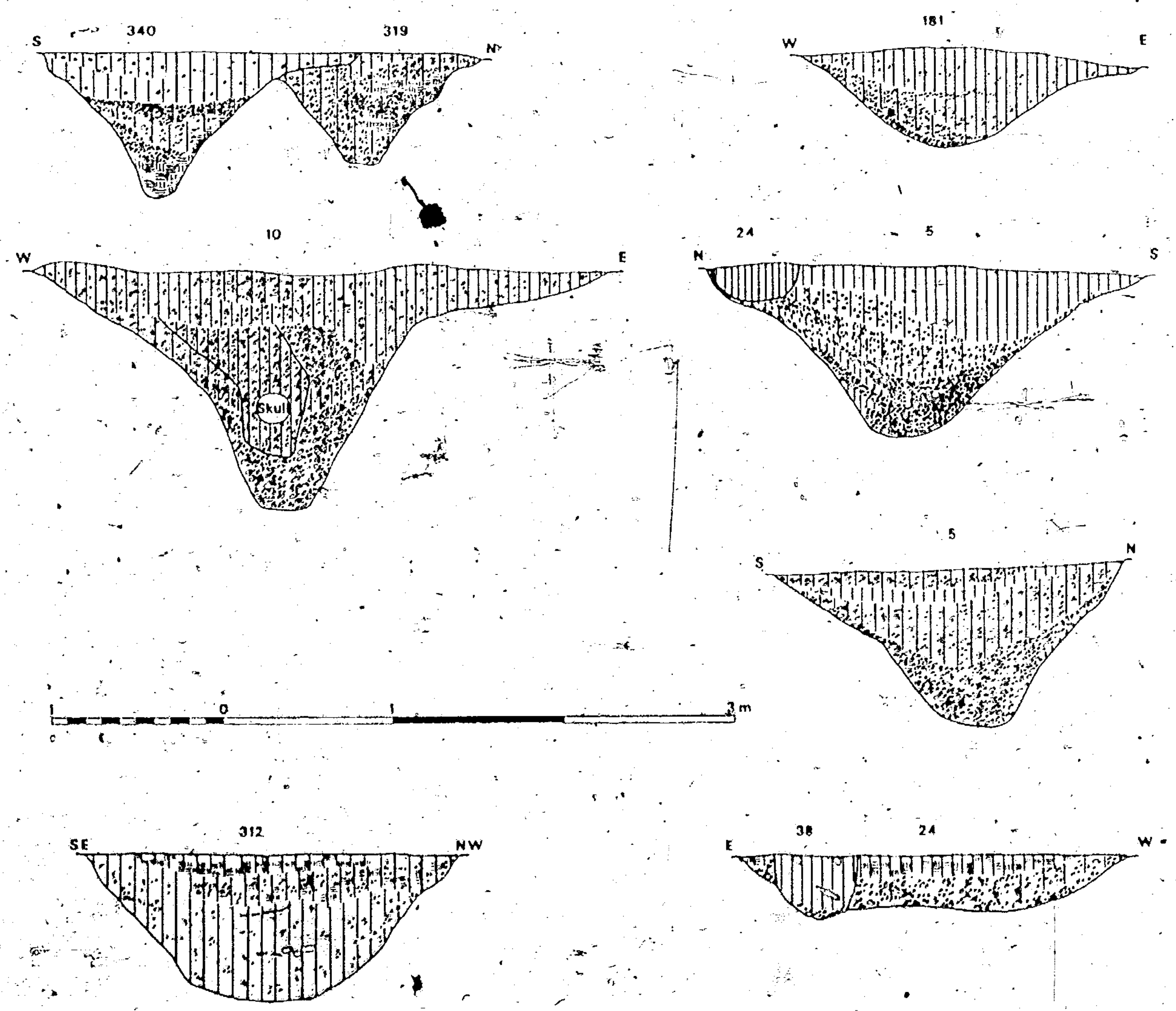


Fig 45 Sections of late Iron Age features

Towards the SW corner, the enclosure ditch became progressively deeper and wider (see Fig 45, feature 10). Increased erosion of the gravel surface would explain the width of 3.5m; the original ditch was probably about 1.5m wide. The SW corner was constructed to a depth of 1.4m below the present gravel surface, but the W arm of the enclosure becomes progressively shallower to the N (see Fig 45, features 181 and 178), at its shallowest cutting only 0.58m into the gravel surface, with a flat U-shaped profile less than 2m across.

This wasting of the enclosure ditch is apparent on the aerial photographs and only occurs in the centre of the W side; elsewhere the ditch seems to maintain a regular size. At the NE corner it was 0.84m deep and 2.40m wide. Recent ploughing has lowered the gravel surface in the central area of the site to a certain extent, perhaps a few centimetres, but the sections through the enclosure ditch show that the normal primary layer of eroded gravel is missing or extremely thin. This suggests that the ditch never cut through a deep deposit of gravel. An alternative explanation, that the topsoil was much deeper at this point, has no evidence to support it. It seems probably that the ditch was consciously constructed to be shallow and narrow for about 8–10m in the centre of the W side. If this cannot be accounted for by simple lack of care on the part of the builders, then possibly there was a crossing point over this part of the enclosure boundary. There was no deliberate infill or metalling in the ditch, but a timber bridging track might have left no trace.

Evidence of timber palisading was sought within the ditch but no traces were found. Post-voids tend to be elusive in these gravel soils, but the shape of the ditch, the silting pattern in the sections, and the presence of rubbish deposits and burials in the ditch (for example, Fig 45, feature 10, burial 103) indicate that the ditch remained open during the occupaton of the site.

The ditch was not so large that it generated sufficient material for a large bank; the excavated gravel might have been utilized on the settlement as surfacing material (which is what the archaeologists did with it during the wet winter months). If a bank existed, it was totally removed by subsequent settlements and ploughing, no great task in an area where even the massive banks of the Big Rings henge monument at Dorchester disappeared (Benson & Miles 1974, fig 17).

The evidence for the position or even existence of a bank was inconclusive. The ditch sections implied a rapid infill of pure gravel, most of which would have eroded from the sides of the ditch, followed by a slower accumulation of loamy material and rubbish: they did not help with the problem of the bank. The evidence of the site plan is similarly inconclusive. A broad shallow gully 36, was cut into the upper fill of ditch 5, probably at some time in the mid 1st century AD. At this time the ditch was almost silted up, but it suggests there was no substantial bank/hedge on the inside. The proximity of the internal rectangular enclosure also argues against an internal bank.

It is possible that there was an external bank, perhaps ~~topped~~ with a wattle fence or hedge. If this was the case, the oval posthole building structure II cannot be contemporary with this phase and would almost certainly, on the basis of posthole fill, pre-date it.

III.5.3 The north-west internal enclosure

Approximately half this enclosure was excavated, including 63m of its boundary ditch (179, 125, 321, 319, 330). The excavated ditch varied in width from 1 to 1.3m and in depth frm 0.30 to 0.65m; it was pronounced on the E side and slightest on the S. The profile was V-shaped, and in its deepest parts the section may indicate the presence of a palisade. No post voids were found, but the lack of gravel deposits in the base of the ditch and the alignment of the layers within the ditch give some support to this suggestion.

III.5.3.1 Structure I (Fig 76)

The SE quarter of the inner enclosure was a complex and disturbed area with features of several phases. A group of postholes (Table III/I) was cut through by a ditch 314 and a shallow hollow 315 belonging to the early Romano-British phase of occupation. Within the same area was a crouched inhumation 459 and the burial of a piglet 491. The disturbed and attenuated postholes seem to indicate a structure, but of uncertain type. It is possible that a circular hut of about 5m dia is outlined by the postholes, including 427, 441, 435, 438 and 430. Some of the other postholes appear to form straight lines, for example 431 & 448, 458 & 450. It is possible, though unproveable, that there were two structures on this site, one circular and one rectangular. The rectangular layout of postholes is approximately 3 x 4.3m.

The position of any entrance into structure 1 is hypothetical. Entrances in round-houses in the Upper Thames region usually occur on the E and SE sides. Postholes 435 is relatively large and might be a door support. If this was the case, the human burial 459 could be in the entrance to the hut, assuming it belongs to the same period which seems likely. If this is a circular structure, the posts may not indicate the line of the outer wall. The position of pit 311 and the enclosure ditch 319 would allow the walls to be as much as [illegible]m further out from the postholes. In this case the hut diameter would be about 7m.

Only two postholes produced any dating evidence, a total of three mid. 1st century type sherds from 438 and 450. Several postholes were cut by the early Romano-British features 314 and 315. The position, in the SE corner of the Iron Age internal enclosure, also seems consitent with a late Iron Age date.

Table III/I   Structure I: postholes

Feature No	Dia (m)	Depth (m)	Fill	Comments
322	0.37	0.28	brown sandy loam	cut by 314
427	0.25	0.36	brown sandy loam	post pipe 0.1m diameter
430	0.28	0.07	" " "	cut by 315
431	0.30	0.06	" " "	cut by 315
432	0.35	0.08	" " "	cut by 315
433	0.35	0.07	" " "	cut by 315
434	0.25	0.07	" " "	
435	0.35	0.32	red brown sandy loam	cut by 315
436	0.30	0.10	grey brown sandy loam	
438	0.30	0.10	grey brown sandy loam	cut by 315. 1 sherd of mid 1st century AD grey ware
441	0.50	0.09	grey brown sandy loam	
442	0.30	0.07	brown sandy loam	cut by 315
443	0.20	0.08	" " "	cut by 315
448	0.30	0.07	" " "	
449	0.26	0.14	" " "	
450	0.30	0.18	grey brown sandy loam	2 sherds of 1st century AD native pottery
455/478	0.80	0.25	grey brown sandy loam	relationship uncertain
457	0.35	0.29	brown sandy loam & clay	
458	0.30	0.05	brown sandy loam	
512	0.40	0.25	" " "	cut by 314
515	0.45	0.28	" " "	cut by 314

The depth of postholes cut by 314 and 315 are measured from the base of those features and are therefore deeper than the figures suggest by a few centimatres.

III.5.3.2 Other features

2m NW of structure 1 were two large pits (Fig 76, 46) 338 cut by 311 which produced evidence of corn storage (see 10:A3). On the W edge of the excavated part of the inner enclosure was a length of ditch 312. This feature had a U-shaped profile, 2m wide at the top and 0.85m deep (Fig 45). The fill, of dark brown clay loam included large quantities of pottery (mostly perforated bases) and some daub-like material at a depth of between 0.3m and 0.6m which appeared to be rapidly deposited rubbish. Ditch 312 continued for 8.5m before disappearing beneath the excavation baulk. North of 312 were two linear features 345 and 428 running NW-SE; the former was a V-shaped slot with a flat bottom 0.5m wide and 0.35m deep, the latter a much slighter feature. Both had similar fills to 312 and contained similar pottery.

This group of features may form the perimeter of a further enclosure with an entrance on its E side 4m wide. Unfortunately most of it remained unexcavated, but what can be seen suggests that a hut circle may have existed in the extreme NW corner of the Iron Age settlement enclosure. The E entrance, the large quantities of debris in the ditch, and the potential diameter of about 20m support the suggestion that a hut existed in this area.

III.5.4 The Iron Age pits (Fig 46)

Twenty-seven pits were found which could be dated to the Iron Age, all likely to be contemporary with the enclosure except possibly pits 28 and 46, which, on the evidence of the pottery contained in their fills, might belong to an earlier phase. A further pit 334, stratigraphically earlier than the 4th century AD, contained no diagnostic pottery and was spatially dissocaited from the other Iron Age pits and so has not been included here.

Fourteen of the pits formed a group, running in a linear band from near the SE corner of the inner enclosure of the Iron Age settlement to with 3m of the main enclosure ditch. Only two of these pits had any stratigraphic association (124 cut 133); the rest were discretely spaced, perhaps suggesting that they were dug and filled in successively. Inside the subsidiary enclosure were the two largest pits 338 and cutting it 311 (Fig 46) probably associated with structure I. Also within this enclosure were three smaller pits 329, 342, 415, and SW of structure I pit 379 containing the mandibles of dog, sheep and oxen on the base.

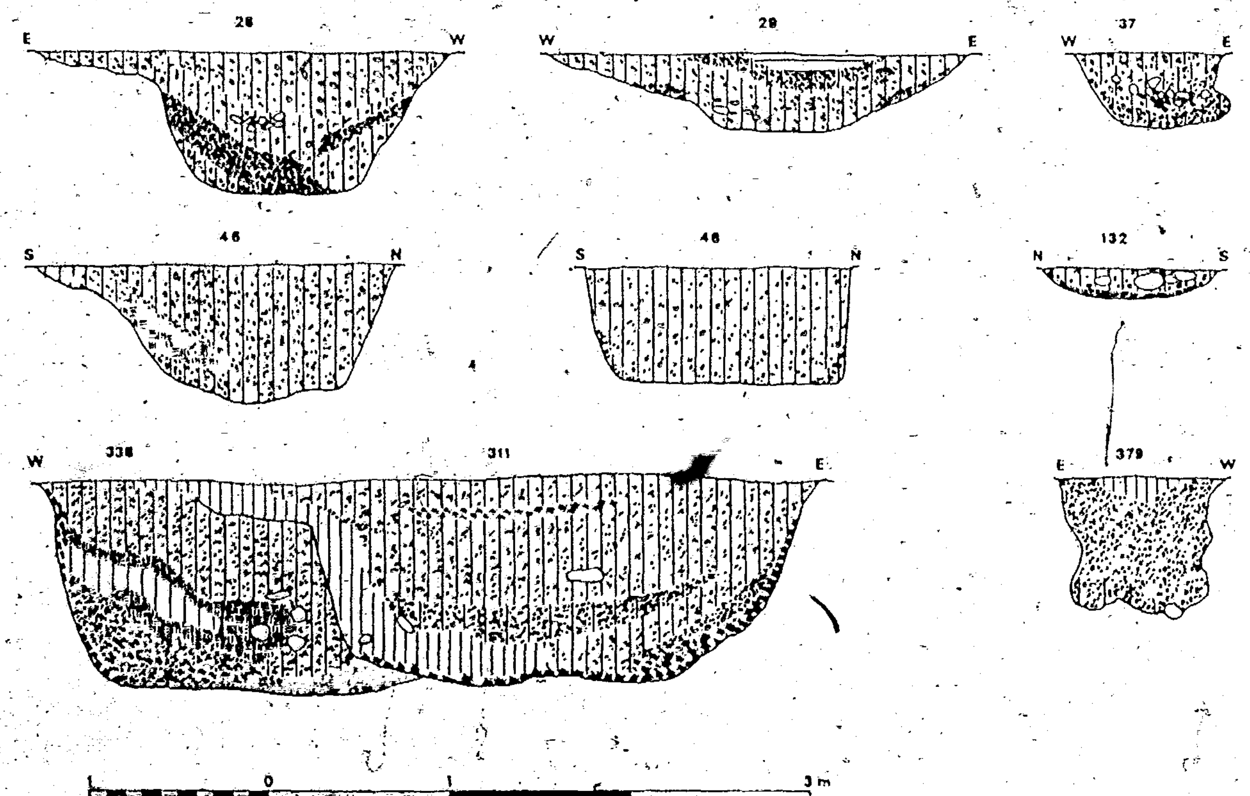


Fig 46 Sections of late Iron Age features

III.5.4.1 Size

The gravel into which these pits were dug is not a very stable material and consequently the pits were not so deep as those which occur in Iron Age sites on chalk. The depth measurements given in Table III/II are taken from the surface of the gravel, not from the present ground surface, which was approximately 0.30m higher. A selection of pit sections is illustrated in Fig 46.

It is noticeable that the pit diameters at the surface are exaggerated by erosion of the gravel; the true volumes can best be calculated using the diameters within the pits. The largest pits by a considerable margin are the two to the NW of structure I, 311 and 338, 1.15m deep and with internal diameters of approximately 2.5m. These pits had volumes of approximately $5.4m^3$.

The other pits were considerably smaller, some little more than shallow hollows, but there were five pits 0.8m deep or thereabouts with surface diameters of 1.4–1.9m. The volume of pit 28, which is typical of this group, is approximately $1m^3$.

III.5.4.2 Function

Traditionally, pits on Iron Age sites are associated with corn storage, and this interpretation probably applies to some of those at Barton Court Farm. The largest pits, 311 and 338, show evidence of burning inside, in the process of which quantities of cereal became carbonized in situ. It seems likely that in both these cases sour corn storage pits were fired in order to purify them. This was probably also the case with 388. In the main pit cluster there was less direct evidence of function, although the size and layout suggests sytematic and regular storage in units averaging about $1m^3$.

Not all the pits need have been for corn storage. Pit 132, which was shallow, sub-rectangular, and flat-bottomed, was lined with clay which was covered with quartzite pebbles. Pit 37, a small circular pit, also had a layer of stones, but in this case they were burnt and surrounded by charcoal. This particular pit may have served as a roasting or parching floor, as may pit 318.

Pit 415 contained fragments of burnt limestone, charcoal, and slabs of crude fired clay. Similar material was found in pits at the Iron Age settlement of Ashville near Abingdon (Parrington 1978) and may indicate the use of shallow pits as parching ovens or hearths.

Pit 379 was relatively narrow and cylindrical. On its base lay the mandibles of dog, cattle, and sheep.

In addition to these three types of pit there were also some shallow ones (30, 351, 133), the first of which contained a lump of lime.

Pit 214 was small and almost straight-sided and contained fragments of a large storage vessel, which had apparently stood in this feature. It position suggests that it might have been associated with the early Romano-British building rather than the Iron Age phase.

TABLE III/II

Iron Age pits

Feature no	Dimensions (m) Width	Length	Depth	Profile	Comments
26	1.50	2.10	0.40	U-shaped	-
28	1.70	1.90	0.80	U-shaped flat bottomed	early Iron Age pottery
29	2.30	2.30	0.44	Flat	-
30	1.15	1.15	0.32	U-shaped, flat bottomed	-
32	1.40	1.35	0.44	U-shaped, flat bottomed	-
35	0.80	1.60	0.15	Flat	-
37	0.80	0.80	0.40	U-shaped, irregular	burnt stones, charcoal in base
46	2.00	2.00	0.75	U-shaped, straight sided	-
48	1.30	1.50	0.65	flat-bottomed	rectangular shape
57	1.18	1.18	0.48	U-shaped	-
64	1.80	1.80	0.80	U-shaped, flat-bottomed	-
69	0.96	1.10	0.50	U-shaped	-
124	1.50	1.50	0.80	U-shaped flat bottomed	-
129	1.80	2.10	0.40	shallow, flat-bottomed	-
132	1.20	1.50	0.30	shallow, flat-bottomed	clay-lined, packed with pebbles, clay slabs
133	1.00	1.00	0.20	flat	-
166	0.76	1.10	0.36	U-shaped	-
214	0.80	0.80	0.50	steep-sided, flat-bottomed	large fragments of storage jar inside
311	3.20	3.80	1.15	U-shaped, flat-bottomed	burnt inside

Feature no	Dimensions (m) Width	Length	Depth	Profile	Comments
318	1.00	1.50	0.40	shallow, flat-bottomed	burnt stones and charcoal
329	1.85	1.80	0.35	U-shaped, flat-bottomed	-
338	3.20	1.70+	1.20	U-shaped, flat-bottomed	burnt inside
342	0.70	1.20	0.40	straight-sided, flat-bottomed	-
376	1.50	1,50	1.05	flat-bottomed	-
379	0.85	1.20	0.80	irregular cylinder	animal mandibles at base, fragments of clay slabs
388	2.70	-	1.15	U-shaped, flat-bottomed	burnt inside
415	1.10	1.30	0.55	U-shaped, flat bottomed	contained clay slabs

The cluster of Iron Age pits was bounded on its E side by two curving lengths of shallow gully (24, 36). The gullies were 1.5-2.2m wide and about 0.30m deep with a sandy loam lower fill and a distinctive fine, greyish silt on the top. The gullies ran for 20m between the SE corner of the internal enclosure and the outer S boundary ditch. Centrally placed between the two gullies there was an entrance 4.7m wide. At its S end gully 36 cut into the top of the main enclosure ditch 5, showing that at the time it was dug ditch 5 was silted up to the level of the gravel surface. Gully 24 also cut the Iron Age pit 32. Nevertheless, this feature probably belonged to the Iron Age phase, as the pottery within it was entirely characteristic. Presumably the curving gully served to separate two areas within the Iron Age enclosure. The fact that it ran into the main enclosure ditch argues against the presence of an internal bank.

III.5.5 The small rectangular enclosure

2m E of the curving gully lay a rectangular ditched enclosure 20 x 14m with an entrance 1.4m wide in the long W side. The ditch had a V-shaped profile, 2m wide and about 0.45m deep. The primary silt of clean gravel suggested that the ditch had been left open for some time after it had been initially excavated. The SE part of this enclosure had been destroyed by the construction of the late Romano-British farmhouse, especially the cellar.

The only feature within this enclosure was a human cremation 17, in a shallow pit (4: C5), but this could not be dated. The rectangular enclosure was not aligned on the main Iron Age enclosure ditch to the S of it. However, by projecting the ditches destroyed by the villa it becomes apparent that it must have sat just inside the main enclosure, again arguing against an extant internal bank. The pottery within the rectangular enclosure ditch indicates that it belonged to the latest phase of the Iron Age.

III.5.6 The area to the south of the Iron Age enclosure (Fig 79)

Just to the S of the Iron Age enclosure, and only 0.5m from the S of its ditch, was an oval posthole structure (structure II: Table III/III) 5.3m across its long axis and 3.6m across its short axis. The oval was outlined by 12 postholes, one, 151, probably recut. a further posthole, 146, to the SE may have been part of the structure, in a position appropriate for an entrance. The postholes were set about 1m apart except on the E side, where they were closer together.

The postholes were all fairly small with clean, greyish brown sandy loam fill; none contained any artefactual material.

Table III/III
Structure II postholes

Feature No	Diameter (m)	Depth (m)	Fill	Comments
146	0.40	.19	grey-brown sandy loam	
147	0.30	0.09	"	
148	0.20	0.18	"	
149	0.16	0.10	"	
150	0.30	0.14	"	
151	0.32	0.18	"	probably recut
152	0.16	0.10	reddish-brown sandy loam	
153	0.28	0.14	grey-brown sandy loam	
154	0.30	0.20	"	
157	0.30	0.06	yellow-brown gravel	
218	0.23	0.06	reddish-brown sandy loam	

It is not possible to say which phase of occupation structure II belonged to. There seem to be three possibilities: (a) that it was contemporary with the late Iron Age enclosure, (if this was the case, there can have been no external bank around the farmstead); (b) that it belonged to an earlier Iron Age phase, possibly indicated by the presence of supposedly earlier types of Iron Age pottery on the site, for example in pit 28; (c) that it belonged to the late Neolithic settlement otherwise represented by small pits containing Grooved Ware.

13m S of structure II, beyond the lynchet which formed the boundary between two present-day fields, was a semi-circular section of recut ditch. The ditch appeared to have been recut as many as four times, but it was much disturbed by later ditches, such as the Romano-British enclosure ditch 602 and the post-medieval ditch 612. The ditch was up to 1.7m wide and 0.35m deep.

The semi-circular section that was excavated suggested that the enclosure ditch continued under the field lynchet. This was supported by the discovery of a section of the ditch in a cutting through the lynchet along the projected line of the W wall of the Romano-British farmhouse. The recut ditch probably formed an oval of about 11m across. The internal area which was excavated was almost entirely destroyed by later ditches. A burnt area 749, on the S edge of the enclosure, was probably the remains of a contemporary hearth. It formed a slight hollow with burnt slabs of concreted gravel within it. Carbonized plant remains were found here (9:A3).

The pottery from the gully indicated that the enclosure belonged to the late Iron Age phase of settlement. An oval enclosure of this kind may have had a hut within it. The position of the hearth perhaps makes this seem unlikely, but an Iron Age structure has recently been excavated by the author at Claydon Pike, Lechlade, with a hearth close by the SE entrance.

III.5.7 Iron Age finds

Except for pottery, clay slab fragments, and animal bones there were relatively few finds from the late Iron Age phase of occupaton. Numbers in brackets indicate the site small-find number, under which objects are also stored.

Main enclosure ditch 5, 10: (22) decorated bone toggle, (37) bone handle

Shallow ditch 24: (17) bronze mount on wood

Posthole 65: (30) clay spindle whorl

Pit 342: (117) iron knife

Pit 318: (121) bronze binding strip

Pit 415: (142) ceramic spindle whorl

Pit 426: (143) small iron bar

Small rectangular enclosure ditch 325: (130) bronze brooch of mid-late 1st century type.

Enclosure dich as above, 339: (116) bronze thistle brooch of early post-Conquest date.

Enclosure ditch as above, 368: (133) bronze binding strip.

Several objects found in later features were probably residual from this phase. Some of the mid 1st century type brooches listed below may have belonged to the early Romano-British phase of occupation.

Farmhouse rubble spread 18: (11) bronze Aucissa-type brooch, (13) 2 iron brooches; all of mid 1st century types.

Topsoil north of farmhouse: (119) bronze penannular brooch, probably of first half of 1st century AD.

Late Romano-British ditch 336: (122) iron penannular brooch, probably of first half of 1st century AD.

Early Romano-British pit 366: (115) bronze coin of Cunobelin AD 10-40.

Late Romano-British ditch 648: (187) iron brooch, mid 1st century type.

Layer outside structure II, 796: (293) bronze Langton Down-type brooch of mid 1st century.

Late Romano-British ditch 953: (522) bronze Aucissa-type brooch of mid 1st century.

Unstratified: (74) bronze brooch bow of mid to late 1st century; (628) bronze Colchester type brooch of mid 1st century.

III.6 THE EARLY ROMANO-BRITISH FARMSTEAD (Fig 47)

III.6.1 Summary

In the early Roman period a trapezoidal, ditched enclosure was laid out over the previous Iron Age one. Its long axis was aligned N-S; the W and E ditches were parallel, 74m and 95m long respectively. The N and S ditches were both about 52m long. The enclosure was divided into at least two areas by a staggered E-W ditch, a central entrance offering access from one area to another. A pair of parallel ditches ran along the E side of the enclosure with a central beam 3m wide. At the S end a line of postholes closed the gap between the two ditches.

The total internal area of the early Romano-British enclosure was approximately $4300m^2$, 0.43ha; the area of the S yard was approximately $1566m^2$. Most of the S yard was uncovered during excavation, but only about 30% of the N one. A centrally placed entrance in the s ditch gave access to the S yard in which stood a large rectangular timber structure. Between this structure and the entrance were two groups of six postholes. Also within the S yard were contemporary pits. The excavated part of the N yard was completely lacking in features.

III.6.2 The enclosure ditches

Excavation was concentrated on the S and W arm of the single outer ditch (features 6, 9, 128), some 47m of which ~~were~~ uncovered and 32m. excavated. Unfortunately the N arm was not available for excavation, although it is visible on the aerial photographs. The S arm of the ditch was regularly shaped along its entire length, 1.8m wide ~~and c 0.55 deep;~~ its profile was a flattened U-shape.

The W arm was also straight and regular, 1.8m wide but with a more V-shaped profile and a slight slot in the bottom, and 0.7m deep. The depth and regularity of this ditch suggests that the shallowness of its Iron Age predecessor was a deliberate construction, rather than influenced by the lie of the land in the 1st century.

The composition and nature of the ditch fill can be seen in the sections (Fig 48). Like the Iron Age enclosure ditch, this one was probably open rather than containing a palisade. The section suggested gradual infilling rather than deliberate packing around posts. There was no evidence for a bank, though there could have been a slight one, ~~either~~ on the inside or outside. An appropriate space of a little over 2m existed

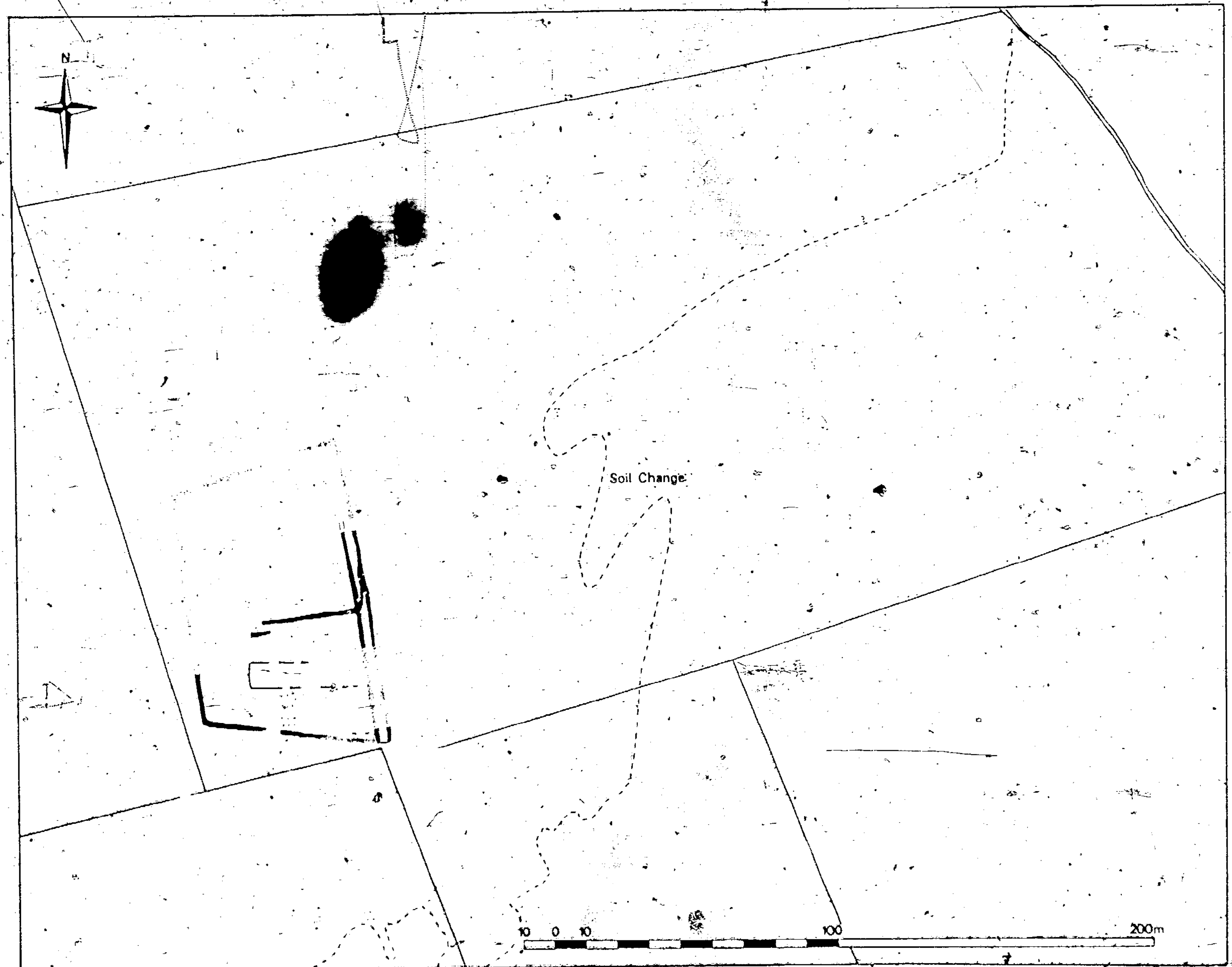


Fig 47 Plan of the Early Romano-British farmstead:
blacked-in areas excavated

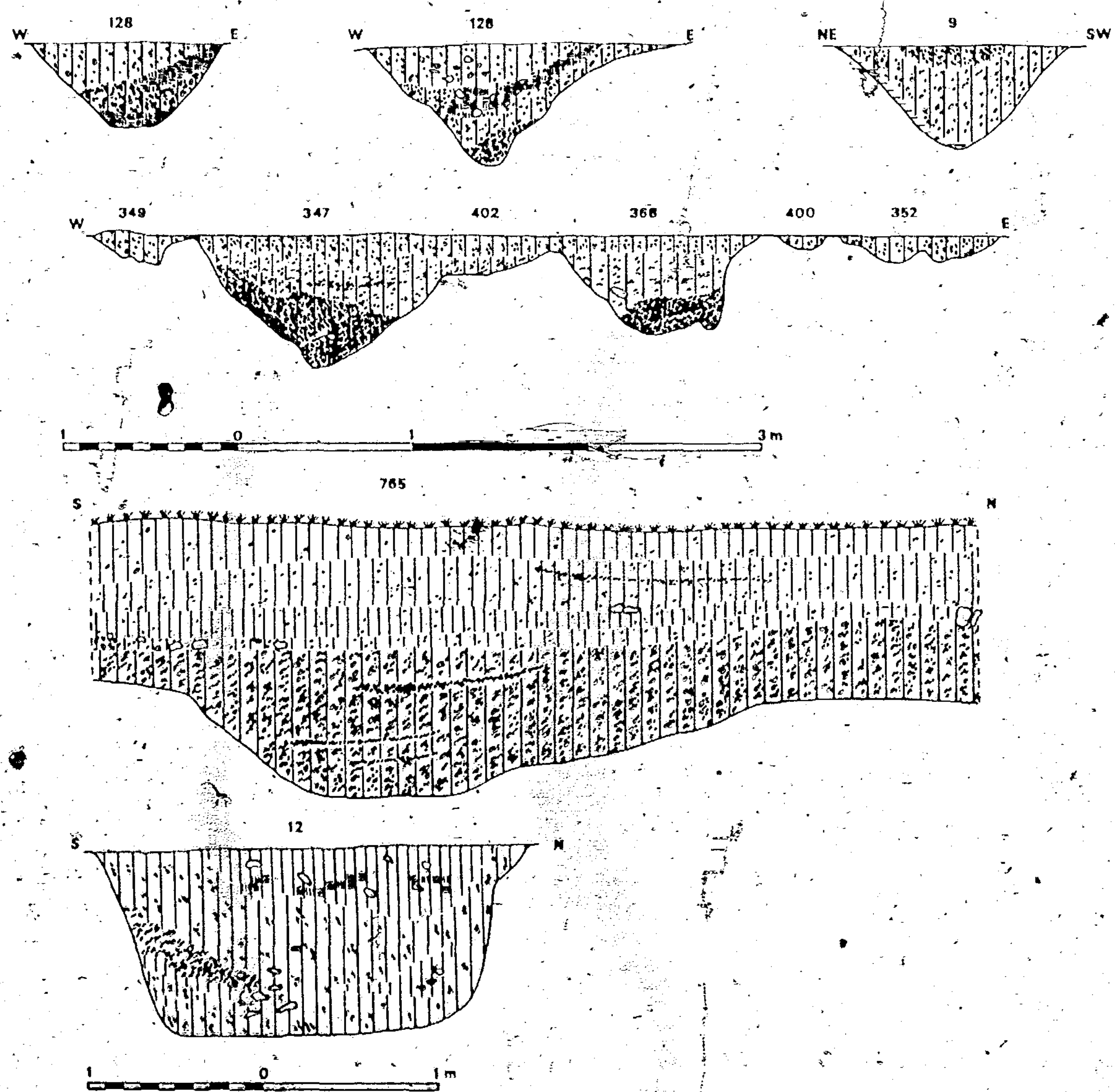


Fig. 48 Section of early Romano-British features

between the ditch and the nearest internal features, in which a bank topped by a hedge or fence may have stood. Parallel to the S enclosure ditch and 0.4m to the S of it (Fig 78), a shallow discontinuous slot about 0.3m wide was traced for 6m before diappearing in the surface of the indistinguishable fill of the Iron Age enclosure ditch. The slot was little more than a dark stain in the surface of the gravel, but may indicate the position of a line of posts contemporary with the early Romano-British enclosure. If an external bank existed, this slot may represent revetting. The slot seems unnecessarily long for the foundation of a timber causeway across the ditch, and in any case an entrance existed 10m to the E.

III.6.2.1 Dating evidence

The enclosure ditch produced no conclusive evidence from the lowest fill for its construction date. The pottery distributed throughout the ditch fill was of mid to late 1st century types (7:B13). Some of the earlier type ceramics may have been residual, as the enclosure ditch cut features of late Iron Age date. A coin of c AD 82 (Cat No 5) was found 0.4m deep within the fill of the ditch. Fragments of two large mortaria were also found in the ditch at a depth of c 0.2-0.3m. One of the vessels was stamped SOLLUS F, the mark of a probable Brockley Hill potter operating in the latter third of the 1st century AD (7:B7).

The small quantity of Samian from the enclosure ditch included pre-Flavian (ie pre AD 69) or early Flavian types (7:B8).

The dating evidence from the main enclosure ditch is consistent with use throughout the last three or four decades of the 1st century AD and possibly a little into the 2nd century.

III.6.3 The entrance

The only entrance to be located was placed slightly to the W of centre, in the S side of the enclosure. The two ditches terminated, leaving a causeway of gravel 2.3m wide. Three features (113, 114, 176) ran in a line due north from the entrance and might represent the traces of a gate structure. The dating evidence of these postholes was not conclusive; 114 and 176 contained late Iron Age type sherds and 114 also contained early Roman ones; 113 produced no pottery. More significantly, 114 contained fragments of white wall plaster similar to that in pit 12 (see below). 114 was 0.24m deep, 113 and 176 both 0.15m deep; all had brown sandy loam fill.

A large pit, feature 12 (Fig 48), was dug in the entrance, just cutting the terminal of the SE ditch, which at this stage was almost silted up. The pit was subrectangular in shape, 2.4m long, 1.5m wide, and 1.1m deep. It was flat-bottomed and had been backfilled with layers of brown sandy loam, gravel, and debris containing white wall plaster. The pottery from the pit indicated that it was backfilled in the late 1st and 2nd century AD (7:B13) and was therefore generally contemporary with the early Romano-British phase of occupation.

II.6.4 The eastern double ditch (Fig 77, 79, 48)

The side of the early Romano-British enclosure was formed by a double ditch, or rather two parallel ditches 2.5-3m apart. At the S end the two ditches 765 and 743 were linked by a shallow irregular slot. The inner ditch was a continuation of the main enclosure ditch 765 and of similar dimension. A berm 3m wide existed between the ditches. 4.7m of the outermost ditch were excavated at its S end before it ran under the later Romano-British farmhouse. The double-ditch coincided almost exactly with the corridor walls of the farmhouse, and the fill of the two ditches had been largely removed by the later builders in order to provide a firm foundation.

The double ditch emerged to the N of the farmhouse in a complex mass of features of different periods where at least five slots and ditches ran along the same alignment (see Fig 79). The berm between the ditches was less distinct, narrowing to 2m. In one section the outermost ditch divided so that no berm remained at all during excavation. Their shallowness did not allow the exact relationship between the different sections of the double ditch to be fully established (see Fig 48). It seems likely that in ~~this~~ N section there had been recutting of the double ditch, though this was not apparent on the other sides of the enclosure. Across the inner ditch 347 was a spread of Corallian ragstone. Otherwise stone was rare on the site at this period, and this particular spread was probably laid down at a later phase and settled into the earlier ditch. South of the stone spread a large pit 366 was found within ditch 347.

III.6.4.1 Pit 366 (Fig 77)

The pit appeared to be contemporary with and constructed within ditch 347. It was roughly circular with a diameter of c 2.5m and 1.3m deep. On its base were small slabs of limestone. The fill mainly consisted of layers of yellow and greenish clayey material. Two postholes 384 and 385 were found on the W edge of the pit and a further two in the base; the four formed a roughly 1m square setting. The postholes seem to indicate that a timber construction stood within the pit, perhaps similar to those within the later Roman wells (see III 7.3.18).

There was no indication of waterlogging in the pit, and this is not a suitable part of the site to construct a waterhole. It is more likely that feature 366 acted as a cess-pit.

In the top of the pit was found a bronze coin of Cunobelin dated between AD 10 and 40. The pit also contained Samian and large mortaria fragments of late 1st/early 2nd century types.

III.6.4.2 Function of the double ditches

The presence of pit 366 supports the idea that the internal ditch 347 was open and did not hold any form of fencing (unless the two internal postholes are seen as such). The two ditches may have bounded a trackway 2.5-3m wide. If this was so, the S end of the trackway was blocked by a fence line and there was no sign of an exit in this direction. Unfortunately the cropmark evidence is not sufficiently clear to ascertain whether the double ditches continued to the NE corner of the enclosure, though this seems likely.

An alternative explanation is that the spoil from the double ditches was piled up on the berm between them in order to provide a more substantial bank on the E side, ditched internally and externally. The posts at the SE corner could then have acted as a revetment rather than a blocking fence.

III.6.5 The southern yard (Figs 76-78)

The two yards within the early Romano-British enclosure were bisected by two ditches running E-W which were staggered and overlapping, to form an entrance slightly to the W of centre. The W and most S of the two ditches 313 was approximately 1-1.2m wide and 0.4m deep, with a distinct slot in the bottom in some places. The fill was a uniform brown sandy loam. The E and N ditch 314 was similar in character to 313 but with a deepending of the terminal 316. To the E this ditch cut through the earlier Iron Age structure I and its enclosure ditch 319. Beyond this the ditch became shallower and indistinguishable in the surface of the earlier Iron Age ditch 339. It is assumed that 314 linked up with the N-S double ditch, just to the N of the supposed cess pit 366. In this case the cess pit would have been in the angle of these ditches, and possibly sheltered by their respective banks, especially if the double ditch bounded a large central bank rather than a trackway. The two sections of the internal partition overlapped by 6.5m, leaving an entrance from the N to the S yard 2.2m wide. At some stage in the early Romano-British period a pit 328 was dug into this entrance gap. An irregular gully 144 was also dug from the terminal of the S ditch 313 to the N side of Structure III. This may have served to channel traffic to the E.

III.6.6 Structure III (Fig 78, 79)

Within the S yard the principal feature was a large rectangle defined by a narrow and extremely shallow slot. This rectangular structure was 8.5m wide and at least 28m long. The length was uncertain as its E end had been removed by the construction of the later Romano-British farmhouse. The boundary ditch of the early Romano-British enclosure was only 5m beyond this point, so it seems unlikely that the structure could have been much over 30m long.

The remains of this were extremely slight, partly owing to the effects of ploughing but principally because the slot barely penetrated the surface of the gravel. The rectangle seems to represent the remains of a timber building, but no evidence of flooring and little of the means of construction survived.

The slot itself survived only intermittently. It appeared only after very careful cleaning of the surface of the gravel and was first visible as a coherent feature only when viewed from the top of a 10m scaffolding tower. Along much of its length the slot survived as no more than a stain in the gravel, quite clear after cleaning and spraying with water, but of no substance. In several places the slot disappeared entirely, particularly at the NE corner, where it probably overlay earlier pits and ditches, and it was not so visible as in the yellow gravel surface to the W.

The slot was best defined on its N side, at the E end, where a section, 191, was completely excavated. The slot, 3.4m long, averaging 0.22m wide and up to 0.10m deep, was found to consist of a series of egg-shaped hollows, between 0.2 and 0.4m across. In total there were seven of these in the 3m length of the feature. The shape of the slot suggested that it originally held a series of substantial vertical posts perhaps about 0.2m thick and 0.2-0.3m apart.

On the centre of the S side a segment of the slot 67, 3m long, was sectioned lengthways. The base of the slot was fairly flat and was 0.05m deep, but two hollows 2.2m apart were both 0.12m deep. The deepest section of the slot occured on the S side, just N of centre 158 where it was found to reach 0.23m. Unfortunately only a short length survived in which there were no obvious individual postholes. Further to the W modern pits had destroyed the feature. Just to the W of these pits, by the SW corner of the structure, there was a double slot, as if this section had been replaced at some stage on a more southerly line.

The slot was faintest of all at the W end, across the short axis of the structure. In no place did it survive there as more than a stain in the surface of the gravel. Presumably this reflects the fact that the end walls were not load-bearing. In both the N and S sides of the structure there were gaps which might indicate entrances. In particular, 7m from the NW corner there was a gap 1.2m wide. On the W side the terminal of the slot held two distinct postholes, 201 and 198, 0.16m and 0.14m deep respectively. Both contained Corallian ragstone packing and fragments of white plaster; the former was cut and perhaps replaced by the latter. Other gaps in the sides of the structure may have indicated entrances (for example between segments 158 and 67-27), but the fragility of the remains makes interpretation uncertain.

Within the internal area of this structure there were many pits and possible postholes of several different periods; at the E end in particular there were many Iron Age pits. Most of the smaller circular features had indeterminate fill of brown sandy loam and contained no finds; none in fact contained specifically early Roman pottery. The picture was complicated by extensive rabbit burrowing. A selective examination of the internal features suggests that there may have been a line of posts running parallel to both the N and S sides of the structure, approximately 1m inside them. The infant burial 196 was found just inside the north wall of structure III, but had no independent dating evidence.

Although the remains of structure III were slight, the building itself was probably fairly substantial. Apparently no stone was used in its construction except as post packing, but traces of white wall plaster both in postholes and in pit 12, cut into the enclosure entrance, indicated that the walls were plastered. No ceramic or stone tiles were found on this phase, so the roof was probably thatched. The ground-floor area of the building was at least 238m^2. Unfortunately the lack of foor levels means that there is no substantial evidence of internal divisons or the functions of the different areas within the building. It seems likely that it was, at least in part, domestic. Pit 19, which is thought on ceramic evidence to be comtemporary with structure III and inside it, contained two iron keys, which suggests the building had a door which could be locked.

III.6.7 Other posthole structures (Fig 78)

There were many individual and stratigraphically isolated features within the remaining area of the S yard of the early Romano-British farmstead. Some could be dated reasonably reliably to other periods, but for many the dating evidence was unreliable or non-existent. The sorting out of individual features was not made easier by the extensive traces of rabbit burrows (rabbit skeletons were found within them), many of which seemed to link what were suspected to be genuine archaeological features.

The main complex of postholes relevant to this period was found between the large rectangular structure and the S side of the main enclosure ditch (Fig 78). They appear to have formed a rectangular block between structure III and the enclosure entrance, aligned upon the E side of the entrance.

The identification of these postholes as a coherent and contemporary group rests principally upon the relative regularity of their layout and the dating evidence. The group consists of a basic block of at least twelve postholes, with possibly several others associated. The SW, SE, NW, and NE corners of the block were formed by features 130, 111, 127, and 84/85 respectively. The S edge of the block was parallel to the early Romano-British enclosure ditch and just over 2m inside it; the W edge of the block was aligned at right-angles to the enclosure entrance and offset 2m to the E of it.

III.6.7.1 Dating evidence

Of the twelve main postholes six contained no artefactual material, one 111, contained five sherds of Iron Age type and an iron nail, 93 had only an iron nail, two postholes, 77 and 85, had sherds of both Iron Age and early Roman type, and two, 130 and 80, had sherds of early Roman type only.

Postholes 130 also contained a bronze coin (Cat No 6) dateable to AD 96. Posthole 107 within this block also contained a bronze coin (Cat No 7), dateable to AD 96, as well as two Iron Age sherds.

This block of postholes formed a rectangle 9m x 4.5m. The postholes also fall into two groups of six 3 x 4.5m with a space of 3m between the groups. Their depths into the gravel varied between 0.1 and 0.2m. Two six-post structures would explain the need for the central line of posts in what would otherwise be a long structure only 4.5m wide. These six-post structures could have been used for storage, either as enclosed granaries or platforms for hay-ricks. Their position alongside the trackway through the main S entrance would have been ideal for unloading straight from carts.

III.6.8 Pits

In addition to pit 12, cut into the entrance of the enclosure, and the cess pit 366, there were five other pits or gullies attributable to this phase (Table III/IV). The pits do not have the regularity of shape or distribution of the earlier Iron Age pits and were probably not used for crop storage. They can be best explained as quarries for gravel (131), possibly settings for water butts or other vessels (19), and ultimately for rubbish disposal.

Table III/IV

Early Romano-British pits

Feature	Dimensions (m) Surface	Depth	Fill	Comments
19	1.50 diam	0.22	grey-brown sandy loam, including iron fragments	inside W end of structure III
131	4 x 1.50	0.45	grey-brown sandy loam with gravel near base	immediately outside W end of structure III. Rectangular and flat-bottomed.
144/360	10x 1	0.20	brown sandy loam and clay	probably a gully attached to the internal enclosure ditch
328	3.1 x 1.4	0.30	brown sandy loam and gravel	cut into entrance between internal enclosure ditches
397	2.0 dia	0.68	red-brown sandy loam	cut by late Romano-British villa enclosure ditch.

III.6.9 Early Romano-British finds

Enclosure ditch 6, 9: (29) inscribed pottery disc (gaming counter), (31) bronze brooch, mid first century type, (32) bronze netting needle, (33) clay spindle whorl, (63) bronze coin, AD 82.

Pit 19, inside structure III: (25) iron key, (26) iron key

Posthole 107: (34) bronze coin, AD 96

Posthole 130: (9) bronze coin, AD 96

Pit 366: (115) bronze coin of Cunobelin, AD 10-40, (134) small iron rod

Posthole 38 in pit 366: (127) iron brooch of mid 1st century type

Hollow 561 under room 1 of the late Romano-British farmhouse: (148) bronze brooch pin, (150) 2nd century sestertius, (151) iron chisel

790, layer underlying building 2: (302) Hod Hill type bronze brooch of mid 1st century to AD 75

Some of the unstratified brooches of mid 1st century type listed under the Iron Age finds (III.5.7) may belong to this phase.

III.7 THE LATER ROMANO-BRITISH FARMSTEAD (Figs 49, 62)

III.7.1 Summary

At its peak the later Romano-British farm included a small farmhouse or cottage villa with seven rooms on the ground floor, a cellar, and probably an eighth ground-floor room over it. This sat within a ditched enclosure which was itself surrounded by a regular checkerboard of ditched closes or paddocks, covering 1.4ha. Within these were wells, waterholes, a corn drying oven, and at least one subsidiary building. A trackway bounded the complex on the E side, which appeared on the aerial photographs to branch off from the NE corner to run E towards the present-day Barrow Hills Field. There was some evidence that the farmhouse was built before the ditched paddocks, in Phase 1. Phase 2 consisted of the farmhouse and regular paddock system, and Phase 3 of the farmstead with the addition of at least a further 0.4ha of more irregular paddocks on the S side of the farmhouse. Finally, in Phase 4 of the later Romano-British period the farmhouse was systematically demolished and robbed and the cellar backfilled.

Fig 49 Plan of the 4th century farmstead: blacked-in areas excavated

III.7.2 The later Romano-British period: Phase 1

The extensive robbing of the farmhouse meant that the construction date of this building was difficult to determine. It seems likely that there was a break in the occupation of the site between the early and later Romano-British periods. The later farmhouse was built along the line of the earlier double ditch, and this silted-up feature was completely emptied to provide firm foundations. The later farmhouse also cut through the E end of the early Romano-British building. It is thought that the farmhouse, with the exception of the cellar, was constructed in Phase 1, although it will be decribed under Phase 2. Only two other features can positively be ascribed to Phase 1: a corn-drying oven 732 (Fig 79) and a water-hole 609/3 (Fig 82).

III.7.2.1 Corn-drying oven 732 (Fig 60)

The corn-drying oven was situated 12m SE of the villa house; it was cut through by the villa enclosure ditch 695. The oven was of the T-shaped variety, with its entrance and ashpit to the south. It was constructed of dry Corallian ragstone blocks, with 7 courses surviving 0.80m high. The oven was 3.1m in length, with a cross-piece 733 of 2.5m; the main internal channel was 0.5m wide, narrowing to 0.25m in the cross-piece.

At the entrance to the flue there was evidence of burning on the stones and the ground. The ashpit was about 2m across and 0.25m deep.

The upper fill of the corn-dryer was a dark brown loam with late 3rd and 4th century pottery and fragments of red ceramic tiles. The latter may have come from the villa house or been some of the material which floored the corn-dryer. Also in the flue fill was a bronze coin of Tetricus (Cat No 17) dated to AD 270-4. A coin of Constantius (Cat No 49) of AD 353-54 was found in the uppermost fill of the corn-drying oven.

Considerable quantities of carbonized seeds were found within the chamber of the corn-dryer, particularly in the lower levels and on its floor (see 10:A5).

Eight small postholes with diameters of 0.25-0.30m and depths of 0.10-0.17m were found around the corn-drying oven forming a sub-rectangle about 6 x 3m. These suggest that the dryer was enclosed within a flimsy wooden structure.

III.7.2.2 The water-hole 609/3 (Fig 53)

The only other late Romano-British feature which can be shown stratigraphically to predate the main paddock system of Phase 2 is the large pit 609/3. This was clearly cut by the E-W paddock ditch 609/1 after the water-hole had been filled up. the pit was about 2m in diameter and 1.5m deep. On the S side a ramp 2m long had been formed with a distinct step in it, leading down 0.65m into the main pit and giving access to it. The pockets and hollows in the gravel surface gave the impression that this ramp had been trampled by human feet and/or animal hooves.

The pit was cut into gravel but it was lined with yellow-brown clay, 0.14m thick on the base. The rest of the fill consisted principally of yellow-brown gravel and silt stained with manganese. Dr Helen Keeley, who examined the feature, believed that it had been permanently waterlogged. It seems likely that the pit acted as a water-cistern, perhaps collecting rainwater or having water placed in it, as it was not deep enough to reach the natural water table. Two bronze coins were found within the fill of the pit; one at a depth of 1.08m dated to AD 330-41 (Cat No 30); the second, found at a similar depth, (Cat No 25) dated to AD 294-6. A coin was also found in the paddock ditch itself, immediately above the water-hole (Cat No 26) dated to AD 323-4.

This piece of evidence is important for the dating of Phases 1 and 2 of the later Romano-British farmstead. The upper ditch plainly cut through the silted-up water-hole and its construction must then have taken place at some date after the 330s. The only alternative (and less likely) explanation is that the water-hole and ditch were contemporary; they both silted up and only the latter was then cleared out, to silt up again in its turn.

III.7.2.3 Finds from late Romano-British features predating the enclosure system

Waterhole 609/3: (183) bronze coin AD 330-41, (184) bronze coin AD 294-6 (186) bone pin

Corn-drying oven 732/606 (upper fill): (157) bronze coin ~~AD 270-4~~, (163) iron cosmetic spoon, (164) bronze coin AD ~~353-4; (166)~~ iron object, (167) iron nail, (169) iron cleat, (192) sawn antler tine.

657 (fill of flue): (202) bone pin

III.7.3 The later Romano-British period: Phase 2

III.7.3.1 The villa farmhouse (Figs 79,50)

The existence of a building was first suspected because of the spread of stone, tile, and plaster in the ploughsoil. It was decided to excavate the area entirely by hand. The stone spread was plotted and gradually removed, though initially no solid foundations were found. Instead, the robber-trench of the W wall was located as a faint, mortar-flecked line in the subsoil. The robber-trench was, in places, as shallow as 0.20m, traceable only in the subsoil, as the foundations of the villa rested on the gravel surface and were not usually cut into it. About half way along the W side, and again at the SW corner, sections of foundations of Corallian ragstone rubble were located as much as 1.15m thick (see Fig 51, feature 254). In all these cases underlying Iron Age or earlier Romano-British features had been encountered and the conscientious builders had removed the pockets of soil in order to have their load-bearing foundations on firm gravel. This was most pronounced along the central N-S wall, 266, which coincided exactly with the boundary ditch of the earlier Romano-British farmstead. The foundation trench here was 0.80m deep, though the stone had been robbed along its length. Only where the foundations were bedded into difficult underlying pockets had the stone robbers not troubled to extract the material.

The villa building formed a rectangle 10 x 25m, aligned N-S. The simple layout consisted of a block of four similar-sized rooms on the W side (Room 1, rooms 2/6, room 3, room 4); room 2 was divided from room 6 by a slight partition wall. The eastern section of the building principally consisted of a corridor (room 7) running alongside rooms 4, 3, and 2, with an extra room, 5, at the S end. At the N end of the corridor a blocking wall had been inserted. Beyond this blocking wall and room 4, the whole of the N end of the building was taken up by a cellar and the steps leading down into it.

In addition to the basic stone structure, a rectangular arrangement of postholes extending from the SE quarter of the vill and a further line running S from the east wall suggested that these were timber annexes (Fig 79).

III.7.3.2 Method of construction

As already described, little evidence remained of the architectural details in this thoroughly robbed building. The builders had dug their main foundations down to the gravel surface, even to the extent of removing pockets of soil in earlier features. In a number of places this meant the foundations were very shallow (and removal of the topsoil by machinery would have resulted

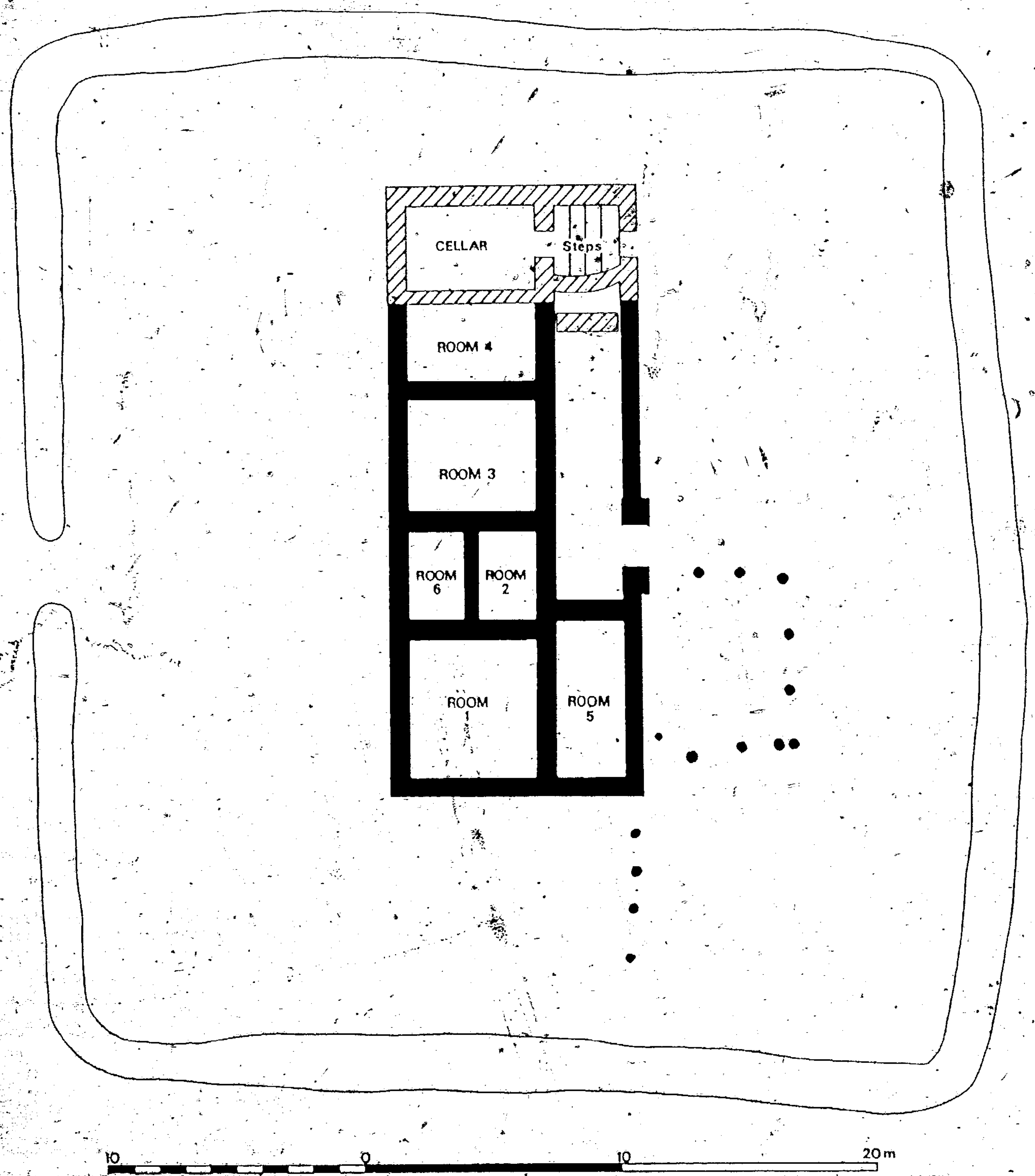


Fig 50 Plan of late Romano-British farmhouse

in the loss of the archaeological evidence). The foundation trenches were originally dug about 0.8m wide and filled with Corallian ragstone rubble, available some 3 or 4km from the site. The foundations were best preserved around the SW corner of the building, and here it could be seen that the ragstone had been laid in a series of slanting courses, similar in principle to herringbone construction, but with only one section of the horizontal V shape.

The two long NS wall foundations, 254 and 266, on either side of the main block of rooms were of similar dimensions. The care taken to make them firm suggests that they were intended to bear considerable weight, and they would have been capable of carrying an upper storey. The outer E foundation, 264, was possibly less substantial, though it is difficult to be positive about this; it may have only carried the corridor wall and roof. The two oval features 268 and 267 just to the S of centre suggest an entrance with the corridor. These are discussed below (see III.7.3.8; 3:E9).

The internal foundations, running E-W except for the partition 285 between rooms 2 and 6, were all slighter than the main ones, between 0.4m and 0.6m wide, and of the same Corallian ragstone. The foundations of the wall, 273, between room 6 and room 3 were not dug through the underlying Iron Age ditch, suggesting the builders took a pragmatic approach to non-load-bearing walls.

There is little evidence for the character of the upper parts of the structure. There was a considerable spread of small fragments of Corallian ragstone around the building, too small to be very useful to the stone robbers. A fragment of worked freestone was found built into the hearth in the cottage (III.7.4.4; 4:A2) to the E of the villa, but no better-quality material appeared on the site of the house iftelf. In view of the scarcity of stone in the immediate vicinity of the farm it seems likely that it was only used for the foundations and first few above-ground courses. The walls would then have been made of timber, wattle, and daub, or even cob as in some of the standing local buildings.

The debris included many fragments of red ceramic tegulae as well as limestone roofing tiles, suggesting that both were used on the roof. Hundreds of white limestone tesserae were found in the robber trenches and inside the rooms, although none were in situ, as a result of robbing and subsequent ploughing. White wall plaster, some with reddish stripes, was also common.

III.7.3.3 Room 1

This room, in the SW corner of the building, was the largest in the area except for the corridor (room 7), approximately 4.75m square. This part of the villa was partly protected by the tail of the lynchet which ran E-W across this part of the site.

A layer of limestone roofing tiles 291, mostly in fragments but with one complete example, lay across the surface of room 1, mixed with brown sandy loam, fragments of later Romano-British pottery and bone, including a pig's skull. The tiles may have fallen from the roof at the end of the building's life or alternatively served as a makeshift layer of paving in a dilapidated structure. These tiles and the material sealed below them, 410, were the only stratified layers surviving within the villa.

Beneath the tiles was a layer, 410, about 0.1m thick of brown sandy loam mixed with mortar fragments, ragstone rubble, and tesserae, presumably the remains of a plain white tessellated pavement and its foundations. The floor was evidently totally disturbed before the roofing tiles fell in or were placed over it. Among the residue of this floor, and sealed beneath the roofing tiles was a coin (Cat No 72) dated to Ad 364-78.

Within room 1 four postholes were found. Three of these - 538, 539, and 540 - ran in a straight line N from the SE corner of the room, approximately 0.5m from the E wall of the room. These postholes were observed among the disturbed floor level 410 and were apparently contemporary with it. All three were packed with ragstone and were between 0.30 and 0.34m deep. A fourth posthole, 541, of the same dimensions as the other three but without packing stones, was found in the SW corner of room 1. Although this one was only seen below the foor level, it contained late Roman material (pottery and red tile) and was probably contemporary with the others.

The postholes were apparently contemporary with the room, within the floor material but sealed by the roof tiles. Their regular spacing around the E and S sides of the room suggests that they formed part of some internal shelving or partitioning. In plan and character they might appear to be associated with the stone-packed postholes which formed an external annexe on the SE corner of the building: this is discussed below (3:E14).

Beneath the disturbed floor of Room 1 was a thin reddish-brown sandy loam level overlying gravel which contained fragments of Iron Age and early Romano-British pottery. This was the remains of the subsoil over which the villa was constructed.

III.7.3.4 Rooms 2 and 6

North of room 1 two small rooms 2 and 6 were divided by the foundations of a narrow partition 289, 0.35m wide and 0.10m deep. The base of the slot contained slabs of limestone up to 0.2m across and many fragments of white plaster. The easterly room 2 was marginally the larger of the two, approximatley 2.5 x 3.5m. The dimensions of room 6 were approximatley 2 x 3.5m. In both these rooms, as in the remainder of the rooms at ground level, no trace of the flooring survived. Ploughing had penetrated to the reddish-brown subsoil below the later Romano-British occupaton level. Only a disturbed horizon of mortar, stone, tesserae, and general rubbish was found.

In room 2 were two stone-packed post-holes, 287 and 288. The former, cut by the robber trench of the E wall of the room, was approximately 0.20m deep. 1m to the SW of 287, posthole 288 was 0.15m deep.

The robber-trench 280 of the S wall of room 2 cut a small stone-lined cist which contained the skeleton of a neonatal infant 286, laid out supine with its head to the W-N-W. The burial evidently took place earlier than the robbing of the villa building, and most probably during the active lifetime of the villa building, as otherwise its construction would probably have disturbed the cist?

III.7.3.5 Room 3

To the north of Rooms 2 and 6, Room 3 was approximately 4.4 x 4.75m in size. No stratified remains of its floor levels survived. A stone-lined posthole 290, 0.25m deep, was found 0.75m from the room's E wall, and about halfway along it.

III.7.3.6 Room 4

To the N of Room 3, room 4 was approximately 3.5 x 4.75m in size. The room looks rather truncated on its N side and it is possible that it was made smaller during the construction of the cellar. A Saxon inhumation 271 was found in this room: the grave of a woman and a neonatal child, cutting into the reddish-brown subsoil. The grave was badly disturbed by ploughing, the score marks of which could be seen cutting through the grave fill.

III.7.3.7 Room 5

This room, occupying the SE corner of the farmhouse, was approximately 5.5 x 2.5m, with a N-S long axis. No trace of flooring remained intact. The inhumation of a Saxon adult male 258 was found within the room. the absence of a skull is best explained as the result of plough damage, as scoring could be seen in the subsoil.

III.7.3.8 Room 7

This room was the main corridor of the building, occupying most of the E side and probably giving access to rooms 2, 3, 4, and 5. The room was 10.5m long by 2.5m. Two unusual features, 267 and 268 (Figs 79, 51), were found in the foundations of the wall on the E side of room 7. These were roughly circular pits, about 1.5m in diameter and 0.5m deep, extending inside and outside the line of the wall. The features were 2m apart. The S feature 267 contained in its upper layer dark brown sandy loam with flecks of mortar and fragments of limestone, tesserae, and late Roman pottery. Below this the stone foundations were intact, made up of slanting courses of limestone slabs about 0.3m in size. The foundations of 268 appeared to be an integral part of the building as a whole rather than an earlier or later feature.

Feature 268 was the same size and shape as the previous one but had been completely robbed of stone.

The surviving evidence of these two features does not clarify their function with any certainty. The roughly central position in the E outer wall, their distance apart, and the wide stone base which they provided suggest that each supported some form of column or buttress on either side of a doorway, probably the main entrance into the villa building on the E side.

III.7.3.9 Room 8

The main corridor was blocked at its N end at some stage in the existence of the building, possibly when the cellar was constructed. This partition wall survived only as a single course of small Corallian ragstone butting up against the main structural walls on either side. The space beyond the blocking wall 2.5m wide and less than 2m long can hardly be glorified with the same 'room' and could have served as no more than a cupboard. It is more likely that the area was completely boxed in by the construction of the blocking wall in order to separate the corridor (room 7) from the cellar head.

The foundation/robber trench of the E wall became extremely faint in this area owing to the shallowness of the top-soil and almost total absence of subsoil, but it was just discernible running through to the top of the cellar steps.

III.7.3.10 The cellar (Fig 51.295; 79)

The N end of the villa building was taken up by a cellar. When the topsoil was first removed during excavation, the cellar area appeared as a large expanse of dark-brown loam. A quadrant was first dug in the SE corner. The discovery of part of a tessellated pavement about 1.5m below the surface of the gravel showed that the feature was a cellar or sunken room and the quadrant was extended into a half-section. Finally the whole of the cellar was excavated.

The cellar consisted of a sunken room about 5 x 3.5m. The walls of the cellar were completely robbed on three sides; only on the S side did a section survive, 1m long, 0.5m wide, and four courses high, made up of mortared blocks of limestone.

It seems likely that the cellar was added to the building in the second half of the 4th century, after the construction of the paddock system. The purpose of the blocking wall at the N end of the corridor (room 7) would be explained if the cellar was added to the existing farmhouse. The removal of an existing structural N wall would necessitate the construction of a new internal partition wall to separate the corridor from the cellar.

That the cellar was constructed after the enclosure ditch is suggested by the position of the farmhouse within its enclosure. The farmhouse is centrally placed except on the N side, where the cellar comes within 4m of the N side of the enclosure. Without the cellar the farmhouse would retain its symmetrical position, 10m from the side. It should be noted, however, that the timber structures on the S and SE sides also disrupt the symmetrical layout. No evidence for the date of the cellar construction was found within the building itself.

III.7.3.10.1 The cellar construction (Fig 51; 79)

A chamber 5 x 3.5m and approximately 1.6m deep was dug into the gravel, involving the removal of some 28 tonnes of material. Although only a short course of mortared limestone walling survived on the S side, a robber-trench about 0.8m wide and 0.15m deep was traced around all four sides of the cellar

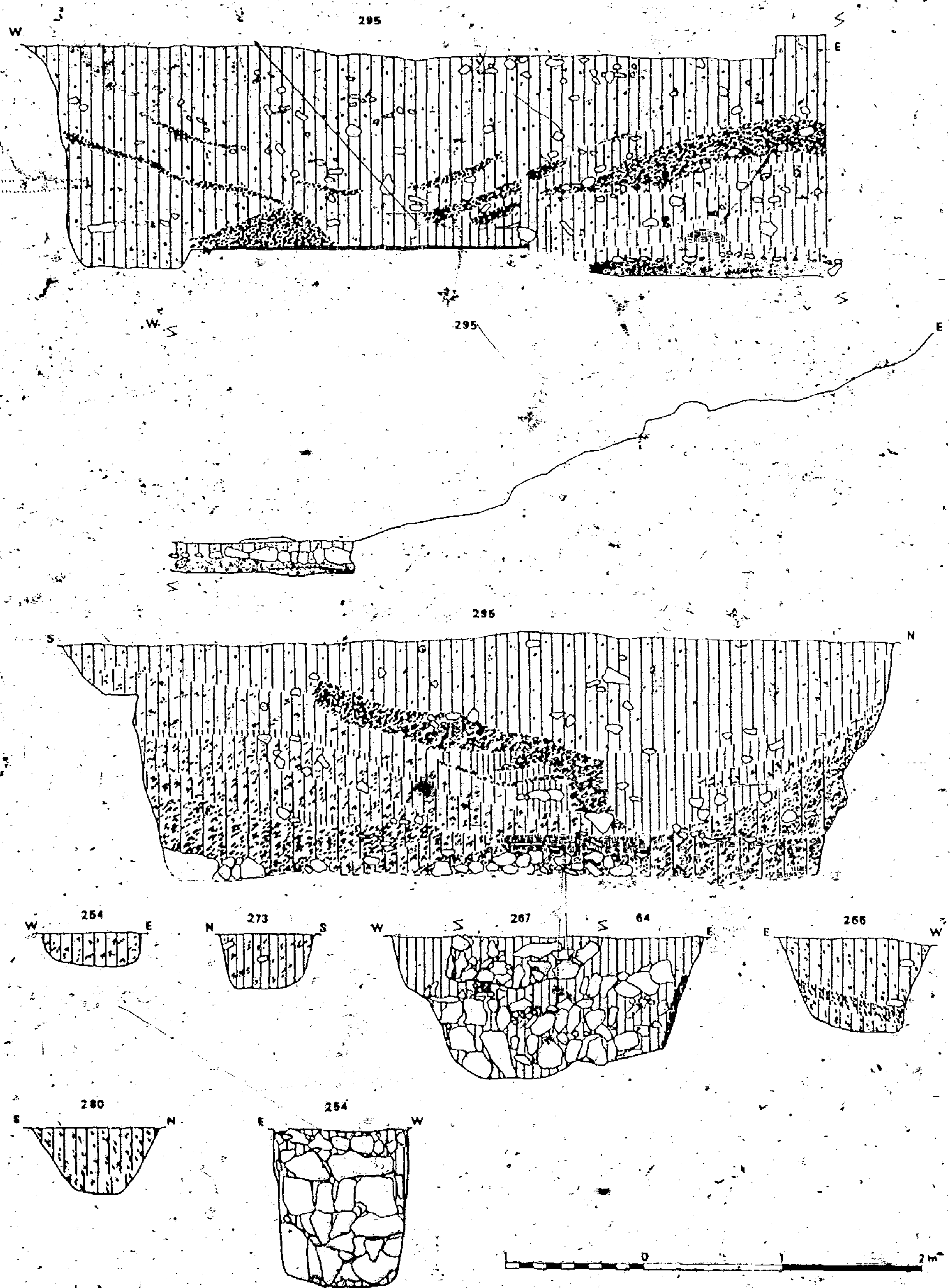


Fig 51 Sections across late Romano-British farmhouse cellar and wall trenches

chamber. In the mid-section of the E side, part of the foundations of small ragstone blocks survived where the mortar flooring extended across them. This indicated the position of a doorway 1m wide at the foot of the steps.

The floor of the cellar was made up of a layer of hard-packed gravel and limestone fragments about 0.15m thick, covered with a layer of mortar in which was set a tessellated pavement of white limestone. The pavement was badly damaged as a result of the stone robbing inside the cellar.

The central doorway in the E side appeared to be the only entrance into the cellar. Beyond this a flight of steps led to the outside, probably with an outer door near the NE corner of the villa. The steps were cut into the gravel and large slabs of ragstone laid on them. Most of the ragstone here was also robbed. This stone is characteristically uneven and pitted, so perhaps wooden flats had originally been placed over the stone steps. Immediately outside the entrance to the cellar a slot, <u>302</u>, was found packed with ragstone fragments. This was thought to be a soak away designed to stop water (possibly from the roof) running into the cellar. However, all the pottery sherds found in this feature date to the 2nd century AD (7:B8,B10), so its purpose remains uncertain and it may belong to an earlier phase.

Inside the cellar there were no traces of niches, or indications as to how it was lit. The cellar was just deep enough to have had the ground floor of the villa constructed over it, and the arrangment of load-bearing walls around the four sides of the main chamber suggests this was so. The cellar would have depended for light on the entrance, possibly grilles at ground level on the outside walls, or on artificial lighting.

The floor of the cellar had broken fragments of roofing tiles scattered on it, noticeably where the tessellated pavement was missing; this may indicate secondary flooring rather than a collapsed roof. The cellar had been filled in with tipped layers of brown sandy loam, gravel, and some stone. This included many small fragments of pottery and bone but not small finds. The impression was that soil and rubbish from around the site had been deliberately backfilled into the cavity left by the robbing of the cellar. Although the stone walls had been robbed, the gravel sides of the cavity remained almost vertical with no signs of slumping side the cellar. In the year following the excavation of 1973 the cellar was left open; rain and frost rapidly eroded the sides. This suggests that the cellar cavity was deliberately filled in very soon, if not immediately, after the stone robbing took place.

III.7.3.11 The timber annexes (Fig 79)

At the S end of the E wall of the farmhouse a rectangular arrangement of ten ragstone-packed postholes was found. These formed a three-sided timber structure c 6 x 7m, with the E wall of the farmhouse as the fourth side. All the postholes were c 0.5m in diameter and c 0.4-0.5m deep, and carefully packed with ragstone. Only the posthole 536 in the SW corner was smaller and slightly off-alignment. The rest were evenly spaced, about 1.8m apart. The post-cavities indicate that the timbers were probably about 0.15m in diameter. Near the SE corner two posts, 529 and 530, are set close together; these might indicate the position of a doorway in the most sheltered side, with 529 acting as a doorpost.

The postholes were found beneath a layer of rubble-destruction material from the farmhouse, but projecting up into it in such a way as to suggest that the structure was contemporary with the farmhouse. There was no occupation layer between the postholes and the rubble. Four coins (Cat Nos 49, 50, 51, 145) were found in the rubble, all dating between AD 330 and AD 378. Beneath the rubble in the NW corner of the annexe a patch of compacted clay and limestone fragments butting up to posthole 534 may be a surviving fragment of the original floor.

It is noticeable in the plan (Fig 79) that the line of postholes 538, 539, 540 etc inside room 1 could be associated with those outside the farmhouse, to form a separate structure. Stratigraphically the postholes appeared to be contemporary with the farmhouse rather than earlier; they could not have been later as they were sealed by destruction material. The lack of a posthole in room 5 and the presence of a stone-packed posthole 290 in room 3 suggest that the internal postholes were not directly related to those outside, and do not indicate an earlier timber structure beneath the farmhouse. The northern side of the 'annexe' was in an odd position in relation to the supposed door buttress 267, apparently lining up with it and somewhat masking the entrance.

It was thought that if a timber annexe existed to the E of the stone farmhouse another might be found to the S. Partly for this reason the excavation was extended to the S. A line of four postholes, three of them stone-packed, of similar size and spacing to the previous ones was found on a N-S axis, in line with the E wall of the farmstead. These extended for at least 6.5m. A further trench was cut through the present-day lynchet in line with the W wall of the farmstead (Fig 82) in order to see if a parallel line of postholes could be found; none was located. If an annexe existed at the S end of the farmstead 6-7m wide like the one on the E side, a line of postholes may have lain beneath the unexcavated lynchet. Unfortunately time and finance did not permit excavation of this area to take place. A S line of postholes would probably have been removed by the digging of ditch 612.

III.7.3.12 Finds from the late Romano-British farmhouse

Rubble spread 18: (3) bronze fragment, (7) bronze ring, (11) bronze brooch, (12) bronze brooch, (13) iron brooch, (14) iron bracelet, (15) lead fragment, (16) bronze brooch fragment, (58a), (58b) pottery spindle whorls, (145) coin AD 367-75.

Rubble spread 253: (66) glass fragment

Rubble spread 272: (84) glass fragment, (79) whetstone.

Robber trenches 256: (44) bronze ring, (47) iron cleat, (49) coin AD 364-78, (50) coin AD 330-5, (51) coin AD 341-6, (59) bronze brooch pin.

266: (72) iron ring, (76) coin AD 351-53

273: (92) jet plaque with nude figure

280: (99) iron trefoil shaped plaque

281: (98) coin AD 341-46

285: (659) bone handle

Room 1 291: (104) iron knife

293: (111) glass fragment

410, under spread of ? roofing tiles: (139) coin Ad 364-78

Room 5 411: (152) steelyard weight

Cellar fill 295: (108) glass fragment, (110) iron cleat.

'Buttress' of east wall 267: (135) small bronze chain

III.7.3.13 The Farmhouse enclosure (Figs 49, 79)

The Romano-British farmhouse sat roughly centrally within a sub-rectangular ditched enclosure 41m long on its N-S axis and 34m wide. Except for the two proposed timber annexes and a pit 726 in the SE corner, no features were found within the enclosure which were contemporary with the farmhouse. The enclosure was defined by a ditch which had a central entrance 2.5m wide in its west side. Two postholes, 55 and 56, 0.20m deep with a faint circular mark midway between them in the centre of the entrance, were the only evidence of a possible gate. None of these features contained any dating evidence. No trace of any further entrances or causeways across the ditch were located around the rest of the perimeter.

The enclosure ditch was almost completely excavated. Its size and shape were regular throughout its length; 1.50m wide, about 0.9m deep, and V-shaped in profile (Fig 52). The profile with its slight shoulder suggested that the ditch had been left open and eroded. The fill of the ditch supported this interpretation; loamy gravel in the lower part, cause by the erosion of the sides, with a dark-brown sandy loam in the upper fill. There were few finds in the lower, more rapidly deposited fill, whereas the top layer of the ditch contained considerable quantities of pottery including Saxon material and a scatter of animal bone.

Careful attempts were made to find post voids in the fill or traces of post- and stake holes in the base of the ditch, but none was seen. It seems probably that the villa enclosure ditch was an open one, perhaps with a small bank on the inside (there would barely be room for it on the N side between the two parallel ditches of this period). The bank may have been topped with a hurdle, fence or hedge, but this is speculation.

III.7.3.14 Dating evidence

The ditch cut features belonging to the Iron Age and Early Romano-British phases (Fig 79). On the S side it also cut through the Romano-British corn-drying oven 732 which on coin and pottery evidence belonged to the late 3rd and/or 4th centuries. Within the fill of the ditch most of the dateable materials was found in the top layer. Five coins, one dated AD 103-11 and four belonging to the reign of Tetricus I, were all found in the top 0.10m of the fill. The only coin from the lower layer (Cat No 39) was an illegible 4th century issue. It appears that the enclosure ditch was constructed in the 4th century, but the evidence does not allow us to be more precise than that. A more detailed discussion follows below.

III.7.3.15 The villa paddock system (Fig 49)

The villa enclosure was one element within a checker board of rectangular paddocks. The whole system was bounded by an outer ditch with an E side 128m long and a S side of 112m. Figure 49 shows the paddocks on the evidence of aerial photographs and excavation. Unfortunately, because a housing development was taking place in the N area from 1972, excavation was limited there.

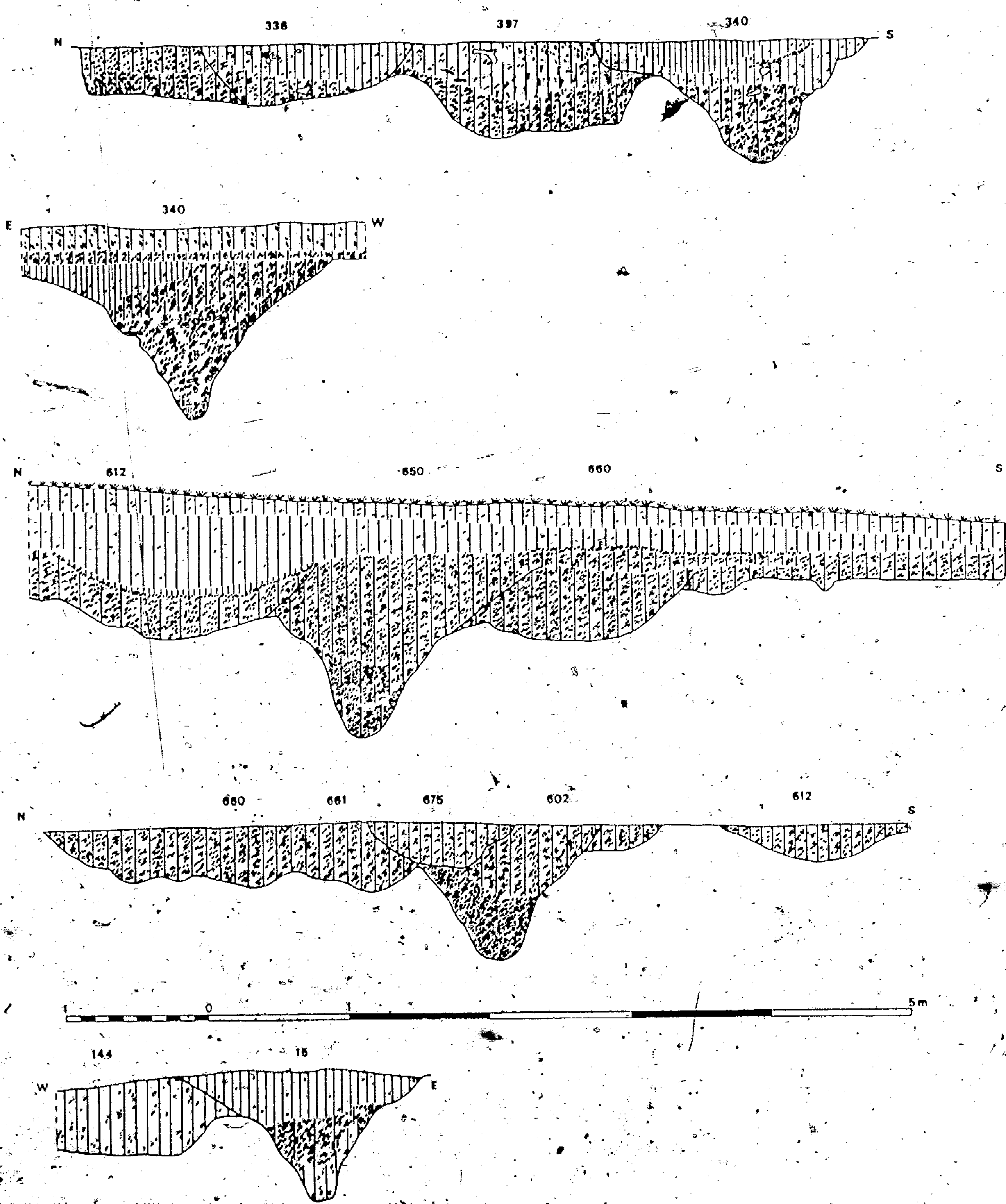


Fig 52 Sections across late Romano-British features: farmhouse enclosure ditch

A pair of parallel ditches, forming a trackway ran along the E side of the paddock system (Fig 81). The N end was not excavated but aerial photographic evidence indicated that there was an entrance from the paddocks to the trackway and also to a further trackway which branched off from the NE corner of the enclosure and ran NE.

In the S half of its length some 37m of the trackway were excavated. The two ditches were about 3.4m apart; there was no trace of metalling between them (Fig 54). The inner, W ditch was the slighter, 0.8m wide and 0.4m deep into the gravel; the outer, E ditch was 1.8m wide on average and 0.6m deep. The outer ditch showed evidence of recutting in places along its length. Both ditches had a fairly uniform fill of reddish-brown sandy loam.

At the S end the outer ditch 826 merged with the S boundary ditch of the paddock system. There was no evidence of an entrance at this point giving access to the trackway itself from the outside. The inner W ditch 833 terminated short of the S boundary ditch. A spur ditch 835 projected northwards from the S boundary ditch, staggered slightly to the west of 833, leaving an entrance gap 1.2m wide from the trackway to the internal paddock area. There was no trace of any gate structure at this point.

The S boundary ditch of the paddock system was uncovered and largely excavated for 88m. The ditch probably originally extended for 112m before turning N, but the W end was destroyed by the digging of gravel pits in the 19th century (Fig 49, 82-84).

The ditch was an average 2m wide with a slack U-shaped profile about 0.7m deep (Fig 55). The sections suggest that the ditch was an open one which gradually silted up. When this ditch was almost filled it was recut at the E end with the construction of an additional paddock to the S (see 3:G7).

At the W end the ditch cut through the top of the waterhole, 609, providing one of the few stratigraphic sequences for the dating of the paddock system (see Fig 53).

On its W side the outer boundary ditch was more difficult to trace. The SW corner was destroyed by the 19th century gravel pit, but the ditch was picked up on the N side of the pit. It was then traced with difficulty for 28m to the N. The ditch, 8, was cut by a large later Romano-British pit, 1, and appeared to be overlain by a shallow ditch from which came a silver coin, probably a half-groat of Henry VIII (unfortunately this coin was stolen before

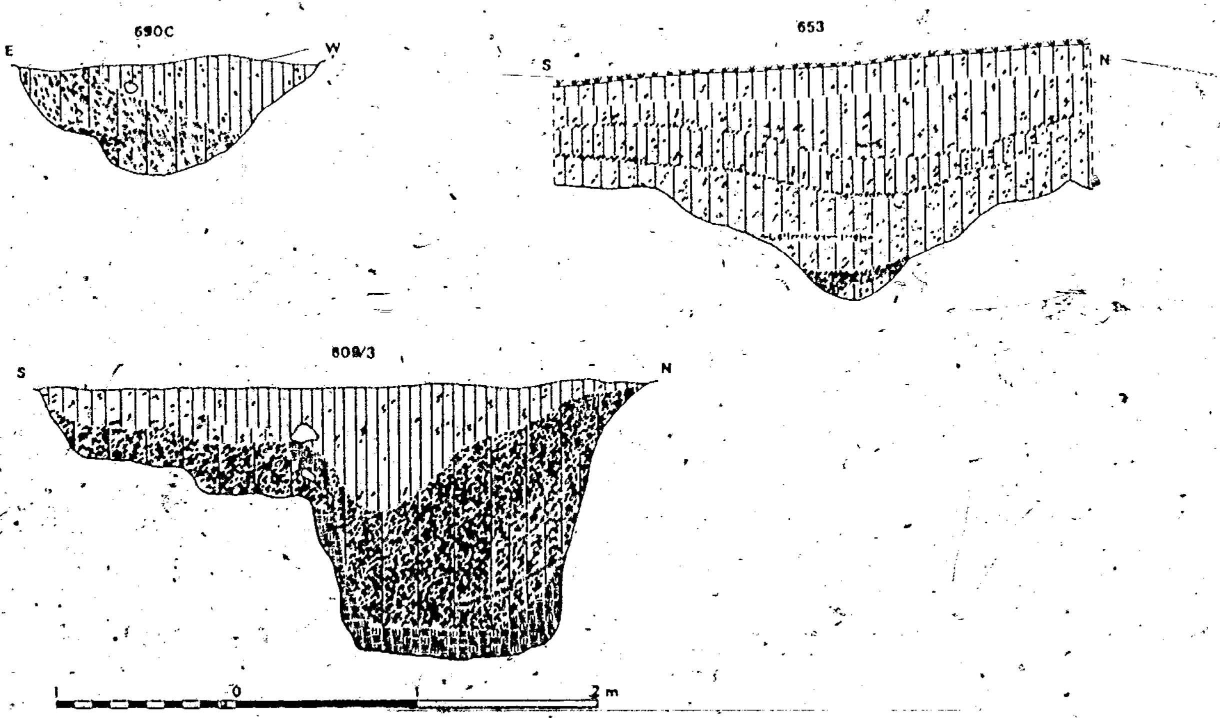


Fig 53 Sections across late Romano-British features: paddock ditches and waterhole 609/3

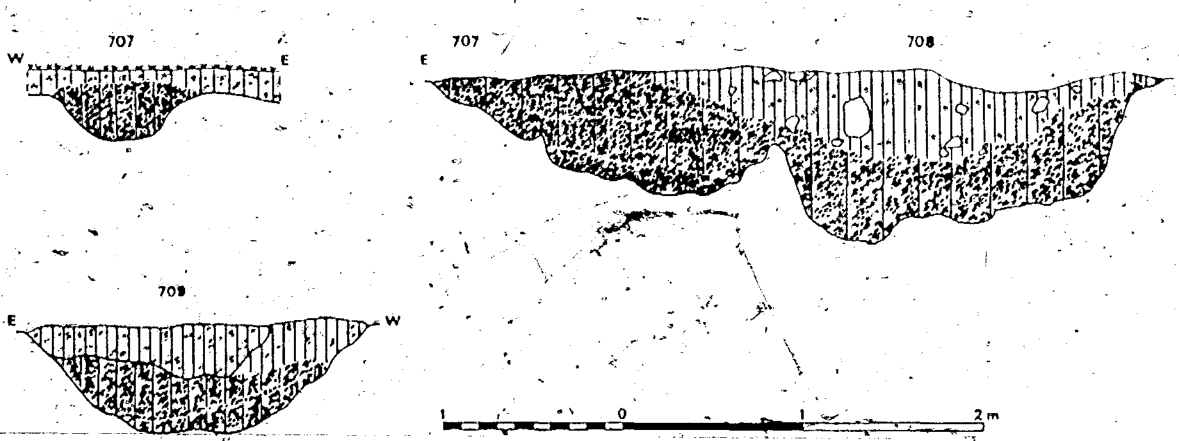


Fig 54 Sections across late Romano-British features: trackway and pit 708

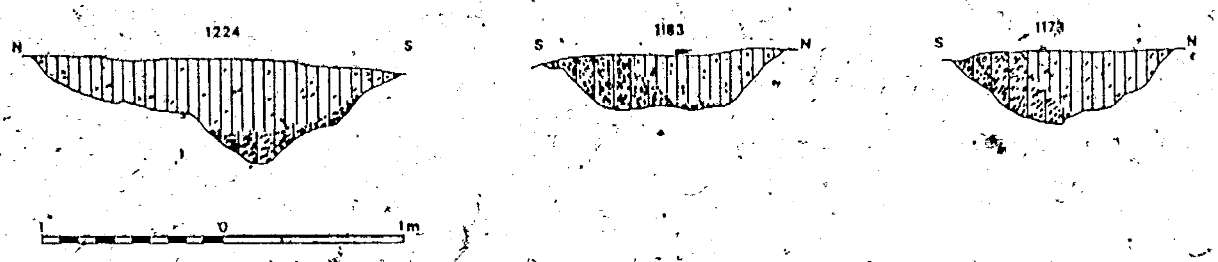


Fig 55 Sections across latest Romano-British paddock ditch in south-east area of site

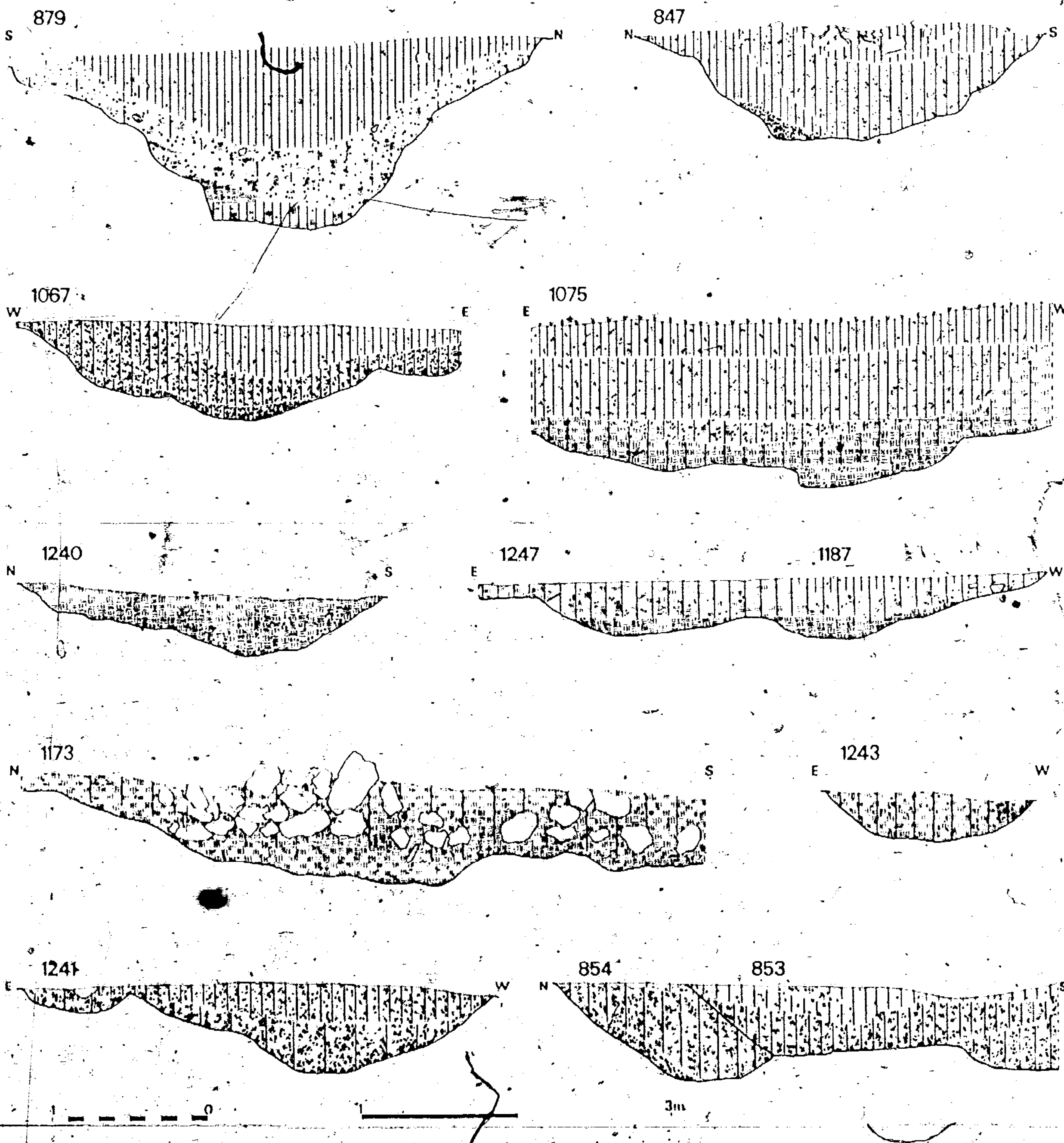


Fig 56 Sections across latest Romano-British paddock ditches in south and south-west area of site

a positive identification was made). There was no trace of an entrance into the paddock system, although one might have been expected opposite the entrance to the villa compound.

The interior of the paddock system was divided up by a series of regularly laid-out ditches. There was also evidence of internal fences in the form of lines of postholes.

To the W of the villa enclosure there was no sign of further subdivisions between it and the outer boundary ditch, a distance of 33m. Similarly, to the S there were no internal divisions, except a possible line of postholes between the corn-drying oven and the main area of infant burials. The principal internal divisions were to the N and NE.

Immediately N of the villa enclosure ditch (Fig 77) a paddock ditch <u>336</u> ran parallel to it, with a gap of only 1.5m between them at the level of the gravel surface (probably about 1m at ground level). Branching to the N, near the W terminal of <u>336</u>, was a shallow slot with traces of postholes in it, probably a fence line, forming the W side of a paddock 14.2m across (Fig 76).

The ditch, <u>336</u>, immediately N of the villa enclosure formed a central axis lying E-W across the paddock system. NE of the villa enclosure there was a gap in this ditch 3.5m wide giving access between the N and S halves of the paddock system. The ditch <u>543</u> then continued to the E, terminating 1.5m short of the trackway which bounded the E side (Fig 81). The gap here may have functioned as another entrance, or more likely indicates that a bank existed running down the E side of the trackway.

South of the E-W axis ditch a further ditch <u>690</u> sub-divides the area E of the villa (Figs 80. 81).

In the N part of the paddock system a small area was excavated (trench III, Fig 89). This uncovered the ditch visible on the aerial photograph, <u>396</u>, and parallel to it to the N a narrow slot with postholes, <u>421</u>, and a further ditch <u>395</u>. <u>396</u> contained red tile and limestone fragments, possibly indicating another building in this N area. The N paddocks were probably much more complex than is indicated by the aerial photographs.

III.7.3.16 <u>The late Romano-British farmstead enclosure sizes</u>

The first phase of enclosure ditches, immediately around the farmhouse itself, was laid out with a considerable degree of, though not perfect, regularity. The internal divisons of the enclosure system do not form simple standardized blocks but vary considerably in size. The latest paddock ditches, added to the S side, are much more irregular than the earlier ones.

It is tempting to search for units of measurement in a layout such as this, though dangerous in view of the difficulty of establishing fixed points. Eroded and recut ditches provide a variety of possible edges. For this reason no attempt is made here to convert the site measurements into Roman feet (295.7mm), Drusian feet (335mm or 294.2mm), or paces (5 Roman feet). It is worth pointing out, however, that the presence of the larger Roman measurement, the actus (120 Roman feet or 35.48m) can perhaps be detected in the layout of Barton Court Farm.

The distance across the farmyard, from E to W, and the distance from the farmyard entrance W to the outer boundary ditch both measure 1 actus. So also does the width of the N end of the paddock ditch SE of the farmhouse and that of the paddock NE of the farmhouse. The S side of the outer farmstead boundary ditch, from the SW corner to the inner E corner, adjacent to the trackway, measures 3 acti. There are, of course, many measurements which do not fit this particular large unit and in view of the difficulties described above it is not felt that any exercise based on finer subdivision would be convincing. In view of the fact that at least five major elements in the plan can be expressed in terms of the actus, it seems possible that a Roman unit of measurement was used in laying out the farmstead.

III.7.3.17 Finds from the late Romano-British farmhouse enclosure ditch

3: (10) bronze bracelet, (19) bronze fragment, (20) bronze perforated sheet.
340: (128) coin AD 270-4
346: (118) bronze ring
602: (155) bone comb, (158) iron bucket handle, (174) iron plate, (176) bone pin, (177) pottery gaming counter, (179) bone comb fragment, (180) large iron nail, (182) glass fragment, (191) bone comb, (192) sawn antler tine, (197) bronze bracelet, (200) worked antler.
618: (178) bronze ring with animal decoration
640: (193) bronze penannular ring, (194) iron cleat or oxshoe, (195) whetstone
648: (187) iron brooch fragment.
676: (196) coin AD 270-4, (216) coin AD 270-4, (217) iron object, (220) iron object, (222) coin illegible 4th century, (226) bronze strip, (230) iron nail, (254) bronze strip, (255) glass fragment, (263) iron knife, (271) bronze bird head mount, (680) glass fragment.

695: (204). bronze cosmetic spoon (205) iron belt hook, (206) bronze strip.

III.7.3.18 Wells

III.7.3.18.1 Well 832 (Figs 81, 57)

5.5m SW of building 2 a stone-lined well 832 was located. The stone shaft of the well was found 1.75m below the present-day ground level. The well was then excavated by removing about 2m of the fill, dismantling the stone lining in order to widen the otherwise impossibly narrow shaft, and shoring the sides with shuttering and acro-props. The fill of the well was recorded in a series of spits of depths convenient for working in. No section could be left in place in view of the small size of the shaft and the constant flow of water which required that a pump be continually operated. The timber base of the well was left in position to avoid the expense and danger involved in removing it.

The well was constructed by lining a hole c 3.50m in diameter with Kimmeridge clay bonded with irregular courses of limestone slabs, probably broken roofing tiles. This served to prevent the gravel walls of the shaft collapsing or being washed into the well proper by the constant flow of water. At the centre of the clay-lined hole a stone shaft 5.35m deep was built up of large blocks of Corallian ragstone. The well shaft was c 0.8m square at the base, narrowing to only 0.5m at the highest point at which it survived.

The base of the well was formed by a box of eight substantial timbers (probably oak), on which the stone shaft rested, roughly 0.30 x 0.15m in cross-section. The beams were slotted into one another using a half-housing joint (a similar construction was used in a Romano-British well at Appleford, Oxon, and is more fully discussed in that report (Miles 1980)). On the floor of the well there was a slab of ragstone, apparently deliberately positioned there to stop erosion.

Above the base timbers the shaft was constructed principally of large unworked ragstone blocks. A number of fragments of millstone were also built into the shaft (see 5:A14). Between each course of stone a thick layer of moss (see 9.C6) had been placed. A local farm labourer who in pre-war days had been responsible for the construction of many wells explained his similar use of moss as a form of bedding to stop the uneven ragstones rocking about. At the same time the moss may have acted as a filter for the water. During excavation the water table in the well was found to be 2.25m below ground

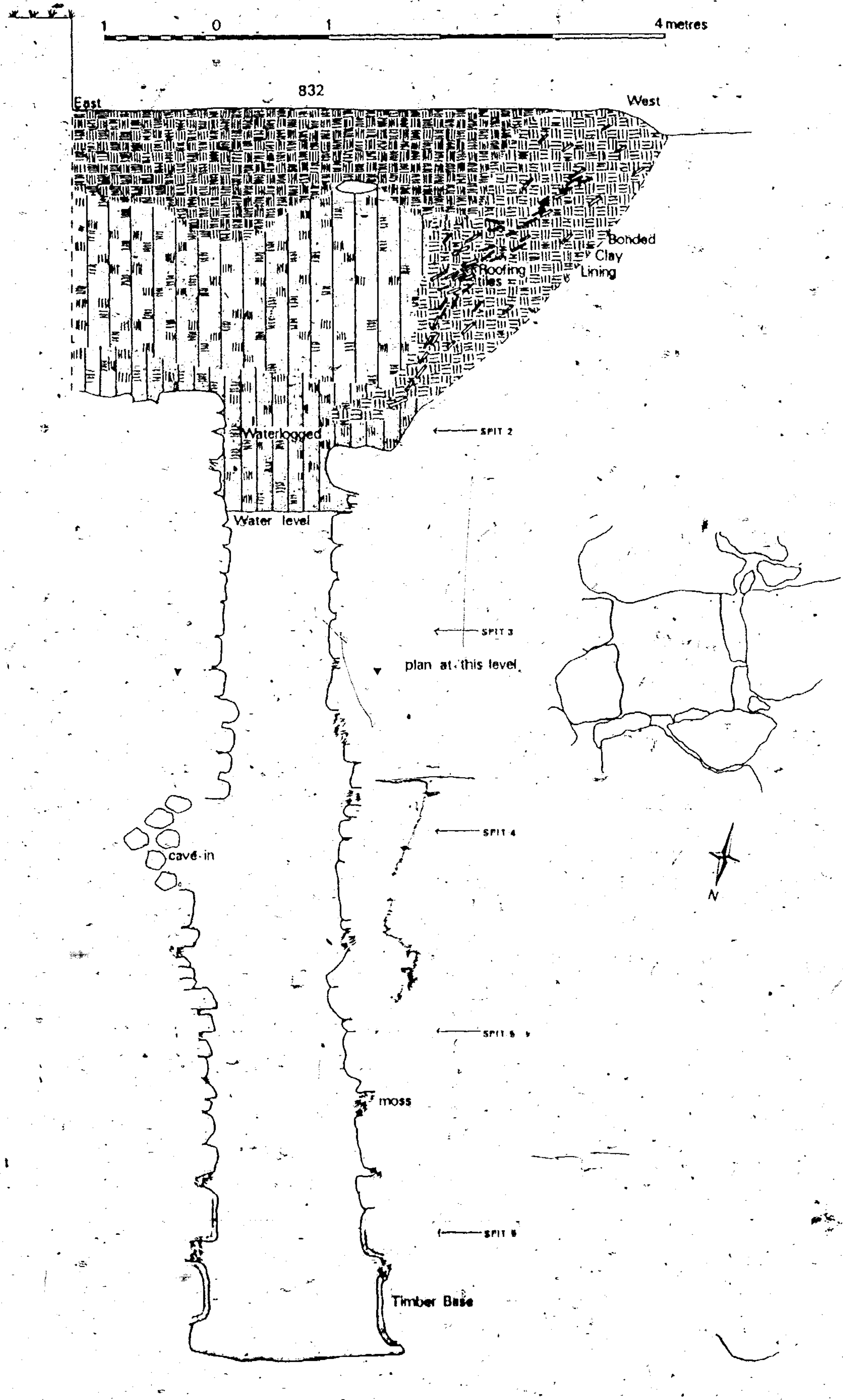


Fig 57 Section of late Romano-British well 832 and plan of stone shaft at level marked by triangles

level; there was a depth of water of 3.80m in the well. The fill of the wellshaft consisted of large quantities of stone rubble, waterlogged vegetable matter, pottery, and animal bones. This material had probably been thrown in deliberately to backfill the disused well.

The lowest 0.50m of the well (Spit 6) contained material that had probably accumulated during its lifetime: almost complete pots, ironwork including keys, a latchlifter and a spear, some thirteen leather sandals, and on the base an iron hook and fragments of a bucket with its binding, probably the original fittings of the well.

Only a limited area was excavated at the surface, around the well. No evidence was found of a covering structure, though it is likely that some form of shelter was provided, if only over the shaft itself.

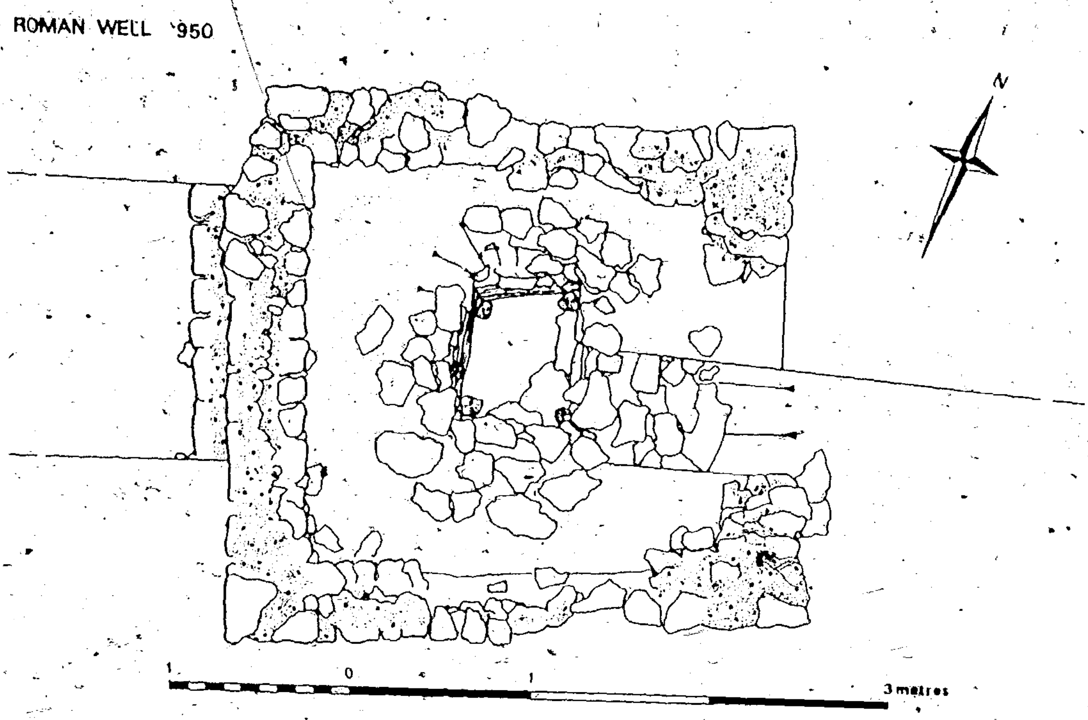
III.7.3.18.2 Well 950 (Figs 83, 58, 59)

28m SW of the villa building a second well 950 was found. It sat within an irregular oval feature c 18 x 10m and c 1.2m deep. This large feature consisted of a series of irregular hollows which had the appearance of pits dug for gravel. This 'quarry' was much larger than was strictly necessary for a foundation trench for the well; probably the hole was first dug for gravel and then utilized as a well.

It appeared from the section (Fig 59) that the well was constructed inside this gravel pit and the rest of the hollow filled in behind the stone walls. This fill consisted largely of gravel, with some loam and large quantities of animal bone. The upper layer of the fill, c 0.2m thick was, made up of a fine grey-brown loam with more fragmentary occupation debris, as if rubbish had gradually accumulated in the subsistence hollow around the well and in the top of the well-house after it had been abandoned.

The fill of the hollow on the E side was considerably different. It appeared that here the hollow had remained open during the lifetime of the well, providing access from ground level. It was then filled up with material similar to that in the top level in the rest of the feature.

Well 950 consisted of a square shaft dug into the clay underlying the gravel deposits. This shaft, starting from the base of the gravel pit, was 1.1m deep, though its bottom was about 3.00m below the present-day ground surface. Blocks of Corallian ragstone about ten courses deep were built up to form a shaft 0.8 x 0.7m. Inside these, oak facing planks c 0.75 x 0.2 x 0.03m were held in place by squared oak posts (o.08m square and up to 0.63m long) driven into the clay at each corner. The wooden lining might have originally



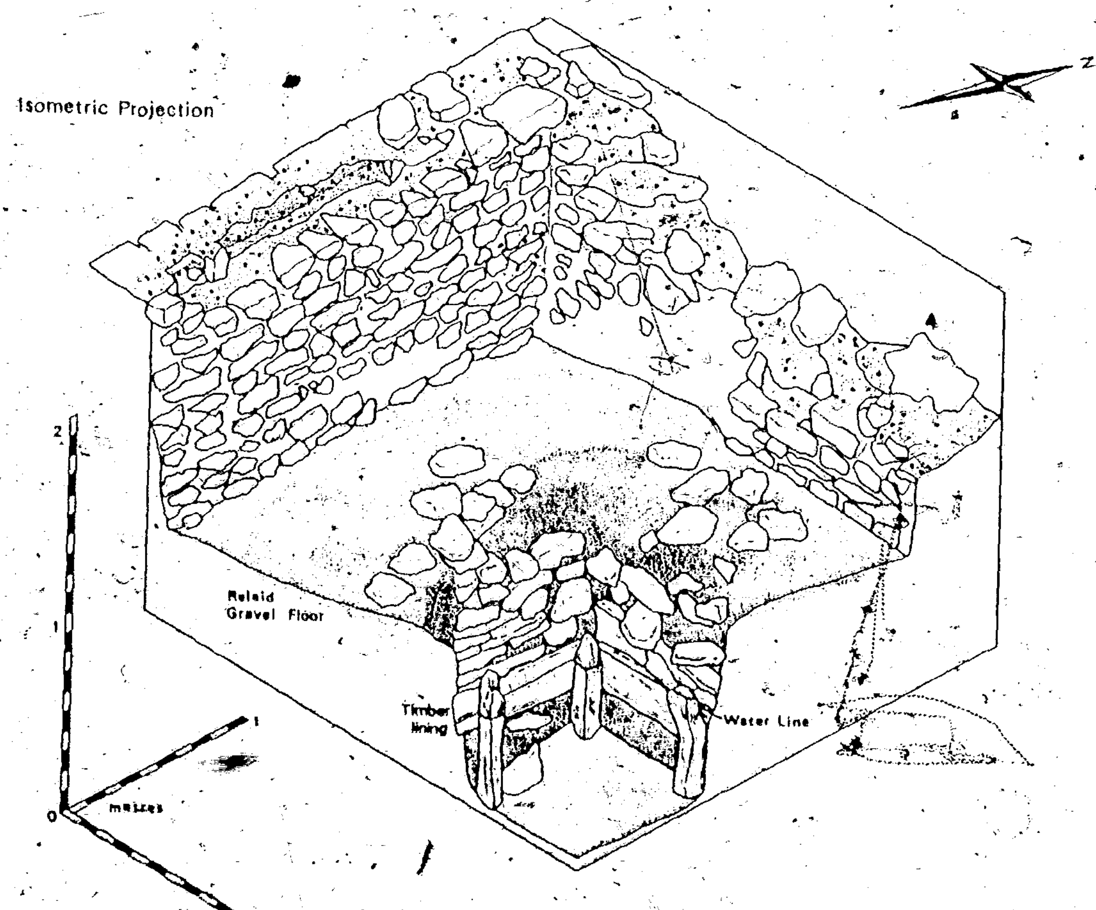


Fig 58 Plan of late Romano-British well 950 and isometric drawing

ROMAN WELL 950

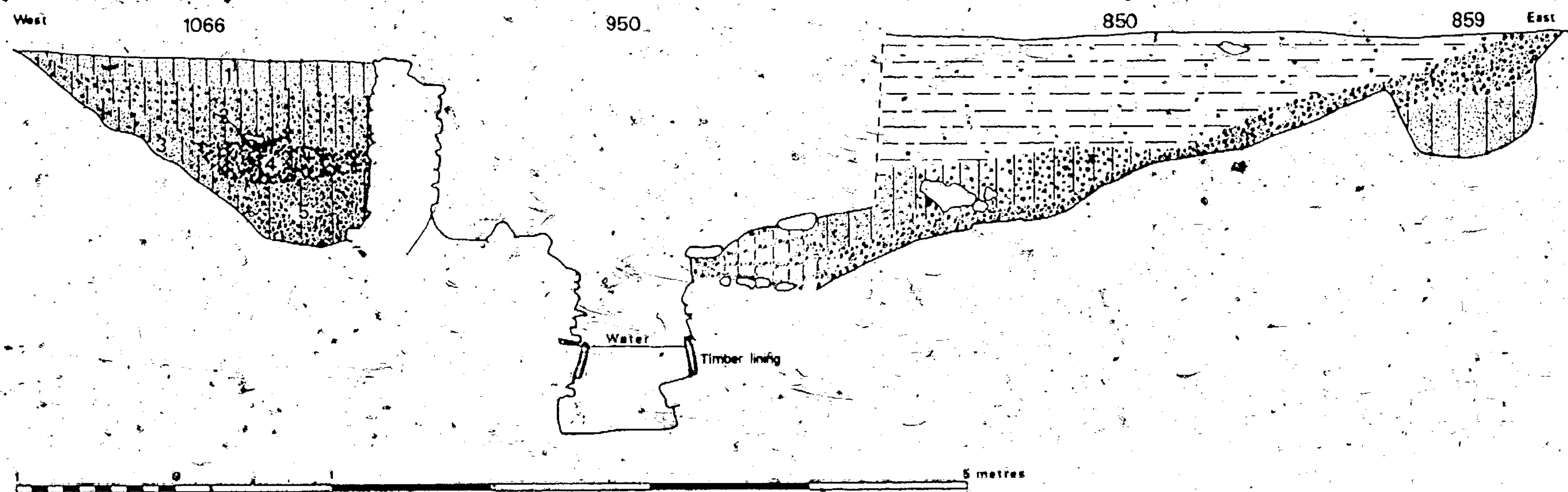


Fig 59 Section across well 950 and surrounding quarry pit

continued to the surface of the well shaft, ~~but~~ it only survived below the present-day water table. It seems unlikely that this rather rudimentary construction of corner posts could have been much higher without becoming unstable. Below the wooden shuttering and a further irregular course of stones the well continued a further 0.15m into the clay; this probably resulted from the hollowing out of the bottom of the well by use.

When excavated the well had a depth of water of about 0.53m, probably about the same as in the 4th century; at most it would have been 1.0m deep.

The well shaft was enclosed within a stone-built well house 3.2m square. Faced blocks of ragstone bonded with mortar were used for the walls, which were c 0.6m wide at the base. Above the first course the walls were inset 0.2m. The walls survived to the level of the present-day gravel surface, a height of 1.20m and a maximum of thirteen courses. The W wall was virtually intact; those on the S and N sides had slumped inwards; the E wall was badly disturbed but the lack of stone suggested that there had been an entrance on this side. The section (Fig 59) also indicated a ramp or steps leading down from the surface on this side.

The inside of the well house was floored with rammed gravel, which looked like the natural gravel but was found to ~~have been~~ laid over the stone foundations of the well shaft.

III.7.3.18.3 <u>Finds from late Romano-British well 832</u>

All finds from spits 5 & 6 except millstones built into the shaft of the well.

832: (432 - 438) leather sandals, (439) iron attachment plate, (440) iron hook, (441) iron attachment plate, (442) iron latch lifter, (443) iron spearhead, (444) iron key, (445) iron key, (644) iron bucket band, (646 - 648) millstones, (650 - 656) millstone fragments, (676) glass fragments from spit 1, (682) wooden bucket base, (683) half a wooden bucket base, (684) wooden bucket base and stays, (685) wooden peg, (686) wooden block.

III.7.3.18.4 <u>Finds from Romano-British well 950 and wellhouse</u>

Fill of original quarry hole

850/2: (502) iron object, (507) jet bracelet fragment, (509) shale spindle whorl, (512) perforated bone strip.

1020: (536) bronze dividers.

Stone walls of wellhouse 951: (520) glass fragment

Well shaft fill 950/5: (679) leather shoe fragment.

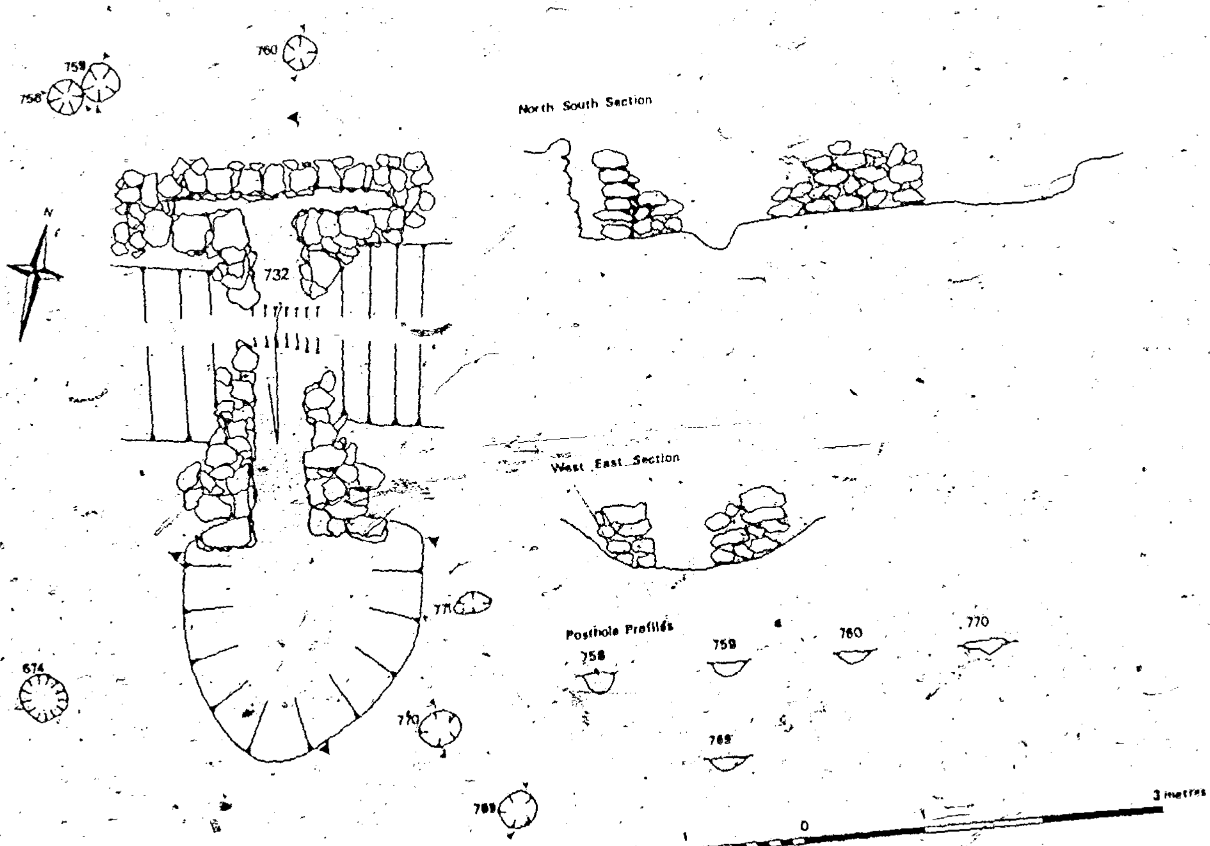


Fig 60 Plan and sections of corn-drier 732 and associated postholes

Post-abandonment fill of the well 974/1: (531) iron ring, (533) bronze wire bracelet.

1084/1: (534) glass fragment, (535) bronze coin, illegible 4th century.

III.7.3.19 Corn-drying oven 864 (Figs 83, 61)

16m E of the well house and 6m N of the principal E-W paddock ditch a second T-shaped corn drying oven was found. This one was positioned within the paddock between the infant burial ground and the well, orientated N-S with its flue entrance to the N.

The corn-dryer was constructed similarly to the previous and earlier one 732: a T-shaped chamber lined with dry ragstone, 3.3m long and 0.30m wide internally. The arms of the chamber together were 1.50m long and the space between them narrowed down to 0.20m. The corndryer survived intact up to the surface of the gravel, its chamber being 0.80m deep with eight courses of stone.

At the N end a flat slab of ragstone had been placed in the entrance of the flue toact as a base for the fire which heated the corndryer. This stone and the chamber walls near it were burnt to a reddish colour.

Built around the inside walls of the ashpit and joining on to the NE end of the corndryer was the base of a flimsy wall, partly tumbled inwards. This may have acted as a baffle against the occasional strong N winds on the site if the corndryer was not enclosed within a structure with screening walls. By the NW end of the corndryer the line of stones turned W, where it butted against two stone slabs which formed steps giving access to the stoke-hole of the corndryer.

III.7.3.19.1 Finds from corn-drying oven 864

856: (505) iron strip

857: (518) iron object

864: (508) iron strip with bronze rivets

898: (519) bronze pin

III.7.3.20 Finds from later Romano-British pits

1: (4) bronze rod, (5) bronze coin, AD 335, (6) bronze coin, AD 388-92, (21) iron latch lifter, (24) iron fastening, (45) iron rod.

60: (23) bronze spoon

177: (136) iron knife

252: (101) lead fragment

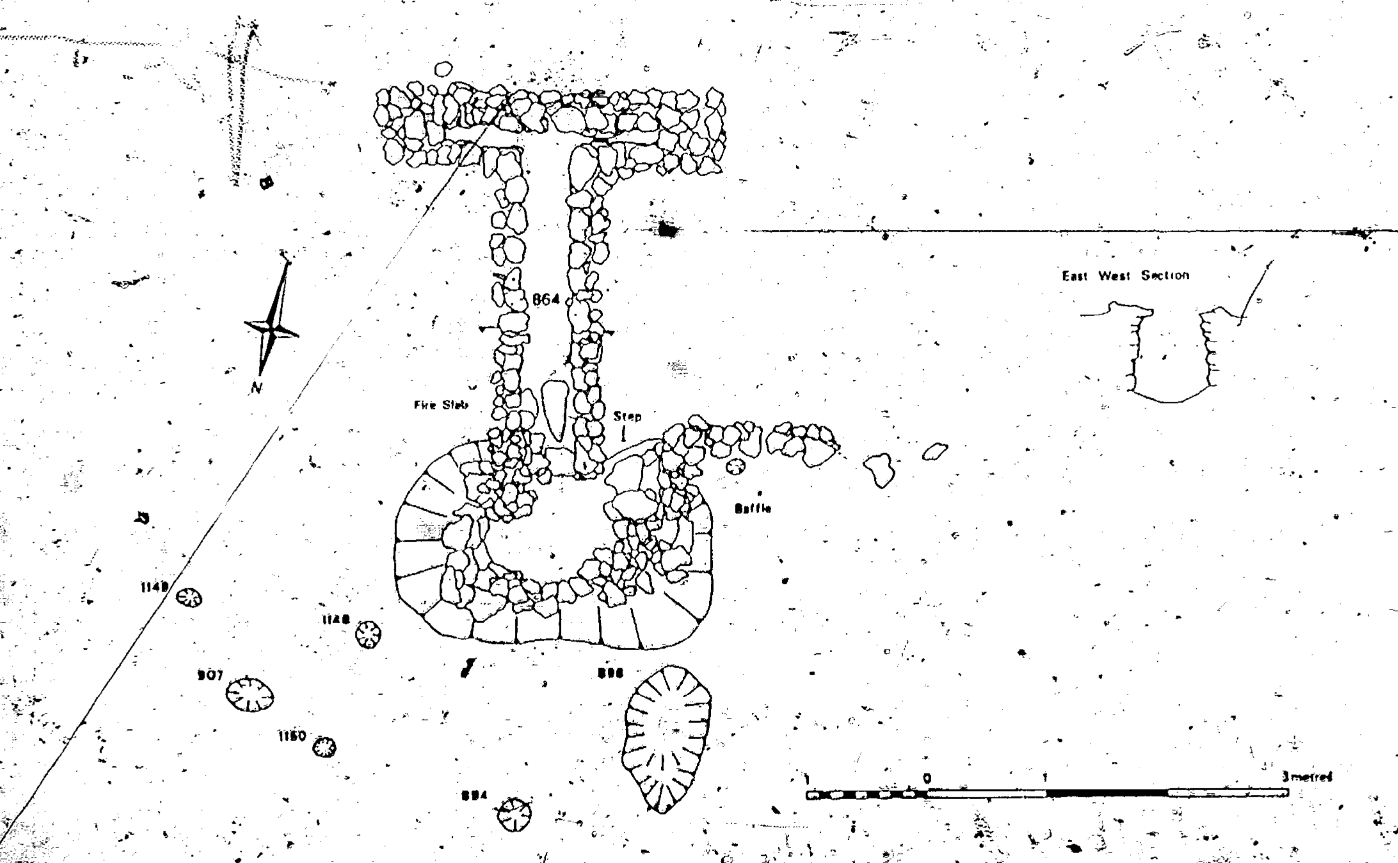


Fig 61 Plan and section of corn-drier 864

282: (95) bronze wire, (96) decorated bronze rod, (107) glass fragment

708: (207) bronze coin AD 350-60, (213) lead lump, (214) bronze disc, (218) iron nail, (231) glass fragment, (232) (233) iron objects, (234) bone pin, (242 a & b) two shale bracelets, (243) jet bead, (266) iron object, (270) bronze wire, (661) bone handle.

Unstratified finds 375 (subsoil): (123) bronze snake ring, (125) glass fragment, (126) bronze spoon handle, (129) bronze wire ring

III.7.4 The late Romano-British period: Phase 3 (Fig 62)

III.7.4.1 The southern enclosures (Figs 83-88)

When the main E-W ditch on the S side of the villa farmyard system was almost completely silted up (Fig 55), a group of irregular-shaped paddocks was added to the S. The N arm of the SE paddock was cut along the line of the older enclosure ditch. Although the sections indicated that the ditch was no longer functioning, presumably its line was still evident as a slight hollow or marked by an internal bank and hedge. The E trackway ditch was also recut at this time.

The relationship of the later SE paddock to the earlier E-W ditch could be seen best where the two intersected at the NW corner of the later paddock (Fig 83). The excavation showed that there was a fairly complex sequence of ditch cuttings consisting of:

1 The main E-W ditch 854

2 Recut of 854 on its S side terminating close to the intersection with the N-S ditch 853

3 N-S ditch 853 and E-W ditch 870, part of the SE paddock, terminating close to the 854 recut; possibly all three terminals were contemporary and indicate an entrance into the new paddock at this point.

4 853 and 870 were recut to join one another in a continuous ditch.

The SW paddock was a maximum of 33m wide and 38m long. It was not laid out with the regularity of the other Romano-British enclosures, for the ditches on the W and E sides curved in towards the centre, forming an elongated U-shape.

On the N side of the paddock the ditch contained a pit 879, 1.20m deep from the surface of the gravel and 0.55m below the average level of the ditch (Fig 55). The pit had been dug in the base of the ditch in an area of clayey material; the pit fill indicated that it had been waterlogged. On the S the sides of the ditch and pit formed irregular steps and showed signs of trampling, probably by men and animals using it as a water-hole.

Fig 62 Interpretation plan of late Romano-British farmstead and Saxon occupation

3:G8-9

A 4m long section of the ditch (Fig 84) to the E of the water-hole 879 was packed with Corallian ragstone and some fragments of red tile in its upper fill (Fig 55). This material appeared to be bedded into the top of the ditch and possibly indicated a crossing point into the paddock when the ditch itself was almost completely infilled. Alternatively, the material might have found its way into the ditch about the time of the demolition of the Romano-British buildings.

The E ditch was easily traced for 7m at its N end where it was cut through gravel. There was a soil change to the S of this (marked by a dashed line on Fig 62). The ditch was completely invisible in plan in the reddish-brown clayey loam. To counteract this a series of box sections was cut across the projected line of the ditch in order to find it in section (Fig 88). At the junction of the gravel and the clayey soil the water table was only a few centimetres below ground level. The ditch around the paddock immediately changed character, having a wide, flat profile and waterlogged, silty fill. In the E ditch a wicker-lined well 1083 was found belonging to the Saxon period (Fig 88). Near the SW corner of the paddock at the junction of three ditches 1242, 1243, and 1185, there was a waterlogged sump 1173, 0.65m deep and completely filled with Corallian ragstone when found (Fig 87). To the SW of the dump a very shallow gulley 1185 was traced for 4m, whereupon it petered out. This probably acted as an overflow channel for the sump.

The southern arm of the paddock 1240 was wide (4.3m) and relatively shallow (0.80m) with a dark grey-brown clayey fill (Fig 55). The whole of the S half of this paddock was criss-crossed with modern land drains, some of them put in by Mr Benson, the last person to farm the land, who confirmed that he had difficulty keeping this area dry.

III.7.4.2 Dating evidence

On stratigraphic grounds it could be seen that the SE paddock had been added to the main villa farmyard system after sufficient time had elapsed for the main S boundary ditch of the farmyard to fill up almost completely. This probably took place in the late Romano-British period, in the early 5th century. Six coins were found in the ditch around the paddock dating between AD 276 and AD 378, but all came from the top layer.

III.7.4.3 Finds from the latest Romano-British enclosure ditches and SE Paddock

834; 424; (424) iron knife, (426) bronze sheet.

847: (501) bronze nail cleaners, (508) iron key, (513) iron plate and nails, (539) bronze coin AD 341-6.

853: (510) iron shears, (511) iron nail, (529) iron shears.

854: (516) iron coil

879: (517) bronze coin, 4th century

901: (645) whetstone

953: (522) bronze brooch, (605) coal fragments

1109: (566) bronze coin, 4th century, (567) bronze coin, AD 330-5, (583) iron knife.

1117: (574) footring of bronze vessel.

1170: (582) sheet bronze disc.

1173: (631) glass fragment.

1192: (607) bronze belt fitting.

1222: (632) bronze bracelet.

1239: (636) bronze coin AD 260-8

1241: (639) glass fragment.

From within SE paddock: (649) quernstone.

III.7.4.4 Building 2 (Fig 63)

During excavation in the area c 35m east of the farmhouse, large quantities of mortar fragments and some stone were found in the topsoil and subsoil. The extent of these was plotted. Although a building was suspected, no coherent plan could be traced. The trench was extended c 8m to the S in order to see if more substantial evidence of a building could be located. The extension of the trench involved cutting into the lynchet which ran across the site. At its shallowest the topsoil in the trench was a mere 0.12m deep; the soil in the lynchet, in contrast, was 0.52m deep. It was hoped that this depth of soil would have provided sufficient protection from the plough to preserve some of the suspected building.

Under the lynchet, fragments of the S wall of the building, running E-W were found. A single course of faced limestone blocks, c 0.10m thick and bound together with mortar, formed a foundation wall c 0.7m wide. The blocks rested on the gravel surface with no trace of a foundation trench. Even this piece of walling was badly disturbed and only two sections survived, 1.7m and 3.5m long with a gap of over 3m between them. Faint discoloration in the soil overlying the gravel surface indicated that the wall originally extended about 13.5m.

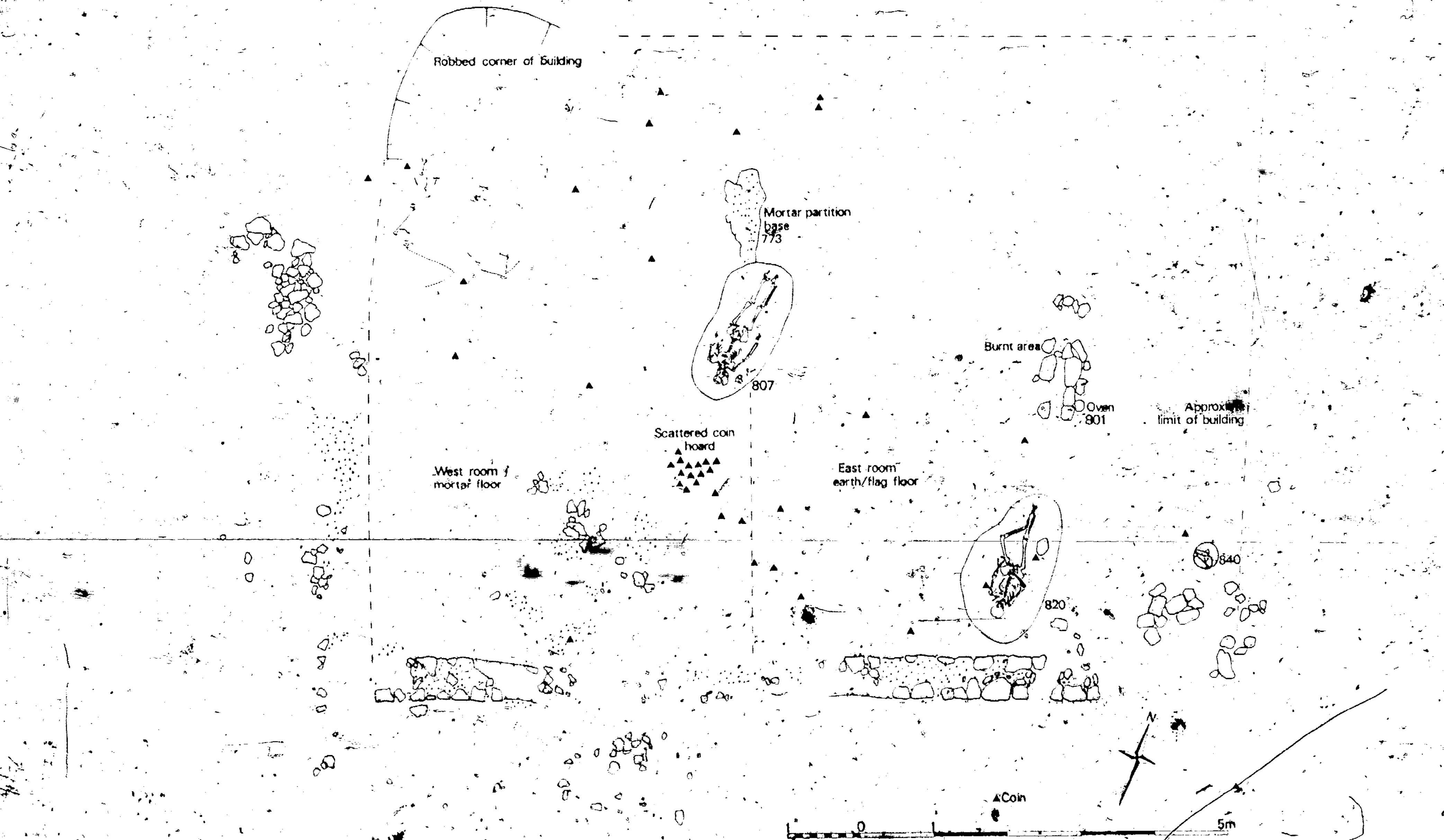


Fig 63 Plan of Building 2 with the position of coins found within it. The dashed limits are approximations only

The other sides of the building were considerably more difficult to trace. At the W end the mortar and rubble stopped on a fairly precise line. The spread of mortar and a slight shelving in the gravel surface suggested a possible line for the N wall, indicating that the building was originally c 7.5m wide. At the E end there was no trace of a wall at all and it is possible that none ever existed. The building may have been open-ended. A stone-packed posthole, 840, 0.40m deep and with a central void 0.20m across, possibly held a post providing roof support at this E end.

Inside the building a solid block of mortar, 773, 1.4m long and 0.5m wide, with a ledge on the E side indicated that a partition wall, for which the mortar probably acted as the base, had divided the building laterally down the centre. To the west of the partition the great concentration of mortar showed that the room (c 7.5 x 7m) originally had a mortar floor, completely broken up by the robbing of the building and subsequent ploughing.

The E room contained scarcely any mortar, though there were some fragments of limestone flags on the earth floor. Near the SE corner a group of worn stones appeared to be in situ as cobbling.

A small oven or furnace 801 was found centrally placed in the E room (Fig 63). The oven was rectangular in shape, 1.10m in length, 0.65m wide, with an internal flue 0.20m wide. It was orientated N-S with a flue entrance on the W side. The oven consisted of a single course of Corallian ragstone blocks, but included a worked freestone fragment, possibly reused from the farmhouse. The oven was floored with limestone slates. An area outside the flue entrance approximately 2m square showed traces of intense burning, but there was no ashpit as such. There we no finds to indicate the function of the oven.

This simple two-roomed building produced a large quantity of finds: fragments of jet, shale, glass, ironwork, including a spearhead, personal decorations such as bracelets, a quernstone fragment, and a bronze lion's head mount, probably from a piece of furniture. In particular, 89 coins were found, mostly confined to an area of about $4m^2$ in the centre of the building. It seems likely that they represent a scattered hoard. The pieces date to the late 4th century and many of them are worn, suggesting that they could not have been hoarded and hence scattered much before about AD 430 (5:B10). Two Saxon burials (4:D2) were placed in the building, presumably when it was no more than a visible pile of rubble, in the mid 6th century. The construction date of the building is uncertain, but a coin stratified under the cobbling in the E room gave a date of AD 330-41 (Cat No 33), and there were two fragments of mid 3-4th century Oxfordshire colour-coated ware under the wall foundation stones. The cobbling could, of course, be secondary, but the finds evidence and the building's association with the paddocks makes a construction date in the mid 4th century most likely.

III.7.4.5 Finds from Building 2

81 coins were found within Building 2, probably mostly from a dispersed hoard. They are not listed here, but for details see the coin report (5:B10)

712: (228) bronze wire bracelet, (229) iron object, (235) bronze bracelet, (236) (237) bronze fragments, (239) iron object, (244) iron cleat, (248) glass fragment, (249) bronze fragment, (250) (251) jet fragments, (252) bronze fragment, (253) jet fragment, (259) ? worked antler, (262) iron bar perforated by a nail, (268) bronze lion's head mount, (272) perforated bone plaque, (276) glass vessel rim, (277) iron staple, (281) bronze chain, (332) glass rim, (662) shale fragment.

766: (274) glass fragment, (275) bone comb fragment, (278) whetstone, (279) iron staple, (341) iron staple,

788: (294) bronze bucket handle, (295) quern fragment, (296) bronze fragment, (299) gilded bronze and silver plaque - disturbed from Saxon grave.

791: (306) shale spindle whorl

792: (305) iron object, (313) bronze strip, (318) iron nails in plaque, (324) bronze wire bracelet, (328) iron spearhead, (335) iron knife blade, (338) amber beads - disturbed from Saxon grave, (339) glass rim, (340) square bone mount or gaming counter.

979: (404) iron needle, (407) bronze bracelet.

802: (342) bronze bead, (351) glass rim.

803: (362) decorated bone fragment, (397) bronze fragment, (406) bone mount, (408) decorated bone mount.

Finds from layers immediately outside Building 2

793: (668) bone pin

795: (349) iron object

796: (293) bronze brooch

Finds from layer under Building 2

790: (302) bronze brooch of 1st century type

Finds from clay-lined pit N of Building 2

804: (343) twisted bronze wire. Also contained fragments of human bones.

821: (421) iron bracket, (422) decorated bronze ? bracelet fragment, (423) illegible 4th century coin.

III.8 THE SAXON OCCUPATION (Fig 62)

III.8.1 Sunken huts

Seven sunken huts or Grubenhauser were found during the excavation. One, 188, was dug into the SW angle of the Iron Age enclosure ditch 27m W of the villa building (Fig 78). The rest were spread along the edge of the gravel terrace to the S of the main farmyard enclosure ditch, within the area of the last phase of Romano-British enclosures. These six huts were all found on the strip of gravel about 30m wide between the main villa complex and the wetter soils of the terrace slope. It is likely that evidence of further Saxon occupation to the W was destroyed when the 19th century gravel pits were dug.

III.8.1.1 Sunken hut 188 (Fig 64)

This, the first Saxon sunken hut to be found in the 1972 season of excavation, was not satisfactorily excavated. The hut had been partially dug into the top of the Iron Age enclosure ditch and was not visible to the excavators on the surface. The hut was first noticed when a section was being dug across the Iron Age ditch, by which time the W end of the sunken hut had been removed, including the posthole that probably existed there.

The sunken hut was an irregular sub-rectangular shape c 3.3 x 2.9m with its long axis lying E-W. The fill of the hut was a uniform layer of brown, gravelly loam. The hut was 0.5m deep with a flat bottom and steeply sloping sides except on the E, where the gravel had been eroded to form a shelf. The posthole at the east end was 0.40m deeper than the hut floor.

Fig 62 Interpretation plan of late Romano-British farmstead and Saxon occupation

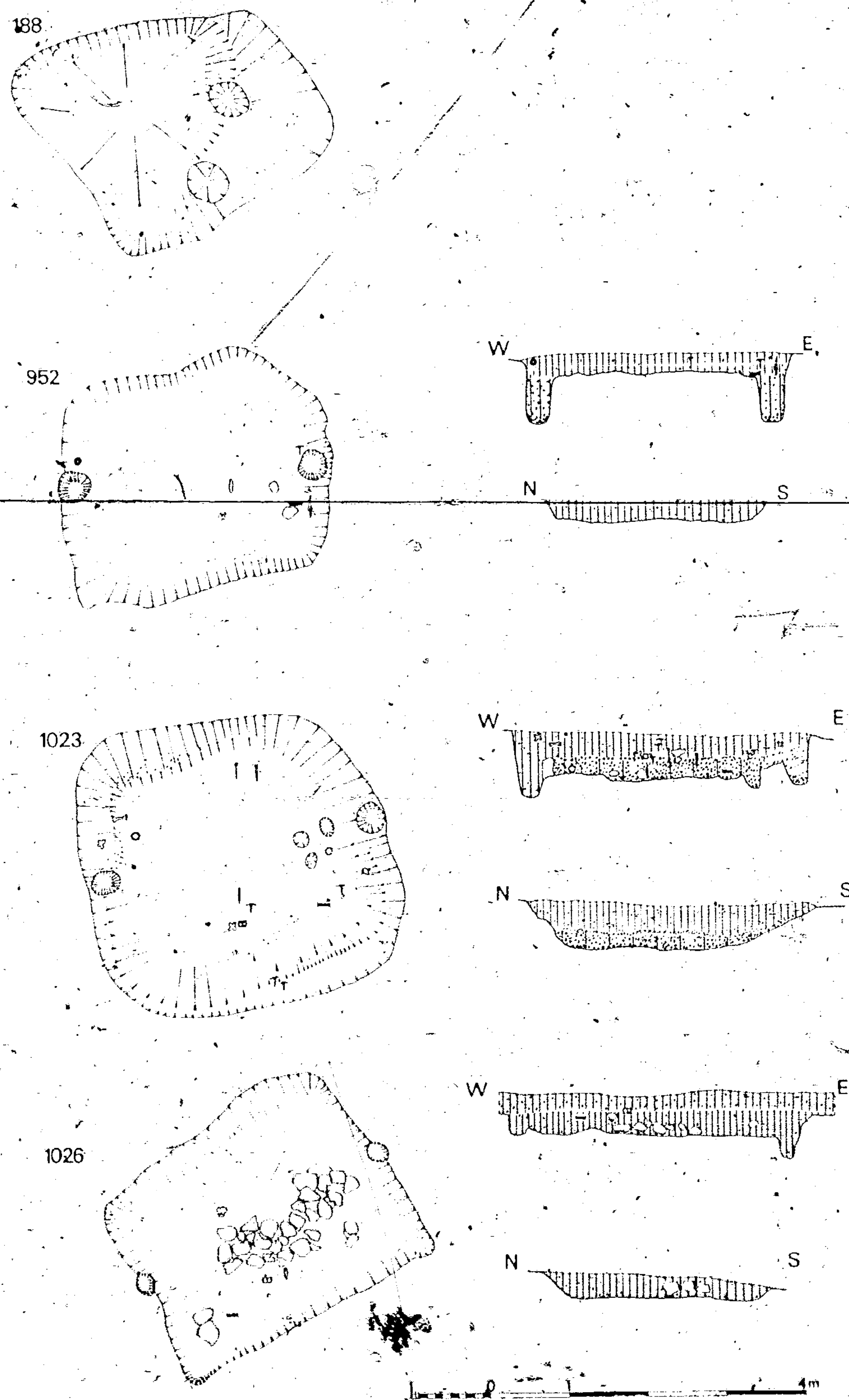


Fig 64 Saxon sunken huts: plans and section

Finds A whet stone (38), a perforated bronze plate (39), 2 bone pin fragments (40, 62), piece of glass (41).

III.8.1.2 Sunken hut 952 (Fig 64)

This hut lay 2m south of the main E-W-west Romano-British farmyard ditch, and aligned on the same axis (Fig 83). Its dimensions were 3.5 x 2.9m. It penetrated only 0.25m into the gravel and had a uniform brown gravelly loam fill. There was a centrally placed posthole at each end of the hut, 0.55m deeper than the base of the hut. Two postholes close to its N edge and two off the W end could have supported a structure spanning the sunken feature.

This sunken hut sat within a rectangular arrangement of postholes which indicated a larger timber structure. A sunken area within a larger building has been suggested at Puddlehill, Beds (Matthews 1962), but in that case there were no postholes at the ends of the sunken feature. On the other hand, a 19th century cottage at Athelnay had exactly this arrangement, the two posts helping to suport the roof (Rahtz 1976, fig 2.13). The Barton Court Farm sunken feature was off-centre to the rectangular structure, lying very close to the N wall. The post building impinged on ~~the~~ Romano-British ditch, which contained Saxon pottery, implying that it was constructed at a late phase in the Saxon phase of occupation. The pottery in the sunken feature was consistent with a 5th century date. The evidence is not conclusive but, on balance, it points to a timber-framed building having been constructed on the site of an earlier sunken hut.

Finds Two bone pin beaters (823, 525), iron objects (524, 561), lead loom weight (526), iron knife (527), bone comb (528) (562), shale fragment (641), two iron rings (643, 666).

III.8.1.3 Sunken hut 1023 (Fig 64)

This was the only hut inside the late Romano-British SE paddock. Its dimensions were 3.90 x 3.70m with a flat floor 0.57m deep and a centrally placed posthole at each end a further 0.30m deep. There were traces of five stakeholes in an irregular line along the central long axis of the hut floor. A stratum of natural gravel resulted in a shelf forming around the wall of the sunken hut. The erosion below this shelf contributed to the lower loamy gravel fill of the sunken area. Above this was a dark-brown sandy loam which had seemed to have been deposited after the hut had gone out of use.

Finds All the finds were from layer 1 except 555-7, two needles and the lead loom weight, which were in layer 2: pottery spindle whorl (537), iron object (538), iron object (540), lead fragment (541), iron object (542), slag (543), iron object (544), iron buckle (546), bronze object (547), bronze object (548), perforated oyster shell (549), iron object (550), worked bone fragment (551), lead fragment (552), bone comb fragments (553-4), bronze needle (555), bone needle (556), lead loom weight (557), bone ring fragment (565), bone needle (568), bone pin beater (569), decorated bronze fragment (570), bone (571), clay loom-weight fragments (575), bone needle (576), coprolite (577), bone tool (578), coprolite (579), iron pin (669).

III.8.1.4 Sunken hut 1026 (Fig 64)

This sunken hut lay just over 1m W of the latest Romano-British paddock ditch (Fig 87). On the ground this ditch curved to the SE and the hut was tucked in close to it. It is not impossible that the ditch curved to avoid the exisiting hut, but on the whole it is most likely that the ditch pre-existed the hut.

The dimensions of the hut were 3.6 x 2.7m and only 0.30m deep. The hut was of rectangular shape with two postholes centrally placed in the narrow ends; unusually, the postholes projected out from the sides of the hut. The E postholes projected out from the sides of the hut. The E posthole was 0.25m deeper than the floor of the hut, but the W one was only about the same depth. In three of the corners shallow hollows indicated the existence of slight corner posts.

The floor of the hut was flat and there was a linear cluster of Corallian ragstones aligned between the two postholes. The fill of the hut was a uniform brown sandy loam. Most of the stones were not directly on the gravel floor of the hut but sat 1-2cm above it. Two stones at the W end were actually on the gravel floor, at right-angles to one another, with a bone comb (637) in the angle.

Finds Perforated oyster shell (549), iron buckle (626), bone object (634), bone comb (637), iron buckle (657).

III.8.1.5 Sunken hut 1178 (Figs 65, 85)

A sub-rectangular hut, dimensions 4.3 x 2.9m and 0.40m deep, with a flat base and gently sloping sides. The centrally placed postholes in each end are 0.30 and 0.40m deep. A slab of limestone 0.4 x 0.3m in size lay just above the base of the hut at its centre. The uniform fill of the hut consisted of a dark-brown sandy loam. The finds included a fragment of glass slag.

Finds

Clay spindle whorl (612), iron pin (613), worked tooth (614), bronze sheet (616), glass bead (617), glass slag (618), coin, Ad 364-78 (564).

II.8.1.6 Sunken hut 1181 (Figs 65, 85)

Less than 2m to the SE of hut 1178 and on the same axis by hut 1181, the dimension of which were 3.90 x 3.0m and 0.60m deep. The base was flat and the sides sloping. The postholes at each narrow end were relatively slight; the one at the W end was dug into the sloping wall of the hut about 0.20m and the other was dug a similar depth into the base. There was a shallow depression just to the S of the centre of the hut floor, possibly indicating a third post in this position. The fill was a uniform brown sandy loam with a few fragments of stone in the central area 0.20m from the base. The fill also included a horse skull.

Finds

Bone handle (586), glass fragment (609), bronze bracelet (611), coins, AD 351-3 (585), coins, AD 388-92 (608).

III.8.1.7 Sunken hut 1190 (Figs 65, 85)

The sunken hut was cut into the shallow Romano-British ditch 1175 at a time when this feature had become filled with loam. Its dimensions were 3.67 x 2.50m and 0.40m deep. The two postholes were cut 0.60m below the level of the hut base. The fill was a uniform dark-brown sandy loam.

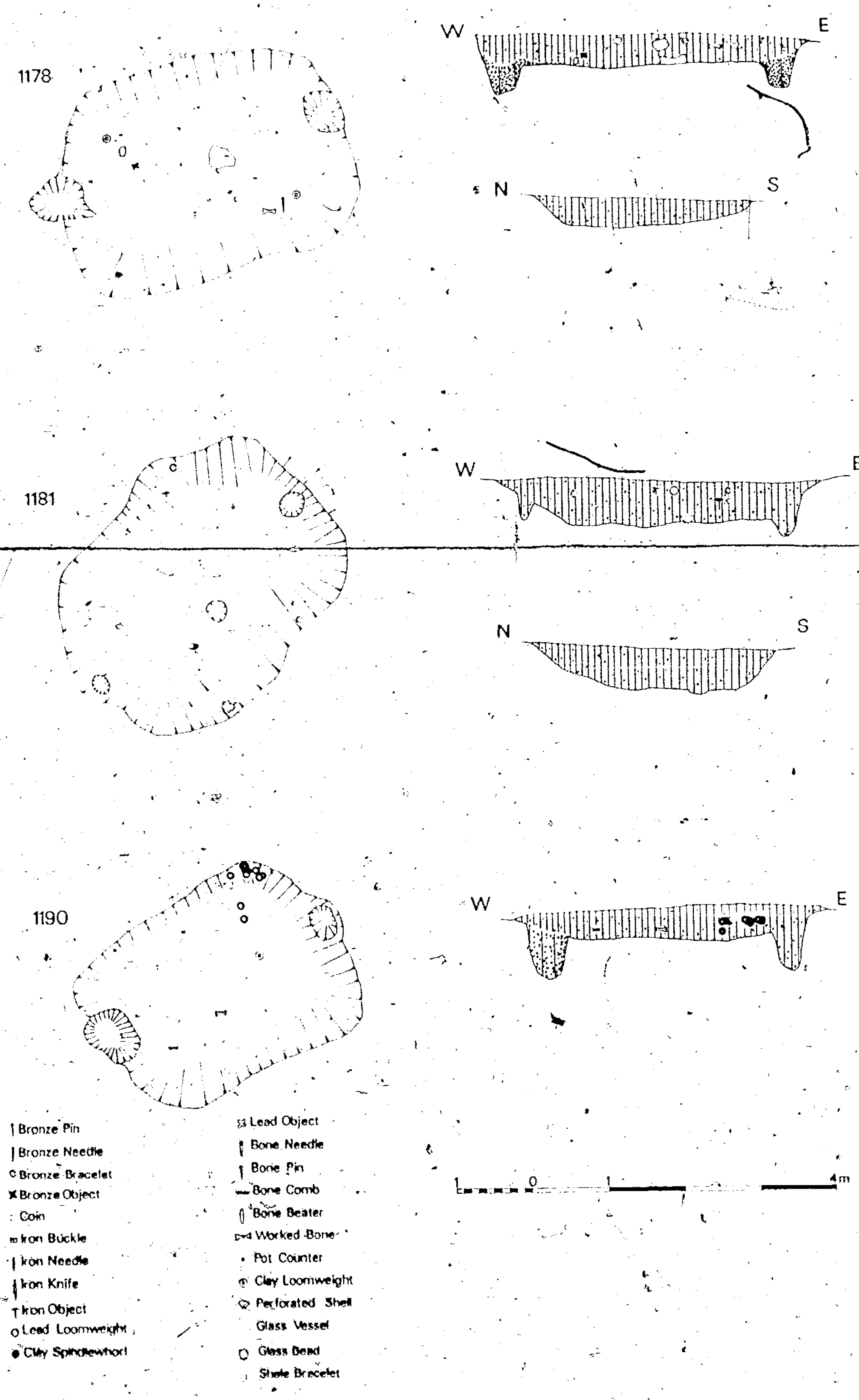


Fig 65 Saxon sunken huts: plans and section

Thirteen lead loom weights were found on the base of the hut. Ten of them were in a row lying one over the next as if they had been threaded together on a cord. Three others were found to the SW as well as fragments of clay loom weights.

Finds

Lead loom weights (587-598, 622), bone comb fragment (601), shale bracelet fragment (602), clay loom weights (603, 623), bone plaque (604), coal (605).

III.8.2 Framed buildings

The site was carefully excavated with potential timber structures in mind. The whole site was trowelled over several times and the gravel surface was sprayed with water; particular attention was paid to areas apparently empty of features. In this way postholes were found which were not visible in the early stages of excavation. Most of the postholes were shallow and devoid of any datable material so that their allocation to a particular period contains an element of supposition. The following are believed to belong to the Saxon phase of occupation.

III.8.2.1 Structure A (Fig 82)

A rectangular structure aligned NNW-SSE between the farmhouse enclosure ditch and the main farmyard boundary ditch; it overlay a straight shallow slot 611, which could not be accurately dated. The postholes indicated a building 6.7m wide and about 9m long. The N side was well defined by four substantial and two lesser postholes. The position of the S end was less certain; two postholes, 627 and 653, probably indicated the S corners, but the S cross-wall was less pronounced than the N. This may be because the postholes supporting the end wall were not load-bearing, did not need to penetrate so deeply, and were therefore eroded by ploughing. The E side of the structure was indicated by a line of six postholes of varying spacing. The two southernmost, 654 and 653, were 2.4m apart, possibly the position of a doorway near the SE corner.

The W side of structure A was defined by a line of five postholes and to the E of these a second line of four postholes. This wall, possibly of planking, may have been supported by posts on both sides. These postholes, also irregularly spaced through a central entrance, may have existed between 629 and 630. The postholes varied in size: 654 was one of the larger ones (about 0.50m dia x 0.23m deep), while others were about 0.30m dia x 0.15m deep. All had U-shaped profiles, no obvious post voids or packing, and a brown sandy loam fill.

Dating

Of the 21 postholes forming the structure, only six contained any cultural material – a total of 19 sherds of Iron Age and Romano-British pottery, some identifiable as worn 4th century AD types. These sherds indicated that the structure must have belonged to the late Roman period or later. The dark soil within the postholes, characteristic of the later settlements, also supports a date in the late Roman or post-Roman period. The orientation and position of the structure respected the Romano-British farmyard ditches, and it is possible that it was an agricultural building contemporary with the villa phase of settlement. On the other hand, the buildings positively dated to that phase had either stone foundations or stone-packed postholes. Structure A bears a much closer resemblance to the posthole structures on the site which produced Saxon material.

III.8.2.2 Structure B (Fig 82)

A rectangular arrangement of postholes orientated E-W parallel to the main Romano-British farmyard ditch and 1.3m S of it. The postholes indicated a structure 3.5m wide and at least 4.2m long. The W end had been removed by the 19th century quarry so its length was uncertain.

The 7 postholes varied in size between 0.22 and 0.40m dia and between 0.06 and 0.12m deep. All contained the same brown sandy loam fill as structure A. Only one posthole, 665, contained a sherd of pottery of late Romano-British type. The structure had no related floor levels.

III.8.2.3 Structure C (Fig 83)

A rectangular structure aligned E-W, just S of the main villa farmyard boundary ditch, 5.2m wide and at least 10m long. The sunken hut 952 lay within the area enclosed by the postholes. The N side of structure C was made up of a single, slightly irregular line of eight postholes. These averaged 0.30m in diameter and 0.10m in depth, with a brown sandy loam fill. The S side was formed of paired postholes, possibly one line replacing the other or alternatively providing support for a plank wall between interior and exterior supports. No trace of the end walls survived, presumably because the posts were not load-bearing. The postholes were on average 0.90m apart. A slightly larger gap between postholes 947 and 970, centrally placed in the S side, might indicate an entrance.

At the W end of the S side there were two stone-packed postholes, 987 and 973, 1.5m apart. These were of a very different character to the rest and it might be suggested that they were the doorposts of structure C. Neither feature contained any datable material; they were slightly off the general alignment of structure C; three postholes lie between the two and a fourth 1024, cut 973. It is probably that these two postholes were earlier than structure C and most likely belonged to the late Romano-British period. If so, they may indicate the entrance to a structure which has otherwise left no trace.

Dating

Posthole 852 produced a coin (Cat No 76) datable to AD 364-78. Seven postholes contained a total of eleven sherds of pottery and one fragment of tile; these included two sherds of Oxfordshire ware. Posthole 963 contained two sherds of Saxon pottery.

Although structure C was aligned on the same axis as the late Romano-British farmyard boundary ditch, at its E end posthole 912 almost impinged on the Romano-British ditches. The top of the Romano-British ditch 853 was carefully examined for postholes. No convincing ones were found, but as the fills of the postholes and the ditch were almost identical, the failure to locate postholes within the upper fill of the ditch was not regarded as significant. On the whole, the positions of structure C and the line of postholes to the S suggest that the building was constructed when the ditch was more or less completely infilled. Structure C seems to fit best in a secondary Saxon phase.

III.8.2.4 Structure D (Fig 86)

When the modern hedge line was removed in this area it was found that the habit of ploughing a double furrow on each side of the hedge had created a hollow in the surface of the gravel. On the E side of the hedge a rectangular but apparently incomplete arrangement of postholes was found; the W side of this structure had probably been eroded by the plough.

Thirty four postholes were found, all but two to the E of the hedge line. to the SE of the main complex of postholes was a shallow oval hollow 6m long and 2.5m wide with fragments of limestone and Corallian ragstone lying on its foor. This may represent a working hollow or a spot worn by animal activity, or most likely an entrance in the corner of the Saxon enclosure. The postholes to the NW of the hollow, 1030, 1031, etc, are thought to have been part of the Saxon fence line. The rectangle bounded by postholes 1231 in the NW, 1060 in the NE, 1034 in the SE, and 1037 in the SW may outline a building lying close to the fence.

These postholes indicate a structure 5m wide, almost the same as structure C, and of uncertain length, with a possible entrance on the E side. The postholes averaged 0.30m dia and 0.20m in depth and had a brown sandy loam fill. Only two postholes contained any cultural material: 1037 had a sherd of Romano-British greyware and 1165 two sherds of red colour-coated Oxfordshire ware.

III.8.2.5 Structures E and F (Fig 80)

An irregular but more or less rectangular complex of 27 postholes was found 27m E of the villa building. These averaged 0.30m dia and 0.20m in depth with a brown sandy loam fill.

The postholes appear to have formed a rectangle 8.5m long and 5.7m wide, aligned N-S alongside a Romano-British ditch. Other postholes indicate a possible second structure, F, 5.6m long and 4.7m wide, aligned E-W and partially 'overlying' structure E. If there were two structures on this site, their relationship cannot be defined. The postholes in both were of similar character and the two structures can only be defined in terms of layout. It is not impossible that all belong to a single construction.

Dating

The postholes of structure E contained a total of 18 sherds of red colour-coated Oxfordshire ware of late 3rd or 4th century date. The similarity of the structure to the others dated to the Saxon period and the proximity to the late Romano-British ditch, suggesting that at the time of construction the ditch was infilled, makes a Saxon date likely for structures E and F.

III.8.2.6 Structure G (Fig 84)

A line of eleven postholes 6.5m long ran E-W in the NE corner of the latest Romano-British paddock. These lay parallel to the main Romano-British farmyard boundary ditch and about 4.5m S of it. Several of the postholes, (eg 1079 and 1080) were paired as in the S wall of structure C.

The postholes were between 0.20 and 0.40m dia and about 0.10m deep. These may have represented one wall of a building which otherwise has left no trace, or alternatively a length of fencing.

One of the postholes, 1082, contained a coin (Cat No 69) dating to AD 364-78, and also an iron nail (563). Postholes 1082, 1085, 1088, and 1089 contained a total of nine sherds, including four of Romano-British grey ware, one of Oxfordshire red colour-coated ware, one Romano-British shell-gritted ware, and two of Saxon grass-tempered fabric. One posthole, 1084, contained two sherds of Neolithic pottery. In other respects it was similar to the postholes in the row; in particular it had a brown sandy loam fill.

III.8.2.7 Structure H (Fig 85)

A rectangular structure made up of ten postholes 3.6m (N-S) x 2.7m. The E side had four postholes, 1208 and 1211-13, 0.8m apart, and both the N and S sides had three postholes 1m apart. The lack of postholes on the W side suggested that this small structure was an open-sided lean-to. This interpretation was supported by the location of an intermittent line of six postholes running S from the SE corner of structure H.

The postholes of structure H were all between 0.40 and 0.50m dia and between 0.15 and 0.25m deep; their fill was brown sandy loam. The postholes of the presumed fence line, 1210, 1255, 1201-1204, were about 0.40m dia and only 0.10m deep. The line of posts was visible in a tongue of gravel which projected into the heavier clay soil of the terrace slope (see Fig 85). It is possible that similar slight features might no have been seen if they Had been cut into this more difficult subsoil.

Dating

A coin (Cat No 38) was found in the SE posthole, 1208, of structure H dating to AD 337-41. The same feature also produced four sherds of Saxon pottery fabric 1 and three sherds of Saxon fabric 3. Postholes 1209 and 1214 each contained a single sherd of Saxon pottery (fabric 1); 1219 had two sherds of Saxon fabric 1, two sherds of Romano-British grey ware, and two sherds of Romano-British shell-gritted pottery. None of the posts in the proposed fence line contained any datable material.

III.8.3 The fenced enclosure

A line of 17 postholes was traced for 24m running in a curving line NW-SE between the Romano-British well 950and the corn-drying area (Fig 83). At the N end posthole 940 was 2m S of the edge of the trench: the line may have continued beyond this point into the unexcavated area. Posthole 957 formed the SE corner of the fenced enclosure; the line of postholes then turned and ran SW for 27m crossing the late Romano-British paddock ditch 993. At the SW corner, by posthole 1003, was a hollowed area 994, which may have resulted from wear of the surface at an entrance into the paddock. The fence line then ran for approximately 10m to the NW alongside structure D. Beyond this point the gravel surface had been eroded by modern ploughing and, as already explained (see 4:B2), postholes tended to disappear. Alternatively, posthole 1049 was level with the NW corner of structure D and the fence may have stopped at this point.

On the E side the postholes were regularly spaced c 0.70m apart, similar in size, 0.50m dia and about 0.20m deep. The fill in all of them was a brown sandy loam. 919 had a distinct post-mould visible in it 0.20m in diameter, centrally placed in the posthole.

The S side of the enclosure was less regular, with the spacing becoming more erratic and the traces of the postholes slighter. On the W side the line of the fence was less certain as it ran close to structure D. In this area the postholes were shallow and close together.

Dating

Three of the postholes on the east side, 941, 946, and 947, contained eight Romano-British sherds, all grey wares except one sherd of red colour-coated Oxfordshire ware. 947 also contained a sherd of Saxon fabric 1. On the S side 959 produced a single sherd of grass-tempered Saxon pottery and 1003 two sherds of Saxon fabric 1.

If, as the pottery and the character of the post-holes suggest, the fenced enclosure belonged to the Saxon period, it must have been constructed across the late Romano-British paddock ditches 870 and 993. Both these ditches were excavated carefully with the possibility of locating postholes cut into their filling, but no convincing ones were found. As explained above, the fills of all these features were so similar that the failure to find postholes within the ditches is not a convincing argument in the dating of the fence line, and does not preclude a Saxon date.

III.8.4 Well 1083 (Figs 88, 66)

A cutting across the line of the E side of the late Romano-British paddock revealed a dark brown layer of waterlogged material containing a dense concentration of Corallian ragstones about 0.30m from the ground surface. After the layer of tumbled stones had been removed, it could be seen that a circular wicker- and stone-lined well had been inserted into the bottom of the ditch, apparently while the ditch was still open.

The well consisted of a hole 1m deep, the bottom of which was about 1.45m from the ground surface. The hole was lined with wicker work of hazel, oak, and willow withies with a maximum diameter of 1.20m and surviving to a height of 0.80m. Horizontal wattles were woven between oak and hazel uprights between 0.21 and 0.25m apart. Unfortunately, before the wicker lining could be accurately drawn, the sides of the well fell in under the pressure of incoming water.

Above the wicker lining there was a crude retaining wall of Corallian ragstone, the upper courses of which had fallen into the well. The fill of the well consisted principally of a mixed deposit of stone, silt, yellow clay, and waterlogged organic material. It was excavated in three spits of about 0.30m each. It appeared that the well had silted up gradually, eventually becoming little more than a shallow puddle with water-cress growing in it and colonized by water beetles. When the well was fully excavated it filled with water to a depth of 1.0m.

III.9 THE SAXON BURIALS AND THEIR GRAVEGOODS (Fig 67) P D C Brown

Four inhumations of the pagan Saxon period were excavated, two within the late Romano-British farmhouse and two in the late Romano-British Building 2. The skeletal details are reported on in the section on human burials (4:D10) by Mary Harman.

III.9.1 Grave 258 (Figs 67, 79)

Largely incomplete post-cranial skeleton of an adult male, possibly a young man, in Room 5 of the farmhouse. Supine, head to S. Damaged by ploughing.

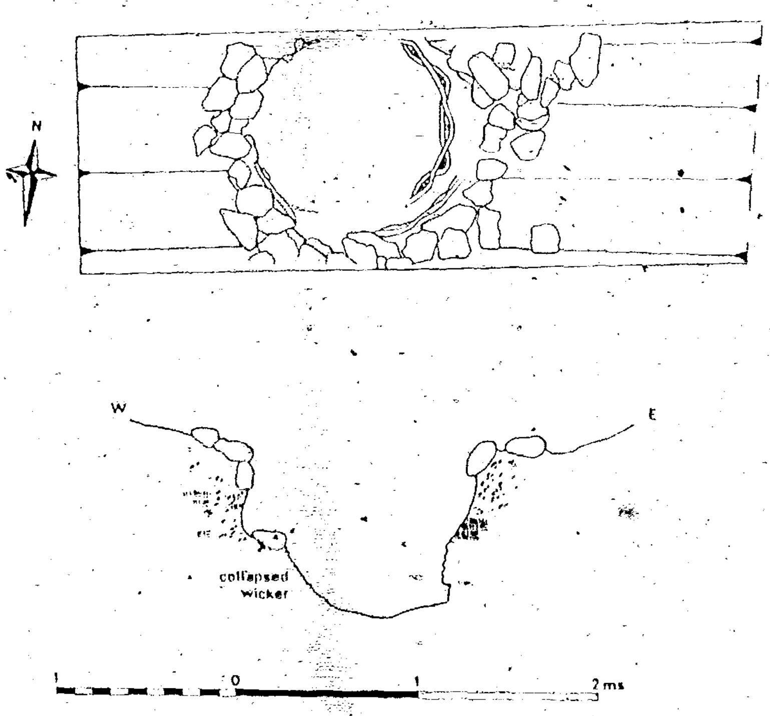


Fig 66 Saxon wicker-lined well 1083: plan and section

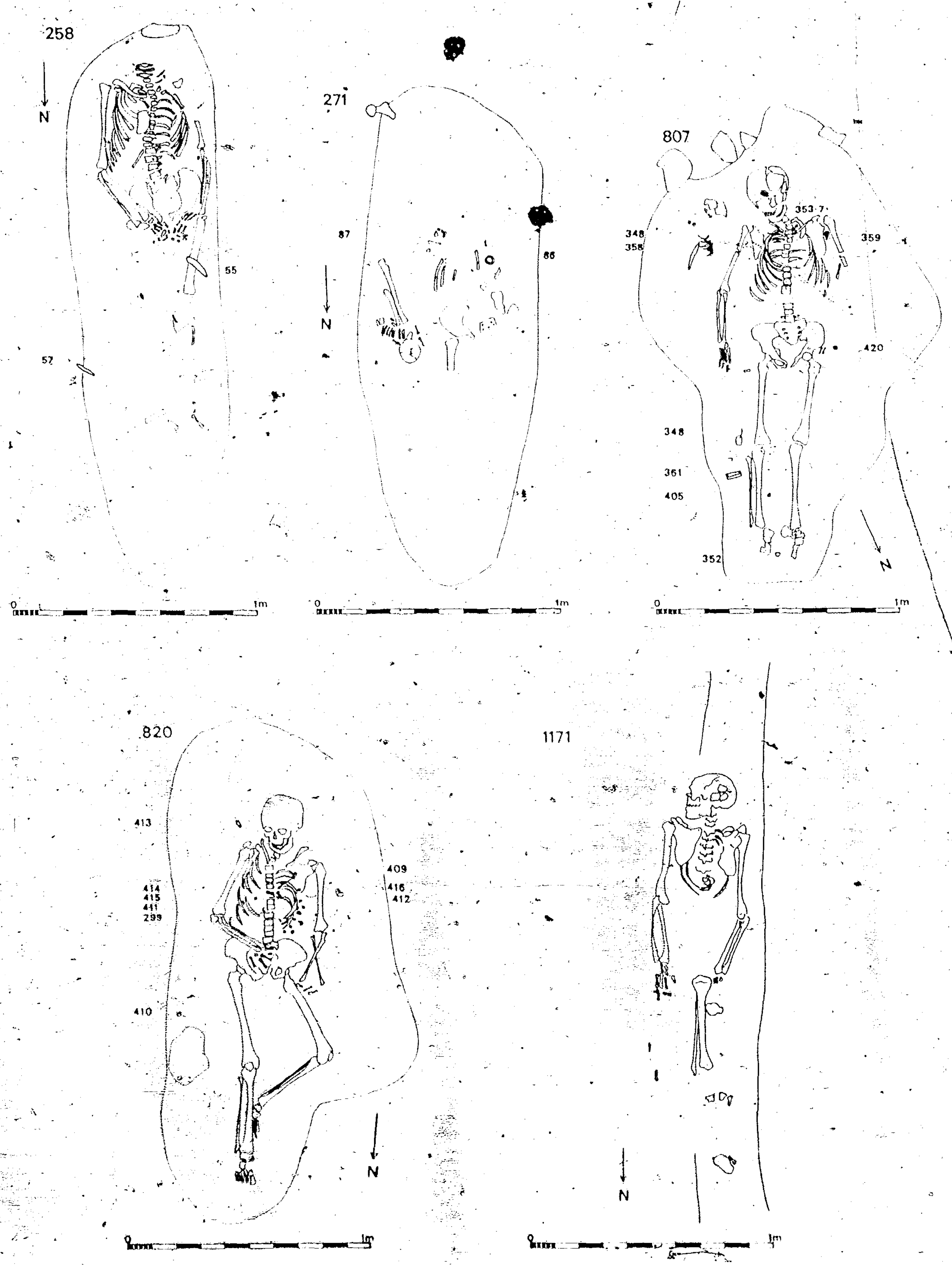


Fig 67 Saxon inhumations

Grave goods (Fig 68)

1 (60) Fragment of iron knife, lying on left radius close to right hand

2 (57) Fragment of iron knife point lying on right-hand edge of grave (possibly intrusive)

3 (55) A 3rd century antoninianus (c AD 268-70; Cat No 13), found to the left of where the skull should have been, possibly deliberately placed with the body; originally in the mouth?

III.9.2 Grave 271 (Figs 67, 79)

Fragmentary remains of an adult female with a new born infant. Damaged by ploughing. Inserted into room 4 of the late Romano-British farmhouse. Female supine with head to S; child lay by her right side, head to N..

Grave goods (Fig 68)

1 (87) Beads in fragments at head end. Parts of three amber beads, roughly rounded but angular. Dimensions 17, 17, and 15mm. Part of a sub-spherical crystal bead, uneven surface. Length 16mm.

Fragment of a spherical (haematite?) pebble; would be ideal as a bead though not enough survives to show whether it was pierced or not. Diameter c 16mm.

2 (86) Cast bronze ring, regular in shape, circular cross-section. Diameter 25-29mm. Found in the area of the left ribs.

3 (88) Coin (Cat No 10). Illegible sestertius of c 230-48. Close to the head and possibly deliberately placed with the body.

Comment

Disturbed and presumably incomplete. The cast bronze ring could be from a purse/amulet group. The combination of amber and crystal beads suggest a 6th century date.

III.9.3 Grave 807 (Figs 8, 67)

Female aged between 18 and 23 years; supine, head to SW and accompanied by a new-born infant. Inserted in building 2.

Grave goods (Fig 69)

1 (353-7) Five amber beads and a fragment of a sixth; found near the infant.

Three together:

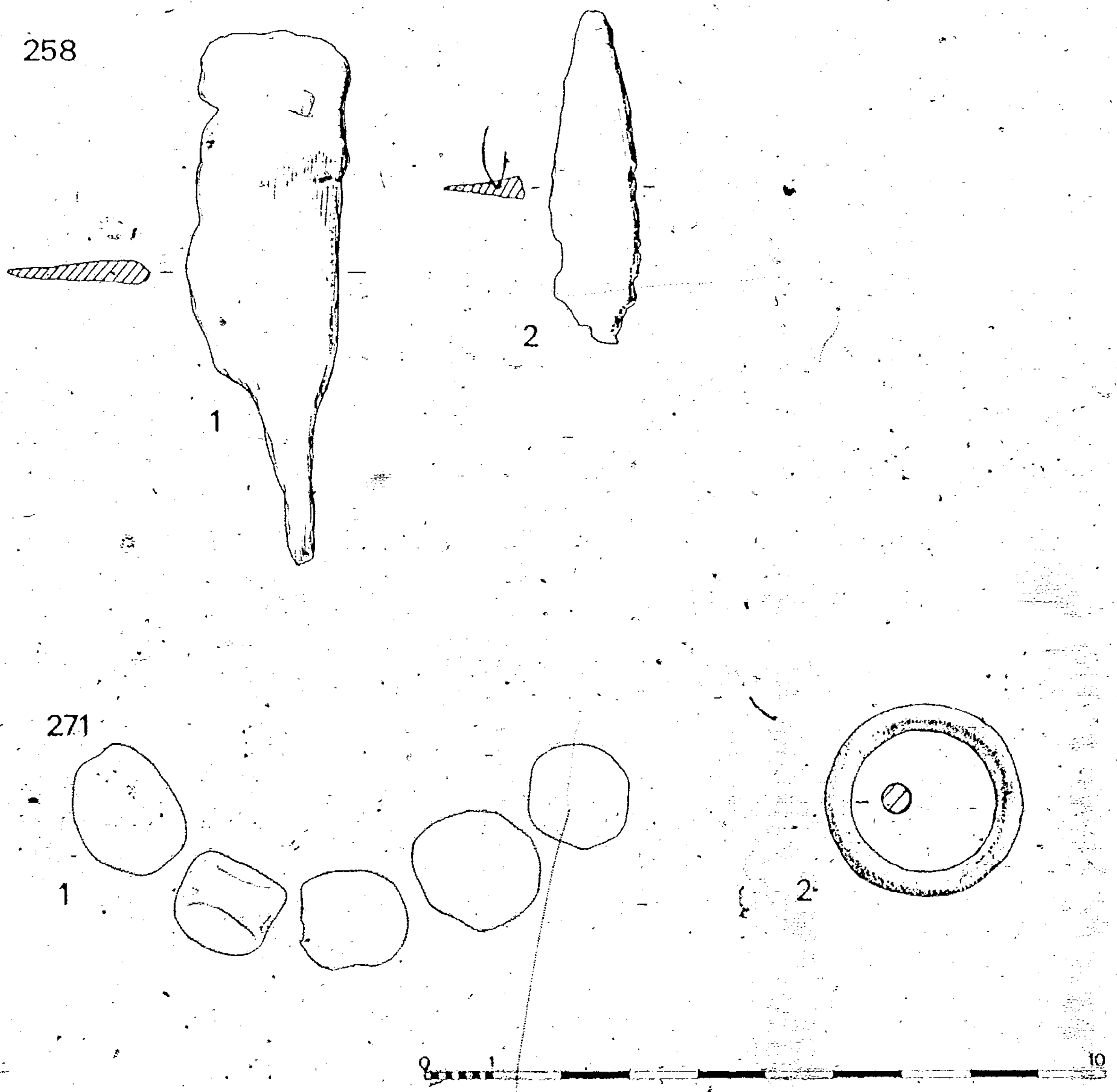


Fig 68 Saxon grave goods: graves 258, 271

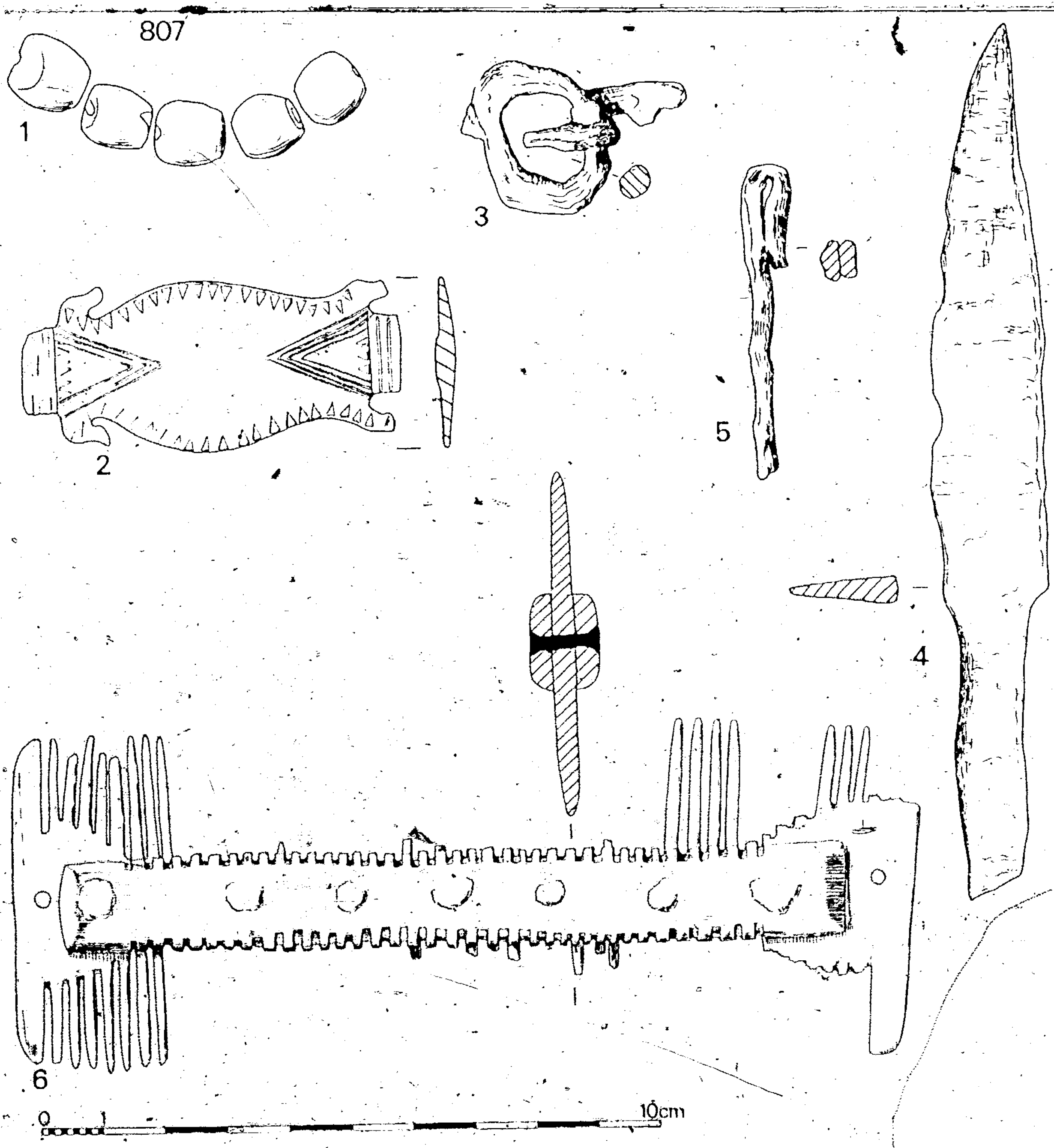


Fig 69 Saxon grave goods: grave 807

L: [illegible]2mm; D: 5/11mm; flat angular

L: 10mm; D: 6/10mm; angular

L: 10mm; D: 8/11mm; rounded

Two together:

~~L: 9mm; D: 6 x 10mm; rounded~~

L: 9mm; D: 7 x 10mm; rounded

2 (420) Cast bronze ornament, adapted for use as a brooch. The casting was originally like a fish, but head and tail have been removed so that it is not symmetrical, and could be thought of as an animal viewed from above. The back is flat; originally a stud projected from the centre of the back, but this was removed and only its scar remains. Traces of solder on the two ends show where brooch fittings were attached. The front of the object is curved, reflecting the shape of the fish's body. The surface was gilded, but gilding remains only in the hollows of the triangular punch marks surrounding the body and vestigial fins, and in the triple engraved lines. The triangular punch seems almost flat-headed, but was perhaps originally three-spotted. Neck and tail junctions are marked by a raised moulding beyond which the ends are broken off. Present dimensions: L: 61mm; W: 27mm; Th: 2mm.

3 (359) Small iron buckle with fragmentary tongue and plate. From left shoulder L: 34mm; W: 24mm. Maximum strap width 14mm.

4 (358) Iron knife.

L: 142mm; W: 18mm.

5 (348) Point of iron pin, flaking surface; from shoulder area.

D: 2-3mm

(360) Shaft or iron pin with folded crookhead

L: 50mm

Although these pieces do not join, they could well be from the same object. Overall length would be 110mm.

6 (361) Bone comb, double-sided, conventional construction (7 iron rivets). Plain flat bar with plain ends, a single hole through each end. Found by lower right leg.

L: 144mm; W: 54mm.

This comb is discussed with the other combs from the site (5:E8)

Comment

The unusual brooch is discussed separately below; the iron pin in connection with the bronze pins in the next grave; and the comb below (5:F2-4). The assemblage seems substantially complete, though presumably there were originally two brooches.

Date

6th century, second half.

III.9.4 Grave 820 (Figs 81, 67)

Female aged 30-35 years. Inserted in building 2. Body supine with head to N. Grave goods slightly disturbed.

Grave goods (Fig 70)

1 (412) 24 amber beads, smoothed, most approximately rounded. D: 6-11mm; one larger: 16mm. Scattered over ribs, mostly on left side.

2 (413) Cast bronze saucer brooch, gilt surface; seven pointed spiral coils; short catch-plate, two pin lugs; rusting iron pin preserves traces of thread, chiefly a single coarse S-spin thread. D: 46mm.

3 (409) Two bronze pins on a wire ring. Made of solid metal, and rounded perhaps by hammering in a grooved block resulting in a certain amount of lapping over of the edges of the metal, and in places, in its breaking off. Ends of plain, flattened, and rounded shapes. One pin is stained with iron rust. Both pins were bent while buried.
Original L: 125mm and 128mm.
Found overlying left side of chest.

4 (416) Flat iron ring, buckle, covered on one face with a plain sheet of silver. Incomplete, total shape uncertain andnot necessarily circular. No trace of rivets or other fastenings. Slight traces of textile preserved by rust on both sides of ring suggest it may have been attached with a cord.
D: 32mm; W: c.9mm; Th: 2mm.
Found overlying centre of chest.

5 (299) A pair of bronze ornaments, appliques, in S-shape: an animal with head twisted backwards. The head-cum-nect and hindquarters are chip-carved and gilt; the body is flat, and

820

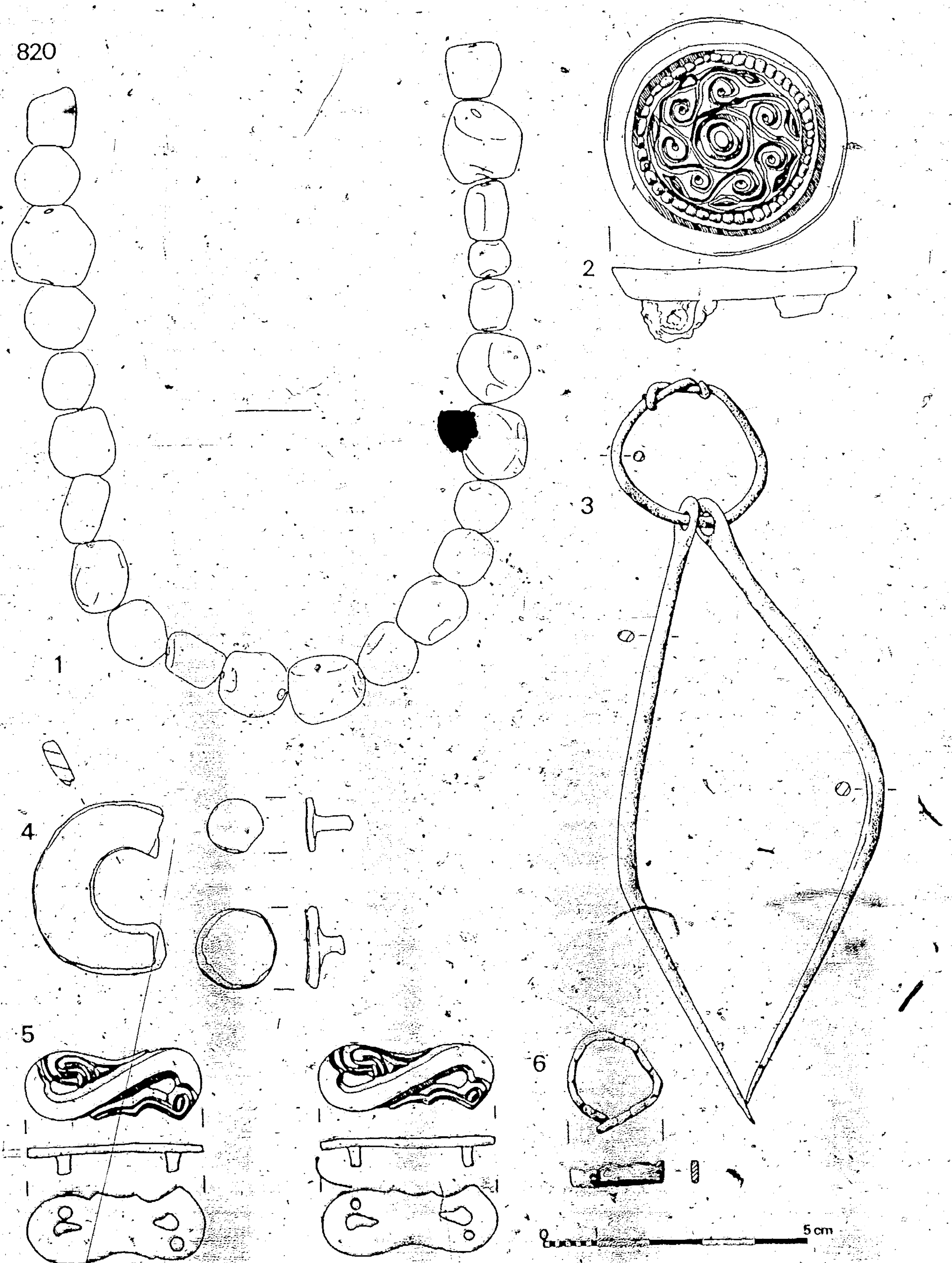


Fig 70 Saxon grave goods: grave 820

covered with a thin plate of silver. At the back are two rivets, showing that the pieces were attached permanently rather than being movable. The two pieces are identical; the animals face the same way rather than in opposite directions.

L: 32mm; rivet length: 3/4mm.

6 (410) Penannular ring of bronze, made by folding up a piece of a late Romano-British cogged-edge bracelet. D: 17mm. Found outside right thigh. Perhaps a chance inclusion in the grave.

7 (414 -15 Two bronze rivets with flat, circular silver-plated heads.
D: 15mm; L. of rivet 4.5mm
D: 10mm; L. of rivet 7mm.
Found overlying centre of chest.

8 (411). Small iron buckle, in fragments. Iron pin, no plate. W: 27mm; max. strap width 17mm. Not illustrated.

Comment

Although the skeleton is substantially complete, the grave goods seem to have been disturbed, and it is reasonable to assume that a brooch has been lost.

The bronze pins in this grave and the iron pin in the preceding grave can be matched elsewhere. They are commonly found on one or other side of the chest, suggesting that they were carried attached below one of the brooches; other local examples are Abingdon B60, B61, and B66, (Leeds & Harden 1936), and Harwell 9 (Ashmolean Museum).

The unusual applique and silver-plated rivets congregate in the centre of the chest. The nearby buckle suggest that they may have been decoration for a belt, though the buckle itself is very plain, unless the curious silver-plated ring was used somewhere to embellish it.

The appliques and brooch are discussed below.

Date

6th century, mid-second half.

III.9.5 Discussion

III.9.5.1 The saucer brooch (Fig 70.2)

The design on this brooch, seven pointed spiral coils within a border of billeting or squared beading, is matched locally on three other pairs of saucer brooches, two from the Abingdon cemetery, B34 and B102 (Leeds & Harden 1936), and one from Brighthampton 59 (Ashmolean Museum). The only other saucer brooches with seven pointed spiral coils are isolated examples from Singleton, Sussex (Welch 1978, 27, pl I) and Harmignies, Belgium (an export?) (Roeder 1927, Taf.5), but neither of these has the border of squared beading and so need not be considered as a part of the group around Abingdon. Apart from the design, these local examples are linked together by other features. Normally the iron pin on the back of a saucer brooch was attached to a single lug, but on these brooches, in every case, the pin was attached to two lugs. Also, while the rims of this Barton Court example and the pair from Abingdon B34 are of a normal depth, the rims of the brooches from Abingdon B102 and Brighthampton 59 are very shallow, and on one of each pair the rim has been broken away, at the same point on each brooch; the broken rim of the Abingdon B102 brooch was repaired, and the repair and rivets are covered with gilding, suggesting that this took place while the brooch was still in the maker's hands.

The repetition of the design and the various technical peculiarities are as strong an indication as could be hoped for that these seven brooches are from the same maker. Unfortunately the associations of the other three pairs of brooches do not provide any additional evidence for dating; Brighthampton 59 included amber beads and a bronze pin similar to the one here, Abingdon B34 had two bronze pins on the chest and a single blue glass bead, and Abingdon B102 had one amber and one rose crystal bead - all general 6th century groups.

III.9.5.2 The animal appliques and the fish brooch (Figs 70.5, 69.2)

Several sets of zoomorphic appliqués of this sort are known, and in every case where their context has been recorded adequately they have been in use as decoration on the face of shields. These shield fittings (Kennet 1974) include birds, quadrupeds, and purely decorative devices, but the creature most favoured was the fish. Fish appliqués are know from Spong Hill (Hills 1977), Kempston (Kennett 1974, 56), Kenninghall (Kennett 1974, 61), Eastry (Baldwin Brown 1915, pl 24), and from the river Thames at

Barnes (seen and photographed in Christies in 1977), and these pieces leave no doubt that the fish brooch at Barton Court was originally just such an appliqué.

The animal appliqués cannot be matched exactly, but are similar size, style, and technique to other small appliques, of birds, fish and geometric shapes at Eastry, of quadrupeds at Bergh Apton (Green & Rogerson 1978) and 'beaked-animal' recently found in Buckinghamshire (M. E. Farley, pers. comm). Like the Eastry birds, they are an identical pair, facing the same way, rather than a complementary pair as the Bergh Apton beasts.

The parallels for these appliqués come chiefly from Kent and East Anglia, and none has yet been found associated with a shield in any grave in the Upper or Middle Thames. Yet here, in nearby graves, are two women buried with appliques. The question remains: why should these two women have worn and been buried with objects more normally associated with men, and their equipment?

III.9.6 References (III.9)

Baldwin Brown, G, 1915 The Arts of Early England, 3

Green, B, & Rogerson, A, 1978 The Anglo-Saxon cemetery at Bergh Apton, East Anglian Archaeol, 7

Hills, C, 1977 A chamber grave from Spong Hill, Medieval Archaeol, 21, 174-5

Kennett, D H, 1974 Some decorative aspects of the Anglo-Saxon Shield, Bedfordshire Archaeol, 9, 55-70

Leeds, E T, & Harden, D B, 1936 The Anglo-Saxon cemetery at Abingdon

Roeder, F, 1927 Die sachsische Schelenfibel der Volkerwanderungszeit

Welch, M G, 1978 Early Anglo-Saxon Sussex, in The South Saxons (ed P Brandon)

III.10 POST MEDIEVAL FEATURES

A shallow ditch, 612 (Fig 71), was traced running E-W for about 117m from S of the late Romano-Britsh well 832 and across the S area of the villa enclosure. 33m W of the villa enclosure the ditch seemed to turn N to run alongside the present field boundary and over a late Romano-British enclosure ditch.

The stratigraphy in this small W trench was difficult to analyse because of 19th century quarry disturbance.

The ditch was c 1-15m wide and about 0.30m deep from the surface of the gravel. It fill was a uniform brown sandy loam. The ditch produced only worn sherds of late Roman pottery. It was thought possible initially that ditch 612 represented the latest phase of Romano-British activity on the site, cutting all the Romano-Britsh features with which it came into contact. A late Romano-British date seems unlikely in view of the relationship of ditch 612 with the S arm of the farmhouse enclosure ditch 602 (Figs 49, 79). The farmhouse enclosure ditch was clearly cut by 602, when the former was fully silted up. Ditch 612 produced considerable quantities of Saxon material such as pottery and bone combs in its upper fill. In contrast, 602 contained no Saxon material at all. It seems most likely therefore that 602 was dug after the Saxon occupation had ended.

On the aerial photographs ditch 612 appears to form part of a boundary around a parcel of ridge-and-furrow. On the W edge of the excavation a ditch was traced running N cut into the top of the Romano-British ditch 8. This was consistent in size and fill with a continuation of ditch 602. This feature produced a silver coin, provisionally identified as a half-groat of Henry VIII of 1544; unfortunately, the coin was stolen before the identification could be confirmed. The date of the construction of ditch 612 must remain uncertain, but it is most likely to belong to the late medieval or early post-medieval period.

III.11 THE HUMAN BURIALS (Fig 72)

Mary Harman and David Miles

The calcareous soils at Barton Court Farm were ideal for the preservation of bone. Seven adult inhumations were found during the excavations, two of them Saxon females with neo-natal infants. A further

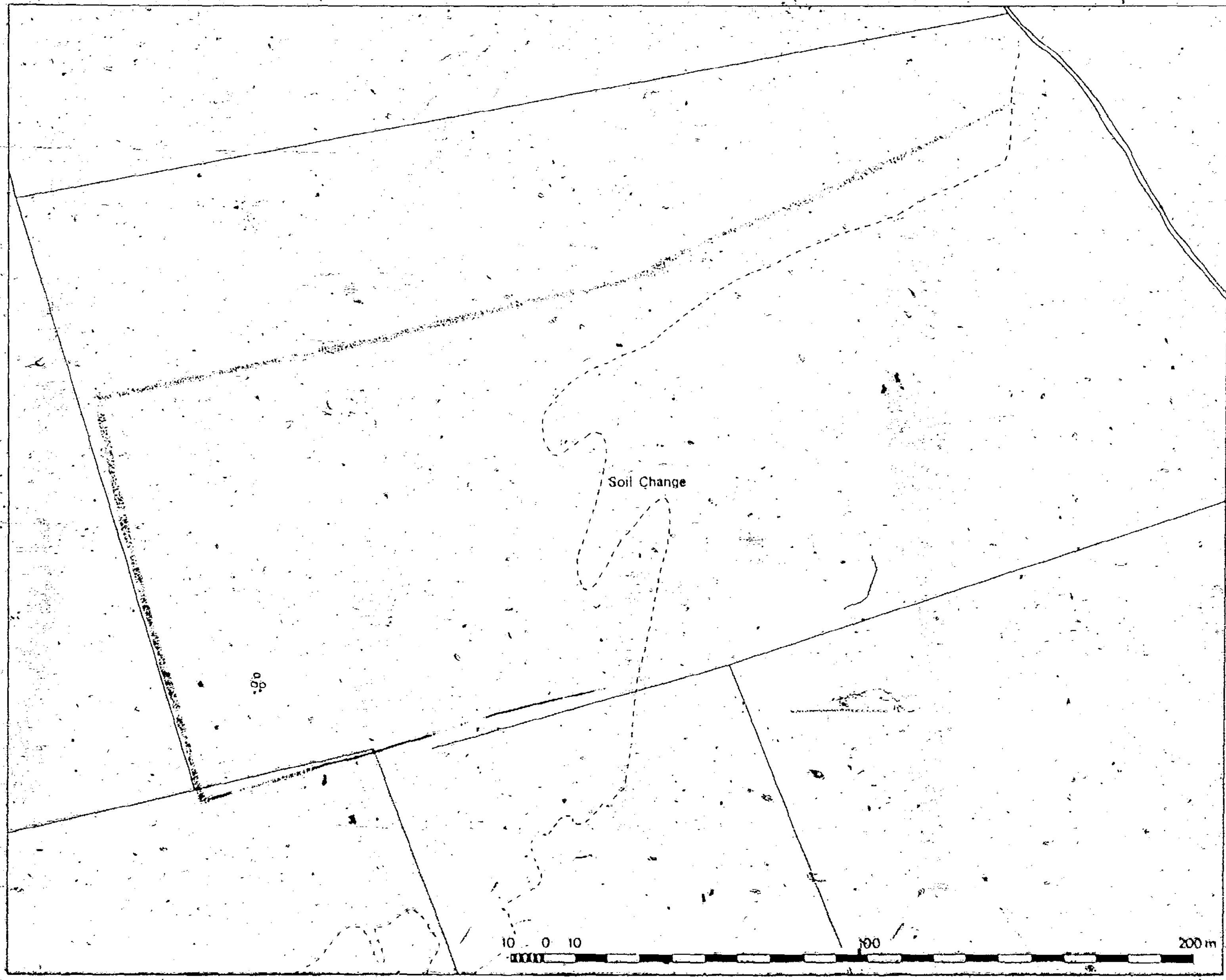


Fig 71 Barton Court Farm: medieval/post-medieval features

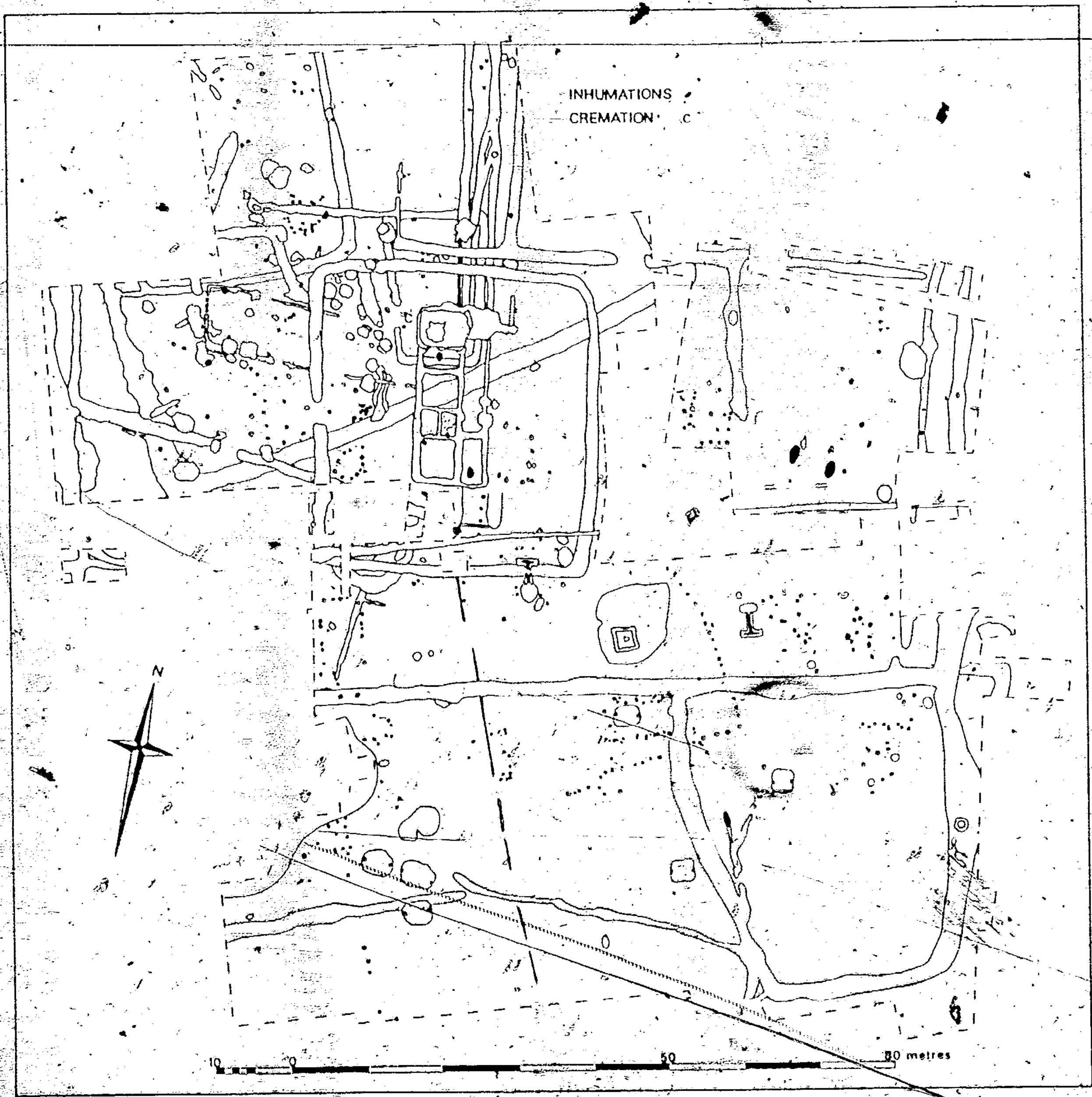


Fig 72 Barton Court Farm: distribution of human burials

54 neo-natal or very young infants were found, mostly belonging to the late Romano-British period. Other human bones occurred in features filled with redeposited material. Two cremations were also found.

All the bones were well preserved, though many of the less robust ones, such as ribs and infant skull bones, were fragmentary. The infant bones were in remarkably good condition. Many of the skeletons were complete or largely complete, but some had been disturbed in antiquity, by recent ploughing, or in the stripping of the site. The assessment of age is based on the degree of wear and state of eruption of the teeth, and on the state of epiphyseal fusion using the criteria given by Brothwell (1963, 60, 69, 102). The total length of the diaphyses of infants was also taken into consideration, the suggested ages being based on the chart prepared by Miss R Powers (pers comm).

The sex of the adult skeletons was decided from the conformation of the skull and the pelvic girdle, and the general size and robustness of the bones. Height was calculated from the regression formula of Trotter & Gleser (1958).

III.11.1 Cremations

838 (Fig 72) In a circular pit 0.6m dia and 0.20m deep in trial trench running from eastern edge of excavation cut to locate soil change. No dating material. A small quantity of calcined fragments included several pieces of skull vault, the right mandibular condyle, and a terminal phalanx, the partial remains of an adult. Weight: 11g.

17 (Fig 79) A small pit 0.4m dia and 0.1m deep inside the late Iron Age rectangular enclosure, SE of the entrance; no dating evidence, though the positon suggests that it belongs to the late Iron Age. The pit contained a quantity of calcined fragments, some up to 80mm in length, including fragments of skull vault bones, alveolus, a vertebra body, a patella and an astragalus, and several long bone and rib shaft fragments; the remains of an adult.
Weight: 29g.

Neither cremation contained any bones which were identifiable as animal bones, nor was there evidence of either being the remains of more than one person.

III.11.2 Iron Age burials (Fig 72)

Two infant burials, 103 and 339, could be dated to the Iron Age, as they were inserted into the lower fills of Iron Age ditches. Two further infants, 160 and 182, may have belonged to the Iron age, but their position left room for doubt; 182 was inserted into the top of Iron Age ditch 5 and 160 appeared to be cut by an Iron Age pit 161. A single bone 162 in the foundation slot of the Early Romano-British structure may indicate a disturbed Iron Age burial.

103 The largely complete skeleton of a new-born infant, missing the lower legs.

160 Six fragments from a neo-natal infant skeleton, probably a disturbed burial.

162 One bone from a neo-natal infant skeleton, possibly a disturbed burial.

182 The skull and part of the thorax and thoracic girdle of a new-born infant.

339 Several skull fragments and most of the long bone diaphyses of a new-born infant.

459 The virtually complete skeleton of male of 30-35 years of age, with a height of 5ft 10in (1.778m).

This crouched burial was found in a shallow grave against the E side of Iron Age structure I (Fig 76). There were no grave goods or dateable material, but as the grave was cut by the early Romano-British ditch 314 and it appeared to be related to the circular building, it is suggested that the burial was contemporary with the Iron Age settlement.

The grave was 1.1 x 0.7m and 0.3m deep into the gravel. The body was slightly crouched within the grave as if bound after death. It lay on its left side; the head was to the S facing W. This skeleton has interesting dental anomalies: the failure of the first lower right premolar to erupt, and the cyst which is probably associated with this, and the presence of two small supernumerary teeth behind the upper left third molar, a very rare occurence.

mcdc
8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 (+2)

8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8
mcdcU

The condition of the teeth was excellent, there being only four small caries; the first lower right premolar is unerupted and the crown can be seen in the body of the mandible just below the canine: there is a gap left in the alveolus but the canine and the last premolar and first molar lie at an angle so that their occlusal surfaces continue across the gap. The non-eruption of the tooth may be associated with a large lump affecting the body of the mandible, from the alveolus to the lower margin, and horizontally from the posterior of the canine to the middle of the first molar. It protrudes approximately 2mm on the labial surface and 6mm on the lingual surface of the jaw and in places where the thin outer surface of the bone has broken a hard nodular deposit is visible inside the bone.

680 Part of the post-cranial skeleton of an adult female, with a height of 5ft 1¼in (1.554m). The bones found were eight vertebrae and some rib fragments, parts of both arms, the pelvis, and part of the right leg.

This was a crouched burial (Fig 79) with no dating evidence but buried in a similar manner to 459. The body was placed in a small grave 0.8 x 0.5m and barely penetrating the gravel. As a result, the skull and parts of the legs had been removed by ploughing.

The body lay on its right side, with its head to the S, facing E.

III.11.2.1 Discussion

Iron Age burial practices in Southern Britain have recently been summarized by Whimster (1977). The adult inhumations at Barton Court Farm fall into his Group 1, pit burials and related forms. Iron Age burials are not common in the Upper Thames Valley (Whimster 1977, fig 1; Harding 1972, 68) but when they do occur they are usually crouched, in pits or shallow graves. The Frilford burial appears to be within a ritual circle (Harding 1972, 61-9) and those from Stanton Harcourt may have been mutilated or dismembered. The warrior burial from Sutton Courtenay, rediscovered by Whimster, is so far unique. A recently excavated burial at Ashville, Abingdon (Parrington 1978, 37, 92) was found in a rubbish pit, crouched, on its left side and with its head to the N. Two crouched burials were also found in 1978 at Mount Farm, Berinsfield, in excavations conducted by George Lambrick of the Oxford Archaeological Unit. These lay in shallow graves, one on its left side with its head to the N, the other on it left, with its head to the S. Whimster's Class 1 burials characteristically have their heads to the N, but the two Barton Court Farm burials, like the Mount Farm, one do not conform to this general rule.

Although as many as 50 individuals have been found in pits at Danebury, Hants (B W Cunliffe, pers comm), and thirteen at Christon, Somerset, generally the numbers of burials of this type on Iron Age sites are small. The two inhumations at Barton Court Farm and Mount Farm and the single one at Ashville suggest that an alternative method of disposing of the dead must have operated in most cases. The exceptional character of one of the Barton Court Farm burials is indicated by the fact that it appeared to be inside a round house. No positive case of an adult burial inside a domestic structure has been found in an Iron Age context. Burials at Frilford and Harling Bay, Cornwall (Whimster pers comm) may be in buildings with a specifically ritual function. (Though Harding now doubts his previous interpretation of the former structure as ritual: pers comm)

The likelihood of mixed burial sites in the Upper Thames region in the late Iron Age is supported by the presence of two cremations, 17 and 838, on the site. Neither can be dated with certainty, but the position of 17, inside the entrance to the rectangular enclosure, suggests that it belonged to the latest Iron Age phase on the site. Late Iron Age cremations are often accompanied by pots and other grave goods, but the difficulty of dating would account for the failure to recognize unaccompanied burials. The Upper Thames Valley is on the western fringes of the area in which cremation burials (Whimster's Group 6) are found. These have usually been associated with the spread of Catuvellaunian influence in the century before the Roman Conquest. If this is so, the presence of cremation in the latest phase of the Iron Age settlement may reflect the spread of the new burial site from the E in the mid 1st century AD.

III.11.3 The Romano-British burials

Five infant burials were believed to be Iron Age in date ~~and two~~ (with adult females) were Saxon. Of the remaining 48 infant burials, relatively few could be dated on stratigraphic grounds. 196 was found in a shallow depression just inside the N wall of the main early Romano-British structure, a position which suggests a burial beneath the foor of the house (Fig 78). Otherwise, the only infant burials that could be dated to the

Romano-British period belonged to the villa occupation. Some were placed in the farmyard ditches while they were still open (400, 616, 619): another, 678, was inserted when the ditch had largely filled up. One burial, 286, was placed beneath the floor of room 2 of the villa in a stone-lined grave. The feet of this burial were removed by the robbing of the south wall of room 2. A burial, 825, was also found beneath the floor at the NE end of building 2.

In the late Romano-British period neo-natal infants were buried all around the farmstead, in ditches, within the yards, and inside buildings. However, one area was retained specifically as their burial ground at this period. In the SE corner of the main villa farmyard, between the trackway and the corndrying oven (c 20 x 10m) there were at least 26 infant burials (Fig 84).

Most were buried in shallow graves with no trace of grave goods. Some of the skeletons were found on the surface of the gravel and others had probably been lost to the plough. There was little in the way of dating evidence with these burials, but their position in the corner of the farmyard suggests that they were interred in the second half of the 4th century and the early 5th century.

III.11.3.1 Infant burials with animals (Fig 73)

Three burials among the farmyard group (Fig 84), 881, 917 and 923, were of particular interest as the infants were buried with a dog skull in the first two cases and a sheep skull in the last.

881 The largely complete skeleton of an infant, probably between four and nine months old, certainly well beyond the neo-natal stage. The burial was in a relatively substantial grave 1.0 x 0.6m and 0.20m deep. The head of the infant was to the NW, facing W, and the body lay on its right side. Animal burrowing had scattered many of the bones. The skull of a dog with no mandibles was found in the western corner of the grave alongside the infant skeleton. (For report on this and the other animal skulls see 8:B11). There were no other finds within the grave.

917 The virtually complete skeleton of an infant probably between one and four months old, but certainly larger than the rest of the skeletons except for 881. The burial was also in a substantial grave 1.4 x 0.8m and 0.20m deep. The head of the infant was to the N, facing E. The skull of a dog lay immediately alongside the head of the infant, to the E. To the

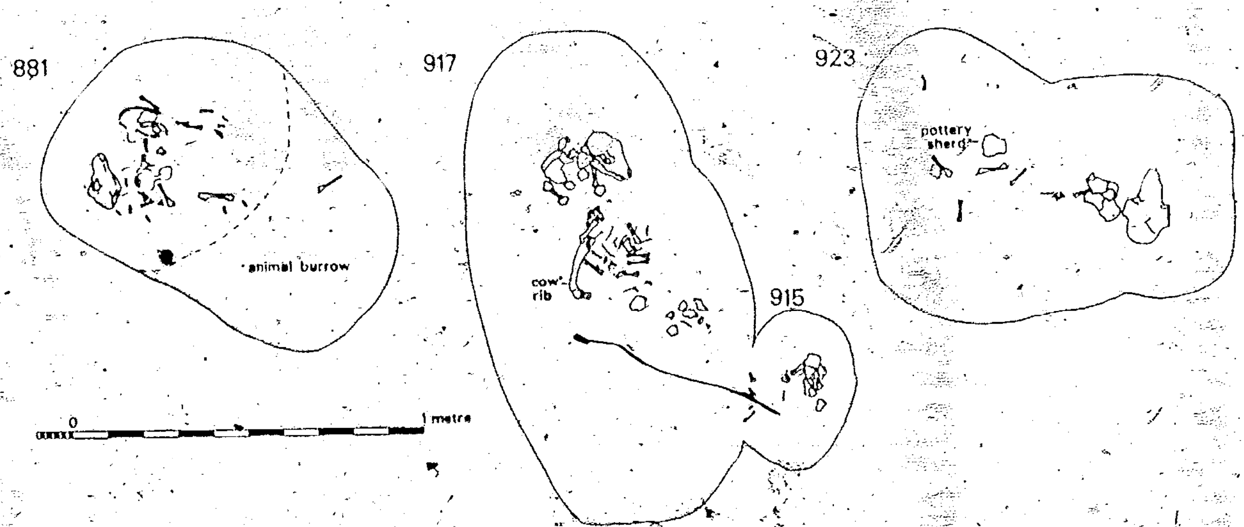


Fig 73 Infant burials accompanied by animal remains

right of the infant's pelvis was a cattle rib fragment, and two small fragments of unidentifiable animal bone. Two further burials, 915 and 916 overlay this one.

923 The largely complete skeleton of an infant, possibly new-born or a few weeks older. Burial in a substantial grave 1.10 x 0.70m and 0.25m deep. The infant's head was to the E, facing N. The bones were badly disturbed, probably by animal burrowing. The skull of a sheep lay immediately to the N of the infant's head. The lower portion and base of a burnished grey ware jar was found next to the skeleton, but the vessel was broken before it found its way into the grave, either as backfilled debris or a deliberately placed relic.

III.11.3.2 Other infant burials

The remaining skeletons were of infants either new-born or possibly a few weeks older. Most were virtually complete, though some had been disturbed by animals, the plough, or topsoil removal and had some bones missing. The numbers of these burials are as follows: 286, 333, 400, 616, 619, 678, 784, 789, 825, 833, 860, 862, 867, 869, 872, 885 (possibly premature or just rather small), 903, 904, 905, 913, 914, 915, 916, 918, 920 (possibly premature or just rather small), 922, 926, 927, 1076, 1134, 1138, 1151, 1169 (a very small infant probably about two months premature), 1221, and 1256.

III.11.3.3 Discussion

Infant burials are not uncommon on farmsteads of all periods in Britain and other countries. The high rate of infant mortality in the ancient world and in many parts of the world up to the present day is well know (Hooper 1975). Aristotle (Book vii of the Historia Animalium) comments that most children are carried off before the seventh day, while in 18th century France Rousseau could still write in Emile (1762) 'Of all the children who are born scarcely one half reach adolescence' (Yudkin 1968). In exceptional circumstances infant mortality rates can be extremely high: the British & Foreign Medico-Chirurgical Review in 1838 recorded that eight out of every ten babies born on Hirta (St Kilda) died of 'the sickness of eight days' (tetanus infantum, caused by treating the umbilical cord with infected fulmar oil) (Steel 1975, 150-5). However, lacking detailed statistics for the ancient world, we must avoid assuming that the situation was always so disastrous. Hoskins (1965, 147-8) has drawn attention to the population expansion in the late 16th and early 17th century in England and the 'plethora of children'. The factors behind this rise in the fertility rate and the decline in the infant mortality rate are debateable but they probably include improved housing, more varied diet, and earlier marriage. The first two of these factors may well have operated in 4th century Roman Britain (though for late marriage and small families elsewhere in the Roman Empire see Jones 1964). It is significant that in England in the 17th and 18th century, while the inhabitants of rural areas enjoyed a low infant mortality rate, the increasingly overcrowded town dwellers suffered a marked rise (Hoskins 1965, 148), so that in London between 1762 and 1771 two-thirds of the children died before reaching five years of age (Still 1931, quoted by Hooper 1975, 375).

The 48 infant burials at Barton Court Farm need not indicate an alarmingly high mortality rate as they must have accumulated over at least seventy years and probably over a century. We cannot be certain what was the female population of child-bearing age on the late Romano-British farmstead, but it seems that a child was dying at birth about every two years.

As Hooper has emphasized, the Roman Law of the Twelve Tables forbade the disposal of corpses within a city. The law does not seem to have applied to new-born babies who were often buried within the urban area or within the fort at Portchester (Hooper 1975, 376; Nock 1932, 322). Ancient Roman law emphasises that no formal mourning period was required for children under 3 years of age (later 1 year) (see Plutarch <u>Numa</u> 12). The habit of burying very young infants around the settlement rather than in the communal cemetery seems to have also applied in rural areas, for infant burials are common on Romano-British farmsteads but rare in rural cemeteries. The different funerary treatment of infants and older people appears to be a common phenomenon in societies as diverse as the Ashanti and the Saxon (for a discussion of infant burial practices see Ucko 1969, 270-1). As Ucko points out, 'many societies only accept a child as a fully-fledged social human being after a certain age.'

Most of the Barton Court Farm infants were buried with little apparent ceremony, simply inserted into ditches or shallow graves. There was no obvious emphasis on any particular orientation (Fig 74). A majority lay with their heads to the N or S, though orientations should be treated as

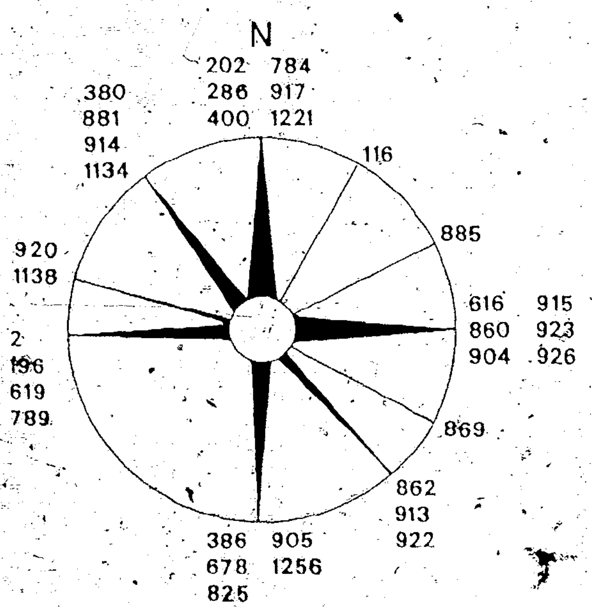


Fig 74 Orientation of Romano-British infant burials: the thickness of the arrows indicates the number of burials in that orientation. The numbers are those allocated to the graves during excavation

approximate only, when the bones were so often disturbed. Burials lying E and W also appear, as well as most points of the compass between the cardinal points except SW.

The most interesting burials were those which were accompanied by dog and sheep skulls. it is significant that two of these burials, 881 and 917, were of slightly older children, the only ones found on the site. Presumably parents were more attached to these children of only a few months old. The authors are not aware of Romano-British parallels to these burials. There is, however, contemporary evidence that pet animals were sacrificed at Roman funerals (*Pliny*, *Epist*, iv. 2). Terracotta figurines of animals including a dog accompanied a cremation at Camulodunum and a jet bear was found with an infant at Malton, Yorks (Toynbee 1971, 53), but these may have been no more than toys.

Another Thames Valley villa, Hambleden, Bucks, has produced a burial ground with as many as 97 infants (Cocks 1921). Unfortunately the details of burial were not recorded though the excavators suggested infanticide may have been practiced (see Suetonius: *Claudius* 27 for an imperial case of infanticide). Around the Gloucestershire villa of Frocester Court a substantial number of infants have also been found (E Price, pers comm). At Porchester (Hooper 1975, 376) 13 of the 27 infants were interred in pits that contained animal bone. Burials were also associated with animal bone at Trentholme Drive, York (Warwick 1968). The provision of food for the dead, the eating of funerary meals and deposition of the residue, and the sacrifice of pigs (Toynbee 1971, 50) are well know Roman burial rituals. At Barton Court Farm the animal skulls could have been protective symbols rather than an inappropriate source of food. In grave 917 half of an ox rib and two fragments of unidentifiable bone were found. These may have been no more than refuse on the site which were included with backfilled earth. More careful study of the types of animal bone in graves is needed before they can be assumed to be necessarily of ritual signficance.

No adult Romano-British burials were found in the area of the farmstead at Barton Court Farm and presumably the community burial ground lies elsewhere. In 1945 a 4th century cemetery of 35 graves was found during gravel extraction 800m NE of the Barton Court Farm site and excavated by R J C Atkinson (1952, 32-4). As a trackway leads from the NE corner of the farmstead towards this cemetery it is likely that the inhabitants of Barton Court Farm in the 4th century were interred here.

Any population of mortality figures based on it must be speculative in the extreme. Welinder (1979, 61) uses the formula

$$P = 1.1 \, . \, \frac{D \, . \, e^o_o}{t}$$

to calculate the population (P) where e^o_o = life expectancy at birth, t = the period of use of the grave field, D = the grave field population. Using Wells's figure of 30 years for life expectancy and 150 years as the length of grave field use, we arrive at a population figure of seven to eight adults. A grave field used for 100 years would have served a population of about ten people.

Welinder (1979, 82-3) refers to average figures of five to six live births per female in late prehistoric Sweden. Assuming here that some 18 women had therefore given birth to about 108 infants, the 47 infants would represent a mortality rate in the first six months of life of c 44%. These calculations represent a purely theoretical exercise as we do not know the sex and age structure of the cemetery, which is essential for any accurate calculation (Acsadi & Nemerskeri 1970). Nor apparently do we have any burials between the ages of six months and adulthood, indicating that a section of the population is not represented in the excavated skeletal material. (Excavations in 1983 located a second inhumation cemetery and an earlier RB cremation cemetary closer to the Barton Court farmstead. The size of the inhumation cemetery appears to be similar to Atkinson's. The two late RB cemeteries may lie on the boundaries of neighbouring settlements).

III.11.4 The Saxon burials (Fig 67)

Four inhumations were excavated which dated to the pagan Saxon period, two interred in the remnants of the late Romano-British farmhouse and two in the cottage. A fifth inhumation is thought to be Saxon but the dating is uncertain. The two Saxon burials, which include noe-natal infants <u>271</u> and <u>807</u>, are likely to be mothers and infants dying in childbirth. The grave goods are reported on by P D C Brown (4:B2).

258 (Fig 67) The largely incomplete post-cranial skeleton of an adult male with parts of the lower legs missing. A single third molar fund with the bones suggests a young man. There are no traces of osteoarthritis. There is no evidence for decapitation (see 269).

The grave was inserted into the destruction level of room 5 of the farmhouse. The skeleton was about 0.30m from the present ground surface. It lay supine, with the head to the s. Most of the legs and feet and the skull were missing, apparently removed by ploughing, as traces of plough marks were etched into the grave. The head would have rested on a block of iron slag, slightly elevated above the rest of the body. The discovery of the third molar indicates that this was not a headless burial.

271 (Fig 67) Part of the right arm, the pelvis and part of the right femur represent the remains of an adult female. In the same grave was the skull and half the post-cranial bones of a new-born infant.

The grave was inserted into the destruction level of room 4 of the late Romano-British farmhouse. The bodies were only 0.25m from the present ground surface and badly disturbed by ploughing, the marks of which were clearly visible.

The body of the female apparently lay supine with the head to the S, along the axis of the Romano-British building. The neo-natal infant lay by her right side with its head to the N.

807 (Fig 67) The virtually complete skeleton, missing only the left lower arm, of a female aged between 18 and 23 years, height 5ft 2in (1.576m). There are two wormian bones ~~in the lamboid suture.~~ The teeth are in excellent condition, the complete set erupted and well aligned, with no caries. Two have been lost since burial.

In the same grave were the skull, some rib fragments, and five long bones from a new-born infant. A pair of tibiae from soil to the east of this grave probably belong to the infanct, as in the same level (502) there were two metapodials which pair with ones in the adult skeleton.

The burial lay supine, inserted into the rubble of Building 2. The head of the female was to the SW, facing NE. The new-born baby lay by her right shoulder with its head to the SW.

820 (Fig 67) The virtually complete skeleton of a female aged between 30 and 35 years, height 5ft 3¾in (1.62m). ~~The teeth,~~ though worn, are in good condition, there being no caries or peridontal disease; eight have been lost since burial. There are slight traces of osteoarthritis on the bodies of the thoracic vertebrae 7, 8 and 9, the final lumber vertebra has

a separate neural arch; this occasionally occurs as a normal variation. The bones of the right arm are noticeably longer than those of the left, total length measurements for the humerus, radius, and ulna being 312, 238, and 265mm and 301, 234, and 25[illegible] respectively. In life the right arm would have been perhaps an inch shorter. The burial was inserted into the rubble of building 2. The body was supine with the head to the north, facing south, with the left leg drawn up slightly.

1171 (Fig 83) The largely complete skeleton, missing the lower vertebrae, pelvis, left femur, and right leg, of a male aged over 40 years, height 5ft 7½in (1.71m). The teeth were all present at the time of death, though six have since been lost. They are all well worn and one premolar and five molars are carious, upper right molars 7 and 8 having abcesses associated with the caries, while an abcess above upper left 7, one of the missing teeth, probably indicates that it was also carious. There was no sign of osteoarthritis on the bones. Part of a right femur found with this skeleton does not belong to this individual.

The grave, about 0.30m deep, was inserted into the N end of the late Romano-British gulley 1253 inside the SE enclosure. The body lay supine with its head to the SSE, facing E. There were no grave goods or traces of a coffin. As the grave was cut into the late Romano-British gulley and was oriented SSE-NNW, the same as the enclosure ditch 2m to the W, it seems likely that it belongs to the pagan Saxon period.

III.11. Infant diaphysis measurements (lengths in millimetres)

Iron Age	Femur	Tibia	Fibula	Humerus	Ulna	Radius	Mandible	Ilium (width)	Ilium (height)	Clavicle
103	77.2			67.9	60.0	52.3	48.4			45.6
160										
162		67.6								
182							52.4			43.8
339	75.5	66.6	62.6	67.3	61.8	53.4				
Roman										
286	80.5	69.0	64.7	67.7	62.9	55.1	54.0	38.5	33.4	45.7
333	77.8									
400	71.8	63.9	60.1	61.0	58.9	49.9	49.6	34.4	30.7	45.3
616	75.4	63.5	59.6	65.2	60.2	52.6	52.5			44.0
619	71.7	62.6	59.2	64.3	58.6	50.1	48.8	33.9	31.5	42.3
678	79.2	69.5	65.3	68.4	63.6	55.5	51.3	34.0	30.8	47.2
784	80.4	70.0	65.8	70.4	63.8	55.3		39.1	34.4	44.8
825	75.8	64.4	62.6	64.4	60.3	52.2	52.3	35.0	29.1	44.0
833	80.0	67.5		69.5						
7789	71.4			62.6	56.8	50.1	47.0	32.1	29.0	
Saxon										
271				62.0	59.7	52.9				
807	71.4	60.8		62.2						
Undateable										
2	74.4	64.0		66.2	59.8	52.2		34.9	31.7	45.6
25							44.2			
196	77.5		62.0	66.8	61.3	52.9	49.5			44.2
202	80.5	69.6	63.4	70.4	64.6	55.6	52.6			47.5
246		74.3								
380	78.0	68.6	64.1		64.0	55.1				
386	77.3	67.7		66.4	62.2	53.8		36.3	31.6	49.4
679	75.7				62.7			35.2	31.5	

III.11.6 References (III.11)

Acsadi, G, & Nemeskeri, J, 1970 History of human life span and mortality, Aademi Kiado, Budapest

Atkinson, R J C, 1952 Excavations in Barrow Hills Field, Radley, Berks, 1944-45, Oxoniensia, 17, 14-35

Biezunska-Malowist, I, 1971 Die Expositio von Kindern als Quelle der Sklavenbeschaffung in griechisch-romischen Aegypten, Jahrbuch für Wirtschaftgeschichte, 2, 129-33

Brothwell, D R, 1963 Digging up bones

Cocks, A H, 1921 A Romano-British homestead in the Hambleden Valley, Bucks, Archaeologia, 71, 141-98

Harding, D W, 1972 The Iron Age in the Upper Thames Basin

Hooper, B, 1975 The human bones, in Cunliffe, B W, Excavations at Portchester Castle: I: Roman, Soc Antiq London Res Rep 32, 375-7

Hoskins, W G, 1965 The rebuilding of rural England 1570-1640, in Provincial England, 131-48

Jones, A H M, 1964 The Later Roman Empire, 284-602

Nock, A D, 1932 Cremation and burial in the Roman Empire, Harvard Theological Rev, 25 (4), 321-57

Parrington, M, 1978 The excavation of an Iron Age settlement . . . at Ashville Trading Estate, Abingdon (Oxfordshire) 1974-6, Counc Brit Archaeol Res Rep 28

Steel, T, 1975 The life and death of St Kilda

Still, G F, 1931 The history of paediatrics: the progress of the study of diseases in children up to the end of the XVIIIth century

Toynbee, J M C, 1971 Death and burial in the Roman world

Trotter, M, & Gleser, G C, 1958 A re-evaluation of estimation of stature taken during life and long bones after death, Amer J Phys Anthr, 16, 79-123

Ucko, P J, 1969 Ethnography and archaeological interpretation of funerary remains, World Archaeol, 1 (2), 262-80

Warwick, R, 1968 The skeletal remains, in Wenham, L P, The Romano-British cemetery at Trentholme Drive, York, 113-71

Welinder, S, 1979 Prehistoric Demography

Whimster, R, 1977 Iron Age burials in southern Britain, Proc Prehist Soc, 43, 317-27

Yudkin, S, 1968 Death and the young, in Toynbee, A, et al, Man's concern with death

I.12 THE RADIOCARBON DATES

Four samples were submitted for radiocarbon dating to the Harwell Carbon 14/Tritium Measurement Laboratory. Two of these were from Neolithic features and two from the late Iron Age phase of settlement. All dates are quoted in years bc, using the Libby half-life of 5568 years and with no attempt at calibration (years bc = years BP - 1950)

Context	Material	Harwell ref	Date
Neo pit 544	Antler	HAR-2388	3910 ± 70 bp (c 1960 bc)
Neo pit 865/3	Bone	HAR-2387	4030 ± 70 bp (c 2080 bc)
Iron Age pit 311/5	Carbonized grain	HAR-1335	2200 ± 70 bp (c 250 bc)
Iron Age Enclosure Ditch 5/	Bone	HAR-1342 /	1830 ± 80 bp (c ad 120)

Calibration using Clark's curve (1975) would put the Neolithic dates at about 2500 BC

The Iron Age samples were taken from features which were thought to be contemporary on the basis of their ceramic content - the farmstead enclosure ditch and the storage pit adjacent to structure I. The animal bone from ditch 5 produced a date which is statistically consistent with late Iron Age occupation, especially if a half-life of 5730 40 is used (c ad 67). The carbonized grain from pit 311 was part of a well stratified cache close to the bottom of the pit and thought to have been burnt *in situ*. The associated pottery would indicate a date of early to mid 1st century AD for this material. Carbonized grain from Iron Age features at Ashville, Abingdon, was found to produce surprisingly early radiocarbon dates (Parrington 1978, 39). Calibration of Clark's curve does not bring these radiocarbon dates closer to those suggested by the ceramic evidence.

III.13 References

Atkins, R J C, Piggott, C M, & Sandars, N K, 1951 Excavations at Dorchester, Oxon

Balkwill, C, 1978 The Bronze Age features, in Parrington 1978, 25-31

Benson, D, & Miles, D, 1974 The Upper Thames Valley: an archaeological survey of the river gravels

Bradford, J S P, & Morris, J M, 1941 Archaeological notes, Oxoniensia, 6, 84-9

Case, H, 1956 The Neolithic causewayed camp at Abingdon, Berks, Antiq J, 36, 11-30

Case, H, 1963 Notes on the finds and on ring-ditches in the Oxford region, Oxoniensia, 28, 19-52

Case, H, 1977 The Beaker Culture in Britain and Ireland, in R Mercer (ed), Beakers in Britain and Europe: four studies, Brit Archaeol Rep S26, 71-101

Case, H, Bayne, N, Steele, S, Avery, G, & Sutermeister, H, 1964-5 Excavations at City Farm, Hanborough, Oxon, Oxoniensia, 29-30, 1-98

Case, H, & Whittle, A W R (eds), forthcoming Excavations in the Oxford region, 1950-65, Counc Brit Archaeol Res Rep 44

Clark J G O with Higgs, E S and Longworth, I H, 1960 Excavations at the Neolithic Site at Hurst Fen, Mildenhall, Suffolk, Proc Prehist Soc 26, 202-245

Clarke, D V, 1976 The Neolithic village at Skara Brae: 1972-3 excavations

Cowell, R, & Miles, D, 1980 Fieldwork at Kingston Bagpuize, Oxon CBA9 Newsletter, 10

Edelstein, S M, & Borghetty, H C (eds), 1969 The Plictho of Gioan-Ventura Rosetti

Field, N H, Matthews, C L, & Smith, I F, 1964 New Neolithic sites in Dorset & Bedfordshire, with a note on the distribution of Neolithic storage pits in Britain, Proc Prehist Soc, 30, 352-81

Henderson, R, 1973 Note in CBA9 Newsletter, 3, 40

Jones, M, 1980 Carbonized cereals from Grooved Ware, Proc Prehist Soc, 46, 61-3

Jones, M U, 1976 Neolithic pottery found at Lechlade, Glos, Oxoniensia, 41, 1-5

Leeds, E T, 1923 A Saxon village at Sutton Courtenay, Berks, Archaeologia, 73, 146-92

Leeds, E T, 1934 Recent Bronze Age discoveries in Berkshire and Oxfordshire, Antiq J, 14, 264-76

Leeds, E T, 1940 New discoveries of Neolithic pottery in Oxfordshire, Oxoniensia, 5, 1-12

Manby, T G, 1974 Grooved Ware sites in the north of England, Brit Archaeol Rep 9

McInnes, I J, 1971 Settlement in late Neolithic Britain, in D D A Simpson (ed), Economy and settlement in Neolithic and Early Bronze Age Britain and Europe, 113-30

Matthews, C L, 1976 Occupation sites on a Chiltern ridge. Part i: Neolithic, Bronze Age and Early Iron Age, Brit Archaeol Rep 29

Megaw, J V S, & Simpson, D D A, 1979 Introduction to British prehistory

Parrington, M, 1977 Excavations in Barrow Hills, Radley, Oxon, 1976, Oxoniensia, 42, 30-41

Parrington, M, 1978 The excavation of an Iron Age settlement, Bronze Age ring-ditches, and Roman features at Ashville Trading Estate, Abingdon (Oxfordshire) 1974-76, Counc Brit Archaeol Res Rep 28

Piggott, S, 1954 The Neolithic cultures of the British Isles

Rahtz, P A, 1976 Buildings and rural settlement, in D M Wilson (ed), The archaeology of Anglo-Saxon England, 49-98

Semenov, S A. 1965 Prehistoric technology

Smith, I F, 1965 Windmill Hill and Avebury

Smith, I F, 1974 The Neolithic, in C Renfrew (ed), British prehistory: a new outline, 100-36

Thomas, N, 1955 Excavations in Vicarage Field, Stanton Harcourt, 1951, Oxoniensia, 20, 1-28

Wainwright, G J, & Longworth, I H, 1971 Durrington Walls: excavations 1966-68, Soc Antiq London Res Rep 29

Williams, A, 1948 Excavations in Barrow Hills Field, Radley, Berkshire, 1944, Oxoniensia, 13, 1-17.

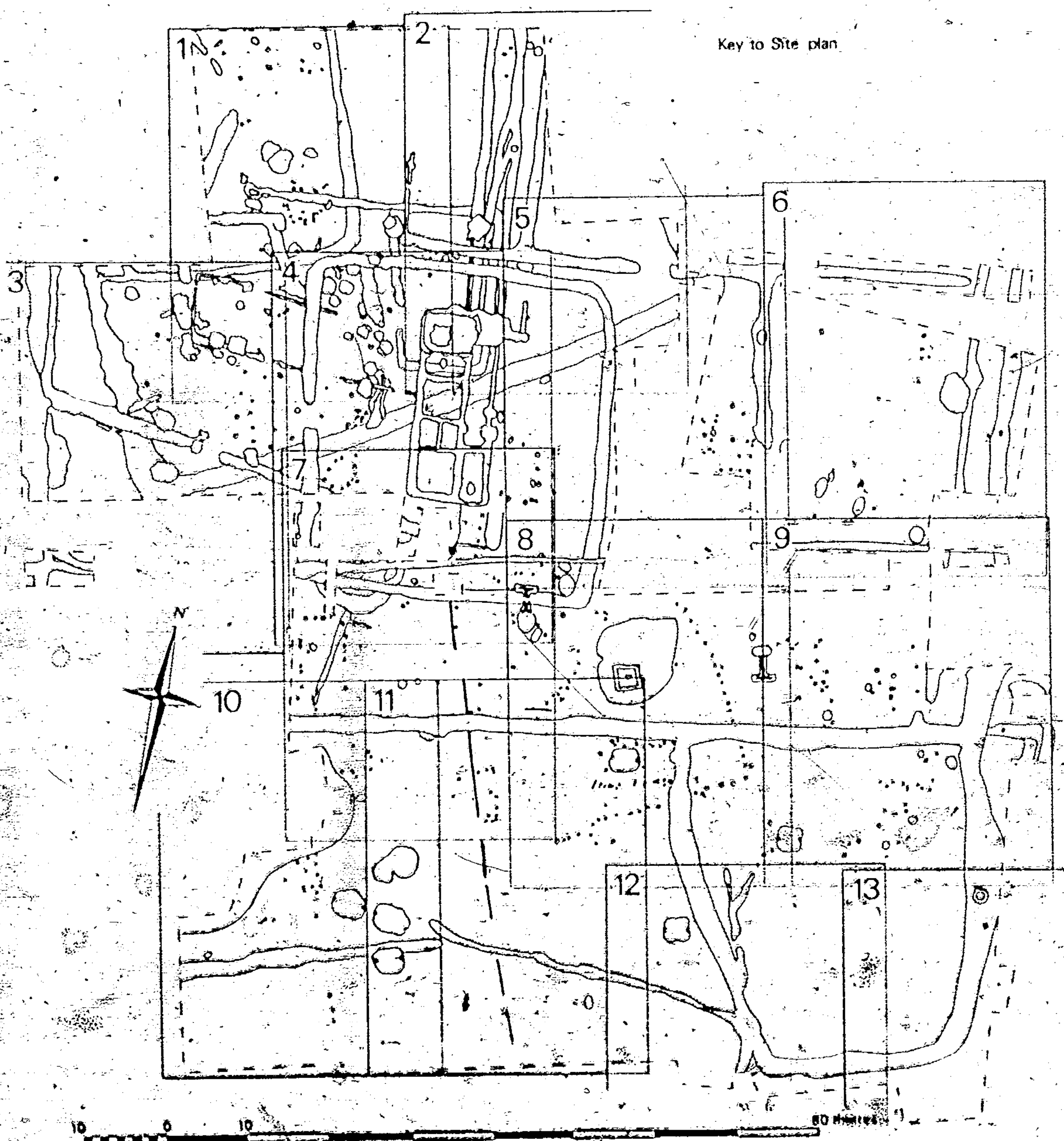


Fig. 75 Barton Court Farm excavations: key to the area plans 1-13

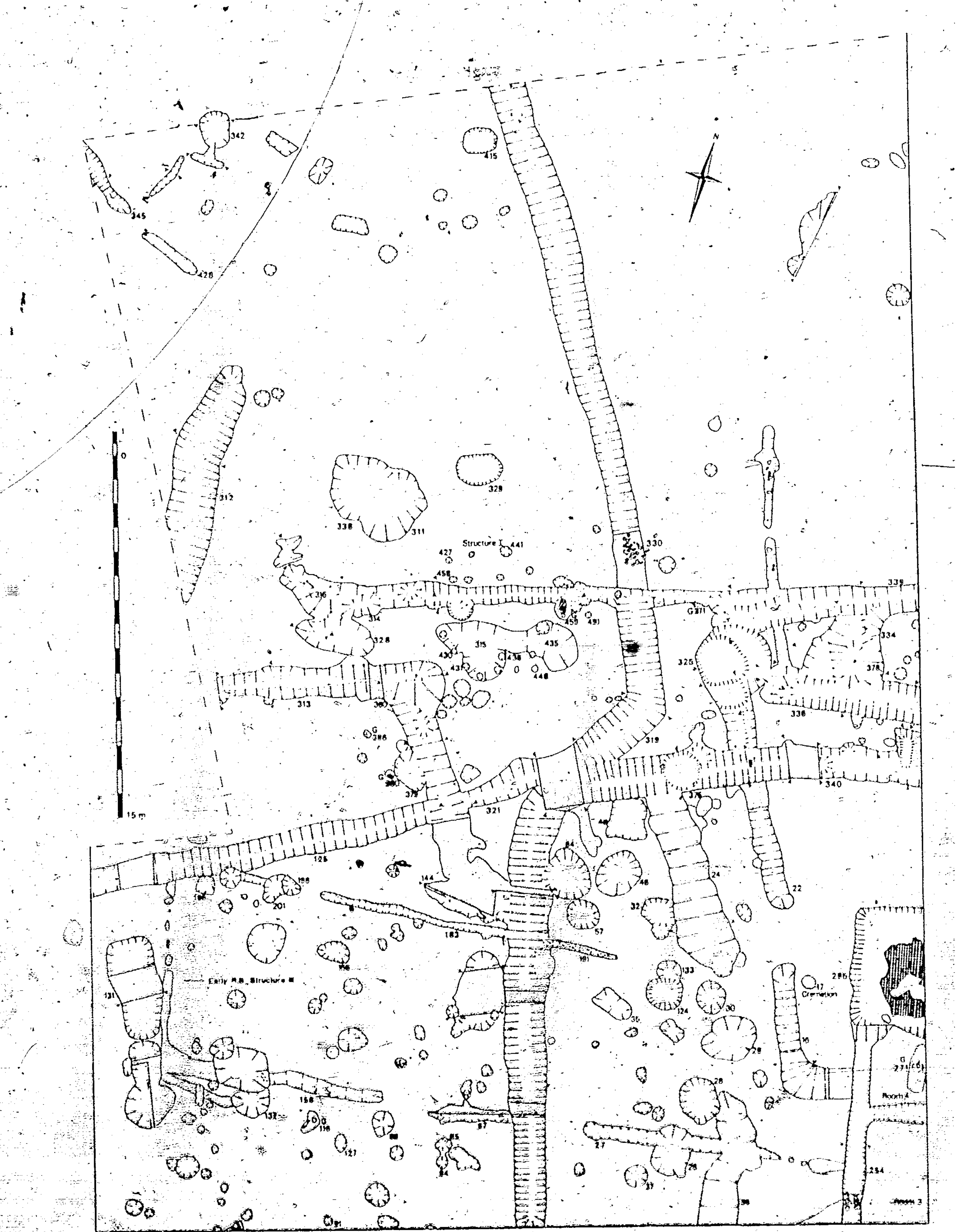


Fig 76 Barton Court Farm excavations: plan 1

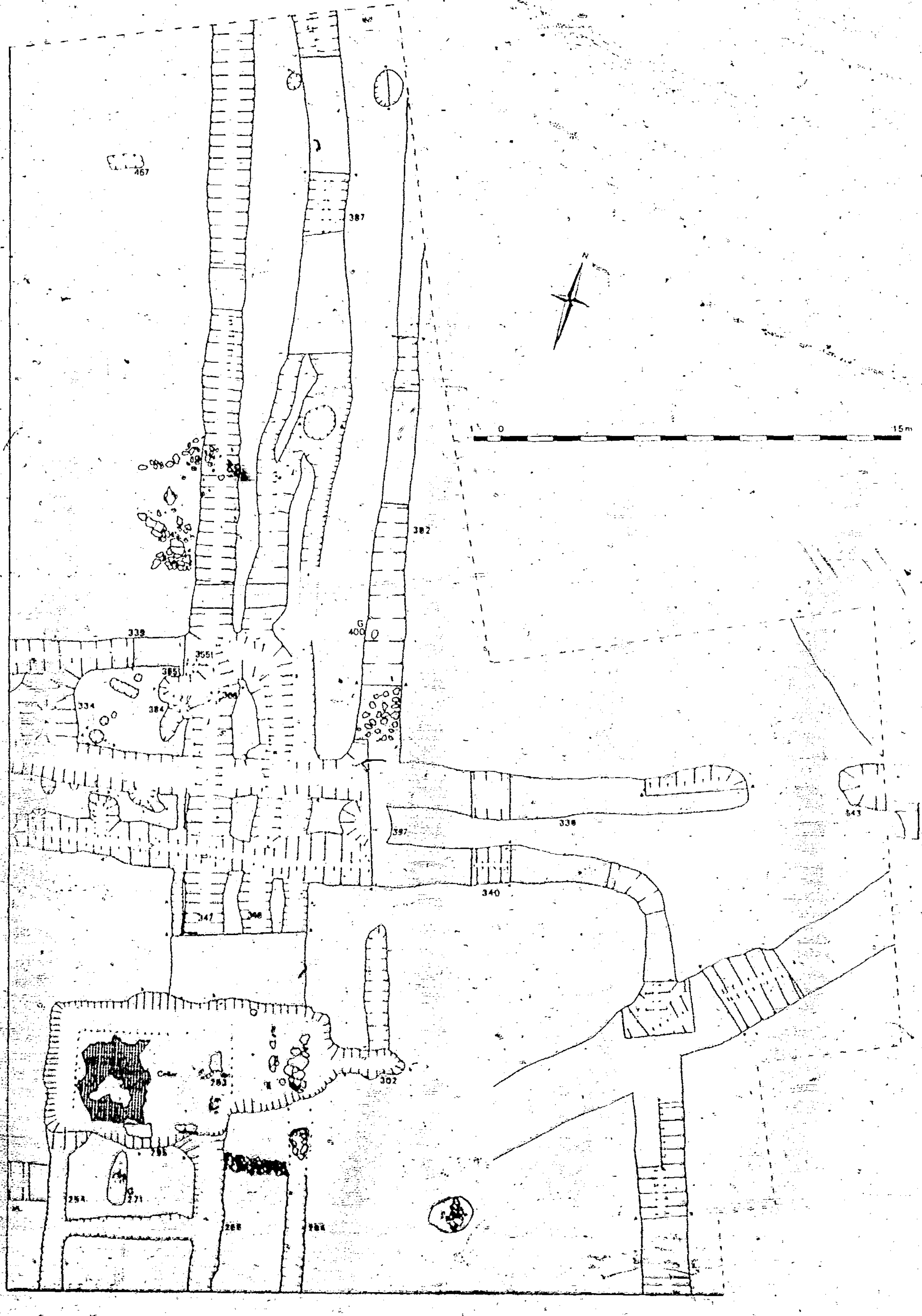


Fig 77 Barton Court Farm excavations: plan 2

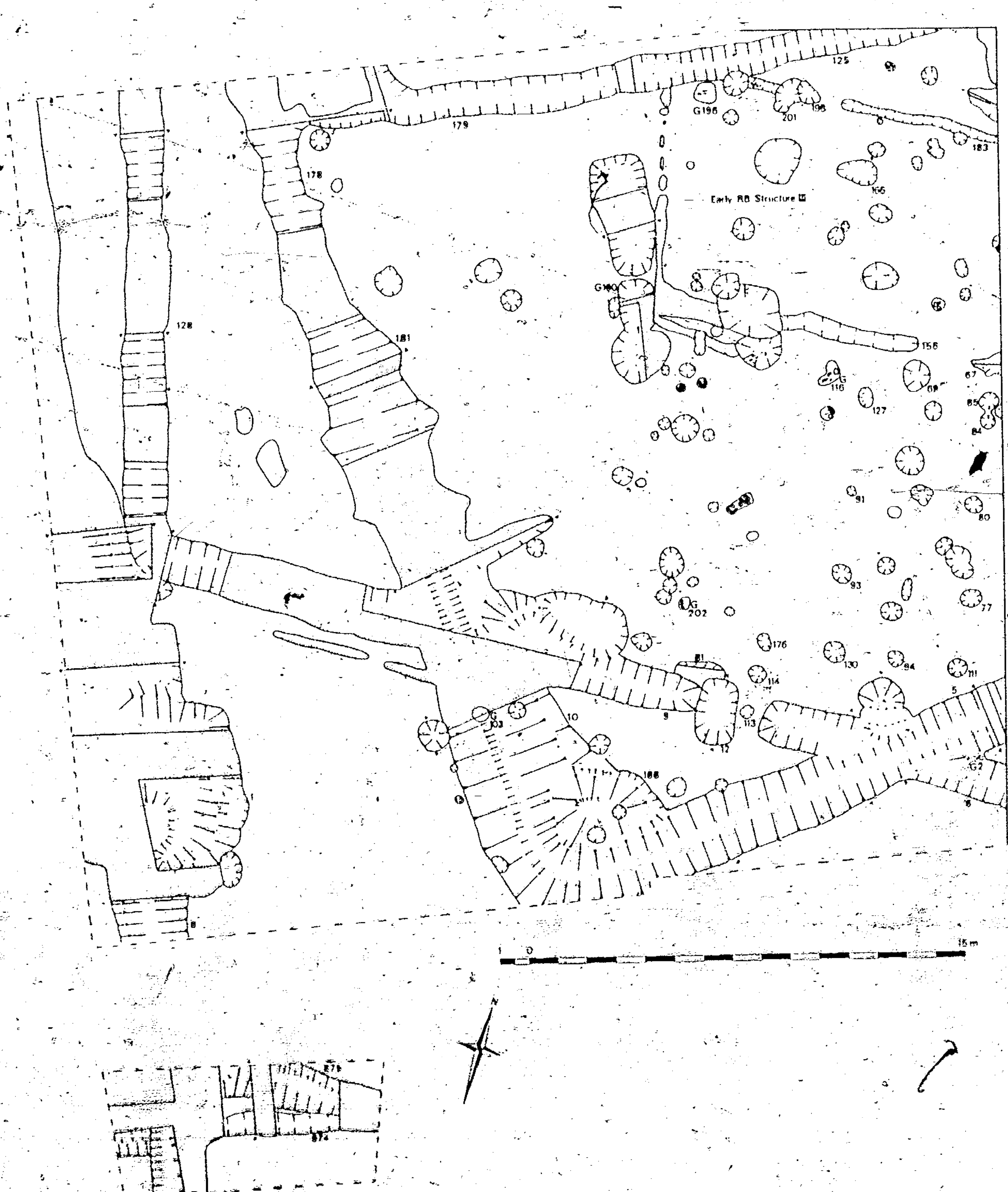


Fig 78 Barton Court Farm excavations: plan 3

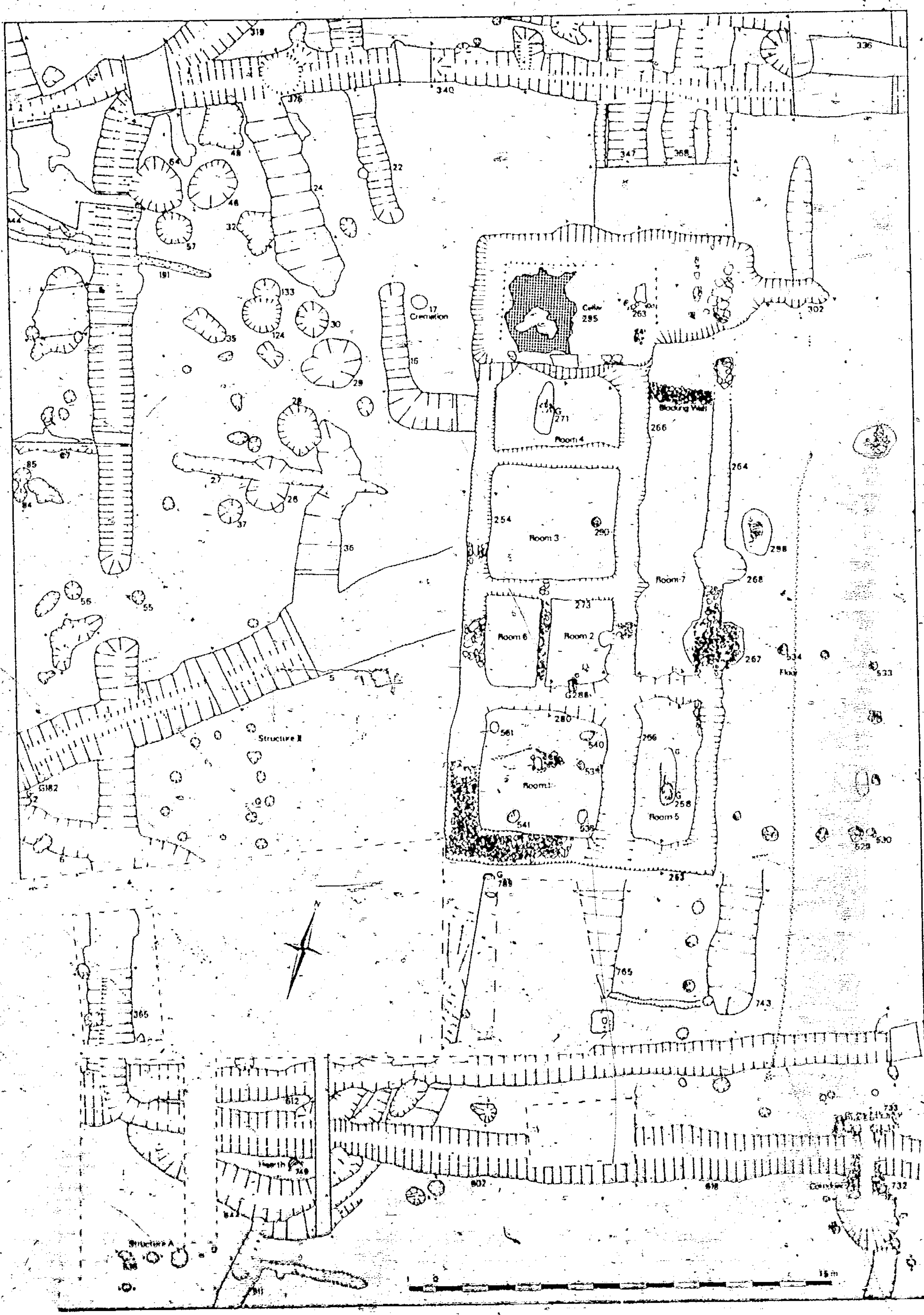


Fig 79 Barton Court Farm excavations: plan 4

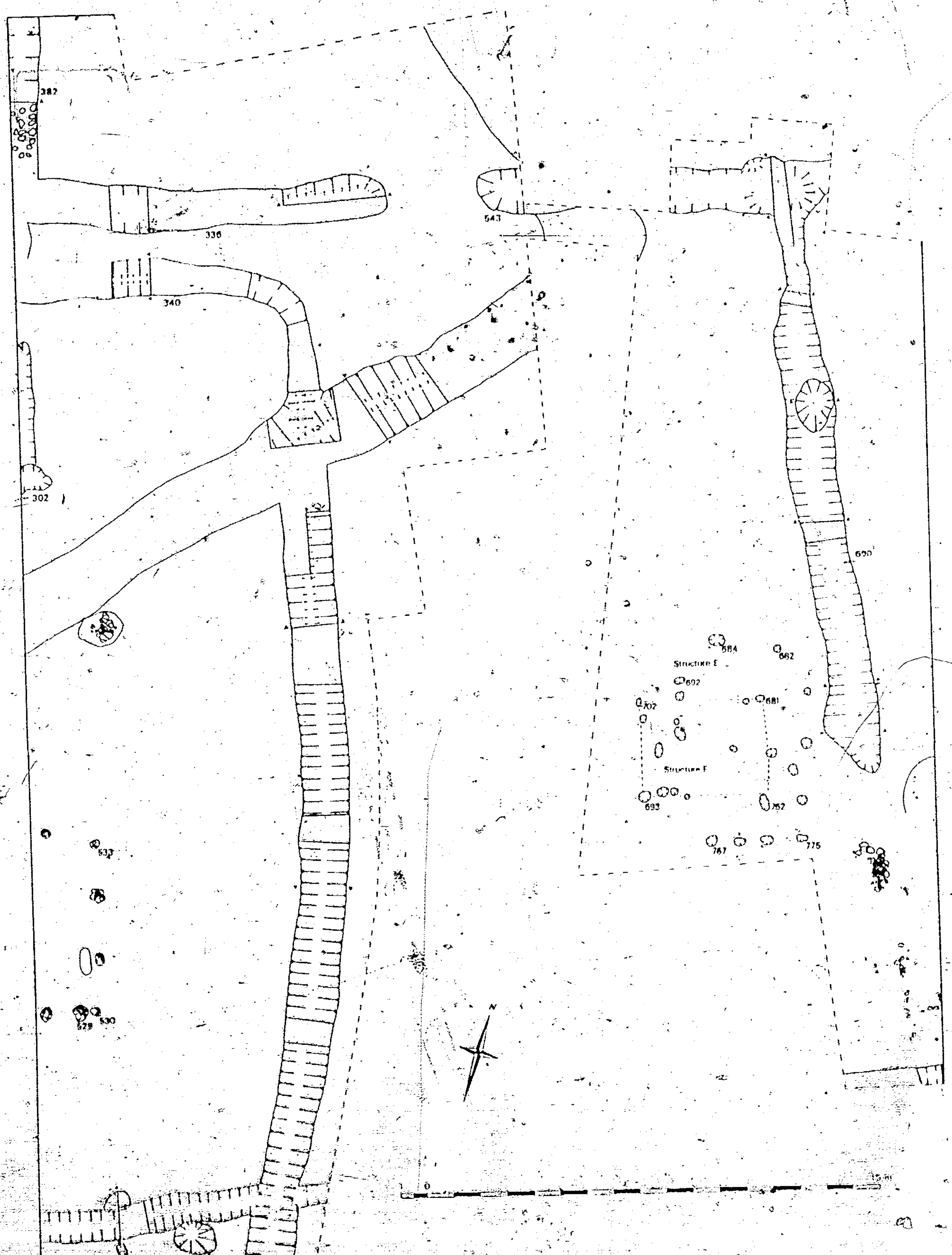


Fig 80 Barton Court Farm excavations: plan 5

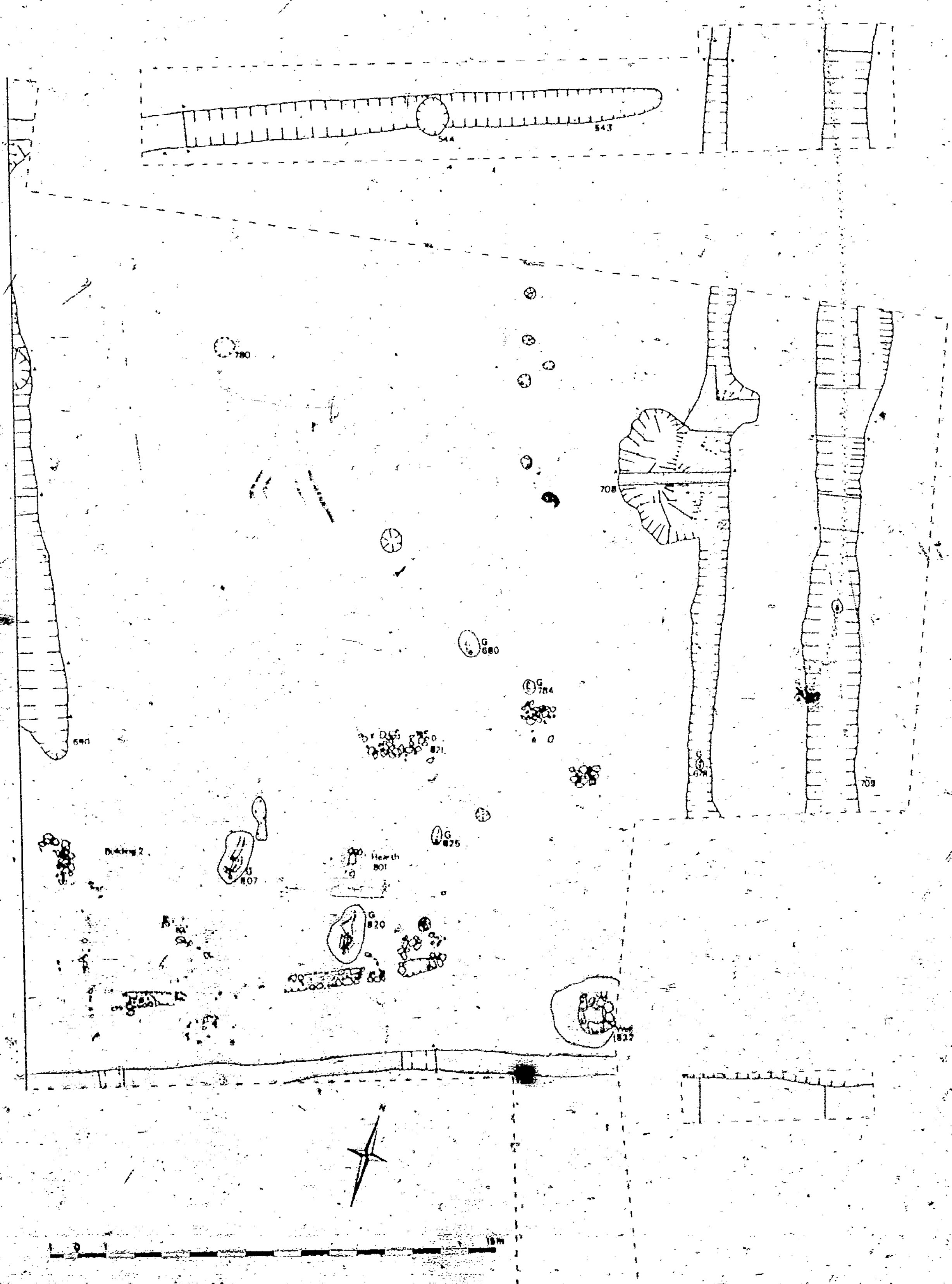


Fig 81 Barton Court Farm excavations: plan 6

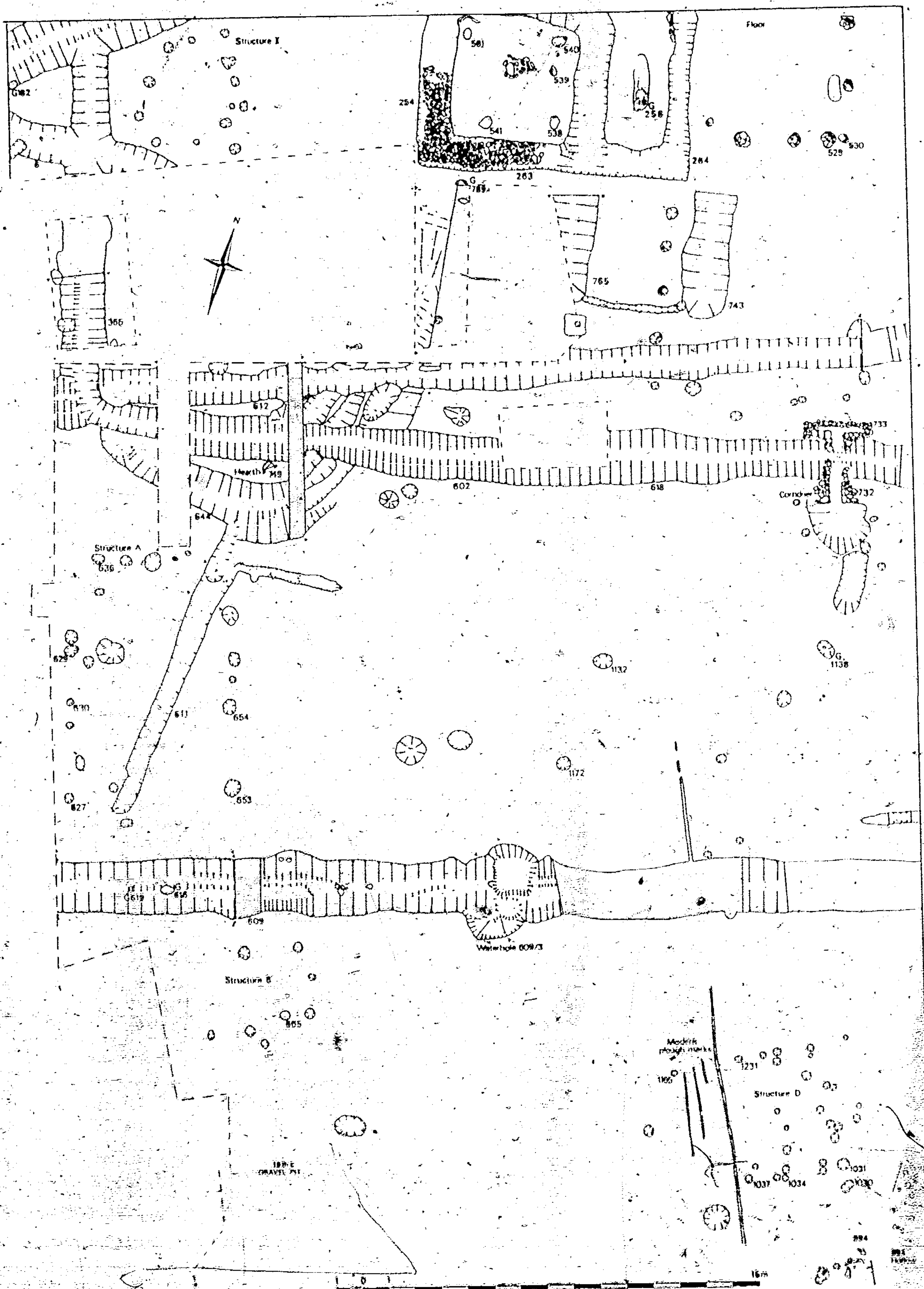


Fig 82 Barton Court Farm excavations: plan 7

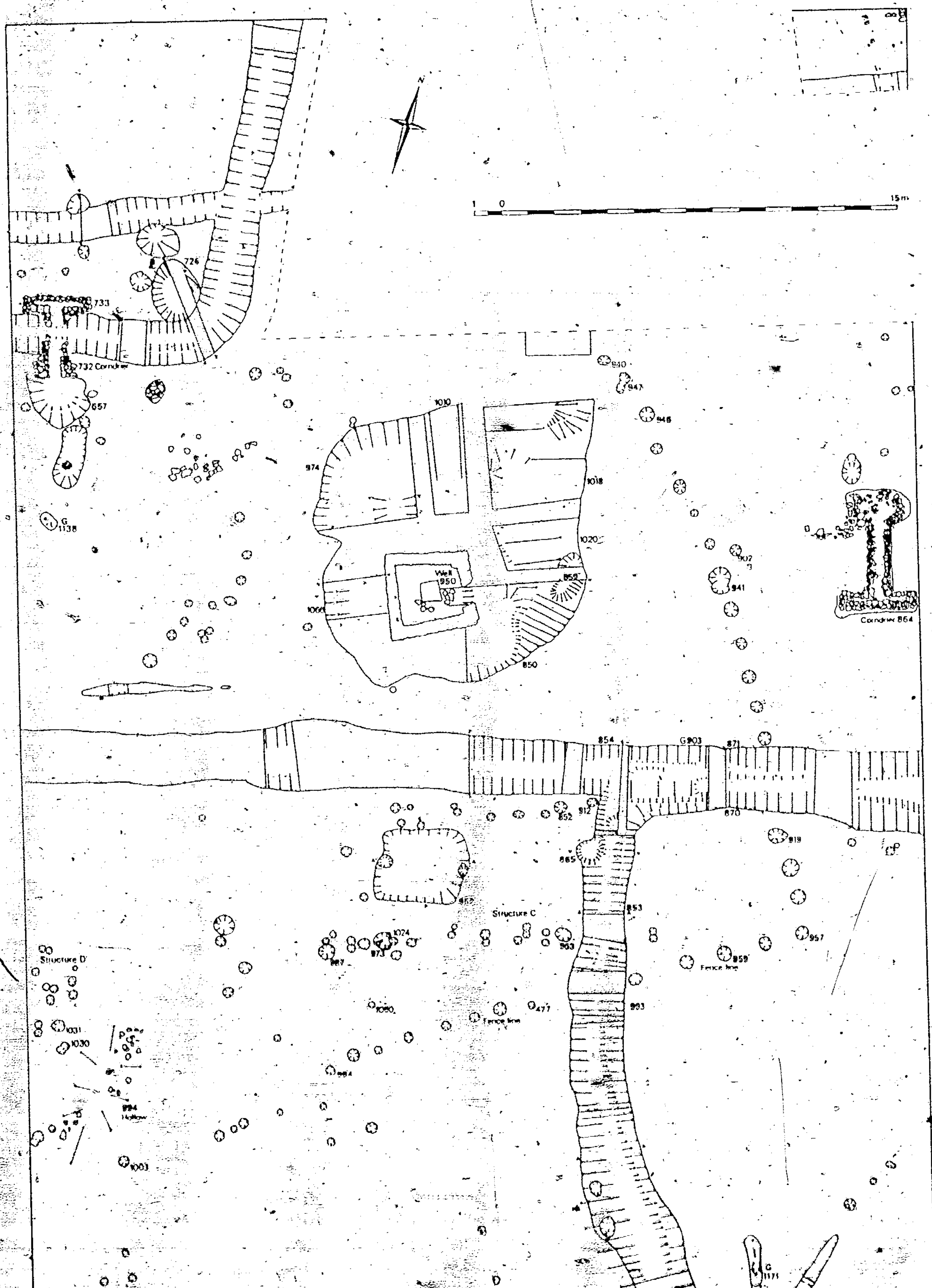


Fig 83 Barton Court Farm excavations: plan 8

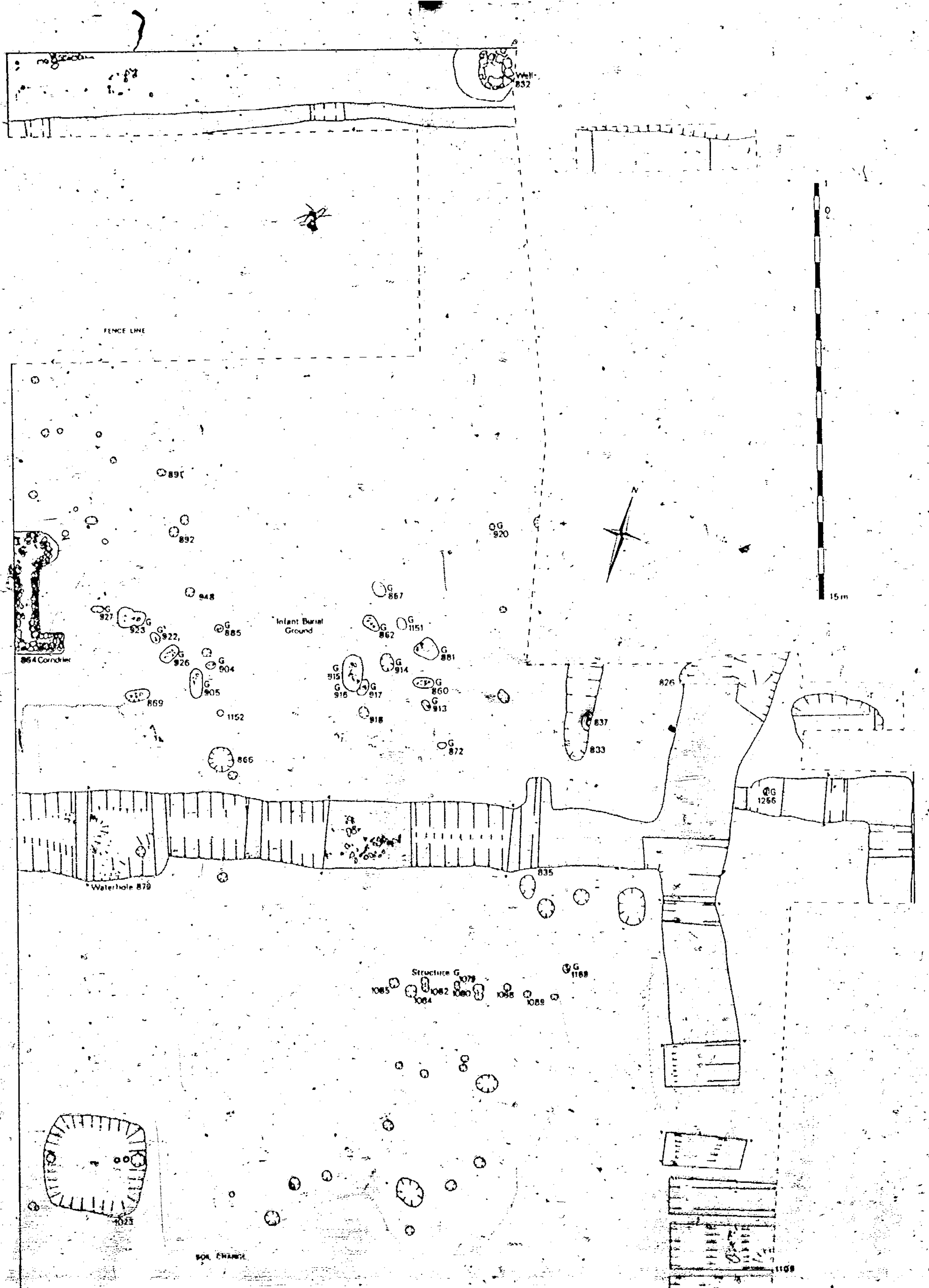


Fig 84 Barton Court Farm excavations: plan 9

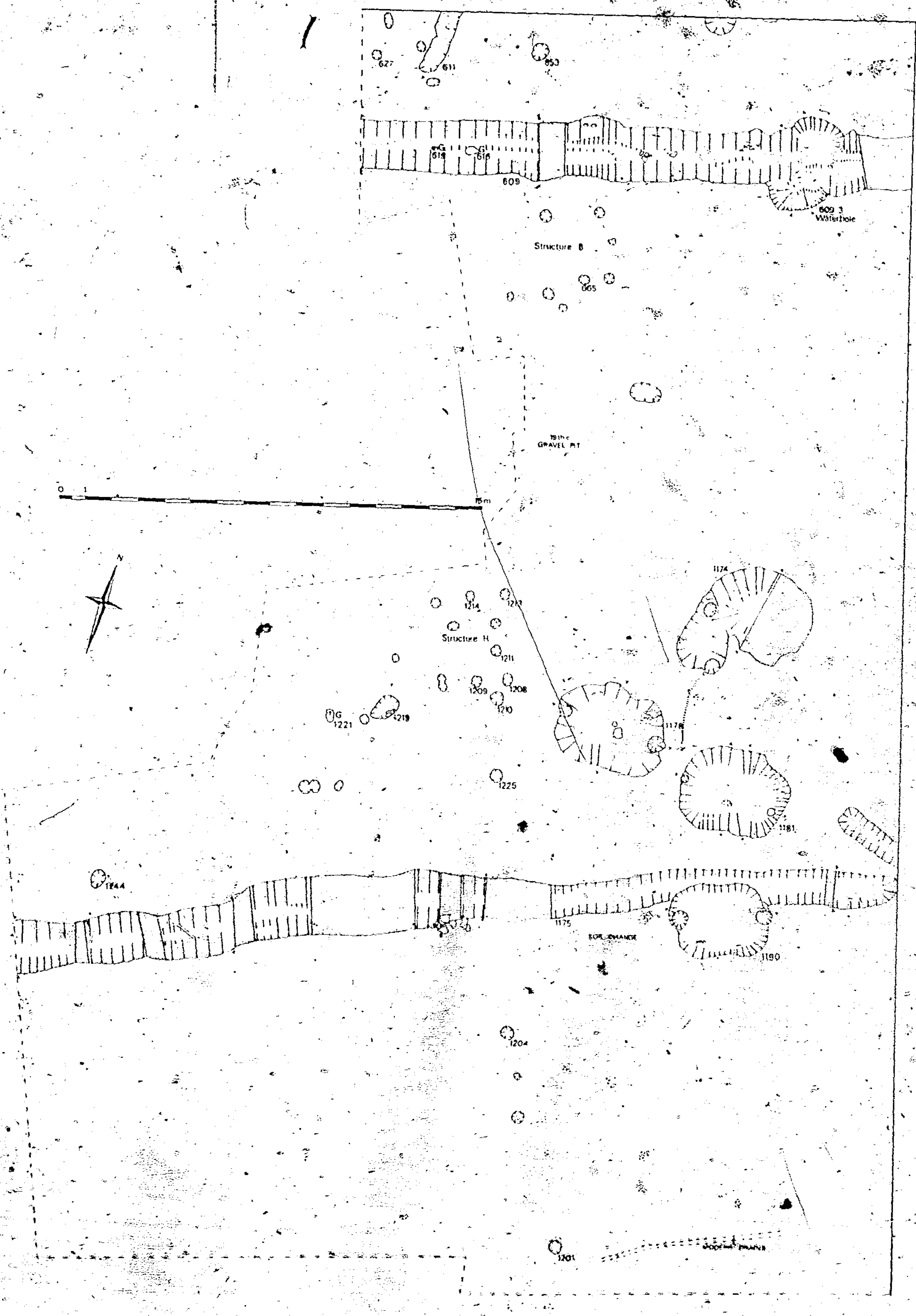


Fig 85 Barton Court Farm excavations: plan 10

Fig 86 Barton Court Farm excavations: plan 11

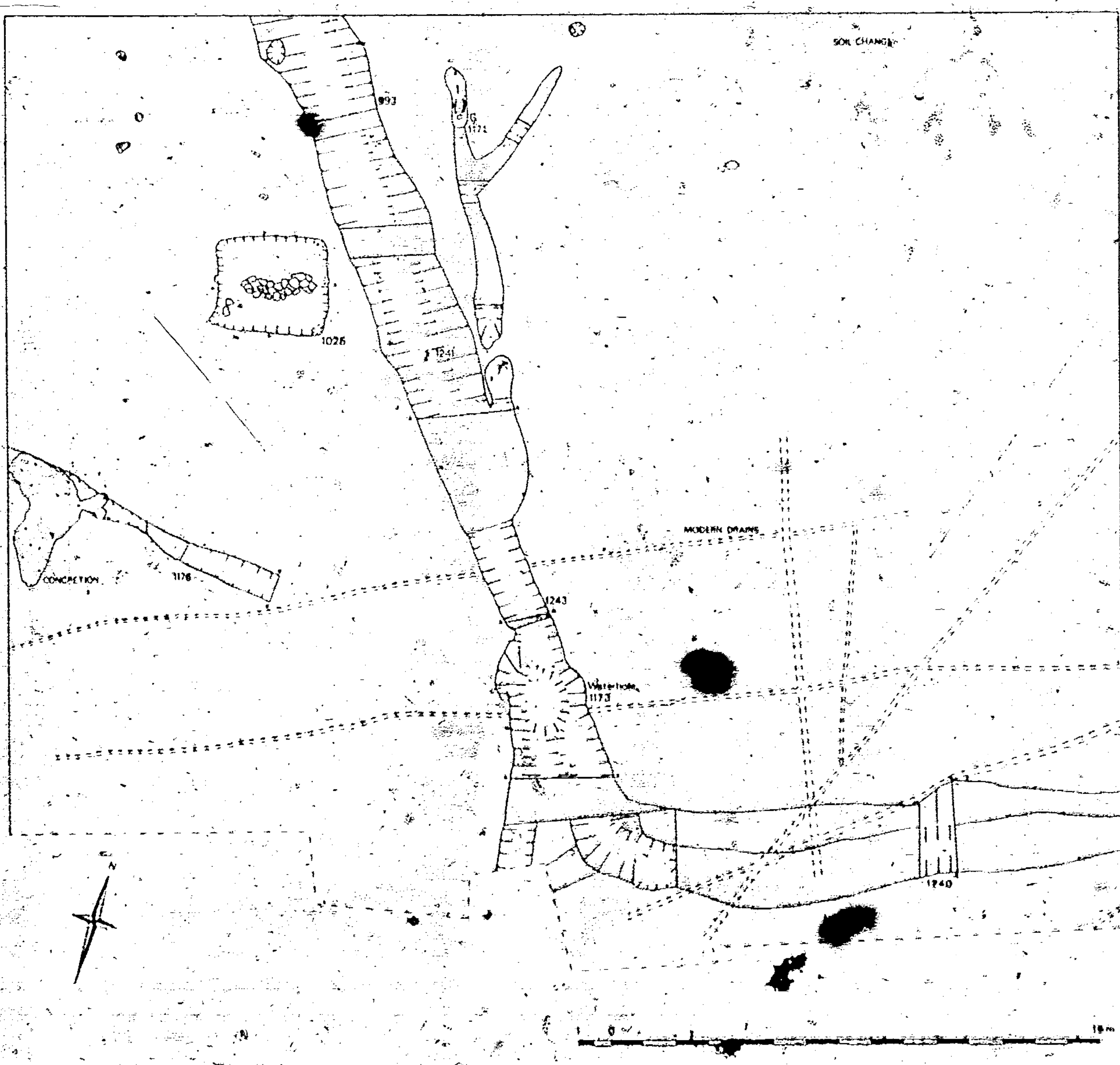


Fig 87 Barton Court Farm excavations: plan 12

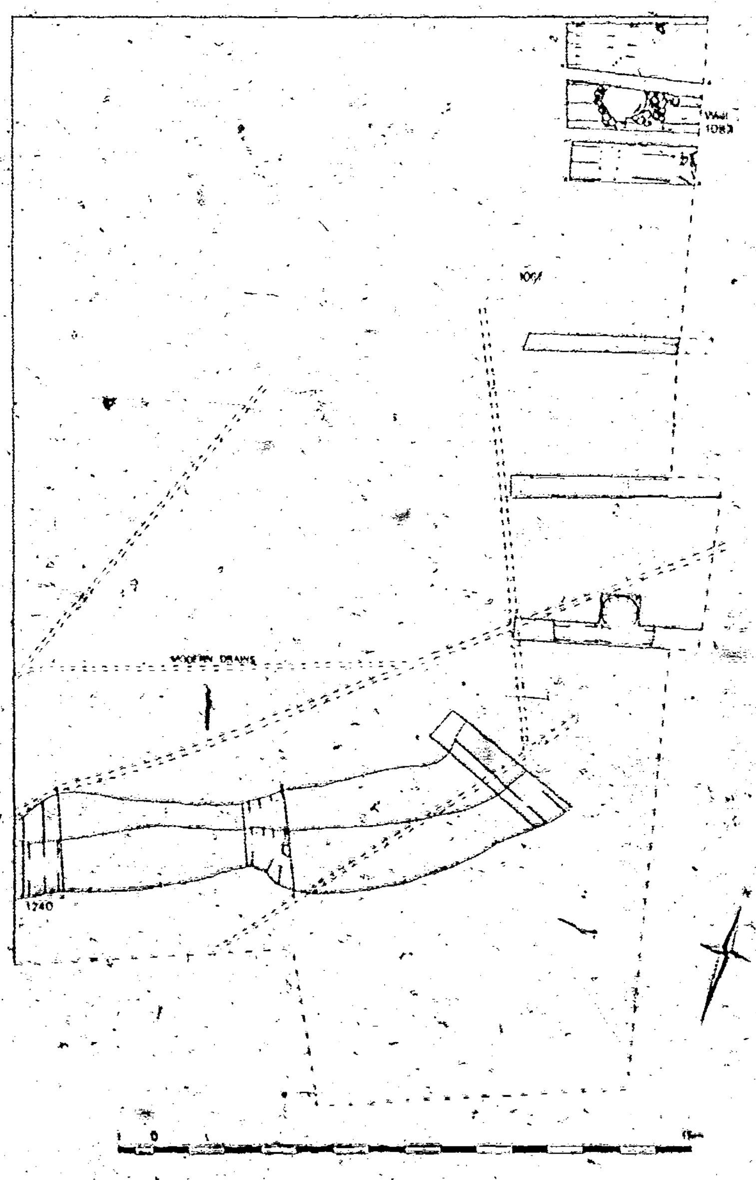


Fig 88 Barton Court Farm excavations: plan 13

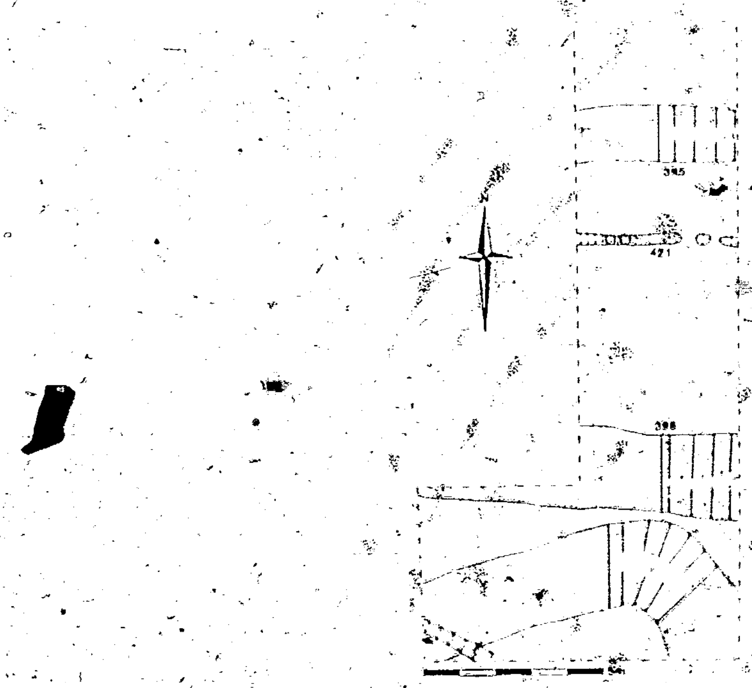


Fig 89 Barton Court Farm excavations: plan of Trench 111

IV The Finds

IV.1 INTRODUCTION

The finds from the site are organized primarily on the basis of a functional classification rather than with regard to the material from which they are manufactured. It is felt that objects which were used for the same purpose should be grouped together rather than with other objects of the same material with totally different functions. There are obvious dangers in this method in that the function of objects is not always obvious or one object may have been used for several purposes. Nevertheless it is hoped that this method is valid and aids the interpretation of the site. The categories are organised in the order: primary production activities, secondary production, and consumption. Only grave goods are kept together as specific groups irrespective of primary function. Functional groups are organized chronologically from the Iron Age to Medieval. Each description is followed by the original excavation small finds number in brackets, eg (00), followed by the original feature number, <u>00</u>, a description of the feature, and the period to which it belongs.

The author's names appear under their respective sections, except for those of Dr Manning, who is responsible for all the ironwork reports, and David Miles, who wrote the other reports unattributed in the text. DM would like to thank Dr Martin Henig and David Brown for their comments on many of the objects.

IV.2 AGRICULTURE, CRAFTS, AND INDUSTRIES

IV.2.1 <u>Woolgathering</u> W. Manning

IV.2.1.1 <u>Iron Shears</u> (Fig 90)

1 The spring is wide with an oval loop. The arms taper to the triangular blades, the points of which are broken. Similar shears are known from various sites, including Newstead, Roxburgh (Curle 1911, pl LXVIII, 5), Woodcutts, Dorset (Pitt-Rivers 1887, 69, pl XXII 8); Bokerly Dyke, Wilts (Pitt-Rivers 1892, 109, pl CLXXVI, 15).
(529) <u>853/1</u>. Late RB paddock ditch.

2 Iron shear blade with part of the looped spring. The edge of the blade is straight, the back curves down to the point. The spring was widened, tapering evenly to the blade.
(510) <u>853/1</u>. Late RB paddock ditch.

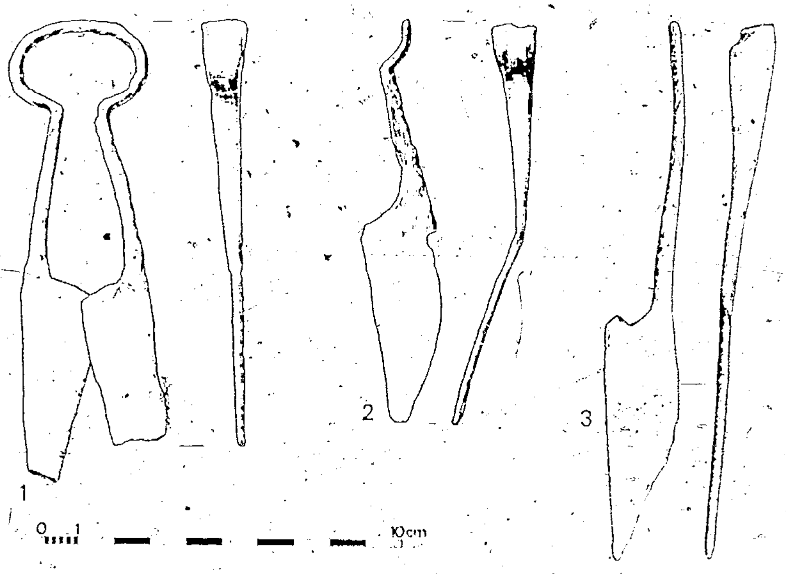


Fig 90 Woolgathering: iron shears

3 Iron shears: the arm widens from the blade to the beginning of the curve of the spring where it is broken. There is no evidence that the spring widened into a loop. The edge of the blade is straight; the back rises slightly before sloping sharply down to the point. The heel has a marked concave curve. Shears lacking the expanded loop of the previous examples are common and examples similar to these may be quoted from the Blackburn Mill, Berwicks, hoard (Piggott 1953, 45, fig 12, B29); Verulamium (Manning 1972, 176, fig 65, no 45), Silchester (Reading Museum), Caerwent (Newport Museum) etc.
(210) 690/1. ~~Late RB paddock ditch.~~

IV.2.1.2 References (IV.2.1)

Curle, J, 1911 A Roman frontier post and its people: The Fort of Newstead in the Parish of Melrose

Manning, W H, 1972 The ironwork, in Verulamium excavations I (ed S Frere)

Piggott, S, 1953 Three metal-work hoards of the Roman period from southern Scotland, Proc Soc Antiq Scot, 87, 1-50

Pitt-Rivers, A H L, 1887 Excavations in Cranborne Chase I

Pitt-Rivers, A H L, 1892 Excavations in Cranborne Chase III

IV.2.2 Textile equipment — Gwyn Miles

IV.2.2.1 Spindle whorls (Fig. 91)

1 Clay spindle whorl.
(30) 65, posthole, probably late Iron Age.

2 Spindle whorl made from cut-down piece of late Iron Age (Fabric 1) pottery.
(142) 415, late Iron Age pit.

3 Clay spindle whorl.
(33) 9, S arm of early RB enclosure ditch.

4-5 Spindle whorls made from bases of RB pottery.
(58a and 6?5) 18, both rubble spread overlying late RB villa building.

6 Shale spindle whorl; lathe-turned. For the Kimmeridge shale working industry in the Iron Age and Roman period, see Calkin 1955.

7 Shale spindle whorl, probably lathe-turned.

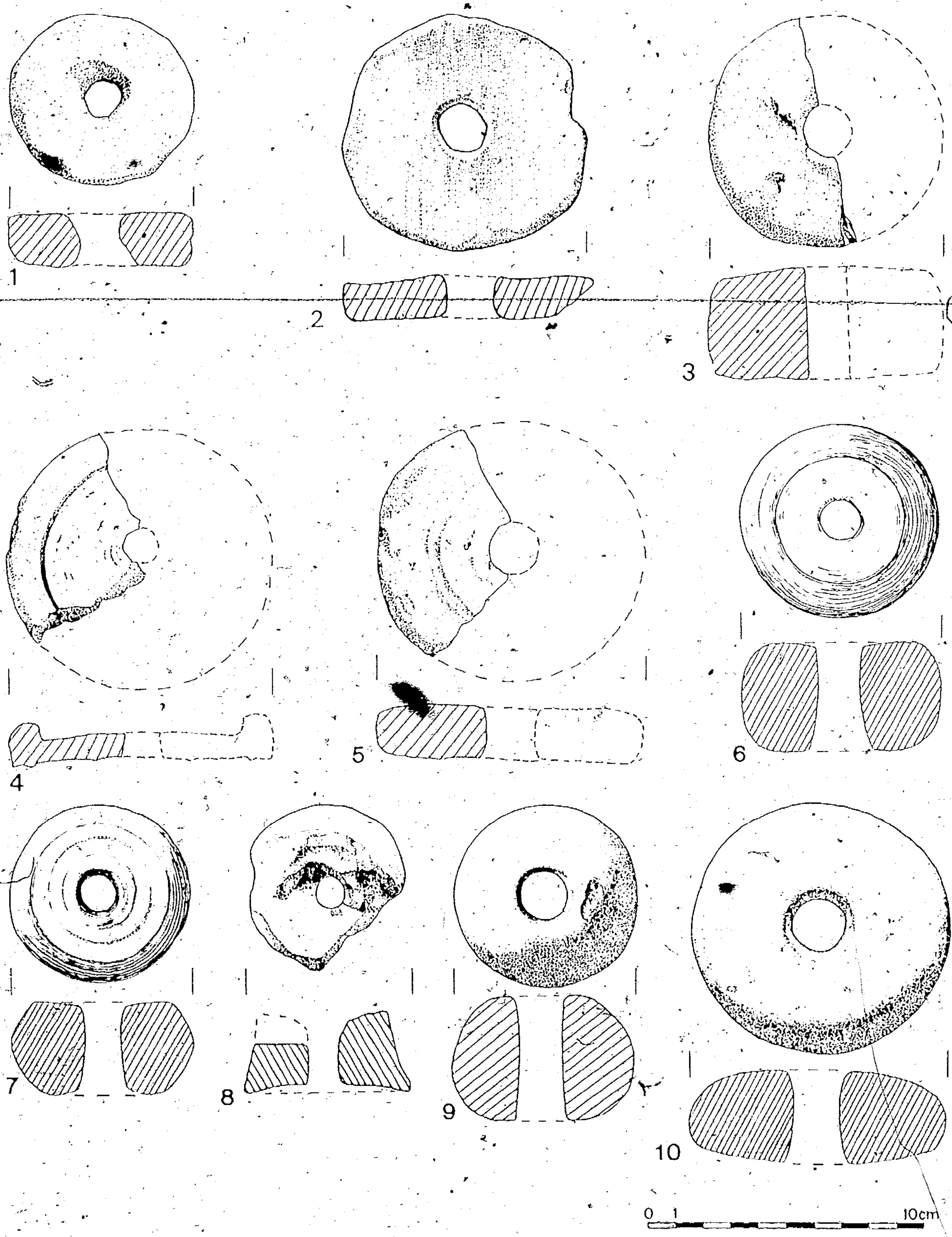


Fig 91 Textile manufacture: spindle whorls

(306) 791, robber trench of S wall of late RB building II.
This spindle whorl is from a 5th century context. A similar one has been found at the Radley Road Saxon settlement about 300m to NE of the Barton Court Farm site (Avery & Brown 1972, fig 5, no 6).

8 ?Spindle whorl made from a red colour-coated Oxfordshire ware beaker base.
(537) 1023, Saxon sunken hut.

9 Clay spindle whorl.
(619) 1178/1, Saxon sunken hut.

10 Clay spindle whorl.
(612) 1178/1, Saxon sunken hut.

IV.2.2.2 Perforated and polished metacarpals

Sheep matacarpal with a hole through the shaft (not illustrated). (562) 952, Saxon sunken hut.
Seven sheep metacarpals were found which were highly polished and in five cases had grooves worn transversely on each side of the shaft. All came from Iron Age or early RB contexts except the one above. A similar tool of Iron Age date from Ashville, Abingdon, was thought to have been used as a pin-beater (Parrington 1978, 81, fig 69). In view of the cumbersome expanded ends on the metacarpal this seems unlikely. The polished and grooved shafts suggest that some material was drawn across and around them. Polished and perforated examples from the Iron Age lake villages in Somerset (Bulleid & Gray 1917, 421) and from the Saxon village of Sutton Courtenay (Leeds 1927, 68, pl vii, fig 2, 75) were interpreted as spools or bobbins. Wrapping and unwrapping yarn would undoubtedly produce the worn and polished surfaces. Alternatively, stretching leather thongs across the metacarpals might have similar effect (Semenov 1964, 190). Use as a bobbin seems most likely (Wild 1970, 34), though this category of objects is in need of experimental study of the kind carried out by Semenov.

IV.2.2.3 Loom weights (Fig 92, 93.1-3))

All loom weights on the site were from Saxon contexts. The terminology used is based on Dunning et al 1959.

Lead

1 Lead loom weight of the intermediate type with a relatively small central hole. Weight 420g.
(526) 952, Saxon sunken hut.

2 Lead loom weight, annular type with relatively large central hole and three evenly spaced depressions on ?upper surface. Weight 300g.
(557) 1023/3, Saxon sunken hut.

Fig 92.3-12, Fig 93,1-3 A group of thirteen lead loom weights of the annular type found on the natural gravel base of the Saxon sunken hut 1190. Ten of the loom weights were clustered together, as if originally strung together or stacked, possibly on a wooden pole. Clay loom weights from Upton (Northants) found in a stack had traces of wood inside them (Jackson et al 1969). Three of the loom weights (587), (598), (622) were found lying to the S of the main group ~~(Figs 65/85).~~ Some of the loom weights had raised transverse lines irregularly spaced around them. The weights in grammes in order of small find number (587) - (598) and (622) and catalogue number 3-15 were as follows: 300, 290, 270, 320, 280, 330, 320, 280, 320, 280, 350, 300.
(587-598) (622) 1190, Saxon sunken hut.

Lead loom weights are not common on Saxon settlement sites in Britain, though examples are known from sunken huts at Linford Quarry, Mucking (Essex) (Barton 1962) and the nearby Mucking site itself (Jones & Jones 1975).

The Barton Court loom weights are crudely cast, possibly by pouring molten lead into a sand mould. The lead may have come from the remains of the nearby Romano-British villa buildings. The lead loom weights are considerably lighter than the clay loom weights from Cassington, Headington, Sutton Courtenay, and Upton (all in the Ashmolean Museum), which range in weight from 375 to 550g. Lines of clay loom-weights have been found in situ at Upton (Northants), West Stow (Suffolk), Grimstone End (Suffolk), St Cross (Hants) (for references see Hedges 1978), and Old Swindon (Bernard Phillips, pers comm). The weights calculated by Hedges for the St. Cross late Saxon examples are noticeably lighter than those from pagan Saxon cemeteries in the Ashmolean Museum.

Clay loom weights A few fragments of annular clay loom weights were found in two sunken huts 1023 and 1190. The weights were made of poorly fired or accidentally burnt coarse clay which included quartzite pebbles up to 8mm across and some organic material. Only one fragment (623) from hut 1190/2 was of any size, consisting of about 20% of a weight c 80mm in outer diameter and c 37mm thick.

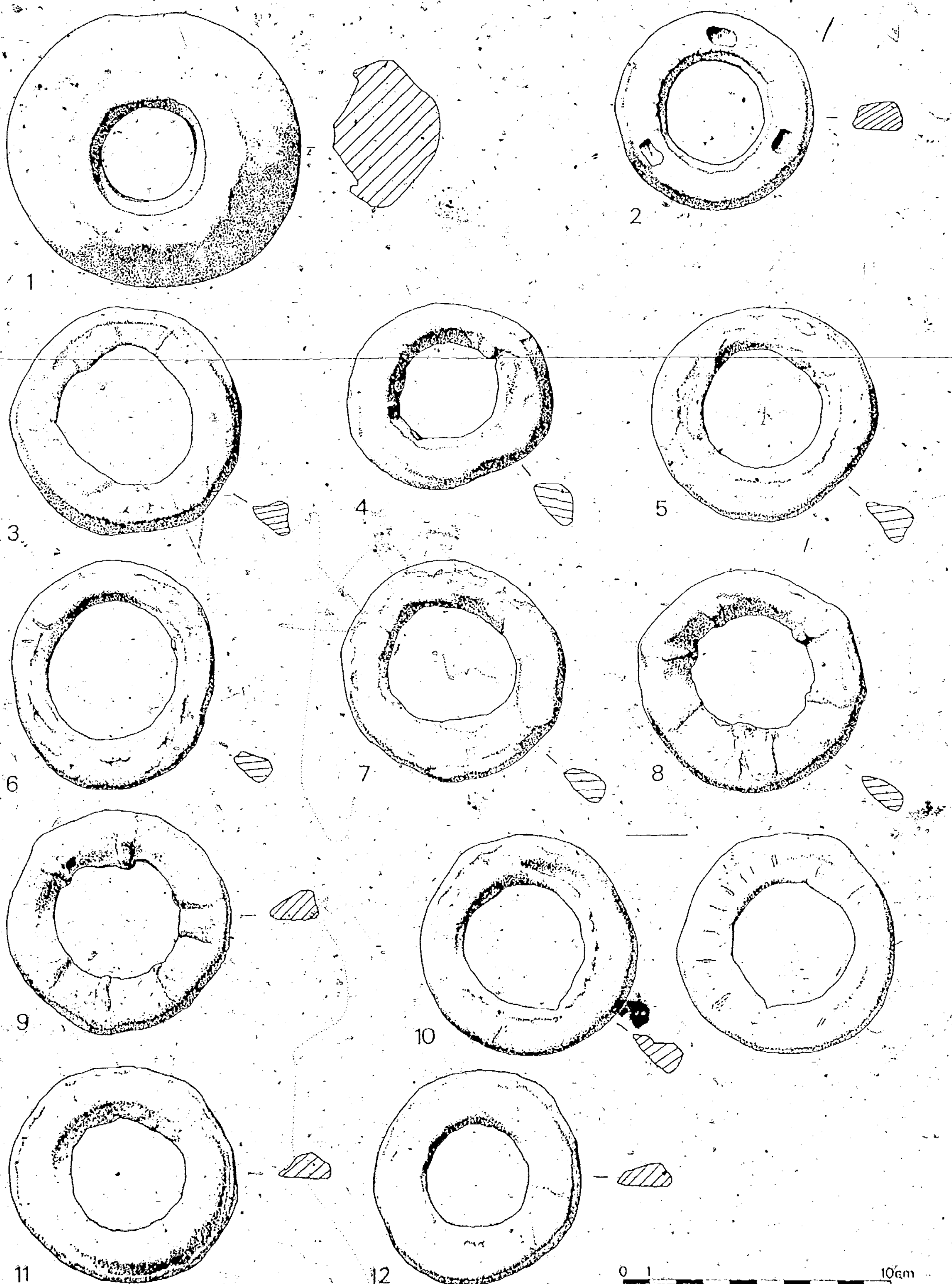


Fig 92 Textile manufacture: lead loom weights

Fig 93 Textile manufacture:
lead loom weights and bone pin beaters; leather working: bone awls

IV.2.2.4 Pin-beaters and thread-pickers (Fig 93.4-8)

4 Bone pin-beater

(176) 602/1, top fill of RB villa enclosure ditch.

5 Pair of bone pin-beaters

(523) and (525) 952, Saxon hut.

6 Bone double-ended thread picker, well polished.

(569) 1023/1, Saxon sunken hut.

7 Bone double-ended thread picker, well polished.

(634) 1026/2, Saxon sunken hut.

8 Bone thread picker fragment, well polished.

(54).256, upper fill of robber-trench of RB villa building.

A distinction is drawn here between pin-beaters and thread-pickers. The former are stouter and more crudely made and would stand harder wear perhaps in beating up the weft on a warp-weighted loom. The thread pickers are less robust tools, pointed at both ends and suitable for more delicate work. In practice, however, it is not always possible to draw such a fine distinction; examples of pointed bone tools from Upper Thames Saxon settlements tend to shade between the two extremes found at Barton Court Farm (Leeds 1934, pl xxix, fig 1; Avery & Brown 1972, fig 5, no 1; Brown 1975, fig 11, no 9).

IV.2.2.5 Textile manufacture at Barton Court Farm

Spindle whorls and possibly the polished sheep metacarpals provide the only evidence for the processing of textiles at the Iron Age and Romano-British farmsteads. The evidence for all stages of textile manufacture, from spinning through weaving, is more prolific in the early Saxon period. Five of the seven sunken huts have produced a total of 24 objects associated with textile production. Some of these were thrown into the abandoned sunken huts along with other domestic refuse. Other objects, in particular the group of lead loom weights (IV. 2.2.3), were apparently found in situ and suggest that the huts were used, perhaps among other things, as weaving sheds (Radford 1957). Loom weights have been found in similar positions at Sutton Courtenay (Oxon) (Leeds 1927, 75), Linford (Essex) (Barton 1962), Bourton-on-the-Water (Glos) (Dunning 1932), Grimstone End, Pakenham (Suffolk) (Brown et al 1954), Upton (Northants) (Jackson et al 1969), and most convincing of all Old Swindon (Bernard Phillips, pers comm).

IV.2.2.6 References (IV. 2.2)

Avery, M, & Brown, P D C, 1972 Saxon features at Abingdon, Oxoniensia, 37, 72-7

Barton, K F, 1962 Settlements of the Iron Age and pagan Saxon periods at Linford Quary, Mucking, Essex, Trans Essex Archeol Soc, 1, 57-104

Brown, B J W, Knocker, G.M. Smedley, N, & West, S. E, 1954 Excavations at Grimstone End, Pakenham, Proc Suffolk Inst Archaeol, 26, 190-207

Brown, P D C, 1975 Objects from the grave, in R A Chambers, A Romano-British settlement site and 7th century burial, Ducklington, Oxon, 1974 Oxoniensia, 40, 191-7

Bulleid, A, & Gray, H, St. George, 1911 & 1917 The Glastonbury Lake Village Vols I & II

Calkin, J B, 1955 Kimmeridge Coal Money, Proc Dorset Nat Hist & Archaeol Soc, 75, 45-51

Dunning, G C, 1932 The Saxon hut near Bourton-on-the-Water, Antiq J, 12, 290

Dunning, G C, Hurst, J G, Myres, J N L, & Tischler, F, 1959 Anglo-Saxon Pottery: A Symposium, Medieval Archaeol, 3, 1-78

Hedges, J W, 1978 The loom-weights, in J Collis (ed), Winchester Excavations, 2, 33-9

Jackson, D, Harding, D, & Myres, J N L, 1969 The Iron Age and Anglo-Saxon Site at Upton, Northants, Antiq J, 49, 202-21

Jones, M U, & Jones, W T, 1975 The crop mark sites at Mucking, Essex, England, in R Bruce Mitford (ed) Recent Archaeological Excavations in Europe, 133-87

Leeds, E T, 1924 A Saxon village near Sutton Courtenay, Berks, Archaeologia, 73, 147-92

Leeds, E T, 1927 A Saxon village at Sutton Courtenay, Berks (2nd report), ibid 76, 59-80

Leeds, E T, 1947 A Saxon Village at Sutton Courtenay, Berks (3rd report), Ibid, 92, 79-93

Parrington, M, 1978 The excavation .... at Ashville Trading Estate, Abingdon (Oxon) 1974-6, Counc Brit Archaeol Res Rep 28

Radford, C A R, 1957 The Saxon house: a review and some parallels, Medieval Archaeol, 1, 27-38

Semenov, S A, 1964 Prehistoric technology

West, S E, 1969 The Anglo-Saxon village of West Stow: an interim report of the excavations 1965-68, Medieval Archaeol, 8, 1-20

Wild, J P, 1970 Textile manufacture in the northern Roman provinces

IV.2.3 Leather working

IV.2.3.1 Awls (Fig 93.9-13)

9 Bone awl with well polished point (2 metapodial from cattle or horse).
(140) 340, posthole, Iron Age or possibly early RB.

10 ?Roe deer antler with the end knife trimmed to form a sharp point. The antler is well polished. Probably used as an awl.
(200) 602/1. Late RB villa enclosure ditch, S arm, but possibly a Saxon implement.

11 Fragment of a bone point, possibly an awl or a pin-beater.
(176) 602/1. Late RB villa enclosure ditch.

12 Iron awl: square-sectioned rod tapering to a short rounded point at one end and a longer one at the other, which probably originally served as a tang. Probably an awl used in leather working.
(211) 690/1. Late RB paddock ditch.

13 Pig incisor, trimmed to form a fine, very sharp point.
(614) 1178/1. Saxon sunken hut.

IV.2.4 Netting (Fig 94.1)

IV.2.4.1 Bronze needle

Bronze needle bifurcated at each end to form an 'eye'. The two 'eyes' are in the opposite plane to each other. Such rods are usually interpreted as netting needles (eg Wild 1970, 138, fig 65; Bushe-Fox 1926, pl LV, 11; Bushe-Fox 1914, fig 5, no 9, p 13; Cunliffe 1968, pl IV, 22). Similar instruments may have been used as surgical probes (Milne 1907, 84, pl XXI).
(32) 9/1 S arm of early RB enclosure ditch.

IV.2.4.2 Bone needles (Fig 94.2-5)

2 (43) 197. Posthole in Saxon sunken hut 188.
3 (62) 198. Saxon sunken hut.
4 (556) 1023/2 Saxon sunken hut.
5 (576) 1023/1 Saxon sunken hut.

Bone needles with large eyes are common on Saxon sites, for example, at Sutton Courtenay (Leeds 1924, pl XXVIII and XXIX; Leeds 1947, pl XXIIa). Such needles can hardly have been used for fine work but rather for the production of an open mesh material such as sacking or netting, though it has been suggested that they acted as clothes pins (Leeds 1924, 182-3).

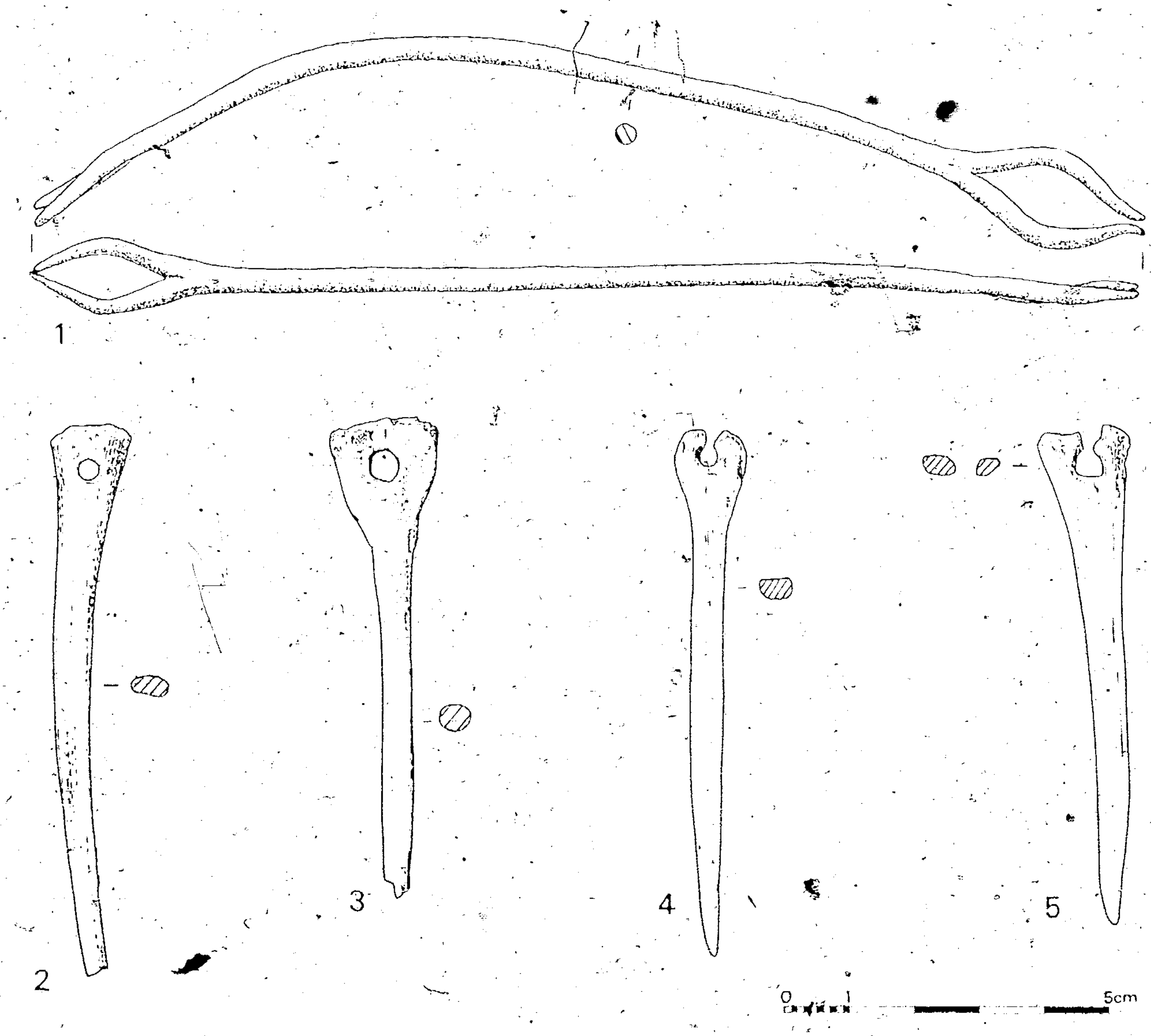


Fig 94 Netting: bronze netting needle; bone needles

IV.2.4.3 References (IV.2.4)

Bushe-Fox, J P, 1914 Second report on the excavations on the site of the Roman town at Wroxeter, Shropshire 1913, Soc Antiq London Res Rep 2

Bushe-Fox, J P, 1926 First report on the excavation of the Roman fort at Richborough, Kent, Soc Antiq London Res Rep 6

Cunliffe, B W (ed), 1968 Fifth report on the excavations of the Roman fort at Richborough, Kent, Soc Antiq London Res Rep 23

~~Milne, J S, 1907 Surgical instruments in Greek and Roman times~~

Wild, J P, 1970 Textile manufacture in the northern Roman provinces.

IV.2.5 Bone working

Fragments of sawn bone and red deer antler were found in Saxon sunken-hut 1023 and in the upper (probably Saxon) fill of the villa enclosure ditch 606, 712, and late RB well 949 (not illustrated). A red deer antler, probably used as a digging tool, was found in the lower fill of the Late Iron Age ditch 10 (not illustrated here; used for radiocarbon dating).

IV.2.6 Millstones from Barton Court Farm (Fig 95) R J Spain

All the millstone fragments except no 4 were found built into the stone shaft of the late RB well 832.

1 This is a fragment of a millstone with two roughly radial fractures creating almost a quarter of the original stone. The grinding face is generally concave, confirming that the fragment came from a topstone. Radial sections show the grinding face to be flat for the outer 20cm nearest the rim but the surface rises towards the eye by 3-4mm. No dressing of the face can be detected and it is clearly marked by circular stria created by foreign bodies entering the stones with the grain.

In the eye of the fragment, close to one of the radial fractures, there appears to be evidence of a rynd cavity, suggesting that it was some 8cm long by 7.2cm wide, possibly a two-winged rynd. With the diameter of the original stone close to 84.8cm and a weight of 151.4kg, this was undoubtedly a millstone. The thickness of the fragment at the eye is 13cm and at the rim it varies from 11.5 to 13.0cm. The rim has a very irregular section and is rough-hewn, probably as it left the quarry. On top of the stone the surface is dressed smooth, though undulating, and at a radius of 29.4cm from the axis (13cm from the rim) is a man-made cavity. It is close to 2.2cm dia, virtually a perfect circle in plan

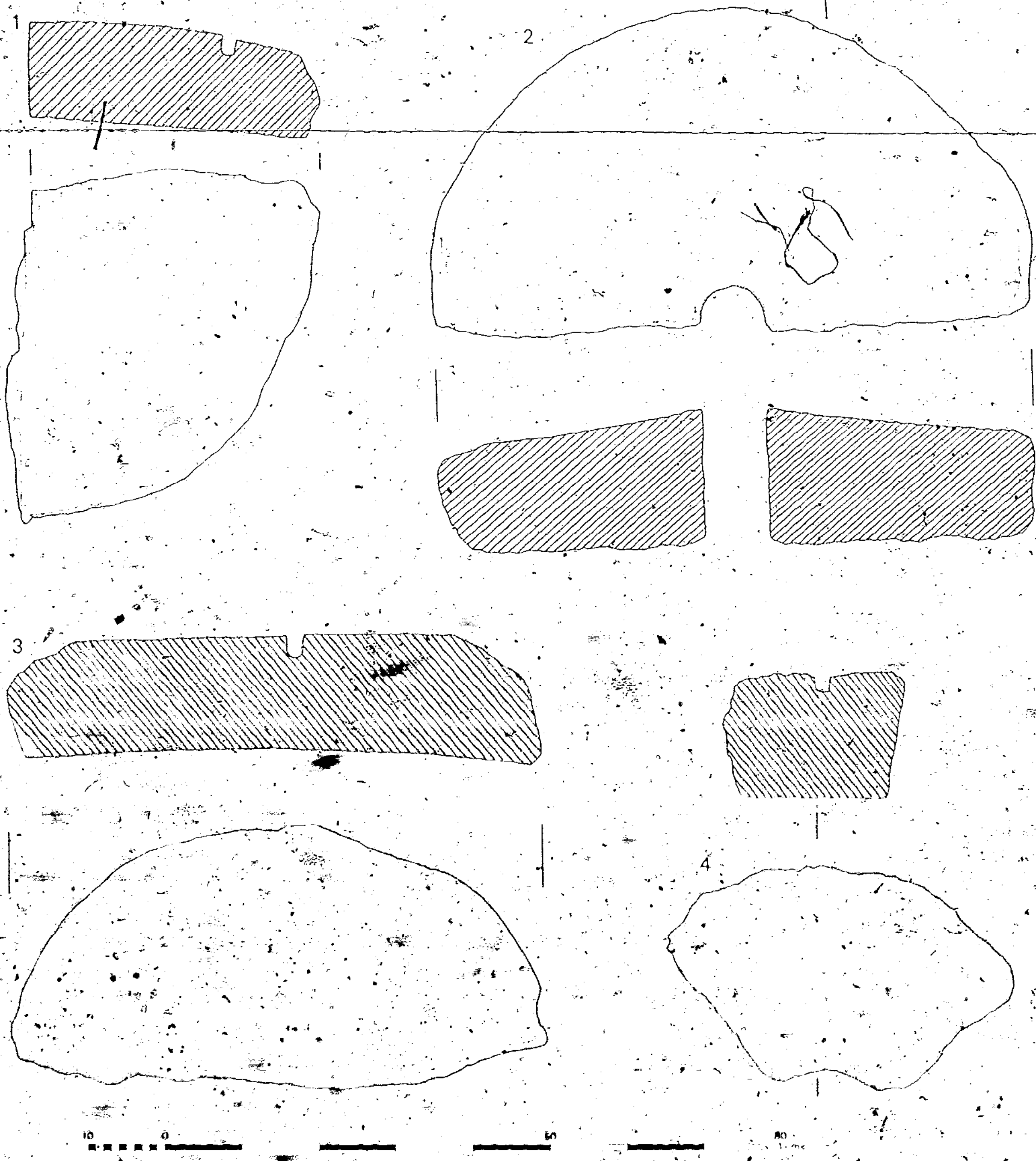


Fig 95 Milling: millstones

view, suggesting that it was generated by a rotating element. It is 2.4cm deep, slightly tapered narrowing towards a hemispherical bottom, and its axis is not quite normal to the stones surface.

It is possible, though by no means certain, that this stone could have acted as a topstone for stone No. 2.

(647); <u>832</u>.

2 This specimen is in three fragments which form exactly one half of a bottom millstone having two radial fractures in line with each other. The grinding surface is convex, with circular score marks, with the outer two-thirds of the radial section flat and the inner third rising towards the eye. Such a profile can be found on many Roman bottom or bedstones, though whether the result of wear or dressing is not known. When the grain entered the stones the gap between their faces had to be sufficiently wide to admit whole grains, which would then roll away from the eye until they were cracked and reduced by the converging stone faces. In this process it would seem probable that the wear on the faces would be a minimum at the eye and tend to increase away from the centre. This might explain why the profile becomes high towards the eye on the bottom stones.

The diameter of this stone is 80cm and it has an 8cm dia eye. Thickness of the stone at the rim is 15cm and at the eye 18cm, and the dress on the rim and underside is rough-hewn. When complete, this stone would have weighed approximately 140kg.

(648), (653), (650); <u>832</u>

3 The remains of this stone are in two fragments which together make almost half of the original stone. Although the main fracture lies close to the middle of the stone, there is no evidence of the eye, which tells us that it could not have been greater than 9.5cm in diameter. A radial section shows the grinding face to be flat although the face as a whole is concave, which means that this was a topstone and, according to is size and weight, a millstone.

Its rim diameter is 76.8cm with a thickness varying from 13.5 to 15.5cm and the projected weight of the original complete stone is roughly 136kg. The grinding surface is crudely pecked in a random fashion with small cavitites some 3-4mm deep and 1.8-1.9cm apart.

The rim is very roughly hewn and the top surface is dressed smooth, though undulating. On the top of the stone is a cavity similar to that found on stone no 1. It is 2.2cm dia and has a rough hemispherical bottom giving a total depth of some 2.5cm. Its lip is well rounded and the axis of the hole more or less vertical to the surface. This cavity is 11.5cm from the rim (26.9cm from the axis).

(646), (651); 832.

4 This fragment is roughly a quarter of a topstone with two radial fractured faces. The remains of the grinding face show that it was dressed by rough pecking - numerous small random cavities roughly 1.2-1.4cm apart and 1-3mm deep. A radial section of the face is flat although the face generally has a pronounced concavity, showing it to be part of a topstone. The remains of the eye is roughly dressed, with two irregular vertical faces, making it difficult to determine what its diameter may have been. It is quite possible that the shape of the whole eye was irregular, for it was not essential for it to be exactly circular in plan.

The original diameter of the stone was 65.2cm with the thickness varying from 16 to 17cm and its weight must have been in the order of 111.3kg. As with the other stones, the rim is very roughly hewn and the top surface is roughly dressed. Once again, a small circular cavity exists in the top face, 2.2cm dia some 9cm from the rim (23.6cm from the axis of rotation). This cavity has a rough flat bottom unlike the others in this collection, which are rounded. When this stone is positioned in its operating plane, ie with the rim lying in a horizontal plane, the inclination of the grinding face cuts the axis 1.0cm higher than the rim ie a 3% incline.

(649); lying on the gravel surface of the latest RB enclosure, SE of the farmstead.

IV.2.6.1 Discussion: the top surface cavities

In 19th century millstones cavities were provided in the top surface of the runner stones near the rim for balancing purposes. In these cavities cast-iron boxes, complete with adjustable weights, were installed flush with the surface. Obviously such a contrivance is unlikely to be found in ancient technology, but the suggestion of balancing is worthy of consideration. It is possible that an out-of-balance quern or millstone could be improved by making a cavity near the rim and filling it with lead. But as the specific gravity of lead is only some 4 to 5 times that of stone, the cavity would have to be fairly large to have an appreciable affect on a millstone of 150kg or more. The cavities under consideration, not more than $10cm^3$ are much too small for this purpose. Furthermore, there is additional evidence that the miller who worked these stone made no attempt to balance his stones. Had he done so, he would have surely started by dressing the rough-hewn rims of these stones and making their thickness more even.

Roman millstones have been found with what appears to be provision for lifting, with two cavities in the top surface of the runner opposite each other, holding remains of iron leaded-in. Both the size and position of the Barton Court millstone cavities make it possible for them to have been used for this purpose, although not enough of each of the specimens remain to show the second cavities - if they existed. However, two features of these cavities shed doubt on this suggestion. The first is that the cavities are rather shallow for this use, at roughly 2.5cm, and they are worn on their rims. Two of them are very rounded on the edges, though whether or not such a profile was created during milling is difficult to tell. Secondly, and probably more significant, the cavities have not been undercut to give the lead a secure fixing. It is the absence of this splay, which is so very noticeable in stone no 1 where the hole is wider nearer the surface, that makes it unlikely for them to have been provided for lifting purposes. In absence of lifting rims, the miller could have raised heavy millstones by driving inbroad wooden wedges between the stones and then passed ropes through the eye.

With cavities such as these, perfectly circular in plan and not very deep, one suggestion as to their purpose is that they might have acted as footstep bearings. However, their radial symmetry is not perfect enough to have been generated by a rotating element; moreover, the base of one of the cavities is flatish and rough, making it most unlikely to have been a footstep bearing.

One possible explanation of the cavities is that they housed a projecting pin or rod which acted as a jogger to vibrate the feed hopper. In the development of corn milling a point must have been reached when considerable advantage was gained by arranging for the corn to be fed automatically into the stones with the aid of a hopper. This would have reduced the amount of labour involved in feeding the grain continuously into the eye of the stone. But such an advance brought an additional risk: if the feed of the grain stopped for some reason and the stones ran 'dry', they would rapidly deface each other. Any dressing in the form of grooves or pick marks would disappear, or, in absence of any such dressing, the very least that would occur is that stone dust and grit would be produced, which would mix with his meal and cause the miller problems of separation or adulteration of the product.

In later corn mills this feeding problem was mainly overcome by vibrating the trough, called the shoe, which delivers the grain from the hopper to the eye. Whether or not the shoe or a device like it existed during the period under discussion remains to be proved. It seems likely that this would be a logical development of the feeding problem, in that a small inclined chute was easier to vibrate than a hopper. No matter what automatic grain feeding method existed in the Roman period, vibration would have been necessary - or at the very least desirable. Even the most lax miller, when working with grain slightly damp or containing corn stalks etc so as to cause repeated interruption in the feeding, would have welcomed a device for vibrating or jarring the feeder. Such a device would have been facilitated by the holes in the top surface of the millstones. With a short rod projecting from the top stone it would be a simple matter to arrange for it to strike, as it rotated with the stone, either the hopper or some attachment to provide the required vibration.

Another suggestion is that the cavities were intended to locate and support the feed hopper on top of the stone. One obvious advantage of this is that it would probably be self-vibrating, but the disadvantages appear to outweigh this. First, with the hopper on top both the weight and balance of the rotating stone and gear would vary, although while the top stones remained thick this was probably of little consequence. Secondly, it made it more dangerous to load the hopper with grain while the stone was revolving. Furthermore, the miller would have to remove the hopper and frame every time he wanted to lift his top stone and finally, when a new stone was introduced, new cavities would have to be cut.

When considering the purpose of these cavities one other possibility, although unlikely, must be mentioned. In 1908 a report was published of a top-stone found in Ballincota, County Kerry, Ireland, which had a single cavity on the top face, in addition to the eye, 5.7cm dia and 7.6cm deep, close to the rim. (J Roy Soc Antiq Ireland, 1908, 74). Regardless of the age of this stone, this cavity poses a further alternative use. From the dimension given, this stone probably weighed in excess of 200kg and was clearly not a quern. It had an emplacement for a two-winged rynd, which shows that it was probably adjustabe in height, and this may have driven the stone. However, the presence of the other cavity, its diameter (which is much larger than a normal handle), and position raises the additional possibility that the stone may have been turned by a lever. Such an arrangement could have been effected by a horizontal wooden beam fixed into the eye of the stone and located at the cavity by a wooden or iron pin. Provision would have been made for the entry of the grain and the hopper could be carried by the beam, which would probably provide some vibration to help maintain grain flow. If such heavy millstones were worked with radial beams it is likely that animals were used to power them.

Finally, to complete this discussion, the possibility that these cavities may have been made in the stones subsequent to their abandonment as millstones must be considered. Regardless of whether or not such cavities pre-date or ~~post-date fragmentation, it is virtually impossible to identify a non-milling~~ use for them with any reasonable degree of certainty. What is significant, however, is that only the top surfaces of the runner stones have this feature and, although this may invite the criticism of the sample being small (four stones only), it is surely more than coincidence that it was only this face that was selected for the cavity. One other, more interesting fact emerges; each cavity lies between 69% and 72% of the radius out from the centre of the stone. Whatever the significance of this is, it only has validity in the context of complete stones, supporting the notion that they were not made subsequent to the stones being used for milling.

IV.2.6.2 Summary

The projected weights of the whole stones and their relatively large diameters indicate that they were millstones, probably from a water-powered mill (Moritz, LA, 1958 Grain mills and flour in classical antiquity. Although it is known that the Romans used animal power for reducing grain, the proximity of suitable water-mill sites to these stones supports the suggestion of the existence of a nearby water-mill. Several water courses exist to the E and S of the villa site and, although parts of them may have been made in post-Roman periods, there is no doubt that at least one stream, sufficient for the purpose, existed during Roman occupation. The gradients of these watercourses over the two gravel terraces are ideal for the promotion of water-power; in earlier times their gradients and volume of flow would probably have been greater.

These fragments are suprisingly thick for discarded millstones. One would imagine that, with thicknesses varying from 13 to 18cm, considerable working life remained in them. It is hard to believe that they fractured during re-dressing or grinding, and the possibility that they were rejected whole for some reason and subsequently broken and used for building purposes must be considered. One possibility is that some natural fault in the stones may have adversely affected grinding or dressing, or contributed to a fracture early in their life. But no sign of such faults can be seen and, in any case, such faults are relatively rare in Millstone Grit. Another possible reason for rejecting whole stones is that, as the thickness of the top stone reduced owing to wear and refacing, a point was reached when the pressure on the meal was producing an inferior product and the miller was having to pass it through the stones more than once. When this occurred the thickness of the stone was no doubt much greater than modern milling experience would suggest, owing to the crudeness or absence of dressing on the grinding faces.

~~With regard to the dressing of these stones, one very obvious observation~~ must be made. All of the fragments exhibit a rather low standard of dressing and milling which can be seen in the following features:-

- i The rims are roughly hewn, with very irregular sections.
- ii The style of dressing on the grinding fences is very crude, being inferior to any form of furrow or stria.
- iii Two of the four millstones are devoid of dressing on their grinding faces and exhibit rough circular scoring.

These features suggest that the miller did not attempt to dress his stones to improve appearance and balance but accepted them as they came from the quarry. This method of dressing the grinding faces, with irregular peck marks, shows that he had little knowledge or understanding of the more advanced methods of dressing, involving radial, curved, or oblique furrows. This deficiency concerning milling techniques is also indicated by the fact that he clearly did not screen his corn prior to grinding in order to remove stones and other foreign bodies. Had he done so he would not have defaced his stones so badly and redressing would have been a much less frequent task.

None of these millstone fragments show signs of degradation subsequent to their original purpose. This might suggest that water-mills continued to satisfy milling demands in the area.

The above observations indicate that the mill from which these stones came probably operated in the early Roman period.

With regard to the cavities in the top stones, various suggestions as to their possible function have been examined. Of these, probably the 'jogger' or vibrator function is the most plausible but, until further research is undertaken on large querns and millstones, doubt will remain.

IV.2.6.3 Quernstones (Fig 96). David Miles

1. Fragment of rotary quern. Sandy limestone or calcareous sandstone.
   (652), 543 late RB enclosure ditch.
2. Fragment of rotary quern. Local gritty Corallian limestone.

(656), 832/6 fill of late RB well.

3 Fragment of rotary quern topstone. Millstone Grit. (650), 832/5 fill of late RB well.

4 Fragment of rotary quern topstone. ? Local gritty limestone or Millstone Grit. (64[illegible]), 365/1 late RB villa enclosure ditch.

5 Fragment of rotary quern topstone. Millstone Grit. (655), 297 packing of late RB posthole.

6 Fragment of rotary quern. Millstone Grit. (651), 832/5 fill of late RB well.

7 Fragment of rotary quern. Uncertain, fine-grained matrix. (635), Unstratified.

8 Fragment of rotary quern (not illustrated). Lava, probably Rhenish and similar to so-called Niedermendig lava. 40mm thick. (682), 375 subsoil of trench 3.

9 Fragment of rotary quern (not illustrated). Yellowish, fine-grained feldspathic sandstone. The lithology is similar to Millstone Grit and the stone is probably a sandstone of Upper Carboniferous age. (683), 45 subsoil over the NW corner of villa enclosure.

10 Fragment of quern (not illustrated). Millstone Grit. (295), 788 subsoil over late RB Building 2.

IV.3 THE COINS C E King

One hundred and forty-seven coins were recovered in the excavation at Barton Court Farm, ranging in date from a British bronze coin of the 1st century AD to Roman imperial pieces of c 388-95 (Fig 97). Eighty-nine of the pieces were found in a subsidiary building on the late RB farmstead, including 50 in the W room of that building. This fact, coupled with the high concentration of late pieces (datable to 388-95), strongly suggests that these pieces represent a dispersed hoard, the composition and significance of which will be discussed below separately.

Three later Roman silver coins (1, 2, 3) all in excellent condition, were found: a *siliqua* of Julian datable to 361-3, a *miliarense* of Valens datable to 375-8 from the robber-trench in the SE corner of the villa, and a *siliqua* of Eugenius c 392-5 in the plough soil near the late RB pits to the W of the site. Site finds of late Roman silver coins tend in general to be rare, and

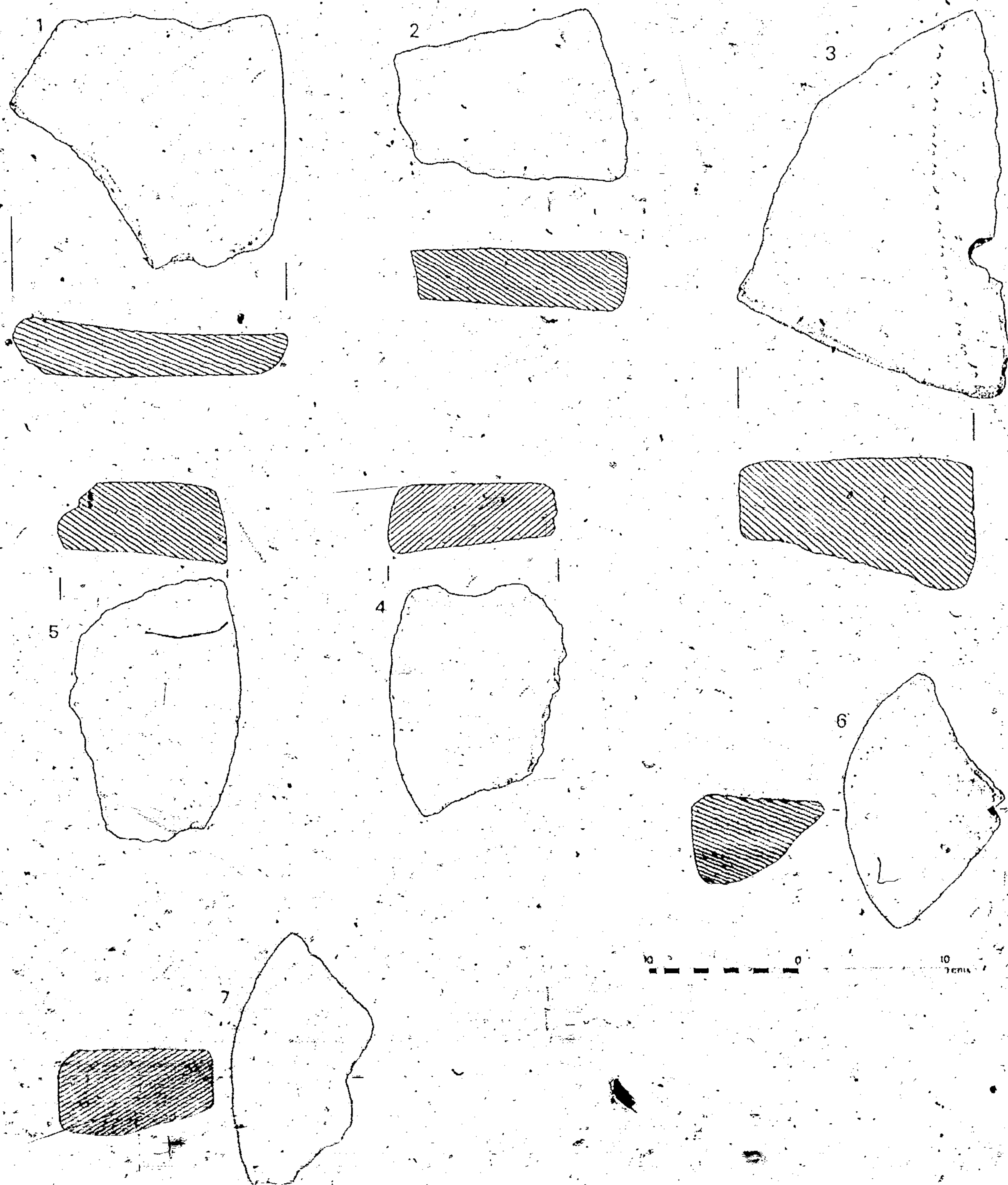


Fig 96 Quernstones.

non-barbarous and unclipped pieces of late date even more so. The British coin (4) was minted by Cunobelinus at Camulodunum c AD 10-40 and was found in soil, which was probably disturbed, over the RB enclosure ditch N of the villa.

Only eleven coins were found on the actual villa house site (2, 9, 29, 37, 40, 41, 42, 48, 72 74, 75) and of these three were found in the same room (Room 1): a 2nd century sestertius and two 4th century bronzes c 335-78, the last 74 being found under the roofing tiles. No 29, minted between 330 and 335 and 42 and 48 minted between 341 and 353 and 75 (364-8) were found in robber-trenches or rubble of the villa house, as well as the miliarense of Valens (375-8) and 40 minted between 341 and 346.

Two coins (10 and 13) were found in association with Saxon burials. The first, a male grave, contained a contemporary forgery of an antoninianus of Claudius II c 268-70; in the second, a grave with the bodies of a woman and child, there was a sestertius datable to c 230-48. Finds of Roman bronze coins in Saxon burials are not unknown, and the coins recovered are generally from the mid 3rd to mid 4th centuries AD (Rigold 1974). They provide no evidence, as J P C Kent has shown, for the circulation of Roman coins in Saxon Britain, and only a small percentage of Saxon graves contain Roman coins (Kent 1961). Since these pieces have not been pierced or mounted, they probably fall into the category of serving the symbolic function of coins in graves (Rigold 1974, 202). Seven other Saxon features contained coins; coin 1 from pit 1251, 38 from posthole 1208, 47 from sunken hut 1181, 69 from posthole 1082, 70 from sunken hut 1178, and 74 from posthole 852.

The small number of coins in the villa is undoubtedly related to the fact that it was completely robbed, even the stone walls and floors having been removed. Of the remaining coins, the majority was found in conjunction with one of the numerous ditches which surrounded the villa and field complex: three radiate imitations of the Tetrici and one illegible AE 19-21, 126) in the E arm of the enclosure ditch of the farmhouse; a slightly later piece (27) datable to c 323-4 was in the ditch cutting across the waterhole S of the villa, 25 and 30 were in the waterhole itself (294-341); two 4th century bronze coins in the paddock ditches (27, 28, 147); and one coin (15) of Quintillus at the S boundary of the paddock system. Radiates (16, 18) were also found at the top of the easternmost ditch (and a FEL TEMP REPARATIO copy (50) in the top of a pit along the E boundary trackway). Two coins (3, 87) were found in the pits on the W edge of the site, both late 4th century in date. The remaining coins were found variously scattered in unstratified contexts (31, 24, 46, 133), in a posthole

(14), in the machine spoil S of the site (11), the topsoil over an Iron Age ditch (77), in the stony spread over the area of the corn dryer (17 and 49), and near the Roman well (145).

The main bulk of the coins, excluding the hoard coins, fall in the years c 250-395 which is normal for Romano-British sites, although the breakdown by period within these chronological limits is less straightforward. The coins from western mints (where the mark is legible) - ie Trier, Lyons Arles - are dominant, which is also normal. The problem is complicated by the difficulty of determining precisely how many and which of the building 2 coins are justifiably included into the scattered hoard, a problem which will be discussed below. If the site is considered as a whole, it fits into "pattern c" distribution following the definition by Ravetz of 4th century coin loss (Ravetz 1964, 201, 210-11).

If all the building 2 coins are considered as belonging to the hoard, the remaining coins show the highest rate of coin loss occurring c 330-46, with slightly smaller ones in 268-85 and 364-78.

The "c pattern", however, has been documented for other Oxfordshire sites: Frilford Cemetery, 45% - 70 coins (Bradford & Goodchild 1939) Dorchester, 58% - 36 coins (Hogg & Stevens 1937), and Ditchley, 32% - 52 coins (Radford 1936), for example, but the number of coins recovered in each of these cases was small and the evidence must be regarded with some caution. Furthermore, sites like Woodeaton demonstrate a totally different distribution pattern, Ravetz's "pattern a" (Milne 1931).

IV.3.1 The hoard

Of the 89 coins found in building 2, 44 are clearly identifiable as belonging in the period 388-95, and a further 17 AE illegible coins also probably fall in this group, since most were found in close proximity to the datable Theodosian pieces. The group of coins are recognizable as a Theodosian hoard on the basis of their close correlation in date an the small area from which they were recovered (Reece 1974, 88).

A problem arises in determining how many of the 89 coins belong to the hoard, since the majority of coins in this building were scattered in two rooms comprising an area of c 3m square (III.7.4.4). They do, however, fall into three main groups:

1. A central cluster of 33 coins, 28 of which are datable to 388-95 (if the illegible pieces are included) and all of which were found in a 1m square area.

2 Coins found in the W room of building 2, 30 of which (including the illegible pieces) were found in a c 2m square area.

3 All the coins found in building 2 itself or its immadiate vicinity. A comparison of the chronological distribution of the pieces in the central cluster with those found in the building as a whole shows a fairly close agreement in date and type of pieces recovered.

These coins are generally extremely worn, which is the normal condition of finds composed largely of Theodosian pieces. Hoards of Theodosian pieces deposited after AD 400 are not only those most commonly found on sites, but the pieces in them are often scattered rather than being recovered in a single container (Reece 1974 98).

How long the coins circulated before being hoarded is a more difficult problem. After 395 no further supplies of coin officially reached Britain. While the degree of wear argues that they must have been used for a number of years - about 30-40, even in the first instance - the Theodosian pieces were badly struck in low relief which would accentuate signs of wear.

Such evidence as exists supports the use of late Roman bronze coins throughout the first quarter of the 5th century and hoarding into the second quarter, but probably not beyond (Reece 1974, 92; Kent 1961, 5). Thus a deposit date of c. AD 430-450 is conceivable and in accord with the Saxon burials of a later date, since there is no evidence to suggest that late-Roman bronze coins were circulated by the Saxons.

It is tempting in view of the character of building 2 and the discovery of the hoard to speculate that the coins may have been accumulated as the result of commercial transactions, ie to be the equivalent of a shopkeeper's stock of coin for small change. However, so little is known about the circulation pattern of bronze coins in the 5th century or the extent to which they changed hands that this supposition is probably unfounded.

The fact that so many of these hoards fall into the dispersed category in conjunction with their worn condition could equally suggest that these coins were abandoned when they no longer had any 'currency'. Neither assumption, unfortunately, has any solid evidence supporting it and, other than noting that this find fits the pattern of hoards composed largely of Theodosian pieces both in its composition and the site, wider conclusions can scarcely be drawn.

IV.3.2 Imitations

Twenty-five of the 147 coins recovered were ancient imitations and fall into three main groups:

1 AD 250-85 (5 coins);

2 AD 330-46 (7 coins);

3 AD 350-60 (11 coins), nine of which were found in the west room of building 2 and 14 in the building as a whole.

It has now been definitely established that ancient forgeries are closely contemporaneous with the date of the pieces they copy, and the Abingdon coins demonstrate the normal distribution pattern for imitations, ie they are extremely common for the periods 250-85, 330-41, and 350-60 (Kent 1959). The normal explanation for the production of these pieces is a shortage of coin in absolute terms, and it is interesting to note that in the periods c 260-70 and 330-41 it is also linked with a period of severe debasement of the coinage (ie a decline in size, weight, and fineness) and inflation (Boon 1974). The imitations themselves underwent in both the 3rd and 4th centuries a progressive deterioration in size, weight, and fabrication, and pieces have been recovered, although not on this site, no larger than 4mm. It is believed, however, that they were intended to be equivalent in value to the standard-sized coins, although whether in fact this occurred is more dubious. They do not by their obviously deviant size, weight, and crude rendering appear to have been intended nor likely to deceive anyone, and it is difficult to believe that they were tariffed at the same rate as genuine full-size coins.

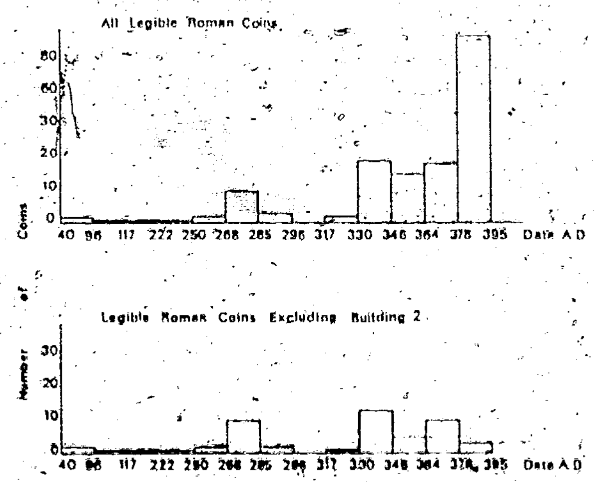


Fig 97 Histograms of Roman coins

IV. 3. 3 The coin list

Coin no	Find no	Emperor	Reverse type	Denom	Diam (mm)	Mint	Ref no	Date (AD)	Feature no and comments
SILVER									
1	638	CLIVLIANVS PF AVG	VOT X MVTLTXX	Sil	18	Arles CONST.		361-3	125/1 Saxon pit
2	61	Valens	VIRTVS EXERCITVS	Light Mil	22	Trier TRPs	RICIX No 12	375-8	259 robber trench of villa
3	8	Eugenius	VRBS ROMA	Sil	17	Lyons LVGPS	RICIX, No	392-5	topsoil
BRONZE									
Ancient British									
4	115	Cunobelinus	Naked Victory seated		18	Camulodunum	Mack No 221	10-40	336 early RB pit
Roman Imperial									
5	63	Domitian	Illeg	As	25			c82	9 early RB ditch
6	9	Domitian	Illeg	As	25	Rome		c96	137 early RB posthol
7	34	Domitian	Illeg	As	26	Rome		c96	107 early RB posthol
8	81	Trajan	SPQR-of TIMOPRINCIP	Dup	27	Rome		103-11	3 RB ditch
9	150	Illeg	Sitting female figure	Sest	28	Rome		2nd cent.	561 pit under villa
10	88	Illeg	Illeg	Sest	21	Rome		c230-48	271 Saxon grave
11	162	Valerian	ORIENS AVG (?)	Ant	18	–	–	250-8	unstratified
12	636	GALLIENVS AVG	Illeg Centaur	Ant	22		RICV, 1 94 or 95	260-7	1239/1 RB ditch
13	55	Claudius II	Illegi	Ant (Im)	15	–	–	268-70	258 Saxon grave
14	288	Divus Claudius	CONSECRATIO (altar)	Ant (Im)	14	–	–	268-70	775 posthole NE of building 2
15	175	Quintillus	PAX AVGUSTI	Ant	19	Rome	RICV 1, 26	268-70	607/1 late RB paddock ditch
16	241	Victorinus	Illeg	Ant	17	–	–	268-70	709 late RB paddock
17	157	Tetricus I	C-AVG	Ant	17	–	–	270-4	732 corndryer
18	208	Tetricus I	LAETITIA AVG	Ant	17	–	–	270-4	709
19	216	Tetricus I	Illeg	Ant (Im)	15	–	–	270-4	676/1 RB villa enclosure di
20	128	Tetricus I	VAC (sic)	Ant (Im)	14	–	–	270-4	340 RB villa enclosu ditch
21	196	Tetricus I	--G (Standing female figure	Ant (Im)	13	–		270-4	676/1 RB villa enclosure di
22	606	IMP PROBVS AVG	ADVENTUS AVG	Ant	21	Rome	RICV,2 34	276-82	953 RB paddock ditch
23	289	Carausius	IOVI VICTORI AVG	Ant	19	–	–	290-4	803 Building 2

Coin no	Find no	Emperor	Reverse type	Denom	Diam (mm)	Mint	Ref no	Date (AD)	Feature no and comments
24	198	Allectus	PAX AVG	Ant	21	SP / Lon ML	RICV,2, 33	294-6	unstratified
25	184	Allectus	LAETITIA AVG	Ant	20	QC	RICV,2, 124	294-6	609/3 RB water hole
26	267	Illeg - House of Constantine	standing female figure	F	frag	Illeg	-	320-30	712 building 2
27	181	Crispus	CAESARVM NOSTRORUM VOT X	F	18	Lon PLON	RICV,2, 291	323-4	609/1 RB paddock ditch
28	567	CONSTANTINVS IVN NOBC	GLORIA EXERCITVS (2 Standards)	Fol	16	Illeg	-	330-5	1109/1 RB paddock ditch
29	50	Constantinopolis	Victory or prow	F(Im)	15	Arles T CONST	LRBC, 390	330-5	256 villa rubble
30	183	Constantinopolis	Victory or prow	F(Im)	10	Trier, TRP	-	330-41	609/3 RB water hole
31	154	Constantinopolis	Victory or prow	F	15	Illeg	-	330-41	unstratified
32	316	Constantinopolis	Victory or prow	F	17	Illeg	-	330-41	792 building 2
33	417	VRBS ROMA	Wolf and Twins	F(Im)	13	Illeg	-	330-41	under cobbling in building 2
34	429	VRBS ROMA	Wolf and Twins	Fol	15	Illeg	-	330-41	building 2
35	364	Illeg	GLORIA EXERCITUS (Istan.)	F(Im)		Illeg	-	335-41	803 building 2
36	246	Constans	GLORIA EXERCITUS (Istan.)	F(Im)	12	Illeg	-	335-41	712 building 2
37	5	Constantine II	GLORIA EXERCITUS (Istan.)	F(Im)	12	Illeg	-	335-41	villa, room 1
38	627	CONSTANS PF AVG	GLORIA EXERCITUS (Istan.)	Fol	15	Trier M / TRPC	-	337-41	1208 Saxon posthole
39	517	CONSTANTIVS PF AVG	GLORIA EXERCITUS (1 standard)	F(Im)	12	Trier ?	-	337-41	879 RB paddock ditch
40	51	Constans	VICTORIAE DD AVGG Q NN	F	15	Trier TR	LRBC, 158-160	341-6	256 villa rubble
41	48	Illeg	VICTORAIE DD AVGG Q NN	F	14	Illeg	-	341-6	256 villa rubble
42	98	Constans	VICTORIAE DD AVGG Q NN	F	14	Illeg	-	341-6	281 villa robber trench
43	539	CONSTANS PF AUG	VICTORIAE DD AVGG G QNN	F	14	Trier, D / TRP	-	341-6	947 RB paddock ditch
44	431	Illeg	VICTORIAE DD AVGG G QNN	F	Broken	Arles?	-	341-6	building 2
45	419	Illeg	VICTORIAE DD AVGG G ONN	F	15	Illeg	?	341-6	building 2
46	109	Magnentius	GLORIA ROMANORUM	F	20	Illeg	-	341-6	unstratified
47	504	Magnentius	VICTORAE DD NN AVG ET CAE	F	19	Illeg	-	351-3	1176/1 RB paddock ditch

Coin no	Find no	Emperor	Reverse type	Denom	Diam (mm)	Mint	Ref no	Date (AD)	Feature no and comments
48	76	Illeg	VICTORIAE DD NN AVG ET CAE	Fol	Frag	Illeg	-	351-3	266 villa robber trench
49	164	Constantius	FEL TEMP REPARATIO	F	18	Lyons ·/CPLG	-	353-4	605 upper fill of corn drying oven
50	207	Constantine II	FEL TEMP REPARATIO	F	16	Illeg	-	350-60	708/1 RB pit
51	301	Magnentius	FEL TEMP REPARATIO	F(Im)	15	Illeg	-	350-60	788 building 2
52	347	Illeg	FEL TEMP REPARATIO	F(Im)	12	Illeg	-	350-60	802 building 2
53	337	Illeg	FEL TEMP REPARATIO	F(Im)	12	Illeg	-	350-60	792 building 2
54	336	Illeg	FEL TEMP REPARATIO	F(Im)	12	Illeg	-	350-60	792 building 2
55	374	Illeg	FEL TEMP REPARATIO	F(Im)	12	Illeg	-	350-60	803 building 2
56	333	Illeg	FEL TEMP REPARATIO	F(Im)	12	Illeg	-	350-60	792 building 2
57	381	Illeg	FEL TEMP REPARATIO	F(Im)	11	Illeg	-	350-60	803 building 2
58	802	Illeg	FEL TEMP REPARATIO	F(Im)	11	Illeg	-	350-60	803 building 2
59	803	Illeg	FEL TEMP REPARATIO	F(Im)	11	Illeg	-	350-60	803 building 2
60	399	Illeg	FEL TEMP REPARATIO	F(Im)	11	Illeg	-	350-60	803 building 2
61	350	Illeg	FEL TEMP REPARATIO	F(Im)	10	Illeg	-	350-60	795 E of building 2
62	329	Gratian	GLORIA ROMANORUM	F	17	ARLES PCON	-	364-78	803 building 2
63	428	Valentinian	SECURITAS REIPUBLICAE	F	18	Arles	-	364-78	802 building 2
64	425	Valentinian	GLORIA ROMANORUM	F	18	Illeg	-	364-78	836 building 2
65	287	Valentinian	GLORIA ROMANORUM	F	18	Arles OF II/CONS	-	364-78	766 building 2
66	283	Valentinian	GLORIA ROMANORUM	F	18	Lyons OF II/LVG	-	364-78	766 building 2
67	403	Valens	GLORIA ROMANORUM	F	17	Illeg	-	364-78	802 building 2
68	584	Illeg	GLORIA ROMANORUM	Fol	18	Illeg	-	364-78	1176 RB ditch
69	564	Valens	GLORIA ROMANORUM	Fol	17	Illeg	-	364-78	1082 Saxon posthole
70	610	Valens	SECVRITAS REIPUBLICAE	Fol	15	Lyons OF I/LVGP	-	364-78	1178 Saxon sunken hut
71	94	Illeg	GLORIA ROMANORUM	F	17	Illeg	-	364-78	unstratified
72	145	Valens	SECVRITAS REPUBLICAE	F	18	Aquileia /SMAQP	LRBC 1024	364-78	513 villa rubble
73	269	Valens	SECVRITAS REPUVBLICAE	F	16	Illeg	-	364-78	802 building 2
74	139	Valens	SECVRITAS REPVBLICAE	F	Frag	Aquileia /SMAQP	-	364-78	410 villa room 1 under roofing tiles

Coin no	Find no	Emperor	Reverse type	Denom	Diam (mm)	Mint	Ref no	Date (AD)	Feature no and comments
75	49	Valens	SECVRITAS REPVBLICAE	F	17	Illegq	–	364-78	256 villa rubble
76	504	Illeg	SECVRITAS REPVBLICAE	Fol	16	Illeg	–	364-78	852 Saxon posthole
77	2	Illeg	SECVRITAS REPVBLICAE	F	16	Arles TCON-	– 505	364-78	unstratified
78	345	Gratian	GLORIA NOVI SAECULI	F	17	Siscia SIS	–	364-78	803 building 2
79	371	Valentinian	SALUS REIPVBLICAE	F	13	Illeg	–	388-95	803 building 2
80	375	Arcadius	SALUS REIPVBLICAE	F	13	Illeg	–	388-95	803 building 2
81	378	Honorius	SALUS REIPVBLICAE	F(Im)	11	Illeg	–	388-95	803 building 2
82	369	Illeg	SALUS REIPVBLICAE	F	13	Illeg	–	388-95	803 building 2
83	345	Illeg	SALUS REIPVBLICAE	F	13	Illeg	–	388-95	794 building 2
84	304	Illeg	SALUS REIPVBLICAE	F	12	Illeg	–	388-95	788 building 2
85	298	Illeg.	SALUS REIPVBLICAE	F	12	Illeg	–	388-95	802 building 2
86	312	Arcadius	VICTORIA AVGG	F	13	Lyons LVGP	LRBC, 395	388-92	792 building 2
87	6	Valentinian	VICTORIA AVGGG	F	13	Arles PCON	LRBC, 562/4	388-92	topsoil over pit 1
88	320	Arcadius	VICTORIA AVGGG	F	13	Arles CONS-	–	388-92	802 building 2
89	322	Arcadius	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
90	344	Arcadius	VICTORIA AVGGG	F	13	Illeg	–	388-92	802 building 2
91	325	Arcadius	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
92	308	Arcadius	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
93	363	Arcadius	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
94	396	Honorius	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
95	382	Theodosius	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
96	430	Illeg	VICTORIA AVGGG	F	14	Arles	–	388-92	803 building 2
97	326	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
98	608	Illeg	VICTORIA AVGGG	F	12	Illeg	–	388-92	1101 Saxon sunken hu
99	373	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
100	285	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	712 building 2
101	295	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
102	394	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
103	391	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2
104	392	Illeg	VICTORIA AVGGG	F	13	Illeg	–	388-92	803 building 2

Coin No	Find No	Emperor	Reverse Type	Denom	Diam	Mint	Ref No	date AD	Feature and comments
105	390	Illeg	VICTORIA AVGGG	F	13	Illeg	-	388-92	803 building 2
106	380	Illeg	VICTORIA AVGGG	F	13	Illeg	-	388-92	803 building 2
107	334	Illeg	VICTORIA AVGGG	F	13	Illeg	-	388-92	802 building 2
108	401	Illeg	VICTORIA AVGGG	F	12	Illeg	-	388-92	803 building 2
109	340	Illeg	VICTORIA AVGGG	F	12	Illeg	-	388-92	803 building 2
110	377	Illeg	VICTORIA AVGGG	F	12	Illeg	-	388-92	803 building 2
111	383	Illeg	VICTORIA AVGGG	F	12	Illeg	-	388-92	803 building 2
112	385	Illeg	VICTORIA AVGGG	F	12	Illeg	-	388-92	803 building 2
113	393	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
114	384	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
115	387	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
116	388	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
117	311	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
118	372	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
119	319	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	802 building 2
120	400	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	803 building 2
121	327	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	802 building 2
122	273	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	712 building 2
123	322	Illeg	VICTORIA AVGGG	F	11	Illeg	-	388-92	792 building 2
124	366	Theodosius	Illeg	F	13	Illeg	-	388-92	803 building 2
125	330	Illeg	Illeg	F	16	Illeg	-	4th Cent	792 building 2
126	222	Illeg	Illeg	F	16	Illeg	-	388-9	676/2 RB villa enclosure ditch
127	307	Illeg	Illeg	F	12	Illeg	-	4th Cent	792 building 2
128	315	Illeg	Illeg	F	12	Illeg	-	4th Cent	792 building 2
129	367	Illeg	Illeg	F	12	Illeg	-	4th Cent	803 building 2
130	331	Illeg	Illeg	F	12	Illeg	-	4th Cent	792 building 2
131	310	Illeg	Illeg	F	12	Illeg	-	4th Cent	792 building 2
132	398	Illeg	Illeg	F	12	Illeg	-	4th Cent	792 building 2
133	156	Illeg	Illeg	F	12	Illeg	-	4th Cent	601 trench IV
134	368	Illeg	Illeg	F	12	Illeg	-	4th Cent	803 building 2
135	402	Illeg	Illeg	F	12	Illeg	-	4th Cent	803 building 2
136	321	Illeg	Illeg	F	12	Illeg	-	4th Cent	792 building 2
137	317	Illeg	Illeg	F	11	Illeg	-	4th Cent	792 building 2
138	376	Illeg	Illeg	F	11	Illeg	-	4th Cent	803 building 2
139	300	Illeg	Illeg	F	11	Illeg	-	4th cent	780 building 2 over grave 820
140	535	Illeg	Illeg	F	Illeg	-	Illeg	4th cent	1018/1 Fill of well pit

Coin No	Find No	Emperor	Reverse Type	Denom	Diam	Mint	Ref No	date AD	Feature and comments
141	565	Illeg	Illeg	F	Illeg	12mm	Illeg	4th Cent	1109/1 RB puddock
142	346	Illeg	Illeg	F	Illeg	11mm	Illeg	4th Cent	802 building 2
143	370	Illeg	Illeg	F	Illeg	11mm	Illeg	4th Cent	802 building 2
144	379	Illeg	Illeg	F	Illeg	12mm	Illeg	4th Cent	803 building 2
145	386	Illeg	Illeg	F	Illeg	12mm	Illeg	4th Cent	803 building 2
146	389	Illeg	Illeg	F	Illeg	12mm	Illeg	4th Cent	803 building 2
147	423	Illeg	Illeg	F	Illeg	12mm	Illeg	4th Cent	821 pit

IV.3.4. References (IV,3)

Boon, G C, 1974 Counterfeit coins in Roman Britain, in Casey & Reece 1974, 95-171.

Bradford, J S P, & Goodchild, R G, 1939 Excavations at Frilford, Berks 1937-8, Oxoniensia, 4, 1 - 70

Casey, J, & Reece, R, 1974 Coins and the archaeologist, Brit Archaeol Rep 4

Hogg, A H A, & Stevens, C E, 1937 The defences of Roman Dorchester, Oxoniensia, 2, 41-73

Kent, J P C, 1959 Barbarous copies of Roman coins: their significance for the British historian and archaeologist, in Limes Studien, Vortrage des 3. Internationalen Limes-Kongresses in Rheinfelden/basel 1957, 61-8

Kent, J P C, 1961 From Roman Britain to Saxon England, in R H M Dolley (ed), Anglo-Saxon coins: Studies presented to F M Stenton, 1-22

Milne, J G, 1931 Woodeaton coin report, J Roman Studies, 21, 101

Radford, C A R, 1936 The Roman Villa at Ditchley, Oxon, Oxoniensia, 1, 24-69

Ravetz, A, 1964 The fourth century inflation and Romano-British coin finds, Numis Chron, 7th Ser, 4, 201-31

Reece, R, 1974 Numerical aspects of coin hoards in Britain

Rigold, S E, 1974 Coins found in Anglo-Saxon burials, in Casey & Reece 1974, 201-5

IV.4 BUILDING MATERIALS AND TOOLS

IV.4.1 Stone

(identifications by Dr H P Powell)

Pre-Roman buildings were probably constructed of timber, wattles, daub, and thatch. Fragments of daub were found in the Iron Age enclosure ditch 5 and fragments of coarse clay slabs in pit 379 which may be from hearth linings. There is no evidence for the use of stone in building, even as post packing. The only stones found in an Iron Age context were in a shallow pit 318, possibly for parching corn. These consisted of quartzite pebbles from the local gravel terraces and, more surprisingly, fragments of glauconite sandstone, possibly from the Upper Greensand of Wiltshire or the Lower Greensand of Kent.

The main evidence for the use of stone comes from the period between the later 3rd century and the early 5th century when the building foundations, low walls for sill beams, tessellated floors, roofs, corn-drying ovens, and wells were constructed in stone.

Several samples of building stone representative of all the later Romano-British structures were submitted to Dr H P Powell of the University Museum, Oxford. He identifield all of them as Corallian limestone grits and ragstone (Martin, A F, & Steel, R W (eds), 1954 The Oxford region: a scientific and historical survey, 17-18). Their source would probably have been 4km or more West of Barton Court Farm. The oldest standing buildings in Oxford, such as St Michael's Church, Cornmarket, the Castle tower, and the City Wall, were constructed of this type of rubble stone (Arkell, W J, 1947 Oxford Stone, 33-7). Many quarries are known from documentary evidence - for example that at Sunningwell which supplied All Souls in 1442 - and many others are visible on aerial photographs of the area between Bagley Wood and Frilford. Ragstone is exceptionally hard-wearing but difficult or impossible to work.

A single fragment of freestone was found built into the oven 801 in building 2, which may have originally been part of a window or door lintel. This was porous, marly, irregularly oolitic limestone similar to Wheatley stone, though probably from a nearer source than that horizon, such as Cumnor.

IV.4.2 Roof tiles

The later Romano-British buildings were evidently roofed with both ceramic and stone tiles. Fragments of both were found overlying the main farmhouse and building 2. Dr Powell suggests that the stone tiles are probably Forest Marble as they are less sandy and more shelly than Stonesfield Slates and show no lustre-mottling. As Arkell has emphasized (op cit 1947, 129), there is no evidence for the RB use of Stonesfield Slates. Forest Marble, named after Wychwood Forest, was quarried in the 18th and 19th centuries at North Leigh and Hanborough (Arkell 1947; 88-9) and this area, some 20km NW of Barton Court Farm, was probably the source of the 'flatstones' for the roofing material.

A single complete roofing slate was found in the backfill of the pit 1066/3 in which the well 950 was constructed. It was kite-shaped, 415mm long by 355mm wide with a central nail hole at the blunt end 5mm in diameter.

IV.4.3 Wall Plaster

IV.4.3.1 Early Romano-British.

The earliest wall plaster at Barton Court Farm was found in pit 12, cut into the entrance of the early RB enclosure probably in the first half of the 2nd century. The plaster fragments were found throughout the fill of the pit and the largest were up to 150mm across. The fabric of the plaster was soft with quartzite pebbles up to 5mm across and off- white in colour. The surface was painted white, with coarsely applied brush strokes visible on it. Small fragments of similar plaster were found in the foundation slot of structure III. It seems reasonable to suppose that structure III had plaster walls and the material in pit 12 came from there.

IV.4.3.2 Later Romano-British

In the later RB phase of occupation wall plaster was found overlying the farmhouse and in its robber-trenches. The extend of robbing meant that no plaster was found in situ and fragments were small. The majority of fragments, spread over the whole area of the building, was painted white with a soft, off-white, very coarse fabric containing many quartzite pebbles up to 10mm across. The plaster was up to 22mm thick. It is possible that some of this material was from floors rather than walls, as is thought to be the case in building 2.

Wall plaster in the same fabric also had purplish-red paint applied to it, in solid blocks of colour. No trace of design was found. This material came from the robber-trench 254, the line of the W wall of the farmhouse between rooms 1 and 3.

A second fabric was found in smaller quantities, some 17 fragments, the largest 80mm across. Unfortunately this plaster was only found in the topsoil over the farmhouse. The fabric was hard, fine, with small rounded quartz inclusions only occasionally as large as 4mm across, and pale grey in colour.

Paint in two colours was applied to this fabric, a reddish-purple and a pale orange, though they were not found together on any one fragment. The plaster in this fabric was 11mm thick. Impressions of laths 10mm wide and 8mm apart were found on the back of some fragments.

Four pieces of plaster in this fabric were moulded. Two reddish-purple fragments seemed to have come from a moulded pilaster standing out 12mm from the general wall surface, with angled sides and a face 33mm wide. A single moulded fragment in pale orange had a flat face and angled side. Another pale orange fragment had an angled side with a raised rim around it 6mm side and 2mm high.

IV.4.3.3 Opus signinum

Fragments were found in the area of the farmhouse, but the largest quantity, some 20 fragments up to 150mm across and 40mm thick came from the upper fill of the late Romano-British paddock ditch 543, NE of the farmhouse. It is likely that opus signinum was used in the farmhouse, but in which room is uncertain.

IV.4.4 Iron nails (Fig 98.5-12)

5 Class I. For the type, cf Manning 1972, 186, fig 69, nos 99-115.
(180) 602/1, late RB villa enclosure ditch.

6 Class I. Stem broken.
(218) 708/1, late RB rubbish pit.

7 Class I. Stem broken.
(219) 690/1, late RB paddock ditch.

8 Class I. Stem broken.
(108), topsoil over RB farmhouse.

9 Class II nail with damaged head. For the type, cf Manning 1972, 186, fig 69, 117-9.
(112) 4, posthole cut into side of early RB enclosure ditch.

10 Class II with the head and tip damaged.
(114) 4. posthole cut into side of early RB enclosure ditch.

11 Class II. Stem and head broken.
(138) 340, late RB villa enclosure ditch.

12 The head is globular and was probably intended to be decorative. The stem is broken. For the type, cf Manning 1974, 175, fig 74, nos 503 and 504.
(265) 729. spread of stones inside villa enclosure.

13 Pin or broken nail (not illustrated) - irregular, square sectioned, tapering bar.

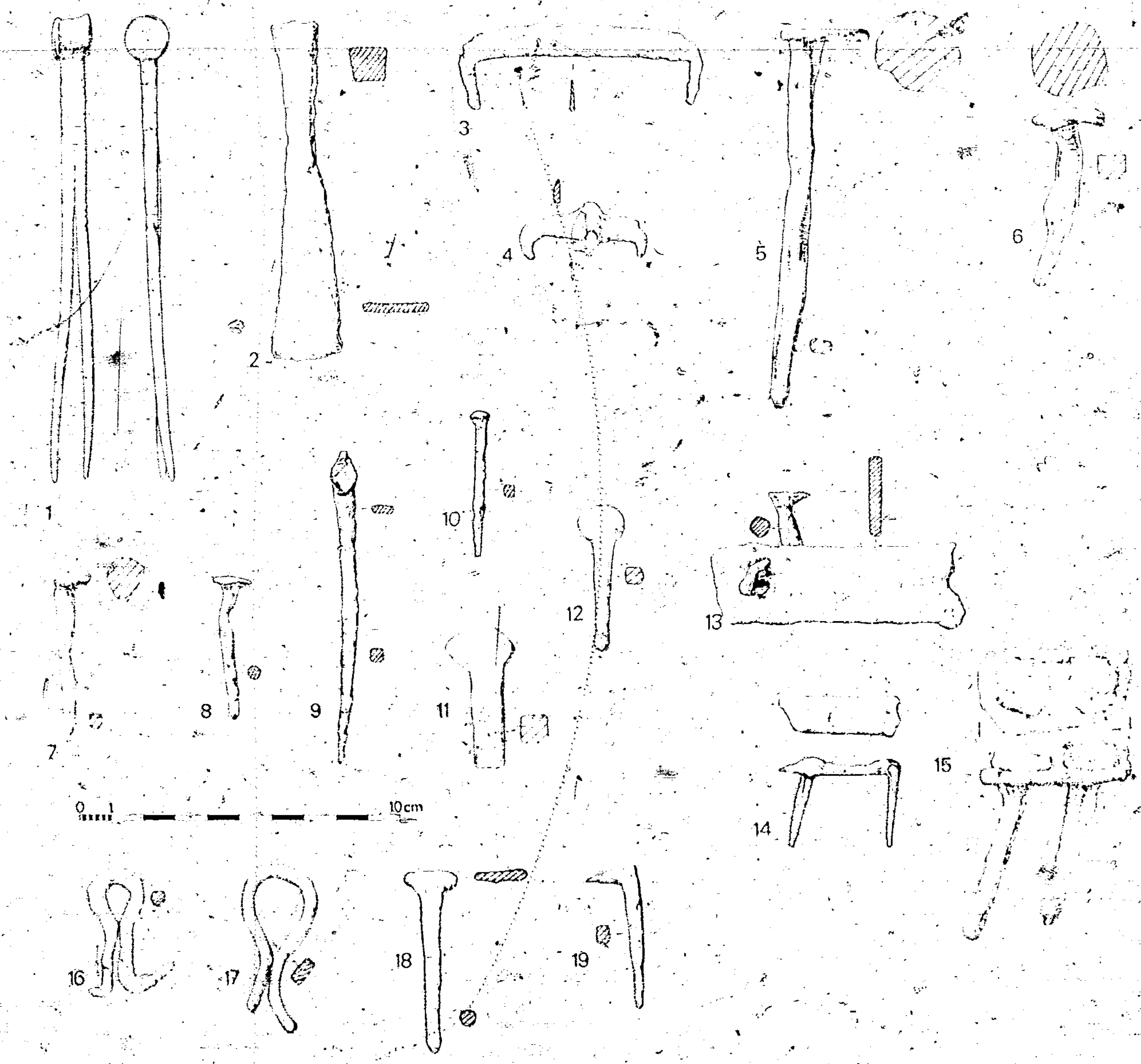


Fig 98 Bronze dividers, iron chisel, cleats, and nails

(348) 807. Saxon burial - female and baby.

IV.4.5 Tools (Fig. 98)

1 A pair of bronze dividers, the upper parts decorated with indented lateral lines and cut-out triangles at the edges. Similar instruments are known fom Richborough (Bushe-Fox 1949, pl LX, no 336, and p 154).
(536) 1020/1, backfill of foundation trench of late RB well 949.

2 Iron chisel: solid square shaft expanding into wider blade. (151) 561, late RB pit.

3 Iron joiner's dog?: bar with a straight inner edge and slightly convex outer edge. In section it is triangular, being narrower on the convex side. Set at right-angles to its ends are short tapering tangs. Possibly a dog, although the triangular section and concave edge would be unusual in such a piece. For smaller examples of the general type, of Manning 1974, 179, fig 75, no 563.
(169) 606, destruction layer over late RB corn-drying oven 732.

4 Iron cleat?: the object tapers on each side of a central rib to down-curved points. Possibly a cleat of some form.
(295), layer?

16 Iron spiked loop: both arms are out-turned, although one is probably broken short. Compare Manning 1972, 184, fig 69, no 90, from Verulamium and examples cited there.
(277) 712, rubble spread over late RB building 2.

17 Iron loop: rectangular-sectioned rod bent into a loop with out-turned ends, possibly part of a spiked loop.
(341) 766, W room of late RB building 2.

18 Iron T-staple?: it has a small head and broken stem, the round section of which is unusual. For T-staples, cf Manning 1974, 177, fig 74, 513-516.
(511) 853/1, late RB paddock ditch.

IV.4.6 References (IV.4.4, IV.4.5)

Bushe-Fox, J P, 1949 Fourth Report on the excavations of the Roman fort at Richborough, Kent, Soc Antiq London Res Rep 16

Manning, W H, 1972 The Ironwork, in S S Frere, Verulamium excavations I, Soc Antiq London Res Rep 28

Manning, W H, 1974 The Ironwork, in D S Neal, The excavation of the Roman Villa in Gadebridge Park, Hemel Hempstead, 1963-8, Soc Antiq London, Res Rep 31

IV.4.7 Window glass Jennifer Price

Only seven fragments of window glass were found on the site. These were all of the later Roman 'double glossy' type. It is surprising that so little was found but this perhaps indicates the thorough robbing of the late RB buildings.

1 Fragment of 'double glossy' window glass; blue green. Rounded edge, uneven thickness through glass. Dimensions 29mm x 26mm; thickness 2 – 4.5mm. Despite the irregular thickness, this fragm,ent appears to come from a cylinder-blown pane, the edge of which has been fire-finished. Blown window glass was not common in Roman Britain until the 3rd century, but thereafter it replaced the earlier 'matt-glossy' cast window glass at most sites (Harden 1962, Harden 1973; Charesworth 1974).
602/1, late RB villa enclosure ditch, S arm.

IV.4.7.1 References

Charlesworth, D, 1974 Glass-vessels, in M Hassall & J Rhodes, Excavations at the New Market Hall, Gloucester, 1966-7, Trans Bristol Gloucestershire Archaeol Soc, 93

Harden, D B, 1962 Glass, in Eburacum: Roman York (RCHM), 46-7

Harden, D B, 1973 Glass, in A C C Brodribb et al, Excavations at Shakenoak 4, 98-107

IV.5. PERSONAL EQUIPMENT

IV.5.1 Shoes J H Thornton, W Lee-Page, & D Miles

Sizeable or almost complete fragments of seven leather shoes/sandals were found in the lower waterlogged fill of the late RB well shaft (832, spits 5 and 6. A further single fragment was found in the fill of the late RB well (950/5).

The shoes are listed here in the order that they were found, giving their small-find number at the end of each description.

Figure 99

1 Nailed shoe, left foot. Approximate length c 240mm, breadth c 85mm. Part of outside (left) quarter and back remaining. Upper very deteriorated; no remaining thongs or fastenings. The wide back has a thick ridge near the heel seat but this does not appear to be a separate stiffener. The lasting margin of the inside (right) quarter remains *in situ*. Whole of the forepart of the upper now missing. Bottom consists of insole, middle

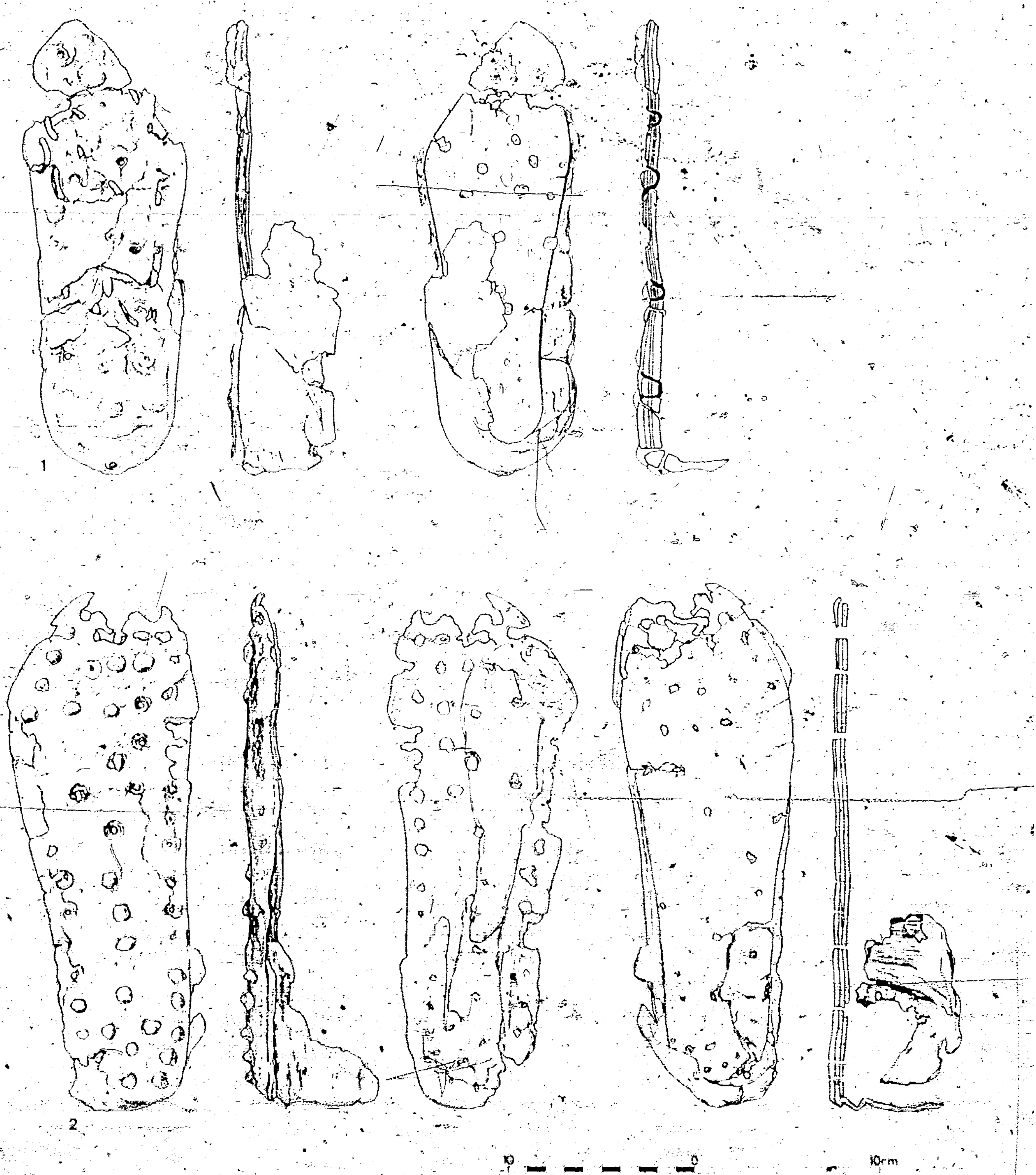


Fig 99 Leather shoes

layers (indeterminate number), and sole, held together by thonging and nailing. Toe end now deteriorated. Some nails remain, very much corroded, and many nail holes, at least two dozen altogether. (432)

2 Nailed shoe bottom, right foot. Approximate length c 280mm, breadth c 105mm (about modern British size 8 adults). Only a few fragments of upper and heel stiffener survive. The bottom consists of an insole, central shank, and sole. The shank is in two overlapping parts and shows transverse grooves where the upper bracing threads lay; these grooves also appear on the underside of the insole. The stiffener, grain inwards, extends right down the inside waist, further than usual. The nails survive in the heel and elsewhere on the sole. With the remaining nail holes these indicate that there were originally approximately 57 nails in the sole, concentrated around the heel and toe, with three lines between. (433)

Figure 100

3 Nailed sandal, left foot consisting of parts of the upper stiffener, insole, shank, and sole. Length approximately 219 mm; breadth 80 mm. Upper: most of the inside (?) quarter remains except along the bottom edge (lasting margin) and front edge. The back edge has traces of a seam where it was joined to the other quarter. There are loops along the top edge. Fragments of the opposite (outside) quarter remain also with loops. Bottom: insole, middle layers, and sole held together by central thronging and nailing. Few nails survive but were originally approximately 30 in number. (434).

4 Nailed shoe, bottom parts, ? left foot. Consists of insole, complete except for the toe end, shank (full length), and middle Length (to torn toe edge) 220mm, width 85mm (about modern British size adult 3). The middle is the same shape as the whole, except where worn away, and might, in fact be a lamina of the original sole. The inside surfaces show many criss-cross grooves where the upper bracing thread lay, and also longitudinal ones where the holding thong rested. Some traces of this thonging remain. There are nail holes but no nails.

There are also remains of either the stiffener or the back of the quarters and other fragments, mostly with thong grooves or, in some cases, pieces of thong. A small piece of upper lasting margin, inside waist, also survives, with a groove corresponding to one on the shank. No nails survive and the original number is uncertain.

5 Nailed shoe, right foot. Length c 200mm, breadth 85mm.

Fig 100 Leather shoes

Upper: forepart now missing but the quarters are almost complete except for deterioration along the top edge, particularly on the right side. The quarters are joined by a butted seam sloping downwards towards the toe at the inside waist position. The seam is thonged, with some still in situ and with edge/flesh stitch holes c 5mm apart. The front edges slope forwards and have three tie-holes on each side. The front may have originally been open strap-work. The bottom of the stiffener remains in situ.

Bottom: insole, intermediate sections, and sole with several corroded nails remaining and many holes (approximately 30). Delamination of the sole has occurred and the inside waist lasting margin of the upper fits correctly over an intermediate layer. Traces of the bracing thong groove remain on this margin.

A separate section with large holes appears to be the waist part of the sole of a separate shoe (436).

6 Nailed shoe bottom, right foot in good condition with fragmentary remains of upper part in situ at back. Length c 265mm, width c 98mm. Bottom consists of three main layers, insole, middle, and sole, centrally thonged. There does not appear to be any stiffener. Most of the nails remain <u>in situ</u>, ie 49 out of an original 52. (437).

<u>Figure 101</u>

7 Child's right shoe with stitched on sole. Length c 160mm, width c 63mm (about British size 6 childs). It is not uncommon for children's shoes to be well preserved, as they tend to grow out of them before they are worn out.

Upper: fairly complete with only part of upper quarters missing. There is a central join on the vamp down to the toe, typical of a moccasin construction where the upper leather has come up from under the foot to be joined on top. The central seam has a lasting margin turned in and pleated with stitch holes c 10-13mm apart. This length and the large size of the holes indicates thonging rather than thread stitching. There is a butted seam, at the front of the inside instep sloping forwards. Two slots near the top of the inside instep probably show where an instep tie was inserted. The two seams, front and side, suggest that the upper was all in one piece wrapped round from under the foot, with V-cuts taken out and closed by thonging.

Bottom: insole, one or more intermediate layers, and sole. The insole and intermediate layers have been held by a central thong which appears on the surface at three places, near the toe, the centre of the waist, and the seat. The sole shows some wear at the outside corner of the seat, the normal place.

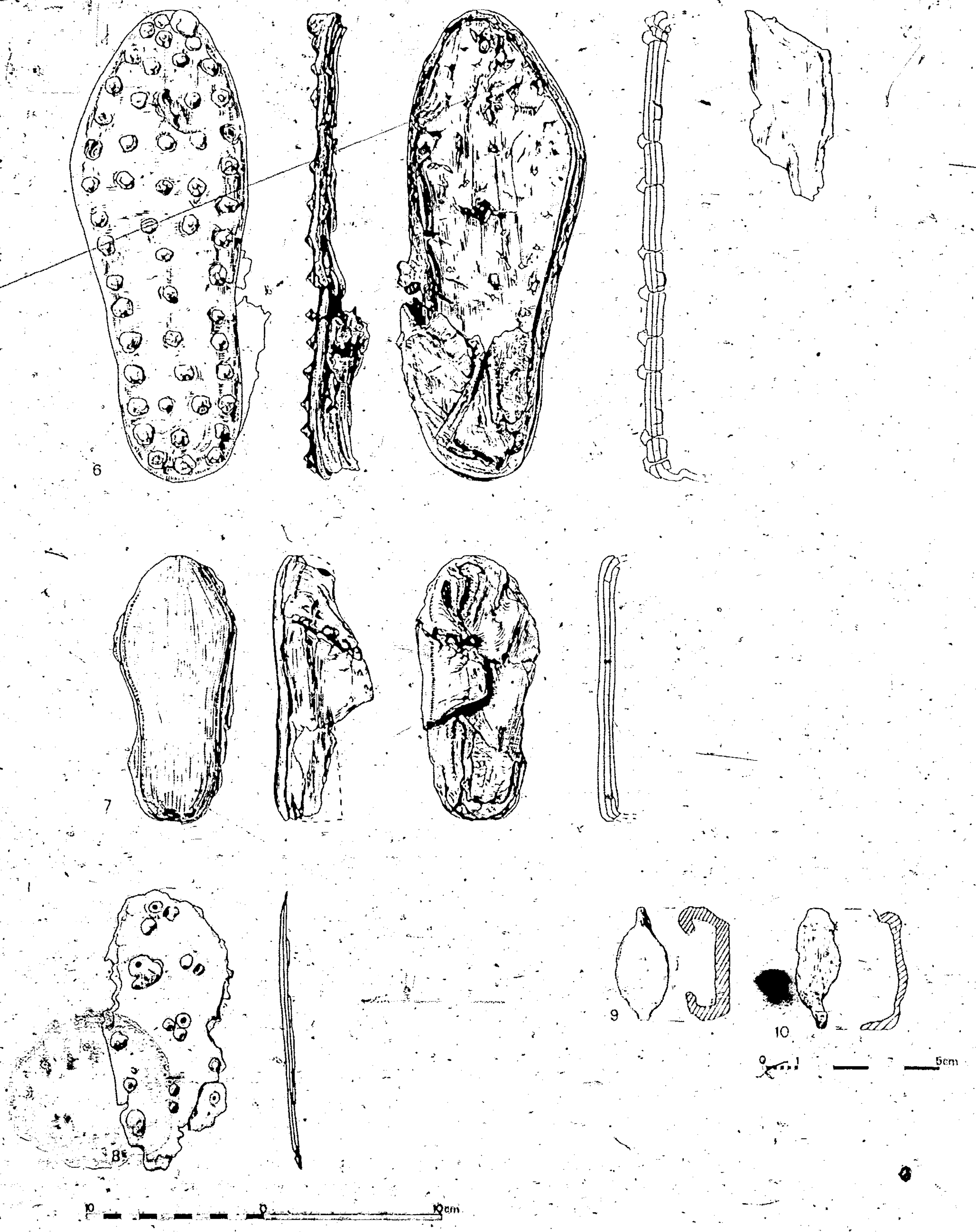


Fig 101 Leather shoes

This shoe is unusual in that it has a stitched-on sole and not a nailed one. The exact method of construction is difficult to determine without taking the shoe apart. (438).

8 Nailed shoe, probably left foot. Fragment of bottom only survives consisting of part of insole, middle, and sole. Corroded and worn nails and nail holes indicate approximately 20 nails originally on this part of the sole.

The leather shoes from Barton Court Farm were all found in the context of waterlogged well deposits. There is no evidence that leatherworking was carried on at the site itself. The shoes were mostly worn and were presumably discarded in the wells when they were no longer of any use, shoes being difficult to either destroy or reuse. None of the shoes is of high quality (see for example Ambrose 1975, 250, no 266; Busch 1965) but seem to represent the fairly standard footwear of a rural population. The shoes are mostly of the <u>calceus</u> type, a studded shoe-cum-sandal as opposed to the Roman sandal, <u>solea</u>, with a sole and straps rather than an enclosing upper (Charlesworth & Thornton 1973, 150; Busch 1965).

Some of the shoes, for example no 2, are obviously men's in view of the largeish size and heavy nailing. The small shoe with a stitched sole, no 7, can be assumed to have belonged to a child.

It is more difficult to categorize the owners of the intermediate size shoes in terms of their sex. With such a small sample it is not possible to come to any conclusions about the nailing patterns, as Busch (1965, 175) did with the Saalburg footwear. Nos 4 and 5 may well have been women's shoes on the basis of size but, if so, there is little other obvious difference between these and the men's shoes.

Iron shoe cleat (Fig 101.9)

Oval plate with spikes at its ends. Compare Manning 1974, 179, fig 75, no 567, from the Gadebridge Park Villa and other examples cited there.

(188) 6092. Late RB paddock ditch.

Iron shoe cleat (Fig 101.10)

Oval plate originally with spikes at each end, one of which is now lost.

(47) <u>256</u>, robber trench of RB villa.

IV.5.1.1. <u>References</u>

Ambrose, T, 1975 The leather, in B W Cunliffe, <u>Excavations at Portchester I</u>, 247-62, Soc Antiq London Res Rep 32

Busch, A L, 1965 Die römerzeitlichen Schuh-und Lederfunde der Kastelle Saalburg Zugmantel under Kleiner Feldberg, Saalburg Jahrbuch, 22, 158-210

Charlesworth, D, & Thornton, J H, 1973 Leather found in Mediobogdum, the Roman Fort of Hardknott, Britannia, 4, 141, 152

Manning, W H, 1974 The ironwork, in D S Neal, The excavation of the Roman villa in Gadebridge Park, Hemel Hempstead 1963-8, Soc Antiq London Res Rep 31

IV:5.2. The brooches — Charlotte Harding

This group comprises a representative sample of many common types of brooch, from the 'poor man's brooch' (see no 4) to the more elaborate Thistle type. Some, particularly nos 6 and 13, are quite unusual examples. The date range given is only relevant to their approximate dates of manufacture. This can only be estimated, as a high percentage of all brooches seem to be residual (in this case 13 out of a total of 16 must be considered as such). Some brooches may well have had a long life as family heirlooms for example, as even the more ordinary types seem to have been repaired (Mackreth 1976, 126, and fig 13.106).

I am grateful to Mr D F Mackreth for his helpful advice, to Dr Bill Manning for his comments on the iron brooches, and to Mrs Elizabeth Fowler for her comments on no 16.

Figure 102

1 Iron. Nauheim derivative. Very corroded, only upper part of bow, pin, and coils remaining. Common before the conquest into the Flavian period.
(187) 648/2, late RB villa enclosure ditch.

2 Iron. Tapering bow of a brooch. Corrosion obscures most of the detail. Hinged, with traces of the wings, and the bow probably flat in section. Iron brooches are usually of the period pre-AD 55 and are common in the SW. Similar bows came from Rotherley (Dorset) (Pitt-Rivers 1888, 126, pl CI, 4 and 5) and Bokerly Dyke (Pitt-Rivers 1892, 106, pl CLXXVI, 3).
(13) 18, rubble spread over site of late RB villa house.

3 Iron. Corroded, only the bow remaining, tapering and flat in section. Dating probably similar to no 2.
(127), 384, posthole of uncertain date.

4 Bronze. Nauheim derivative. Corroded, catchplate spring and pin missing. Bow is flat in section and has a narrow groove down each side with traces of crude chevron decoration down the centre. A similar example, also

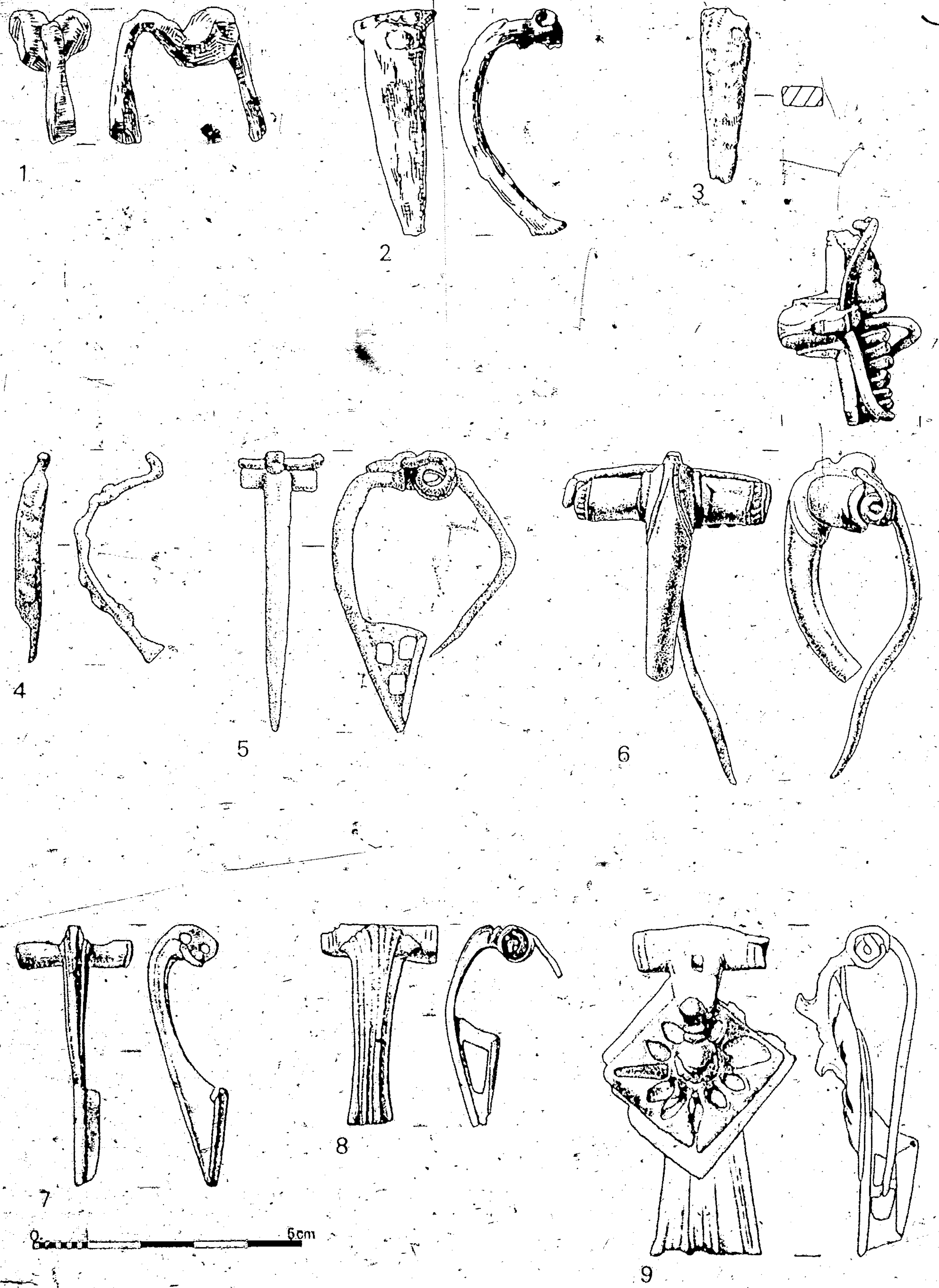


Fig 102 Iron and bronze brooches

corroded and incomplete, is from Richborough (Hull 1968, 78, pl XXI.4). Brooches of this type were common before the conquest and continued into the last quarter of the 1st century AD. 18, destruction rubble of villa.

5 Bronze. Colchester. Plain wings and bow which is D-shaped in section. Catchplate pierced with three rectangular holes set two above one. Common before and after the conquest, but see Mackreth ~~1976,~~ 126 and fig 13.106 for comments on finer dating of this type and a similar example.
(31) 6/1, S arm of early RB enclosure ditch.

6 Bronze. Colchester type. Catchplate and lower part of bow missing. The spring is of 14 coils and the chord is held in place in a forward projecting lug. An axial bar passes through the coils of the spring but is not held by any second lug or hook, nor is there any sign that one has broken off. This arrangement is unusual and suggest an intermediate type between those without an axial bar (see no 5) and those with a double pierced lug (see no 7). The decoration, zoomorphic in concept, is also unusual. The lug holding the chord is incorporated into the design, reminiscent of a snake's head with a forked tongue which appears as finely incised lines dividing at the top of the bow. The wings, which are semi-cylindrical to protect the spring, are decorated at their ends with a band of beading and two grooves either side. The moulding is such that the junction of the wings with the bow is similar in concept to several from Woodeaton (Oxon) in the Ashmolean Museum, particularly Kirk 1949, no 9, fig 2.6, which, although of Polden Hill type with closed ends, is also similar in size and shape. As with no 5, the dating is loose but possibly pre-AD 60.
(628), topsoil.

7 Bronze. Pierced double lug. The upper lug would have held the chord and the lower the axial pin. The wings, which would have protected the spring, are semi-cylindrical and have narrow grooves at each end. The bow is humped up between the wings and has been moulded to give it a fluted appearance polygonal in section. Parallels for this general design and double-lugged arrangement are to be found at Colchester (Hawkes & Hull 1947, pl XCI.36-41). Date range is middle of the 1st century Ad into the Flavian period.
(130) 325, junction of late Iron Age rectangular enclosure ditch, late RB enclosure ditch, and pit, stratigraphy uncertain.

8 Bronze. Langton Down type. The coils of the spring are enclosed in the cylindrical wings, which are decorated with grooves at the ends. The finely reeded bow is rather more curved than is usual but has presumably been bent in antiquity. There are traces of moulding behind the head and the catchplate is triangularly pierced. Parallels exist at Colchester (Hawkes & Hull 1947, pl XCV, 102). These brooches are of continental origin and were brought over before and after the conquest up to c AD 60. (293) 796, late RB layer outside the W end of building 2.

9 Bronze. Thistle or Rosette type. Complete apart from decay on the edges of the plate and the wing. Made in four main parts. The foot and catchplate, which is pierced, were cast as one and are decorated with three panels of reeding. The square plate with openworked design of petals in relief against a solid plate is decorated at the edge with a faint chevron pattern and the petals are traced in relief on the edges of the upper plate. The bow and head are also cast as one and the wings are bent around to form a tubular spring cover. The bow is moulded in relief, a distinctive trumpet shape in profile, and is rivetted through the plates and the foot to hold all together. On the front the head of the rivet is pitted with small holes in a seemingly random pattern. The rivet has been hammered flat on the back so that it is barely discernible. At the end of the wings there is a small groove. At the top of the bow there is a small groove and a small rectangular opening, which is an unusual feature. A similar example comes from Colchester (Hawkes & Hull 1947, pl XCIII.76). These brooches are of continental origin and are related to the Langton Down type (see no 8). They are of immediately post-conquest date and continue probably into the Flavian period.
(116), 339, area where late Iron Age rectangular enclosure ditch and early RB internal enclosure ditch coincide; impossible to say to which phase brooch belongs.

Figure 103. 1-7

1 Bronze. Tapering bow. Twisted and corroded. Pin and catchplate incomplete. Bow widens out into narrow wings which curl under to hold the hinge pin. Bow D-shaped in section with a band of raised zigzag pattern in a groove up the centre. This type seems to appear, particularly in southern England, fromn the early 1st century AD into the Flavian period. (74) topsoil.

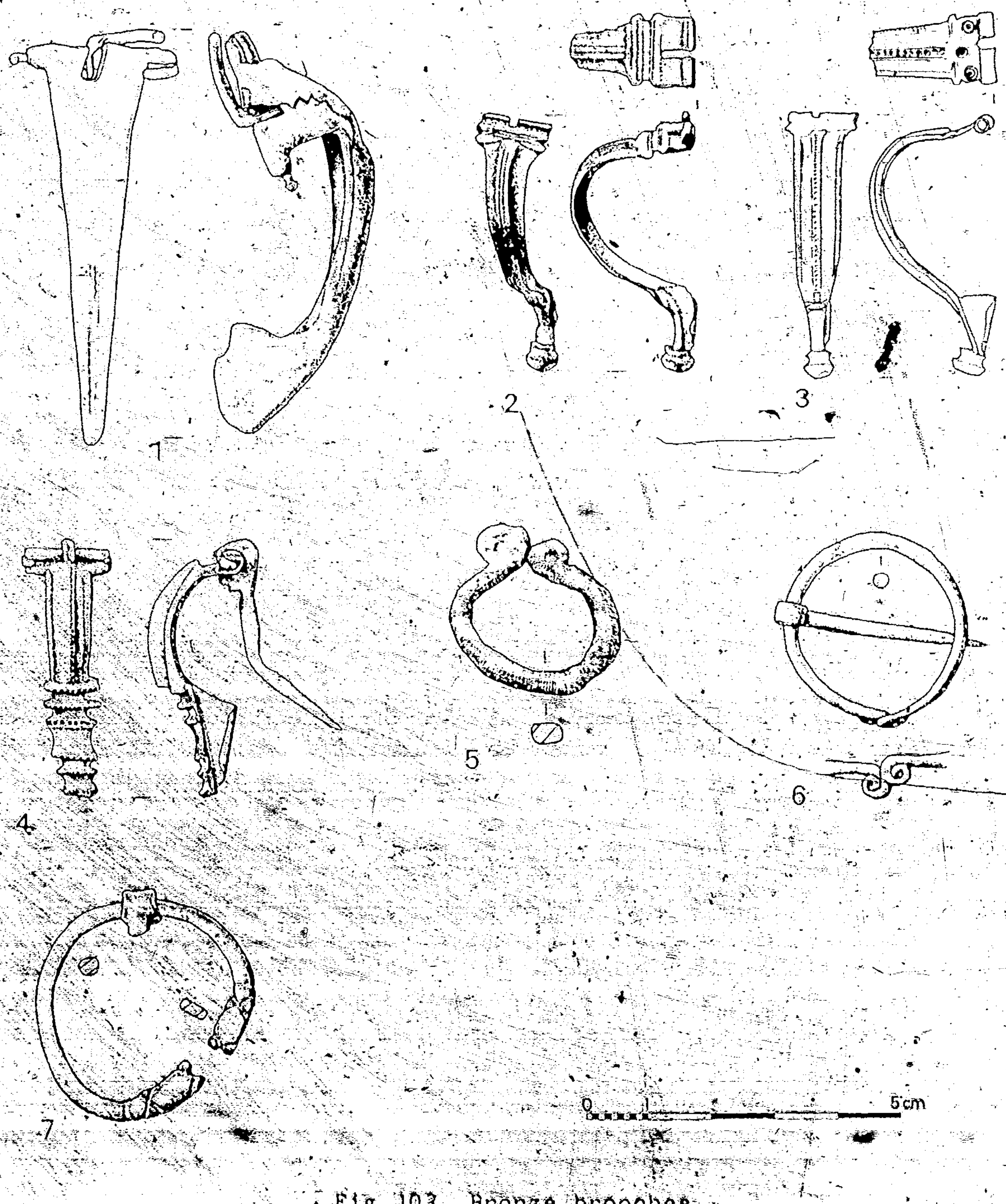


Fig 103 Bronze brooches

2 Bronze. Aucissa type. Hinge and pin missing The top of the head is curled over forwards and would have held the hinge and pin. The footknob which has been sweated on fits badly and the catchplate is solid. Decoration on the bow is quite plain, a series of shallow grooves on a raised central panel, and transverse moulded ridges on the head. Dating for this type, which is continental, although imitated in Britain, is from the conquest until c AD 65.

(522) 953/1, late RB paddock ditch.

3 Bronze. Aucissa type. Head curled under to hold the hinge pin, which is missing. The catchplate is solid and the footknob which fits badly has been sweated on. The bow is decorated with a central band of beading on a raised 'hog's back' ridge, and two narrow bands of ribbing at the edges. The bullseye design on the head is unusual and possibly indicated an early design. Date range as for no 11.

(11) 18, stone rubble over late RB villa house.

4 Bronze. Hod Hill type. Complete. The bow has been silvered or tinned while the hinge and pin were not. The upper half of the bow is decorated with knurling along the spine of a central 'hog's back' raised ridge and strips of knurling along raised ribs at the edges. The lower half of the bow is moulded in a series of transverse ridgings and fluting decorated with incised dots and dashes. This is unusual, in that most Hod Hill types have these mouldings on the upper half or have projecting arms or knobs on the sides. A development of the Aucissa type and with a date range from the conquest to c AD 75.

(302)m 790, ground surface below disturbed remains of late RB building 2.

5 Iron. Pennanular. Fowler type B (Fowler 1960, 152): Terminals coiled in the same plane as the ring, but corrosion obscures any detail, and the pin is missing. Belgic type, first half of the 1st century AD. Iron pennanular brooches are not common, but examples come from Stubbin Wood (Derby) (J Derby Archaeol Nat Hist Soc, 76 (1956), 9, fig 3.2) and Verulamium (Verulamium Museum).

(122) 374, upper layer of late RB paddock ditch 336.

6 Bronze. Pennanular. Fowler type C (1960, 165). The terminals are spirally coiled at right-angles to the plane of the brooch. The head of the pin is flattened and wrapped around the ring: see Colchester (Hawkes & Hull 1947, 327, fig 59.1) for a parallel. Typical Belgic type, first half of 1st century AD.

(119) 332, topsoil N of villa building.

7 Bronze and silver/tin. Fowler type E/F (Fowler 1963, 98-160) The terminals are flattened and incised in zoomorphic design. The pin head is also of silver/tin and has been flattened and shaped; it is wrapped around the ring. The terminals do not seem to be folded back and it seems to have been cast solid. Silvering is unusual in brooches of this type. Late Roman, probably 4th century AD.
(221) 690/1, late RB paddock ditch.

IV.5.2.1 References (IV.5.2)

Brailsford, J W, 1962 Hod Hill I: Antiquities from Hod Hill in the Durden Collection

Fowler, E, 1960 The origins and development of the pennannular brooch in Europe, Proc Prehist Soc, 26, 149-77

Fowler, E, 1963 Celtic metalwork of the fifth and sixth centuries AD: a reappraisal, Archaeol J, 120, 98-160

Hawkes, C F C, & Hull, M R, 1947 Camulodunum, First Report on the excavations at Colchester, 1930-39, Soc Antiq London Res Rep 14

Hull, M R, 1968 The brooches, in B W Cunliffe (ed), Fifth Report on the excavations of the Roman fort at Richborough, Kent, Soc Antiq London Res Rep 32

Kenyon, K M, 1948 Excavations at the Jewry Wall Site, Leicester, Soc Antiq London Res Rep 15.

Kirk, J R, 1949 The bronzes from Woodeaton, Oxoniensia, 14, 1-45

Mackreth, D F, 1973 Roman brooches, Salisbury and South Wiltshire Museum

Mackreth, D F, 1976 The brooches, in A Roman Site at Overstone (ed J H Williams), Northants Archaeol, 11, 100-33

Pitt-Rivers, A H L, 1887-1892 Excavations in Cranborne Chase I

Pitt-Rivers, A H L, 1888 " " " " II

Pitt-Rivers, A H L, 1892 " " " " III

IV.5.3 Pins (Fig 104.1-10)

1. Bronze pin, decorated with a pineapple or thyrsus like head with grooved segments below and tiers above. This design is common on Roman pins in bronze bone and jet. (Brodribb et al 1971, Fig 49, 83; 1973, Fig 35, 203), bone (Kenyon 1948, Fig 90, 5; Wheeler and Wheeler 1932, Pl 32, 174-5, 180) and jet (RCHM 1962, 169).
(519), 898, ash pit of the late RB corn-drying oven 849.

2 Fragment of a bronze ?pin, indented near the end to form a point. The rest of the body is uniform in section.
(64). 15/1, late RB villa enclosure ditch.

3 Fragment of a bronze pin the body of which has a square section changing to a round one.
(91) 266, robber trench of longitudinal, internal wall of late RB villa building.

4 Iron pin with a flat knobbed head with a slight boss on top.
(669) 1023/1, Saxon sunken hut.

5 Bone pin with a knobbed head.
(186) 609/3, late RB paddock ditch.

6 Fragment of a bone pin.
(202) 657, rubble over corn dryer.

7 Bone pin with a knobbed head.
(234) 708/2, late RB pit.

8 Fragment of a bone pin, flat section, narrowing near the end, with a T-shaped terminal.
668, layer immediately outside late RB Building 2, to the south.

9 Fragment of a bone pin with a bulbous body tapering towards the ends.
(40) 188, Saxon sunken hut.

10 Fragment of a bone pin.
(642) 1023/1, Saxon sunken hut.

IV.5.4 Beads (Fig 104.11-15)

11 Jet bead, tubular with four incised lateral lines around it.
(243), 708/1 late RB pit.

12 Small, irregularly spherical, green glass bead.
(342), 802, east room of late RB Building 2, possibly a stray from a Saxon grave.

13 Glass bead of four joined spherical segments.
(663) 984, Saxon posthole, fence-line south of Structure C.

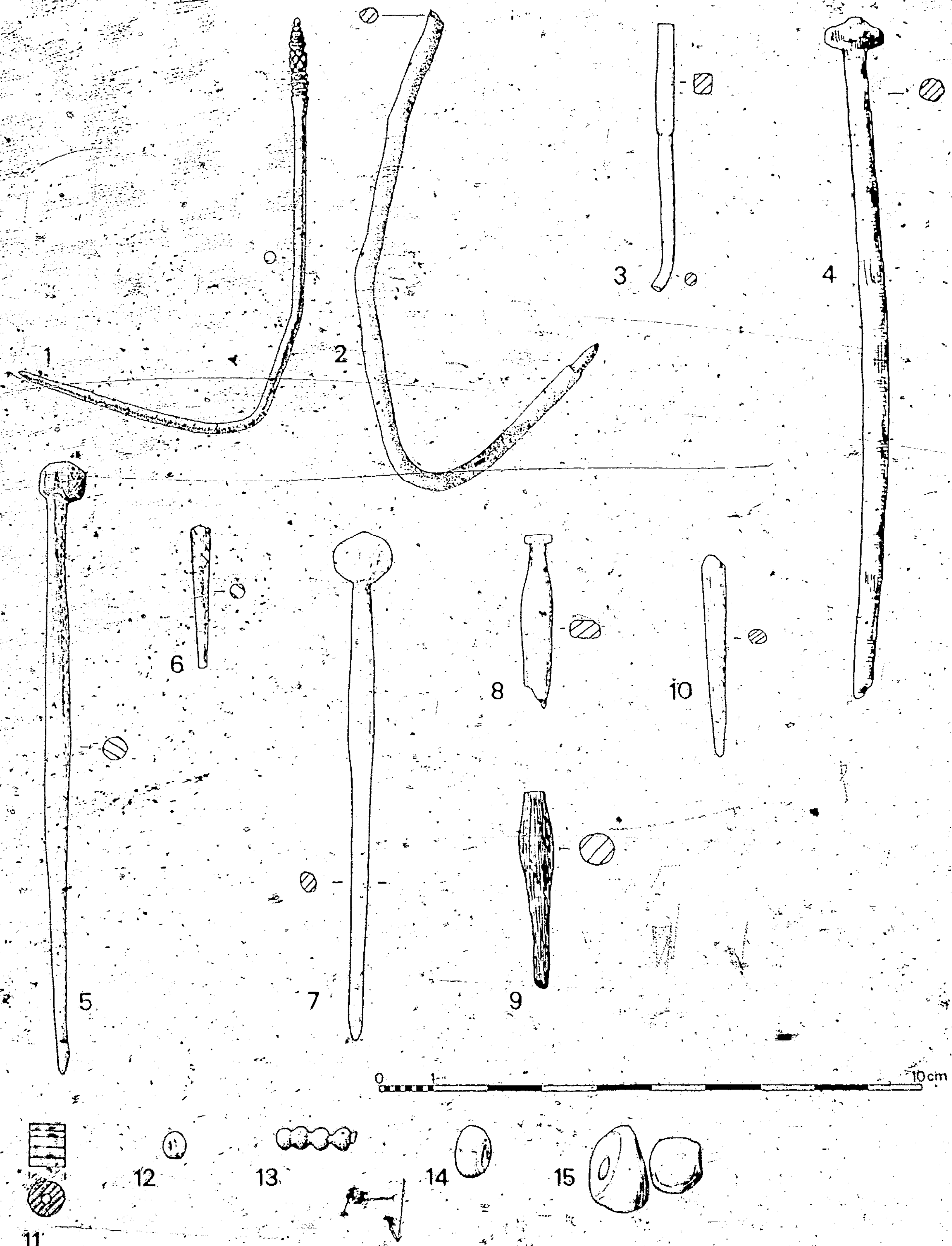


Fig 104 Bronze, iron, and bone pins; glass beads

14 Glass bead; colour not visible as heavily weathered. Low D-sectioned bead with large perforation. Maximum diameter 9mm; diameter of perforation - 5mm.
(617) 1178/2, Saxon sunken hut.
Beads of this form occur quite commonly throughout the Roman period, and are often found on Romano-British sites. The extremely heavy weathering is rather unusual as Romano-British glass finds very often have little or no visible decay.

15 A pair of amber beads.
(338) 792, disturbed layer over Late Romano-British Building 2.
Possibly strays from a Saxon grave.

IV.5.5 Rings (Fig 105. 1-5)

1. Bronze snake-ring. The snake is curled so that its head rests under its tail; the tip of the tail seems to be broken. The head is flat, expanded and cobra-like but with no markings for features such as eyes or mouth. There is a pattern of shallow, indented, transverse lines on the central section. This ring was not found in a stratified, datable context. Charlesworth (1961) suggests that snake rings went out of fashion towards the end of the second century AD but they probably continued to be worn throughout the Roman period. (Guiraud 1975). No exact parallel to this ring has been found but snake rings are not uncommon across the Roman Empire including Britain. (Henkel 1913, Tafel II; Tafel XXX; Marshall 1907 pl XXIV, pl xxviii). The snake was popular as an apotropaic symbol, an emblem of immortality, rebirth and good health linked with the cults of Aesculapius, Minerva, Isis and Serapius (Guiraud 1975, 81; Toynbee 1973, 223-236). The coiled form made it an obvious motif for the jeweller. (123) 375, subsoil in trench III.

2 Decorated bronze finger ring made from a cut down bracelet. The flat bronze strip is decorated with a frieze of incised stylized animals consisting of cat-like creatures with plumed tails and birds, probably ducks. Between these animals are patterns of punched dots, with heraldic staff, griffin and bird-like figures. The animal frieze has an ancient pedigree; a sixth century BC Greek ring in the British Museum for example has a frieze of boar, ichneumon, crouched lion and panther, the big cats having swept-up tails reminiscent of the Barton Court Farm example. The style of this ring, though, seems related to that of insular Quoit brooches (Hawkes 1961) of about the early fifth century. The style also

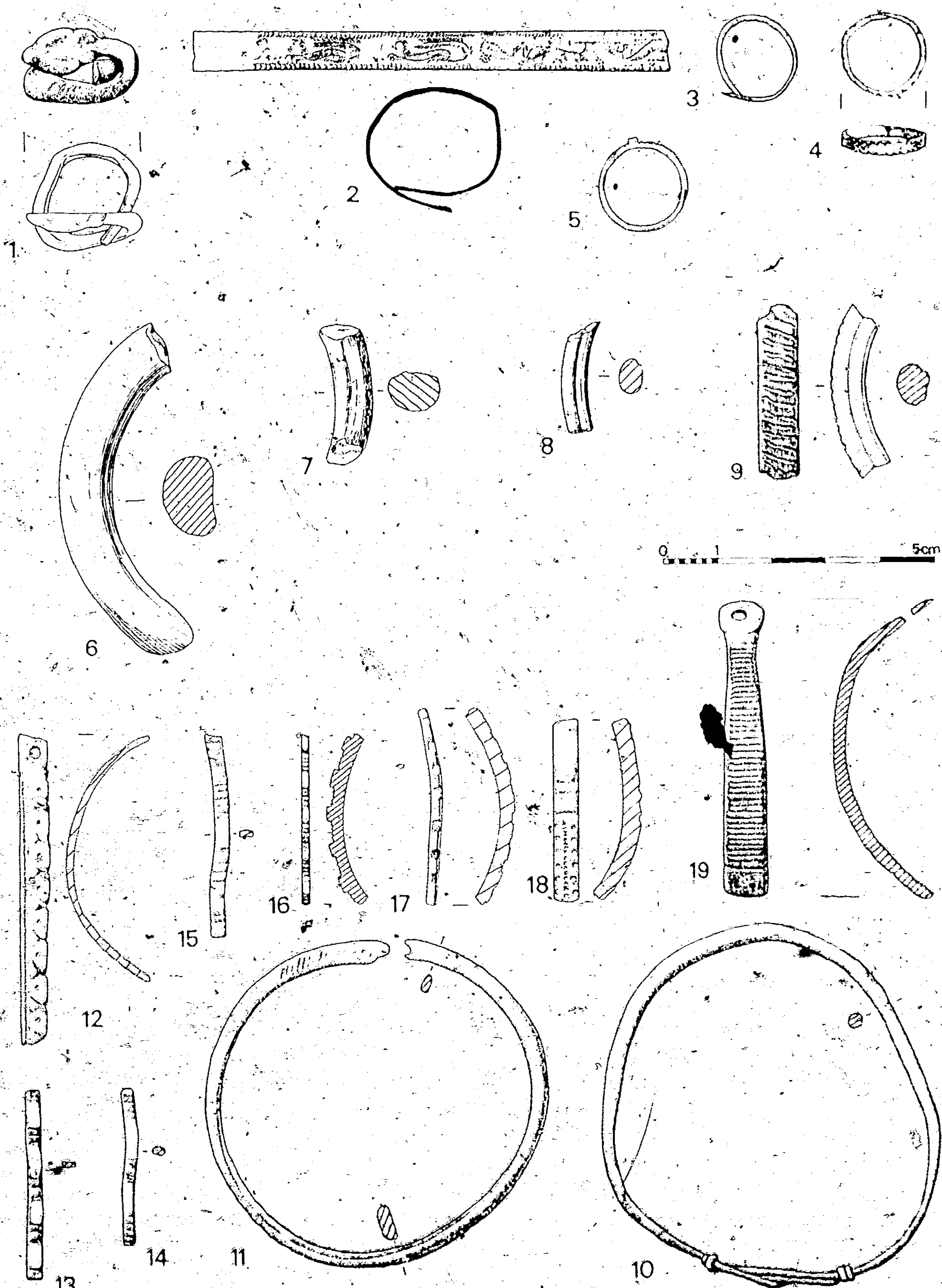


Fig 105 Bronze rings; shale and bronze bracelets

appears on belt buckles such as that from Tripontium (Hawkes 1971). Sonia Hawkes has suggested that the incised peacocks symmetrically placed to face a 'tree of life' on the Tripontium buckle are a Christian adaptation of pagan iconography. The animal frieze, like the inhabited vine scroll may also have had Christian connotations by the fifth century. The Barton Court Farm ring decoration most closely resembles that of the engraved fifth century finger rings from Amesbury, Wiltshire (Henig 1978, Pl LIX, nos 801-3) with their heraldic stag, griffin and bird-like figures. (178) 618/1, top layer of southern arm of villa enclosure ditch which contains late Romano-British and Saxon material.

3 Plain bronze wire finger ring with overlapping terminals. (129) 375, subsoil in Trench III.

4 Finger ring made of a flat bronze strip decorated with diagonal incised lines along each edge; overlapping terminals. (7) 18, destruction rubble over southern end of Romano-British villa building.

5 Bronze ~~wire finger~~ ring with a central circular boss and incised transverse notches on either side. (289) 716/2, late Romano-British paddock ditch.

IV.5.6 Bracelets (Figs 105.6-11, 106.1-7)

IV.5.6.1 Shale (Fig 105.6-9)

6 Fragment of a plain heavy shale bracelet with rounded profile. (242), 708, late Romano-British pit.

7 Fragment of a plain shale bracelet with rounded profile. (662), 712, disturbed layer immediately overlying later Romano-British building 2.

8 Fragment of shale bracelet with grooved inner edge and rounded profile. (602) 1190/2, Saxon sunken hut.

IV.5.6.2 Jet (Fig 105.9)

9 Fragment of jet bracelet with a series of grooves around the inner surface and outer surface decoration of short incised angled lines. (507), 850/2, backfill of construction pit of later Romano-British well 950-951.

IY.5.6.3 Bronze (Fig 105.10-19))

10 Bracelet of bronze wire with each terminal coiled twice around the body of the bracelet to form an expandable fastening. Cf Webster 1975, Fig 111, 24A. (324) 791, robber trench of south wall of later Romano-British building II.

11 Ribbon-strip bracelet of bronze with terminals forming a hook and eye fastener. The 'hook' terminal is broken at the tip but is in the form of a zoomorphic head, probably a serpent with a dot and ring for the eye and shallow, incised lines behind. (407), 797, robber trench of west wall of later Romano-British building 2.

12 Ribbon-strip bronze bracelet with flat, rectangular cross section. Decorated with dot and ring motifs set in panels separated by triangular panels cut out and thrown into relief. The eye from a hook and eye form of fastener survives. (197), 602/1 south side of later Romano-British villa enclosure ditch.

13 Narrow ribbon-strip bronze bracelet with panels separated by sets of three transverse indented lines. The panels have been given a faceted appearance by cutting away small triangles at the corners. Cf Webster 1975, Fig 111, 29-31. (632), 1222/1 late Romano-British paddock ditch.

14 Narrow ribbon-strip bronze bracelet with shallow, transverse lines separating plain panels. (422) 821 subsoil over Romano-British paddock ditches.

15 Narrow ribbon-strip bronze bracelet decorated with irregular indented transverse lines. (96) 282, late Romano-British fill of cellar in villa building.

16 Narrow ribbon strip bronze bracelet; decorated with panels thrown into high relief by indented sections made up of five transverse lines. (611) 1181/1 Saxon sunken hut.

17 Narrow ribbon strip bronze bracelet with triangular cross section and decorated with indented panels (173) 607/1 late Romano-British paddock ditch.

18 Fragment of ribbon strip bracelet decorated with plain zones, transverse indented lines and punched dot decoration made up of two outer longitudinal lines of dots and central line of smaller, more closely spaced types. For the general type see Webster 1975 fig 111, 32. (10) 3/1 late Romano-British villa enclosure ditch.

19 Fragment of broad ribbon strip bronze bracelet with closely spaced, indented, transverse lines; near to the break is a plain zone indicating that the decoration was not uniform all the way round the band. The terminal is expanded and has a hole, the eye of a hook and eye fastener. (515) 870/1, late Romano-British paddock ditch.

(Fig 106. 1-2)

1 Ribbon strip bronze bracelet cut out to form a series of alternating broad and narrow swelling segments. (235), 712 disturbed layer overlying later Romano-British building II.

2 This ribbon strip bronze bracelet with a zone of indented transverse lines at each end. The surviving terminal has a hook fastener. (146) 543/1 late Romano-British paddock ditch.

(Fig 106. 3-5)

3 Twisted wire bracelets consisting of two strands.
(228) 712 disturbed layer overlying late Romano-British building 2.

4 (533) 974 backfill of foundation pit of late Romano-British well 950-951.

5 (572) 950 upper fill of late Romano-British well.

Plain bronze bracelets with circular or oval sections. (Fig 106. 6-7)

6 (120) 318, late Iron Age stone-filled pit.

7 (121) unstratified.

IV.5.7 Bronze rings (Fig 106. 8-10)

8 (44) 250 foundation slot of early Romano-British structure.

9 (118) 346/1 upper fill of northern arm of Late Romano-British villa enclosure ditch, but possibly Saxon.

10 (666) 952. Saxon sunken hut.

IV.5.8 Buckles and Belt Fittings (Fig 106. 11-14)

11 Iron fastening hook? It has a v-shaped split 'socket' pierced by a rivet hole; a relatively long neck and thin sharply turned hook. Possibly a belt fastening hook or trace hook originally attached to leather. (205), 695/1, RB villa enclosure ditch.

12 Circular iron buckle.

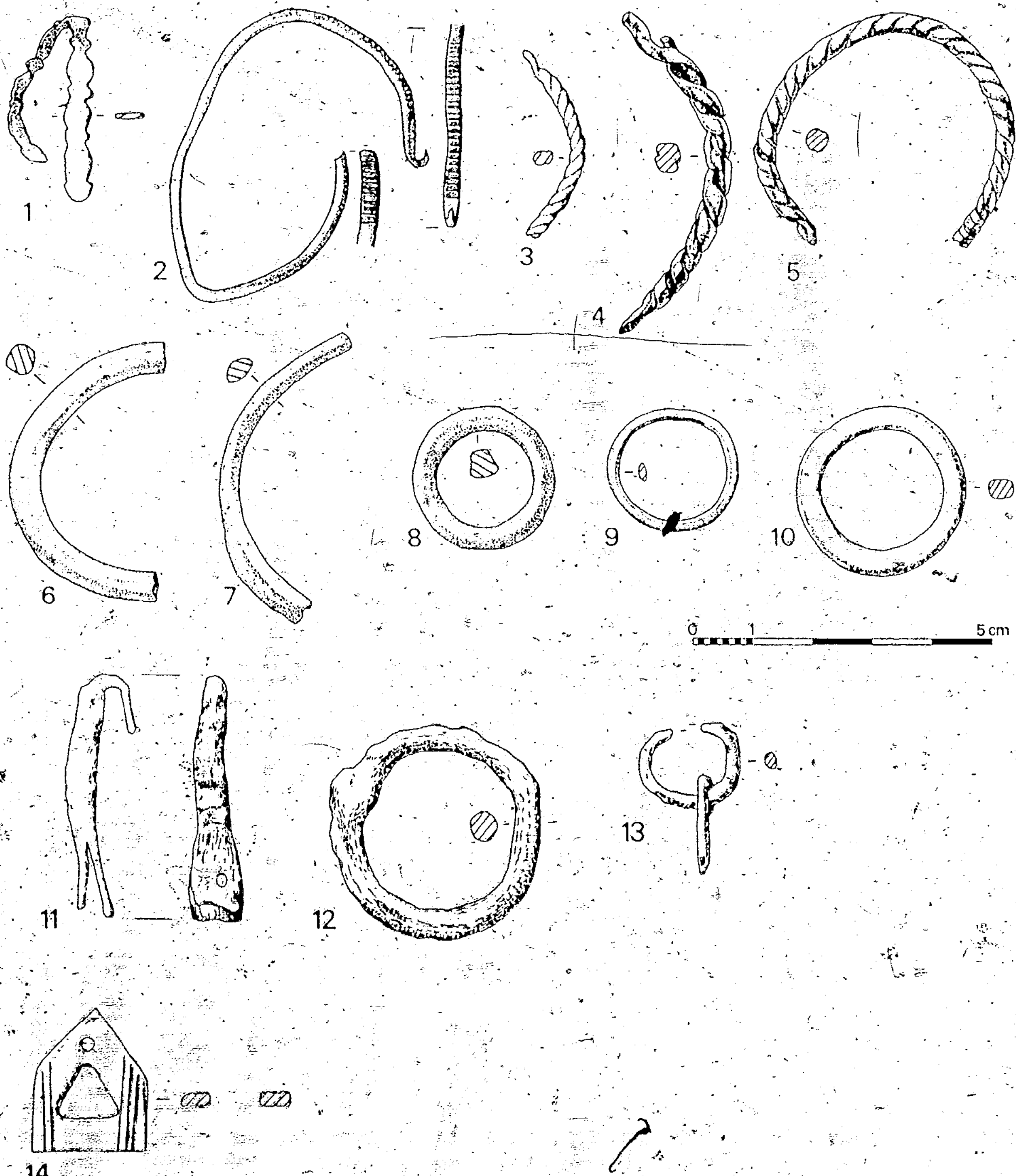


Fig 106 Bronze bracelets; bronze rings; iron and bone belt fittings

(89).

13 Small iron penannular buckle.

(626) 1026/1, Saxon sunken hut.

14 Bone plaque perforated at the apex and with an open triangle at the centre. Decorated with incised longitudinal lines. The function is uncertain but it may have been attached to a belt as a stiffener to allow objects to be suspended from it.

(604) 1190/2, Saxon sunken hut.

IV.5.9 References (IV.5.3 - IV.5.8)

Brailsford, J W, 1962 Hod Hill I: Antiquities from Hod Hill in the Durden Collection

Charlesworth, D, 1961 Roman Jewellery Found in Northumberland and Durham, Archaeologia Aeliana 4th Series, 39, 1-37.

Fowler, E, 1960 The origins and development of the pennannular brooch in Europe, Proc Prehist Soc, 26, 149-77

Fowler, E, 1963 Celtic metalwork of the fifth and sixth centuries AD: a reappraisal, Archaeol J, 120, 98-160

Guiraud, H, 1975 Un aspect de la bijouterie romaine: les bagues serpentiformes, Annales de l'Université de Toulouse-Le-Mirail Tome XI, Fascicule 4, 79-87

Hawkes, C F C, & Hull, M R, 1947 Camulodunum, First Report on the excavations at Colchester, 1930-39, Soc Antiq London Res Rep 14

Hawkes, S, 1961 The Jutish style A. A study of Germanic animal art in Southern England in the fifth century AD, Archaeologia, 98, 29-74

Hawkes, S, 1973 A Late Roman Buckle from Tripontium, Proc Birmingham Arch Soc 85, 145-159

Henig, M, 1978 A Corpus of Roman Engraved Gemstones from British Sites, ~~British~~ Archaeol Rep, British Series, 8

Henkel, F, 1913 Die römischen Fingerringe der Rheinlande

Hull, M R, 1968 The brooches, in Fifth Report on the excavations of the Roman fort at Richborough, Kent (ed B W Cunliffe), Soc Antiq London Res Rep 32

Kenyon, K M, 1948 Excavations at the Jewry Wall Site, Leicester, Soc Antiq London Res Rep 15

Kirk, J R, 1949 The bronzes from Woodeaton, Oxoniensia, 14, 1-45

Mackreth, D F, 1973 Roman brooches, Salisbury and South Wiltshire Museum

Mackreth, D F, 1976 The brooches, in A Roman Site at Overstone (ed J H Williams), Northants Archaeol, 11, 100-33

Marshall, F H, 1907 Catalogue of finger rings, Greek, Etruscan and Roman, British Museum
Pitt-Rivers, A H L, 1887-1892 Excavations in Cranborne Chase I
Pitt-Rivers, A H L, 1888 " " " " II
Pitt-Rivers, A H L, 1892 " " " " III
Toynbee, J M C, 1973 Animals in Roman Life and Art
Webster, J, 1975 Objects of bronze and silver in B W Cunliffe Excavations at Portchester Castle Vol 1 Roman, Soc Antiq London Res Rep 31, 198-215

IV.5.10 Combs (Figs 107-109)

Valerie de Hoog

A total of ten bone combs was found at Barton Court Farm. Four combs came from Saxon sunken huts, one of which was lying on the floor of the hut. Four combs were found in the uppermost fills of the RB enclosure ditches. A single comb accompanied a female Saxon inhumation (burial 807 within building 2). The remaining comb fragment was a stray find. All these combs probably belong to the Saxon phase of occupation.

IV.5.10.1 The uses of bone/antler combs

Suggestions for the use of the various types of comb from archaeological contexts have been many. These range from the obvious 'combing of hair' to 'adorning the hair', 'keeping the hair up' (Keller 1878), 'dressing or scraping fat from skins' (Stevens 1870, 64-5; Cunnington 1923), combing or carding wool or flax (Coughtey 1870-2, 121-51; Roes 1963), and for beating in the weft in weaving (Lane-Fox 1881, 432-4).

Bulleid & Gray (1911, 1, 268-9) give a diagrammatic representation of a comb in use with a loom, its teeth fitting neatly into the warp dents and acting both as a warp spacer and weft beater, but Cunnington (1923) & Ling Roth (1934, 133, fig 184) show that the teeth of such combs are never even enough to be of any real use in this context. An unusual suggestion is that of stripping the seed from flax stalks, but this and most of the earlier suggestions apply to the very early, long-handled, one-piece type only.

The combs from Barton Court Farm are of a kind which came into use in late Roman times and continued in use, though they underwent several modifications, right through to the middle ages and probably later (very little work has been done on post-medieval combs in this country). These are relatively small, tend to be decorated to some extent, have many teeth, and are too delicate for anything but the finest of uses. They were plainly used as hair combs or hair adornments, both as 'functional' and 'ornamental' grave-goods. Many come from domestic contexts and are, indeed, found side by side with industrial objects such as spindle whorls, loom weights, and needles. It must be remembered that these combs have a relatively high survival rate especially in alkaline soils and, as hair combs, would have been plentiful and often in use.

IV.5.10.2 The dating of bone/antler combs

Waterman (1959) opens his discussion on the bone combs from York with the following statement: 'Bone combs are notoriously difficult to date, for conservatism in design has resulted in two basic forms enjoying a protracted popularity from Roman times to the Middle Ages'. It is true that there is very little basis for dating these objects. Although it is possible to establish a general development of forms, these generally existed side by side, particularly in the later Pagan Saxon, Viking, and post-conquest periods.

IV.5.10.3 Terminology

The terminology used for describing the structural features of combs varies considerably from report to report. Patricia Galloway (1976b) recognizes the lack of a consistent terminology and suggests certain terms for the various attributes, while accepting the four-form classification systems fully outlined by Zofia Hilczérówna (Hilczérówna 1961).

I intend to accept the four-form concept, which is a straight-forward basis for description, though with neither chronological nor typological implications. While I accept the basics of Galloway's system and agree with the necessity for a standardization or tightening up of comb terminology, I have opted for the familiar term in certain cases on grounds that its already agreed use minimizes the danger of ambiguity. A newly coined terminology can occasionally lead to confusion in its dissimilarity with the old.

I shall use the following terms in this report:

<u>Handled:</u> Where part of the comb is without teeth and intended for use as a handle (these come single and double-sided).

<u>Double-sided composite</u> (Hilczérówna 1961): composed of a number of separate pieces and with teeth on two opposing sides (as opposed to single-sided composite and single and double-sided simple, ie made with one piece only).

From the Galloway system I shall use the following:

<u>Ends:</u> the two opposing edges without teeth.

<u>Sides:</u> the two opposing edges, at least one of which must have teeth.

<u>Back:</u> the side without teeth on single-sided combs.

Fine teeth: averaging nine teeth per centimetre.

Coarse teeth: averaging five teeth or less per centimetre.

Graduated teeth: where teeth length gradually shortens, normally towards each end. A small 4in saw blade, double-sided, 2½in wide, with coarse and fine sawing teeth, was found at Thetford (Knocker & Hughes 1950). This type was probably used for cutting comb-teeth.

For Galloway's terms, 1 tooth segments, 2 connecting plates, 3 solid zone, I shall substitute the following:

1 Tooth Plates (described in other reports as 'plaques', 'blades', and 'segments'): the small flat strips of bone which were riveted in position between the ribs are cut to create teeth. (An unfinished example from Dublin shows the plates already riveted but teeth have not yet been cut: O Riordain 1971, pl. VII. A, B.) The grain runs with the teeth.

2 Ribs: the two long pieces between which the 'tooth plates' are held by means of rivets usually positioned at the joints. The rivets are normally of iron.

3 Solid area: any part of comb without teeth apart from ribs). I shall use the term face for the sides of the comb usually drawn in plan. See Addyman & Hill (1969) for a good description of the manufacturing process, with annotated diagram.

IV.5.10. 4 The combs Fig 107

1 Description: double-sided composite

Survival: some teeth missing; otherwise complete

Length: 164mm

Breadth: 365mm

Number of rivets: 7

Position of rivets: through end plates and between others

Number of plates: 12

Description of ends: straight with rounded corners.

Teeth: 6 per cm - fine to coarse; slightly graduated.

Description of ribs: flat-topped; length 160mm.

Description of decoration: incised parallel lines and crosses.

Position of decoration: ends of ribs - on one face of comb only.

(191) 602/1, upper fill of late RB villa enclosure ditch.

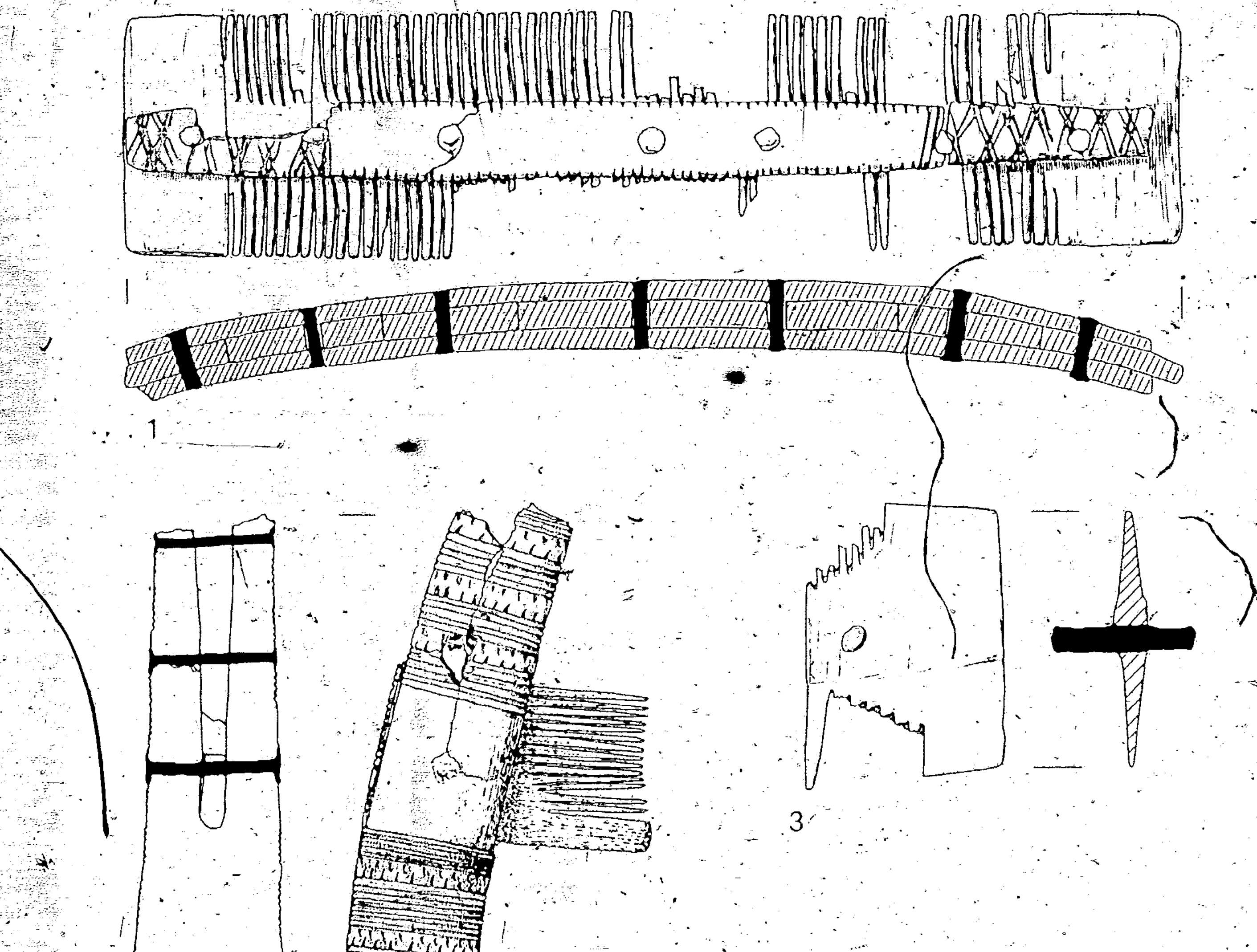


Fig 107 Saxon bone combs

This highly polished comb is very well preserved. It seems to be made of bone rather than antler. The dimensions are typically Saxon. The ribs curve gently, though this could be a distortion due to ground conditions. A similar example was found at Walton, Bucks (Farley 1976).

If the curving is deliberate, the decoration occurs on the upper side, ie the convex side only. The curve could be natural to the bone or brought about by steaming.

It may be that the comb was used as a hair ornament rather than for combing. The teeth show surprisingly little sign of wear. In fact it seems that there was very little shaping of the teeth after the initial cutting of the plates. They remain rectangular in section (as opposed to rounded), even at the tips.

Incisions resulting from the teeth-cutting action, cut into the sides of the ribs on one face only, ie the decorated face. These may be regarded as part of the overall decoration and have for this reason probably been exaggerated slightly. The decoration itself consists of double incised lines running cross-cross at the ends of one of the ribs.

Similarly decorated combs were found at Chadlington, Oxon (Ashmolean Museum), Yelford (Ashmolean Museum), York - unknown site (Waterman 1959, pl XVIII, fig 10), Southampton (Addyman & Hill 1969, pl VII).

Decoration is rarely a good basis for dating since, like the combs themselves, popular styles seemed to carry through from one period to the next.

Equally valid for comparison are the undecorated examples of similar proportions which were found at Shakenoak (Brodribb et al 1972) dated to the 6th and 7th centuries and from Sutton Courtenay (Leeds 1923).

This comb from Barton Court Farm could be dated anywhere from the 5th to 7th centuries.

2 Description: single-sided; handled - composite

Survival: incomplete; ribs broken off - teeth missing

Length: greater than 118mm

Breadth: 425mm

Number of rivets: 3 survive

Position of rivets: between plates

Number of plates: 2 survive

Description of ends: handled at one end, other end unknown.

Teeth: 7 per cm; - coarse to fine; slightly graduated.

Ribs in section: semi-circular - continuous with circular handle.

(155) 602/1, upper fill of late RB enclosure ditch.

Usually there is not a large enough section across the material to permit distinction between bone and antler. In this case, however, the ribs and handle being one continuous piece as opposed to two, riveted together, the very carvellous section, across the handle end, suggests that this is antler.

A long narrow slot has been cut right through the piece to receive the plates, which are riveted in position.

The end of the handle is plugged in the centre with a circular piece of the same material. At this end the handle is at its widest. It narrows quickly for the first centimetre and then narrows gradually along the comb to the point where it has been broken. Originally it probably tapered to a point at the opposite end. The piece also curves slightly. The curve here as opposed to that of the previous comb above is undoubtedly natural. The teeth protrude on the inner side of the curve.

Incisions resulting from the teeth-cutting action occur on one side and are somewhat clumsily incorporated into the decoration (the decoration would have been done before).

The teeth show signs of wear on one side only. The decoration consists of bands of multiple incised lines separated by broad zigzags in relief, rendered by simple incisions in the sides of a plain band.

This decoration is continuous around the handle, but from the point where the first plate is inserted it is no longer the same on both sides. This suggests that the decoration was executed after the slot for the insertion of the plates had been cut, but before the plates were riveted in position and the teeth cut.

A completely undecorated panel, approximately 20mm long, occurs on one face with the first rivet from the handle end at its centre.

This type of decoration occurs on combs of the Viking period from Scandinavia (Waterman 1959) and is particularly common on handled combs of all periods.

Handled examples with similar decoration have been found at York (Waterman 1959, 89, fig 17.1), Bedford, Horne Lane (Gwyn Elger 1888), Dorestad (Holwerda 1930) dated 750-900, the river Thames (Wheeler 1935, 152-3), Birka (Arbman 1937), and Lagore Crannog (Hencken 1950, c.1.187, fig 99) dated 7th to 10th centuries.

Other parallels come from the river Thames (Clutterbuck 1875), a larger, coarser example with handle of two separate pieces decorated with multiple lines (Ashmolean Museum), the river Thames at Runnymead (Fortnum 1858), and Canterbury

(Brent 1879). Waterman (1959, 90 5) lists handled examples from Britain. Two double-sided composite combs from York have the same decoration (Waterman 1959, fig 173, pl XVIII. 11).

Handled combs are known from England, one example from Ireland, the Rhineland, the North Sea coast of Holland, and Scandinavia. They are most common at Dorestad, dating between AD 750 and 900, and it is possible that their distribution is influenced by trade with Dorestad. Arbman suggests Frisian origins for them (Arbman 1937, 238). They are also common at the Swedish site of Birka in the 9th and 10th centuries. Dorestad was destroyed in the 9th century, but trade undoubtedly continued through Utrecht and other towns.

This comb, therefore, is unlikely on present evidence to be earlier than AD 750. (The context of the comb in the upper fill of the RB ditch, with early Saxon material - and nothing later, makes a fifth or early sixth century date more likely on stratigraphic grounds - DM).

3. Description: end plate of double-sided composite comb

Survival: majority of teeth missing, no ribs

Length: 3cm survive

Breadth: 4.5-5 cm

Number of rivets: 1 survives

Position of rivets: through this end plate, position on rest of comb unknown

Number of plates: 1 survives

Description of ends: straight

Teeth: One side 3 teeth per cm -- coarse; other side 6 teeth per cm - coarse to fine; teeth are graduated.

Description of ribs: No survival.

Decoration: not known.

(179) 602/1, upper fill of late RB villa enclosure ditch.

The difference in tooth size between the two sides of this comb is enormous. The teeth on one side are more than twice the thickness of those on the other (this can be determined from the teeth stumps that remain).

Although the ribs have come away, the rivet which held them to the plate remains protruding almost 1cm on each side, suggesting that the ribs were unusually thick.

Parallels are known from Sutton Courtenay (Leeds 1923) dating to the 5th century and Brighthampton (end plate in the Ashmolean Museum).

4. Description: part of double-sided composite comb

Survival: 2 plates (one an end) and fragments of ribs; some teeth missing

Length: 51mm survive

Breadth: 47mm

Number of rivets: 3 survive

Position of rivets: through centre of plates

Number of plates: 2 survive

Description of ends: 1 only, asymmetrical; convex with one everted corner and one roughly rounded

Teeth: both sides; 4 teeth per cm, graduated

Description of ribs: flat; length 50mm

Decoration: not known.

(559) 1067/1, upper fill of late RB paddock ditch.

The end of this comb is slightly reminiscent of the more ornate Roman examples.

The less usual tactic of riveting through the plate centres seems to have been used throughout.

The teeth, particularly on one face, are heavily striated through wear, and 'beading' has occurred, ie weak points on the teeth become thinner until a bead is formed which eventually drops off. The result is that combs often appear to have been used with broken teeth, since there are no jagged edges when 'beading' occurs.

Dating is difficult because dimensions are not known. It could belong to any period within the 5th to 7th centuries.

Fig 108

1. Description: double-sided composite comb

Survival: many teeth missing; otherwise complete; in two pieces

Length: 145mm

Breadth: 52mm

Number of rivets: 7

Position of rivets: through end plates, probably between others

Number of plates: cannot tell

Description of ends: straight with rounded corners

Teeth: 4 teeth per cm - coarse

Description of ribs: flat-topped; length 12.75mm

Decoration: None.

(361) 807, Saxon female burial within building 2.

The ribs end well back from the ends of the comb itself. Through the solid area which remains at each end there is a small perforation. Perhaps one or both were used for suspending the comb on a cord from the neck of the user.

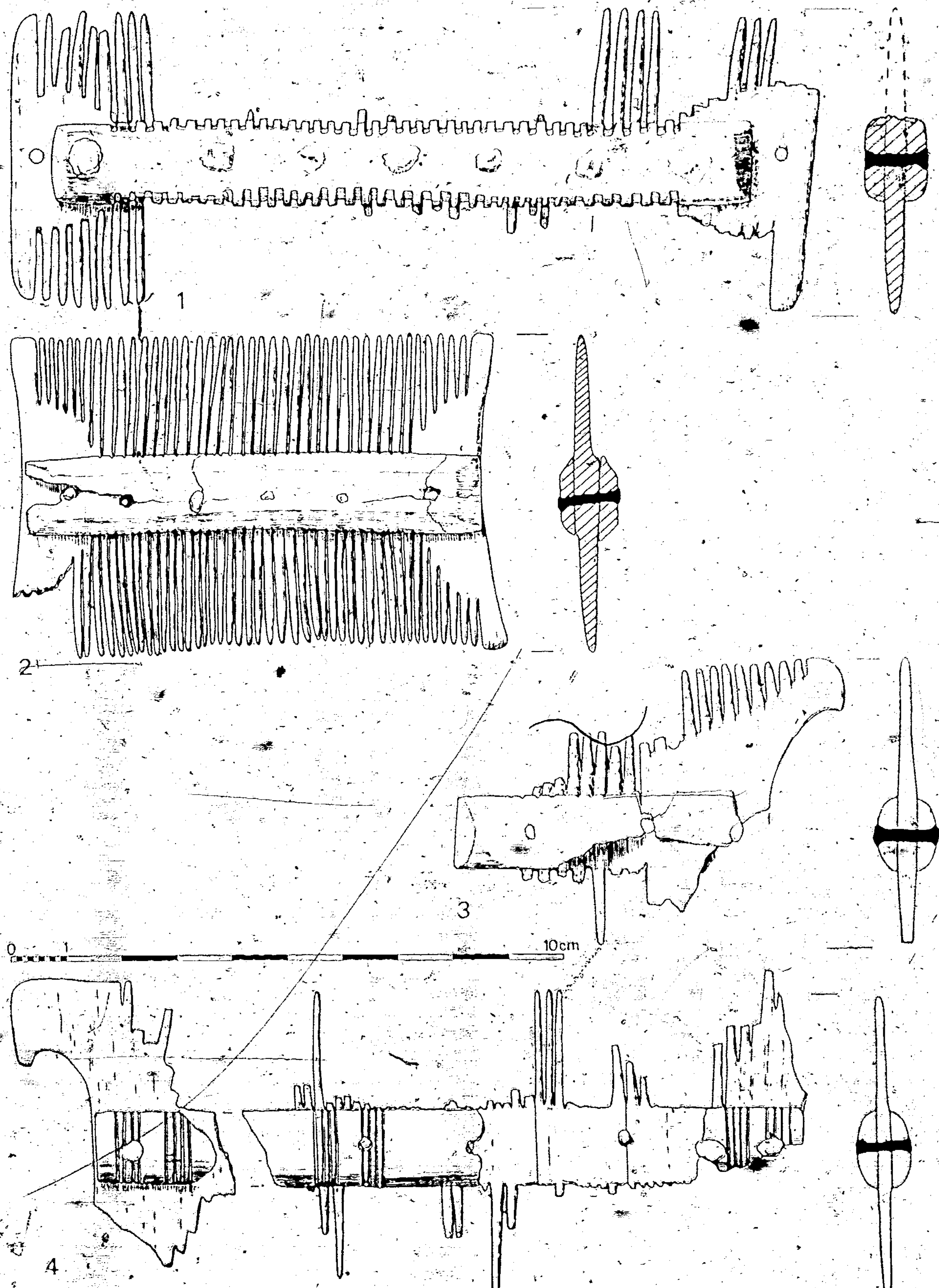


Fig 108 Saxon bone combs

Alternatively, like single-sided combs of the Viking period, this type may have been carried in some form of case (Roes 1963, 15, fig 5) and held securely in position by means of pegs through perforations in the case coinciding with these perforations in the comb. The spaces between the teeth and the incisions caused by the teeth-cutting blade on the sides of the ribs are very wide, which probably means that a thick blade was used. The teeth on each end plate graduate evenly, forming an arc rather than a straight line, and in this resemble two combs from Walton (Farley, 1976, figs 20 and 25) and one example from Shakenoak (Brodribb et al 1972, fig 56, 35).

Other similarly proportioned combs were found at Sutton Courtenay (also from a burial context dating to the late 5th century) and Upton, Northants (probably 7th century; in the Ashmolean Museum).

Date: 5th to 7th century AD, but probably 6th century on the basis of the associated finds in the burial (see 4:B8).

2. Description: double-sided composite comb

Survival: small piece missing from one end plate; otherwise complete

Length: 87mm

Breadth: 58mm

Number of rivets: 6

Position of rivets: through plate centres

Number of plates: 6

Description of ends: slightly concave

Teeth: one side, 5 per cm - coarse; other side, 7 per cm; teeth graduated

Description of ribs: flat-topped; length 83mm, pared edges.

(528) 952, Saxon sunken hut/

This highly polished comb is more Roman than Saxon in its proportions. Its breadth is more than half its length. It is extremely neatly and symmetrically constructed, with teeth slightly coarser on one side than on the other (above) and finely rounded and pointed at the tips.

It is constructed in the less usual fashion of riveting through the plates rather than at the joints. Riveting at the joints probably allowed for repaired or replacement plates to be inserted more easily.

Stripes of discoloration appearing along the teeth on one face of the comb show that the separate plates used were cut off the same discoloured section of bone, which was at least 18mm thick.

The ribs run the full length of the comb. The teeth are evenly graduated in arc form (see comb 1 (361) above).

The incisions on the ribs from the teeth-cutting action are slight; it appears that some care was taken to avoid deep grooves since the teeth do, in fact, continue very slightly under the ribs themselves. There are no obvious signs of wear.

The date of this comb may be as early as the 5th century on the basis of its Roman-like proportions.

3 Description)
) problematic
Survival)

Two fragments of a double-sided composite comb which, while they seem to fit together, present the following problems.

Firstly, the graduating of the teeth is unusual. It begins on the end plate not close to the ribs but approximately 7.5mm out from them, giving the impression that the first 'step' is missing.

Secondly, one of the ribs ends suddently with a trimmed edge at a point where for correct proportions it should continue, although there is very slight evidence of breakage at its very tip.

If the two pieces by some chance do not fit together, the first problem of the unusual graduating can be solved; but the second still remains, since the rib shows signs of teeth cutting up to the very limit of this supposed 'end', ie no graduating and no end plate with a solid area for strength purposes.

My conclusion is, therefore, that this is not a real end but some form of notch in the middle of the comb. Perhaps the rib came from another broken comb but was not long enough for this example.

Support from the other rib may have been enough to hold it for some time but, being a weak point, it eventually snapped.

The pieces seem very definitely to fit together and so plainly it is an example of unusual, uneven-graduating of the teeth (see also comb 1 (637) below).

Length: 70mm survive
Breadth: 50mm approximately
Number of rivets: 3 survive
Position of rivets: through end plates, between others
Number of plates: 2 survive.
Description of ends: elaborate, concave, rounded corners
Teeth: 5 per cm - coarse
Description of ribs: convex
Decoration: not known
(583) <u>1023</u>, Saxon sunken hut

Similar combs come from Frisia (Roes 1963, pl XV, 2-3), though these never exceed 150mm. Date c 6th century. From sunken hut feature 1190.

An interesting feature of the comb is the shape of the end plate itself, with its elaborately deeply cut concave terminals (see comb 4 below). It is quite similar to an example from Wilsham Road, Abingdon excavated by R Henderson (unpublished). Perhaps we have a distinctive Abingdon style here. There is no way of knowing, however, whether each end was symetrical in itself nor indeed with respect to the other.

The surviving teeth show evidence of wear.

4 Description: 2 fragments of double-sided composite comb; one end plate, one centre segment

Survival: end plate incomplete, many teeth missing

Length: 175mm approximately

Breadth: 60mm

Number of rivets: probably 11

Position of rivets: through end plates; between others

Number of plates: probably 9

Description of ends: elaborate, concave, rounded corners

Teeth: one side, 5 teeth per cm - coarse; other side, 3 teeth per cm - very coarse; graduated teeth

Description of ribs: convex; Length unknown

Description of decoration: multiple incised lines

Position of decoration: ribs

(601) 1190, Saxon sunken hut.

Like 4 above (559), the graduating of the teeth seems to jump the first step. The ends also resemble those (559). The plates seem to have been cut along the same piece of bone, with the result that they fit exactly beside each other almost imperceptible breaks.

The rivets are driven through the joints in the normal manner. The decoration consists simply of sets of four incised lines occurring in pairs along the ribs. Multiple lines such as these are commonly found on 6th and 7th century combs: for example at Shakenoak (Brodribb et al 1972, fig 58, 58). The teeth show some signs of wear. The ribs run the full length of the comb. Frisian parallels are known (Roes 1963, pl XV. 2.3). Date possibly 5th century on the basis of its elaborate ends.

Fig 109

1 Description: double-sided composite

Survival: some teeth missing; otherwise complete

Length: 115mm

Breadth: 60mm

Number of rivets:5

Position of rivets: through end plates; between others

Number of plates: 6

Description of ends: double concave with point in middle

Teeth: one side, 5-6 teeth per cm - coarse to fine; other side, 4 teeth per cm - coarse; teeth graduated.

Description of ribs; flat - rounded edges; length 107mm

Description of decoration: incised lines

Position of decoration: ribs

(637) 1026, Saxon sunken hut.

This example resembles Roman combs in its proportions; its breadth is over half its length. Like Roman combs also, the ends are trimmed; with two slightly concave areas coming to a point in the middle. The ribs run almost to the ends, leaving just enough space at one end for a circular perforation through the plate. It is interesting to see that at the other end a perforation had been attempted but not completed. The perforation was probably used for suspending the comb from a cord around the neck.

The decoration runs diagonally across the comb in pairs of incised lines. Three lines run vertically across at each end of the ribs and one long horizontal line borders the sides of the ribs and cuts off the area incised by the tooth-cutting blade, ie incorporating the latter into the overall decoration pattern.

The teeth graduate in arc form (see comb 2 (528) above).

A similar example was found at Bedford, Horne Lane (Gwyn Elger 1888).

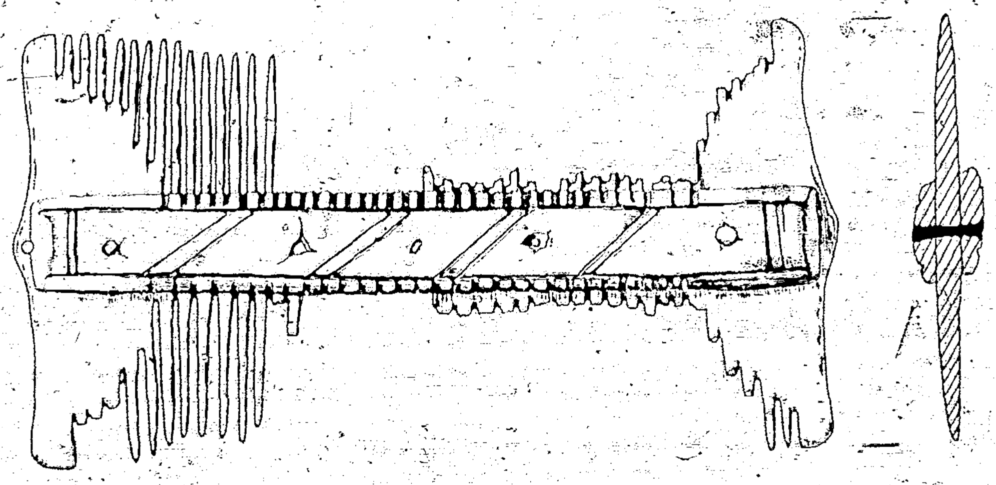
Date: probably 5th century.

2 Description: small fragment of rib of possible single-sided comb

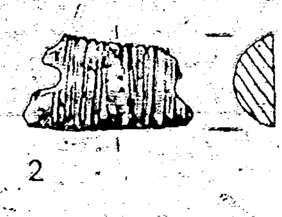
Survival: minimal

(290) unstratified.

This small fragment measures 235 x 11mm approximately. It curves slightly and narrows towards one end, which suggests that the comb was slightly bow-shaped. It is convex in section. Incisions occur along one edge of the fragment, ie the inner side of the curve. These are probably due to the teeth-cutting action.



1



2

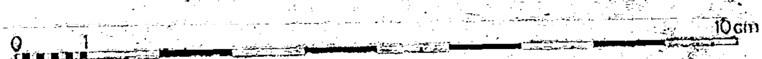


Fig 109. Saxon bone combs

Like comb 2 (155) above, the incisions are clumsily incorporated into the decoration, which consists of multiple lines with notches in a plain band between. Two rivet perforations are distinguishable. It is probably antler rather than bone.

IV.5.10.5 References (IV.5.10)

Addyman, P V, & Hill D, 1969 Saxon Southampton, a review of the evidence. Part II: Industry, trade and everyday life, Proc Hampshire Field Club, 26, 61-9

Arbman, H, 1937 Schweden und das Karolingische Reich, Kungl Vitterhetts Historie och Antikvitets, Akademiens Handlungar Del 43

Arbman, H, 1939 Burka Sveriges, Adsta handelistad

Blomquist, R, & Martensson, A W, 1963 Thulegravningen 1961 Lund, Archaeologica Lundensia

Brent, J, 1879 Canterbury in olden times, pl 17, fig 3

Brodribb, A C C Hands, A R, & Walker, D R, 1972 Excavations at Shakenoak 3

Bulleid, A, & Gray, H St G, 1911 The Glastonbury Lake Village, 1

Clutterbuck, J C, 1875 Proc Soc Antiq London, 6, 2nd ser, 458

Coughtrey, M, 1870-2 Notes on long handled combs, Proc Soc Antiq Scot, 9

Crawford, unpublished Coileagan an Udail, N Uist

Cocks, A H, 1909 Anglo-Saxon burials at Ellesborough, Rec Bucks, 9, 425-30

Cunnington, E, 1923 All Cannings Cross Farm, 92-6

Eagles, B N and Evison, V I, 1970 Excavations at prehistoric and Anglo-Saxon sites at Harrold, Beds 1951-53, Beds Arch J, 5, 17-55

Farley, M, 1976 Saxon and Medieval Walton, Aylesbury excavations 1973-4, Rec Bucks, 20dd, ii

Fortnum, C D E, 1858 Proc Soc Antiq London, 4, 188

Galloway, P, 1976a Cluster analysis using fragmentary data, in S Laflin (ed), Computer applications in archaeology 1976, 41-7

Galloway, P, 1976b Note on the description of bone and antler combs, Medieval Archaeol, 20, 154-6

Grieg, S, 1933 Middelalderske byfund fra Bergen og Oslo,

Greig, S, 1937 Gravkamkene fra Oseberg og Gokstad (Salstrykk av Viking), Norsk Arkeologisk Selskap.

Gwyn Elger, T, 1888 Proc Soc Antiq London, 12, 2nd ser, 115

Hencken, H O'N, 1950 Lagore crannog, Proc Royal Irish Acad, 53 (c. i 187, fig 99)

Hoffman, M, 1964 The Warp weighted loom, Norsk Folkemuseum

Holwerda, J H, 1930 Hoofdartikelen: opgrowingen van Dorestad 32-96 Oudheidkundige Mededeelingen N (Abb 72, 103)
Hilczérówna, Zofia, 1961 Rogonicturo Gdanskiew X-XIV Wiekn, Gdanskie Towarzystwo Naukowe
Keller, F, 1878 The lake dwellings of Switzerland.
Knocker, G M, & Hughes, R G, 1950 Anglo-Saxon Thetford Part II, Arch Newsletter 3. 41-6
Lane-Fox, A, 1881 'Excavations at Mount Caburn Camp, near Lewes Archaeologia 46, 423-95
Leeds, E T, 1923 A Saxon village near Sutton Courtenay, Berkshire, Archaeologia, 72 147-92
Ling Roth, H, 1914 Bishop Blaise, Saint, Martyr, and Woolcombers' patron, Proc Soc Antiq, 27, 7-42
Ling Roth. H, 1934 Studies in primitive looms, part IV, 130
O'Riordain, B, 1971 Excavations at High St and Winetavern St, Dublin, Medieval Archaeol, 15, 73-85
Persson, J, 1976 Kammas, Archaeologica Lundensia, 7
Petersen, J, 1951 Vikingetidens Redscaper
Radley, J, 1971 Economic aspects of Anglo-Danish York, Medieval Archaeol, 15, 37-57
Roes, A, 1963 Bone and antler objects from the Frisian terp mounds
Stevens, E T, 1870 Flint chips
Waterman, D H, 1959 late Saxon, Viking and early Medieval finds from York, Archaeologia, 97, 59-105
Wheeler, R E M, 1935 London and the Saxons,

IV.5.11 Toilet implements (Fig 110.1-6)

1 Bronze ear or cosmetic spoon with twisted handle.
(204), 695/1, late RB villa enclosure ditch.

2 Bronze nail cleaners.
(501), 847/1, late RB paddock ditch.

3 Fragment of bronze toilet implement with perforated end for suspension from a ring; decorated with transverse lines.
(664) unstratified

4 Bronze cosmetic spoon with twisted handle.
(665) unstratified.

5 Bronze pick or pin, perforated at the end for suspension from a ring.
(46) 256, late RB villa robber trench; object could be Saxon in date.

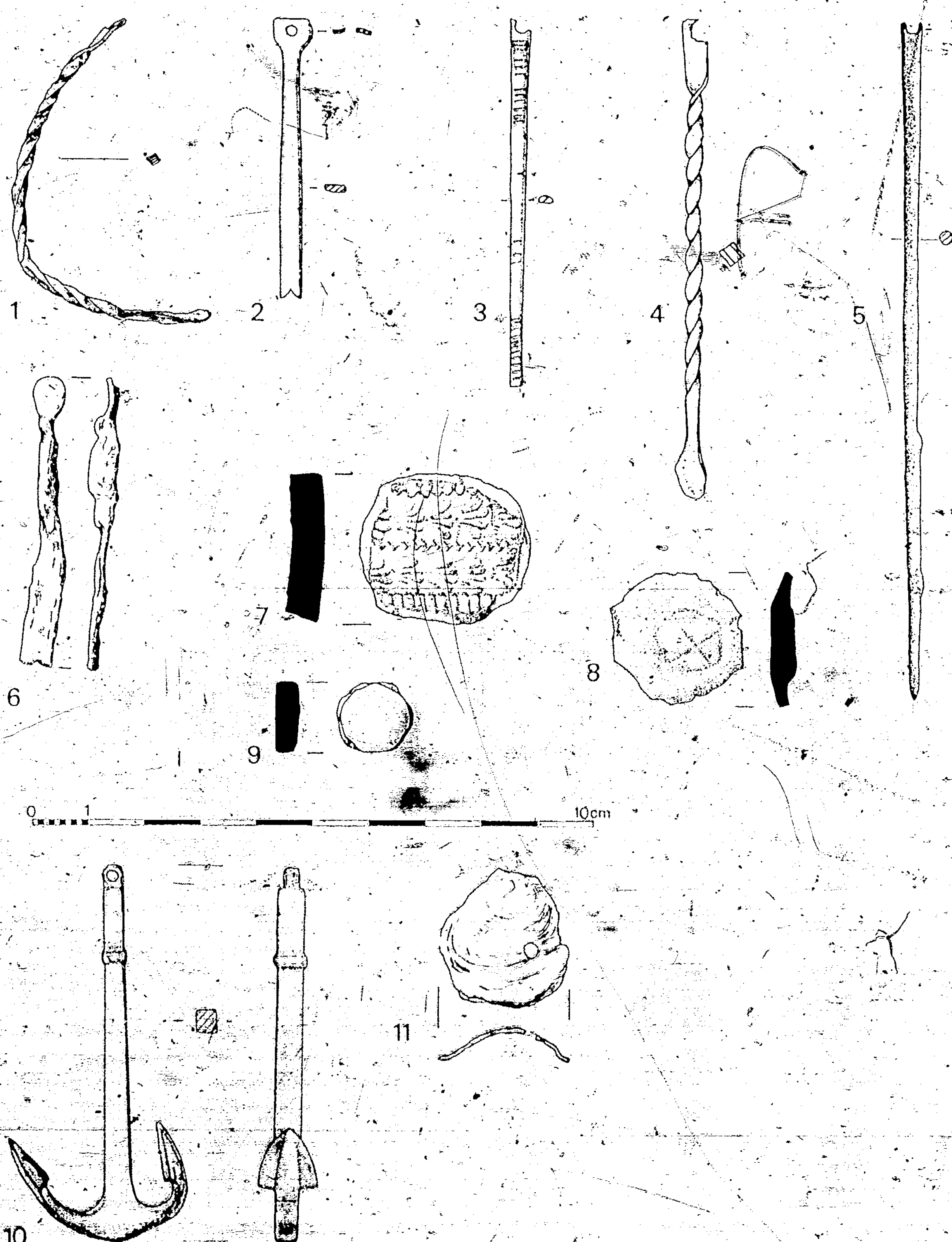


Fig 110 Bronze and iron toilet instruments; pottery gaming counters; bronze miniature anchor and perforated oyster shell

6 Iron fragment of bar flattened into a lobed head at one end and a broken strip at the other with sign of perforation. Possibly a cosmetic spoon. (163) 606, destruction layer over late RB corn-dryer 732.

IV.5.12 Games counters (Fig 110.7-9)

7 Trimmed pottery counter in ? early RB oxidized ware with burnished cross-and-circle decoration. Made from the base of a hand-made vessel. (29), 6/4, early RB enclosure ditch, primary silt.

8 Trimmed pottery counter in grey ware. (177), 602/1, late RB villa enclosure ditch, southern arm.

9 Trimmed samian counter. For account of the sherd see the samian report (V.3.7). (257), 709/2, late RB paddock ditch.

IV.6 RELIGIOUS OBJECTS

IV.6.1 A minature bronze anchor (Fig 110.10) Miranda Green

The miniature bronze anchor was recovered as a surface find from the topsoil over the Romano-British villa building: small find no (68). The object is a cast bronze model of a Graeco-Roman anchor, comprising shank and terminal arms with leaf-shaped flukes, but without an anchor-stock. The overall length is 67.5mm. The object is complete, well preserved, and virtually undamaged apart from the fact that one terminal arm has been bent out of shape towards the central shank. The bronze has a stable uniform dark-green patina. There are no decorative markings anywhere on the object, but there is a ring at the top of the shank (cast at one with the anchor) which may have combined the function of a suspension ring and that of a faithful copy of a full-size anchor whose ring would have held the ship's anchor cable. The only other feature on the model is a collar 15.5mm down the shank from the top of the ring.

The Barton Court Farm model anchor may be described as a skeuomorph of a utilitarian anchor, since the real object would never have been made of bronze. Boon (1977) has divided Graeco-Roman anchors into five classes, of which the main material is either wood, stone, or iron. Our model is not a faithful copy since a full-size ship's anchor would have been fitted with a stock - a horizontal bar near the top of the shank set at right-angles to the plane of the terminal arms, ' .. so that, in lying flat on the sea-bed, it allows one of the arms to make a perpendicular entry...' (Boon 1977, 13).

It may be that the moulded collar on the shaft of the Barton Court Farm model represents the 'box' in the centre of the stock through which the vertical shank would have passed.

The model anchor would appear to have most in common with Boon's Class E iron anchors, and the curved pick-axe shape, allowed by efficient welding to shank and arms, is characteristic of early Imperial anchors: for example those from Pompeii (Ucelli 1950, 239, Fig. 272) and from the Rhine (Stumpel 1974, 241, ABB 20). By the late Empire anchor arms were set at right-angles to the central shaft. It is interesting that the stocks of Class E were removable and often of wood; this may explain why a model of this type was cast without its stock.

Model objects are frequent occurrences in the Romano-British archaeological record (Green 1975). Although generally made of bronze, they may occur in iron, lead, or bone, and miniature pottery vessels are also recorded (Green 1976, 43). More than two hundred non-ceramic miniature objects have been distinguished by the writer in Roman Britain, as will be discussed further below. However, model anchors axre extremely rare; only one other is known, from relatively nearby at the Romano-Celtic temple-site at Woodeaton (Oxon). This model (Kirk 1949) is also bronze and, although the central shaft is broken near the top, is similar in appearance to the Barton Court Farm miniature anchor. As far as is known to the writer, therefore, only two model anchors have been found, both in Oxfordshire - one from a ritual site and the other from a villa. The only other miniature object with some relevance to ships and seafaring is the model galley-prow from London (British Museum 1922, 90).

The context of the Woodeaton anchor argues for its having a religious significance. Numerous miniature tools are recorded from SE (Green 1975) and they occur also in the northern military areas (Green 1978b) The most common items are axes, spears, and wheels (Green 1978a), but a wide range of objects were copied in model form - from a bronze altar at Colchester (Castle Museum, Colchester) to a terracotta bale of hides or fleeces from the Isle of Skye (Mann 1975, no 40).

The distribution of miniature articles has a SE emphasis, the N examples occurring mainly in military contexts. Models are common in other Romano-Celtic provinces of the empire. A major centre of this type of find is Woodeaton, where several axes and spears are recorded in addition to the anchor already referred to (Kirk 1949). It is difficult to assess the contribution of classical or Celtic influence to this category of item in the Romano-Celtic world. Models occur in pre-Roman contexts in Britain: for example, the Iron Age axe-pendant from Long Wittenham in Oxfordshire (Savory 1937) and the late Iron

Age axe from Arras in Yorkshire (Kirk 1949). However, miniature axes also appear on classical Greek sites. They are known at Delphi (Delphi Site Museum) and at several other excavated sites (National Archaeological Museum, Athens).

In SE England the context of several models provides evidence as to their function. Many have a certain or probable religious association. Woodeaton has already been mentioned. To this important site may be added Frilford (Oxon) (Bradford & Goodchild 1939), Harlow (Essex) (Wilson et al 1971), Farley Heath (Surrey) (Guildford Museum; British Museum), Worth (Kent) (Klein 1928), Wycumb (Glos) (Lewis 1966, 47), Hockwold (Norfolk) (Norwich City Museum), and Caistor (Norfolk) (Norwich City Museum). Graves yielding models include Poundbury, Dorchester (Dorset) (Farrar 1952) and Welwyn (Hertfordshire) (Westall 1930).

Apart from site context there are other indications of a religious significance for model tools. Three miniature spears from Woodeaton have been bent double, almost certainly deliberately (Kirk 1949) It is possible that the bent terminal arm of the Barton Court Farm model anchor may also have been an intentional action. Some model axes have incised motifs, like the swastika on the Woodeaton example. Most striking of all perhaps are the axes from Switzerland in Berne Museum, which are inscribed with the names of deities (Stähelin 1931, 486, Abb 131). A model axe from Gaul, incised with the name of Jupiter, is also recorded (Toutain 1920, 366 ff). Miniature wheels have been shown by the writer to have had an essential connection with the Romano-Celtic Jupiter (Green 1978b). The sanctuary of Zeus Thaulios at Pherae in Thessaly has yielded model wheels, presumably dedicated to the god (National Archaeological Museum, Athens). Some models, like the altars from Colchester (Castle Museum, Colchester) and Piercebridge (Bowes Museum), the stands from, for example, South Shields (Newcastle University Museum; Arbeia Roman Museum, South Shields) or Silchester (Green 1976, 196), and the model cauldron from Ancaster (Lincs) (anon 1957-8), have intrinsic ritual significance as tiny replicas of temple furniture.

In the case of axes, spears, and other items, including anchors, there may be several possible interpretations. Ancient Egyptian funerary customs for many centuries involved the burial of model tools with the dead for their use in the afterlife (British Museum 1971, 159-60). In the opinion of the writer (Green 1975) it is possible that the offering of a particular model may reflect the occupation or religious leanings of the devotee. A soldier might be expected to dedicate a model spear, sword, or shield (less bulky and cheaper than the real thing) to a war god. An axe probably has a deep-seated talismanic significance in the classical and Celtic world but could possibly in Roman Britain be the gift of a woodman. Explanation of miniature anchors in the middle of Oxfordshire poses more of a problem. It is not easy to see a devout sailor or shipwright so far from the sea. The most probable raison d'etre for both the Woodeaton and the Barton Court Farm anchors is that they were good-luck amulets worn in honour of Neptune or some unnamed water god.

It may be that there is a shrine to discover at Barton Court Farm, like that associated with Chedworth (Goodburn 1972). However, there are several instances of models occurring at villas where no shrine is indicated, for example Icklingham (Suffolk) (Green 1975-6), Hambledon (Bucks) (Cocks 1921), and Rockbourne (Hants) (Morley Hesitt 1969, pl XVA). The Barton Court anchor may be no more than a personal talisman.

IV.6.2 Perforated oyster shell, (Fig 110.11)

Perforated oyster shell; possibly worn as a amulet
(549) 1026, Saxon Sunken hut.

I know of no Saxon parallels to this object, although perforated dog whelks, limpet, and periwinkle shells have been found on Neolithic sites such as the West Kennet and Nympsfield barrows (Clifford 1938)

IV.6.3 References

Anon, 1957-8 Lincolnshire Architectural & Archaeol Reports Papers, 7, 99-101

Boon, G C, 1977 A Graeco-Roman anchor-stock from North Wales, Antiq J, 57, 10-31

Bradford, J S P & Goodchild, R G, 1939 Excavations at Frilford, Berks, Oxoniensia, 4, 1-70

British Museum, 1922 Guide to the antiquities of Roman Britain

British Museum, 1971 Introductory guide to the Egyptian Collections

Clifford, E M, 1938 The Excavations of Nympsfield Long Barrow, Gloucs, Proc Prehist Soc, 4. 188-213

Cocks A H, 1921 A Romano-British homestead in the Hambledon Valley Bucks. Archaeologia, 71, 141-98

Farrar, R A H, 1952 A bronze hanging bowl and model axe head from the Roman cemetery at Poundbury, Dorchester, Proc Dorset Natural History Archaeol Soc, 74, 98-9

Goodburn, R, 1972 The Roman villa at Chedworth

Green, M J, 1975 Romano-British non-ceramic model objects in south-east Britain, Archaeol J, 132, 54-70

Green, M J, 1975-6 A Romano-Celtic cult symbol from Icklingham, Suffolk, Proc Cambs Antiq Soc, 66, 55-61

Green M J, 1976 A corpus of religious material from the civilian areas of Roman Britain, Brit Archaeol Rep, 24

Green M J, 1978a Cult objects from the military areas of Roman Britain, Brit Archaeol Rep 52

Green, M J, 1978b The worship of the Romano-Celtic wheel-god in Britain seen in relation to Gaulish evidence, Collections Latomus,

Kirk, J R, 1949 Bronzes from Woodeaton, Oxoniensia, 14, 1-49

Klein, W G, 1928 The Roman Temple at Worth, Kent, Antiq J. 8, 76-86

Lewis, M J T, 1966 Temples in Roman Britain

Mann, J C, 1975 The Romans in the North

Morley Hewitt, A T, 1969 Roman Villa, West Park, Rockbourne

Savory, H N, 1937 An early Iron Age site at Long Wittenham, Berks, Oxoniensia, 2, 3 1-11

Stahelin, F, 1931 Die Schweiz in römischer Zeit

Stümpel, B, 1974 Bericht des Staatlichen Amtes fur Vor-Und Fruhgeschichte Meinz für Die Zeit 1970/71, Mainzer Zeitschrift, 59, 220-63

Toutain, J, 1920 Les Cultes Paiens dans l'Empire Romaine, III Mainzer Zeidtschrift, 59 220-63

Ucelli, G, 1950 Le Navi di Nemi

Westell, W P, 1930 The Romano-British cemetery at the Grange, Welwyn, Herts, Trans St Albans Herts Architectural Archaeol Soc, 1930, 37-55

Wilson, D R, et al, 1971 Roman Britain in 1970, Britannia, 2, 273

IV.7 WEAPONS AND HUNTING GEAR

IV.7.1 Spearheads (Fig 111.1-3)

1 Iron spearhead. It has a long split socket and a short, apparently symmetrical, blade with sloping shoulders. The pointis missing. In cross-section one face of the blade is flat, the other a low triangle. (328) 792, Interior of late RB Building 2

Mr I R Scott writes: 'Originally it was probably leaf-shaped in outline, but it is now not possible to be certain of its exact form. The asymmetrical cross-section of the blade is paralleled on a number of Roman spearheads. Examples coming from Ham Hill (Taunton Museum), from Hod Hill (in the Durden Collection, including Brailsford 1962, p VI, B27) and from Newstead (Curle 1911, pl XXXVII, 22). On a military site one would

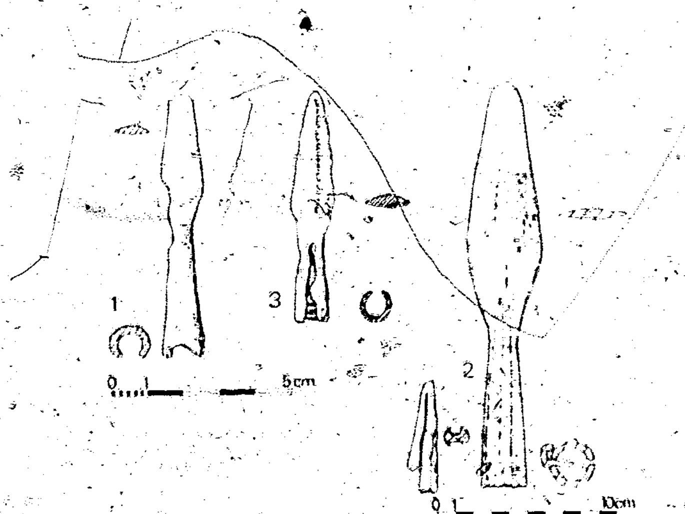


Fig 111 Iron spearheads

consider a spearhead of this size and form to be from a cavalry lance, rather than a throwing spear or thrusting spear, but in a civilian context such certainty is impossible.'

2 Iron spearhead. The blade is lozenge-shaped with a rounded tip and a shallow groove along the centre of one side. The socket is faceted, split near the mouth, with a single nail through it. A fragment of the wooden shaft survives inside the socket.

(443) 832/5, late RB well.

Mr I R Scott writes: 'The two most distinctive features of this spearhead are its faceted socket and its rounded point; both are paralleled on closely dated Roman spearheads. The best examples of faceted sockets are found on two spearheads from Flavian pits at Newstead (Curle 1911, pl XXXVII, 6, and pl XXXVI, 6). The latter also has a rounded point, which characterizes a group of distinctive slim spearheads. Other examples of this form come from Camulodunum (Colchester Museum), Fingeringhoe Wick (Colchester Museum), Ham Hill, and Hod Hill (Brailsford 1962, pl V, B9 and B18). There are a number of examples from Vindonissa (Site Museum) and a closely dated example from Heddernheim (Fischer 1973, Abb 28, 1). The latter example comes from the first period of occupation in the fort which is dated c AD 75-83 to AD 103-11.

The spearhead from Barton Court is not exactly like the examples quoted, being broader and stouter. However, the faceted socket and rounded point both confirm a Roman date. The groove in the blade, while not paralleled on any closely dated Roman weapon, does not cast doubts on its Roman origin.

The difference in form between this spearhead and others with round points presumably reflects a difference in function. All the parallels quoted come from military sites or sites with some military occupation. They are almost certainly lanceheads. The Barton Court example is probably a thrusting or stabbing spear and comes from a civilian site. It is in all probability for hunting.

3 Iron spearhead; small, angular type belonging to Swanton's E1 group. Low-set shoulders; narrow triangular cleft runs the entire length of the socket. A similar spearhead from Long Wittenham was associated with a Christian stoup (Swanton 1973, 76-9, fig 68).

(573) 1023/1, Saxon sunken hut.

IV.7.2. References (IV.7)

Brailsford, J W, 1962 Hod Hill I: Antiquities from Hod Hill in the Durden Collection

Curle, J, 1911 A Roman frontier post and its people: the fort of Newstead in the parish of Melrose

Fischer, U, 1973 Grabungen im römischen Steinkastell von Heddernheim 1957-1959, Schriften des Frankfurter Museums für Vor- und Frühgeschichte, II

Swanton, M J, 1973 The spearheads of the Anglo-Saxon settlements

IV.8 DOMESTIC AND HOUSEHOLD EQUIPMENT

IV.8.1 Iron keys and latches (Fig 112.1-8)

1 Lever lock key. The bow is rectangular with an arched and pierced head surmounted by a rounded moulding, originally one of two. The stem is circular in section and piped at its end. The bit has two slits at the front and one at the back, with an L-shaped edge. This form of key is not uncommon and examples could be quoted from many sites; a very similar one, although with more teeth on the edge, comes from Verulamium (Wheeler & Wheeler 1936, 220, pl LXVB, 28).
(26) 19, early RB pit, inside structure III.

2 Lever lock key. The bow is rectangular with an arched and pierced head surmounted by paired, rounded mouldings. The solid stem is circular. The bit has one slit at the front and another at the back.
(25) 19, early RB pit, inside structure III

3 T-shaped lift key. The flattened handle has a turned-over loop at its top; at the bottom it narrows into a rod-like stem ending in two up-turned teeth. Compare Manning 1972, 182, fig 68, no 74 from Verulamium, and Manning 1974, 179, fig 75, no 569, from the Gadebridge Park Villa, and examples cited there.
(445) 832/5, late RB well.

4 Padlock key. The stem tapers towards its top which is rolled over to form a loop with a recurved tip. The bit, which is at right-angles to the stem, has two rectangular holes in it. Compare with Manning 1972, 184, fig 68, nos 80 and 81, from Verulamium and the examples quoted there.
(444) 832/5, late RB well.
A fragment of a similar key, also (540) 1023/1, Saxon sunken hut.

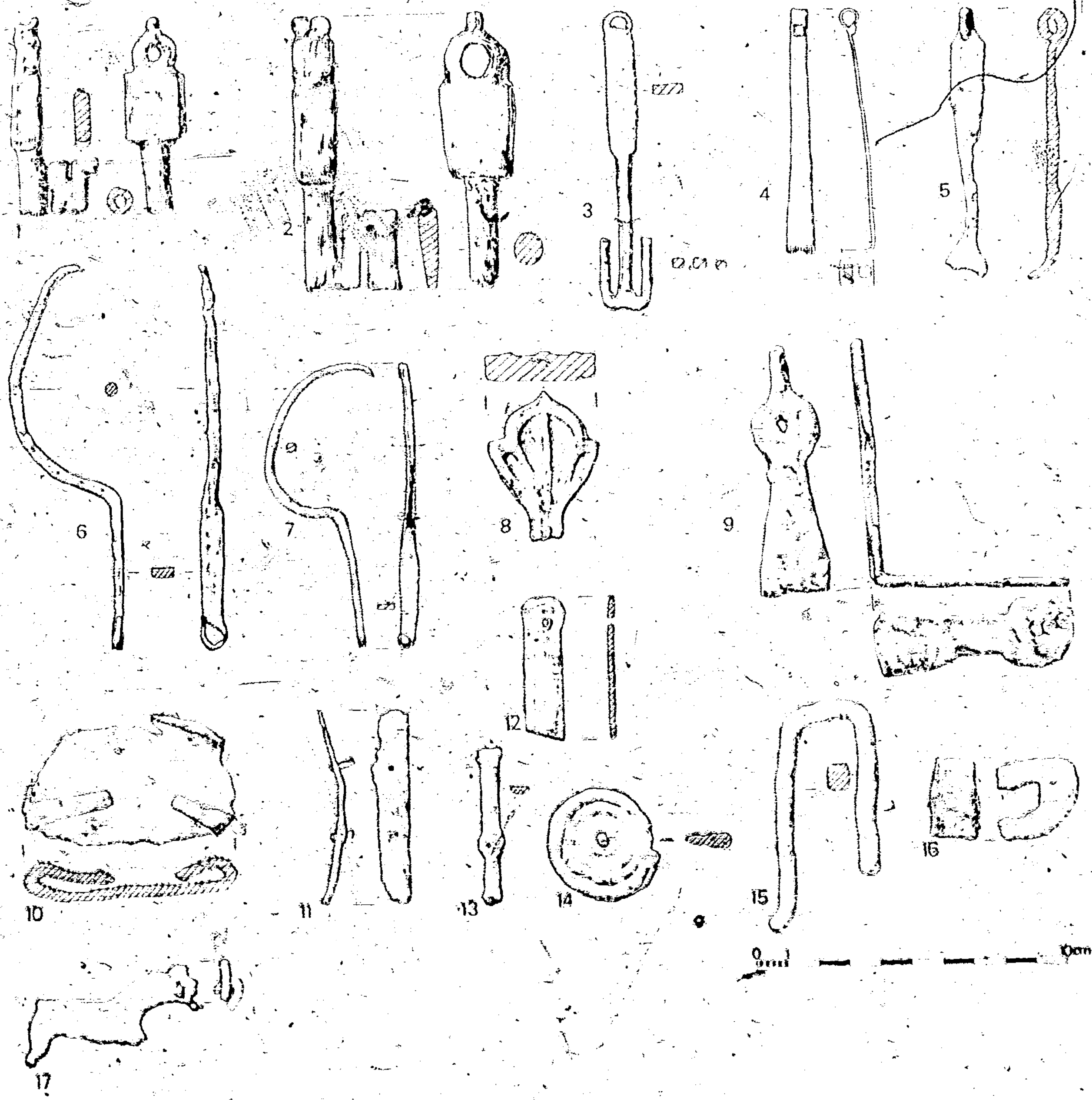


Fig 112 Household equipment; keys, latch lifters, iron mounts-

Padlock key. The handle is distinctly waisted with a narrow, rolled head. The bit was probably circular in outline with a central perforation but is now broken. It is a variant form of (444). Similar examples are known from London (Wheeler 1946, 75, pl XXXI, 12 & 13) but they came from unstratified contexts and are probably post-Roman, for the type is well known from medieval contexts in London and elswewhere (cf London Museum Medieval Catalogue (1954) 146, fig 44, especially nos 2, 3, & 5, and other examples cited there). In view of this our example is clearly medieval in date.

(161) 600, topsoil, trench IV, SW of villa.

6 Latch lifter. The flat handle ends in a turned-over loop. The bow has a flat curve, ending in a short, angled tip. Compare Manning 1972, 182, fig 68, no 73, from Verulamium and the examples cited there.

(21) 1, late RB pit.

7 Latch lifter. The handle is flattened with a turned-over loop at its end. The bow is strongly curved, ending with a small, angled tip. Compare Manning 1974, 166, fig 71, no 395).

(442) 832/5, late RB well.

8 Key handle. The ornamental bow from a key handle. The decoration is formed by depressions on one face. Probably from a tumber-lock or slide key.

(99) 280, robber trench of late RB.

Iron hearth tool (not illustrated)

Fragment of twisted and broken rod which tapers into a straight tang (?). Probably part of the handle of a tool associated with the hearth or forge, possibly a tanged flesh-hook.

(538) 1023, Saxon sunken hut.

Not illustrated Binding. The point at one end suggests that it may have been a nail driven through and around wood rather than, for example, part of a buckle or ferrule binding.

(110) 295, upper fill of late RB villa cellar.

14 Iron coil. Coiled rod which tapers as it approaches its centre. Its function is not obvious.

(516) 854/1, late RB paddock ditch.

15 Iron rod. Square-sectioned rod bent into a U-shape.

(279) 766, west end of 712 rubble spread of late RB building 2.

Not illustrated two other rod fragments.

(45) 1, late RB pit.

(143) 426, post-hole, possibly early RB.

16 Iron fragment of heavy, curved bar.

(244) 712, rubble spread over late RB Building 2.

Not illustrated. Iron fragment curved and tapering with a rounded rectangular section. It is slightly split. It resembles the bow of a brooch but there is no sign of there ever having been a catch plate and it is more probably a fragment of binding.

(9) 7, ?posthole in early RB enclosures and probably contemporary with it.

IV.8.2 Mounts and bindings (Fig 112. 9-16)

9 Iron L-shaped corner binding. Both arms taper towards their ends, which are discoidal and pierced; one has a finial tapering tip. Probably from a box or chest. Almost identical bindings came from the angles of a wooden box excavated at the Bradwell Roman villa at Milton Keynes, Bucks, in 1976, each angle having two such bindings (Antiq Journ, forthcoming).

(14) 336/1, late RB paddock ditch.

10 Iron binding? Sub-rectangular plate with one of the longer edges slightly upturned. At the corners of the opposite edge are two spikes, now folded inwards. Probably a specialized binding. Compare Manning 1974, 187, fig. 78, no 671, from the Gadebridge Park Villa.

(194) 640/1, late RB villa enclosure ditch, S side.

11 Iron binding. Curving fragment, broken on its lower edge, with two bronze rivets through it.

(508) 864, stone lining of late RB corn-dryer.

12 Fragment of iron binding? A strap with a perforated, lobed head.

(174) 602/1, late RB villa enclosure dich.

Four other fragments of iron binding were found:

13 (102) 282, upper fill of late RB farmhouse cellar.

Not illustrated.

(215) 701/1, late of RB paddock ditch.

(261) 729, stone spread inside late RB enclosure.

(266) 708/1, late RB pit.

IV.8.3 References (IV.8.1, IV.8.2)

Manning, W H, 1972 The ironwork, in S Frere Verulamium Excavations I, Soc Antiq London Res Rep 28

Manning, W H, 1974 The ironwork, in D S Neale, The Excavation of the Roman villa in Gadebridge Park, Hemel Hempstead 1963-8 Soc Antiq, London Res Rep 31

Wheeler, R E M, 1936 London in Roman Times, London Museum Catalogue 3

Wheeler, R E M, & Wheeler, T V, 1936 Verulamium, A Belgic and Two Roman Cities Soc Antiq London Res Rep 11

IV.8.4 A jet plaque (Fig 113.6) Martin Henig

A plaque of jet (92) was found in the robber trench 273 of the RB farmhouse running E-W between rooms 2 and 3. A short length of its left edge is still preserved but otherwise the break is entirely arbitrary and casts no light on the original dimensions of the leaf. The surviving dimensions of the plaque are length 29mm, width 27mm, and thickness c 5mm.

On the front a nude figure (probably male, although distinguishing anatomical features such as the chest and genitalia are extremely cursory in execution) is depicted in relief. His legs are splayed and the right one, which survives to a point below the knee, is flexed, thus suggesting that despite the lack of visible support the figure is seated. The right arm is fully preserved down to the hand which clasps the knee, again an attitude indicative of relaxation. Unfortunately the left arm, left leg, and head are missing and there is no trace of any attribute by which to identify the subject.

The back of the fragment is plain apart from an indistinct flange which corresponds to the surviving left-hand border on the front.

A similar plaque, fortunately complete, was found in excavations at the new Market Hall site, Gloucester (Hassall & Rhodes 1974). This portrays a nude male figure squatting frontally and holding a horn. He has been compared with 'the horn blowing Celtic god from the famous capital at Cirencester' now convincingly reinterpreted by E J Phillips (1976, pl XIa) as Silenus with his drinking-horn. The figure on the Gloucester plaque should also be identified as a member of the Satyr family and compared with the resting satyrs so often encountered on Roman gemstones (Boardman 1968, 21 and 93, no 16; Henig 1974, 27 ff, no 157, pl v).

Another plaque from the Kaiserthermen at Trier probably portrays a standing satyr with a thyrsus, although this is indicated in a somewhat rough fashion (Hagen 1937, especially 141, no K7 (pl xli, fig 2). In view of the lack of any such attribute on the Barton Court Farm plaque it must be hazardous to dogmatize on its subject, but it is no unlike the figure of Hercules resting after his labours on a bone or ivory knife-handle now in New York (Weitzmann 1972, 17, pl

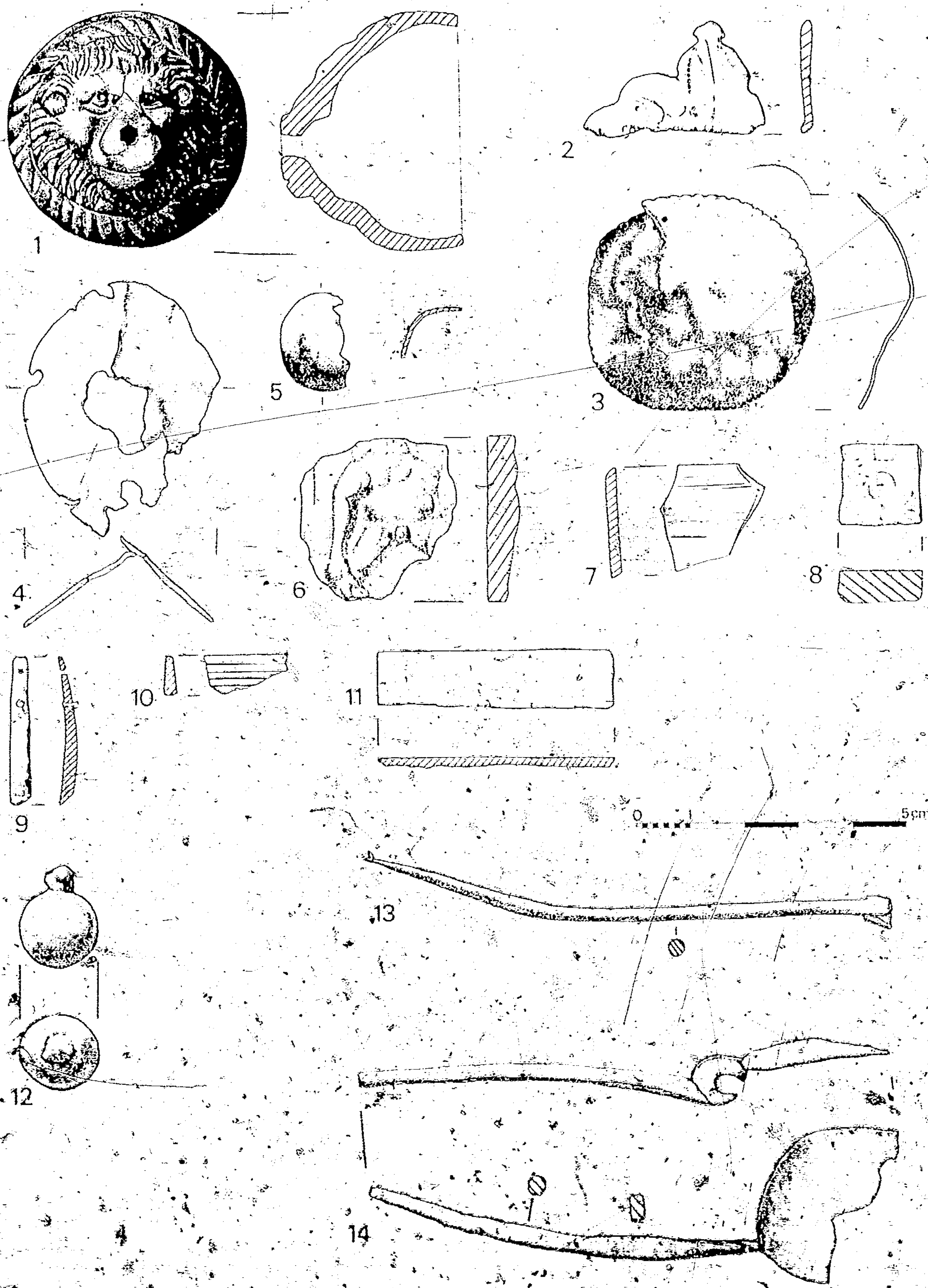


Fig 113 Household equipment: bronze, jet, and bone mounts; steelyard weight and spoons

viii, fig 12). Alternatively, it might show a satyr of the type cited above (see also the splendid bandy-legged Silenus on an intaglio in Paris (Richter 1971, 44, no 176) and a youth portrayed on a jet knife-handle from Cologne, seated with his right hand on his knee and possibly also a satyr (Hagen 1937, 138, no H20, pl xxxviii, fig 2).

Other recorded figured plaques portray Jupiter with his thunderbolt from Trier (Hagen 1937, 141, no K8, pl xli, fig 2) and Atys from Castle Hill, Whitton, Suffolk (Toynbee 1962, 184, no 136, pl clii).

The jet industry is still considered to have been centred in or around the Colonia at York, but the presence of considerable numbers of artefacts in jet from elsewhere in Britain, including the three plaques cited in this note, must leave open the possibility that jet was exported in a raw state from its source around Whitby, and carved not only in York but wherever there was a craftsman with the ability to exploit a demand in the local market (Drury 1973; Lawson 1975). In any case, it should be emphasized that jet was a sophisticated taste in Roman Britain and the objects carved in it are entirely Graeco-Roman in conception.

IV.8.4.1 References (IV.8.4)

Boardman, J, 1968 Engraved gems: the Ionides Collection

Drury, P J, 1973 Romano-British jet objects from Chelmsford, Antiq J, 53, 272-3

Hagen, W, 1937 Kaiserzeitliche Gagatarbeiten aus dem rheinischen Germanien, Bonner Jahruch, 142

Hassell, M & Rhodes, J, 1974 Excavations at the new Market Hall, Gloucester, 1966-7, Trans Bristol Gloucestershire Archaeol Soc, 93, 15-100

Henig M, 1974 A corpus of Roman engraved gemstones from British sites, Brit Archaeol Rep 8

Lawson, A J, 1975 Shale and jet objects from Silchester, Archaeologia, 105, 241-75

Phillips, E J, 1976 A Roman figured capital in Cirencester, J Brit Archaeol Ass, 129, 35-41

Richter, G M A, 1971 Engraved gems of the Romans

Toynbee, J M C, 1962 Art in Roman Britain

Weitzmann, K, 1972 Dumbarton Oaks Catalogue: Byzantine and Early Medieval Antiquities in the Dumbarton Oaks Collection III Ivories and Steatites

IV.8.5 Mounts, of bronze, shale, and bone

IV.8.5.1 Bronze mounts (Fig 113.1-5)

1 Hollow bronze mount in the form of a lion's head with a hole through the snout, Diameter 43mm (268) 712, disturbed occupation layer of late RB building 2. The lion's head may have originally formed the terminal of a wooden object, such as a chair arm or another piece of furniture. A similar but smaller object from Richborough (Bushe-Fox 1949, 139, no 168 and pl XLIV; also pl XXXVIII, no 130 for a bronze bucket foot with a lion mask) has the remains of an iron nail still in situ. Two other bronze lion-head bosses from Lydney, rather crude and stylized in design, have perforated lobes around the side as the means of attachment to a flat surface. (Wheeler & Wheeler 1932, 87, nos 109-10, fig 21).

Lions feature frequently in Roman furniture design; in particular the legs of tables and chairs often take feline forms surmounted by lions' heads (Richter 1966, pl 580 and 586; Liversidge 1955, 41). A lion's head mount from Lullingstone (Meates 1955, 58; pl 13, no 1) probably acted as an axle cap, while the docile animal from Fishbourne formed the terminal for a key or knife handle (Cunliffe 1971, II, fig 50, no 144). The function of the lion's head terminal on an elongated hollow mount from Verulamium (Frere 1972, 132, fig 43, no 141) is less certain.

The lion often appears in a funerary context, as a symbol of the soul's triumph over death (Toynbee 1973, 61-9). A 3rd century tombstone from South Shields has a lion's head in the pediment, with a ring through its nose (Toynbee 1962, pl 89), suggesting that lions' heads were used as the decorative mounts for the handles of chests. They also appear as decoration on small caskets (Henig 1977, 356-8; and an example in Verulamium Museum)

2 Fragment of a bronze mount, probably triangular in shape originally. A stylized bird's head survives on the lower angle and probably was originally matched by a second. The head is decorated with shallow incised lines indicating feathers and the eye. The centre and apex of the triangle represents a leaf sketched with incised lines and punched dots around the edge. The style is similar to that on the late RB ring decorated with a frieze of animals (see Fig 105.2).
(271) 676/1, late RB villa enclosure ditch.

3 Bronze sheet mount, oval with serrated edge. Possibly the top sheet of a Saxon applied disc brooch.
(588) 1170/1, late RB paddock ditch.

4 Bronze sheet mount, probably originally circular with open centre. Traces of attachment holes around the edge.
(214) 708/2, late RB pit.

5 Bronze sheet mount, probably formed a cap over the end of an object.
(658) 949, top fill of late RB well's construction trench.

IV.8.5.2. Shale mounts (Fig 113.7)

7 Shale plaque, probably used as a mount
(641) 952/1, Saxon sunken hut.

IV.8.5.3 Bone mounts (Fig 113.8-11)

8 Bone plaque, square with faintly incised dot-and-circle decoration at centre and a faint irregular tracery of lines across the surface. Probably a decorative mount, but possibly used as a gaming piece.
(340) 792, disturbed layer within late RB building 2

9 Bone strip, curving, perforated by two holes, one of which has a small bronze rivet through it. Probably used as a mount or binding.
(512) 15/1, late RB villa enclosure ditch, W side.

10 Bone fragment, decorated with incised parallel lines. Possibly a mount or fragment of a vessel.
(604) 1190/2, Saxon sunken hut.

11 Bone plaque or mount.
(36), unstratified.

IV.8.5.4 References (IV.8.5)

Bushe-Fox, J P, 1949 Fourth Report on the excavations of the Roman fort at Richborough, Kent, Soc Antiq London Res Rep 16

Cunliffe, B, 1971 Excavations at Fishbourne 1961-1969, Soc Antiq London Res Rep 27

Frere, S, 1972, Verulamium excavations, 1, Soc Antiq London Res Rep 28

Henig, M, 1977 Death and the Maiden: funerary symbolism in daily life in Munby, J, & Henig, M (eds), Roman life and art in Britain, Brit Archaeol Rep 41, 347-66

Liversidge, J, 1955 Furniture in Roman Britain

Meates, G W, 1955 Lullingstone Roman Villa

Richter, G M A, 1966 The furniture of the Greeks, Etruscans and Romans

Toynbee, J M C, 1962 Art in Roman Britain

Toynbee, J M C, 1973 Animals in Roman life and art

Wheeler, R E M & Wheeler, T V, 1932. Report on the excavations of the prehistoric, Roman and post-Roman site in Lydney Park, Gloucestershire., Soc Antiq London Res Rep 9

IV.8.6 Weights and measures (Fig 113.12)

12 Steelyard weight, bronze coating over probably lead core. Remains of iron attachment on top.
(152) 411, layer within RB villa room 5.

IV.8.7 Spoons (Fig 113.13-14)

13 Simple bronze spoon with a broken bowl and handle
(23) 60 late late RB pit.

14 Fragment of bronze ? spoon Flattened end may be reamains of a bowl; the opposite end is bifurcated and handle section is circular so identification is uncertain.
(126) unstratified.

IV.8.8 Iron ladle (Fig. 114.1)

1 Hemispherical bowl with a flat plate on one side narrowing into a handle or tang, which is now broken. A similar ladle with its handle ending in a flesh-hook comes from Great Chesterford (Essex) (Museum of Archaeology and Ethnology, Cambridge); others without the flesh-hook are known from Margidunum (Notts) (University of Nottingham Museum), and Caerwent (Gwent) (Newport Museum).
(545) 1029/1, late RB paddock ditch.

IV.8.9. Knives (Fig 114.2-8)

2 Iron knife The back of the blade and the solid handle form a flattened S-shaped curve, givng a sharp downturn at the end of the handle and an upturned tip to the blade. The edge curves up to the rounded tip. Although usually identified as knives, they could equally well be razors. This form of knife is characteristic of the Iron Age, for although the blade-form continues into the Roman period this type of handle does not. They occur in La Tène II and III contexts in Europe (Déchelette 1927, 871, type a, fig 598, 1-3) and in Britain, in particular from the Barbury Castle (Wilts) hoard (MacGregor & Simpson 1963, 396, fig 1.1). The basic blade

Fig 114 Iron ladle and knives

form can be paralleled from Hod Hill (Dorset) in an Iron Age or early Roman context (Brailsford 1962, 14, pl VIII, G67) and from many Roman sites; eg Newstead, (Roxburgh) in Flavian contexts (Curle 1911, 281, pl LX 2 and 282, pl LX, 7 & 13), Verulamium (Wheeler & Wheeler 1936, 219, pl LXIV, F13) etc.
(117), 342 late Iron Age pit

3 Iron knife. The back is stepped up from the wide tang and is level for a short way before running down to the point. The edge is separated from the tang by a sloped step, beyond which it curves gently up to the tip. A common form comparable to examples from Lydney (Glos) (Lysons 1813, pl XXXIII, 2), Woodcuts, (Dorset) (Pitt-Rivers 1887, 69, pl XXII, 2 & 4); Richborough (Kent) (Bushe-Fox 1949, 154, pl LX, 334) etc.
(104), 291, layer within room 1 of late RB villa building

4 Iron knife. Small knife with a flat tang. The back of the blade continues the line of the socket. The edge is straight, curving up at its damaged tip. It is unfortunate that the tip is incomplete as this is one of the most important features in classifying these knives.
(36), 177, late RB paddock ditch.

5. Iron knife. Fragment of the tip of a curving, hollow-edged, heavy blade; probably a knife. Too little remains for the form to be certain.
(263), 676/1, late RB villa enclosure ditch.

6 Iron knife blade. Fragment of the tapering, symmetrical, pointed tip of a heavy blade.
(335), 792, W room of late RB building 2

7. Iron knife. The back is stepped up from the long tang, point missing.
(424), 834, late RB paddock ditch.

8 Iron knife. Small knife, back of blade slightly stepped down to tang. Blade curved down to point (corroded).
(327), 952, Saxon sunken hut.

IV.8.9.1 References (IV.8.6)

Brailsford, J W, 1962 Hod Hill I Antiquities from Hod Hill in the Durden Collection

Bushe-Fox, J P, 1949 Fourth Report on the excavation of the Roman fort at Richborough, Kent, Soc Antiq London Res Rep 16

Curle, J, 1911 A Roman frontier post and its people: the fort of Newstead in the parish of Melrose

Dechelette, J, 1927 Manuel d'archeologie prehistorique, celtique et gallo-Romaine, IV (Second age du fer ou epoque de la Tene)

Lysons, S, 1813-17 Reliquiae Britannico-Romanae, containing figures of Roman antiquities discovered in England, I-III

MacGregor, M & Simpson, D D A, 1963 A group of iron objects from Barbury Castle, Wilts, Wiltshire Archaeol Natur Hist Mag, 58, 394-402

Pitt-Rivers, A H L, 1887 Excavations in Cranborne Chase, I

Wheeler, R E M, & Wheeler, T V, 1936 Verulamium: Belgic and two Roman cities, Soc Antiq London Res Rep II

IV.8.10 Whetstones (Fig 115.1-5)

1 Whetstone, worn, of fine-grained thinly laminated, micaceous, non-calcareous, sandstone; probably an erratic.

(195) 640/1, late RB villa enclosure ditch, S arm.

2 Whetstone, large with a square section. Fine-grained ferruginous, glauconitic, calcareous sandstone; lower Greensand, possibly from Culham area.

(278) 766, W end of RB building 2.

3 Whetstone, thin and worn; same sandstone as 2 above.

(645) 901/1, late RB paddock ditch.

4 Fragment of whetstone; fine-grained calcareous sandstone; local Corallian.

(79) 272, rubble over late RB villa.

5 Fragment of whetstone; same stone as 2 and 3 above from Culham area.

(38) 188, Saxon sunken hut.

IV.8.11 Miscellaneous sheet bronze (Fig 115.6-7)

6 Sheet bronze terminal covering a wooden object. The bronze has a flattened end with a perforation for suspension. Traces of a small iron pin survive at the lower end, holding the bronze terminal in position.

(17) 24, late Iron Age gully.

Ten fragments of sheet bronze were found, one (133) in a late Iron Age context, eight in late RB features and one (39) in a Saxon sunken hut. Three were long, thin strips, probably protective binding (not illustrated);

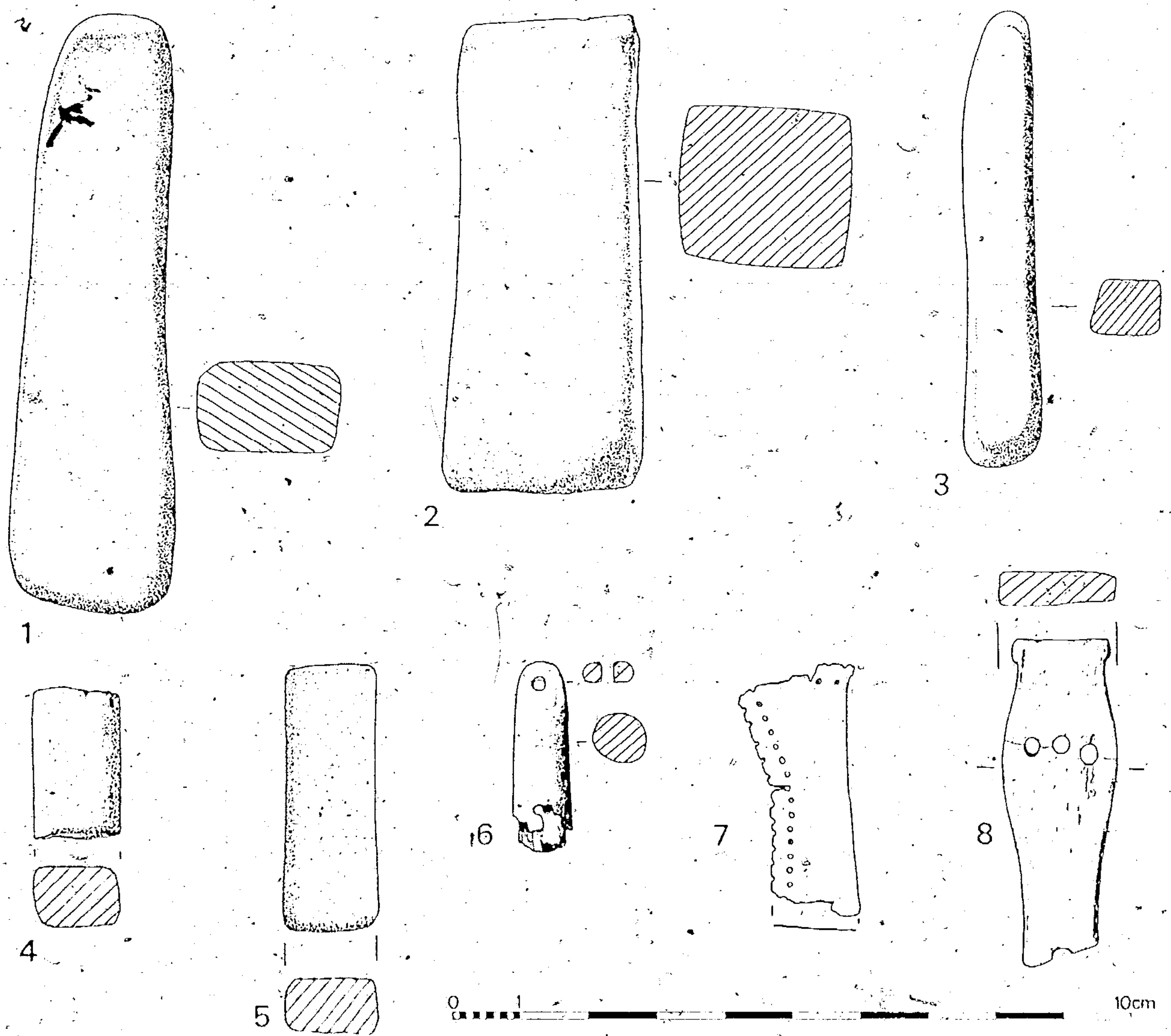


Fig 115 Whetstones; bronze and bone mounts

(133) 368, late Iron Age ditch around small enclosure.

(172) 607/2, late RB paddock ditch.

(206) 695/1, late RB farmhouse enclosure ditch.

One fragment of sheet bronze had perforations around the edges (not illustrated):

(19) 3/1, late RB villa enclosure ditch.

Five plain fragments of sheet bronze may have come from bindings on vessels:

(144), 513 rubble spread over late RB farmhouse.

(426), 834/1, late RB paddock ditch.

(558), 1067/1, late RB paddock ditch, includes Saxon material.

(39) 188/1, Saxon sunken hut.

(141) unstratified.

7 Fragment of sheet bronze with traces of a double row of perforations around one edge. Possibly a strengthener attached to cloth or leather.

(20) 3/1, late RB farmhouse enclosure ditch.

IV.8.12 Miscellaneous bone (Fig 115.8)

8 Bone plaque with slightly expanded, squared-off end and sinuous shape; three holes in an irregular line and a single larger hole just visible at the broken end. Purpose uncertain.

11, posthole in the top of the late Iron Age enclosure ditch 10.

IV.8.13 Handles (Fig 116.1-7)

1 Barrel-shaped bone object, broken longitudinally down the centre. Hand-turned, well polished, decorated with lateral raised ridges at the ends and the centre where it is slightly waisted; dot-and-circle motifs incised using a compass. There is a hole centrally placed in the side on the line of the central ridge, ridge, prhaps for a rivet or for suspension. Possibly a handle or toggle.

(22) 5/1, S arm of late Iron Age enclosure ditch.

A very similar object has been found in the topsoil at the Wilsham Road site, south of Abingdon (Benson & Miles 1974, map 33, SU4995) and in an Iron Age context at Winklebury Camp (a red deer metacarpal) (Smith 1977, fig 39,2).

2 Handle of red deer antler; one end sawn off square, perforation below. Other end rounded, with signs of wear.

(37) 10/1, W arm of late Iron Age enclosure ditch.

3-4 Bone handles, one with traces of indented dot decoration in the form of a V at one end. Two examples, the former undecorated.
(659) & (660), unstratified.

5 Bone handle, well made, polished, decorated with two longitudinal grooves. Recessed underside and projecting tongue.
Perforation in the sider at the thickest section.
(661) 708, late RB pit.

6 Fragment of a small antler handle decorated with shallowly incised geometric design forming triangles, some of which are filled with short incisions. Well polished and burnt.
(408) 803, disturbed layer in W room of late RB building 2, but possibly a Saxon object.

7 Broad handle, probably of red deer antler; slightly waisted at the narrow end, sawn off at both ends and with chamfered sides.
(5860 1181/2, Saxon sunken hut.

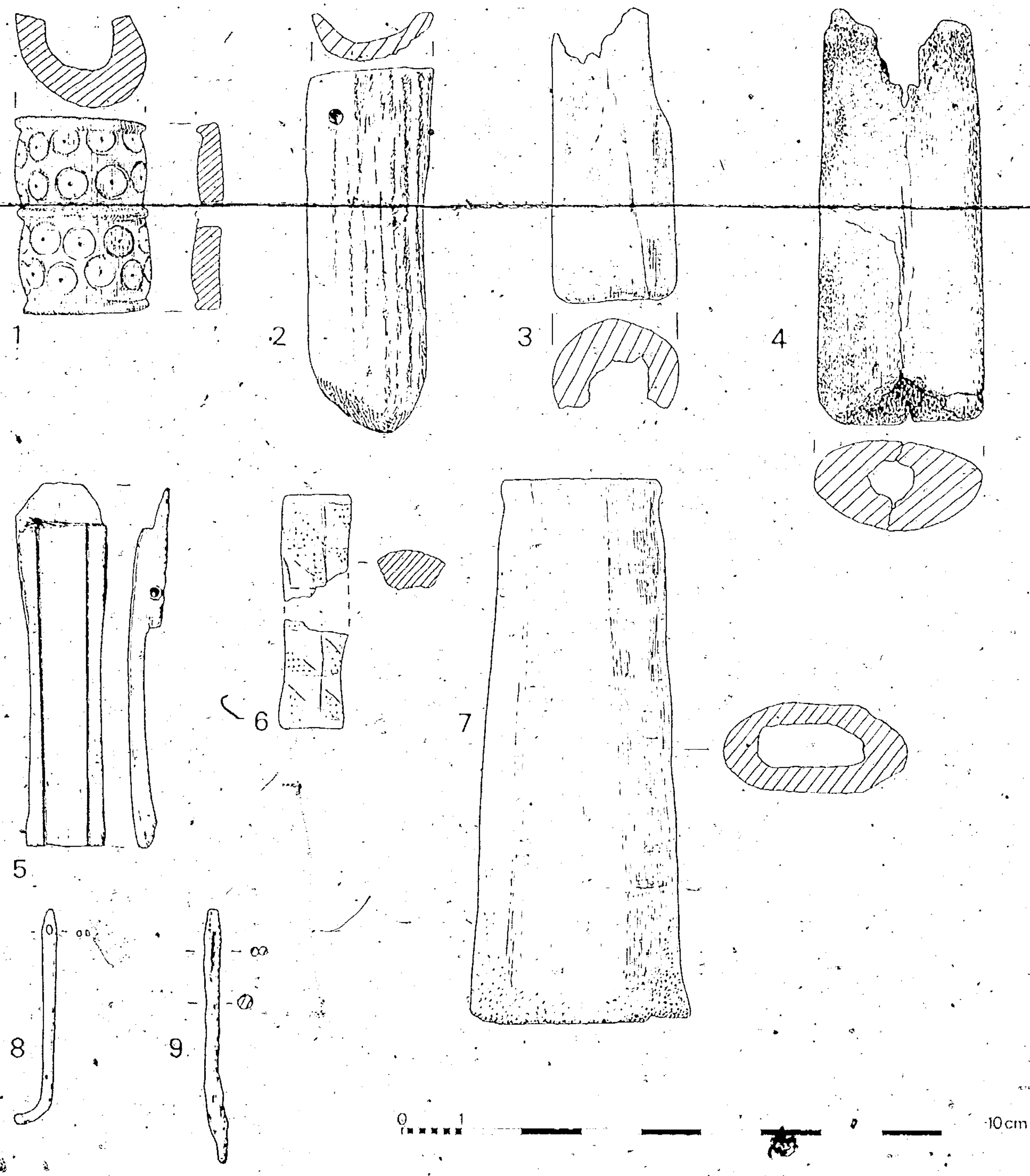


Fig 116 Bone handles; iron needles

IV.8.13.1 References

Benson, D & Miles, D, 1974 The Upper Thames Valley; an archaeological survey of the river gravels

Smith, K, 1977 The excavation of Winklebury Camp, Basingstoke, Hampshire, Proc Prehist Soc, 43, 31-129

IV.8.14 Sewing (Fig 116.8-9)

8 Bronze needle

(404), 797, W edge of late RB building 2.

9 Iron needle with a long eye. Similar examples come from Hod Hill (Dorset) (Brailsford 1962, 18, pl XII, K19 & K20) and Rotherley (Dorset) (Pitt-Rivers 1888, 138, pl CVI, 5)

(170), 601, subsoil over late RB paddock ditch.

IV.8.14.1 References

Brailsford, J W, 1962 Hod Hill I Antiquities from Hod Hill in the Durden Collection

Pitt-Rivers, A H L, 1888 Excavations in Cranborne Chase, II

IV.8.15 Vessels of glass (Fig 117) Jennifer Price

The excavations at Barton Court Farm have produced 65 fragments of Roman glass, of which 7 were window glass and 58 were vessel fragments; a complete oblate bead was also found. Nearly all the vessel glass belongs to the 4th century, and some of the fragments (nos 5 and 8), have a very late Roman appearance. A little earlier glass is represented, notably the fragments of bluish-green bottles (no 11), and the curved handle fragment (no 13), but in the main this is a small assemblage of mid to later 4th century ordinary domestic glassware. There is one fragment of good-quality colourless glass (no 1) which is probably from a linear and facet-cut hemispherical bowl of later 3rd or early 4th century date, and most of the rest of the fragments are of the yellow-greenish and pale-greenish poor-quality glass which is the common 4th century glass on most Romano-British sites.

The catalogue lists all the fragments with any distinguishing features; only plain body fragments have been omitted.

Colourless: facet - and linear-cutting.

1 Small body fragment, from hemispherical bowl (?); very dull, many strain cracks and usage scratches. Tiny piece from curving body. Parts of three oval facet cuts, perhaps from a pattern of lozenges filled with closely spaced intersecting wheel-cuts; also three short horizontal wheel-cuts between two of the facets.

Maximum dimensions 14 x 12mm, thickness of glass 2.5 - 3mm.

(680) 676/1, late RB villa enclosure ditch.

The fragment probably comes from a decorated hemispherical bowl; these were produced in considerable quantities in the 2nd, 3rd and 4th centuries AD. Many have been found in dated contexts in the western provinces of the Roman empire (Isings 1957, forms 96, 104, 113-6), and similar vessels also occur widely in the eastern Mediterranean area; for instance, examples are known from sites on the N coast of the Black Sea (Sorokina 1969, 73, 76, figs 3, 24-26, 5, 12), at Dura-Europos (Clairmont 1963, 63-68, pls 7, 8, 25-31), and at Karanis (Harden 1936, 101-3, pl XIV, 316-7) and Corinth (Davidson 1951, 93-5, fig 6, 592).

Fragments occur quite frequently on RB sites, mainly in 3rd and 4th century contexts; many have been found at Verulamium (Charlesworth 1972, 206, 208, 210, fig 78, 48-53), York (Harden 1961, 137, fig 88), and London (Wheeler 1930, 121-2, fig 42, 1-3).

A wide variety of decorative motifs are found on the bowls; designs similar to those of the Barton Court Farm fragment can be seen on vessels from King William Street, London (A.28278) (Wheeler 1930, 121-2, fig 42, 1), York (Harden

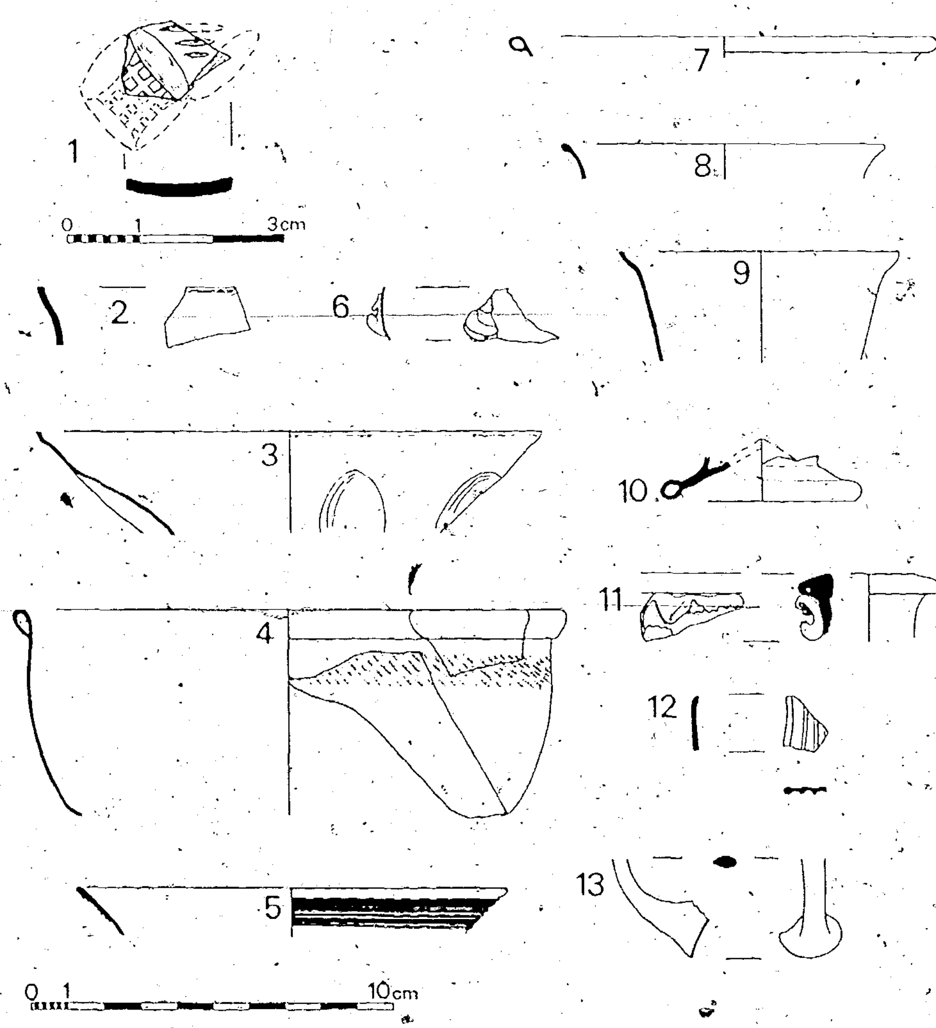


Fig 1.17 Glass vessels

1962, fig 88, HG 210 and HG 211), and Richborough (Bushe-Fox 1928, 52, Pl XXV, 75). Another instance of a similar series of motifs occurs on the upper body of two bowls with applied handles and feet (Isings 1957, form 112, 141), which were found in the Rhineland, at Worms and Trier (Fremersdorf 1968, 124, pl 142-3).

Yellow-green and pale green (nos 2-10, 12 and 12a); the glass is generally bubbly with black specks, flaking brown surface deposit, and weathering streaks and pitting.

Abraded lines

2 Fragment of rim and upper body, from cup or bowl. Slightly curved rim, edge cracked off and smoothed; upper body tapering inwards. Band of fine abraded lines below rim edge.

Dimensions 22 x 18mm, thickness of glass 2mm.

(255), 676/1, late RB villa enclosure ditch.

The colour of the glass, finish of the rim edge, and band of abraded lines are typical of many 4th century vessels (Isings 1957, forms 96, 106, 109, 110, etc), but the surviving fragment is too small to establish whether the vessel was a drinking cup/beaker, or a bow with a larger rim diameter.

Abraded lines and indents

3 Fragment of rim and body, from truncated conical bowl. Curving rim, edge cracked off and smoothed; shallow conical body tapering inwards. Oval indent on body; thin band of abraded lines below rim edge. Diameter (rim) approx 140mm, present height 29mm, thickness of glass 1 - 1.5mm.

(84) 272, rubble spread over late RB farmhouse.

Also: (a) fragment of indented side; yellow-green

792, interior of late RB building 2

(b) fragment of indented side; colourless

743/1, early RB enclosure ditch.

Conical bowls with indented sides occur frequently in 4th century contexts at sites in the Rhineland, N France, and Britain (Isings 1957, form 117, 147-8). The form is also known in north Italy (Calvi 1968, 173-4, pls p.2 and 26, 1), but apparently does not occur in the E provinces of the Roman empire. Pieces from RB sites include reconstructed bowls from Bradwell Abbey villa, Milton Keynes (Price 1975, 12 and fig 33, 5), and Hucclecote villa, (Glos) (Clifford 1933, 334 and fig 10), and a fragmentary example was found at the New Market Hall site in Gloucester (Charlesworth 1974, 76, fig 29, 14).

These bowls also occur in post-Roman burials, but are thought to be late Roman survivals (Harden 1956, 136 and 158, Pl XVf.)

Diagonal ribbing

4 (Note: The drawing of this vessel has been reconstructed from the fragments below which do NOT join together; fragments (a) and (b) may also come from the same vessel).

Two fragments of tubular rim and body, from bowl. Hollow oval tubular rim, edge bent out and down; cylindrical upper body, tapering in sharply below carination; lower body and base missing.

Band of closely set diagonal ribbing faintly visible on upper body below rim.

Diameter (rim) approx 150mm, present height approx 68mm, thickness of glass 1.5 - 2mm.

(284) 792, interior of late RB building 2.

(223) 714, slot alongside late RB driveway and possibly contemporary.

Also: (a) body fragment, faint diagonal ribbing

788. 'B' horizon overlying late RB building 2

(b) body fragment, faint diagonal ribbing 774, layer in E room of late RB building 2.

Bowls with tubular rims are not often found in late Roman contexts in the W provinces, though they occur widely in the E Mediterranean area. The form occurs in Britain in some quantity during the later 1st century AD (Bushe-Fox 1932, 85, pl XV, 63; 1949, 158, pl LXVIII, 369-72), and similar bowls are also known from 2nd and 3rd century sites. There is also one of the same general form which was found in grave 53 of the 5th century cemetery at High Down, Sussex. This is thought to be a Roman survival, dating from not later than the 4th century (Harden 1951, 263, 266, fig 8).

It is not clear how the faint diagonal ribs were produced; the vessel may have been blown in a mould, or perhaps blown through a ring. Closely set vertial and diagonal ribbing is a feature which occurs on a few late Roman forms, such as conical beakers and dollphin-handled hexagonal bottles (Morin 1913, figs 58 and 187), and similar ribbing is also found on some post-Roman glass (Harden 1956, pl XVII A, b-d).

Trailed decoration

5 Fragment of rim and upper body, from bowl (?). Everted rim, edge fire-rounded and thickened, Spiral trail below rim edge, with eight unmarvered closely set trailed lines.

Diameter (rim) approx 120mm, thickness of glass 1 - 1.5mm.

(339) 792 layer within late RB building 2.

The form of this vessel is not certain it may have been a bowl or a large drinking vessel. Fire-rounded rims and trailed decoration on the upper body are found on several late 4th century glass types (Isings 1957, form 106b, 108b), though these features are perhaps better known on 5th and 6th century vessels (Harden 1956, Pl XVI a-d, g, k).

Applied pinched decoration

6 Curved body fragment with applied pinched trail, from jug (?). Part of thin-walled convex curved body. Lower edge of broad vertical trail with two pinched projections.

Maximum dimensions 18 x 26mm, thickness of glass 9.7 - 1mm.

(274) 766, layer in W room of late RB building 2.

The fragment may well come from the pinched trail sometimes found below the handles of jugs and cups, but no similar vessels have been noted from late Roman contexts.

Undecorated

7 Fragment of tubular rim, from bowl. Rounded hollow tubular rim, edge bent out and down; small part of upper body, tapering inwards.

Diameter (rim) 120mm, thickness of glass 1 - 1.5mm.

(125) 375, B horizon over late RB and late Iron Age ditch.

The fragment is from a bowl similar to no 4 above, but this has a shallower body which tapers inwards, rather than a cylindrical form. Two somewhat similar bowls were found in sarcophagus D at Köln-Mungersdorf, a burial dating from the end of the 4th century (Fremersdorf 1933, 95, pl 51, 16 and 18), and a fragment from a dark green bowl of the same shape was found in a late 3rd or 4th century context at Park Street Roman villa, near St.Albans (Herts) (Harden 1945, 71, fig 11, 7). In this case, however, the dark green glass may suggest the survival of a fragment of a 1st century bowl.

8 Rim fragment, from cup or bowl. Everted rim, edge fire-rounded and thickened; cylindrical upper body.

Diameter (rim) approx 90mm, thickness of glass 1 - 1.5mm.

(332) 712, layer within late RB building 2.

Fire-rounded rims occur on several 4th century cup and bowl forms; some of these were found in the late 4th/early 5th century group of glasses from a pit at Burgh Castle, Suffolk (J Roman Stud, 52, 1962, 178 and pl XXIV (1) b, c, g), and fragments of similar rims have been found recently in the destruction levels of the Bradwell Roman villa (Price 1975, 12, fig 33, 1-4). However, this rim form is also common in the post-Roman period, where it occurs on a wide variety of drinking vessels and small bowls, many of which also have spiral trail decoration below the rim edge (Harden 1956, pl XVI).

9 Unstratified chance find.

Rim and body fragment, from conical cup or beaker. Outsplayed curving rim, edge cracked off and not ground smooth; straight-sided upper body, tapering inwards.

(Note: The body is slightly distorted in one place; this is probably caused by partial melting in a fire, and not an indication of indents on the body.

Diameter (rim) 78mm, present height 32mm, thickness of glass 1 - 1.5mm.

(681) unstratified.

Conical drinking vessels are very common in 4th century contexts in the W province of the Roman empire, including Britain (Isings 1957, form 106, 126-131). The vessels were often decorated with horizontal bands of abraded lines, as can be seen on the examples from Silchester (Boon 1974, 232, fig 36, 8), and Wint Hill, Banwell (Somerset) (Harden 1960, 51-2, figs 8-9), but many were produced without any decoration; examples from Romano-British sites include the fragments from Corbridge (Charlesworth 1959, 50, fig 7, 8), and from Shakenoak Farm (Oxon) (Harden 1973, 102, fig 52, 221).

10 Fragment of high foot-ring, from drinking cup. Part of outsplayed doubled base-ring, with tubular edge and domed base (centre of base missing); slight evidence of pontil mark.

Diameter (foot) 56mm thickness of glass 1.5mm.

(276) 712, layer within late RB building 2.

Also: Small fragment of similar foot-ring.

(678) 952, Saxon sunken hut.

Cups, beakers, and jugs are among the 4th century vessel forms which sometimes have a high pushed in foot-ring with a tubular edge (Isings 1957, forms 107, 111, 124). Fragments of similar bases have been found at Bradwell Roman villa (Price 1975, 13, fig 33, 13), and at the New Market Hall site in Gloucester (Charlesworth 1974, 76, fig 29, 5), but I do not know of any complete vessels with such feet from RB sites.

11 Fragment of rim, neck, and handle, from square or cylindrical bottle. Bluish-green. Rim edge folded out, up, and in, and flattened on top; narrow cylindrical neck; part of upper attachment of broad handle on neck, below rim.

Diameter (rim) approx 32mm, thickness of glass in neck 3mm.

(291), topsoil.

Blue-green square and cylindrical bottles were in common use throughout the Roman empire in the 1st, 2nd, and early 3rd centuries AD, and very large numbers of fragments occur at most sites in Roman Britain which were occupied during this period. However, only four other fragments have been found during the excavations at Barton Court Farm, and it therefore seems likely there was little domestic occupation at the site until after these containers had gone out of production.

12 Small fragment of broad angular ribbed handle, from bottle. Ribbon handle with rounded edge and fine vertical ribbing, broken below angle.

Dimensions 15 x 12mm, thickness of glass 1.5 - 2.5mm.

(351) 802 layer in W room of late RB building 2.

The handle fragment perhaps comes from a yellow-green cylindrical bottle or jug, these are sometimes found in late 3rd and 4th century contexts at sites in Britain, N France, and the Rhineland (Isings 1957, forms 126 & 127), and have plain or ribbed angular handles.

12a Small fragment of angular handle and body from bottle (?) or jug (?); part of lower attachment of ridged handle pulled into short vertical trail on slightly curved body.

Present height approx 40mm.

(Not illustrated)

(676) 832/1, top layer of late Romano-British well.

This is a very small part of a type of handle which occurs on my different bottle and jug forms in the 3rd and 4th centuries AD.

13 Fragment of curved handle attached to body, from jug (?); blue-green. Part of curved shoulder, with lower attachment of oval- sectioned rod handle.

Present height approx 28mm.

(282), subsoil over late RB building 2.

Curved rod handles are found on many Roman jug forms, and too little of the vessel survives to be certain of the precise shape of the body, or to suggest a likely date for its manufacture.

IV.8.15.1. References

Boon, G C, 1974 Silchester: the Roman town of Calleva

Bushe-Fox, J P, 1928; 1932; 1949 Excavations at Richborough, Kent II; III; IV, Soc Antiq London Res Rep 7; 10; 16

Calvi, M C, 1968 I vetri romani del Museo di Aquileia

Charlesworth, D, 1959 Roman glass in northern Britain, Archaeol Aeliana 4th ser, 7, 33-58

Charlesworth, D, 1966 Roman square bottles, J Glass Stud 8, 26-40

Charlesworth, D, 1970 The dating and distribution of Roman cylindrical bottles in Charleston, R J, et al (eds), Studies in glass history and design

Charlesworth, D, 1972 The Glass vessels, in M Hassall & J Rhodes, Excavations at the New Market Hall, Gloucester, 1966-7, Trans Bristol Gloucestershire Archaeol Soc, 93, 75-76.

Clairmont, C, 1963 The glass-vessels: excavations at Dura-Europos 4, pt 5.

Clifford, E M, 1933 The Roman villa, Hucclecote, near Gloucester, Trans Bristol Gloucestershire Archaeol Soc, 55, 323-76.

Davidson, G R, 1952 Corinth, XII: The Minor Objects

Fremersdorf, F, 1933 Der römische Gutshof Köln-Mungersdorf

Fremersdorf, F, 1968 Die römischen Gläser mit Schliff, Bemalung und Goldauflagen aus Köln

Harden, D B, 1936 Roman glass from Karanis

Harden, D B, 1945 Glass, in O'Neil, H E, The Roman villa at Park Street, near St Albans Herts, Archaeol J, 102, 68-72

Harden, D B, 1951 Saxon glass from Sussex, Sussex County Mag, 25

Harden, D B, 1956 Glass vessels in Britain, AD 400-1000 in Harden D B (ed), Dark Age Britain, 132-67

Harden, D B, 1960 The Wint Hill hunting bowl and related glasses, J Glass Stud, 2, 44-80

Harden, D B, 1962 Glass in Roman York, Eburacum - Roman York (RCHM)

Harden, D B, 1973 Glass in Brodribb, A C C, et al, Excavations at Shakenoak, 4

Isings, C, 1957 Roman glass from dated finds

Morin, J, 1913 La verrerie en Gaule sous l'empire romain

Price, J, 1975 The Glass in Green, M J, The Bradwell Roman villa,

Sorokina, N, 1969 Das antike Glass der Nordschwarzmeerküste, Annales du 4e Congres des Journées Internationales du Verre, Liege.

Wheeler, R E M, 1930 London in Roman times, London Museum catalogue 3

IV.8.16 Vessels of shale, bronze, and wood

IV.8.16.1 Shale (Fig 118.2)

Fragment of a shale ? bowl with simple thickened rim.
(352) 807, lying between feet of Saxon burial but probably late RB debris from building 2.

IV.8.16.2 Bronze (Fig 118.1)

Bronze fragment of uncertain purpose. Possibly from the base and footring of a vessel or the back of a mirror.
(574) 1117/1, late RB paddock ditch.

IV.8.16.3 Wood (Fig 121.1-3)

Fragments of three wooden buckets were found in the lowest level of the late RB well 832, presumably the remains of vessels used for lifting water. These consisted of two almost complete bases (1 and 3) and a third base (2) split down the middle. All the bases were of oak, concave on the underside and flat inside. Remains of two staves (3), also of oak, were found associated with the third base. These were approximately 30-35mm wide and indented near the bottom in order to allow the base then to slot into the base.
(682-4) 832/5-6

IV.8.17 Vessel handles (Fig 118.3-4)

3 Bronze bucket handle. Only part of a bifurcated terminal survives.
(124) 320/1, early RB enclosure ditch.
4 Small bronze handle from a bucket-like vessel. Simple turned-under terminal.
(294) 788, subsoil overlying late RB building 2.

IV.8.18 Iron well hook (Fig 119.1)

A socketed hook. A strip continues below the open socket and will have been nailed to the handle. Hooks of this type were commonly, but not exclusively, used as well hooks. Examples come from Silchester, Hampshire (W H & S J Hope, *Archaeologia*, 58 (1901) 32) and others in Reading Museum, London (R E M Wheeler, *London in Roman times*, 1946, 77, pl xxxiv, 6), and Caerwent (Newport Museum) (440) 832/4. Late RB well.

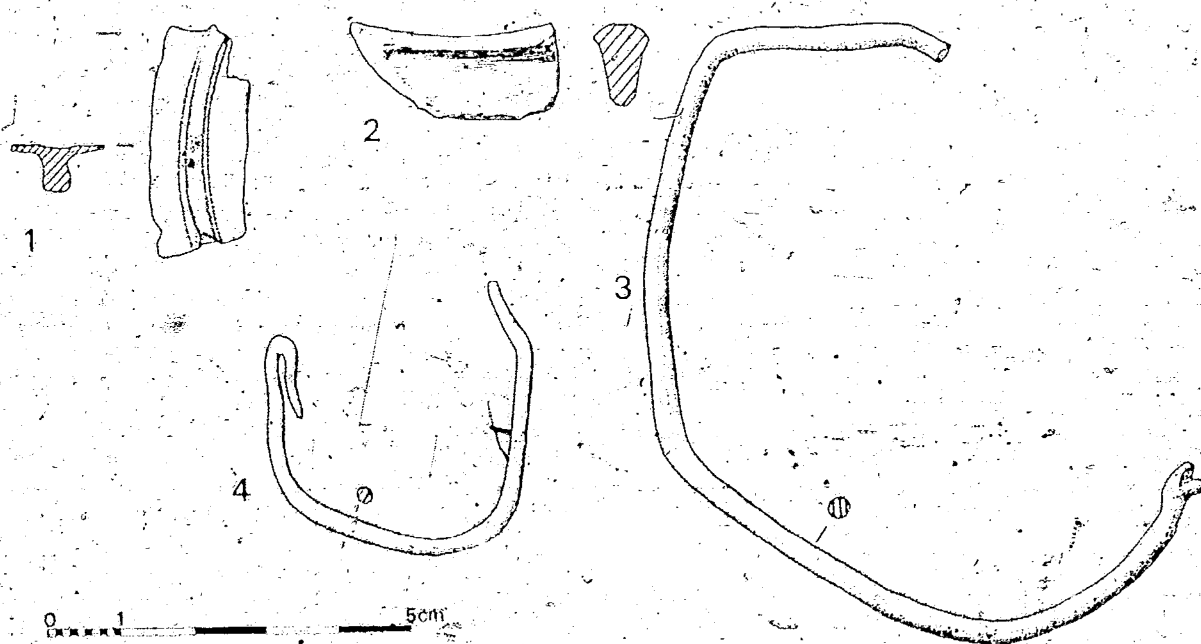


Fig 118 Bronze and shale vessels; bronze vessel handles

Fig 119 Iron well-hook

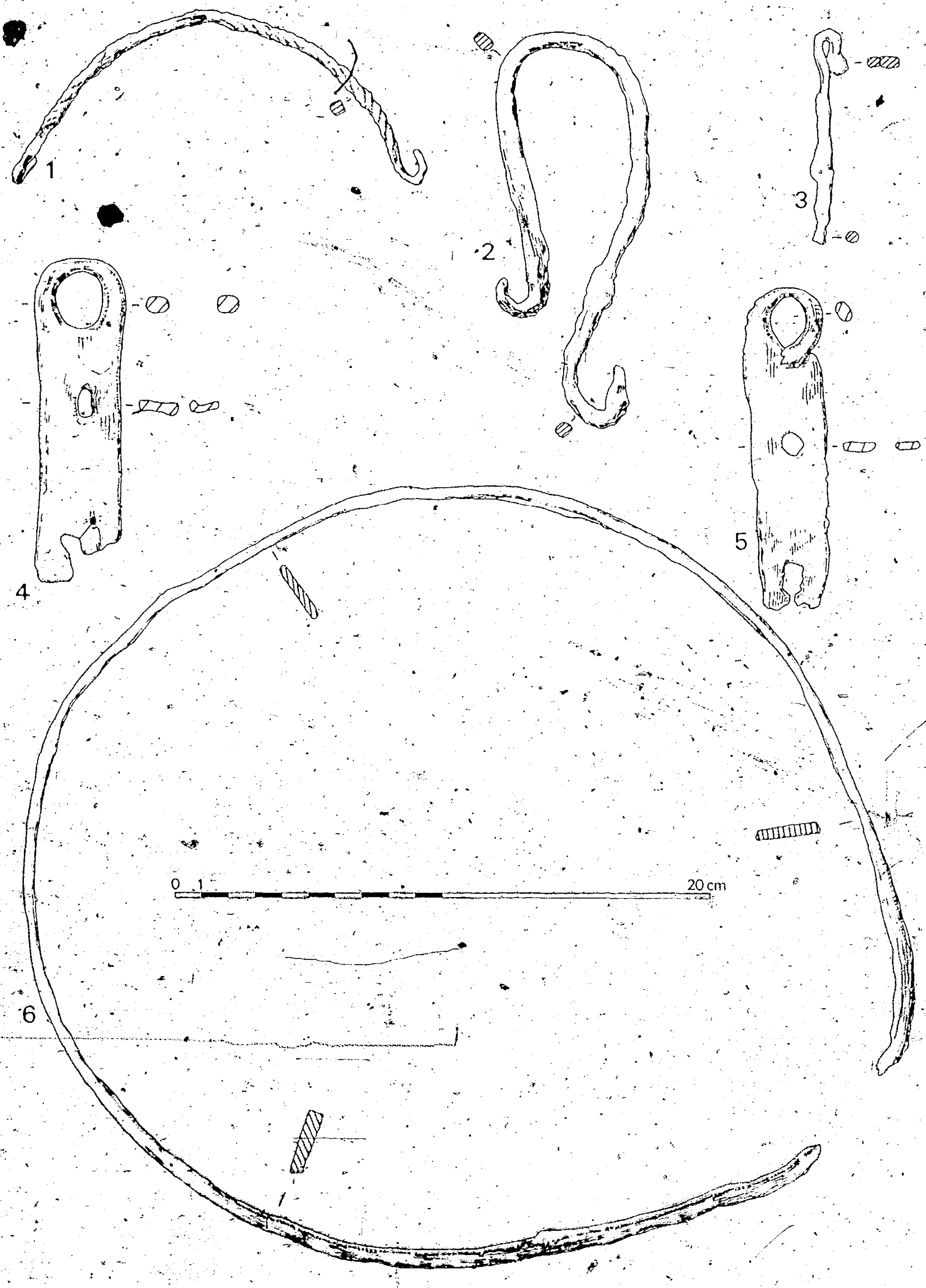


Fig 120 Iron bucket fittings

IV.8.19 Bucket fitments (Fig 120. 1-6)

1 Iron bucket handle with spiral twisting. The hook at one end is lost (158) 602/1, late RB farmstead enclosure ditch.

2 Iron bucket handle formed of a square-sectioned rod, now distorted. A common type found on a complete bucket at Newstead (Curle 1911, 310, pl LX14, 4), the Brampton (Cumberland) hoard (Manning 1966, 27, no. 34), Alchester (Oxon) (Antiq J, 7 (1927), 179, fig 10, 2)

3 Iron loop-ended rod of roughly circular section which becomes rectangular as it approaches the turned-over loop. Possibly part of a bucket handle of the general type seen, for example at Gadebridge Park villa (Manning 1974, 187, fig 79, no 673) or Verulamium (Manning 1972, 178, fig 66, no 55)
(134) 366, early RB pit in ditch 347

4 Iron bucket handle mount. Top of a bucket handle mount with a closed eye and two nail holes. A common method of producing the eye. Compare Manning 1972, 178, fig 66, no 54 from Verulamium and examples cited there. The majority of these mounts were relatively short and were nailed in place, but in other cases they extended to the base of the bucket (eg Manning 1974, 187, fig 79, no 673 from Gadebridge Park villa and other examples cited there). The relatively close spacing of the nail holes suggests that these mounts were of the shorter type.
(439) 832/4, late RB well.

5 Iron bucket handle mount, with a turned-over loop and two nail holes. The turned-over loop is a common alternative to forming the eye (441) 832/6, late RB well

6 Iron bucket binding band. Wide band now distorted and broken open, probably from a bucket or tub. Compare with Manning 1974, 187, fig 79, no 673, from the Gadebridge Park villa and examples cited there. (644) 832/6 late RB well.

IV.8.20 Miscellaneous wooden objects (Fig 121.4-5)

4 Turned spindle-like object with a piriform head. Probably oak. Function uncertain.
(685) 832/5, late RB well

5 Wooden object, rectangular, rounded base with a circular depression in the centre of the flat upper side.
(686) 832/5, late RB well

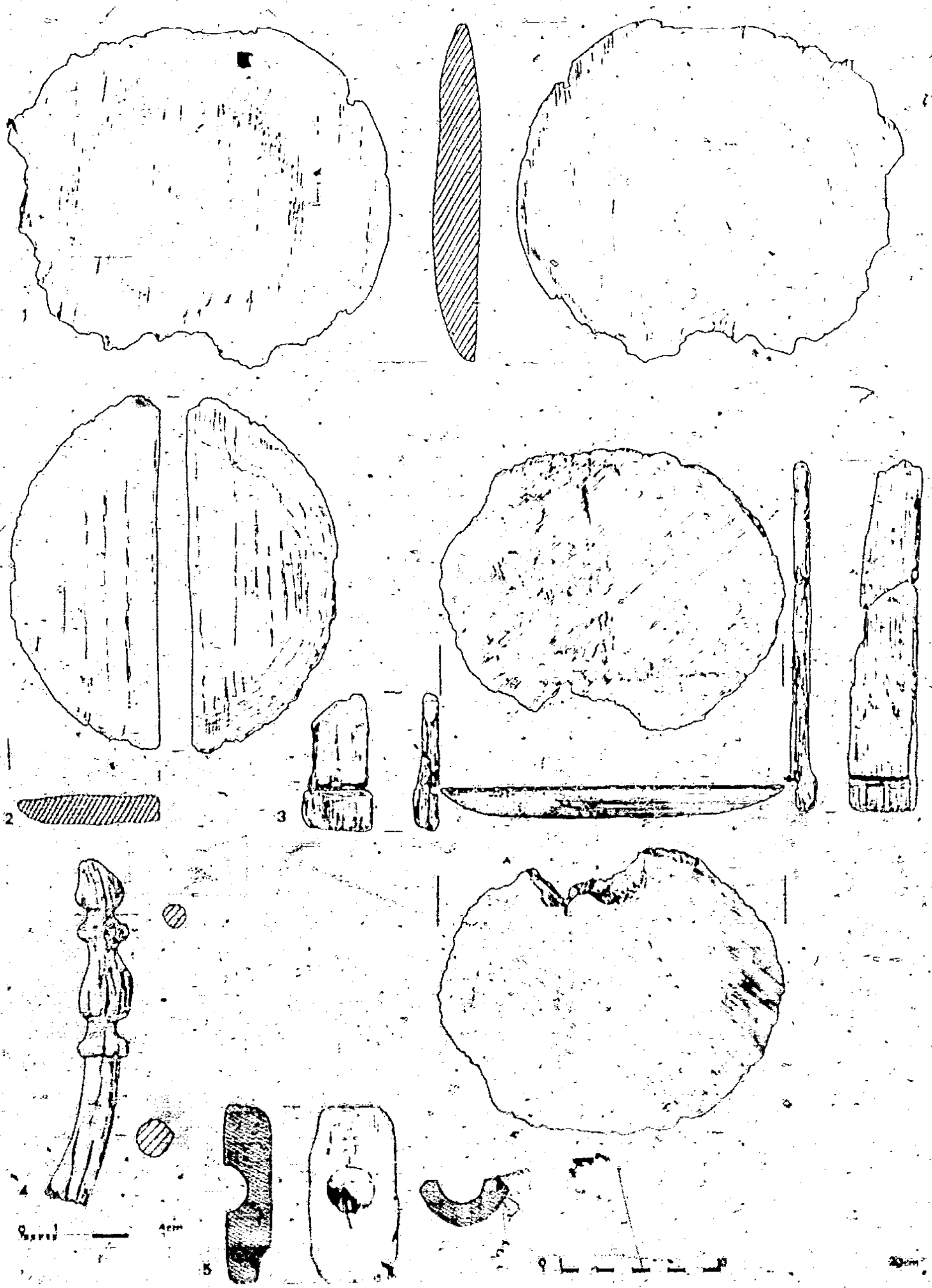


Fig 121 Wooden bucket fragments; wooden objects

References IV.8.20.1

Curle, J, 1911 A Roman frontier post and its people: the fort of Newstead in the parish of Melrose

Manning, W H, 1966 A hoard of Romano-British iron work from Brampton, Cumberland, Trans Cumberland Westmorland Antiq Archaeol Soc, 66, 1-36

Manning, W H, 1972 The ironwork, in S Frere Verulamium excavations I, Soc Antiq London Res Rep 28

Manning, W H, 1974 The ironwork, D S Neal, I The excavations of the Roman villa in Gadebridge park, Hemel Hempstead, 1963-8, Soc Antiq London Res Rep 31

V The Pottery

DAVID MILES WITH DIANE HOFDAHL & JOHN MOORE
CONTRIBUTIONS BY K F HARTLEY
J BIRD, B DICKINSON, & B R HARTLEY

V.1 INTRODUCTION

About 500kg of pottery was found during the excavations at Barton Court Farm, 428kg of which was from archaeological features; the rest was in the topsoil.

The pottery came from features of four principal phases. The small quantity of Neolithic pottery has been dealt with separately by Dr Alasdair Whittle (III.4.). The rest - Iron Age, Romano-British, and Saxon - is included here. The relative quantities of pottery from features of the principal phases are as follows:

Iron Age	16.7%
Early RB	9.7%
Late RB	66.5%
Saxon	6.9%

There was a certain amount of ceramic contamination in the features or continued use of earlier styles; for example, 51% of the pottery in the Saxon sunken huts was late RB types; 56% of the pottery in the early RB features was native late Iron Age types. The proportions of pottery of the principal phases based on fabric and form classification, rather than on the date of the features in which they were found are as follows:

Iron Age	26.4%
Early RB	4.9%
Late RB	64.3%
Saxon	4.1%

It should be noted that the sampling procedures are subject to the haphazard bias that is inherent in the excavation of a site whose characteristic features change from phase to phase. For example, the proportion of Iron Age pottery relative to early RB pottery is high as a result of the tendency to dump pottery in rubbish pits in the earlier period. A probabilistic strategy for countering this was not employed, and in these circumstances it is important to recognize the haphazard influencing factors (Jones 1978).

V.1.1 Methods of analysis

The Barton Court Farm excavation revealed a succession of farmsteads of Iron Age, early RB and late RB date. Within these major phases there was little evidence of finer chronological detail, the majority of material coming from open ditches or well ploughed and robbed buildings. The number of closed groups of pottery from pits and wells was relatively small.

The usefulness of the pottery as a chronological indicator is limited, and in any case this is only one aspect of the evidence which-can be gained from the study of the site assemblage; trading patterns, social practices such as methods of cooking, the relative status of sites, and culture change can all have light thrown on them by the study of pottery (Renfrew 1977).

With these factors in mind it was decided to examine the pottery both typologically and quantitatively. A series of type fabrics was worked out for the pottery of each of the major periods (Iron Age, RB, and Saxon) and the pottery was sorted and weighed. The advantages of this method over sherd counting were that it was quicker and that it gave an absolute figure. Certain types of pottery weigh much more than others and their fabrics appear over-represented: for example, storage jars by comparison with small beakers. This can fairly easily be accounted for.

The pottery from every stratified layer and feature was sorted into fabrics, weighed, and recorded on standard forms which have been placed in the site archive.

In the late Iron Age and RB periods pottery became standardized. Rather than draw the material in every group, with all the repetition this would entail, a type series of forms was built up based on largely complete vessels and rim sherds. Every rim sherd was then classified according to its form type, fabric, colour, decoration, diameter, and method of manufacture. The type series presented here is a relatively crude one. Shortage of time did not allow for much refinement and some inconsistencies remain. In particular, not enough attention was paid to the different zones of the pot (eg rim form, shoulder, base, and decoration), all of which deserve classification. Too often a complete vessel provided the type fossil and matching rims were put within the same category. This should be borne in mind in using the report, and future schemes for recording pottery in the region should improve on this.

The Saxon pottery was of a different character to the Iron Age and RB material, being much less standardized in form. Also, it was found in relatively closed groups, chiefly in sunken huts, and in considerably less quantity than in earlier periods. Consequently, although its fabrics were classified and weighed in the way described, no type series was constructed: instead, the material is published in groups.

V.2 IRON AGE POTTERY

A total of 71.6kg of pottery was found in features belonging to the Iron Age settlement. On stratigraphic grounds it appeared that the Iron Age settlement was essentially of a single period and that it came into existence in the late Iron Age, in the late 1st century BC or early 1st century AD. Except for a single pit, 28, the features produced pottery characteristic of the period immediately prior to and contemporary with the Roman Conquest, although some fabrics and forms appeared which are usually thought to belong to earlier periods.

V.2.1 Fabrics

The pottery was classified into four basic fabrics using similar criteria to those defined in the study of the material from Ashville, Abingdon (De Roche 1978, 41). Fabric 1 is characterized by significant amounts of calcareous inclusions, usually shell of large size (5 - c 15mm) or dense distributions of smaller size (c 2 - 3mm). It would be possible to subdivide this fabric on the basis of particle size of the calcareous material and possibly geological origin.

Fabric 2 includes all sherds which have a predominately sandy texture resulting from the inclusions of quartz. Fabric 2 seems to be derived from local Thames Valley clays and contains a complex variety of minerals found in the clays and river deposited gravels, including shelly limestone, limonite, and flint. In view of this the division between Fabrics 1 and 2 is somewhat arbitrary but although calcareous material may appear in Fabric 2 it does not predominate nor does a significant quantity appear to have been leached or burnt out.

Fabric 3 is a relatively rare fabric with a significant quantity of flint.

Fabric 4 includes all fine ware sherds from butt and girth beakers. There are at least three subdivisions of this fabric though they are extremely thin-bodied vessels. These are probably imported into the region, from the SE, and resemble Colchester types. The second fabric is also good-quality but the vessels are less fine than the first. These may be locally made, possibly near Dorchester. The third fabric is coarser; its vessels are thicker-walled, and often with distinct leathery appearance. This is also thought to be a local

Thames Valley type. No attempt has been made here to subdivide these fabrics as many sherds are worn and ~~not easy to categorize~~. The rigorous definition and study of these types of pottery could prove a useful avenue of research into socio-economic contact in the late Iron Age and the quantities present may reflect on the status of the sites where they are found.

V.2.2 Catalogue of Iron Age types (Figs 122-125)

The catalogue is laid out with the form number first, followed by the name of the form, the number of examples found on the site, the fabric the vessels are made from, colour, technique, and finally parallels where appropriate.

Fig 122

1.1 Vessel with rim expanded internally and externally. 4; fabric 1; reddish-yellow to black, coarse hand-made. This type is usually considered to be characteristic of the early Iron Age (Harding 1972, 75). Similar vessels but with finger-impressed or cable decoration on the rim have been found at Chinnor and Wittenham Clumps (Harding 1972, 144, D, E), Mount Farm (Myres 1937, fig 7), Ashville, Abingdon (De Roche 1978, fig 31, 7).

1.2 Vessel with rim expanded externally. 1; fabric 1; reddish-brown to black; hand-made smoothed interior.

2.1 Barrel jar with slightly pinched-in rim. 16; 7 examples are fabric 1, the rest are fabric 2. Light reddish-brown to black. The complete vessel illustrated, from pit 28, has finger-wiping down the body. Similar vessels from City Farm, Hanborough (Case et al 1964/5, fig 33, no 14) and Cassington North-West Pit 1 (Harding 1972, p 163); Ashville, Abingdon (De Roche 1978, 1948, no 259).

3.1 Shouldered jar. 6; 5 examples are fabric 1, 1 fabric 2; black to buff-grey; hand-made. Beard Mill, Stanton Harcourt (Williams 1951, fig 10, no 27).

4.1 Simple profile vessel. 3; 2 in fabric 1, 1 in fabric 2; reddish-brown to black; 1 example is possibly wheen-thrown, other hand-made.

5.1 Club-rimmed vessel. 3; fabric 1; very dark grey; wheel-thrown.

6.1 Necked bowl/jar. 15; 3 in fabric 1, 11 in fabric 2, 1 in fabric 3; greyish-brown to black; mostly wheel-thrown. Similar vessels from many Upper Thames sites (Harding 1972. p 169).

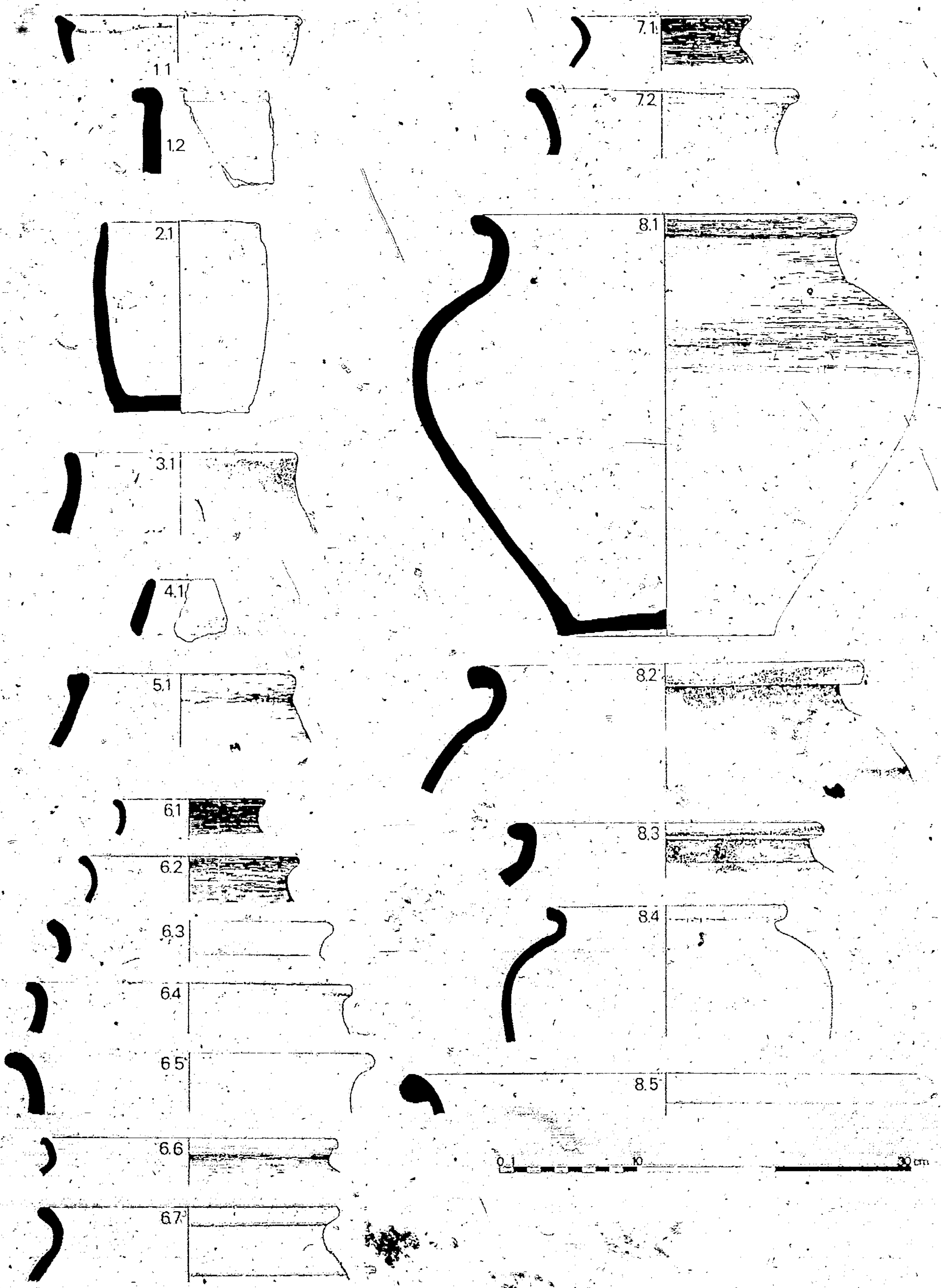


Fig 122 Iron Age pottery

6.2 Necked bowl/jar. 3; 1 in fabric 1, 2 in fabric 2; very pale brown to greyish-brown; wheel-thrown.

6.3 Necked bowl with short rim. 3; 1 in fabric 2, 2 in fabric 3; black; method uncertain. Langford Down Period II (Harding 1972, p 71 J).

6.4 Necked bowl. 5; 3 in fabric 1, 1 in fabric 2, 1 in fabric 3. Light yellowing brown to black. Wheel-thrown and hand-made.

6.5 Necked jar. 8; 6 in fabric 1, 2 in fabric 2; light red-brown to black. Wheel-thrown and hand-made.

6.6 Necked jar with hanging rim. 2; fabrics 1 and 2. Light yellow brown to dark grey. Wheel-thrown.

6.7 Necked bowl. 2; fabric 2. Dark grey to black. Wheel-thrown and hand made. One example had a hole drilled through the neck after firing, for suspension.

7.1 Jar with everted rim; 2; similar to SW black-burnished types; one example in a similar fabric other in fabric 2. Black; hand made.

7.2 Narrow necked jar with everted rim. 5; 2 in fabric 1, 2 in fabric 2, 1 in fabric 3. Very pale brown to black; wheel-thrown.

8.1 Large necked jar/bowl. 5; 2 in fabric 1, 3 in fabric 2. Dark grey-black; wheel-thrown and hand-made. Linch Hill, Stanton Harcourt (Harding 1972, p 170 J).

8.2 Large necked jar/bowl with squared flange rim. 6 in fabric 1, 2 in fabric 2, 1 in fabric 3. Light yellowish-brown-black; wheel-thrown and possibly hand-made.

8.3 Large necked jar/bowl with rounded flange rim. 6; 1 in fabric 1, 4 in fabric 2, 1 in fabric 3. Light grey-black. Wheel-thrown and hand-made.

8.4 Medium-large necked jar/bowl with squared flange rim less coarse than others in this group. 7; 4 in fabric 1, 3 in fabric 2. Reddish-yellow to very dark grey. Wheel-thrown.

8.5 Large jar with rounded rim. 1 in fabric 1, 2 in fabric 2. Grey-black. Method uncertain.

Fig 123

8.6 Medium-sized necked jar. 1, fabric 1, Dark grey. Wheel-thrown.

8.7 Large necked jar with grooved rim (? lid-seating). 2; fabric 1 and 2. Pale brown-black. Method uncertain.

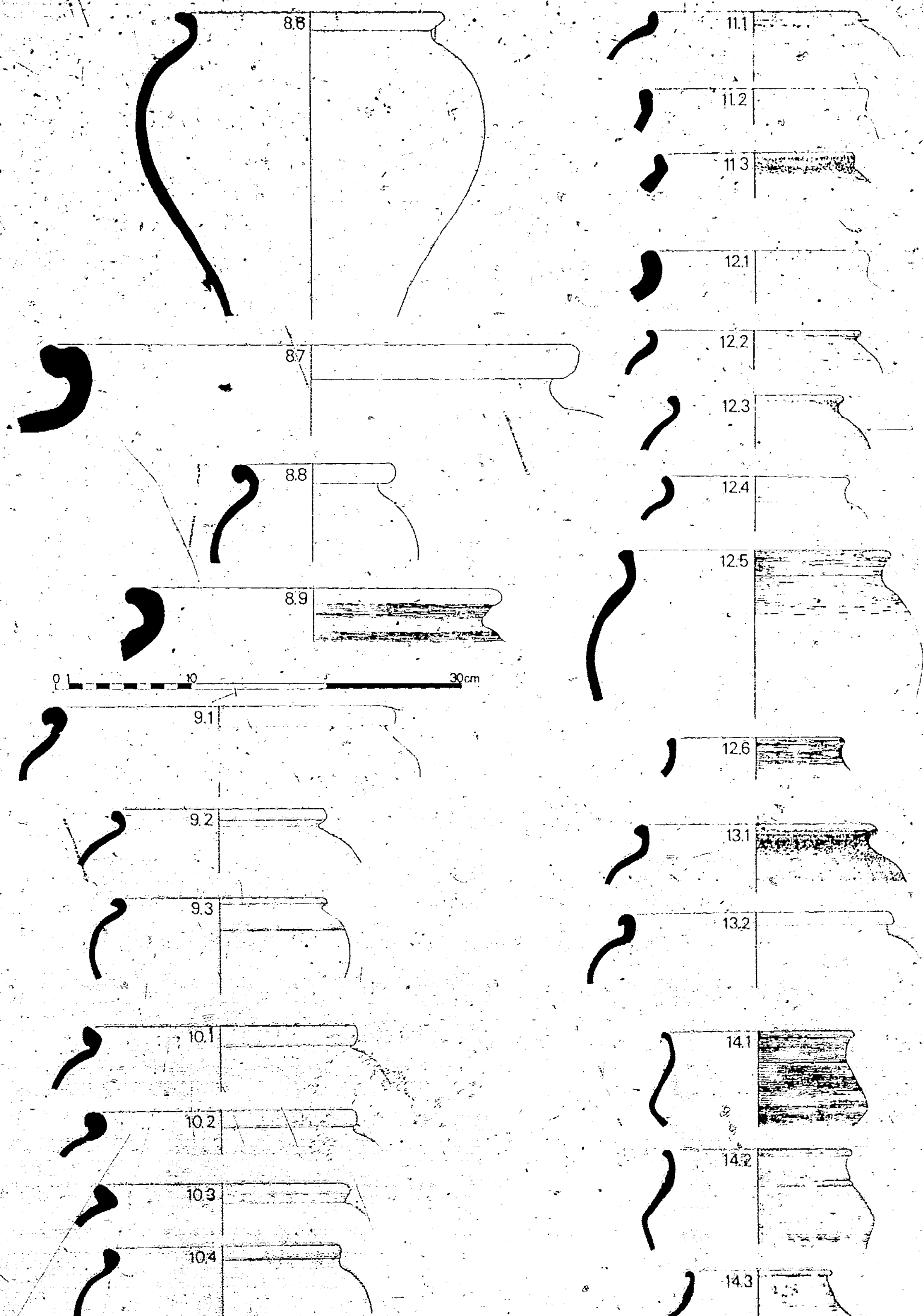


Fig 123 Iron Age pottery

8.8 Necked jar with large, round rim. 2, fabric 1; black; wheel-thrown and hand-made.

8.9 Large jar with high shoulder and everted rim. 1, fabric 1; dark greyish-brown; hand-made.

9.1 High-shouldered bowl with out-turned rim. 4; 1 in fabric 1, 2 in fabric 2,1 in fabric 3; dark grey-black; wheel-thrown. Linch Hill, Stanton Harcourt, is similar type (Grimes 1943, fig 24, no 13).

9.2 High-shouldered bowl with everted rim. 3; 2 in fabric 1, 1 in fabric 2; light brown-dark grey; wheel-thrown.

9.3 High-shouldered bowl with everted rim. 2; fabrics 1 and 2; black; wheel-thrown.

10.1 High-shouldered jar with squared rim. 5, fabric 1; dark grey-black; wheel-thrown. Linch Hill, Stanton Harcourt (Grimes 1943, fig 24, no 18); Ashville, Abingdon (De Roche, fig 53, no 375).

10.2 High-shouldered jar with bead rim. 1, fabric 2; very dark grey; wheel-thrown.

10.3 High-shouldered jar with 'everted' bead rim. 1, fabric 1; black, method uncertain.

10.4 High-shouldered jar with fluted bead rim. 1, fabric 1; black, wheel-thrown.

11.1 High-shouldered jar with simple, upright rim. 18; 5 in fabric 1, 10 in fabric 2, 3 in fabric 3; light reddish-brown to black; mostly hand-made, some wheel-thrown. Linch Hill, Stanton Harcourt; Langford Down (Harding 1972, pl 70 E, pl 71 F).

11.2 Jar with simple upright rim, 1, fabric 3; dark grey; method uncertain.

11.3 Jar with simple, slightly everted rim. 2; fabric 1; one example is very coarse fabric of early Iron Age type, though form and context are later. Yellow-brown-black; hand-made.

12.1 Coarse jar with short, concave neck. 5; 1 in fabric 1, 2 in fabric 2, 1 in fabric 3; black; hand-made and ?wheel-thrown. Langford Down (Harding 1972, pl 71 A).

12.2 Jar with short, concave neck; 4; 2 in fabric 1, 2 in fabric 2; grey-black; wheel-thrown.

12.3 Jar with short, concave neck. 5; 2 in fabric 1, 2 in fabric 2, 1 in fabric 3; very pale brown-dark grey; wheel-thrown and hand-made.

12.4 Jar with short, concave neck; fabric 2; black; method uncertain.

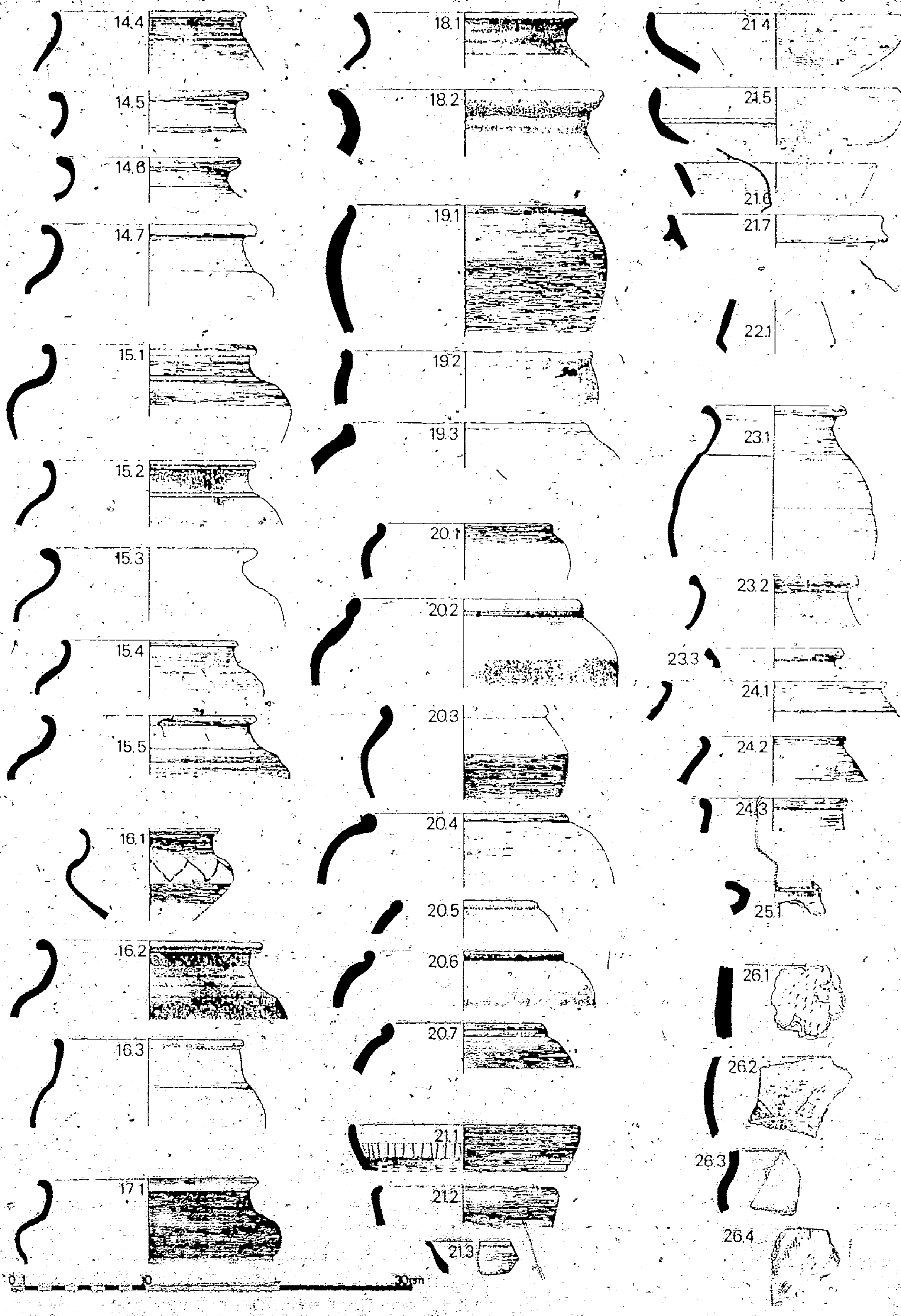


Fig 124 Iron Age pottery

12.5 Jar with concave neck and slightly thickened rim. fabric 1; dark grey; wheel-thrown.

12.6 Jar with slightly concave neck and thickened rim; 2; fabrics 2 and 3. Very pale brown-black; method uncertain.

13.1 Necked bowl/jar with pouted, flanged rim. 3; fabrics 1, 2 and 3; very pale brown-black; haand made and wheel-thrown.

13.2 Necked bowl/jar with drooping, flanged rim. fabric 1; black; wheel-thrown.

14.1 Necked bowl with cordon Illustrated example from ditch 312, in fabric 1, has sharp carination; rest have same rim. 12; 5 in fabric 1, 7 in fabric 2; greyish brow-black; wheel-thrown.

14.2 Necked bowl with cordon. Illustrated example from ditch 312 in fabric 1 has sharp carination; rest have same rims. fabric 2; dark grey-black; wheel-thrown and hand-made.

14.3 Necked bowl with slightly bulbous neck, with cordon 2; fabric 2; black; wheel-thrown.

Fig 123

14.4 Necked bowl with cordon (probably carinated body); very similar to rim of 14.2.9; 2, fabric 1, 7 in fabric 2; pale brown-black; mostly wheel-thrown, one possibly hand-made.

14.5 Necked bowl with cordon. 1; fabric 1; black; probably hand-made.

14.6 Necked bowl/jar with cordon, possibly an early RB type and found in ERB ditch 347. fabric 1; dark grey; wheel-thrown.

14.7 Necked bowl. fabric 2; black; wheel-made.

15.1 Necked bowl with beaded rim and cordon 9; 3 of fabric 1, 6 of fabric 2, pinkish grey-black. Mostly wheelmade, one possibly hand-made.

15.2 Necked bowl with less pronounced bead than 15.1 and cordon. 19; 7 of fabric 1, 11 of fabric 2, 1 of fabric 3; light yellowish brown-black; wheel-thrown.

15.3 Necked bowl, flaring rim and cordon. 4; 1 of fabric 1, 2 of fabric 2, 1 of fabric 3; light red-grey black; wheel-thrown.

15.4 Necked bowl with vestigial cordon. 2; fabric 1 and one example in a grey ware similar to early RB fabric; yellow-red-grey; wheel - thrown.

15.5 Necked bowl with cordons forming a corrugated or wavy effect. 1; fabric 1; dark grey; wheel-thrown. Charney Bassett example has more pronounced 'waves' (Harding 1972, pl 690).

16.1 Necked bowl. Illustration is of vessel from ditch 312; others examples as similar rim only. 6; 2 of fabric 1, 4 of fabric 2; light red-black; wheel-thrown.

16.2 Necked bowl with bead rim and horizontal lines on neck. 1; fabric 1; black; probably wheel-thrown.

16.3 Necked bowl with upright, slightly beaded rim and cordon. Illustration is of vessel from ditch 10 in fabric 3, wheel-thrown. 2; 1 in fabric 1, 1 fabric 3; grey-reddish brown. Wheel-thrown and hand-made.

17.1 Necked bowl with no cordon. Illustrated vessel from ditch 312, fabric 1, has compression around its girth; the rest have similar rims only. 12; 5 fabric 1, 7 fabric 2; light red brown-black; wheel-thrown.

18.1 Necked bowl with irregular, concave neck. 4 fabric 1; brown-black; wheel-thrown.

18.2 Coarse, necked-bowl/jar with irregular, concave neck. 2; fabric 1 and 2, light grey-black, wheel-thrown.

19.1 Globular bowl. 9; 5 fabric 1, 4 fabric 2, dark brown-black, hand-made. Allen's Pit, Dorchester (Harding 1972, pl 68, D), Ashville, Abingdon (De Roche 1978, fig 49, no 273), Heath Farm, Milton Common (Rowley 1973, fig 6).

19.2 Globular bowl with bead rim; illustrated example from ditch 10, in fabric 1 has incised line decoration beneath rim. 7; 4 fabric 1, 3 fabric 2, light reddish-brown-black, hand-made.

19.3 Globular bowl; 3; 1 fabric 1, 2 fabric 2, grey-black; hand-made.

20.1 Globular bowl with bead rim. 3; 2 fabric 1, 1 fabric 2, grey, wheel-thrown and hand-made.

20.2 Globular bow with bead rim - perforated under rim after firing. 1; fabric 2, brown, method uncertain.

20.3 Globular bowl with bead rim. 6; 2 fabric 1, 4 fabric 2, grey-black, hand-made and wheel-thrown.

20.4 Globular bowl with bead rim. 2; fabric 1, black, hand-made.

20.5 Globular bowl with bead rim and slack shoulder. 4; 1 in fabric 1, 3 in fabric 2, dark brown-black, method uncertain.

20.6 Globular bowl with bead rim. 5; 3 fabric, 2 fabric 2, brown-black, hand-made and possibly wheel-thrown.

20.7 Globular bowl with squared off bead rim. 1; greyware similar to early RB ditch <u>347</u>. This seems to be an example of a form which is usually associated with an earlier phase of the Iron Age continuing to be manufactured in the 1st century AD.

21.1 Shallow dish. The illustrated example from ditch 312 has burnished outer walls and burnished vertical lines inside. This is a rare form in the Upper Thames Valley. 2; fabric 2, pale brown, method uncertain. A possible example from Ashville, Abingdon (De Roche 1978, fig 52, no 359).

21.2 Dish with inturned rim. 1; fabric 2, grey, wheel-thrown.

21.3 Dish or platter. 2; fabrics 1 and 2, black, wheel-thrown. The wall profile is similar to that of the platter found in a late Iron Age burial at Watlington (Harding 1972, pl 72, O), a native imitation of Gallow-Belgic platters of the types found at Camulodunum (Harding 1972, 122) (Hawkes & Hull 1947).

21.4 Dish/bowl. 1; fabric 2, dark grey, wheel-thrown; well burnished with lattice decoration.

21.5 Dish with faceted profile. 1; fabric 2, yellowish-red, hand-made; burnished exterior, interior zone and burnished pellet decoration on lower interior surface. The vessel came from pit 360 which produced some early RB fabrics.

21.6 Dish with outward sloping walls. 1; fabric 2, reddish-yellow to black, hand-made, burnished inside and out. From pit 360, like 21.5. Therefore may belong to the second half of the 1st century AD.

21.7 Flanged bowl. 1; fabric 2, yellow brown-black, wheel-thrown. Burnished exterior. A rare form from the late Iron Age pit 415.

22.1 Angular cup. 1; fabric 2, yellow brown-black, wheel-thrown. Burnished exterior and criss-cross line decoration. A very similar vessel was found at Linch Hill, Stanton Harcourt, Period IV (mid 1st century AD) (Grimes 1943, fig 25, no 15). Cordoned cups of similar shape have been found also at Linch Hill, Stanton Harcourt (Period II - early 1st century AD) (Harding 1972, pl 70, C and p 120). Smith's Pit II, Cassington (Harden 1942, fig 24, no 2 and 3). The type is characteristic of cups from the Aylesford-Swarling group and Camulodunum.

23.1 Butt-beaker. 3; hard greyish-white fabric similar to that of Colchester types. The illustrated vessel from ditch 312 is not decorated with rouletting but many body sherds found at Barton Court farm are. Wheel-thrown.

23.2 Butt-beaker. 3; light reddish-brown, leathery fabric, possibly a local copy of imported butt-beakers. Wheel-thrown.

23.2 Butt-beaker. 4; light reddish-brown, leathery fabric similar to 23.2. Wheel-thrown.

Fig 125 Iron Age pottery

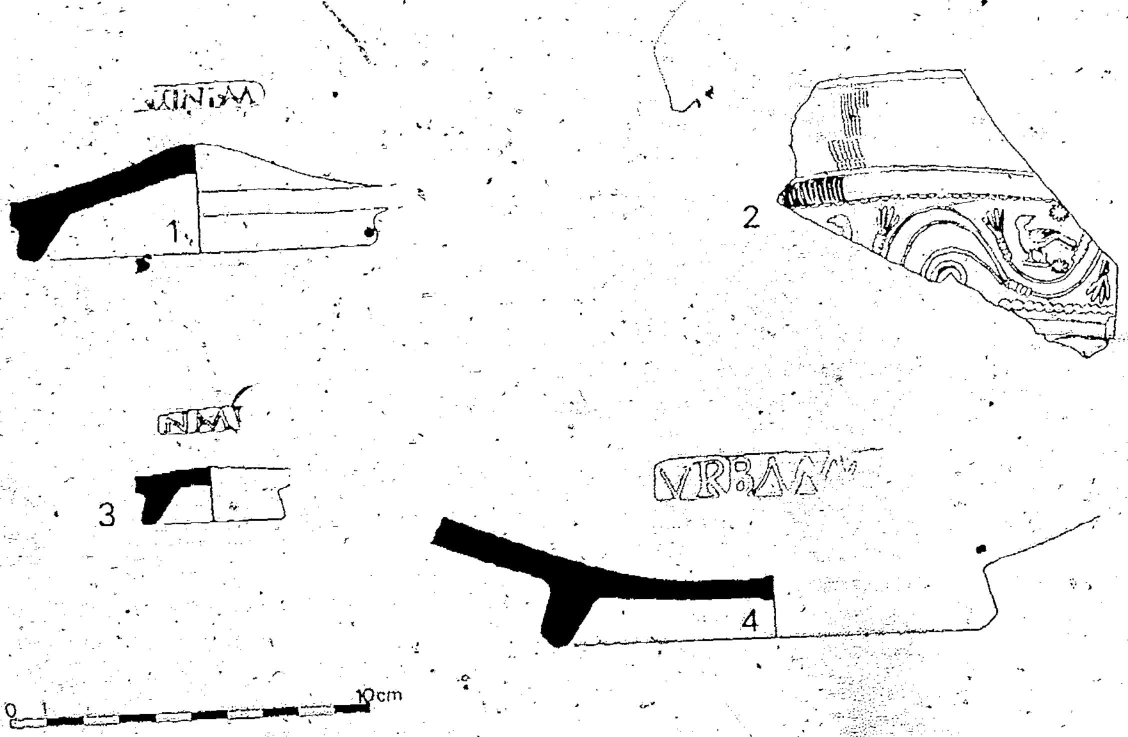


Fig. 127 Samian pottery

24.1 Full-bodied beaker. 4; two fabrics, one a reddish-brown butt-beaker type, the other a fine black ware. Wheel-thrown.

24.2 Beaker. 6; a variety of fabrics ranging from a light red-brown local butt-beaker type to a fine light grey ware. Wheel-thrown.

24.3 Beaker or cup. 2; fabric 2, dark reddish-brown to grey, wheel- thrown.

25.1 Jar with everted, lid-seated rim. 1; fabric 2, grey, method uncertain.

26 Decorated body sherds.

26.1 Stabbed or rusticated decoration. 1; fabric 2, light brown, wheel-thrown.

26.2 Burnished lines. 3; 2 fabric 1, 1 fabric 2, light brown to dark greyish brown, wheel-thrown, and hand-made.

26.3 Finely rilled or corrugated. 6; 4 fabric 2, grey-black, method uncertain.

26.4 Combed. 3; fabrics 1, 2 and 3, brown, wheel-thrown and hand-made.

Fig 125

26.5 Finely punched. 3; fabric 1, pink, wheel-thrown.

27.1 Heavy lug handle. 1; fabric 1, brown. Similar type from Ashville, Abingdon (De Roche 1978, fig 48, no 261).

28.1 Expanded base of a pedestral jar. 2; fabric 2, red-grey to brown, wheel-thrown. A rare type in the Upper Thames Valley, it parallels vessels from Welwyn Garden (Stead 1967).

29 Bases

45 bases or fragments of bases were found in a single deposit of pottery near the bottom of the ditch 312. Of these, 21 were perforated with one or more holes, in every case after firing. 5 bases were intact and unperforated. In the case of 19 base fragments it was not possible to say whether they had been perforated. The purposes to which the perforated vessels were put are uncertain. The vessels varied in type, though jars were the commonest; some had a single small or large hole, others had several small holes. It is often assumed that perforated vessels were for cheese-making, and probably curd cheese could be manufactured in them. It is perhaps surprising that vessels were not deliberately manufactured for this purpose as in the Roman period. Alternatively, perforated vessels could have been used as colanders, flower pots, or for distilling.

Perforated bases are common on late Iron Age sites; at Ashville, Abingdon, for example, four such vessels were found in the later levels of the Iron Age settlement (De Roche 1978, fig 53, nos 364, 375, 379, and fig 54, no 392).

A sample of the bases from ditch 312 is listed below

29.1 Jar. Fabric 1, dark brown-grey, wheel-thrown.

29.2 Jar/bowl. Fabric 1, red brown-black, wheel-thrown.

29.3 Bowl/jar. Fabric 2, black, wheel-thrown.

29.4 Jar. Fabric resembles early RB greyware but has white inclusions 2mm across (not limestone). Wheel-thrown.

29.5 Bowl/jar. Fabric 2, black, wheel-thrown, well burnished exterior including base.

29.6 Bowl/jar. Fabric 1, brown-black, hand-made.

V.2.3 The principal Iron Age groups of pottery

The Iron Age farmstead seems to have been essentially of one period, with little evidence of settlement before the latest phase of the Iron Age (late 1st century BC to the middle of the 1st century AD). Unlike the nearby settlement of Ashville (Parrington 1978), Barton Court Farm had no sequence of stratified Iron Age ceramic groups. However, the principal closed groups, mainly from pits, are listed below so that the associations can be seen. Much of the pottery came from ditches, the vast majority from the top 0.5m. The ceramic content of the main enclosure ditch is listed also, though it should be borne in mind that an open ditch can accumulate material over a considerable period. The lack of early Roman types and the stratigraphic evidence suggest that the enclosure ditch did not take in pottery later than about the 50s AD. In the catalogue of groups the feature number is listed first, then the quantity of pottery from the feature, by weight, and finally the vessel types with the number of examples in brackets.

V.2.3.1 Pits

Pit 28 1.8kg Types 2.1 (2), 19.1 (2)

This is one of two pits (the other being 46) which, on the evidence of its pottery, could predate the latest Iron Age. The globular bowls 19.1 are characteristic of the 2nd - 1st centuries BC (Harding 1972, 105-13). Seven other examples (for example, ditch 312) and the type may go on in use. On the other hand, in this particular pit all the ceramics are of 2nd - 1st century BC forms and fabrics. The complete pot of type 2.1 also fits this. There are no forms or fabrics characteristic of the latest phase of the Iron Age.

26	0.76kg	Types 6.1, 6.2, 6.6, 8.2, 14.1 (2), 15.1, 17.1, 26.1; amphora handle	
29	0.73kg	–	
32	0.02kg	–	
35	0.20kg	–	
37	0.05kg	Type 15.2	
46	0.16kg	Type 19.1 This single sherd is the only ceramic evidence for the dating of the pit. The type is one which is usually considered to belong to the 2 – 1 centuries BC (Harding 1972, 103–16).	
48	0.04kg	–	
57	0.01kg	butt-beaker fragment	
64	0.16kg		
69	0.04kg	perforated base	
124	0.05kg	15.3	
129	0.45kg	16.3	
132	0.16kg	9.1	
133	0.01kg	–	
166	0,20kg	14,4	
214	0.83kg	8,2	
311	layer 1	0.75kg	6.5, 11.1, 15.2, Saxon fragment in very top.
	layer 2	3.0kg	8.2 (3), 8.5, 9.2, 17.1, 20.6
	layer 3	0.8kg	–
	layer 4	1.6kg	2.1, 11.1, 22.1
	layer 5	0.86kg	8.2
318	1.0kg	2.4, 6.1, 8.4, 10.4, 11.1, 2 fragments of butt-beaker.	
329	0.39kg	3.1, butt-beaker.	
342	0.26kg	4.1, 14.7	
344	0.50kg	7.2, 8.1, 21.3	
379	0.19kg	butt-beaker.	
415	2.45kg	8.4, 10.1, 14.4, (2), 15.4, 16.1 (2), 21.4, 21.7, 32.1, butt-beaker	
426	0.08kg	16.1	
664	0.21kg	26.2, 26.4	

V.2.3.2 The main enclosure ditch

The total amount of pottery excavated from the main Iron Age enclosure ditch was 20.8kg. There was no ceramic evidence for the construction of this ditch before the late century BC. Little of the pottery came from the primary fill of the ditch and the vast majority came from the topmost layer. The following list simply gives the types that were found in the ditch, though they cannot be treated as a closed group and may have accumulated over a half century.

Types 1.1 (3), 1.2 2.1 (5), 3.1 (2), 6.1 (3), 6.3, 6.4 (3), 6.5 (2), 7.1, 7.2, 8.1, 8.3 (3), 10.1 (2), 11.3, 12.2, 12.3 (4), 12.6 (2), 13.1, 14 (6), 14.4 (2), 15 (11), 15.1 (3), 15.2 (8), 15.3 (2), 15.5, 16.1, 16.2, 16.3, 17.1, 18.1 (2), 18.2 (2), 19.1 (3), 19.2 (7), 19.3 (2), 20.1 (2), 20.2, 20.3 (2), 20.4, 20.5, 20.6 (2), 21.1, 21.2, 24.1 (2), 24.2 (3).

31% of the pottery was fabric 1, 58% fabric 2, 11% fabric 3.

V.2.3.3 Ditch 312

In the bottom of this shallow curving ditch was a mass of pottery, 20.75kg, which appeared to have been dumped in at the same time. The types were as follows:

5.1 (2), 6.1 (3), 6.5, 8.3 (2), 8.4 (2), 8.5, 9.1 (2), 9.3, 10.1, 10.3 (2), 11.1 (2), 12.5 (3), 13.1, 13.2 (2), 14.1 (7), 14.3, 14.4 (3), 15.1 (3), 15.2, 16.1, 17.1, 18.1 (2), 19.1 (3), 20.3, 20.4, 21.1, 23.1, 23.3 (3), 24.2, 24.3, 26.2, 26.4.

In addition to these there were 21 perforated bases (see Fig 125.29). 41% of this pottery was in fabric 1, 55.4% in fabric 2, and 3.6% in fabric 3.

V.2.3.4 Small rectangular enclosure ditch with E entrance

6.24kg of pottery were recovered from this feature. The types were as follows:

2.1, 3.1 (2), 6.1 (2), 6.4, 7.2 (2), 8.2, 8.5, 9.3, 11.1, 14.1, 15.1, 15.2, 17.1 (3), 19.1, 19.2, 20.3, 24.1, 24.2. A single base was perforated before firing.

V.2.3.5 Curving ditch S of the main enclosure

This shallow recut ditch produced 2.24kg of pottery. The types were as follows:

6.1, 6.2, 6.4, 6.5, 7.2, 8.1, 17.1, 24.2, 26.2, 26.4.

V.3 THE EARLY ROMANO-BRITISH POTTERY

V.3.1 Introduction

A total of 41.6kg of pottery was found in features belonging to this phase. The early RB farmstead appeared on stratigraphic grounds to be essentially of a single phase occupied from the second half of the 1st century AD into the 2nd century AD. There were few sealed groups of pottery apart from those in the small number of pits; the majority of the material came from the open enclosure ditch. The early RB phase seems to have continued directly from the Iron Age. The pottery assemblage shows the gradual introduction of Roman and romanized wares, with the continuing production in the second half of the 1st century AD of native types. Some of the native material may be residual, but its quantity and context suggest that native-type pottery, indistinguishable from that of the immediate pre-Conquest period, continued in use.

V.3.2. Fabrics

The pottery sherds were all classified according to their fabric in a crude but simple way. The Iron Age fabrics have already been described. The romanized wares were recorded under the following headings: samian, amphora, mortaria, grey wares, oxidized wares, white wares, and others. The first two will be commented on elsewhere (see V.3.6-7). The mortaria referred to have a hard, very pale brown fabric with few obvious inclusions except quartz on the surface, typical of products from Brockley Hill, near Verulamium (see V.3.5). The grey and oxidized wares were not analysed in detail, but for the most part they match local fabrics of the types produced at Dorchester, the Cowley area, Sandford, and Boars Hill (Young 1977; Harris & Young 1975). The white wares were mostly from fine-bodied vessels, though some might have been from mortaria. The fine hard grey wares seem to be making an appearance in the late Iron Age phase of settlement but become more common in the second half of the 1st century AD, though generally in derivatives of late Iron Age forms. So-called 'native' fabrics were found in large quantities in early RB features and, although some of these vessels may be residual, the general impression is that native pottery continued in use until the end of the century.

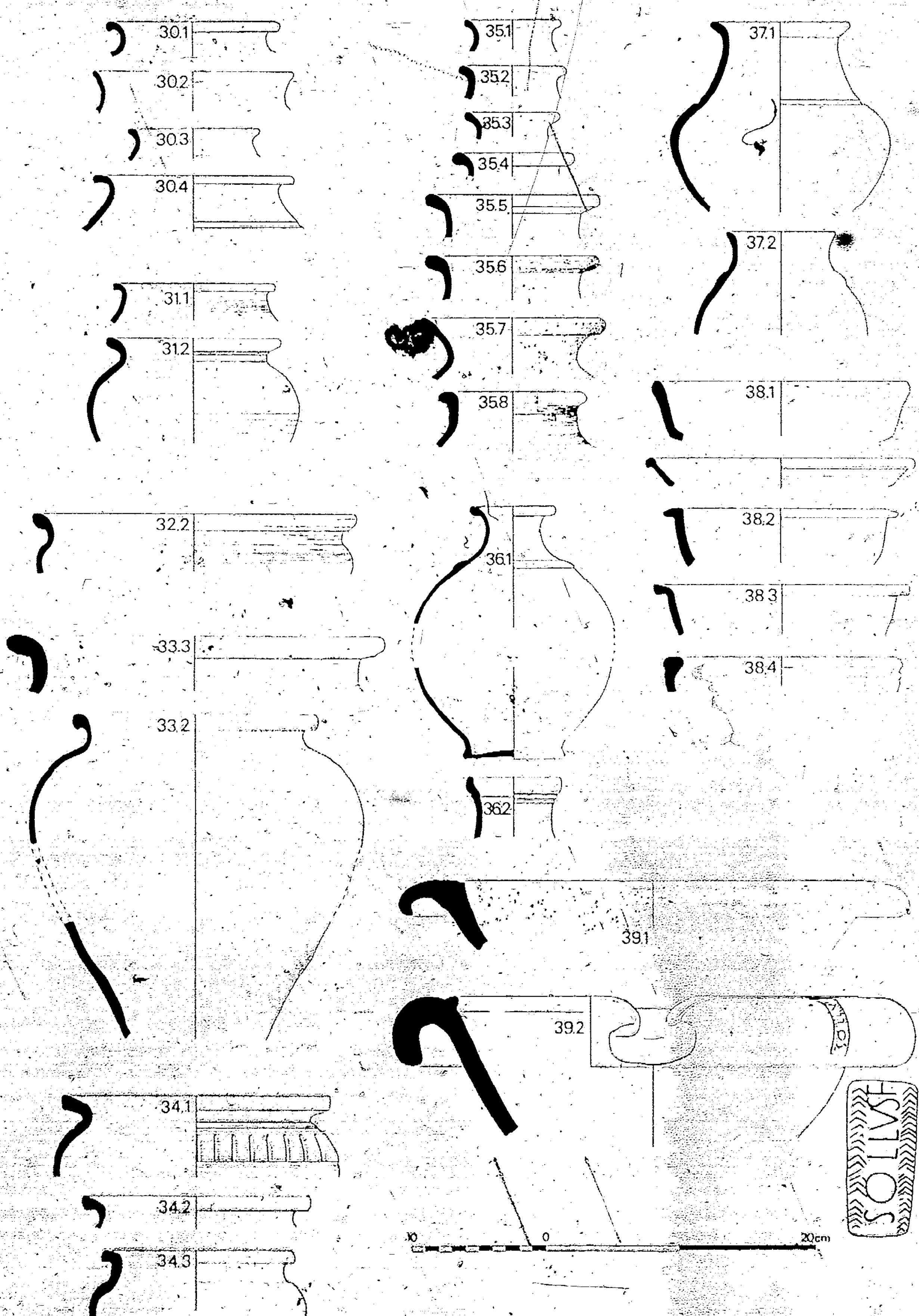


Fig 126 Early Romano-British pottery

V.3.3 Quantities of pottery fabrics from early RB features

Fabric	Weight (kg)	Percentage
Native coarse ware	22.43	54.0
Butt-beaker	0.98	2.4
Samian	0.24	0.6
Amphora	0.46	1.1
Greyware	10.16	24.4
Oxidized ware	1.22	2.9
Mortaria	5.01	12.0
White ware	0.42	1.2
Other	0.67	1.6

The quantities by weight of different fabrics are not directly comparable. For example, the mortaria weight is inflated by the discovery of a single large vessel. Samian and butt-beakers, on the other hand, are underrepresented in terms of weight but are probably comparable with each other, as are grey wares and native wares. The general impression is of a changing cultural pattern. New types of vessel such as mortaria, amphorae, and samian and larger cooking pots suggest new cooking and eating habits. Most of these also indicate wide trading contacts - with Verulamium, Gaul, Spain and the Mediterranean - though presumably through a regional market such as Dorchester.

The extent of romanization, however, is not dramatic. Native wares persist in large quantities (56%) and the quantities of samian and amphora are small. It would be interesting to compare these figures from Barton Court Farm with other sites. The relative quantities of the different fabrics might provide an indicator of the status of sites and the extent of romanization. Unfortunately few excavation reports provide comparable data.

V.3.4 Catalogue of early Romano-British types (Fig 126)

30.1 Necked bowl/jar with concave neck and slight cordon. 7; grey ware. Wheel-thrown.

30.2 Necked bowl/jar with upright rim. 3; greyware. Wheel-thrown.

30.3 Necked bowl with cordon. 2; greyware, fine micaceous fabric. Wheel-thrown.

31.1 Bowl/jar with slack profile and everted rim. 2; grey ware, Wheel-thrown.

31.2 Bowl with slack profile, everted rim and cordon. 1; greyware. Wheel-thrown.

32.1 Necked bowl with everted, thickened rim, and incised lines around the girth.

9; grey-ware. Wheel-thrown. Similar vessels from Overdale (Harris & Young 1974; fig 8, 26).

32.2 Necked bowl with thickened rim. 2; oxidized ware, hard, red-yellow fabric with fine quartz inclusions. Wheel-thrown.

33.1 Large necked jar. 2; grey-ware. Probably wheel-thrown.

33.2 Necked jar. 2; 1 grey-ware and 1 oxidized ware, hard fabric with sandy texture, pink (5YR 7/4), diameters 14cm and 18cm respectively. Wheel-thrown.

34.1 Bowl/jar with everted, squared-off rim, cordons under rim and a shoulder with burnished vertical lines between. A groove on the inside of the rim may indicate lid-seating. 4; grey-ware. Wheel-thrown. Similar neckless jars are common at Overdale, some with squared-off rim (Harris & Young 1974, 20, fig 8, 23-6).

34.2 Bowl/jar with everted rim and lid-seating. 9; grey-ware. Wheel-thrown.

34.3 Necked bowl with out-turned, lid-seated rim. 2; grey-ware. Wheel-thrown.

35.1 Narrow-necked jar. 2; 1 grey-ware and 1 oxized ware (light-red 2.5 YR6/6). Narrow-mouthed jars with out-turned rims, usually cordoned at the base of the neck and grooved at the shoulder were produced at Overdale (Harris & Young 1974, fig 7, 1-4).

35.2 Narrow-necked jar 2; grey-ware. Wheel-thrown.

35.3 Narrow-necked har, 1; grey-ware. Wheel-thrown.

35.4 Narrow-necked jar with thickened rim. 4; grey-ware. Wheel-thrown.

35.5 Narrow-necked jar with everted, thickened rim. 5; grey-ware. Wheel-thrown.

35.6 Narrow-necked jar with thickened rim. 1; oxidized ware, hard pink fabric (7.5YR8/4). Wheel-thrown.

35.7 Narrow-necked jar with flaring neck and thickened rim. 5; oxidized ware, 4 in reddish-yellow sandy fabric and 1 in pinkish-white (7.5YR8/2) hard fabric. Wheel-thrown.

36.1 Narrow-necked with wide cordon at base of rim and possible lid-seating. 1, white ware. Wheel-thrown.

37.1 High-necked bowl/beaker wtih groove at the base of the neck. 3; grey-ware. Wheel-thrown.

37.2 Poppy-beaker with broad cordon on shoulder and burnished vertical lines. 1, grey-ware. Wheel-thrown. The vessel is similar to Young's type R34.2, thought to be 2nd century (Young 1977, 217, fig 79).

38.1 Shallow bowl with flat base and slightly curving walls. 2, grey-ware Wheel-thrown. Similar to Young's type R49, derived from the Gallo-Belgic form, Camulodunum 16 (Hawkes & Hull 1947, 220). Type dated to the second half of the 2nd century AD.

38.2 Shallow bowl with thickened, overhanging rim. 1; grey-ware. Wheel-thrown.

38.3 Straight-sided bowl with out-turned rim and chamfered base; decorated with burnished cross-hatching. 3, grey-ware, wheel-thrown. Similar to Young's type R52, but with a more pronounced rim. Appears to be a copy of a black-burnished type (Gillam 1968, fig 31, 318). Dated at Dorchester to the late 2nd century (Frere 1962, fig 16) and at the kiln sites from the late 2nd century (Young 1977, 222).

38.4 Straight-sided bowl with out-turned squared-off rim. 1; white-ware, hard, slightly sandy. Wheel-thrown.

38.5 Bowl with heavy bead rim and grooves below rim. 1; grey-ware. Wheel-thrown.

39.1 Mortarium with large flange. 1, in same fabric as the Sollus mortarium 39.2, colour 10YR8/3. Wheel-thrown. No stamp visible.

39.2 Mortarium with large down-turned flange. 1, hard, very pale brown fabric with few inclusions except quartz and some dark inclusions. Stamped SOLLVS F. Both 39.1 and 39.2 were found about 0.20 - 30m into the main early RB enclosure ditch. The base of 39.2 was completely worn through with use.

V.3.5 The mortarium stamp (Fig 126) Katherine F Hartley

This stamp is from the most frequently used of the three dies of Sollus. Over a hundred of his mortaria are now known from sites in England and Wales, including 46 from London and its environs, and at least three more from Flavian forts in Scotland. The fabric and forms used and the distribution of his work are all typical of potters working in the extensive potteries S of Verulamium in the Watling Street area, including kilns at Verulamium itself, Brockley Hill, Radlett, and Bricket Wood. Four stamps are recorded from the kiln at Brockley Hill, where he could well have worked. His mortaria have been noted from deposits at Verulamium dated to the Flavian period (unpublished) and c AD 105 (Frere, 1972; 379, no 38) and from an Agricolan fort at Loudon Hill in Scotland. The dating evidence and the rim forms used are consistent with manufacture within the period AD 70-100.

40.1 Body of a large jar with perforated base, proabably four holes after firing. 1; grey-ware. Wheel-thrown.

40.2 Lower half of jar with narrow base and expanded foot ring. 1, grey-ware. Wheel-thrown.

V.3.6 Amphorae

Three body sherds of amphorae were kindly examined and identified by Dr D Peacock of Southampton University.

Feature	Form	Source
124 early RB pit	Dressel 2-4	Campania
562/1 villa enclosure ditch	Dressel 20	Spain
607/1 late RB paddock ditch	Dressel 20	Spain

The form Dressel 2-4 is most commonly found during the first half of the 1st century AD, though it can continue into the 2nd century (Peacock 1971, 166-7) It was probably used originally to transport wine.

Dressel 20 originated along the Guadalquivir, between Seville and Cordoba, and is a relatively long-lived form. It is almost certainly residual in the late Roman levels at Barton Court Farm as it would have been in use in the 1st and 2nd centuries. However, as the form was present in levels dated AD 10-45 at Colchester, it is possible that the amphorae were imported into the Iron Age farmstead rather than the early RB one. These vessels were containers for olive oil (Callender 1965, 19,48; Peacock 1971, 170).

V.3.7 Samian and samian stamps Joanna Bird, Brenda Dickinson, & Brian Hartley

Early RB features (Fig 127)

9 Early RB enclosure ditch
Dr 29 (= 316 below, qv)
Dr 15/17R or 18R, South Gaul, pre-Flavian probably
Dr 33a, South Gaul, pre- or early Flavian.

19 Early RB pit
Dr 37, South Gaul, with trident-tongue ovolo; c AD 70-90

125 Iron Age ditch
Dr 18 South Gaul, pre- or early Flavian.

183 Foundation slot of early RB timber building
Dr 29, South Gaul, pre-Flavian.

302 Stone-packed slot (probably early RB) adjacent to entrance of late RB villa cellar entrance.
Sherd, South Gaul, 1st century

Sherd, Central Gaul, 2nd century

Sherd, East Gaul, later 2nd- early 3rd century.

311/1 Top layer of Iron Age pit.

Dr 18, South Gaul, pre- or early Flavian.

316/1 Early RB enclosure ditch

(Fig 127.2) Dr 29, South Gaul. The two birds (Hermet 1934, pl 28, nos 39 and 40) were used by several potters (eg Aquitanus: Knorr 1952, Taf 5, L). The four-leaved palm and six-beaded tendril binding occur on a bowl stamped by ?Surrius (Knorr 1919, Taf 78), where they are used in the lower frieze. An identical saltire with the pointed leaves and triple poppyheads is shown on Hermet 1934, pl 64, no 21, stampd by Melainus c AD 50-70 (= 9 and 338).

328/1 Early RB enclosure ditch.

Dr 27, South Gaul, pre-Flavian.

338/1 Top layer of late Iron Age pit (adjacent to 311 above)

Dr 29 (= 316 above, qv).

347/1 Early RB enclosure ditch

Dr 27 or 35, South Gaul, 1st century.

366 Early RB cess-pit

Dr 18, South Gaul, Flavian.

Dr 33a, South Gaul, Flavian.

Dr 36, South Gaul, Flavian.

Later RB features

1 Late RB pit.

Dr 37, Central Gaul, Antonine

Fragment with formal foliage motif, South Gaul, Flavian

Dr 33, South Gaul, Flavian

Dr 27, South Gaul, later 1st century.

263 Late RB robber-trench of villa building.

Sherd, Central or East Gaul, later 2nd-mid 3rd century.

282 Late RB villa cellar fill.

Dr 18, South Gaul, later 1st century

Dr 31, Central Gaul, Antonine

299 Late RB villa cellar fill

Dr 33, Central Gaul, Antonine

340/1 Late RB villa enclosure ditch

Dr 31R, Central Gaul, later 2nd century

2 sherds, Central Gaul, 2nd century

410 Late RB villa, Room 1.

Dr 31, Central Gaul, Antonine.,

517 Late RB villa, corridor blocking wall.

5 sherds, probably all same vessel, South Gaul, 1st century.

537/1 Late RB paddock ditch.

Dr 18, South Gaul, 1st century.

562/1 Late RB paddock ditch

Dr 27, probably South Gaul, 1st century.

612/1 Late RB paddock ditch

Sherd, Central Gaul, 2nd century.

648/1 Late RB paddock ditch

Dr 33, South Gaul, later 1st century.

676/1 Late RB paddock ditch

Dr 33, Central Gaul, Antonine

Dr 37, Central Gaul, Antonine

2 sherds, Central Gaul, later 2nd century.

695/1 Late RB paddock ditch

Sherd, Central Gaul, later 2nd century.

708 Late RB pit.

Dr 37, Central Gaul. The ovolo is Rogers 1974, type B162, used by Sissus ii c. AD 135-165.

709/2 Late RB paddock ditch

(Fig 110.7) Dr 29, South Gaul. The double wreath of palmettes separated by a wavy line was used by Celadus (Knorr 1919, Taf 21, B) c AD 50-65. Cut to make a counter.

850/1 Late RB paddock ditch

2 sherds, Central Gaul, 2nd century.

851/3 Late RB well

Dr 33, Central Gaul, Antonine.

950/1 Late RB well

Dr 36, Central Gaul, late 2nd century.

950/2 Late RB well

Curle 15 or 23, Central or East Gaul, later 2nd-early 3rd century.

974/1 Late RB well foundations

Dr 18/31, Central Gaul, early-mid 2nd century.

974/3 Late RB well

Dr 31R, Central or East Gaul, later 2nd-early 3rd century.

1018/1 Late RB well

Dr 31R, Central or East Gaul, later 2nd-early 3rd century.

1020/1 Late RB well

Dr 36, East Gaul, late 2nd- mid 3rd century.

1029/1 Late RB ditch

(Fig 127.4) Curle 15 probably, East Gaul, stamped VRBANVS. Urbanus iii, 4a, Trier. This stamp has not been recorded before. One of his others appears at the fort at Niederbieber and was used on form 45. Late 2nd-3rd century.

Dr 31, Central Gaul, Antonine; burnt.

1066/1 Late RB well

Small jar with horizontal ribbing; cf Stanfield 1929, fig 6 nos 30-33. Central Gaul, Antonine.

1075/3 Late RB paddock ditch.

Dr 18, South Gaul, Flavian.

1170/1 Late RB paddock ditch

Dr 31, Central Gaul, Antonine

Dr 38, Cetral Gaul, later 2nd century

Central Gaulish sherd, 2nd century.

1170/2 Late RB paddock dich

Dr 36, Central Gaul, 2nd century

Dr 36, Central or East Gaul, later 2nd century.

1176/1 Late RB paddock ditch

Dr 31, Central Gaul, Antonine.

Saxon features

955 Saxon hollow.

(Fig 127.3) Dr 33, Central Gaul, stamped NAM[. Namilianus, 3a, 33, NAMI [LIANI] , Lezoux. This stamp not recorded at kiln site. Namilianus is one of the potters whose vessels were in the cargo from the Pudding Pan Rock wreck. This particular stamp occurs at sites in N Britain reoccupied c AD 160-200.

Unstratified

Dr 37, South Gaul. Part of smudged ovolo; Flavian-Trajanic.

Dr 18/31, Central Gaul, early 2nd century.

Dr 29, South Gaul. Similar designs were made by several Neronian potters, but most of the motifs occur in the work of Primus; the formal bud is shown on Knorr 1952, Taf 51, B, a similar wreath medallion and general arrangement on Taf 51, A, and the triple poppyhead on Knorr 1919, Taf ~~65~~, no 32. c AD 50-65.

Dr 18, South Gaul, pre-Flavian.

(Fig 127.1) Dr 31, Central Gaul, stamped]NTIN.M

Aventinus i, 1a, 31, [AVE] NTINI.M, Lezoux. Stamp recorded at kiln site and at sites in the north of Britain founded or reoccupied c AD 160, and is in a group of burnt samian of AD 170 at Tac. It was occasionally used as a finisher's stamp on decorated bowls and has been noted on a signed bowl of Criciro v: c AD 145-175.

V.3.8 The principal early Romano-British groups of pottery

V.3.8.1 Pits

12		Types 11.1, 33.2, 34.2 (2), 35.5
19	0.86kg	Types 38.4, 38.5, samian sherd.
131	1.19kg	Type 11.3
144	0.52kg	Types 20.4, 38.1
328	0.49kg	Type 32.1; includes a sherd of cross-hatched black-burnished ware and a sherd of samian.
360	0.77kg	Types 6.5, 14.2, 15.2, 21.5 (2), 21.6, 24.1

0.64kg are native fabrics, but 0.12kg are grey-wares. The pit has therefore been included in the early RB phase but might belong to the end of the earlier phase.

397	0.06kg	Type 30.2

V.3.8.2 Main enclosure ditch

A total of 3.40kg of pottery was excavated from the enclosure ditch of the early RB settlement, of which 50% was native wares, 27% grey-wares, 14.7% mortaria, 3.3% oxidized wares, and about 1% each of samian, amphorae, and white wares.

Very little of the pottery came from the primary fill; most was found in the topmost layer. Particularly significant for dating was the Sollus mortarium. This had been discarded intact, except for the worn-out base, in the enclosure ditch at a time when the ditch was silted up to within about 0.3m of the top.

The types listed here were found within the enclosure ditch and seem to have accumulated in the second half of the 1st century AD and the first half of the 2nd century. They should not be regarded, however, as a closed group.

1.2, 2.1 (3), 4.1, 5.7, 7.2, 8.6, 8.7, 8.8 (2), 8.9, 10.1, 11.1(5), 12.1 (2), 12.2 (2), 14.1, 14.2 (2), 14.4, 14.6, 14.7, 15.2 (3), 16.1, 19.3, 20.1, 20.3, 20.7, 23.1, 23.2, 23.3, 24.2, 26.3, 26.4, 29.2, 30.1 (2), 30.2 (2), 30.3, 31.2, 32.1, 33.1 (2), 34.1 (3), 34.2 (2), 34.3, 35.1, 35.2, 35.4 (4), 35.5 (4), 35.6, 35.7 (2), 36.1, 37.1, 38.1, 39.2, 40.1, 40.2. Also samian.

V.3.8.3 Internal ditch dividing the farmstead from E to W

The excavation of this shallow ditch produced 2.66kg of pottery, 93% of which was native wares. Only 3.2% was RB grey ware, 1.5% oxidized ware, and 1% white ware. There were no samian or amphorae sherds.

Types: 6.1, 6.5, 8.2, 8.5, 9.1, 9.2, 20.3, 20.5 (2), 23.2, 30.1, 32.1

V.3.8.4 Structure III

The shallow slots and postholes of the main early RB building produced 1.04kg of pottery: 76% native wares, 20.2% RB grey wares, 2.4% white wares, and 1% samian.

Types: 7.1, 8.7, 13.1, 24.3, 29.1, 31.1, 38.2.

V.4 THE LATER ROMANO-BRITISH POTTERY (Figs 128-137)

V.4.1 Introduction

The later Romano-British farmstead produced about 285kg of pottery but no good closed groups, with the exception of the material in the bottom layers of the well 832. Most of the pottery was deposited as secondary rubbish in open features such as ditches. As a chronological indicator the pottery is therefore of limited use as most of it could have accumulated in situ over as much as decades. Some of it - for example the material in the villa cellar- may even represent redeposited rubbish used as infilling material. It was felt that a total picture of the late Roman material would be useful in order to see the picture which would emerge for the proportions of fabric type and the light this would shed on the importance of different production centres as sources of supply at a villa so close to a major production centre (Fig 136).

No attempt was made to divide the late Roman pottery into all the fabrics that might possibly be identified; grey wares, for example, were lumped together in order to speed up the sorting process. It is recognized that future work might enable some of these to be further subdivided. A few sherds are recorded in the catalogue as being similar to types from Compton in Berkshire and Alice

Holt, but grey wares as a whole are assumed, on the basis of macroscopic comparisons, to be from local kilns such as Sandford and Boar's Hill, some 5km north of Barton Court Farm (Young 1977, 10-12).

The vast majority of colour-coated vessels was Oxfordshire ware types (Young 1977), mostly red colour-coated. The rest was catalogued as 'non-Oxfordshire colour-coated vessels'. Most of these originated in the Nene Valley, principally a white ware with dark brownish-red colour, frequently in a flat dish form. Two sherds only were New Forest types. These were of uncertain form but in a hard, almost stoneware fabric with a purple metallic colour coat (Fulford 1976, 24).

In addition to the local grey and colour-coated wares there were comparatively large quantities (7%) of slightly soapy, wheel-made. shell-gritted wares (sometimes referred to as calcite-gritted wares) (Sanders 1973). The vessels in this fabric consist of cooking pots, pie-dishes, and storage jars, often decorated with fine rilling. They seem to provide a alternative to grey and black-burnished wares. This type of pottery is particularly common in the South Midlands and production sites are known at Harrold in Bedfordshire and between Nothampton and Wellingborough (Johnston 1969). It has been suggested that shell-gritted ware can be associated with later 5th century sub-Roman deposits (Brodribb et al 1973, 70; Branigan 1971, 130). It is more likely that its production centres collapsed, along with the rest, early in the 5th century (Brown 1972). The shell-gritted wares from Barton Court Farm and many other sites suggest that there was quite an important late RB industry producing these wares in the South Midlands with well organized outlets and able to compete with other coarse-ware producers. Although the vessels look relatively crude, their coarse texture probably made them resistant to thermal shock. The low conductivity and high heat retention of this type of porous vessel may improve the flavour of food cooked in them (Cardew 1969, 78). That the jars were used for cooking is supported by the discovery of one at Earith (Hunts) containing a jointed chicken (Sanders 1973, 3). The lack of shell-gritted wares in the early 4th century water-hole and corn-drying oven (7:E 4) suggests that the ware became more significant here in the second half of the 4th century. The success of the shell-gritted ware producers is confirmed by the quantities present in late RB sites: 20% at Great Carterton, 12.5% at Latimer, and 15% at Shakenoak (Sanders 1973, 13)). The lower proportion (7%) at Barton Court Farm may be explained by the proximity of grey-ware kilns, with low transport costs. The amount still represents a considerable penetration of the local market.

In contrast, black-burnished wares were considerably less successful. Slightly less than 2% of the pottery belonged in this category. Most sherds were small and often abraded, therefore no attempt was made to separate them into BB I and II categories (Farrar 1973). Both were certainly present, but any attempt at rapid sorting would have produced dubious results. Apparently an inland rural site like Barton Court Farm, with local producers on hand, did not present much of marketing opportunity for the potters of black-burnished ware in Dorset, whose success depended largely on water transportation of their products. The proportions at Barton Court Farm are reflected also at Shakenoak villa 20km to the NW, where 2-4% of the pottery was of these types (Brodribb et al 1971, 51).

Local potteries seem to have dominated the local market in this area. About 80% of the ceramic material from late Roman features was made within a radius of 5-10km from the site. This is not surprising in view of the proximity of one of Roman Britain's largest pottery industries, but is in contrast to a site such as Gatcombe villa in Somerset (Branigan 1977), where a high porportion of the pottery was transported 100km or more, partly owing to the dominance of Dorset black-burnished ware in the kichen and the lack of a locally produced colour-coated ware. Barton Court Farm's late Roman pottery included 19% Oxford wares, that is, colour-coated vessels, oxidized wares, and mortaria. This is not a particularly high figure: the more distant towns of Silchester and Caerwent had the same proportion; there was 21% at Gloucester and 22.5% at Alchester, Cirencester, and Dorchester on Thames. The Barton Court Farm figure fits Fulford and Hodder's (1975) regression curve. It would be useful to have comparable figures for towns, villas of different sizes, farmsteads, and villages to see if their status is reflected in the proportions and variety of wares, as suggested by Swan (1973, 123) for Wiltshire and as is apparent in Somerset (Branigan 1977, 94). At Barton Court Farm and Dorchester the variation is less than might be expected. The comparison between the early and late Roman vessel forms at Barton Court Farm does suggest that there was a chronological change in the types of vessel in use. Aside from the increase in the quantity of pottery in the later period (difficult to compare when the depositional factors vary so much) there was a particularly noticeable increase in the use of flagons and mortaria (V.4.4). There was no significant change in the proportion of kichen to finer table wares, however.

V.4.2 Pottery from late RB features

	Weight (kg)	Percentage
Oxfordshire ware	53.7	19
Non-Oxfordshire colour-coated ware	1.8	0.6
Shell-gritted ware	19.4	6.8
Grey ware	172.3	61
Samian	2.0	0.7
Black-burnished ware	5.3	2.0
Coarse storage vessels	7.0	2.5
Iron Age pottery	18.7	7.0
Saxon pottery	3.7	1.3
Amphorae	0.1	-
Others	0.6	0.2
TOTAL	284.7	

V.4.3 Proportions of kichen and table wares from the RB farmstead (%)

	Kitchen ware	Table ware
Early Romano-British	80.6	19.4
Later Romano-British	82	18

The later Roman period saw a wider variety of forms in use, in particular a large increase in the number of mortaria. These were exclusively local products (Young 1977).

V.4.4. Proportions of pottery types from the Iron Age and RB farmsteads (%)

	Jar/Bowl	Bowl	Jar	Beaker	Flagon	Mortarium	Jug	Cup	Lid	Colander
Iron Age	11.3	49.3	32.2	7.0	-	-	-	-	-	-
Early RB	3.3	26.8	33.0	4.8	-	2.4	-	-	-	-
Later RB	12.8	42.2	34.2	2.3	1.4	6.5	0.1	0.1	0.1	0.2

V.4.5 Statistical tests used on some of the pottery from Barton Court Farm

Statistical tests were carried out on the pottery from Barton Court Farm to examine the possible changes in form type through time (Fig 137).

The first question under consideration was whether there was a significant change in the proportion of kitchen (i.e. coarse) to table (or finer) ware from the earlier RB (1st - early 2nd centuries AD) to the later RB period (late 3rd - early 4th centuries AD).

A chi-squared test was carried out on the data from the two periods. The null hypothesis was that there was no difference in the proportions of kichen to table ware. The alternative hypothesis was that a difference did exist.

Using the following data:

	Kitchen ware	Table ware	Other
Later RB	1487	303	1
Early RB	66	16	0

and the chi squared formula:

$$\chi^2 = \sum \frac{d^2}{e}$$

d is the difference between the observed and the expected for each category and e is the expected frequency for each category.

A figure of $\chi^2 = 0.0079016$ was obtained, which was less than the critical value and therefore the null hypothesis could be accepted. This means that there is no significant difference between the two periods of table ware proportions.

The second question under consideration was whether there was a change from the early RB period to the later RB period of the forms of vessels used on the site. Again a chi squared test was carried out on the relevant data with a null hypothesis that there was no difference between the periods and the alternative hypothesis being that there was difference.

Using the following data:

	Jar/bowl	Bowl	Jar	Beaker	Flagon	Mortarium	Jug	Cup	Lid	Colander
Early RB	27	22	27	4	0	2	0	0	0	0
Later RB	229	756	615	42	25	117	1	1	1	4

and the chi squared formula as above.

A figure of $\chi^2 = 33.662$ was obtained. (Note: The categories of jug, cup, lid or platter, colander and flagon were amalgamated to remove expected frequencies of less than unity.)

The null hypothesis could be rejected at all significance levels, and the result was that the difference seen between the two sets of data for the periods is not a chance happening and that there is a difference in the types of vessels in use.

The third question considered was similar to the second, to see if there was a change in the pottery forms from the Iron Age through to the early RB period. The null hypothesis was that there was a similarity in types of form used and the alternative hypothesis was that there was a difference.

Using the following data:

	Jar/bowl	Bowl	Jar	Beaker	Mortarium	Amphora	Dish	Cup
Iron Age	36	157	102	22	0	0	8	1
Early RB	27	22	27	4	2	1	0	0

and the chi squared formula, a figure $\chi^2 = 13.63$ was obtained (Note: The categories of mortarium, amphora, dish, and cup were amalgamated to remove the expected frequency value of less than unity).

The null hypothesis could be accepted at the 0.005 significance level, which means that there is some similarity between the forms of vessels used in the Iron Age and the early RB period.

The fourth question to be considered was whether in the Saxon period there was any collection of any of the fabrics/forms of the Romano-British period. Although no absolute statistical test could be applied to this problem, an indication, on which a value judgement could be made, was possible by using the chi square test. By working out the expected frequencies and comparing these with the absolute frequencies, one could tell if there was a higher figure for a particular fabric in the Saxon period.

The following data were used:

Absolute frequencies

	Oxfordshire wares	Non-Oxfordshire colour-coated wares	Shell-gritted ware	Grey wares	Samian	Black-burnished ware	Storage vessels	Amphorae	TOTAL
Saxon	3130	505	325	11270	25	60	0	0	15315
RB	53715	1800	19450	172315	1985	5325	6995	100	261685
TOTAL	56845	2305	19775	183585	2010	5385	6995	100	277000

Expected frequencies

Saxon	3143	127	1093	10150	111	298	387	6
RB	53702	2176	18682	173435	1899	5087	6608	95
% change in Saxon period	-0.4	+298	-70	+11	-77	-80	-100	-100

From the results it can be seen that there is a substantially higher frequency of non-Oxfordshire colour-coated wares found on the site in the Saxon period. It would seem strange that in the Saxon period there was a preference for these colour-coat wares and not for the Oxfordshire colour-coated wares.

It would be interesting to compare the results from this site with others in the vicinity to see if there was a similarity.

IV.4.6 Catalogue of later RB types (Figs 128-135)

Fig 128

42.1 Necked bowl with beaded rim and girth grooves. 164, greyware. Most of the diameters are between 16 and 22cm, with a few larger. This is a common local type in the 4th century, derived from native forms: Young R38.9 is a close parallel.
(Young 1977, fig 80)

42.2 Wide-mouthed necked jar/bowl. The illustrated example is an Oxfordshire red colour with a rouletted zone around the girth - 2 examples. Also 1 example in a plain oxidized Oxfordshire ware and 35 in grey ware, all without rouletting. Young C18 (Young 1977, fig 55) dated from AD 270 to the end of the RB period. Most have dias between 18 and 22cm.

42.3 Necked bowl with beaded rim. Illustrated example from spit 5 of well 832 has an incised cross on the lower part of the body. 57, grey ware. Most have dias between 18 and 22cm.

42.4 Necked bowl with overhanging beaded rim. Illustrated example from spit 5 of well 832. 40, grey-ware; 1 Oxfordshire plain oxidized ware.

42.6 Necked bowl/jar types with warped rims. Probably faulty manufacture but not wasters. 7, grey-ware.

42.7 Necked bowl with pronounced shoulder. Illustrated example only has rouletting around the belly. 14, grey-ware; 1 example in oxidized Oxfordshire ware.

43.1 Necked bowl with bead rim. Illustrated example is small vessel, others are larger, 18 - 22cm dia. 7, grey-ware.

44.1 Necked bowl with thickened rim. Illustrated vessel has girth groove. 20, grey-ware.

45.1 Necked jar with turned-out rim. Illustrated vessel has double girth grooves. 84, grey-ware. Most vessels have a dia between 16 and 22cm.

45.2 Necked jar. Illustrated vessel from well 832, layer 6, is in an Oxfordshire red colour-coated ware and has a double girth groove. There are 3 examples in this fabric and 44, grey-ware, mostly with a 16 - 22cm dia.

45.3 Necked jar in oxidized Oxfordshire ware with a thin wash on the upper part of the inside and one example in a grey-ware.

45.4 Necked jar with out-turned, slightly pointed rim. 19, grey-ware.

45.5 Necked jar with out-turned, squared-off rim. 2, grey-ware.

45.6 Necked jar with nipped-in girth From the fill of 1066/2, the pit around the late RB well-house but may be residual. 1, grey-ware.

45.7 Necked jar with slightly drooping rim. 1, grey-ware; 1 oxidized Oxfordshire ware.

46.1 Necked jar with pointed rim. Illustrated example from late RB well 832/3 has girth groove. 12, grey-ware.

46.2 Necked jar with flaring, squared-off rim. 1, grey-ware.

47.1 Necked jar with out-turned rim. Illustrated example, from late RB well 832/6, has girth-groove and is in red colour-coated Oxfordshire ware. 2, Oxfordshire red colour-coated; 1 white on red Oxfordshire ware; 23 grey-ware. Oxfordshire ware and 5 grey-ware examples have small dia as illustrated, but most grey-wares are much larger, 14 - 20cm.

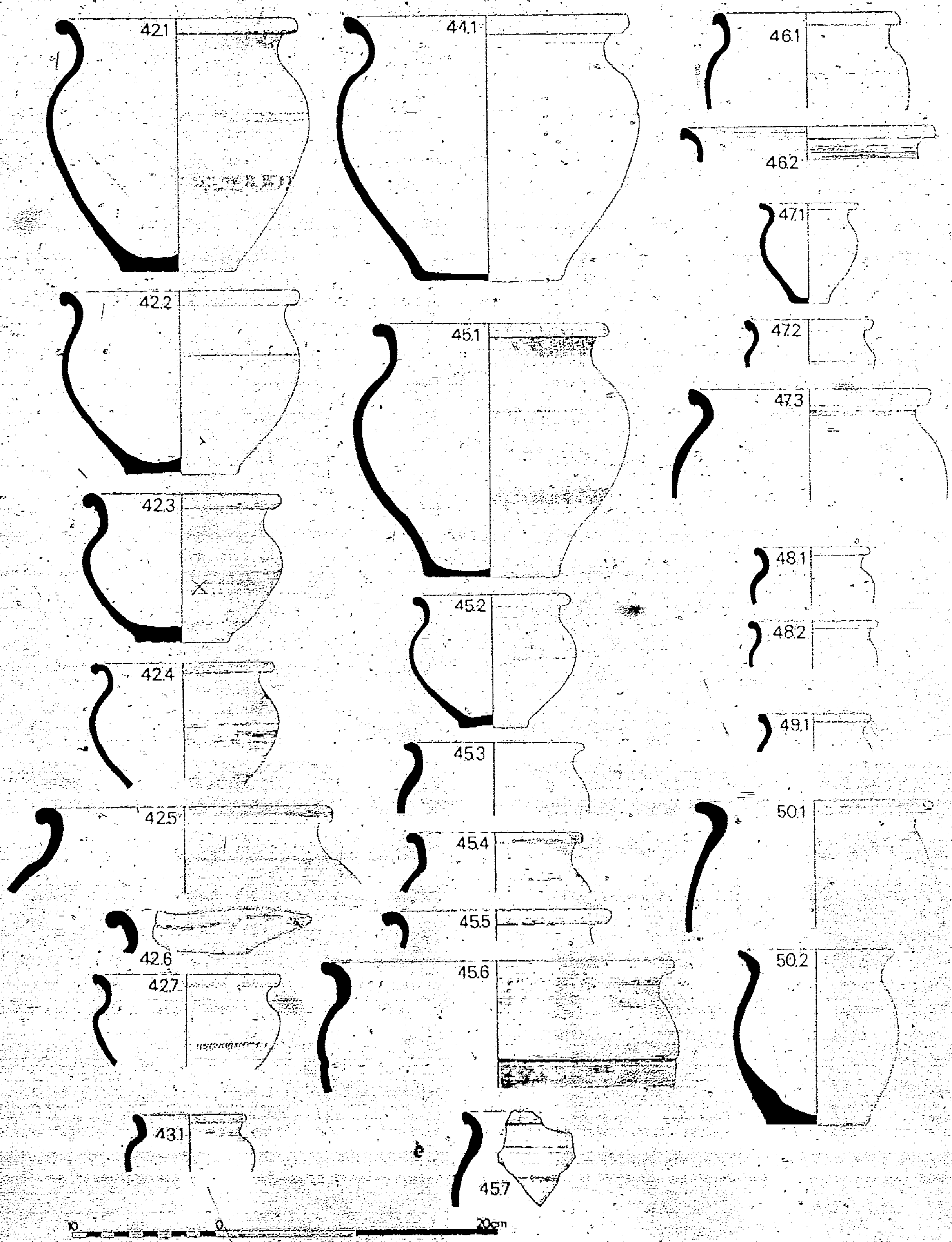


Fig 128 Later Romano-British pottery

47.2 Necked jar with broad rim. Illustrated example with girth-groove, from late RB well 832/6, is an Oxfordshire red colour-coated ware. A similar form but much larger, 20cm dia, was found in an oxidized Oxfordshire ware and 3 in grey-ware.

47.3 Short-necked jar with bead rim. 1, oxidized Oxfordshire ware, pinkish white (7.5YR8/2)

48.1 Small necked jar/bowl with bead rim. 12, grey-ware.

48.2 Similar to 48.1. 8, grey-ware; 1 Oxfordshire red colour-coated ware.

49.1 Small necked jar with squared-off rim. 3, Oxfordshire red colour-coated ware; 1 Oxfordshire 1 white-on-red ware; 2, grey-ware.

50.1 Jar with everted rim. 4, grey-ware. Similar forms at Portchester in the 4th century, type 123 (Fulford 1975a, fig 188). Some examples (eg 50.4) may imitate black-burnished ware but others (eg 50.3) probably derive from local native tradition. An oxidized example of this form is illustrated by Young (1977, fig 71, type O14.1) and also as a reduced ware (1977, fig 77, R23.6).

50.2 Small crudely made jar with everted rim. 2, grey-ware. The illustrated example from the late RB well 832/6 has been wheel-thrown off-centre.

Fig 129

50.3 Jar with everted rim. 2, grey-ware.

50.4 As above. 1, grey-ware.

50.5 As above. 1, grey-ware.

51.1 Jar with everted rim, slightly out-turned at the end. 1, grey-ware. The general type occurs at Portchester in the 4th century (Fulford 1975a, fig 190, type 132).

51.2 As above. 4, grey-ware. The illustrated example, from 266, the robber trench of the W wall of the late RB farmhouse, has a warped rim.

52.1 Jar with everted, thickened rim, 1, grey-ware.

53.1 Jar with no neck and squared-off bead-type rim. 1, grey-ware. This type has its closest parallels at Overdale in the 2nd century (Harris & Young 1974, 20, fig 8, no 21) and (Young 1977, 212, fig R77 R21) though this example came from late RB pit 708.

53.2 Jar with vestigial neck and reeded rim. 2, Oxfordshire white-on-red ware (dias 12 and 15cm); 1, Oxfordshire oxidized ware (dia uncertain); 5, grey-ware (dias c 20cm). Reeded rims are common on 4th century flagons from the Churchill kilns (Young 1977, 209)

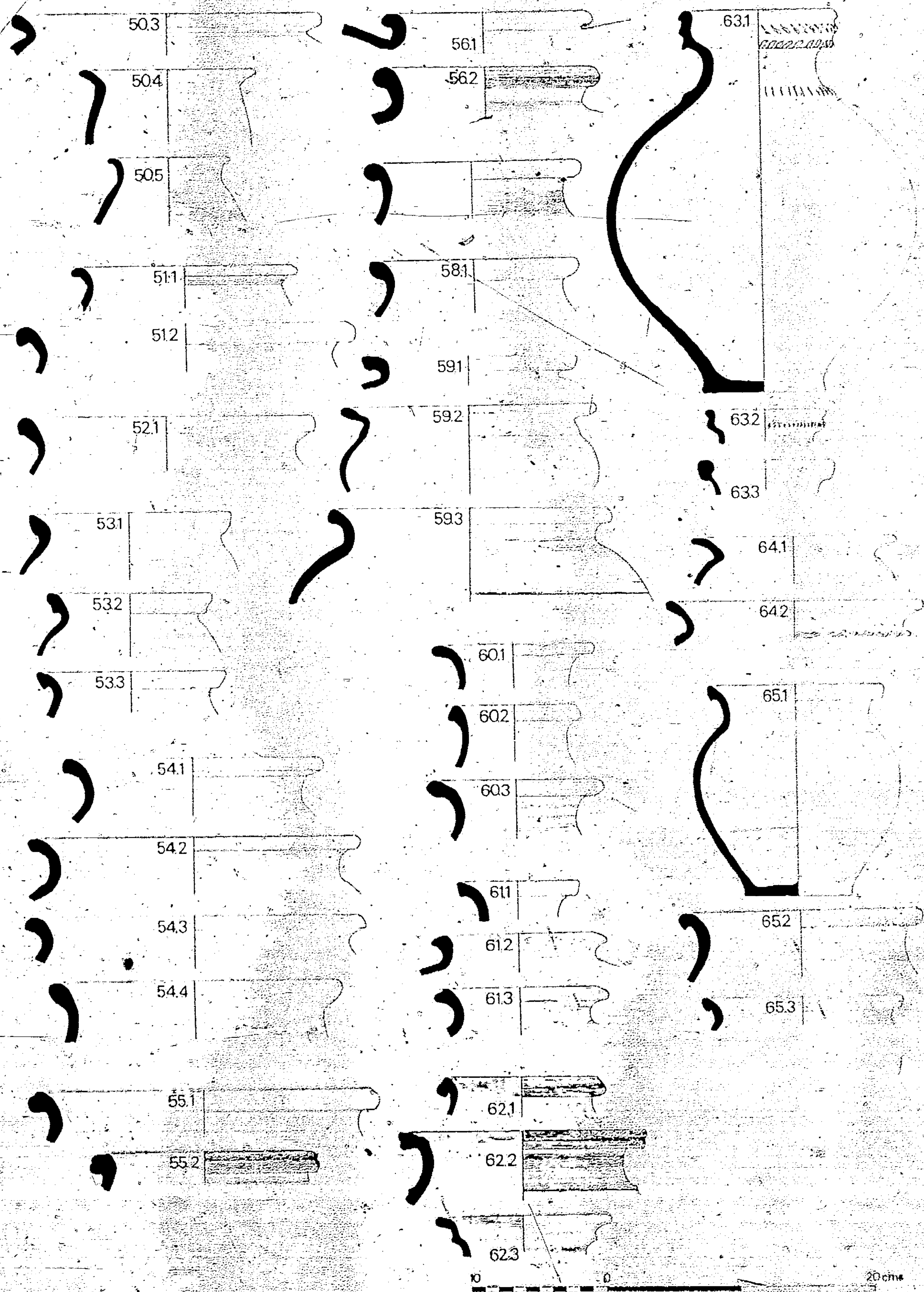


Fig 129 Later Romano/British pottery

53.3 Jar with no neck and squared-off, down-turned rim. 4, grey-ware; 1 Oxfordshire oxidized ware. The type is very similar to shell-gritted ware forms (see type 65).

54.1 Jar with concave neck. 13, grey-ware; 1, Oxfordshire red ware (dia 10cm).

54.2 Jar with concave neck and slightly pronounced shoulder. 5, grey-ware.

54.3 Jar with concave neck and pointed rim. 2, grey-ware.

54.4 Jar with concave neck and simple thickened rim. 18, grey-ware.

55.1 Jar with reeded rim. 2, grey-ware. The rim is similar to those of 4th century flagons (see type 77.4).

55.2 Jar with reeded rim. 1, grey-ware. From 950, the fill of the late RB well-house. Mr Malcoln Lyne, who has examined the greywares, suggests that this vessel may be from the Alice Holt kilns, though further analysis is needed to confirm or refute this.

56.1 Narrow-mouthed jar with short neck and out-turned rim. 4, grey-ware. The illustrated example, from the late RB pit 708. is warped. The type belongs to Young's R17 category (Young 1977, 212, fig 76).

56.2 Narrow-mouthed jar with thickened rim. 7, grey-ware.

57.1 Narrow-mouthed jar with long neck and bead rim. 8, grey-ware.

58.1 Necked jar with out-turned rim. 18, grey-ware.

59.1 Jar with short neck and pronounced out-turned rim. 1, grey-ware; 1 shell-gritted ware.

59.2 Bowl with short neck and pronounced out-turned rim. 1, grey-ware.

59.3 Jar with vestigial neck and everted rim. 5, grey-ware.

60.1 Narrow-mouthed jar with flaring rim. 11, grey-wares; 1, shell-gritted ware. 3 of the grey-ware examples have burnished decoration and parallel Young's type R16, a 4th century type

60.2 Narrow-mouthed jar with flaring rim. 1, Nene Valley ware, dark reddish-brown or white; 1, grey-ware.

60.3 Narrow-mouthed jar with flaring rim and burnished zones. 2, grey-ware. Another possible Sandford product.

61,1 Narrow-mouthed jar with expanded downward pointing rim. 3, grey-ware.

61.2 Narrow-mouthed jar with shot neck and expanded pointed rim. 2, grey-ware. These two rims belong to one vessel but were found in different late RB enclosure ditches 853/1 and 854/2.

61.3 Narrow-mouthed jar with concave neck and fluted rim. 1, grey-ware.

62.1 Narrow-mouthed jar with straight neck and fluted rim. 8, grey-ware; 1 Oxfordshire red colour-coated ware. The dating of this type of vessel at Portchester (type 153) is discussed by Fulford (1975a, 358). Here the type can be dated to the 4th century, but pinned down no further than that.

62.2 Narrow-mouthed, necked jar with fluted rim and cordon below the neck. 3. 2, grey-ware; 1 Oxfordshire red ware.

62.3 Large jug or narrow-mouthed jar wtih dished moulded rim. 2, grey-ware. Young's type R10, a Foxcombe Hill product, probably 4th century (Young 1977, 209, fig 74).

63.1 Large narrow-mouthed jar with collared, moulded rim with slash decoration. 5, grey-ware. Young's type R9, a Churchill product of the 4th century (Young 1977, 209, fig 74).

63.2 As above. 2, grey-ware.

63.3 Similar to above but without slash decoration. 1, grey-ware.

64.1 Jar with everted rim. A black-burnished vase shape but occurs in this and in grey-ware. 9, black-burnished ware; 5, grey-ware. Two of this type are in a distinctive fabric, a light grey fabric with a dark burnished surface.

64.2 Jar with everted rim. The illustrated grey-ware vessel has wavy, combed decoration on the shoulder. 2, grey-ware; 1 black-burnished ware (rim only).

65 Types 65 - 70 are all varieties of necked jar in a shell-gritted fabric. The vessels vary in surface colour from black to reddish-brown and yellow-brown, often in the same vessel. A fairly corrugated exterior surface is also common.

65.1 Jar with undercut rim. 44. Mostly 14-20cm dia.

65.2 Jar with undercut rim and concave neck. 11.

65.3 Jar with shot neck and undercut rim. 16.

Fig 130

66.1 Jar with bead rim. 11. 12-23cm dia. The illustrated vessel, from late RB well <u>832</u>, has cut decoration on rim and a wavy line around the body.

67.1 Jar with everted rim. 11. The illustrated example has cut decoration on rim, but 4 of those listed here do not have this.

67.2 Jar with turned-over bead rim. 13. 7 examples do not have the cut decoration illustrated.

67.3 Jar with pointed rim. 6. 12-18cm dia.

68.1 Jar with flaring rim. 18.

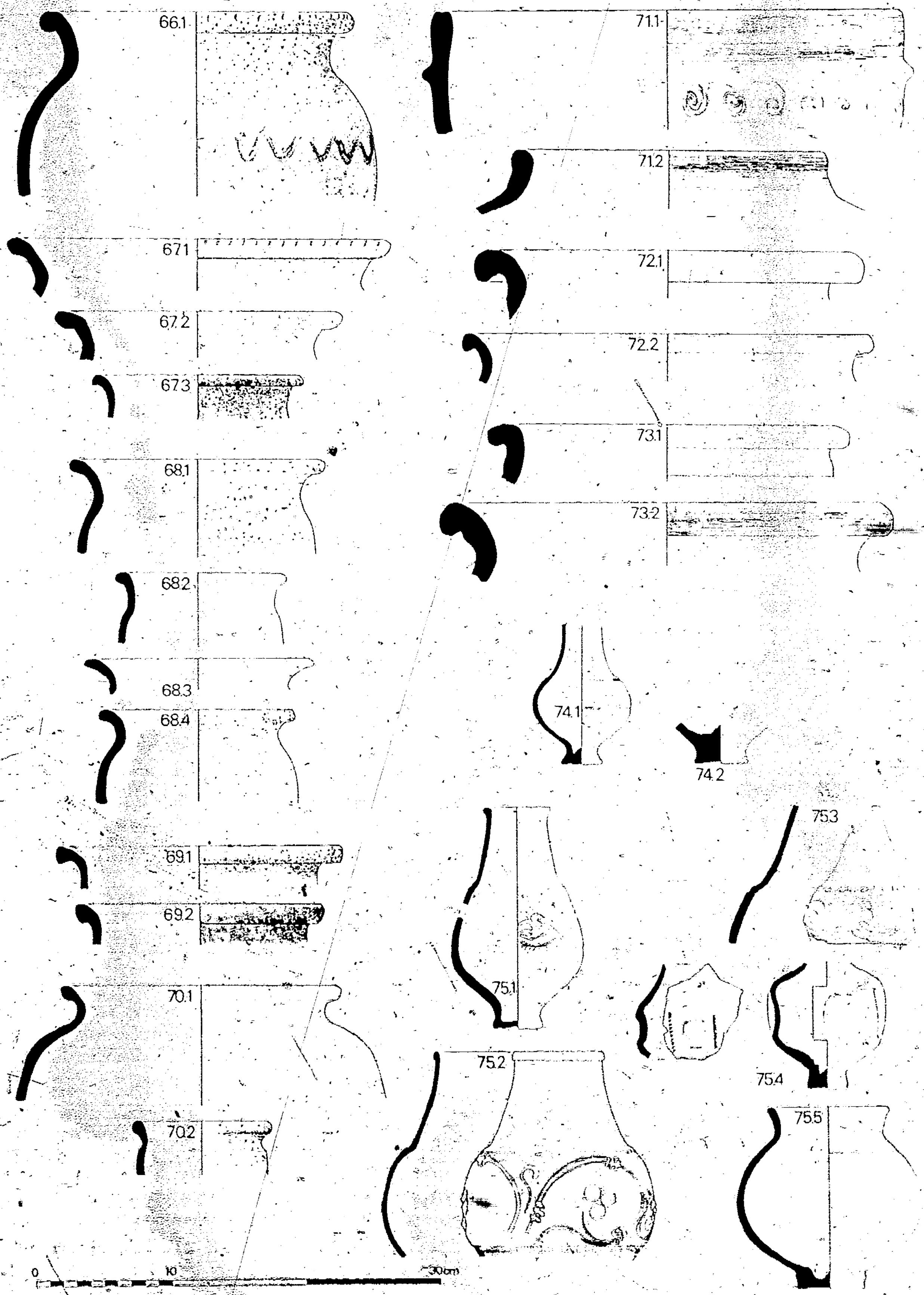


Fig 130 Later Romano-British pottery

68.2 Jar with narrow body and upright rim. 6.

68.3 Jar with everted rim similar to black-burnished types. 2.

68.4 Jar with concave rim. 1.

69.1 Jar with hammer-headed rim. 24. 18–22cm dia.

69.2 Jar with bead-type rim. 16.

70.1 Jar with wide body and concave neck. 2.

70.2 Narrow bodied jar with indented neck and everted, thickened rim. 1.

Storage vessel types

71.1 Large barrel-shaped jar with flange, burnished zones, and spiral decoration. 3, grey-ware. The two vessels from late RB well <u>836/6</u> are in a distinctive, hard, grey ware with white calcareous inclusions. A third vessel of this type, from late RB paddock ditch <u>1067/3</u>, has cut decoration on the flange similar to that on Churchill grey-ware jugs (Young 1977, 209).

71.2 Large jar with upstanding rim. 1, grey-ware.

72.1 Large jar with concave neck and overhanging rim. 1, grey-ware.

72.2 Large, thin-walled, necked jar with pointed, out-turned rim. 2, grey-ware.

73.1 Large necked jar with out-turned rim. 4, grey-ware.

73.2 Large necked jar with out-turned rim. 1, coarse yellow-brown fabric with large quartz inclusions and smoothed exterior. 5 rim fragments of same vessel in fill of late RB well-house <u>950</u>, layers 1–4.

Beakers and cups

74.1 Miniature bulbous beaker with rouletting at base of neck and on girth. 1, Oxfordshire red colour-coated ware. Probably a late 4th century type from late RB well <u>832/6</u> (Young 1977, fig 66. types 102–7).

74.2 Base of beaker. 1, grey-ware, soft, smooth and micaceous.

75.1 Miniature bulbous beaker with painted decoration. The illustrated example is in Oxfordshire red colour-coated ware from late RB well <u>832/6</u>. Also 14 examples of this type of neck in Oxfordshire red colour-coated ware; 3 in grey-ware; 1 in Nene Valley dark brown colour-coated or white-ware.

75.2 Beaker with sloping neck and globular body. Illustrated example Oxfordshire red colour-coated ware, from late RB paddock/trackway ditch and continuing through the 4th. Young's type C27 has similar decoration (Young 1977, 152, fig 55, 154). Similar necks: 4, Oxfordshire red colour-coated ware: 3, grey-ware.

75.3 Beaker with sloping neck, as above, 1, Oxfordshire red colour-coated ware. White barbotine scroll decoration between rouletted lines on shoulder and girth; white barbotine dots along top of upper rouletted line..

75.4 Globular beaker with round indentations between horizontal and/or vertical lines of rouletting. 3, Oxfordshire red colour-coated ware. Illustrated example is from late RB paddock ditch; other 2 sherds are body sherds only. Variant of Young's type C31.

75.5 Globular beaker with upright rim. 1, Oxfordshire oxidized ware, hard, with quartz inclusions, reddish-brown (5YR5/3), burnished lower half. Whole pot from late RB corn-drying oven, 906. The closest parallel in Young's corpus (1977) is his type 18, but these have sharp everted rims and are 1st - 2nd century type. This vessel is probably later in date.

Fig 131.

76.1 Simple beaker with out-turned rim. 1, Oxfordshire red colour-coated ware. Similar to Young's C37 (1977, fig 56, 155). 3, grey-ware.

76.2 Simple beaker with small out-turned rim. 1, grey-ware.

76.3 As above. 2, Nene Valley ware, dark brown colour-coated or white fabric.

Flagons

77.1 Flagon with bead rim, slight cordon below neck, and burnished line decoration. The illustrated example, from late RB well 832/5, has burnished vertical lines on neck and shoulder and a triple-ribbed handle. 5, grey-ware.

77.2 Similar to above but with less heavy, more everted rim. Handle in illustrated example, from late RB well 832/5, has double rib. 9, grey-ware.

77.3 Similar to above, with simple rim and double ribbed handle. 2, grey-ware.

77.4 Handled jug or flagon, rounded rim with fluting on outside and internal lip. Handle has double rib. 1, Oxfordshire red colour-coated ware. There is no exact parallel known to this vessel, though it probably falls into Young's (1977) type C13. This type has been found in only one kiln site at Baldon and the only dated example is late 4th century (Young 1977, 150, fig 54). This vessel is from the floor debris 803 of the late RB subsidiary building.

77.5 Jar or flagon with concave neck and fluted rim. 1, grey-ware.

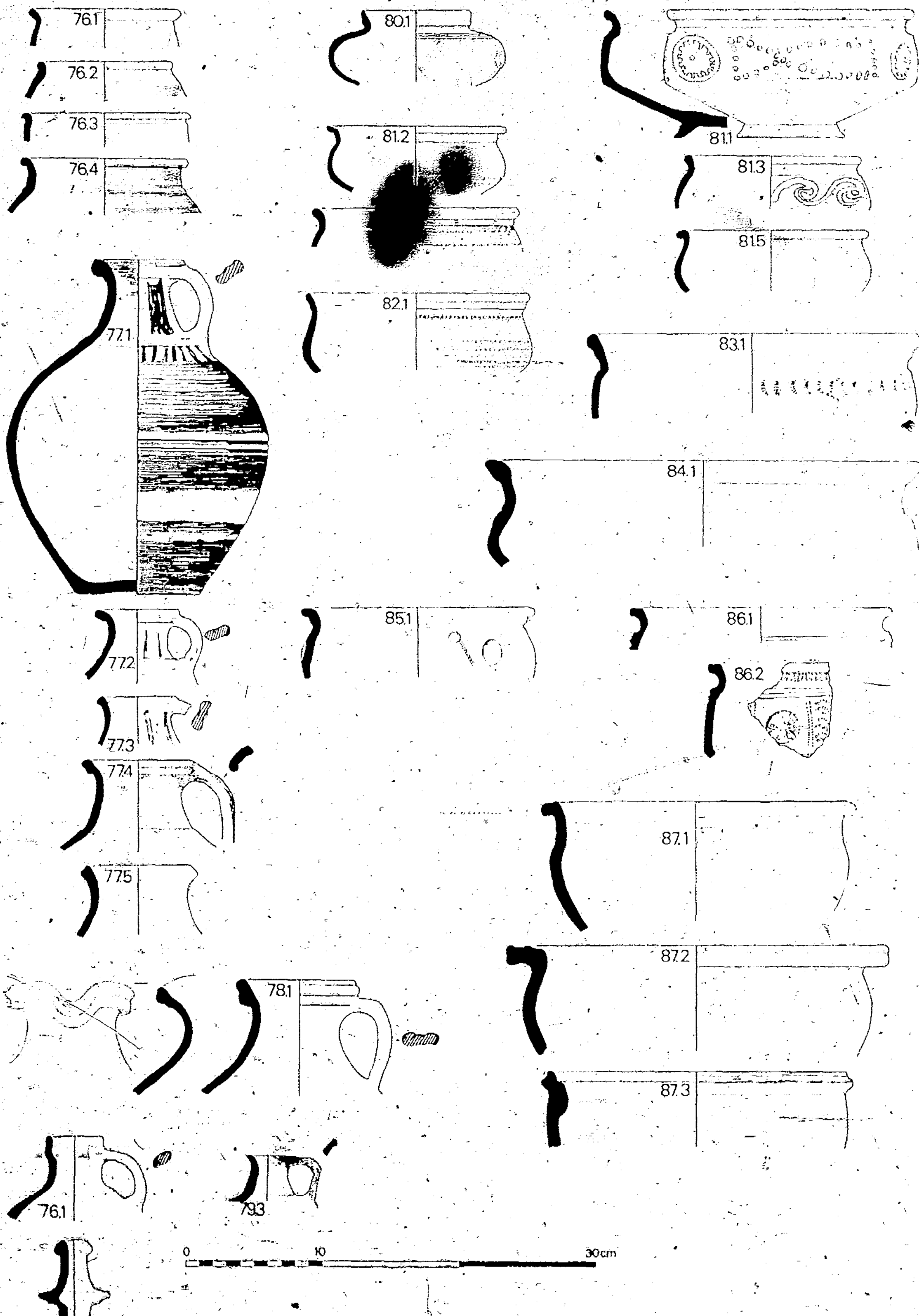


Fig 131 Later Romano-British pottery

78.1 Flagon with pinched spout and reeded or trefoil rim, handle triple-ridged. 2, Oxfordshire white ware. Both vessels from late RB well 832/6. It belongs in the same category as Young's (1977) types W25-28, 4th century jugs.

79.1 Flagon with narrow wall-sided mouth and plain strap handle. 3, Oxfordshire red colour-coated ware. Young's C13.2 is a wider-mouthed version of this type, but R1.1 is a closer parallel, though in a reduced ware (Young 1977, figs 54 & 74).

79.2 Flagon with tall neck, pointed 'bead' rim, and wide flange. 1, Oxfordshire red colour-coated ware. Young's type C8, a late RB product of Cowley and Rose Hill (1977, fig 53).

79.3 Jug with double ridged handle and rim broken off. 1, Oxfordshire red colour-coated ware.

Necked bowls

80.1 Bowl with collared, reeded neck and swelling profile; double grooves around shoulders and lattice decoration in white paint. 1, Oxfordshire red colour-coated ware. From late RB farmhouse enclosure ditch 340.

81.1 Necked bowl with out-turned rim, white painted decoration on the side, and rouletting below. 1, Oxfordshire red colour-coated ware. From late RB well 832/5. Illustrated in Young's catalogue as type C77.1 (1977, fig 62).

81.2 As above, but rouletted zone at base of the wall. 18, Oxfordshire red colour-coated ware. Some of these are rims only with no evidence of decoration. Young's (1977) type C75.

81.3 As above, with painted spiral decoration. 1, Oxfordshire red colour-coated ware. Similar to Young's (1977) C77.2.

81.4 As above, with rouletted decoration below the neck. 4, Oxfordshire red colour-coated ware.

81.5 As above with out-turned rim. 2, Oxfordshire red colour-coated ware. 1 example has rouletting on the shoulder and lower part of the wall.

82.1 As above with extensive rouletted decoration. 2, Oxfordshire red colour-coated ware. 1 example also has impressed rosette decoration, which is characteristic of the second half of the 4th century (Young 1977, 166).

83.1 As above with impressed demi-rosette decoration around the shoulder. 1, Oxfordshire red colour-coated ware.

81.3 As above, with painted spiral decoration. 1, Oxfordshire red colour-coated ware. Similar to Young's (1977) C77.2.

81.4 As above, with rouletted decoration below the neck. 4, Oxfordshire red colour-coated ware.

81.5 As above with out-turned rim. 2, Oxfordshire red colour-coated ware. 1 example has rouletting on the shoulder and lower part of the wall.

82.1 As above with extensive rouletted decoration. 2, Oxfordshire red colour-coated ware. 1 example also has impressed rosette decoration, which is characteristic of the second half of the 4th century (Young 1977, 166).

83.1 As above with impressed demi-rosette decoration around the shoulder. 1, Oxfordshire red colour-coated ware.

84.1 Necked bowl with slightly everted rim. 1, red ware, possibly Oxfordshire.

85.1 Necked bowl with dimples on the wall and impressed decoration. 2, Oxfordshire red colour-coated ware. Young's type C79 (1977, fig 63).

86.1 As above with out-turned rim, rouletting on neck and pronounced cordon. 1, Oxfordshire red colour-coated ware. Young's (1977) type C75.

86.2 As above with decorated panels on the wall of impressed demi-rosettes, vertical rouletting, and large rosettes. 1, Oxfordshire red colour-coated ware.

87.1 Necked bowl with flanged rim. 1, grey-ware.

87.2 Bowl with large out-turned, reeded rim. 1, grey-ware.

87.3 Bowl with flanged rim and lid-seating. 1, grey-ware.

Fig 132

88.1 Wide-mouthed necked bowl with girth grooves. 1, Oxfordshire red colour-coated ware; 2, grey-ware.

88.2 Wide-mouthed necked bowl with handle and impressed demi-rosette decoration. 1, Oxfordshire red colour-coated ware. Young's type C85, second half of the 4th century (Young 1977, 170, fig 65).

89.1 Base of bowl with central column inside. 1, Oxfordshire red colour-coated ware.

Flanged bowls

90.1 Flanged bowl copying Dr 38. 9, Oxfordshire red colour-coated ware. A common Oxfordshire ware type, in the later 3rd and 4th century, Young's type C51 (1977, 160, fig 59).

90.2 As above but with more angular, down-turned flange. 6, Oxfordshire red colour-coated ware.

90.3 As above with pronounced angular flange. 12, Oxfordshire red colour-coated ware. 3 have white painted scroll decoration on the flange, as in Young's (1977) type C52.

90.4 As above with curving, slightly beaded flange. 4, Oxfordshire red colour-coated ware. 1 example has white painted decoration on the flange in the form of arcading with dots inside.

90.5 As above with slight variant on flange. 1, Oxfordshire red colour-coated ware.

91.2 Shallow bowl with out-turned rim upturned at tip, probably derived from Dr 36 and Curle 15. White painted decoration on rim. 2, Oxfordshire red colour-coated ware. Young's type C50 (1977, 160, fig 59).

91.3 Shallow bowl with wide rim. 1, Oxfordshire oxidized ware; 1, grey-ware. Usually appears as a red colour-coated ware, Young's (1977) type C47.

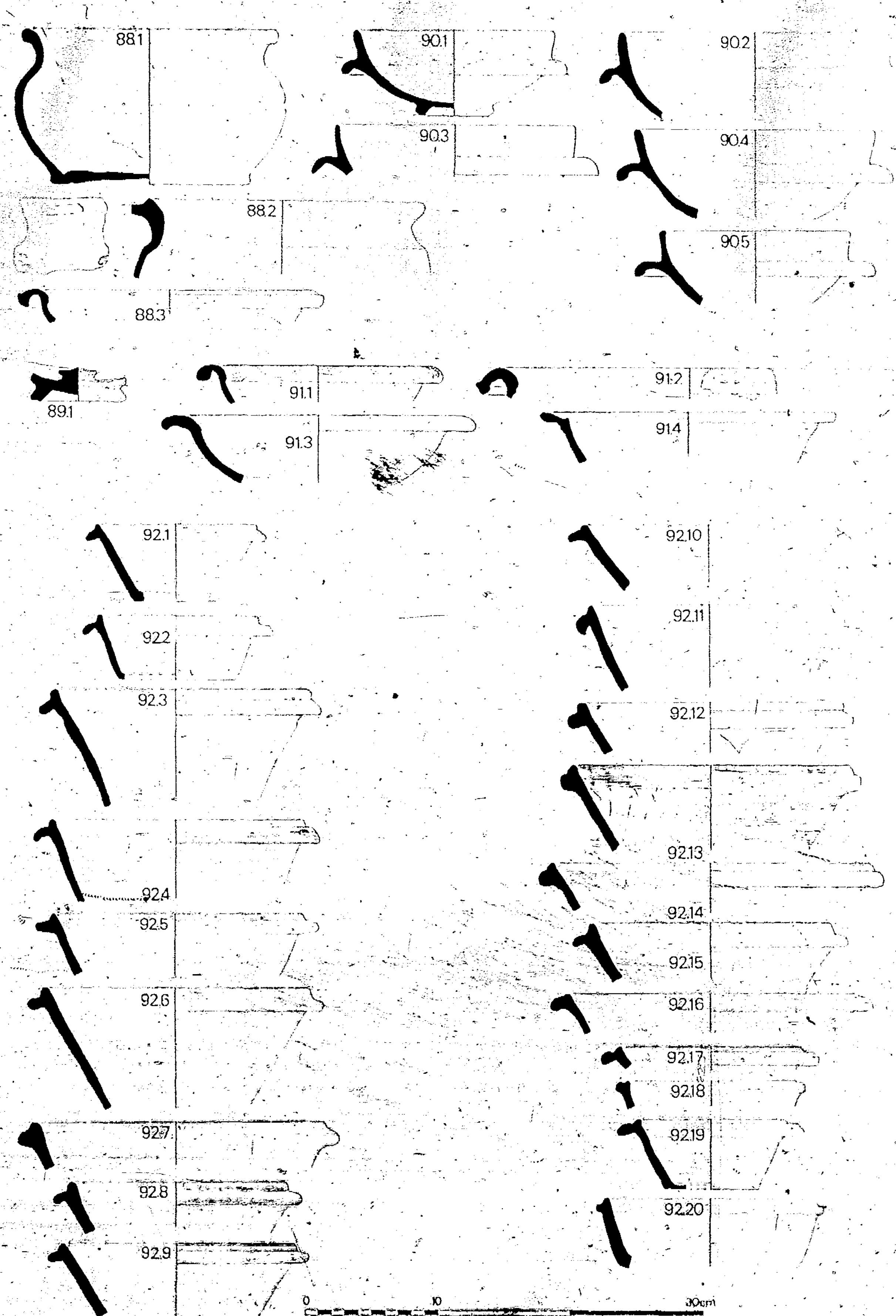


Fig. 132 Later Romano-British pottery

91.4 Flanged or segmented ~~bowl. 1,~~ Oxfordshire oxidized ware. Similar type to Young's (1977) O 39, thought to be late 1st - early 2nd century. Vessel here is from late RB paddock ditch 336, which contained earlier material, so may be residual.

91.5 Shallow bowl with out-turned rim, upturned at tip (see 91.2). No decoration. 2, Oxfordshire red colour-coated ware.

The flanged bowl types 92-4 are very common in the late RB levels, mostly in grey-ware fabrics, presumably derived from black-burnished types. Black-burnished vessels also occur in similar numbers. The grey-ware bowls seem to be manufactured in the region from the 3rd century onwards and include Young's types R45-47 (1977, 220-222).

92.1 13, grey-ware; 1, black-burnished ware, dias 12-22cm.

92.2 1, grey-ware; 1, black-burnished ware.

92.3 1, grey-ware; 1, black-burnished ware.

92.4 2, grey-ware.

92.5 9, grey-ware; 2, black-burnished ware.

92.6 12, grey-ware; 4, black-burnished ware.

92.7 4, grey-ware; 1, black-burnished ware.

92.8 1, black-burnished ware.

92.9 4, grey-ware, the smooth dark grey exterior surface and very light interior is thought by Malcoln Lyne to be similar to Alice Holt ware; 3, blackburnished ware. One black-burnished vessel has burnished arcading decoration on the wall.

92.10 10, black-burnished ware. Illustrated example from large late RB pit 708 has arcading decoration and cut marks on top of rim. 2, grey-ware and 1 Oxfordshire oxidized ware in form only.

92.11 Bowl with hooked flange. 1, grey-ware. From late RB pit 708

92.12 4, black-burnished ware; 1, grey-ware.

92.13 2, grey-ware. Illustrated example is from late RB well 832/2; other is burnished but without cross-hatching.

92.14 2, grey-ware.

92.15 3, grey-ware; 1 black-burnished ware; 1 Oxfordshire red colour-coated ware. The last is a not very common Oxfordshire type, made at Baldon, Rose Hill and Cowley in the second half of the 4th century, Young's (1977) type C93. From large pit 1018 around late RB well-house.

92.16 5, grey-ware; 2, Oxfordshire red colour-coated ware (see above).

92.17 1, Nene Valley ware, dark brown colour-coating on white fabric, from late RB farmhouse robber-trench 266. 1 Oxfordshire red colour-coated ware, Young's (1977) type C93, a rare form.

92.18 1 Nene Valley ware, dark brown colour-coating on white fabric.

92.19 1, Oxfordshire red colour-coated ware, Young's (1977) type C93

92.20 1, grey-ware.

Fig 133

92.21 1, black-burnished ware.

92.22 1, black-burnished ware.

93.1 2, grey-ware; 1 Oxfordshire red colour-coated ware.

93.2 Large flanged bowl, grey-ware with large white calcareous inclusions; from late RB pit 295.

94.1 Bowl with vestigial flange. 13, grey-ware; 1 Oxfordshire red colour-coated ware.

94.2 As above. 6, grey-ware.

94.3 Bowl with moulded rim. 1, grey-ware, Young's type R75, made only at Churchill in 4th century (1977, 226, fig 84). From late RB ditch 858.

Deep bowls

95.1 Deep bowl with out-swelling walls and bead rim. 11, Oxfordshire red colour-coated ware. 1 vessel has white painted scroll decoration and another part of an impressed rosette. 1, grey-ware, Young's type C68 (1977, 162, fig 61) made at Baldon, Open Brasenose, and Dorchester in 4th century.

95.2 Deep bowl with bead rim, rouletting under rim, and white painted decoration; 5, Oxfordshire red colour-coated ware. Only illustration has painted decoration. 1, grey-ware, undecorated.

95.3 As above with band of rouletted decoration on wall. 12, Oxfordshire red colour-coated ware. 1 has no rouletting, another only in narrow band below rim.

95.4 As above but with impressed rosettes, track marks, and rouletting along base of wall. 1, Oxfordshire red colour-coated ware from late RB well 832/5. Illustrated as type C70.2 (Young 1977, fig 61). 1 vessel in same fabric and form but with white painted decoration, and 1 in grey-ware.

95.5 As above with rouletting and white scroll decoration. 6, Oxfordshire red colour-coated ware. Young's (1977) type C69.

95.6 Shallow bowl copying samian form 31 with bead rim. 9, Oxfordshire red colour-coated ware. Young's type C45 (1977, 158, fig 58).

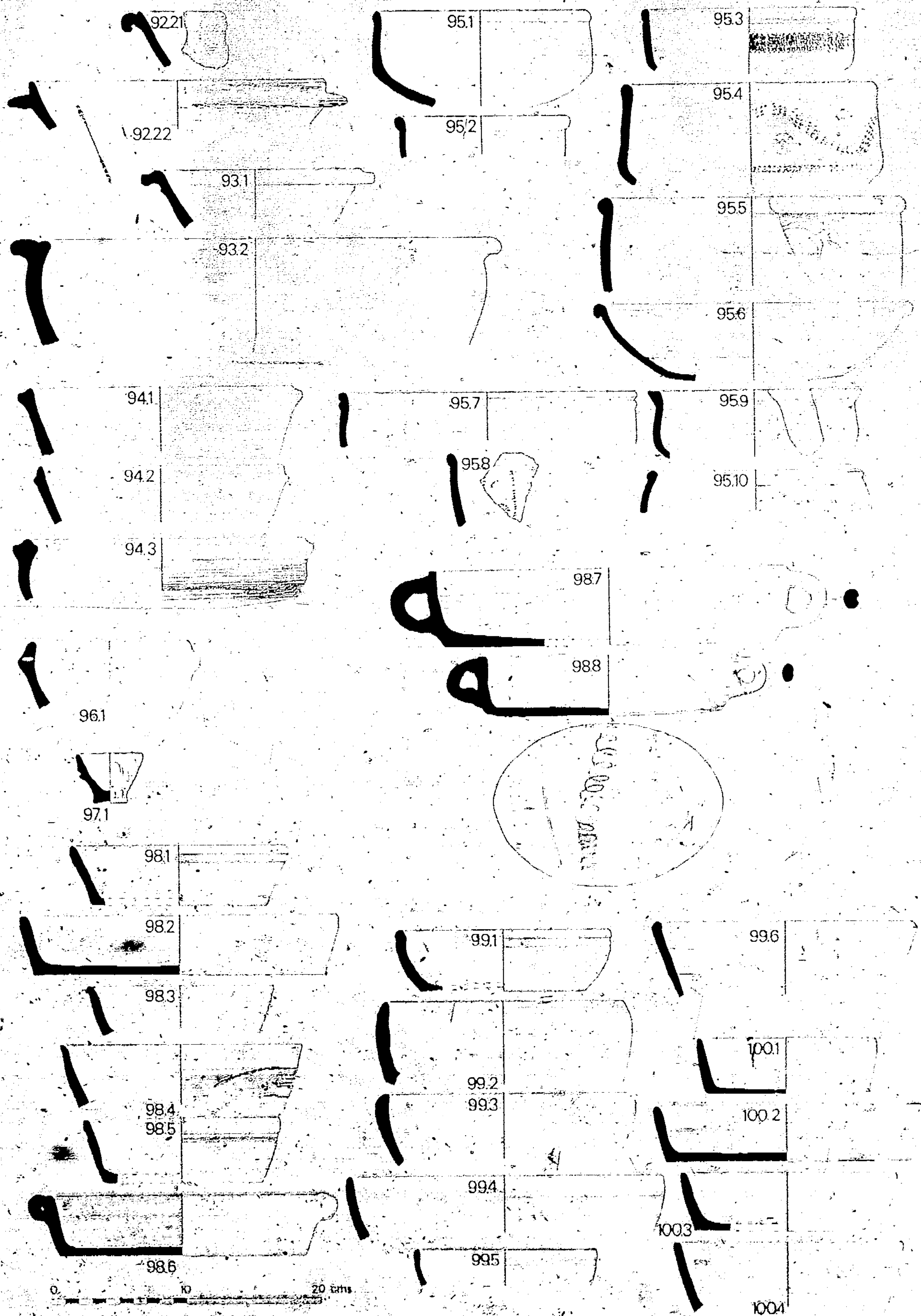


Fig 133 Later-Romano-British pottery

95.7 Deep bowl with double-bead rim. 3, Oxfordshire red colour-coated ware. Probably same as Young's C71 (1977, 164, fig 61).

95.8 Deep bowl with rosette, demi-rosette, and rouletted decoration in panels. 1 Oxfordshire red colour-coated ware, 2 other rim fragments only.

95.9 Deep bowl with thickened slightly everted rim with white painted scroll decoration. 1, Oxfordshire red colour-coated ware. The type is a hybrid between Young's types 70-71 and 77, somewhat similar to his type 74 (1977, fig 61). The sherd is important here because it was stratified below wall 821 of the late RB building.

95.10 Deep bowl with double bead rim and rouletted decoration. 1, Oxfordshire red colour-coated ware. Young's type C71 (1977, fig 61).

96.1 Bowl with bosses and deeply burnished lines inside and out. 1, grey-ware. Date uncertain.

97.1 Small cup, crudely made. 1 oxidized ware, hand-made. From fill of late RB cellar 295/2.

Straight-sided bowls with flat bases.

98.1 With groove below rim. 10, grey-ware. Young's (1977) type R53; 3 Oxfordshire red colour-coated ware; Young's type C93 made at Baldon, Rose Hill, and Cowley in later 4th century; 1 black-burnished ware.

98.2 As above. 15, grey-ware; 14 black-burnished ware.

98.3 As above. 5, grey-ware; 1 black-burnished ware.

98.4 As above, some with burnished arcade decoration. 10, black-burnished ware; 2 grey-ware; 1 Oxfordshire red colour-coated ware.

98.5 As above. 14 grey-ware; 1 Oxfordshire red colour-coated ware.

98.6 Straight-sided bowl with handles, oval in shape, and well burnished inside. 1, grey-ware. From late RB paddock ditch 709.

98.7 As above; larger handles and oval shape. 1, black-burnished ware. From fill of late RB well-house 950. Similar to Portchester type 117 (Fulford 1975a, 344, fig 187), which spans the 4th century.

98.8 As above. Decorated with burnished lines, loops, and cross on interior base and arcading on exterior base. 1, black-burnished ware. From RB water-hole 609/3

99.1 Bowl with slightly convex sides, flat base, and grooved below rim. 8, Oxfordshire red colour-coated ware, Young's (1977) type C04; 2, grey-ware; 1 Oxfordshire oxidized ware.

99.2 As above. 5, grey-ware; 1 Oxfordshire red colour-coated ware.

99.3 As above. 28, grey-ware; 1 black-burnished ware.

99.4 As above. 18, grey-ware; 4, Oxfordshire red colour-coated ware; 1 black-burnished ware.

99.5 As above. 5, grey-ware.

99.6 Straight-sided bowl, deeper than usual and with chamfered rim. 1, grey-ware.

100.1 Straight-sided bowl with flat base and plain rim. 6, Oxfordshire red colour-coated ware, Young's (1977) type C94; 5 black-burnished ware; 1, grey-ware.

100.2 As above. 10, black-burnished ware. Illustrated vessel has burnished arcading and cut marks in rim. 1 grey-ware; 1 Oxfordshire red colour-coated ware.

100.3 As above. 14, grey-ware. Malcolm Lyne suggests that 3 of these vessels may be from Alice Holt. These are slightly sandy grey ware with a slip on the inside and out varying from light grey to black. 5, black-burnished ware.

100.4 As above. 3, grey-ware. The illustrated vessel, from fill of late RB well 950, is well burnished inside and with varying burnished lines on outside wall. This resembles products of the Compton Kilns in Berkshire.

Fig 134

101.1 Shallow bowl with convex walls and flat base. 7, grey-ware; 3 Oxfordshire red colour-coated ware; 1 Nene Valley ware, dark brown colour-coat on oxidized fabric.

101.2 As above. 2 Nene Valley ware, dark brown on white fabric. Complete vessel from late RB well 832/1; 1 Oxfordshire red colour-coated ware; 1 black-burnished ware.

101.3 Bowl with bosses and burnished lines on outer wall. 2 grey-ware. Same type as 96.1. Both may be Compton products. From disturbed floor levels of late RB structure.

101.4 As above but lacking bosses. 1 grey-ware. Possibly a Compton product. From fill of late RB well 950.

101.5 As above, with boss and inturned rim. 1, grey-ware with limestone inclusions. Possible Compton ware. From late RB pit 1018 around well 950.

101.6 Bowl with inturned rim, grooves below rim, and concave base, 3, grey-ware.

102.1 Flanged bow. 2, shell-gritted ware.

102.2 As above. 2, shell-gritted ware.

103.1 Large flanged bowl. 1, shell-gritted ware.

104.1 Plain bowl. 4, shell-gritted ware.

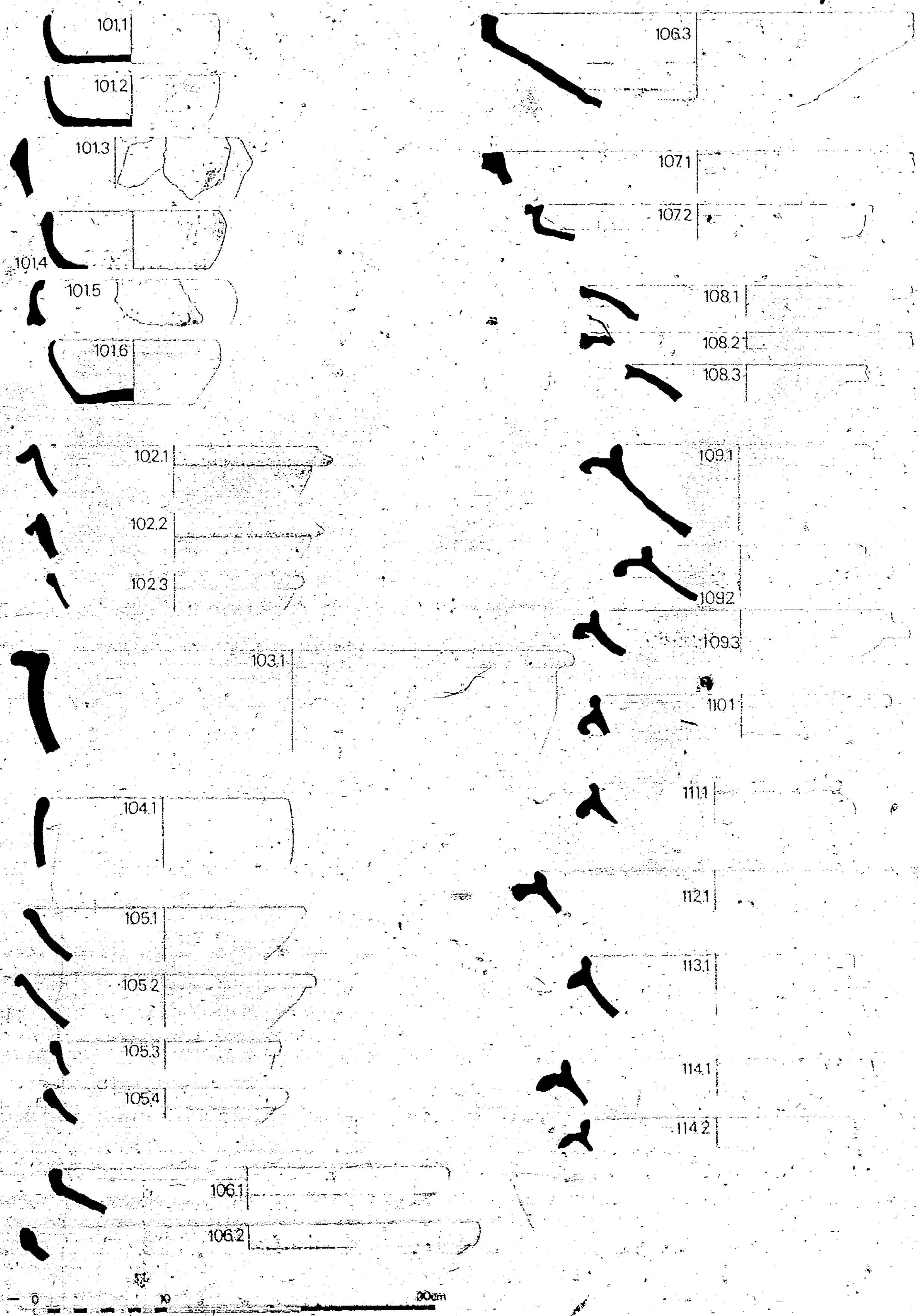


Fig 134 Later Romano-British pottery

105.1 Shallow bowl copying samian form 31 with bead rim. 16, Oxfordshire red colour-coated ware, Young's type C45 (1977, 158, fig 56).
105.2 As above. 35, Oxfordshire red colour-coated ware; 2, grey-ware.
105.3 As above. 10, Oxfordshire red colour-coated ware.
105.4 As above. 24, Oxfordshire red colour-coated ware; 1, grey-ware.
106.1 Shallow bowl with upturned rim and rouletting beneath rim on outside. 4, Oxfordshire red colour-coated ware. Young's type C40 derived from samian forms 79 and 32; made at Rose Hill and Sandford (1977, 156, fig 57).
106.2 As above. 1, Oxfordshire red colour-coated ware.
106.3 As above. 1, Oxfordshire red colour-coated ware.
107.1 Moulded rim from wall sided bowl. 1, Oxfordshire parchment ware.
107.2 Shallow bowl with out-turned rim, upturned at tip. 1, Oxfordshire red colour-coated ware, Young's (1977) type C42, a copy of Ludowici's Tg. manufactured at Rose Hill and Cowley. Date uncertain; here found in post-hole 1140 of Saxon sunken hut 1023.
108.1 Shallow bowl with out-turned rim, turned up at rim. 4, Oxfordshire red colour-coated ware; 1, Nene Valley dark brown on white ware; 1, grey-ware.
108.2 As above, 2, Oxfordshire red colour-coated ware. 1 has white painted scroll decoration on rim. Young's (1977) type C49; also appears in this catalogue under 91.2 and 91.5.
108.3 Bowl with outward sloping walls and fluted rim. 2, grey-ware.

Mortaria

109.1 Mortaria with upstanding rim, wide flat flange hooked under at tip. 4, Oxfordshire white ware. Young's type M17 (1977, 72, fig 21); 1 Oxfordshire red colour-coated ware.
109.2 Upstanding, grooved rim, and wide flange. 1, Oxfordshire white ware. Young's (1977) type M20.
109.3 Upstanding rim and squat flange folded under. 1, Oxfordshire white ware. Young's (1977) type C22.
110.1 Downward pointing flange, hooked under with upstanding bead rim. 1, Oxfordshire red colour-coated ware. Young's type C100 (1977, 174, fig 67).
111.1 As above. 1, Oxfordshire red colour-coated ware; 1 Oxfordshire white ware. Latter in Young's (1977) type M21, a Churchill product in later 3rd century.
112.1 Upstanding rim and flange widening at the tip. 1 Oxfordshire white colour-coat on red body.

113.1 Upstanding rim with thick flange. 1 Oxfordshire white ware; 1 Oxfordshire white colour-coat on red body. Young's (1977) type M22.

114.1 As above but with wider flange. 6 Oxfordshire white colour-coat on red body; 4 Oxfordshire white ware; 2 Oxfordshire red colour-coated ware.

114.2 As above. 1 Oxfordshire red colour-coated ware.

Fig 135

115.1 As above, with wide, thick flange and slight, upstanding rim. 2 Oxfordshire white ware; 2 Oxfordshire white colour-coat on red body.

115.2 As above, with downward pointing flange. 3 Oxfordshire white colour-coat on red body; 1 Oxfordshire white ware.

115.3 As above, with turned down flange, 1, Oxfordshire white colour-coat on red body.

116.1 Upstanding fluted rim and small flange. 3, Oxfordshire white colour-coat on red body; 1 Oxfordshire white ware. Variant of Young's (1977) type M22.

117.1 Upstanding rim with narrow but thick flange. 3, Oxfordshire white ware; 1 Oxfordshire red colour-coated ware. Similar to Young's type M22-14 (1977, fig 23).

118.1 As above. 2 Oxfordshire white ware.

118.2 As above. 2, Oxfordshire white colour-coat on red body; 1 Oxfordshire red colour-coated ware.

118.3 As above. 2, Oxfordshire white ware; 2 Oxfordshire white colour-coat on red body.

119.1 Upright rim and angular flange. 6, Oxfordshire red colour-coated ware. Young's type C100 (1977, 174, fig 67).

119.2 As above. 3 Oxfordshire red colour-coated ware.

119.3 As above. 1 Oxfordshire white colour-coat on red ware.

120.1 Upright rim and straight flange fluted at tip. 1, Oxfordshire red colour-coated ware.

120.2 Upright rim and short wedge-shaped flange. 3, Oxfordshire red colour-coated ware. Young's (1977) type C100.

120.3 As above with turned-down flange rouletted along outer edge. 1, Oxfordshire red colour-coated ware. Young's C100.7 (1977, fig 67).

121.1 Upright rim with flange folded back against body. 1, Oxfordshire red colour-coated ware. Variant of Young's (1977) type C100.

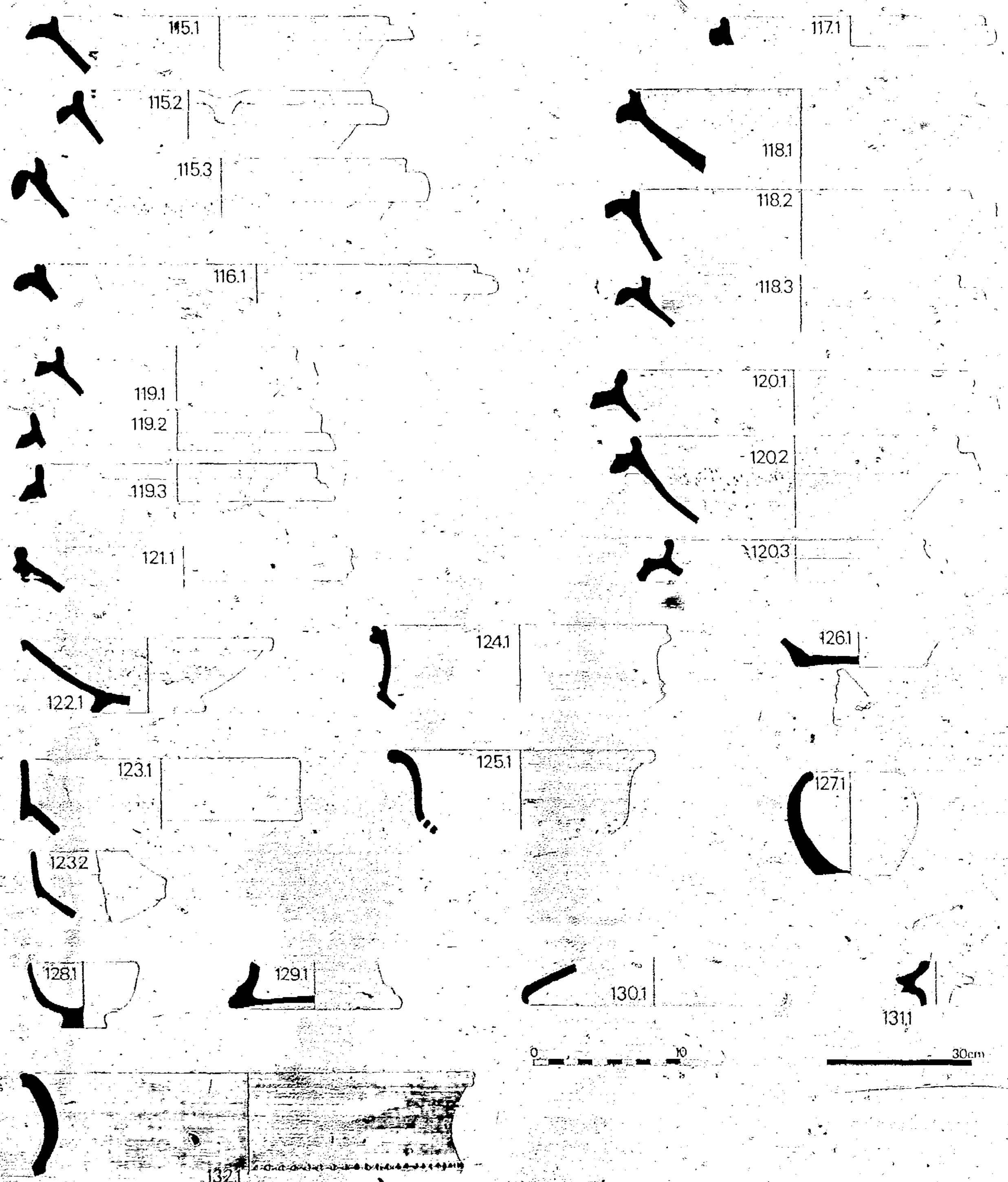


Fig 135 Later Romano-British pottery

122.1 Small mortarium with bead rim. 3, Oxfordshire red colour-coated ware. Type is not listed in Young's catalogue (1977), but appears to derive from samian form 31, similar to Young's type C45, a shallow bowl. From robber-trench of RB farmhouse and fill of cellar.

123.1 Wall-sided mortaria, copying samian form 45. 45, Oxfordshire red colour-coated ware. Young's type C97 (1977, 173, fig 67). One vessel found on bottom of late RB well 950.

124.1 Wall-sided bowl moulded at rim and carination and painted red on rim and carination. 5, Oxfordshire parchment ware. The most common Oxford parchment ware type: Young's type P24 (1977, 87, fig 27).

125.1 Colander with out-turned rim. 4, grey-ware. Young's (1977) type R80.4 is similar and dated between mid 1st and late 3rd centuries, but these examples all came from 4th century contexts, albeit not secure from residual contamination.

126.1 Jar base with incised graffito which looks like BA 1, grey-ware. Fill of late RB well-house 950.

127.1 Small jar with plain closed-in rim. 1, grey-ware. From upper filling (1206) of late RB paddock ditch 1175.

128.1 Small hemispherical cup with pedestal base. 1 Oxfordshire red colour-coated ware. From 1066/1, the infill of the late RB well-house after it had gone out of use. Similar to Young's type C110.2, except for the solid base, made at Sandford in the mid 4th century (1977 fig 66, 174).

129.1 Expanded pedestal foot of a vessel of uncertain form, possibly a beaker. 1, Oxfordshire red colour-coated ware. From late RB paddock ditch 1250/1.

130.1 Lid or platter? 1, Oxfordshire red colour-coated ware. If platter, then it is probably derived from samian forms 32 and 79.

131.1 Fragment of flagon. 1 Oxfordshire red colour-coated ware.

132.1 Bowl with turned-out neck, fluted rim, and cordoned carination with slash decoration. 1, grey-ware. From late RB paddock ditch 879/1 Young's type R59, copied from the parchment ware bowl P25. Made at Foxcombe Hill (Young 1977, fig 82, 224, 353).

V.4.7 The principal late RB groups of pottery

On stratigraphic grounds two features could be shown to predate the construction of the late RB paddock system and probably were contemporary with the first phase of the late RB farmstead. These are the water-hole 609/2-4 and the corn-drying oven 732.

V.4.7.1 Water-hole 609/2-4

A total of 2.60kg of pottery was excavated from the water-hole, 8% of which was Oxfordshire ware, 82% grey-ware, 6% black-burnished ware, and the rest storage vessel and native ware sherds. The lowest layer 609/4 produced only Oxfordshire ware and grey-ware.

The types from 609/2: grey-wares 42.2, 45.1, 45.2, 60.1, 81.2; black-burnished wares, 92.21, 92.22; Oxfordshire red colour-coats, 75.1, 95.6. From 609/3: grey-ware, 47.1; black-burnished ware, 98.8 From 609/4: No rims.

V.4.7.2 Corndrying oven 732

A total of 1.35kg of pottery was excavated from this corn-dryer. 28% was Oxfordshire ware, 5% Nene Valley ware, 56% grey-ware, 4% samian, 3% black-burnished ware, and 4% native wares. The types were: grey-ware, 42.1 (2), 45.1, 47.2, 60.1, 101.1, 125.1; black-burnished ware, 64.1, 92.10; Oxfordshire red colour-coats, 88.2, 91.1, 93.3, 105.3, 105.4, 123.1; Nene Valley ware, 93.3.

The pottery from these two features is consistent with their being in use in the later 3rd and first half of the 4th century. The primary fill of the water-hole 609/4 contained Oxfordshire red colour-coated wares which were manufactured from the mid 3rd century onwards (Young 1977, 123). It may be significant that neither feature contained shell-gritted wares, which are common in the latter half of the 4th century. The pottery in the upper fill of the waterhole 609/2 and the upper fill of the corn-drying oven 732 suggest that both features were out of use by the mid 4th century. From the corn-drying oven white painting on Oxford red colour-coated wares, type 91.1 (Young 1977, 133), wall-sided mortaria 103.1, and impresssed rosette decoration, 88.2 (Young 1977, 131-2) are characteristic of the mid 4th century.

V.4.7.3 Villa farmhouse : floor layers

The occupation layers of the rooms at the N end of the building were completely ploughed away. At the S end, although no floors were intact, a thin layer of the latest occupation material survived. The pottery from these layers is here grouped together.

Total 2.28kg. 7.2% Oxfordshire ware, 1% shell-gritted ware, 65% grey-ware, 2% early RB wares, 4% black-burnished ware, 20% native wares.

Types: grey-ware, 34.1, 42.1 (2), 42.3, 47.1, 92.7; Oxfordshire red colour-coated ware 75.1, 95.7; Oxfordshire white colour-coat on red ware 53.1, 112.1; native ware, 156.2.

V.4.7.4 Villa farmhouse cellar

The material in the cellar appeared to have been backfilled quickly and deliberately using soil brought in for the purpose. Although there was a large quantity of pottery, the sherds were noticeably small and worn.

Total 28.70kg. Oxfordshire ware 19%; Nene Valley ware 1½; shell-gritted ware 7%; grey-ware 62%; early RB wares 2%; black-burnished ware 1%; coarse storage vessels 2%; native wares 6%. The material immediately above the floor of the cellar 414 included the following types: grey-ware 45.1; 54.4; shell-gritted ware 59.1, 65.3.

From the robber-trench 418, inside the cellar; Oxfordshire ware 118.2.

V.4.7.5 Villa farmhouse robber-trenches

The material from the robber trenches is consistent with the demolition of the farmstead having taken place in the first half of the 5th century. The pottery consists mostly of standard late RB types, though a handful of Saxon sherds might suggest that there was Saxon occupation on the site when the robbing took place.

Total 15.0kg. Oxfordshire ware 17%; Nene Valley ware 1%; shell-gritted ware 6%; grey ware 63% early RB ware 0.2%; black-burnished ware 2%; storage vessel 1%; native ware 10%; Saxon wares 0.3%.

Types: Oxfordshire ware 32.2, 45.2, 49.1, 75.1 (2), 81.1, 82.1, 91.1, 94.1, 99.1 (3), 105.2, 105.3 (4), 111.1 (2), 117.1, 119.1 (2), 122.2 (2), 12.1 (5); Nene Valley ware 92.17; shell-gritted ware 65.1 (6), 66.1, 67.1, 67.2, 67.3, (2), 69.1 (3), 69.2 (4), 70.1; grey-ware 42.1 (13), 42.2 (13), 42.2 (4), 42.3 (2), 42.4(4), 42.5, 43.1, 44.1 (2), 45.1 (6), 45.2, 45.4, 46.1, 47.1, 48.1, 51.2, 54.1 (2), 57.1 (2), 61.1, 62.1, 63.1, 64.1, 75.2, 77.2 (2) 92.1, 92.6 (2), 92.9 (2), 92.10, 92.14, 92.16 (2), 94.2, 98.2, 98.3, 98.5 (5), 99.4, 100.1, 100.3, 108.3; black-burnished ware: 64.1, 98.4; Saxon: 2 rims.

From the remaining fill of the cellar, 301 vessel fragments were classified according to the type series, ranging from Iron Age types to a large number of Oxfordshire ware vessels and shell-gritted wares. In view of the nature of the deposits, this list is not reproduced here.

V.4.7.6 Villa farmhouse enclosure ditch

The majority of the pottery from this enclosure ditch came from the upper fill, layer 1, with considerably less from the middle layers, and very little from the primary fill, though the last did include Oxford wares and shell-gritted wares. The pottery from the ditch suggests that it was in use in the 4th century and into the 5th century, thus acquiring the Saxon sherds. The large quantity of Iron Age sherds is residual from the pits and ditches cut by the enclosure ditch. All the layers are grouped together here for brevity. Total 27.66kg. Oxfordshire wares 12%; Nene Valley ware 1%; shell-gritted ware 4%; grey-ware 57%; early RB wares 0.4%; black-burnished ware 2%; coarse storage vessel 0.6%; native wares 22%; amphorae 0.4%; Saxon wares 0.7%.

Types: Oxfordshire wares 42.1, 54.1, 62.1, 75.1, 75.2 (2), 79.2, 80.1, 81.4, 84.1, 85.1, 90.3, 92.16, 92.17, 95.1 (3), 95.2, 95.4, 95.5, 101.1 (2), 105.1, 105.2 (2), 105.3(2), 105.4(6), 106.1, 108.1(2), 109.1(2), 113.1, 114.1, 115.1, 116.1(3), 117.1, 118.2, 118.3, 120.1, 123.1(5); shell-gritted wares, 65.1(4), 65.2, 65.3, 67.2, 68.1, 69.1, 69.2, 105.4(2), 108.1; grey-ware, 37.1(2), 38.3, 42.1(20), 42.2(2), 42.3(8), 42.5(2), 43.1, 44.1(4), 45.1(13), 45.2(7), 45.4, 46.1, 47.1(4), 47.2, 48.1(2), 48.2, 49.1(2), 50.3, 52.1, 53.1(2), 54.1, 154.2, 54.4(5), 56.1(2), 57.1, 58.1(5), 59.2, 60.1, 61.1(4), 63.1, 64.1(2), 75.2, 76.1(3), 76.2, 77.2(3), 92.1, 92.5, 92.7(2), 94.1(2), 98.2(4), 98.3, 98.5(4), 99.3(7), 99.5, 108.3; black burnished ware: 92.6, 92.7, 92.8, 92.2, 92.10(2), 92.12, 92.15, 98.2, 98.4(3), 100.3; native wares: 1.1, 20.5, 30.3.

V.4.7.7 Other enclosure ditches

The remaining enclosure ditches, contemporary with the villa farmstead enclosure ditch, produced a similar range of ceramic types and these are not listed here. Total 60.50kg. Oxfordshire ware 20%; Nene Valley ware 1%; shell-gritted ware 6%; grey-ware 57%; early RB wares 0.5%; black-burnished ware 2%; storage vessels 0.4%; native wares 13%.

V.4.7.8 Latest RB paddock ditches

The irregular ditches on the S side of the villa enclosure system were shown stratigraphically to be among the latest RB features on the site. The pottery analysis is therefore presented separately from that of the other ditches.

The relatively high proportion of Saxon material is noticeable and includes sherds from the lower levels of the ditches as well as the top:

	Total (kg)	Oxfordshire (%)	Nene Valley (%)	Shell-gritted (%)	Grey-ware (%)	Early RB ware (%)	RB (%)	Storage Vessel (%)	Iron Age (%)	Saxon (%)
SE paddock ditch	32.6	17.0	0.1	6.4	62.0	0.3	1.4	4.2	0.3	8.2
Water-hole 879	2.8	26.2	-	4.4	54.0	-	8.4	5.7	1.4	-
SW paddock	5.6	21.5	-	10.9	52.0	0.3	0.8	1.9	-	12.4

V.4.7.9 Late RB building 2

The material from building 2 came from disturbed floor levels, the oven in the E room, and the robber-trenches of the walls. Unfortunately the layer of loamy soil (822) beneath the paving in the E room produced no pottery, though it did contain coin (cat No. 33) dated to AD 330-41. A sherd of Oxfordshire red colour-coated ware and one of shell-gritted ware were also found beneath the S wall of the building 821: Oxford ware: 95.9 (illustrated vessel (Fig 133) Oxfordshire red colour-coated ware with white painted scroll decoration); shell-gritted ware: base of a type 65 jar.

Total from building 2 9.12kg. Oxfordshire 40%; shell-gritted ware 8%; grey-ware 48%; black-burnished ware 0.4%; storage vessel 3%; native wares 1%.

Types from disturbed floor levels. Oxford ware: 47.2, 75.2, 77.4, 81.2 (3), 8.4, 8.5, 90.3, 91.5, 91.19, 105.2(2), 105.4, 106.1(2), 108.2, 114.1(3), 115.2(4), 115.2, 120.2, 123.1(2); shell-gritted ware: 65.1, 65.3(4), 67.2, 68.2, 69.1, 102.2; grey-ware: 42.2, 42.3, 42.5, 44.1, 51.3, 55.1(2), 77.2(2), 92.5, 94.1, 98.1, 98.4, 99.3(4), 99.4, 101.3; black-burnished ware: 98.2(2)

Types from oven (801). Oxfordshire ware: 95.2; shell-gritted ware 65.3.

Types from wall robber-trenches. Oxfordshire ware: 95.6, 105.4. Greyware: 105.4

V.4.7.10 Well 832

The pottery from the well was recorded in spits numbered from 1 to 6. Near the bottom was a large quantitiy of pottery including several complete or near-complete vessels which were probably dropped into the well while it was in use. There was a high proportion of Oxfordshire colour-coated vessels at the base of the well. The lowest layer produced a single sherd of New Forest ware, the cut-down base of a grey-ware with dusky red (2.5 YR3/2) colour coat.

	Total (kg)	Oxfordshire (%)	Nene Valley (%)	Shell-gritted (%)	Grey-ware	Early RB (%)	Black-burnished (%)
832/A (top 1m)	0.68	16.1	10.3	16.1	57.4	-	-
832/1	3.90	20.0	1.3	29.2	48.1	1.4	-
832/2	1.74	13.3	0.3	5.8	80.7	-	-
832/3	-	-	-	-	-	-	-
832/4	1.13	20.4	-	13.3	66.4	-	-
832/5	1.13	19.7	0.1	11.9	67.5	-	0.8
832/6	7.87	41.4	0.4	-	58.1	-	-
Whole	26.67	25.7	0.6	10.7	62.4	0.2	0.3

Types - 832/a/1. Oxfordshire ware: 95.1, 95.3, 95.5, 114.1, 116.1, 118.2, 119.2, 123.1; Nene Valley: 101.2; Shell-gritted ware: 65.1(2), 65.2, 66.1, 67.1; grey-wares: 42.1, 42.3(2), 42.5(3), 45.1, 45.2(2), 62.1, 64.2, 72.2.

Types - 832/2. Oxfordshire ware: 79.1, 81.2, 81.4, 95.3, 105.1, 123.1; shell-gritted ware: 65.2(2), 104.1; grey-ware: 92.13, 92.15, 98.3.

Types - 832/4. Oxfordshire ware: 100.1, 106.2, 123.1(2); shell-gritted ware: 65.1(3); grey-ware: 46.1, 94.1, 99.2.

Types - 832/5. Oxfordshire ware: 81.1, 81.2, 90.2, 90.4, 95.4, 100.1, 108.2, 118.1, 123.1; shell-gritted ware: 65.1, 65.2; grey-ware: 42.1(2), 42.3, 42.4(2), 42.4, 42.6, 45.1, 45.4, 46.1, 64.1, 77.1, 77.2, 77.3, 92.1, 92.6, 92.9, 95.2, 98.2, 100.3.

Types - 832/6. Oxfordshire ware: 42.2, 45.2, 47.1, 47.2, 74.1, 75.1, 78.1(2), 90.1, 105.1, 108.1, 123.1(2); shell-gritted ware: 67.2; grey-ware: 42.1(5), 42.2, 42.4, 45.1, 45.2(3), 50.2, 54.4, 58.1(3), 63.1, 71.1(2).

V.4.7.11 The well and well-house

The layers of the well, well-house, and associated pit were divided into three phases: 1, the construction layers, including the backfill of the pit and the flooring of the well-house; 2, the occupation layers, or material which was deposited within the well during its use; 3, the post-occupation layers, or material which accumulated within the feature once it had gone out of use.

	Total (kg)	Oxfordshire (%)	Nene Valley (%)	Shell-gritted (%)	Grey-ware (%)	Early RB (%)	Black-burnished (%)	Storage Vessel (%)	Saxon (%)
Phase 1	7.65	8.4	0.3	3.1	78.6	1.0	4.6	3.2	0.1
Phase 2	2.56	39.6	-	6.6	40.5	-	-	13.5	-
Phase 3	26.07	19.0	0.8	7.7	62.6	1.4	0.5	7.7	0.2

Phase 1 types. Oxfordshire ware: 90.3, 95.3, 95.8, 105.2, 115.1; shell-gritted ware: 67.1, 68.1(2), 68.2, 70.2; grey-ware: 32.6, 42.1, 42.2(3), 42.5, 42.7, 44.1(2), 45.1, 45.2(4), 45.4, 45.5, 45.6, 45.7, 47.1(4), 48.1, 48.2; black-burnished ware: 64.1(4), 92.10(2), 98.2, 100.2(2).

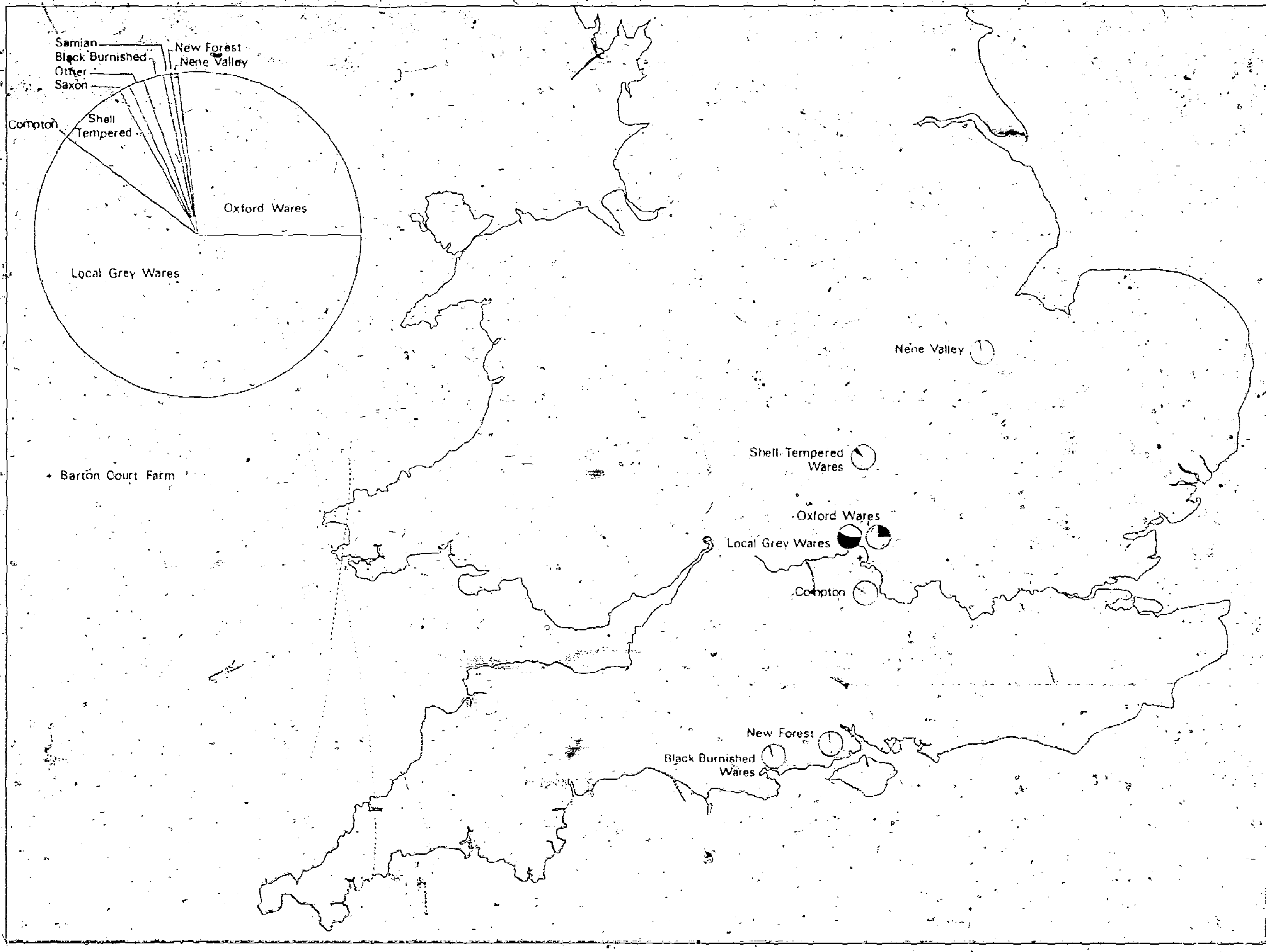


Fig. 136 Sources and proportions of later Romano-British pottery found at Barton Court Farm

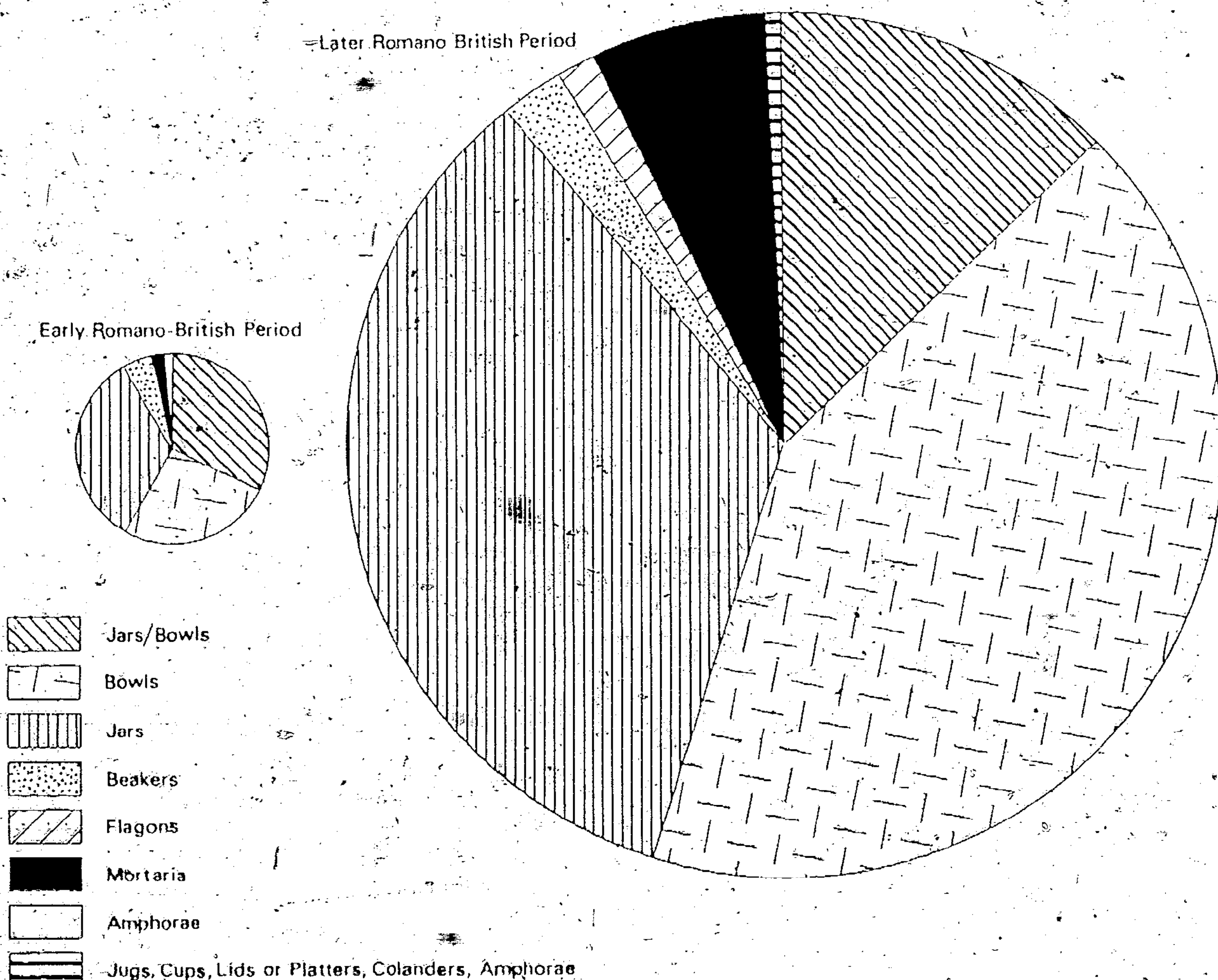


Fig 137 Proportions of vessel types of early and later Romano-British pottery at Barton Court Farm. The sizes of the pie diagrams are proportional to the total quantity of pottery

Phase 2 types. Oxfordshire ware: 95.3, 115.1, 117.1, 123.1(2); grey-ware: 42.1(2), 42.3, 42.4, 45.1, 60.2, 100.2(2); coarse-ware storage vessel: 73.2.

Phase 3 types. Oxfordshire ware: 62.2, 75.2, 79.1(2), 79.3, 81.2, 90.3(2), 91.1, 91.2, 92.15, 92.16, 95.1(2), 95.3, 95.5(2), 95.6, 95.10, 98.1, 99.1(2), 100.1, 105.2(2), 105.3, 105.4(2) 106.1, 109.1, 114.1(3), 117.1(2), 119.1, 119.2, 120.2, 120.3, 123.1(3), 128.1; shell-gritted ware: 65.1(3), 65.2, 65.3, 66.1(2), 67.2, 68.1(4), 68.2(2), 69.1(2), 70.1, 102.1; Nene Valley types: 60.2; grey-wares: 34.2, 42.1(15), 42.2(5), 42.3(4), 42.3(7), 42.5(8), 42.7(4), 44.1(3), 45.1(10), 45.2(5), 45.4(2), 47.1(3), 48.1(2), 48.2(2), 50.1, 53.2, 54.1(4), 54.2, 54.4, 55.2, 56.2, 58.1, 60.1, 62.2, 63.2, 69.1, 72.2, 73.1, 77.2, 77.3, 77.3, 92.1(3), 92.3, 92.5, 92.6, 92.10, 92.13, 92.15, 94.1, 95.8, 99.2, 99.3, 99.4, 99.6, 98.1(4), 98.2, 100.3, 100.4, 101.1, 101.4, 101.5, 125.1, 126.1; black-burnished ware types: 92.10(2), 92.12, 98.7, 100.2(2), 100.3(2); storage vessel: 73.2(3); also samian and Saxon vessels.

V.4.7.12 Corn-drying oven 864

Total 1.39kg: Oxfordshire ware 38%, Nene Valley ware 0.4%, shell-gritted ware 11%, grey-ware 44%, black-burnished ware 4%, storage vessel 1%. Types. Oxfordshire ware: 49.1(2), 53.1, 75.5, 98.1, 100.1; shell-gritted ware: 65.1, 66.1, 67.3, 69.1; grey-ware: 42.1, 45.1, 45.2.

V.4.8 References (V.1–V.4.7)

Branigan, K, 1971 Latimer : Belgic, Roman, Dark Age and Early Modern Farm.

Branigan, K, 1977 Gatcombe Roman Villa Brit Archaeol Rep 44

Brodribb, A C C, Hands, A R, & Walker, D R 1971 Excavations at Shakenoak I.

Brodribb, A C, Hands, A R, & Walker, D R, 1973 Excavations at Shakenoak IV

Brown, D, 1972 Review of Shakenoak III, Britannia, 3, 376-7

Callender, M H, 1965 Roman amphorae

Cardew, M, 1973 Pioneer pottery

Case, H. J. Bayne, N, Steele, S, Avery, G, & Sutermeister, H 1964 Excavations at City Farm, Hanborough, Oxon. Oxoniensia, 29-30, 1-98

Cherry, F F, Gamble, C, & Shennan, S. 1978 Sampling in contemporary British archaeology, Brit Archaeol Rep 50.

De Roche, C D, The Iron Age pottery, in Parrington 1978, 40-74

Detsicas, A P (ed), 1973 Current research in Romano-British coarse pottery, Counc Brit Archaeol Res Rep 10

Farrar, R A H, 1973 The techniques and sources of Romano-British black burnished ware, in Detsicas 1973, 67-103

Frere, S S 1962 Excavations at Dorchester-on-Thames Archaeol J, 119, 114-49

Frere, S S 1972 Verulamium Excavations I, Soc Antiq London Res Rep 28

Fulford, M, 1975a The pottery, in B Cunliffe, Excavations at Portchester Castle I, Soc Antiq London Res Rep 32, 270-361

Fulford, M, 1975b New Forest Roman pottery, Brit Archaeol Rep 17

Fulford, M, & Hodder, I H, 1975, A regression analysis of some late Romano-British pottery : a case study, Oxoniensia, 39, 26-33

Gillam, J P, 1968 Types of Roman coarse pottery in northern Britain

Grimes, W F, 1943 Excavation at Stanton Harcourt, Oxon 1940, Oxoniensia, 8-9, 19-63

Harden, D B, 1942 Excavations in Smith's Pit II, Cassington, Oxon, ibid, 7, 104-7

Harding, D D, 1972 The Iron Age in the Upper Thames Basin

Harris, E, & Young, C J, 1974 The 'Overdale' kiln site at Boar's Hill, near Oxford, Oxoniensia, 39, 12-25

Hawkes, C F C, & Hull, M R, 1947 Camulodunum, Soc Antiq London Res Rep 14

Hermet, F, 1934 La Graufesenque (Condatomago)

Johnston, D E, 1969 Romano-British pottery kilns near Northampton, Antiq J, 49, 75

Jones, M, 1978 Sampling in a rescue context: a case study in Oxfordshire, in Cherry et al 1978, 191-205.

Knorr, R, 1919 Töpfer und Fabriken verzierter Terra-sigillata des ersten Jahrhunderts

Knorr, R, 1952 Terra-sigillata - Gefässe des ersten Jahrhunderts mit Töpfernamen

Myres, J N L, 1937 A prehistoric and Roman site on Mount Farm, Dorchester, Oxoniensia, 2, 12-40

Parrington, M, 1978 The excavation of an Iron Age settlement, Bronze Age ring-ditches, and Roman features at Ashville Trading Estate, Abingdon (Oxfordshire) 1974-76, Counc Brit Archaeol Res Rep 28

Peacock, D P S, 1971 Roman amphorae in pre-Roman Britain, in M Jesson & D Hill (eds) The Iron Age and its hillforts, 161-88.

Renfrew, C, 1977 Production and exchange in early state societies, in D P S Peacock (ed), Pottery and early commerce, 1-20

Rogers, G, 1974 Poteries sigillées de la Gaule Centrale. I - Les motifs non-figurés, Gallia Suppl 28

Rowley, T, 1973 An Iron Age settlement site at Heath Farm, Milton Common, Oxoniensia, 38, 23-40

Sanders, J, 1973 Late Roman shell-gritted ware in southern Britain, unpublished BA dissertation, Institute of Archaeology, London University

Stanfield, J A, 1929 Unusual forms of "terra sigillata", Archaeol J, 86, 113-50

Stead, I M, 1967 A La Tène II burial at Welwyn Garden City, Archaeologica, 101, 1-62

Swan, V G, 1973 Aspects of the New Forest late Roman pottery industry, in Detsicas 1973, 117-34

Williams, A, 1951 Excavations at Beard Mill, Stanton Harcourt, Oxon, 1944, Oxoniensia, 16, 5-23

Young, C J, 1977 Oxfordshire Roman pottery, Brit Archaeol Rep 43

V.5 THE SAXON POTTERY (Figs 138-143)

V.5.1 Introduction

A total of 33.49kg of Saxon pottery was found in the excavations at Barton Court Farm, most of which came from sunken featured structures (25.78kg). 3.68kg of Saxon pottery came from the upper fill of RB features, particularly ditches. As the Saxon pottery was found principally in closed associations and had little standarization of form, it is published here as separate groups.

The material was categorized according to one of four basic fabrics. As Myers (1977) has emphasized, attempts to define fabrics in more subtle terms are not always justified with pottery produced at this technological level.

The commonest, fabric 1, is characterized by predominantly quartz inclusions, but with occasional fragments of limestone, vegetable matter, and ironstone. The inclusions are typical of those found in local clays and fabric 1 can bear a close resemblance to locally manufactured Iron Age pottery, a problem that has been noted elsewhere (Barton 1962; Addyman 1964) Fabric 1 is usually moderately hard and varies considerably in colour from pale brown to black, often in the same vessel, as a result of uneven firing.

Fabrics 2 and 4 are much less common and are differentiated from 1 by having a predominance of calcareous and flint inclusions respectively. Fabric 3 is the so-called grass-tempered ware in which varying proportions of plant material, including the chaff and glumes of wild grasses and possibly cereals, are found. These may have found their way into the pottery as a result of mixing farmyard manure with the clay in order to make it more plastic.

In its most extreme form, fabric 3 can contain a very large quantity of vegetable matter so that ~~the~~ clay matrix is scarcely visible; usually the grass-tempering is mixed with a fabric 1 type material.

The Saxon pottery is entirely hand-made, except for the pedestal base from feature 1023, no 19, which may be a residual RB form. The hand-made material is characterized by being pinched so that it is often of uneven thickness. The quality of the Saxon pottery varies: some is crude in the extreme, while a few vessels are fine, thin-walled, and well burnished, generally with stamped decoration.

The Saxon material from each layer of every feature was classified according to one of the four fabrics and weighed. Other non-Saxon pottery from these features was also classified and weighed.

V.5.2 Pottery found in sunken-featured buildings

Feature	Amount (kg)	Iron Age (%)	RB (%)	Saxon (%) Fabric 1	Fabric 2	Fabric 3	Fabric 4
188	2.52	17	52	18	0.2	9	4
952	0.98	–	39	52	6	2	–
1023	5.81	–	20	53	4	22	0.2
1026	3.17	–	43	54	2	–	–
1178	3.09	–	26	51	0.2	21	–
1181	7.25	–	76	17	0.1	6	–
1190	2.96	–	47	45	0.5	7	–
Total	25.78	2	46	39	2	11	0.4

V.5.3 Pottery found in other Saxon features

Feature	Amount (kg)	Iron Age (%)	RB (%)	Saxon (%) Fabric 1	Fabric 2	Fabric 3	Fabric 4
Hollow (955)	3.08	–	83	15	2	–	–
Well (1083)	0.55	–	72	23	–	–	–
Pit (1174)	0.38	–	92	8	–	–	–
RB features	3.68						

The percentages of Saxon fabrics only from Saxon features were:

Fabric 1	76%	Fabric 3	20%
Fabric 2	3%	Fabric 4	1%

The best known and most easily identifiable Saxon fabric, the grass-tempered ware, made up only 20% of the total Saxon pottery from Saxon features. The proportions varied from as high as 27% of the total (including RB wares) in sunken hut 1023 to none at all in sunken hut 1026.

V.5.4 RB pottery in Saxon sunken-featured structures

Considerable quantities of Roman pottery were found in the sunken-featured structures. This noticeably consisted of smallish worn sherds, with no complete vessels. It seemed most likely that the sherds represented residual redeposited rubbish, even though they made up substantial proportions of the pottery from within the features.

Saxon sunken-featured structure	Roman pottery (%)
188	51.7
952	38.5
1023	20.3
1026	42.6
1178	26.5
1181	66.5
1190	46.9

V.5.4.1 Proportions of Roman pottery in Saxon features

Percentage

Oxford ware	Nene Valley	Shell-gritted	Grey-ware	Samian	Black-burnished
20.4	3.3	2.1	73.6	1.5	0.4

The frequencies of different Roman fabrics from the Saxon features were compared with the expected frequencies, based on the quantities from the RB levels. A chi-squared test was used for this, though the results are for comparative purposes only and cannot be treated as a reliable statistical test:

Non-Oxfordshire colour-coated vessels (Nene Valley)	300% increase
Oxfordshire wares	0.4% decrease
Grey wares	70% increase
Shell-gritted wares	70% decrease

Samian	77% decrease
Black-burnished ware	80% decrease
Storage vessel	100% decrease
Amphora	100% decrease

The figures must be treated with caution but do not suggest that Samian or Oxford wares, for example, were particularly valued. The most remarkable increase is in the non-Oxfordshire colour-coated wares, most of which were Nene Valley wares. These were, however, only present in very small quantities. It does not appear that the Saxon occupants were deliberately selecting Roman wares: those sherds found in Saxon features were most likely to be residual.

V.5.5 Discussion

The vast majority of the Saxon pottery from Barton Court Farm was probably locally made. The commonest fabric (fabric 1, 76%) matches that identified by Berisford (1972, 57) as predominating at Sutton Courtenay. The only local Saxon kiln so far identified is at Purwell Farm, Cassington (Arthur & Jope 1962), but there were probably many others.

The forms are the standard domestic types identified at settlements of the pagan Saxon period. There are some more exotic vessels, more often associated with funerary deposits, such as the bossed pedestal bowl (Fig 142) from the sunken hut 1190, which also produced the collection of lead loom-weights. As most of the pottery came from sunken huts with no stratigraphical inter-relationships, there is little in the way of internal dating evidence on the site. Most significant was the location of several sherds, in particular one with a faceted carination (Fig 143) - well down within the fill of the latest RB paddock ditch in the SE sector of the site. This suggests that the earliest Saxon pottery was arriving at a time when the latest RB ditches had not silted up, probably in the first half of the 5th century. The position of Saxon ceramics in the upper fill of other RB ditches suggests a relatively early date for their deposition, but the forms cannot themselves be reliably dated.

The sunken huts cannot be easily dated on the basis of the pottery, though they seem to fit into a 5th - early 6th century context. Not enough is known about the development of grass-tempered pottery to rely on the Shakenoak pattern (Berisford 1972, 58), where it is suggested the wares are fairly common by the early 6th century and predominant by the later 6th century. David Brown has pointed out the rarity of grass-tempered wares in early 5th century levels at Dorchester and Mucking and suggested that the proportion of such wares might be significant as dating evidence (Brown 1976). On this basis, the scarcity of grass-tempered wares in five of the sunken huts would indicate an early date for the huts' occupation and abandonment. On the other hand, sunken hut 1023 (with 36% of its Saxon ceramics in grass-tempered ware) also contained some possibly 5th century forms. Grass-tempered wares were also found in the upper fill of RB ditches. Hut 1178 with its high proportion of grass-tempered wares and stamped sherds may date to the 6th century. Some groups have contradictory elements: hut 1026 with no grass-tempered ware and a biconical bowl (Fig140) would appear to have been abandoned in the 5th century, except that it also produced rusticated sherds which Dr Myres would tend to put in the 6th century.

West found at West Stow (West 1969) that there was little to distinguish 5th - 7th century ceramics on a settlement site. At Barton Court Farm the excavation evidence (III.8) indicates that Saxon occupation continued into the 6th and possibly even the 7th century. Unfortunately the timber post structures and the graves did not produce pottery and the RB ditches were apparently silted up, and so could not accumulate later 6th and 7th century pottery even if it were present.

V.5.6 Saxon pottery groups

V.5.6.1 Sunken hut 188 (Fig 138)

1 Rim of hollow-necked jar or bowl. Fabric 1, leathery, black roughly burnished exterior.

2 Plain bowl. Fabric 3, black-reddish brown wiped surface. Similar to Myres form 2082 from East Shefford (Myres 1977, 2, fig 68)

3 Plain jar/bowl with slightly inturned rim. Fabric 3, black.

4 Plain jar/bowl with slightly inturned rim and slight lip on the inside. Fabric 3, black.

5 Decorated sherd of a fine vessel. Fabric 1, black. Thin-walled and well made. Three zones of stamped decoration are visible: a large rosette at the bottom; a line of rectangular stamps divided by a chevron into three triangles, the lower right-hand triangle being very feint; a row of smaller rosettes with a cross motif. The stamped zones are separated by triple, incised lines.

V.5.6.2 Sunken hut 952 (Fig 139)

1 Rim of thin-walled hollow-necked vessel. Fabric 1, dark to reddish brown, highly burnished on the exterior surface.

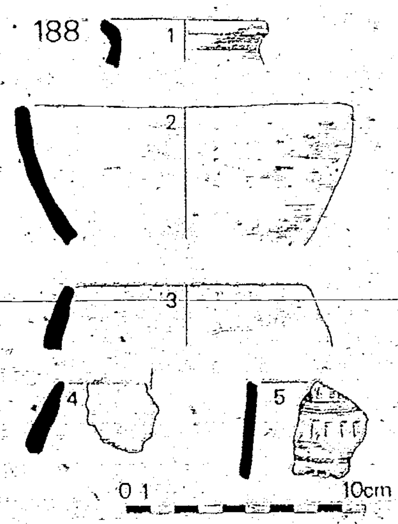


Fig. 138 Saxon pottery: feature 188

Fig 139 Saxon pottery: features 952, 1023

2 Body sherd of a carinated vessel. Fabric 1, very highly burnished with broad indented lines across the carination forming triangles. May be from a small biconical bowl (eg Myres 1969, fig 35.784). For similar decoration see Myres in Jones 1969, 153.

V.5.6.3 Sunken hut 1023 (Fig 139)

3 Plain shouldered vessel with upright rim. Fabric 3, dark to reddish brown, crudely burnished on the exterior surface and wiped, possibly with a handful of grass, leaving striations. Layer 1. Similar form from Loveden Hill, Lincs (Myres 1977, 1, 6; 2, fig 17).

4 Small, plain bowl. Fabric 1, black to yellowish brown, unevenly burnished outer surface. Layer 1.

5 Bowl with everted rim. Fabric 3, black, smoothed exterior surface. Layer 1.
Similar form dated to the 5th century by Myres (1977, 1, 6; 2 fig 45)

6 As above; fabric 1.

7 Plain globular vessel. Fabric 2, black, smoothed exterior surface. Layer 1

8 Plain globular vessel. Fabric 3, pale brown to dark grey. Layer 3.

9 Plain flat-rimmed bowl (angle of drawing uncertain). Fabric 1, with some shelly limestone, thick-walled, dark brown inside, reddish-brown outside. Layer 1

10 Body sherd of a vessel with a carinated shoulder. Fabric 3, black to dark brown, with many angular quartz inclusions, smoothed exterior surface. Layer 1.

11 Plain flat-rimmed bowl (angle uncertain). Fabric 1, pale brown. Layer 1.
pale brown, Layer 1.

12 Rim of plain globular vessel. Fabric 1, black, wiped exterior surface. Layer 1

13 As above

14 Out-turned rim of a globular vessel. Fabric 1, hard and well made; grey-brown, smoothed interior and exterior surfaces. Layer 1

15 Thickened inturned rim of a globular vessel. Fabric 1, dark brown. Layer 1

16 Plain bowl with a slightly out-turned rim. Fabric 1, black. Layer 1

17 Plain globular vessel. Fabric 2, black, burnished interior and exterior neck and shoulder, body has wipe marks. Layer 1.

18 Rim of a globular vessel. Fabric 1, dark brown, smoothed exterior surface. Layer 1

19 Flat, pedestal base. Thick-walled grey-ware; wheel-thrown, possibly a residual early RB vessel. Layer 1.

20 Plain thin-walled vessel. Fabric 1, black, unevenly smoothed exterior surface. Layer 1.

21 Thin-walled vessel, probably a carinated bowl. Fabric 1, dark to reddish-brown, burnished exterior. Layer 1.

23 Rim of small bowl. Fabric 1, black, burnished exterior and probably had an incised line around the shoulder. Layer 1.

25 Globular vessel. Fabric 2, dark brow, unevenly smoothed exterior. Layer 1

26 Plain flat rimmed bowl. Fabric 1 with angular quartz inclusions up to 2mm across; black, smoothed interior and exterior. Layer 3.

27 Plain vessel with an incised line around the shoulder. Fabric 1, black. Layer 1

28 Rim of a small hollow-necked shouldered vessel. Fabric 3, very dark grey, burnished exterior with two parallel grooves below the rim and a further groove above the shoulder, and incised chevrons in the reserved area between the grooves. Layer 1. A similar decoration appears on the neck of the Buckelurne from Osney, Oxon (Myres 1969, fig 22.56).

29 Body sherd of a carinated vessel with two parallel incised lines above the carination. Fabric 1, dark brown, burnished exterior surface. Layer 1.

30 Body sherd of a decorated vessel. Fabric 1, dark brown; incised lines demarcate a raised, slashed collar which gives a rope-like effect; below a second raised collar has a row of large indented dots also demarcated by a line below. Layer 1. The rope-like decoration is similar to that on pedestal urns, for example (Myres 1969, fig 25.1121)

31 Sherd of a well made vessel with deeply incised grooves. Fabric 1, black, burnished inside and out. Layer 1.

V.5.6.4 Sunken hut 1026 (Fig 140)

1 Large wide-mouthed vessel with slightly everted rim. Fabric 1, dark brown, smoothed exterior. Layer 1.

2 Slightly everted rim of wide mouthed vessel. Fabric 1, hard, light brown (7.5YR6/4). Unevenly burnished inside and out. Layer 1.

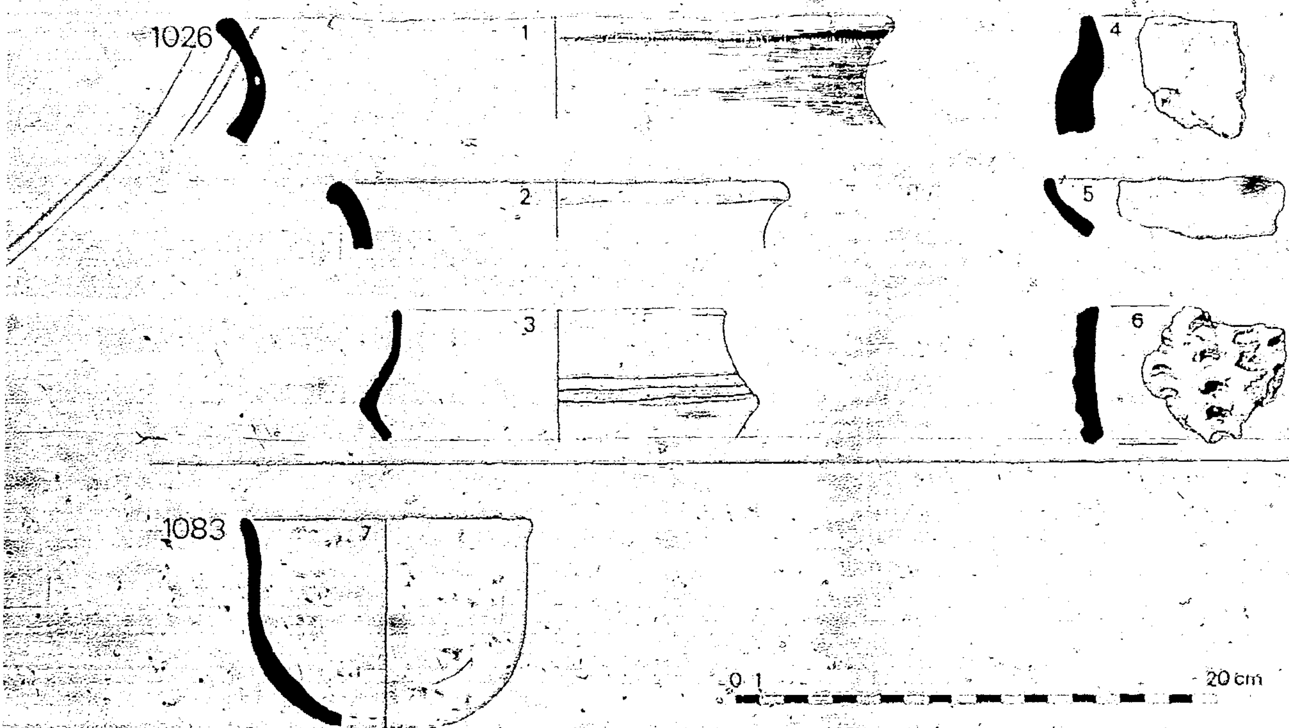


Fig 140 Saxon pottery: features 1026, 1083

3 Small, hollow-necked biconical bowl with a sharp carination and three incised lateral grooves above. Fabric 1, some shell and mica; dark brown; fine thin-walled vessel, burnished outside. Layer 1. Similar vessel at Mucking (Myres 1977, 1, 34; 2, fig 201) and Portchester (Myres 1977, 2, fig 88, 3674). Probably first half of 5th century.

4 Plain, shouldered vessel. Fabric 1, hard and very coarse with large quartz grits and some vegetable matter; dark brown to brown; unevenly pinched with a piece of material. Layer 1.

5 Hemispherical (?) bowl. Fabric 1, dark brown; thin-walled but very unevenly made by pinching. Layer 1.

6 Body sherd of rusticated ware (6 sherds found in this feature). Fabric 1, black, smoothed interior surface with pinkish-grey (7.5YR6/2) outer surface; deep finger-impression in slanting lines. Layer 1.

V.5.6.5 Well 1083 (Fig 140)

7 Small, wide-mouthed, globular bowl with sagging base. Fabric 3, black. For parallels see Myres (1969, fig 10).

V.5.6.6. Late RB Gully 1176 (Fig 141)

1 Plain vessel. Fabric 1, black to brown, thin-walled and hard. Unevenly burnished inside and out. Layer 1.

2 Decorated sherd of a thin-walled vessel. Fabric 1, black, burnished inside and out; decorated with three parallel grooves with a line of small rosette stamps below and a line of square 'trellis' stamps. Layer 1.

3 Body sherd of a thin-walled, bossed vessel, possibly from the smae one as 2 above. Fabric 1, black, burnished inside and out. The panels are divided by double parallel grooves. Between them is a double arcade of small rouletted rectangles. Parallel grooves outline the boss. Layer 1.

V.5.6.7 Sunken hut 1178 (Fig 141)

4 Wide-mouthed vessel with flaring, thickened rim. Fabric 3, lightly grass-tempered, black to brown, well smoothed interior and exterior surfaces. Layer 1.

5 Plain vessel with an uneven groove below the rim. Fabric 1, with large quartz grains (up to 3mm across); reddish to dark brown; smoothed interior and exterior. Layer 1.

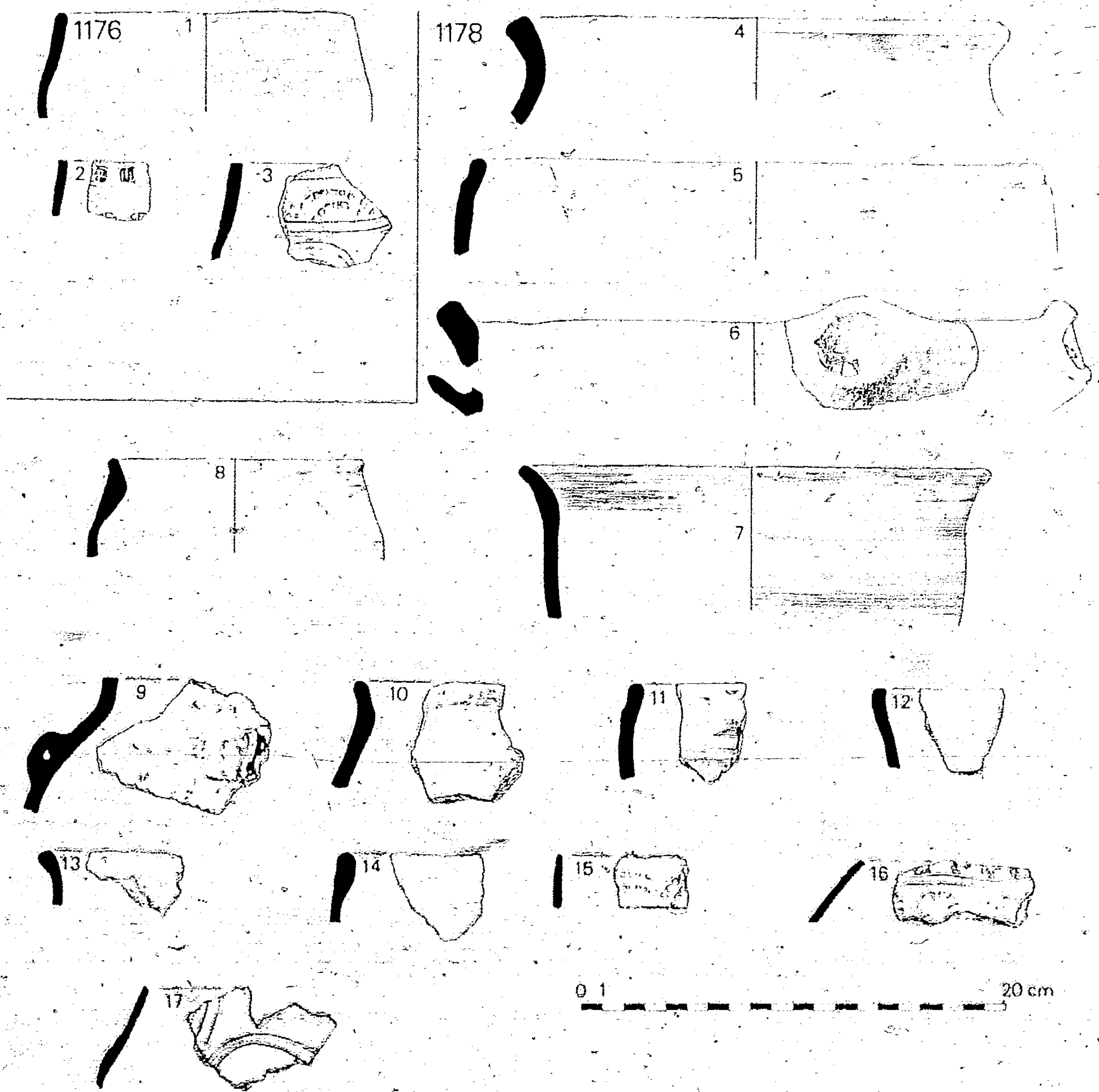


Fig 141 Saxon pottery: features 1176, 1178

6 Rim of a vessel with upstanding pierced lugs and external pouches formed by pinching out the clay of the walls. Fabric 1, coarse with some organic matter in the surface; dark brown to black, smoothed exterior surface. Layer 1. Similar vessels have been found in the 5th century phase at Shakenoak (Berisford 1972, fig 24) and at Sutton Courtenay (Leeds 1947, 90) and New Wintles, Eynsham.

7. Wide-mouthed vessel with slightly turned-out rim. Fabric 1, black interior and light brown (7.5YR6/4) exterior. Burnished interior and exterior with narrow facets; exterior surface leathery to the touch.

8 Simple, crudely made (pinched) vessel, with thickened internal shoulder and thin body walls. Fabric 1, black, grass-wiped interior, patchy brown interior.

9 Body sherd of a vessel with a small, pinched lug, pierced by a narrow hole. Fabric 3, soft and laminating; black, burnished interior, reddish-brown uneven exterior surface. Layer 1. A similar possibly non-functional lug appears on a vessel from Abingdon (Myres 1977, 1, 10; 2, fig 7)

10 Vessel with slightly everted rim. Fabric 3, dark brown, smoothed exterior. Layer 1.

11 Similar from and fabric to 5, probably from same vessel. Layer 1.

12 Simple, wide-mouthed vessel. Fabric 1, hard and thin-walled; black-burnished interior, reddish-brown burnished exterior. Layer 1.

13 Everted rim. Fabric 3, black, smoothed interior. Layer 1.

14 Simple vessel with thickened rim and thin-walled body. Fabric 1, hard, dark brown anbd well burnished. Layer 1.

15 Decorated body sherd possibly from the same vessel as 3 above, from 1176. Fabric 1, black, well burnished, and thin-walled. Double arcade of rouletted rectangles between horizontal grooves. Layer 2.

16 Decorated body sherd. Fabric 1, black, well burnished, and thin-walled. Two uneven horizontal lines separate a band of small stamped rosettes from a band of larger rosettes. Layer 1.

17 Decorated body sherd. Fabric 1 as above. Double grooves (standing arches) outline a probably boss. Layer 2.

V.5.6.8 Sunken hut 1181 (Fig 142)

1 Plain biconical bowl. Fabric 1, black, well burnished inside (upper part) and out. Layer 1.

2 Wide-mouthed vessel with thickened upright rim. Fabric 3, hard, black-burnished exterior and interior. Layer 2.

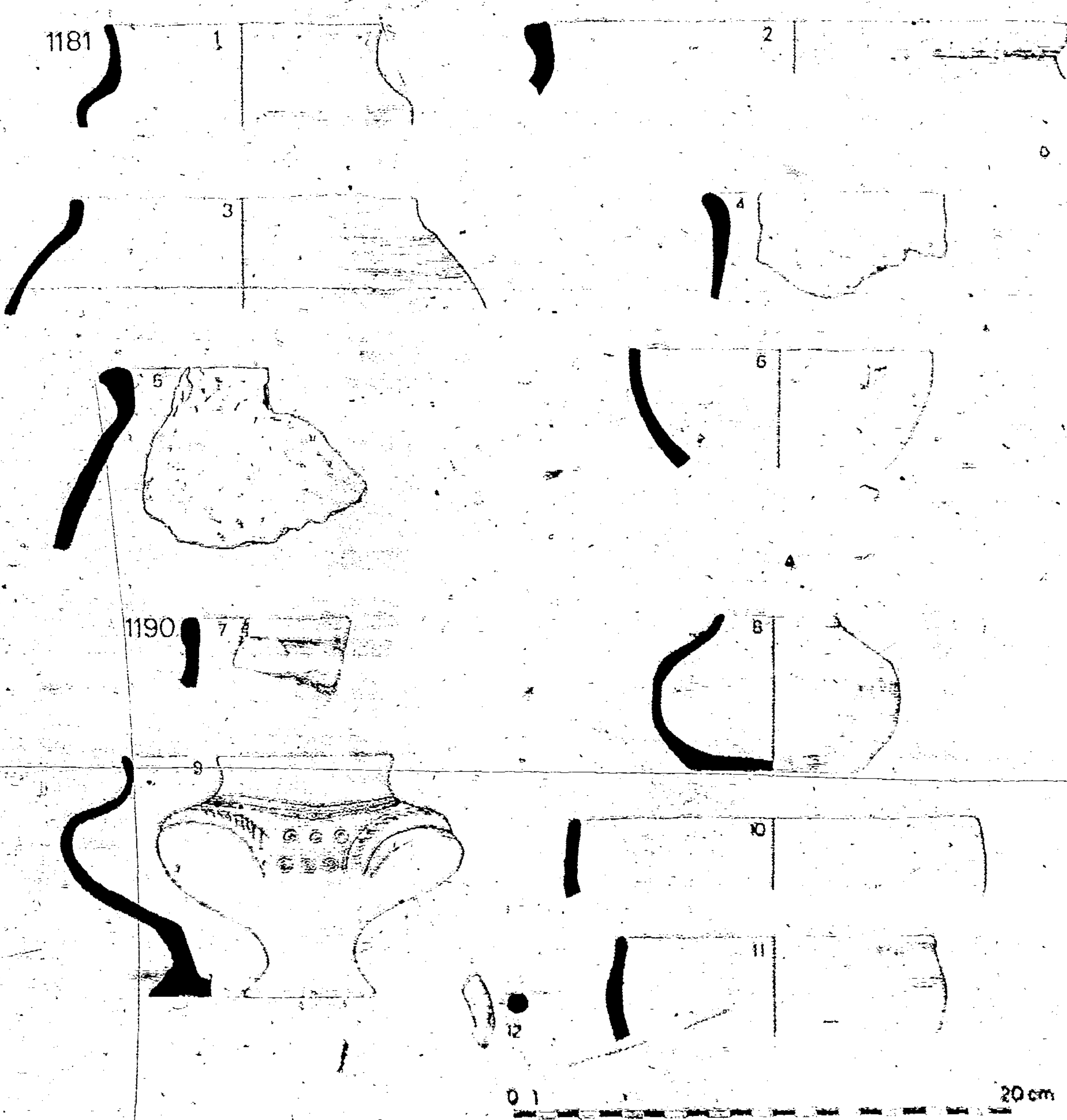


Fig 142 Saxon pottery: features 1181, 1190

3 Short upright rim and slack shoulder probably from a globular vessel. Fabric 1, hard, black, thin-walled, unevenly burnished inside and out. Layer 1.

4 Crudely made, wide-mouthed vessel with thick, slightly everted rim and thin-walled body. Fabric 3, but relatively sparse organic matter; black to reddish brown, grass-wiped inside and out. Layer 1.

5 Globular vessel with a thickened, out-turned rim. Fabric 3, unevenly fired black to pale brown; crudely burnished interior. Layer 1.

6 Bowl; pinch-made. Fabric 3, black to pale brown. Layer 1.

V.5.6.9 Sunken hut 1190 (Fig 142)

7 Thickened rim of a crudely made (pinched) vessel. Fabric 1, hard dark grey to pale brown.

8 Small shouldered bowl. Fabric 1, black-burnished exterior. Pinch manufactured with uneven thickness. Layer 2.

9 Bossed pedestal bowl. Fabric 1, well made, black outer surface and reddish-brown inner; well burnished exterior. The four bosses on the vessel are outlined above by two grooved lines, raised collars forming arches and decorated with single-line chevrons, and a third grooved line. The space between the bosses is filled by stamps of triple rings. The stamps are grouped differently in each case. The unillustrated groupings form triangles of five or six stamps. At the base of the neck are three uneven horizontal grooves. Layer 2. The general decoration of this vessel is reminiscent of the Buckelurne from Osney 8km to the N of Barton Court Farm (Myres 1969, fig 22.56). This example has a much more pronounced pedestal base, however. Myres believes that bosses replaced carination from about the mid 5th century, though early bossed vessels can still have a pronounced pedestal, for example, one from Thurmaston, Lincs (Myres 1977, 1, 34-5; 2, fig 203). A carinated vessel with a slashed collar and concentric ring stamps from Mucking is thought to be early 5th century (Myres 1968, 224-6). A pedestal bowl with slashed collar and a cluster of stamps from grave 33 at Great Chesterford is dated to the 5th century (Evison 1965). A date from mid to later 5th century would seem most appropriate for the Barton Court Farm pedestal bowl.

10 Plain open-mouthed vessel. Fabric 1, black, burnished exterior. Layer 2.

11 Small bowl. Fabric 1, dark brown; carbonized material on interior, exterior surface knife-trimmed. Layer 2.

12 Fragment of a small handle or lug made from a coil. Fabric 1, brown.

Unillustrated: two sherds of rusticated ware (see Fig 140.6). Fabric 1, coarse black inside, pale brown outside. Layer 2.

V.5.6.10 Late RB farmhouse robber trench 263 (Fig 143)

1 Fragment of a coarse vessel. Fabric 3, dark grey. Layer 1.

V.5.6.11 Early RB ditch 314 (Fig 143)

2 Vessel with slightly thickened rim. Fabric 1, dark brown to brown. Layer 1

3 Sherd of a biconical vessel with triple, horizontal grooves around the girth. Fabric 1, black, well burnished exterior. Layer 1.

V.5.6.12 Late RB farmhouse enclosure ditch, N arm (Fig 143)

4 Globular vessel with a slightly turned-out rim. Fabric 1, hard; brown interior, burnished on upper part; exterior black, well burnished, decorated with burnished horizontal grooves with single lines of punched dots between them. Vertical grooves form panels with triangles outlined within them filled with punched dots. Layer 1. Similar decoration appears on vessels from Long Wittenham and Frilford, though on a larger scale here (Myres 1977, 1, 63; 2, fig 360).

5 Bowl with a boss pinched out of the clay of the vessel wall. Fabric 2, reddish-brown interior, black exterior; outer surface knife-trimmed and burnished. Probably a copy of a RB type. Layer 1.

V.5.6.13 Saxon entrance hollow 994/955 (Fig 143)

6 Bowl with inturned rim. Fabric 1, dark brown.

7 Globular bowl with vertical rim. Fabric 1, black to dark brown, burnished exterior.

8 Rim of a simple vessel. Fabric 1, brown, unevenly burnished exterior.

9 Bowl with inturned rim. Fabric 3, black, burnished exterior.

10 Globular bowl, slightly thickened rim. Fabric 1, brown.

11 Rim of a simple vessel, slightly thickened. Fabric 1, black, smoothed exterior.

12 Rusticated sherd. Fabric 1, black interior, pale brown exterior. Myres believes rustication to be commonest in the 6th century (Myres 1977, 1, 20: 2, fig 112).

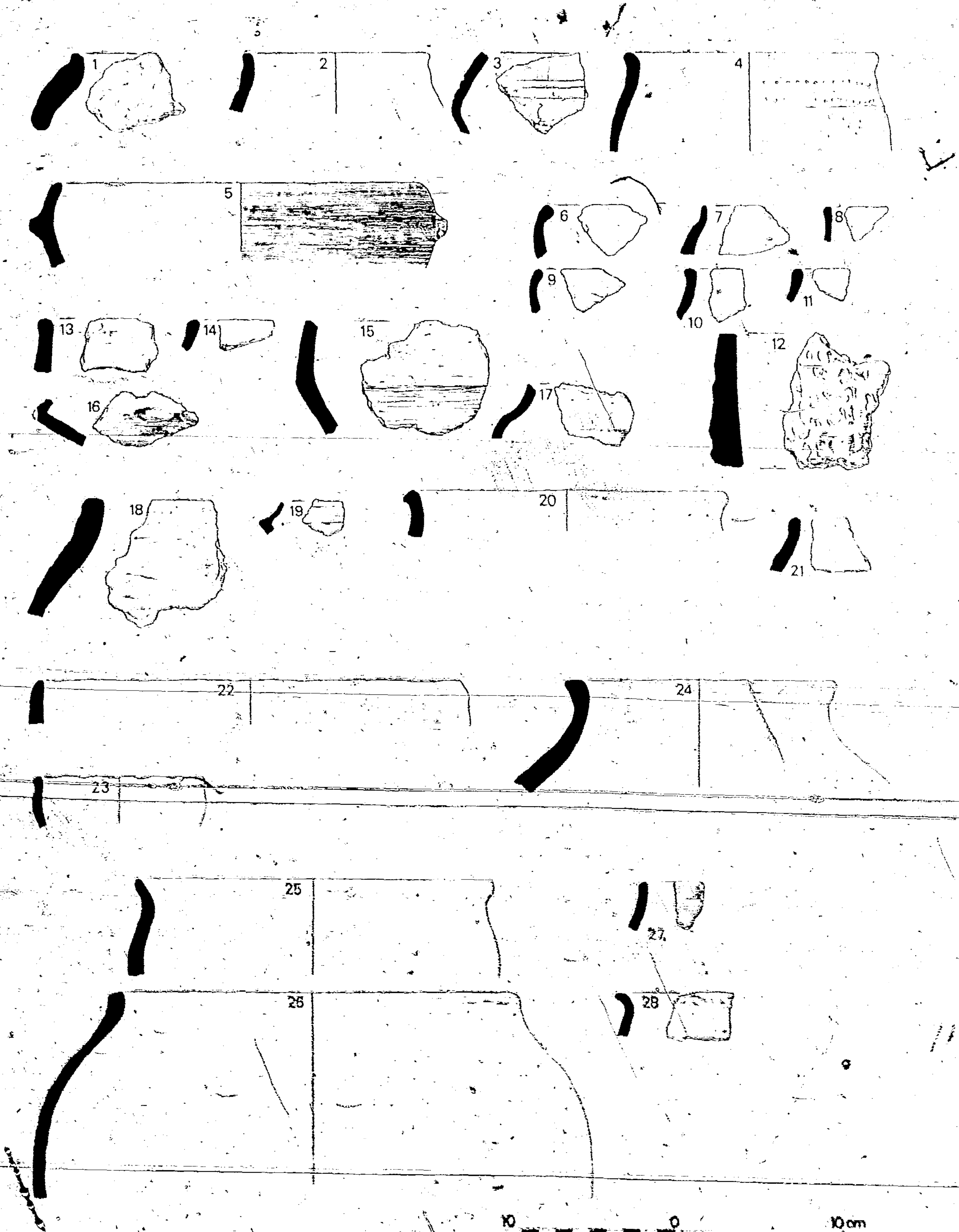


Fig 143 Saxon pottery: various features

V.5.6.14 Cutting across latest RB paddock ditch, E side, 1067 (Fig 143).

13 Simple vessel, thickened rim. Fabric 1, dark brown, roughly burnished exterior. Layer 1.

14 Similar to 13 above. Layer 1.

15 Body sherd of a biconical vessel. Fabric 3, brown to black, unevenly burnished exterior. layer 1.

16 Body sherd of a bowl with sharp, faceted carination. Fabric 1, well made, black, and evenly burnished on the outside. Layer 2. This sherd was found 0.45m deep within this ditch, and approximately 0.2m from the bottom. The layer above also produced Saxon pottery and a bone comb (559). Vessels with faceted carinations are thought by Myres to represent some of the earliest Saxon pottery in Britain (1969, 78; Hurst 1976, 292; West 1969). Sherds have been found locally at Wilsham Road S of Abingdon (Mr & Mrs R Henderson, pers comm).

17 Body sherd of a shouldered vessel. Fabric 3, dark brown, smoothed exterior. Layer 1.

18 Globular vessel. Fabric 3, dark brown, smoothed exterior. Layer 1.

19 Body sherd of a bowl with a swollen carination; three horizontal grooves above the prominent carination. Fabric 1, well made, black, and evenly burnished exterior. Layer 1. A similar sherd from an early context was found at Mucking (Myres 1977, 2, fig 201-3409).

V.5.6.15 Cutting across above ditch 1117 (Fig 143).

21 Bowl with thickened rim. Fabric 1, black, unevenly burnished exterior. Layer 1.

V.5.6.16 Cutting across above ditch 1109 (Fig 143)

22 Plain, open-mouthed vessel. Fabric 3, dark brown to black, wiped exterior.

V.5.6.17 Stony deposit 1206, on top of late RB Paddock ditch 1175 (Fig 143)

23 Small bowl, crudely pinch-made. Fabric 1, black.

V.5.6.18 Saxon pit 1251, cut into E arm of latest RB paddock ditch Fig 143)

24 Plain globular vessel with out-turned rim. Fabric 3, dark brown to black, unevenly smoothed exterior.

V.5.6.19 Cutting across E arm of latest RB paddock ditch 1252 (Fig 143)

25 Plain globular vessel with out-turned rim. Fabric 1, black. Layer 1.

26 Globular vessel with simple rim. Fabric 3, brown to black, unevenly smoothed exterior. Layer 1.

V.5.6.20 Late RB well 850 (Fig 143)

27 Plain vessel. Fabric 3, black-burnished exterior. Layer 1.

V.5.6.21 Late RB Well 950 (Fig 143)

28 Globular vessel with slightly out-turned rim. Fabric 2, hard, dark grey, smoothed exterior. Layer 1.

V.5.7 References (V.5)

Addyman, P V, 1964 A Dark-Age settlement at Maxey, Northants. Medieval Archaeol, 8, 20-73

Arthur, B V, & Jope, E M, 1962 Early Saxon pottery-kilns at Purwell Farm, Cassington, Oxon, ibid, 6, 1-14

Barton, K J, 1962 Settlements of the Iron Age and Pagan Saxon periods at Linford, Essex, Trans Essex Archaeol Soc, 1, 57-104

Berisford, F, 1972 The Anglo-Saxon pottery, in A C C Brodribb et al, Excavations at Shakenoak, 56-67

Brown, P D C, 1976 Some notes on grass-tempered pottery in Saxon and medieval Walton, Aylesbury: Excavations 1973-4, Rec. Buckinghamshire, 20 (2), 191-3

Evison, V I, 1969 Five Anglo-Saxon graves containing pots at Great Chesterford, Essex, Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek, 19, 157-73

Hurst, J, 1976 The pottery, in D M Wilson (ed), The archaeology of Anglo-Saxon England, 283-348

Jones, M U, 1969 Saxon pottery from a hut at Mucking, Essex, Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek, 19, 145-56

Leeds, E T, 1947 A Saxon village at Sutton Courtenay, Berks (3rd report) Archaeologia, 92, 79-93

Myres, J N L, 1968 The Anglo-Saxon pottery from Mucking. Antiq J, 48, 222-8

Myres, J N L, 1969 Anglo-Saxon pottery and the settlement of England.

Myres, J N L, 1975 The Anglo-Saxon vase from Mitcham grave 205, Antiq J, 55, 93-5

Myres, J N L, 1977 A corpus of Anglo-Saxon pottery of the pagan period

West, S E, 1969 Pagan Saxon pottery from West Stow, Suffolk, *Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzeok*, *19*, 175-81

7:06

VI Faunal Remains: Animal Bones and Marine Shells

Bob Wilson, with sections by Alwynne Wheeler, Don Bramwell, Ralph Harcourt, Philip Armitage and Graham Cowles

VI.1 SYNTHESIS AND SUMMARY

At Barton Court Farm, Abingdon, during 1972-6, the excavators collected a large quantity of generally well preserved Romano-British bones and shells, and smaller amounts of Neolithic, Iron Age, and Saxon material from successive rural settlements on the edge of the Second Gravel Terrace of the Thames.

VI.1.1 Neolithic settlement

Nearby occupation is indicated by many small burnt and unburnt fragments of bone in sieved soil. One pit contained many piglet bones and a red deer antler. An overall abundance of pig and cattle bones suggest a partially wooded landscape.

VI.1.2 Animal habitats during the Iron Age to Saxon period

Since many mammals and birds often range over a variety of habitats and most of the bones on archaeological sites are of preferred edible species, identifications serve mainly to show broad ecological communities in the landscape rather than the proximity or extent of each. Wood or parkland is indicated by red and roe deer, possible wildcat, buzzard, sparrowhawk, and probable stockdove. Water and wetland are represented by a range of wild ducks, wild geese, golden plover, white-tailed eagle, and eels, pike, perch, bleak, roach, and rudd. Farmland species include hare, fox, kestrel, rook, crow, jackdaw, and all the domesticated animals whose abundant bones broadly indicate an open countryside.

VI.1.3. Late Iron Age farmstead

Farming was centred on a single rectilinear enclosure. Small-sized cattle and sheep predominantly, horses, pigs, dogs, and domestic fowl were kept. Cattle and particularly sheep were killed at younger ages than in later cultural periods. This suggests that steers and bulls and rams or wethers were killed off early in life and that cows or ewes made up a large proportion of herds and flocks. Cattle, perhaps mostly dairy animals, were the most important species in the economy. Relatively few domestic fowl and wild animals appear to have contributed to the diet.

VI.1.4. Early RB farmstead

Among bones collected from the area of the 1st-2nd century house sheep are less abundant than in the Iron Age and cattle appear even more prominent as food and in the economy. These trends and those of killing fewer young cattle on the site were maintained in the later period. Such changes may be effects of the Roman economy, and perhaps indicate an increase in arable and a decrease in pasture, which reduced animal numbers. Changes of food after the Iron Age appear few.

VI.1.5 Late RB villa

Farm landscape: remnants of a substantial 3rd-4th century farmhouse, of a 4th century cottage, the enclosure ditches of yards and paddocks, and an adjacent 4th-5th century enclosure are associated with the bone debris. The bones indicate that the house and yards were set among arable and pasture, including meadows, with trees or other substantial vegetation in the surrounding landscape.

Animal burials suggest that dogs and possibly horses were kept around the farmhouse, while sheep were folded further away in the enclosure on the gravel terrace. An absence of cattle skeletons and consideration of kill-off patterns could imply that only a proportion of cattle, perhaps including oxen, were kept about the farmhouse, and that other cattle were herded down on riverside meadows or damp ground elsewhere. Such a pattern is supported generally by some Iron Age and Saxon evidence of animal abundance on the river terraces. The RB, and possibly the Iron Age, bones at BCF would be consistent with this interpretation only if there was extensive grazing on lower terrace levels or damp pasture or if cattle were reared in preference to sheep at this time.

The domestic animals: the cattle were short or medium-horned beasts of moderate size and played a substantial part in the economy. Although a greater proportion of older cattle were killed than during the Iron Age, individuals were killed at most stages of development until around maturation, when there were few survivors. Bulls or steers appear well represented among the bones and indicate the pattern of beef consumption more than the age and sex structure of farm cattle. A proportion of cows appear to have been kept and killed elsewhere on the farm estate, or alternatively, bulls and steers were brought in from outside herds. Some of the cattle killed at the villa were cows, but most do not appear to have lived long as dairying or breeding animals. A small proportion of foot and other bones were deformed and are thought to be from draught oxen whose presence and importance may have been underestimated from the kill-off pattern.

Goat bones may occur with the sheep. The sheep were a mixture of polled and horned individuals with more robust bones than Iron Age sheep. They were slightly less numerous than cattle in the bone debris and, as in the early RB period, appear less important than in other eras. However, the numbers of live sheep on the farm could be underestimated if the bone frequency of species is biased by cattle brought in for food, or if some sheep were sent to market. Although the absence of young sheep in the slaughtering pattern could be evidence of their marketing, there is little supporting evidence from possible consumer sites (eg Dorchester on Thames). The sheep slaughtered on the site died at older ages than Iron Age animals, but still may represent a ewe flock with greater emphasis on meat or wool production. Superficially their apparently reduced numbers may mean that the annual yield of these products was not very important.

Representation of pigs in Iron Age and RB samples is similar, although RB bones are relatively robust and the consumption of younger pigs is more evident that during the earlier period.

Horses are better represented in the RB sample than in others and appear important in the economy or lifestyle. Some were larger than Iron Age horses and most were kept beyond maturity. Pathology in the hock, hoof, and along the backbone confirms the use of the horses for draught purposes.

Dogs also are relatively abundant animals, with a considerable range of size: the largest are over twice as tall as the smallest. Their apparent association with the farmhouse may relate to roles of guarding or as pets, but they may have functioned also as herd dogs. One cranial injury may be a wound from hunting. Two dogs (heads or skulls served a ritual function with human infant burials.

In contrast, cats seem insignificant farm animals. More numerous domestic birds included domestic fowl, probably geese and ducks, and possibly, doves. Eggshell may indicate the use of domestic fowl eggs.

Food and butchery waste: the domestic birds and their eggs, wild mammals (eg deer and hare), freshwater fish (eg perch, pike, and eel), and imported oysters were part of a varied diet, perhaps indicating a more intensive use of food resources than previously. Nevertheless, the meat diet was dominated by beef and to lesser extents by mutton, pork, and sometimes horsemeat. Since the relative volume of beef eaten increased at this period, the greater abundance of small animals and eggs in the diet would assume importance if the daily consumption of meat was low, or if small bones are severely under-represented in the results.

Some butchery at or close to the farmhouse could be shown by nearby burials or articulated bones. During occupation and before demolition of the farmhouse, the area of its enclosure seems to have been kept clear of large bones by scavenging, organized disposal of kitchen wastes, or the butchery of large animals in the surrounding farmyard.

General economy and husbandry: fragmentary evidence of farm animals in draughting, herding, and hunting has been mentioned but is difficult to discuss further. The same is concluded about the secondary products of animal husbandry. Working from the bones at the site, a possible order in importance of products is: cereals, domestic animal meats, especially beef, dairy, hides, wool and other carcass products, game, and fish. Not all of these would be consumed at the farm nor need all of these items have been produced by it. Adjacent villages or farms or parts of the farm estate may have had complementary economies overlapping with markets at Dorchester.

Two trends worth investigating at adjacent sites are evidence of cow-dominated herds and the slaughtering of young sheep as confirmation of economic differentiation and marketing. However, the only definite items likely to have been exchanged regularly were oysters brought from the sea coast and probably by Thames river transport. Polled sheep and small and large dogs are the most obvious of more sporadic introductions of animals to the site.

The general increase in animal size during the period may be attributed to hybrid vigour from animal introductions or to improved animal husbandry such as winter feeding. Evidence supporting either alternative is uncertain. There is, for example, a noticeable incidence of pathology which could reflect poor environmental conditions or the cumulative effects of keeping some individuals longer than usual at this period.

Introductions and size increases of animals, greater abundance of dogs and horses, varied diet, apparently 'imported' beef from bulls and steers, and evidence of hunting (if it were entertainment or a high status activity) may all be signs of prosperity.

Qualifications to interpretation of RB sample: it is not easy to interpret greater quantities of cattle bones in a contributing assemblage from the 4th-5th century enclosure, because recovery of large animal bones seems favoured by differential preservation. Interpretation is further complicated by residual material in the deposit. However, the percentages of bones are not very different from those in earlier adjacent ditches and, with the scatter of large bones in the area away from the farmhouse, would suggest that the differences in the subsamples are products of taphonomy rather than showing that cattle were more abundant during the latest period. Further, since about one third of the area around the farmhouse was excavated, and since the bone dispersal appears not greatly more variable than somewhat concentric, it seems that the overall sample is moderately representative of site activities.

VI.1.6 Early Saxon hamlet

The settlement was a diffuse scatter of sunken huts and post-built houses. Most of the Saxon bones are distinctive and do not indicate residual debris. One exception was a well containing material similar to the 4th-5th century enclosure ditch in which the well was sunk. Within this enclosure many bones were concentrated around one sunken hut: others had been scattered outwards to 35m, possibly by scavengers.

Among this food debris cattle were far less abundant than for the RB period. In both eras they were of moderate size, and the kill-off suggests that most of the consumed animals were bulls and steers. However, Saxon cattle were killed at younger ages than in the earlier period. The killing of relatively young sheep probably included a sizeable proportion of wethers. Perhaps ewes were milked if cattle were less common at this period. Pigs were more numerous than cattle and, as usual, most were killed immature. Horses, dogs, and cats were scarcely present but domestic fowls and probable domestic geese were common and perhaps important farm animals.

The meat diet changed from the predominance of beef in RB times with more but not most emphasis on mutton, pork, poultry, and fish - particularly eels but also pike, bleak, roach, rudd, and perch. Evidence of fish was, however, uneven. No seafish were identified. Some oyster shells are thought to be residual.

The Saxon bones suggest a relatively self-contained pastoral economy with perhaps only some local exchange. There are no signs of people of high status. Contrast of this sample with one from the First Terrace at

Corporation Farm, Abingdon, is particularly interesting since cattle bones were prominent in the latter. The idea of small specialized economies is reinforced, as also the suggested associations of cattle with predominantly wetter pastures and sheep with drier localities.

This synthesis is supported by detailed description and discussion. The varied levels of information should be read or skipped according to the interest of each section. Specific topics can be located from the chapter headings and the index.

VI.2 THE SUPPORTING EVIDENCE

VI.2.1 Introduction

This report dates to work undertaken intermittently from 1974 to 1978 and begun with minimal experience, few work facilities, and no special funding. The report is a compromise of changing interests in publication. For example, the Principles of Publication in Rescue Archaeology (Frere 1975) proved unsatisfactory. Eventually, synthesis was taken to be a summary, with illustrations if necessary, of a detailed report which included all levels of information I-IV, but not all subsidiary data.

Besides the synthesis and this introduction, the report is divided into three main parts: the first two include sections which relate to the primary evidence, the third develops further aspects of interpretation:

1 Bones, shells, and their fragment patterns
   (a) Description of the bones and shells as food and other occupational debris and how this was spread across the site.
   (b) Animal abundance and species indicators of environment.
2 The morphology of bones, which describes the physical character of domestic animals at death including size, sex, slaughtering pattern, and pathology.
3 Development of previous evidence and discussion with more abstract levels of interpretation of husbandry and economy.

Much detailed information is included in the microfiche for a variety of special and general interests. Consequently the report should be browsed rather than read from beginning to end. Detailed description which can be skimmed is demarcated by inked lines which enclose it. The particular reader can locate topics by perusing the list of section headings at the front of the report or in the microfiche index.

VI.2.1.1 Acknowledgements

Knowledge of environment and diet has been much augmented by the contributions of Alwyne Wheeler, Don Bramwell, Philip Armitage, Graham Cowles, and Ralph Harcourt. Access to unpublished or not easily obtained reports was freely given by Kathleen Biddick, Richard Bradley, H Carter, Geraldine Done, Ron Henderson, Bruce Levitan, and Trevor Rowley. Comments and avice on several typescripts of the mammal bones were made by Philip Armitage. Juliet Clutton-Brock, Jennie Coy, Professor G W Dimbleby, Geraldine Done, Ralph Harcourt, Martin Jones, and Rosemary Luff, thereby improving the final copy, although this does not mean necessarily that we are in agreement on all aspects of the report. In addition, communications from Professor Burnett, Professor Silver, Barbara Noddle, Mary Harman, Sebastian Payne, and Jane Siegel have also been very helpful. Michael Burrell provided the photogaphs and Wendy Page drew the illustrations. Other Unit staff and many other people have contributed to smaller aspects of this research : I am very grateful to all these people for their assistance.

VI.2.2 Bones, shells, and their fragment patterns

VI.2.2.1 Food remains and other occupational bone debris

VI.2.2.1.1 Overall fragment numbers Excavation produced over 23 thousand bones and shells, including over a thousand bone fragments recovered by sieving. Most of these remains were highly fragmented domestic mammal debris including much bone damaged by excavation: over 50% of these fragments showed signs of recent breakage.

37% of the hand-picked mammal bones and only 3% of the sieved remains were identified to species level. Where unusual bones required identification, reference was made to the collection in the Osteology Room, British Museum (Natural History).

Table I gives the numbers of bones, excluding sieved debris, identified at species level in different feature groups at Barton Court Farm. Features of note are 1. the 4th-5th century grouping of bones from the SE enclosure ditch, which was somewhat later in function or infilling than the adjacent ditches of the farmyard, and 2. 602 is a Saxon feature which could be treated as a rubbish pit or as infilling of the farmhouse enclosure ditch.

Fragment-number counts follow Wilson (1978a, 111). Antler fragments are noted separately. Shellfish remains are also recorded as part of this food debris in the absence of a special report elsewhere. The oyster shells, typically a 3rd-4th century AD import from the coast, seem useful to indicate the extent to which Neolithic to 1st-2nd century AD deposits were contaminated by later disturbance. Also, they help to indicate the extent of residual material in Saxon deposits.

Goat remains may occur with the sheep, but none was positively identified (Fig 111). A short section of a deer metacarpal of similar size to that of fallow, or small modern red deer (J Coy, pers comm) was found in IA ditch 5 but not included in Table I (8:A9-10)

Table II (8:A11) records small mammal presence in hand-picked and sieved soil samples. Where confusion of a popular name is possible, a scientific name is given. Two problems remain. Identifications are not absolutely complete because of inadequate diagnostic information: eg Mustela putorius sp (J Coy, pers comm), Arvicola sp and Apodemus sp. One IA cat bone in Table I is a relatively large distal humerus and may be from Felis silvestris (wild cat: Plate VI/26). Secondly, the small mammal records in Table II are indicative but not securely dated records, except Arvicola sp and Apodemus sp (832), and also the Clethrionomys glareolus mandible seems reliable, being concreted to the inside of a buzzard sternum 1.8m below ground level (609).

VI.2.2.1.2 Soil sieving

In 1975 numerous small bones including those of fish (fiche) were recovered from Saxon features 602 using an abandoned sand sieve from the building site. The following year soil samples from five sunken huts and RB ditch 854-870 were passed through a 2.5mm mesh screen. Below are results of sieving 9 buckets (each of approx 14 litre vol) of soil from each feature group. Small mammal, frog, gastropod, and eggshell remains are excluded.

TABLE III Comparison of late RB and Saxon bones from equal quantities of sieved soil.

	Cattle	Sheep	Pig	Bird	Fish
RB ditch 854-70	5	2	1	2	6
Sunken huts	1	1	2	2	4

TABLE I Bone and shell fragment frequency in major feature groups and in period totals

	Ditches				F602	Wells		Cellar	Robber trenches	Destruction layers	'Pits'		Huts	Period totals					
Period	LIA	1-2*	3-4	4-5#	Sax	3-4	Sax	3-4	3-4	3-4	1A	3-4	Sax	Neo	LIA	1-2	3-4	4-5#	Sax
Cattle	373	159	814	547	37	322	32	181	40	233	70	316	261	20	443	178	1906	547	377
Sheep	318	84	468	155	277	71	6	64	51	130	97	191	269	17	415	98	975	155	573
Pig	67	38	136	65	70	34	4	26	15	49	26	64	255	181	93	41	324	65	354
Horse	55	43	206	86	5	44	4	53	18	30	40	36	7	–	95	43	387	86	17
Dog	44	2	69	15	2	14	–	36	6	4	4	7	4	–	48	4	136	15	7
Cat	3	–	3	1	1	–	–	–	–	–	–	1	6	–	3	–	4	1	7
Red deer	1+5A	1	2+4A	3+5A	2	6+2A	–	3	1	4	–	8+A	3+6A	A	1+5	1	24+7	3+5	3+7
Roe deer	–	–	–	–	1	–	–	–	–	2	–	–	A	–	–	–	2	–	1+A
Hare	–	–	3	–	–	1	–	–	1	–	–	–	1	–	–	–	5	–	1
Fox	1	–	1	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	–
Oyster	–	4	70	115	45	224	–	3	15	55	2	189	21	1	2	4	536	115	65
Common Mussel	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	2	–	–

* RB century date.
\# includes 8% Saxon debris with very similar species distribution from 'same' ditch systems - see Table V.
Huts = sunken huts.
A = antler fragment or base.

TABLE II Presence of small mammals

Period	Neolithic	Iron Age	RB 3 - 4	RB 4 - 5	Saxon	Unstratified
Common shrew _Sorex araneus_	-	-	-	-	S	-
Mole _Talpa europaea_	-	-	+	-	+	-
Water vole _Arvicola sp._	-	-	+	-	+S	-
Field vole _Microtus arvalis_	S	-	?	S	S	-
Bank vole _Clethrionomys glaveolus_	-	-	+	-	-	-
Field mouse _Apodemus sp._	-	-	-	-	S	-
House mouse _Mus muscularis_	-	-	-	-	S	-
Brown rat _Rattus norvegicus_	-	-	-	-	-	+
Rabbit _Oryctolagus cuniculus_	-	+	+	-	-	+
Polecat sp. _Mustela putorius sp._	-	-	-	-	-	+

S = in sieved soil samples

Results resemble the trends of bone debris in Table I except for the presence of fish. Saxon pottery in the upper fill of late RB ditches and residual pottery in the Saxon features suggests that bones, particularly from the ditches, are a partial mixture of late RB and Saxon material.

Six buckets of soil were also sieved from Neolithic pits 865 and 866. Identifiable elements were limited to two pig and three field vole teeth, and one bone of pike, possibly intrusive, as was a very small chip of samian ware. Length measurements were taken of bone fragments which had not visibly been broken recently.

TABLE IV Fragment lengths of bones from sieved samples in centimetre classes (strictly 0 - 9.9 mm, 10.0 - 19.9 mm etc.).

	Length (cm)	0	1	2	3	4	5	6	7
Neolithic pits;	burnt	52	25	2					79
(6 buckets full)	unburnt	85	85	9	2				181
Ditch 854-70;	burnt	22	3	1					26
(9 buckets full)	unburnt	193	135	10	2	1	1		342
Sunken huts;	burnt	32	12						44
(9 buckets full)	unburnt	154	125	19	5	2			305

A high proportion of the Neolithic bones was burnt. The overall results indicate good preservation of bones on the site at least for the gravelly soils. Although the figures confirm Watson's findings (1972) of large quantities of small fragments in sieved samples, nevertheless this is not true of samples from nearby Thrupp, (0.5km), where Neolithic debris appears poorly preserved (Wilson, unpublished). At Barton Court Farm the many small bone fragments confirm that the Neolithic pits were located near an occupation area.

VI.2.2.1.3 Feature type variability of mammal bones

Table V gives the percentage of species bones in the ditch and pit-like features at different periods. The Iron Age sample excludes consideration of the distal parts of horse legs 397, but includes significant numbers (13) of horse bones classified as Iron Age by pottery but dubiously

TABLE V Comparison of bone fragment proportions of different Species in ditch and pit-like feature types.

	Ditches					Pits			Huts
		RB			Saxon†		RB		
Period	Iron Age	1-2	3-4	4-5		Iron Age	1-2	3-4	Saxon
Sample size (n)	813	324	1624	785	68	70	10	316	308
Percentages of n									
Cattle	46	49	50	64	62	33	50	52	35
Sheep	39	26	29	19	13	46	40	32	33
Pig	8	12	8	8	6	12	10	11	32
Horse	7	13	13	9	19	9*	-	6	1

* excluding 21 bones from distal ends of two horse legs

† exluding 602, Table I

accepted (563). Major contrasts in Table V are that of Saxon ditch debris in the SE enclosure with sunken hut and 602 ditch debris, and that of 3rd-4th and 4th-5th century ditch deposits.

While 3rd-4th century pits and sunken hut samples are regarded as less comparable to Iron Age pits, in general, ditch samples contain greater proportions of cattle and horse bones than pit-like feature samples, thus confirming findings at Ashville, although reasons for this are not clear yet (Wilson 1978a, 113). This general finding suggests that features of similar, not different, type should be grouped together when seeking to deduce cultural gradients or changes. In the contrasts noted above, however, false conclusions could be drawn. The debris grouped as 4th-5th century and Saxon ditch samples are part of the same ditch system so, even if there are distinctions in ditch usage or infilling, it is not surprising that these two bone samples are similar and especially considering the incidence of residual pottery.

More subtlety in the search for cultural change is what one might, from their large sample sizes, judge to be considerable differences in the percentages of cattle and sheep bones between 3rd-4th and 4th-5th century ditch samples. However, these differences may be produced by the differential distribution of bone debris around the site.

VI.2.2.1.4 Intrasite variability of mammal bones

Figure 144 is a diagrammatic representation of the major RB and Saxon features, largely of the ditch system, prominent buildings, large pits, and wells. Each pair of numbers consists of the percentages of cattle (upper) and horse (lower) in the total of the identified bones of the four main species for the feature or sub-division or feature group. Sample divisions were largely decided where counts of bones from adjacent features could be grouped into lots of 100 or more. Where n < 100 (5 of 32 samples) the numbers are bracketed.

The percentages in Fig 144 seem to show an increasing proportion of cattle and horse bones (and therefore decreasing proportions of sheep and pig bones) among the four species as the distance of sample areas increase from the wall foundations of the farmhouse. This is more consistent for the ditch systems but less so for features of different type.

The greater proportions of pig and sheep bones in the sunken huts and 602 seem explained by the cultural difference in animal keeping between the Romano-British and the Saxons. As both the farmhouse enclosure ditch and the

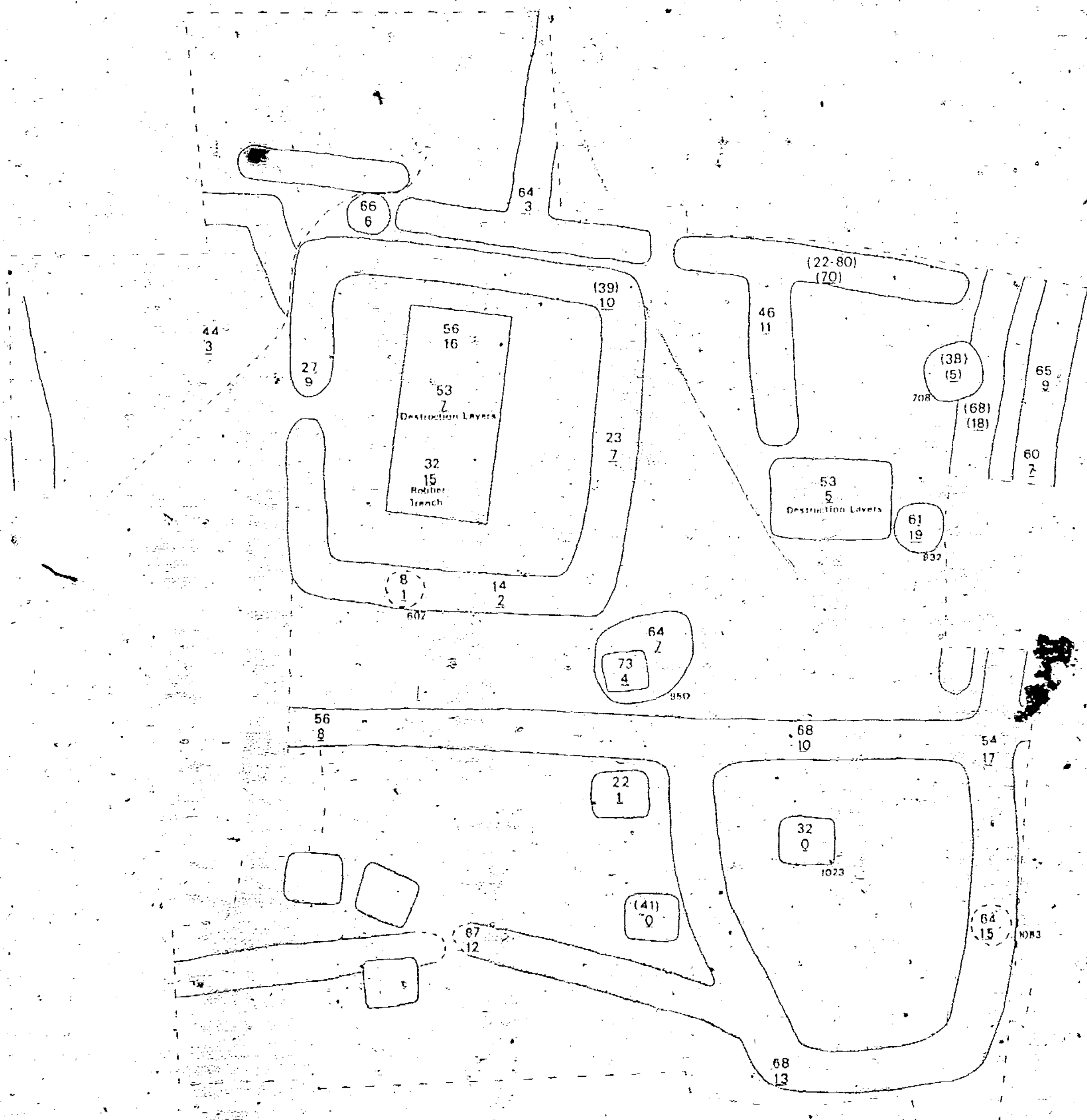


Fig 144 Romano-British site distribution of the percentages of cattle and horse among bones of the four common domestic mammals

SE enclosure ditch could be topped up with some Saxon debris (alternatively, 602 is a rubbish pit), these features could be expected to contain more sheep and pig debris. That may be true of the farmhouse enclosure ditch, but it is not true of the SE enclosure ditch, where Saxon debris occurs. It is not true of the small Saxon water-hole sample, although samples from wells seem not equivalent to ditch samples: they contain more cattle and horse bones, and bone recovery may be poor from wells. Non-equivalent bone recovery from the clayey soil of the SE enclosure ditch may also affect the results, but it is still probable that most of the bones in the ditch systems have a RB origin.

VI.2.2.1.5 Intrasite variability of bone fragment sizes

Largely as a follow-up to the paper of Watson (1972), length measurements were taken of normally collected bone fragments with no obvious recent fractures ie from excavation or post-excavation damage. Distributions of these measurements indicate the quantities of small fragments missed by the excavators (Table VI, cf Table IV). More importantly, differences found in the size distributions of bones recovered from the farmhouse enclosure ditch and surrounding ditches could help to explain the different proportions of cattle and horse bones outwards from the farmhouse as in Fig 144. If there was a tendency for large bones to accumulate at the periphery of the site, a high proportion of these would be those of the large species, ie cattle and horse. Proportional size differences should be evident between samples of each species from inner and outer areas of the site.

Accordingly the length measurements of bones from the RB ditch system were divided into three groups: farmhouse enclosure ditch (inner), intermediate, and outer ditch samples of the farmyard. The inclusion of ditches 690, 607, and 854 in the intermediate group was theboundary between the intermediate and outer ditch samples. The 4-5th century enclosure ditch was excluded, partly because of its dating and also because much of the ditch cuts and is filled by more clayey soil, and possible bias in bone recovery would favour the expected distribution.

Excavation damage resulted in small sample sizes. Sample means are given in Table VI.

TABLE VI Mean fragment length of late RB bones (cm)

	Farmhouse enclosure or inner ditch		Farmyard ditches intermediate		outer	
	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$
Cattle	35	8.2	89	11.9	174	11.1
Horse	8	8.7	16	14.4	39	12.9
Sheep	25	7.9	45	7.9	38	8.1
Pig	9	7.5	12	7.0	16	6.8
Unidentified	177	5.5	166	6.6	453	6.5

For the larger samples the expected trends occur between the inner ditch and the farmyard ditch samples: in particular the horse and cattle bones are much smaller in the inner ditch sample. However, the means of the intermediate and outer farmyard ditches tend to contradict the expected trend. These trends also show in cumulative frequency graphs (not depicted) of the data from similar-sized species-ie horse and cattle, sheep and pig, this grouping to improve sample sizes although the species means do vary. Differences are most evident in samples of cattle and horse bones and to a lesser extent among unidentified residues, largely because the latter should reflect trends of the species graphs.

Distributions of bone length tend to be positively skewed, particularly in the outer ditch samples, and these unsieved bone samples are incomplete and potentially biased, so that statistical testing cannot be rigorous. An adequate non-parametric test for these data seems lacking and *t* tests were persisted with. On these, cattle and horse and unidentified bone samples from the farmhouse enclosure ditch were significantly different ($p \geq 0.05$) from the intermediate and outer farmyard ditch samples, while the latter showed no significant difference between them.

The results, then, indicate a critical difference between the farmhouse enclosure or inner ditch sample and the other farmyard ditch deposits, but the suggestion of an overall gradient of bone size lacks supporting evidence here. The qualitative changes described indicate fewer large bones in the area of the farmhouse enclosure and are supported by the ratio of identifiable (ie larger) to unidentifiable (smaller) bones.

Quantitatively the bones are even more difficult to assess in the absence of sieving of measured soil volumes, but a rough assessment of the ditches indicates more debris in outer than in intermediate or farmhouse enclosure ditch groups which appear to have similar densities of bones. This general picture may have been varied or obscured by contemporary or later site events, eg villa destruction. Nevertheless, the evidence indicates that the enclosure ditch area of the farmhouse was kept clear of much bone debris, particularly large bones. As some of the debris in the villa enclosure ditch is Saxon, this probably emphasizes the RB difference with the outer farmyard. Although the function of the farmhouse enclosure ditch may have been different to the other ditches, the proportion of bone sizes is also part of the evidence as well as the paucity of bones in the farmhouse enclosure ditch. Clearances of bone and other debris at the site at different times may have resulted in the large quantities of bone in the cellar, well 832, and pit 325.

In the Saxon period the majority of bones occurred in one sunken hut 1023, fewer in 602 of the farmhouse enclosure ditch, many fewer in sunken huts 952 and 1026, and relatively few bones elsewhere. Rubbish dumping therefore may have occurred at the periphery of Saxon buildings but, as the debris around 1923 contained offcuts of antler, this could also suggest a more isolated area of bone working. Matching halves of a deer radius from 1026 and the Saxon well 1083 some 35m apart nicely illustrate the scattering of site bones, probably coming from the concentration of bones around 1023 which lies between the two features.

VI 2.2.1.6 Skeletal element proportions of mammal bones

For Table VII the frequencies of skeletal elements for each species have been grouped into three categories: head, feet, and body as defined in the Table and expressed as percentages of the sample totals (n). The main objective was to obtain the feature type variation from period to period of these general body regions. Although the isolation of specialized butchery and industrial patterns is an ultimate aim, the current problem is to identify normal percentages which result from butchery and other taphonomy. Comparison of results is intra- rather than interspecific as each species has characteristic frequencies of its own.

In general the results resemble those obtained for other local sites (Wilson 1978a, table XII) and the contributory causes have been discussed already (Wilson 1978, 113). Together the general percentage ranges of species have been used to isolate anomalous samples from medieval and post-medieval

TABLE VII Percentages of grouped skeletal elements

		Ditches					Wells		Cellar	Robber-trenches		Destruction layers	'Pits'					Period totals					
			Roman																				
	Period	Iron Age	1-2	3-4	4-5	'(602)'	3-4	Saxon	3-4	1-2	3-4	3-4	Iron Age	1-2	3-4	Saxon	Huts	Neo	Iron Age	1-2	3-4	4-5	Saxon
Cattle	n	373	159	814	547	37	322	32	181	14	40	233	70	5	316	47	261	20	443	178	1900	547	377
	head	56	64	34	34	15	39	25	27		45	43	54		33	40	40	25	56	60	35	34	36
	feet	15	13	25	22	35	16	16	27		33	25	[illegible]		22	28	24	15	16	15	23	22	25
	body	29	23	41	44	51	44	59	46		23	32	23		46	32	36	60	28	25	42	44	39
Sheep	n	318	84	468	155	[illegible]	71	6	64	10	51	130	97	4	191	21	269	17	415	98	975	155	573
	head	47	45	54	43	41	28		39		35	37	30		39	29	36		43	45	45	43	39
	feet	16	18	11	19	13	35		25		16	15	24		24	10	16		18	19	17	19	14
	body	37	37	36	39	46	37		36		49	48	46		38	62	48		39	48	38	39	48
Pig	n	67	38	136	65	70	34	4	26	2	15	49	26	1	64	25	255	181	93	41	324	65	354
	head	61	58	60	55	61	53		23			37	31		47	56	44	35	53	56	49	55	48
	feet	–	8	10	6	7	18		12			14	31		19	8	12	13	9	10	13	6	11
	body	39	34	30	39	31	29		65			49	39		34	36	44	52	39	34	39	39	41
Horse	n	55	43	206	86	5	44	4	53	–	18	30	40	–	36	1	7	–	95	43	387	86	17
	head	31	2	18	15		18		38			33	28		28				30	2	24	15	
	feet	42	40	28	33		25		11			30	43		31				42	40	26	33	
	body	27	58	54	52		57		51			37	30		42				28	58	50	52	

head: cranium mandible and loose teeth

feet: carpal and hock joint, manus and pes

body: other body bone including vertebrae, excluding rib towns: eg where 'body' bone percentages exceeded the Iron Age - RB range, this may indicate a site where primary butchery of the carcasses did not occur and/or where better- quality meat joints were consumed. Only one sample of horn cores (Armitage 1976) from a local prehistoric or RB site exhibits the apparent extremes of some local medieval or post-medieval town samples (Wilson 1975; 1976a; 1979b, 1980a), so that no major butchery and redistribution patterns are obvious at BCF as might be expected at villas of some size. Even where there appears to be an interperiod difference in one species, this seems contradicted by the results in another species: eg in ditch samples, lower proportions of IA cattle body bones can be compared to modal or higher proportions in IA sheep. This trend could have meaning but is merely referred to as being inconsistent at this stage of the investigation.

VI.2.2.1.7 Articulated remains of mammals

IA sheep pit 338

23 bones and 15 ribs and 3 maxillar teeth from one individual. Possibly female from fragmentary pelvis. Epiphyses to distal hu and prox. ra are fused; mc, ti, and fe epiphyses are unfused. m3 (milk), M1 erupted and worn, M2 not erupted, or erupting. No butchery marks. Measurements (mm) : d. hu 24, 25, p. ra 24.

Possibly a ewe sheep. Epiphyseal age : 10-24 months (average fusion data); tooth age : 8-12 months (modern data) or 9-18 months (18th century).

3rd-4th century ewe sheep 709 (RB trackway ditch)

A moderately complete skeleton including 3 caudal vertebrae (79 bones and 19 ribs). Skull polled, scurring absent. Female pelvis. Early fusing epiphyses including Ph1 and Ph2 and distal ti (just) fused, distal mc and other epiphyses unfused. M1 and M2 teeth erupted and in wear, M3 visible in crypt, m2-4 (milk) present, mandible swelling adjacent to unerupted P4. Dentine irregular. First incisor unerupted, vertical in crypt, adjacent to alveoli for 3 milk incisors (also m2s are displaced laterally and m3s medially). Measurements (mm): hu dw 26, 27, both ra pw 27, im fe 150, im mc 112 dw 24 im mt 119 im dw 23 both astrag 27. Ancient fracture holing posterior R. frontal. Two transverse cuts on anterior L. astragalus, broken distal L. ca, transverse cut on distal anterior R. astralagus.

This skeleton is of a polled ewe sheep. Immature long bones indicate c 0.54m height at death, but astragali indicate potential height was nearer 0.61m (Teichert 1975). Epiphyseal age could be 18-24 (average) or 10-15 months (early development). 18th century information is inconsistent, M2 in wear should indicate 21 or more months but first incisor indicates less than 18 months. Also the P4 mandible swelling may indicate imminent eruption (40 months on 18th century date). However, by comparison with other sheep mandibles, the eruption of I1 is retarded or molar development is advanced. Retardation is more likely, as indirectly the sheep appears to have been diseased. Alternatively, the teeth may be more worn than usual (irregular dentine) and thus the tooth eruption may be normal. The skeleton has only marks suggestive of skinning, and the completeness of the skeleton does not indicate meat removal. Possibly the holed cranium marks the ewe's dispatch. However, for similar mandibles elsewhere opinion (B Levitan, pers comm 1978) seems to favour advanced molar eruption.

Thus 18th century data cannot be ruled inappropriate here. Some evidence of its appropriateness (Wilson 1978a) is now regarded as inconclusive (Wilson, in preparation) - also see fiche. Epiphyseal fusion data are not helpful although the only developmental data seems less appropriate.

Male sheep 837

Probably RB. 60 articulated bones and ribs, with most of skull missing. Male pelvis probably ram, possibly castrate. All early epiphyses including mt fused, olecranon, ca and later fusing epiphyses unfused. A loose M3 in wear. Measurements (mm): hu 149 dw 33 im fe 180, im ti 223 fused dw 28, im ra 163 pw 33 both mc 136 dw 30, mt 148 dw 28. Lumbar vertebral body with vertical knife cut. Transverse cuts and one breakage on posterior proximal metacarpals. Transverse cuts on anterior, lateral, and posterior of cuboid.

This appears to be a ram sheep, with a withers height averaging over 0.65m as estimated from the available long bones, including immature ones. Its potential height may have been 0.67m. Depending upon early or average fusion data being used the epiphyseal fusion age could be 15-18 or 20-30 months, although the possibly related M3 would indicate the latter. The carcass seems to have been skinned around the elbow and hock joints and it probably was gutted, the vertebral body cut also indicating the removal of meat.

This is a large animal compared to others at the villa, even allowing that it was a male and likely to be larger than a ewe. The burial occurred at the end of the late RB trackway ditch 833 and it possibly could be Saxon as it is adjacent to the SE enclosure. Conceivably it is a modern and intrusive burial.

Sheep 378 (cut into Iron Age feature 334 immediately N of farmhouse)

Probably RB. 65 bones and 5 ribs including butchered fragments, probably from one individual. Horns broken at base: ewe or wether. Pelvis incomplete; ewe or wether. Early fusing epiphyses including ca fused; late fusing including fe and distal ra unfused. Ulnae absent. P2-4 and M1-3 in wear. Incisor eruption not known. Measurements: im hu 140 dw 29, im ra 151 pw 29, both im ti 204 dw 23, ca 52, ast 25 26, mc both 124 dw 23, mt 135 dw 25.

Horns anciently broken off. Cranium cleft through frontal and parietal and occipital condyles in midline but slightly left to right and off-centre, the impact of blow chipping fragments off ventral parietal. Atlas and axis chopped at ventrally, fragment split off (but retained) of R posterior axis, trimming in effect toward base of skull. On sacrum vertical, slightly ventral, anterior cuts parallel to articulation with ilia on both sides. Knife cuts across iliopectineal lump. Cut on medial neck of scapula. Matching medial cuts on distal humeri, transverse cuts on medial distal radius epiphysis, one similar on matching epiphysis, base of shaft broken off. Cuts on distal femuri (matching), distal tibiae, both anterior astragali (transverse), and calcaneum (laterally and posteriorly below epiphysis). Sternal segments divided, one segment cut parallel to division.

The bones are from a horned sheep, a ewe or wether around 0.61m in height (Teichert 1975, using immature bones) and possibly nearly full grown. Epiphyseal data suggest 30-36 (average) or 15-18 (early fusing data) months of age, while the M3 in wear indicates at least 21 months (modern data) or at least 39 months (18th century data). The age issue is further complicated by a tendency for epiphyseal fusion to be delayed in castrated animals (Noddle 1974; IA Silver, pers comm 1978) and, certainly by comparison with the Ashville ewe skeleton (Wilson, 1978a, 123-4), this is a much older sheep in terms of tooth eruption and wear, although the epiphyseal fusion stages are nearly identical in both sheep (Wilson, in preparation).

Butchery included gutting (inferred indirectly from cuts on sacrum) and skinning (from cuts on astragali and calcaneum). The skull may have been removed from the backbone by severing the anterior backbone from the ventral side; the head was cleft in two from the dorsal side, probably to extract the brain. The sternum also was divided, but it is difficult to determine if some of it is absent. Ribs are few in number so that a ribside may have been removed, but as left and right side limb bones are present, and vertebral bodies are intact, there was no major division and distribution of the carcass. Similar butchery marks were noted on RB sheep bones at Farmoor (Wilson, 1979a, 132).

Dog skeletons

Several part-skeletons of IA dogs occur in IA enclosure ditch 5 but are difficult to sort out. Chiefly notable for the ends of 4 olecranons which are broken away, some bones which are gnawed and the top of a skull is nicked as if with a knife. Skinning, butchery, and/or scavenging are indicated.

41 bones and 14 ribs of a dog skeleton 321 were partly destroyed by JCB clearance. Buried in IA ditch 5 but possibly a later burial stratigraphically. Distal hu and one olecranon epiphysis fused; other epiphyses unfused. Molar teeth erupted. Measurements (mm) : im hu 184 dw 40, M1 24 pw 10. A small lesion occurs on the posterior neck of the scapula.

From the tooth measurements this was unlikely to be a wolf, was about 9-12 months old (Silver 1969, table A), the immature humerus indicating a shoulder height of over 0.6m. This appears to be outside the size of Iron Age dogs (Harcourt 1974a, tables 9, 11, and 14; IA hu $\bar{X}$ = 153, s.d 10.28), although a mature late Iron Age dog at Ashville is of this size (Wilson 1978a, 125). The skeleton seems associated with the villa and not the Iron Age occupation.

The RB dog in enclosure ditch 15 was represented by parts of a skull, articulated backbone and limb bones 19 in all + 3 ribs, not certainly of same dog. Olecranon and prox. hu fused; distal fe unfused. Hu d.w. 35mm. An immature dog c. 10-18 months old.

The dog skeleton in the latest RB enclosure ditch 1241 consisted of at least 33 reunited bones and 16 ribs of an articulated burial cut into the primary fill of 1241. 4th-5th century or Saxon in date. All ageable epiphyses fused; all teeth erupted and moderately worn. Os penis. Measurements (mm) : ma M1 23; fe 180, msdi 7.5; both hu 165, msdi 7.9, dw 35; ra 156, msdi 8.1; ti 178 msdi 7.6; ca 45. A male dog, mature (ie at least 2 years old), with an average estimated shoulder height of 0.54m.

Pig skeletons

141 bones of at least 8 piglets between 2-8 weeks of age were found in Neolithic pit 544 in association with an antler of red deer. One piglet bone bears a cut mark.

Other less well dated skeletons include one nearly complete pig skeleton c 12-24 months old (467), and of a piglet a few weeks old (491). 491 is undated but lay just outside of IA structure 1. 467 is probably a modern feature.

Horse burial 298

Consisted of at least 12 cervical and thoracic vertebrae and many rib fragments, a patella and fragments of mandible, pelvis, scapula and fused proximal humerus in a burial just E of the foundations of the farmhouse.

Most of the skeleton was probably lost by ploughing. The feature contained late RB pot so is late or post-RB in date. It may be coincidental that a double horse burial occurs E of a RB enclosure at Farmoor (Wilson 1979a, 130).

Bones in late RB pit 561 and earlier pit 563 appear to be of the same horse, probably a disturbed burial. Other horse debris including an articulated backbone occurred in late RB enclosure ditch 543.

VI.2.2.1.8 Site distribution of skeletons

One interesting question is whether the skeletons provide clues to where animals were kept on site, and another question is whether articulated remains indicate nearby butchering places. Some information may be given by the dog skeletons. Two likely RB skeletons (15, 321) occurred adjacent to the farmhouse, and the other moderately complete skeleton 1241 was a late burial, possibly associated with the Saxon occupation. Dog bones occurred in the cellar and well 832 but, although limb bones were not common elsewhere, there was a widespread scatter of skull debris. Perhaps, then, some dogs were buried close to where they lived (eg the RB ones in or beside the farmhouse).

The apparently diseased sheep 709 might indicate a nearby sheep-fold. Certainly another skeleton 837 occurred in the same ditch of the E trackway. A further burial 378 was near the farmhouse, but these last two skeletons were butchered animals and need not indicate the position of folds. Other butchery did take place closer to the farmhouse as there was an articulated cattle backbone and ribs in pit 325 and two sheep skulls with articulated mandibles in well 950.

VI.2.2.1.9 Ritual burials

Some animal remains may be significant in terms of ritual activity, which is largely decided in terms of context discussed elsewhere. These are remains which occur red with infant burials (i-iii) or may show similarities to head and hoof burials (eg Piggott 1962).

i. RB sheep skull with infant burial 923. From a polled sheep with all maxillae teeth in wear. Anterior of skull and mandibles missing (fiche).

ii. Dog skull with infant burial 917. Skull including both mandibles. All teeth in wear. Measurements (mm; Harcourt, 1974a) I 172 II 95 III 87 IV 88 XI 61 XIII 34 est., ma M1 21. Exoccipital condyles are cut through transversely, probably dorso-laterally from the left-hand side.

Evidentally the skull is from a mature dog with cephalic (51.2%), snout (50.6%), and snout width (39.1%) indices indicating a narrow-skulled dog. The associated mandibles suggest the entire head was severed from the body, while the direction of the cutting suggest decapitation after death, unless a live dog was well held by someone else.

iii Dog skull with infant burial 881. Skull lacking mandibles. Some late erupting teeth are well worn, and at least 3 teeth were lost from the maxillae before death. Measurements (mm; Harcourt 1974a) I 163 II 92-4 est. III 73-76 est. IV 96 est. XII 35 est. X 59. Healed compressed fracture of nasal area (see pathology, 8:F9).

This skull appears to be of a shorter-and wider-snouted dog skull than usual (approximate indices: cephalic 58.9%, snout 45.7%, and snout width 47%) but, although there is a nearly identical skull from Iron Age ditch 5, RB skulls show a greater variation than Iron Age ones (Harcourt 1974a).

The dog's injury appears unrelated to its death and there is nothing to show it was deliberately killed apart from the evident need to bury a skull or head with the infant. The absence of mandibles could suggest retrieval of a skull from a decomposed and scattered carcass, or that the animal was butchered.

iv. Two polled sheep skulls complete with mandibles were found in well 950.

v. Late IA/early RB pit 397 with articulated remains of two matching lower back legs of a horse and a right backleg from below the femur of a cattle-beast. The calcanea of all three legs bear knife cuts posteriorly and suggest butchery by the same person. Possibly these are skinning marks as separation of the hock joints did not occur. There is almost no meat here, but another possibility is the removal of the superficial flexor tendons for some purpose.

vi. Iron Age pit 379 with 5 cattle mandibles and a maxilla of similar tooth eruption and wear, probably of 18-24 or 18-30 month old cattle. Found at base of pit with dog mandible. Cut marks are common on the cattle mandibles, indicating the removal of cheek beef. A minimum of 4 cattle are represented.

vii. Neolithic pit 544.

VI.2.2.1.10 Conclusions on the site distribution of mammal bones

Many problems are evident concerning sieved and hand-picked bone samples, the relatively non-stratified site, and the presence of residual and intrusive material. An uneven ancient distribution of bone debris over the site appears demonstrated and seems important in terms of limited excavations and sampling programmes.

Systematic sampling of a small Iron Age settlement site at Hardwick (Oxon), indicates a concentration of bones in the immediate area of the huts and a diminishing spread of fragments outward, although there are variations such as a concentration at the enclosure entrance (Wilson 1978b). This contrasts with the evidence of bone debris accumulating outside the farmhouse enclosure ditch and possibly toward the area of the SE enclosure during the main period of villa occupation. It also contrasts with the evidence of two main Saxon accumulations <u>1023</u> and <u>602</u> away from the apparent nucleus of Saxon buildings. An explanation of these differences is best deferred until the Hardwick site sample is better investigated.

VI.2.2.1.11 Minimum numbers of individuals

See Table VIII (cf Wilson 1978a, 112)

TABLE VIII Minimum numbers of individuals

			RB			
	Neolithic	Iron Age	1-2	3-4	4-5	Saxon
Cattle	2	24	9	47	16	14
Sheep	2	30	5	43	8	36
Pig	9	7	3	21	6	16
Horse	–	3	3	12	3	2
Dog	–	6	1	13	1	1
Cat	–	1	–	2	1	1
Red deer	A	1	1	3	1	1
Roe deer	–	–	–	2	A	1
Hare	–	–	–	1	–	1
Fox	–	1	–	–	–	–
Oyster	1	1	1	245	57	11

A = antler present only

VI.2.2.2 Animal abundance and environment

VI.2.2.2.1 Estimates of animal abundance

Previously (Wilson 1978a, 136) with local sites there has been a tendency to assume moderately self-contained animal economies so that minimum numbers of individuals (MNI), if not fragment numbers, were taken to be indicative of the relative abundance of animals around sites. Qualifications do occur: eg with the indication of seasonal occupation at Farmoor (Lambrick & Robinson 1979). At Barton Court Farm the probability of increased marketing and exchange of stock in the RB period would increase input or output of animals which would obscure estimates of the relative abundance of populations on site.

Already there are objections to the use of data from 1.multifarious site features, 2.fragment number counts, and, to a lesser extent, 3.MNI estimates, yet the apparent unevenness of bone distribution on site argues for consideration of site debris from one period as a whole. Certainly any interpreted comparison using MNI requires large samples, which normally means using the whole sample from each period. Percentages of fragment numbers and MNI are given for each period in Tables IX and X.

TABLE IX Percentages of bone fragment frequency for period samples.

	Neo	Iron Age	RB 1-2	RB 3-4	RB 4-5	Saxon
Sample number (n)	218 (77)*	1099	365	3764	872	1340
Cattle	9.2 (26.0)	40.3	48.8	50.64	62.7	28.1
Sheep	7.8 (22.1)	37.8	26.8	25.90	17.8	42.8
Pig	83.0 (51.9)	8.5	11.2	8.61	7.5	26.4
Horse		8.6	11.8	10.28	9.9	1.3
Dog		4.4	1.1	3.61	1.7	0.5
Cat		0.3		0.11	0.1	0.5
Red deer	A	0.1	0.3	0.64	0.3	0.3
Roe deer				0.05		0.2
Hare				0.13		0.1
Fox		0.1		0.03		
Oyster (% of n)	0.6	0.2	1.1	14.2	13.2	4.9

* readjusted figures exclude piglet bones in 544.

TABLE X Percentage abundance of animals from minimum numbers of individuals.

	Neo	Iron Age	RB			Saxon
			1-2	3-4	4-5	
Sample number (n)	13	72	22	144	36	73
Cattle	15	33	41	32.6	44	19
Sheep	15	42	23	29.9	22	49
Pig	69	10	14	14.6	17	22
Horse	-	4	14	8.3	8	3
Dog	-	8	5	9.0	3	1
Cat	-	1	-	1.4	3	1
Red deer	A	1	5		3	1
Roe deer	-	-	-	1.4	-	1
Hare	-	-	-	0.7	-	1
Oyster as % of n	8	1	18	170.1	169	18

VI.2.2.2.2. Abundance of animals used for food

Numbers of cattle are seen in Tables IX and X to increase from the Iron Age to the RB period, then decrease in the Saxon sample. Pig increases over all three periods. Horse increases markedly in the RB sample and markedly declines in the Saxon. Sheep decline markedly in the Roman sample but predominate in the Saxon. Dog and deer remains seem most common in RB samples.

Although MNI do not wholly represent animals eaten on site (eg one sheep, at least some dogs, and perhaps cat and fox can be excluded), the pecentages seem indicative of periodic dietary changes. In terms of carcass size these exaggerate real changes in meat diet, as beef almost certainly predominated at all periods, even in the Neolithic, where the piglets would seem significant. Horsemeat, which was eaten at least occasionally, could make major contributions and exceeded that of sheep and pigs in RB times. Wild animals became more common in RB and Saxon diet, and certainly compared to Iron Age Ashville. They would include birds (8:C5) and fish (8:C8). Domestic birds also appear more commonly. Eggshell from domestic fowl rather than goose reminds us of another less reported dietary item.

Noteworthy is the significant number of oyster shells. The RB MNI should be about 300, allowing some 20% for consideration of shells of opposite symmetry as similarly done with mammal skeletal elements (Chaplin 1971, 70). Fragment numbers therefore underestimate the abundance of oysters. Both 3rd-4th and 4th-5th century deposits have similar percentages of oyster but in Saxon deposits this is low and probably contains residual shell. The abundance of oyster may represent more than the occasional delicacy in RB diet.

VI.2.2.2.3 Relative abundance of local animals

The trends of relative percentage changes outlined above may be the changes in the management of domestic animals around the site. Percentages would alter slightly where wild species are excluded.

Local Neolithic samples are relatively small but diverse. Cattle are probably the most common species, including 'Bos primigenius' (Grigson 1978) and pig the next abundant species. Sheep do not have the abundance of later periods. Red deer may be common. Unspecified carnivora, except otter and possibly wolf, and birds including mallard (8: C6) are also represented (Carter, unpublished: Corporation Farm, Abingdon; Dudley-Buxton 1928; Frazer 1956; Cram unpublished: Abingdon causewayed camp; Wilson, unpublished: Thrupp).

Bronze Age bones are scarce but there may be an increase in the percentage of sheep (Carter, unpublished) as expected toward the Iron Age, when this species was relatively numerous. The evidence of an increase of cattle and a decrease of local sheep in Iron Age - RB samples is still weak, I feel, in spite of other indications at Appleford, Ashville, and Farmoor (Wilson 1978a; 1979a; 1980b). At Shakenoak villa (Cram 1973) sheep are relatively abundant. In Saxon samples there is a marked contrast between Barton Court Farm and Corporation Farm (Carter, unpublished), where sheep have relatively low and cattle higher percentages. Also at Dorchester on Thames (Grant 1978; unpublished) sheep appear relatively less common.

VI.2.2.2.4 Environmental indications from mammal bones

The predominance of cattle and pig bones and the presence of deer in the Neolithic indicate woodland more than any later sample. In these terms the slight percentage increases of RB deer and pig might be taken to show some reafforestation, but other conclusions, such as increased exploitation of resources, could be drawn. Also, hare contrasts with roe deer presence and it is questionable that pigs are reliable woodland indicators. These qualifications make assessment of wild species difficult, but, at least for the Iron Age, wild animals appear more abundant near Barton Court Farm and possibly Appleford than at Ashville; slightly higher percentages of deer remains occur at Farmoor. Thus some woodland or scrub cover is within hunting distance of Iron Age - RB Barton Court Farm, but not near the settlements at Abingdon town centre and Ashville. The probable areas of deer cover are the higher ground in the Lodge Hill and Bagley Wood area, and across the Thames in the Nuneham Courtenay-Culham area.

On Iron Age sites the ratio of sheep to cattle seemed to increase at sites from the first to the second gravel terrace (Wilson 1978a, 136). Late Iron Age MNI at Barton Court Farm indicate a higher proportion of cattle than expected, although the proportion of sheep is relatively high. Appleford on the First Terrace and Barton Court Farm are similar sites in this respect. The Saxon debris from Corportion Farm on the First Terrace and Barton Court Farm, however, does fit the above hypothesis. Unfortunately RB samples from the first terrace are small : Farmoor and Abingdon (Wilson 1975; 1979a) indicating equal numbers of cattle and sheep, and possibly the proportion is greater at Ashville on the Second Terrace.

If there was indeed a greater association of more cattle than sheep with damper land, it may be that there was more of this land available at Barton Court Farm than at Ashville but this deduction cannot be maintained where Saxon animal percentages at Barton Court Farm are considered unless there was less dampland grazing available at this time.

VI.2.2.2.5 The bird bones Don Bramwell, Graham Cowles, and Bob Wilson

Most of the information in this report was provided by Don Bramwell who, however, had insufficient time to amend an earlier report to include his further identifications and environmental observations from the last season of digging. Two bones from a Saxon sunken hut 1023 and believed to be eagle are stated by Graham Cowles at the British Museum (Natural History), Tring, to match quite well those of *Heliaeetus albicilla*, the white-tailed or sea eagle. The percentage trends of the sample are the responsibility of Bob Wilson.

Fragment number identifications are summarized in Table XI (8:C6). 41 fragments remaining unidentified. Minimum number of birds are approximate, being combined results from examinations of two separate bone samples as the excavation progressed: Late RB, 17 domestic fowl, 3 geese cf domestic, and 2 duck cf domestic; Saxon, 10 domestic fowl and 3 geese cf domestic.

TABLE XII Relative percentages of bird bones
(bird bones/number of identified mammal bones)

	?Neo*	Iron Age	RB 1-2	RB 3-5	Saxon
All birds	0.5	0.7	1.4	3.7	9.6
Wild birds	0.5	0.4	0.5	0.6#	1.7
Domestic	-	0.3	0.8	3.1	7.9
No. of mammal bones identified	218	1099	365	3764	1340

* see bottom of Table XI

\# excluding female buzzard

TABLE XI. Bird bone frequency, fiche

	Iron Age	RB 1-2	RB 3-5	Saxon
Domestic fowl	3	3	91	60
Goose cf domestic	–	–	16	46
Goose, wild	–	1	–	1
Duck cf domestic	–	–	10	–
Duck cf mallard	1	–	1	3
Duck cf garganey	–	–	1	–
Duck cf pochard	–	–	–	1
Duck cf red-breasted merganser	–	–	–	1
'Duck'	1	–	–	–
Dove, rock/domestic	–	–	6	–
Dove cf stock	–	–	–	2
Golden plover	–	–	1	2
Buzzard	?2	–	4( )*	–
Sparrow-hawk	–	–	1	5( )
White-tailed eagle	–	–	–	2
Kestrel	–	–	1	–
Rook/crow	1	1	3	–
Jackdaw	–	–	6	–
Hawfinch	–	–	–	2
Bunting cf corn	–	–	–	1
Finch	–	–	–	1
Passerine cf linnet	–	–	–	2
Total	8	5	141*	129

* excluding part-skeleton of female buzzard (609)

Possible Neolithic identification: duck, cf mallard, tarso-metatarsus. (1084: post-hole believed to be a Saxon feature, although it contained Neolithic postsherds).

Table XII puts the numbers of bird bones in perspective, relative to the number of identified mammal bones at each period. These percentages show a marked increase in the proportion of bird bones from Iron Age and possibly Neolithic times to be of some significance in the RB sample and considerably more in the Saxon. The Saxon sample numbers seem slightly exaggerated by sieved material. However, in terms of meat supply, the importance of the RB increase is diminished by the greater volume of meat produced from the relative abundance of cattle during this period. Wild bird remains are difficult to assess in dietary terms, allowing for recovery vagaries and the presence of predators, but there seems to be a slightly increased representation in RB and Saxon samples.

The Iron Age sample is comparable to that at Ashville (Bramwell 1978) 0.5%; 0.3% approximately of wild and domestic remains respectively; mammal bone frequency was 3438. Domestic fowl were recorded there for the late Iron Age, as were duck bones similar to both domestic and wild species. Buzzard bones are represented at Barton Court Farm, including a pathologically distorted tibia and fibula preventing an accurate identification.

In the RB sample are the usual farmyard poultry. Some twelve adults and five juveniles, largely of small (jungle fowl) size are represented among the domestic fowl. Domestic ducks and geese appear less plentiful. Five articulated bones of a goose wing occurred in pit 609. Dove bones are diffucult to separate into species, but one may be of a domestic bird from a columbarium. Wild species identified are typical of most RB settlements. Wild duck, goose, and plover would be hunted as food but other species (eg rook, crow, sparrow-hawk, and buzzard) may have been taken in defence of poultry and possibly crops. A bank vole mandible was concreted to the sternum of a buzzard part-skeleton in 609.

Little evidence of change is indicated by the Saxon sample; possibly geese were more numerous and domestic ducks may be absent, although Carter (unpublished) identifies them at Corporation Farm, Abingdon. Generally the Saxon species list is similar to those from Norfolk (Clutton-Brock 1976, 387-8, citing D Bramwell & M I Platt). In 955 were found bones of a female sparrow-hawk, the more commonly used sex in falconry: Clutton-Brock suggests that the species is more indicative of commoners' usage than of the nobility.

Sea eagle would be a misleading name here, white-tailed eagle being preferable, as this species also inhabits inland as well as coastal waters of northern and central Europe at present. As a rare, seldom breeding, species in Britain, this record is of interest as Brown (1976, 85-93) would scarcely conceive of its ancient presence in the Thames Valley. However, its distribution was once widespread in southern Britain (Cowles, in preparation). Presumably any residential birds would fish the river, but they are known to feed on both birds and mammals, possibly on lambs as carrion (Brown 1976).

Conclusions Following Bramwell (1975; 1978; 1979; Bramwell & Wilson 1979b) and Carter (unpublished), a predictable general environmental picture emerges of settlements on the gravel terraces being surrounded by arable, meadow, and water habitats from prehistoric to post-medieval times: open country rather than woodland, but stands of trees, scrub or hedgerows are indicated, possibly more at Barton Court Farm than at Ashville. Non-recovery of the bones of small species and dietary preferences may have produced a biased or incomplete picture. The most important finding is the increased proportion of birds in Saxon and possibly RB diets.

VI.2.2.2.6 The fish bones Alwyne Wheeler

A small quantity of fish remains, chiefly vertebae, fin spines, ribs, pterygiophores, and scales, has been available for study. With one exception, all this material was obtained by sieving and was of relatively small bones of moderately small individual fish. Most soil samples produced a few bones but 602/1 (early Saxon) yielded a large quantity of remains of several taxa. Results are given in Tables XIII, XIV, and XV.

TABLE XIII Identifications of fishbones

Iron Age

Esox lucius: dentary bone from fish c 70cm (5kg) 345
Anguilla anguilla: vertebral centrum
Cyprinid: scales (indet) 5.

Romano-British
Esox lucius: vertebral centrum from fish c 70cm (5kg) 792
Esox lucius: 2 scales
Anguilla anguilla: vertebral centrum
Cyprinid: scales (indet)
Perca fluviatilis: 2 scales all from 3rd-4th century AD well 832.
Esox lucius: abdominal vertebral centrum from fish c 30cm 866 (sample labelled Neolithic or RB intrusion).

SAXON
Esox lucius: 4 dentary bones (2 right, 2 left) from fish c 500g; 3 fragmentary basiphenoids; 2 opercular bones
Anguilla anguilla: 4 right, 3 left dentary bones from fish c 600g - 1kg; 2 right premaxillary bones; 1 vomer; 20 right, 16 left cleithra; 3 basisphenoids; 19 vertebral centra
Rutilus rutilus: 2 right, 2 left pharyngeal bones from fish c 20cm Cyprinid: scales (indet) - several fragments
Perca fluviatilis: 1 maxillary; 1 right premaxillary; 1 basisphenoid; 2 left preopercles; 2 scales - all from fish between 15 and 25cm (all from sample 602/1)
Esox lucius: vertebral centrum from fish 1m (10kg) 1023.
Scardinius erythrophthalmus: fragmentary pharyngeal bone with teeth 1023/1 - Saxon sunken hut.
Anguilla anguilla: 4 vertebral centra 1083/2 (Saxon well).

Romano-British or Saxon Debris
Anguilla anguilla: 4 vertebral centra;
Alburnus alburnus: right pharyngeal bone with teeth 854-870-879-882-3
Undated
Anguilla anguilla: vertebral centrum 891/1

TABLE XIV. Frequency of fish bone fragments.+

	Neolithic	Iron Age	RB 3-4	RB 4-5cent	Saxon
Eel: Anguilla anguilla	–	1	1*	4	72*
Pike: Esox lucius	1	1	3	–	10*
Bleak: Alburnus alburnus	–	–	–	1	–
Roach: Rutilus rutilus	–	–	–	–	4*
Rudd: Scardinius erythropthalmus	–	–	–	–	1
Cyprinid scales (indet.)	–	+	+*	–	+*
Perch: Perca fluviatilis	–	–	2*	–	7*

+ Frequencies of bones are roughly related to the amount of soil sieved. Diagnostic elements used for identification are recorded in Table XIII (fiche). Identifications are only indicative of species presence on site in any period. Some bones could be redeposited or intrusive: eg the Neolithic soil sample contained a tiny RB pot fragment. More reliable records are asterisked, being either from waterlogged deposits 832 and 1083/2 or the distinctive Saxon deposit 602.

TABLE XV Estimates of fish size.

	Feature	Period	Skeletal element	Approx length (cm)	Approx weight (Kg)	MNI
Eel	602	Sax	dentaries	–	0.5	≥4
Pike	866	?Neo	vertebral centrum	30	–	1
	345	LIA	dentary	70	5.0	1
	792	RB	vertebral centrum	70	5.0	1
	602	Sax	dentaries	–	0.5	≥2
	1023	"	vertebral centrum	100	10.0	1
Perch	602	"	various elements	15–25	–	≥1

MNI Minimum number of individuals

Discussion   The interest in these fish remains is that they represent freshwater species only. Evidently, during the period of time represented, the fish consumed at the site were obtained from the Thames or its backwaters. Of the species represented, all except for one are riverine in habitat, the exception being the rudd, Scardinius erythrophthalmus, which is more common in still waters, although it inhabits river backwaters and oxbow lakes.

The dominant species both in terms of numbers of individuals and of frequency of occurrence in sampoles is the eel, Anguilla anguilla. Within historical times the eel fisheries of the middle and upper Thames have always been of importance and of considerable value, and it is interesting that this fishery can be proved to have existed in Saxon and even earlier periods. The traditional method of capture of eels was in wickerwork traps with funnel entrances which, baited, were laid on the riverbed and were emptied regularly. Eels can be captured all year round by this method, but the peak of the fishery is in autumn and winter when the down-river migration of maturing eels takes place. With the construction of weirs in backwaters and in the main river, at first associated with water mills, a different form of wicker trap (buck) could be used to capture migrating eels (or other fishes); these bucks were often very efficient. Although the eel can be captured by other methods, notably by laying lines with baited hooks, the use of traps is more efficient and less labour-intensive. The extensive use of willow for making such traps (and, of course, other wicker products) results in the riverside osier beds having considerable value and their cultivation and use becoming a minor industry.

Traps of this kind are not, however, likely to capture many specimens of the other species identified. Predatory species, such as the pike, <u>Esox lucius</u>, and perch, <u>Perca fluviatilis</u>, were probably captured on hook and line, although both species can be taken in nets. This last fishing method is the most probable method of capture for the cyprinid fishes, roach, <u>Rutilus rutilus</u>, rudd, and bleak, <u>Alburnus alburnus</u>. Although none of the cyprinid fishes are highly regarded as food fish today, they may well have been acceptable in earlier periods. This is in contrast to the pike and perch, which have always been regarded as excellent food fishes. As some of the pike identified were relatively large (Table XV), this species could clearly have made a considerable contribution to the diet of the human population in, for example, the late Iron Age.

The general conclusion from the fish remains identified from the extensive period of occupation of this site is that the eel was the most important food fish and was probably captured in traps, while a hook-and-line fishery captured large pike and perch, this being supplemented by a net fishery which produced small pike and perch and the cyprinid fishes. There is no evidence that fish were imported at this period.

The absence of salmonid bones (salmon and trout) from these samples might be noted. This absence may be due to the general fragility of the skeleton in these fishes and their poor survival (although salmon vertebral centra occur in RB remains at Wroxeter on the river Severn). It could, however, be support for the view derived from other evidence that the Thames was not an exceptionally prolific salmon river.

VI.2.3 <u>The morphology of mammal bones</u>

VI.2.3.1 <u>Sheep cranial remains</u>

Cranial debris suggested that less than 5% of the sheep-goat debris could be of goat. Horned and polled crania occurred in the RB sample, 4/16 being polled or with slight scurs, 1/7 female crania was polled, but other polled skulls could not be sexed. The ratio of female to male horned crania was 7:3 including a castrate skull.

VI.2.3.2 The cattle horn cores Philip Armitage

The method follows that of Armitage & Clutton-Brock (1976)

Iron Age

Short horned: possible castrate (379).

Romano-British

1st-2nd century

Short horned: 2 castrates (363) and 2 bull (352, 363).

3rd-4th century

Short horned: 2 cow (375, 723), 2 possible (690, 712): castrate (882) and possible (675): and 2 bull (295, 676).

Medium-horned: cow (950), 4 castrate (60, 325, 709, 1010): 2 bull (950), and possible (709).

Late 4th-5th century

Medium-horned: cow (1241) 3 castrate (858, 955, 1075), and bull (1075).

VI.2.3.3. Sexing of pelvic material

VI.2.3.3.1 Sheep Pelvic formation is more variable than observed previously (Wilson 1978a, 115) and neither metric nor more subjective assessment seems to identify the sexes satisfactorily: incompleteness of pelves is a major problem. Females probably are identified by a thickness of less than 3mm in the lip of the ventral acetabulum, but not invariably, and consistent measurement points were not always found. Development of the ilio-pectineal ridge may vary with age as well as sex. Despite uncertainty, there is a predominance of females (14:7) in a sample from local Iron Age sites and a slight excess of males (9:8) in the Saxon sample and a small RB (4:3) sample from Barton Court Farm. Castrates are almost certainly present in all samples, particularly the Saxon.

VI.2.3.3.2 Cattle Uncertainties in sexing as above, especially in metric variation of male/castrate pelves, which were generally larger than the females. In well developed female pelves the ilio-pectineal eminence tends to be flattened and projected forward and is assocated with a continuous concave depression above the acetabulum as far as an often characteristically thin ridge adjacent to the depression of the rectis femoris muscle attachment. In cross-section the pubis seems rod or sub-lozenge shaped with projecting thin flanges. In males the pubis and the ventral and medial area of the acetabulum are relatively thick and tend not to be hollowed out. The pubis is oval in cross-section. The ilio-pectineal eminence tends to be a triangular prominence and in cross-section the pubis appears more oval, perhaps more in younger and castrated specimens.

Barton Court Farm results: Iron Age 2 female and 2 male/castrate; RB 10 female, 10 castrate, 1 male probable, with 2 female, 10 castrate, and 3 male pelves less certain; Saxon female and a male/castrate.

VI.2.3.3.3 Horse   Barton Court Farm RB: 2 female and 1 of 1st-2nd centuries, 5 castrate/male, and one possible. Both castrates and males appear represented.

VI.2.3.4 Bone measurements : estimates of sex and body size

VI.2.3.4.1 Measurements   The work of von den Driesch (1975) was published in English after this study began and most measurements are the same as those used in the Ashville report (Wilson 1978a). Measurements given in the data tables were usually taken from bones laid on an osteometric board. Usually these were laid on their posterior surfaces (mc mt ti), but those of the humerus and astragalus rested more naturally ontheir anterior surfaces. Lengths given are total lengths of bones except where specified. Distal widths are maximum widths measured with an osteometric board at 90° to the previous length posture. Cattle metapodial widths tend to be more obliquely angled than this, and these measurements were taken with sliding calipers. Where the ulna was still attached to the radius, measurement of the latter was as if it was laid on its posterior surface, and measurement error is probable. Other measurements were thought to be identical to those given by other authors mentioned in the text. Comparative site data were limited and not always known to be exactly comparable.

Results for a selection of measurements are given in Tables XVI-XXV; standard deviations were calculated where sample numbers exceeded 10. Although distributions were often skewed or bimodal, t tests of significance were done at the 5% level of significance. Consequently where the null hypothesis is rejected in the result tables, a one-tailed test of direction would also be significant: ie the parameters of one sample are significantly greater or smaller than for the other sample, with reservations in the consequent conclusions as follow in the discussion. Each major species will be dealt with separately.

VI.2.3.5 Metrical information : animal size and sex

VI.2.3.5.1 Cattle: some assumptions Howard's metapodial indices (Howard 1963) of sex determination were based on small samples and data on the indices of bulls were very limited. Further evidence confirms that indices from cow and castrated metapodials tend to overlap and a clear sexual identification from a single index (MBL or DBL) is not always possible (Grant 1975b; Hodgson 1969). Sex determination from other bones of cattle has been neglected, and so has methodology of dealing with bones of other species. British investigations also rest on contributions by Armitage & Clutton-Brock (1976), Chaplin (1971, 100-7) Grigson (1976, 1978), and Ryder (1968, 48).

A comparison of Corstopitum Camp and Kirkstall Abbey data (Hodgson 1969) indicates that a wide range of metrical distributions, skewed or not, are to be found at different sites, thereby offering considerable interpretative scope. I would consider the Corstopitum and Kirkstall samples (Hodgson 1969, 4) representative, of different kill-off patterns and possibly of the wider agricultural economy at each site. Hodgson suggests that the skewing of the distal metacarpal distribution from Corstopitum may be due to a slaughtering size preference. However, a priori it would be generally accepted that bones do not increase much if at all in size after epiphyseal fusion has occurred (c 2-3 years of age for cattle metapodials). Presumably unfused epiphyses were not measured. Thus the skewed distributions should represent many small-sized individuals of one or both sexes and some larger-sized ones instead of a large proportion of cattle 0-2 years away from skeletal maturity and a smaller proportion of older cattle.

VI.2.3.5.2 Cattle : analysis Selected ameasurements (Tables XVI and XVII) of the astragalus, tibia, and metapodials indicate the size and variability of Barton Court Farm, Upper Thames Valley, and other British samples at different periods. Local Iron Age bones often indicate significantly smaller cattle than RB and Saxon bones. A small sample from Grimthorpe and a large one from Corstopitum are exceptions.

Some results are presented in histogram form. In Figs 145 and 146 distal width measurements tend to be bimodally distributed and skewed to the left or right. Therefore results of significance tests need careful consideration. Significant differences do not necessarily imply that a species changed in size over time and more precise information is required. Comparison of sexed metatarsals (Table XVII) indicates that the lengths of castrate bones are

TABLE XVI Selected measurements of cattle bones

Length of astragalus

	n	r	x̄	s d
Iron Age				
BCF	9	56-65	60.4	-
Ash	18	53-64	58.5	3.64
UTV	27	53-64	58.3	3.29
+ BCF	36	53-65	58.8	3.32
Cro	20	55-63	57.7	2.04
Romano-British				
BCF.1-2	2	56-66	61.0	-
BCF.3-5	41	57-81	64.4	4.65
Sha	11	56-66	62.8	3.66
Saxon				
BCF	6	56-72	62.8	-
UTV	11	51-72	60.0	5.74

t tests: BCF.3-5 significantly different to all IA samples and UTV.Saxon. Shakenoak significantly different from Ashville and UTV.IA ($p \geq 0.05$)

Width of distal tibia

	n	r	x̄	s d
Iron Age				
BCF	3	52-64	57.3	-
Ash	29	49-63	54.7	3.68
Gri	10	54-64	59.0	3.08
Romano-British				
BCF.1-2	2	50-66	58.0	-
BCF.3-5	40	52-68	60.7	4.70
Sha	14	52-71	60.4	5.05
Cor	93	-	53.4	5.35
Saxon				
BCF	5	57-66	61.6	-
UTV	11	50-66	59.7	5.52

BCF.3-5, Shakenoak, Grimthorpe, and UTV Sax significantly different to Ashville and Corstopitum samples ($p \geq 0.05$).

Site abbreviations: Ash- Ashville Trading Estate; BCF- Barton Court Farm; Cor- Corstopitum camp; Cro- Croft Ambrey; Gri- Grimthorpe; Sha- Shakenoak; UTV- grouped results, Upper Thames Valley

TABLE XVII Measurements of cattle metapodials

Width of distal metacarpals

	n	r	x̄	s d
UTV.IA	12	41–62	54.20	5.93
BCF.3–5	3	46–70	60.13	6.34
Cor.RB	155	45–74	53.8	5.47
UTV.Sax	12	49–65	56.25	5.83

t tests BCF, UTV.Sax significantly different to UTV.IA and Corstopitum RB (Ho, p>0.05)

	n	r	x̄	s d
IA ♀	6	41–55	50.5	–
RB ♀	12	49–62	53.25	3.14
Sax ♀	8	49–62	54.12	–
IA ♂	2	61–62	61.5	–
RB ♂	9	59–70	63.10	–
Sax ♂	2	65	65.0	–
RB ♂	3	66–70	68.67	–

Length of metacarpals

	n	r	x̄	s d
UTV.IA	11	167–183	177.09	5.67
Cro.IA	10	162–183	171.8	4.26
BCF.3–5	18	160–211	192.72	10.42
UTV.RB	30	160–211	189.93	9.17
UTV.Sax	11	180–206	193.64	7.64

BCF.3–5, UTV.Sax significantly different to UTV.IA and Croft Ambrey (Ho p>0.05)

	n	r	x̄	s d
IA ♀	8	167–183	176.13	–
RB ♀	11	160–200	185.00	10.85
Sax ♀	8	180–206	192.50	–
IA ♂	2	175–182	178.50	–
RB ♂	9	183–202	194.36	–
Sax ♂	3	194–199	196.67	–
RB ♂	3	183–186	184.67	–

Length of metatarsals

	n	r	x̄	s d
UTV.IA	11	188–224	206.73	9.87
BCF.3–5	26	200–238	221.46	11.96
UTV.RB	32	200–238	220.94	11.54
UTV.Sax	12	213–233	225.25	6.65

BCF.3–5 UTV.RB, UTV.Sax significantly different to UTV.IA (Ho, p>0.05)

	n	r	x̄	s d
IA ♀	6	188–214	203.33	–
BCF3–5 ♀	16	200–238	215.93	11.29
RB ♀	20	200–238	216.75	11.14
Sax ♀	4	213–233	221.75	–
IA ♂	2	197–224	210.50	–
BCF3–5 ♂	10	219–237	230.30	6.12
RB ♂	11	208–237	228.73	8.52
Sax ♂	4	219–232	225.25	–
RB ♂	1	–	219	–
Sax ♂	1	–	225	–

BCF3–5 and UTV.RB ♀♀ significantly different to BCF.3–5 and UTV.RB ♂♂ (Ho: p≥0.05)

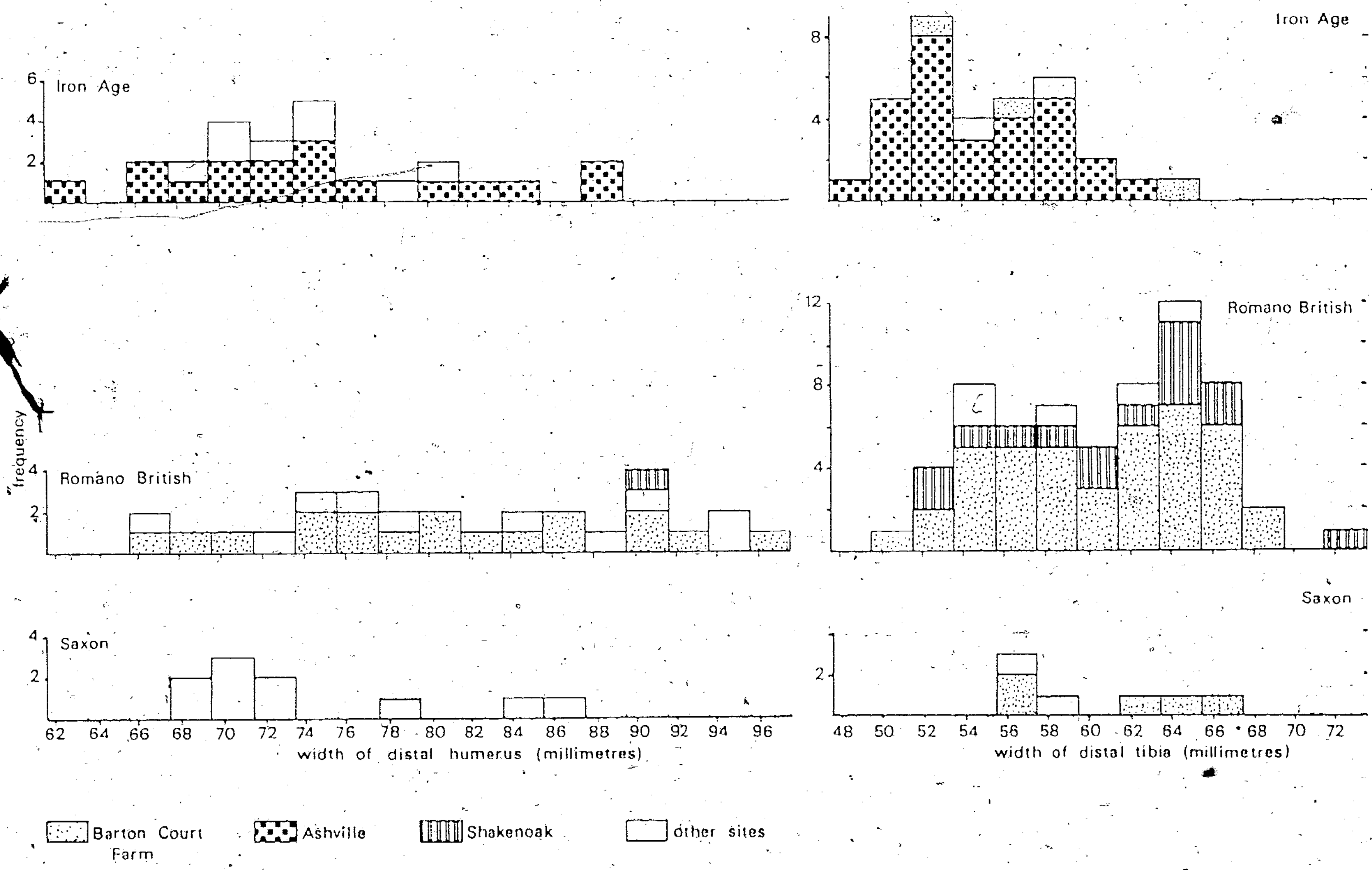


Fig 145 Histograms of distal width measurements for cattle humeri and tibiae

significantly different to, and larger than, the corresponding lengths from cows. Genuine similarities or differences of size over time therefore may be masked by divergent proportions of the sexes in site samples.

Determination of sex using metapodials followed Howard (1963) and Wilson (1978a). Indices were found outside the range given by Howard for Bos longifrons, and in some cases the overlap of the range of sexual indices led to indeterminable results. However, where one index was indeterminate and the other unambiguous, the latter was adopted. Following Higham & Message (1968) measurements of these bones and of more fragmentary distal metapodials were plotted on scattergrams and identified symbolically where the sex had been previously determined using Howard's method (Fig 146).

In general sex determinations in these scattergrams separated into two groups: females and castrates in both metapodial plots. This broadly confirms Higham & Message's assumptions and analyses of Neolithic Troldeberg bone data. It appears that there are about equal numbers of males (almost all castrated) and females in the RB and possibly the Saxon metapodial samples, whereas there seem relatively fewer male determinations for the Iron Age sample. Only one bull (Saxon) was identified among Abingdon bones and this was on a distally enlarged metatarsal (cf pathology 8: 91) from Corporation Farm. Bull metapodials are evidently present at Shakenoak Villa (Wilson 1978a, 115) and Gadebridge Park Villa (Harcourt 1974b).

Samples seemed small for multifactor analyses (eg by period) and unfortunately for methodological advances there were too few complete metacarpals to compare MBL and DBL indices with those at Porchester (Grant 1975b, 399). It was useful to graph the distal widths of the metacarpals and their sexual identities (Fig 147). Iron Age and Saxon samples tend to have more cows than castrates present whereas the reverse occurs in the RB sample. The distal metatarsal widths of the RB sample are similar in distribution, appearing bimodal, although fewer castrates are represented. Information in Fig 146 is evidence for the interpretation of the Corstopitum and Kirkstall distributions.

Although the sexing method is of doubtful validity, it does indicate that the bulk of the Corstopitum distribution is composed of cow bones rather than of castrates or bulls, and perhaps, in view of the villa results, one may query the relatively high proportion of bulls suggested in the diagrams of Kirkstall Abbey results (Ryder 1968, fig 29). However, Barton Court Farm and Upper Thames Valley distributions are intermediate between the oppositely skewed Corstopitum and Kirkstall dsitributions. Local Iron Age results

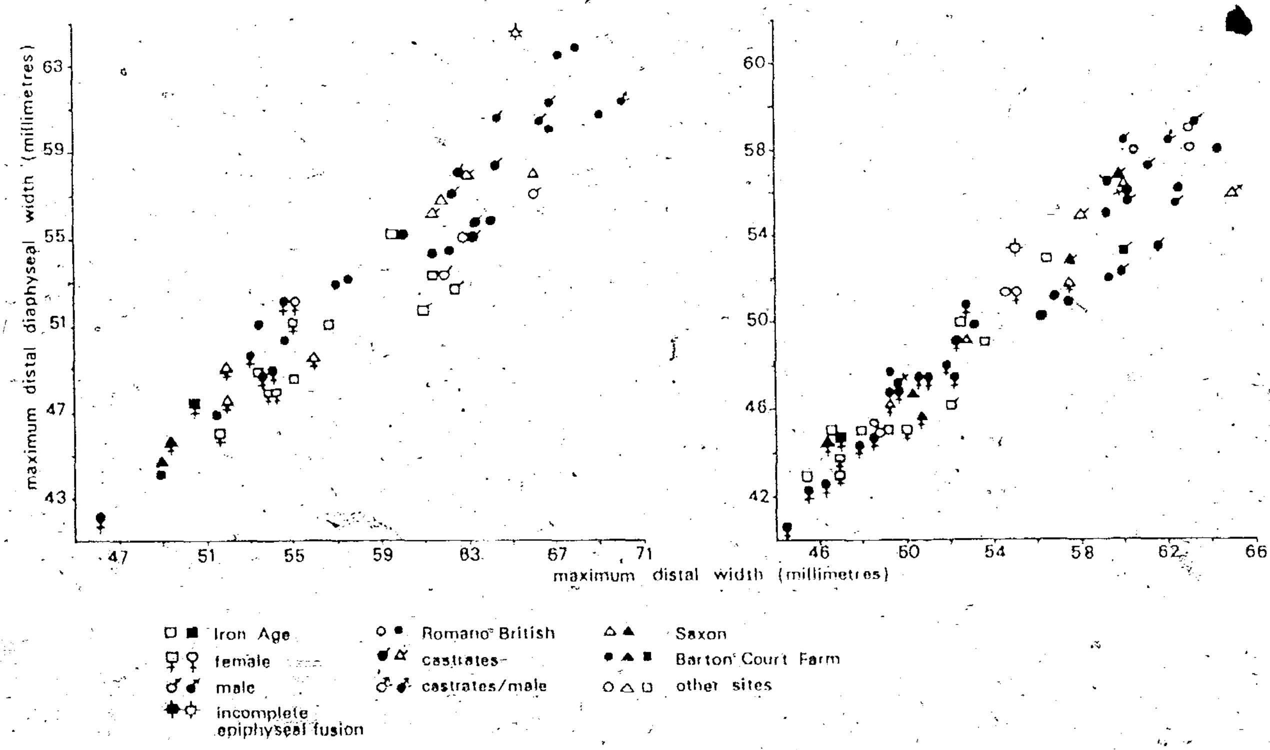


Fig 146 Scattergrams of cattle metapodial measurements from the Upper Thames Valley: metacarpals left and metartarsals right

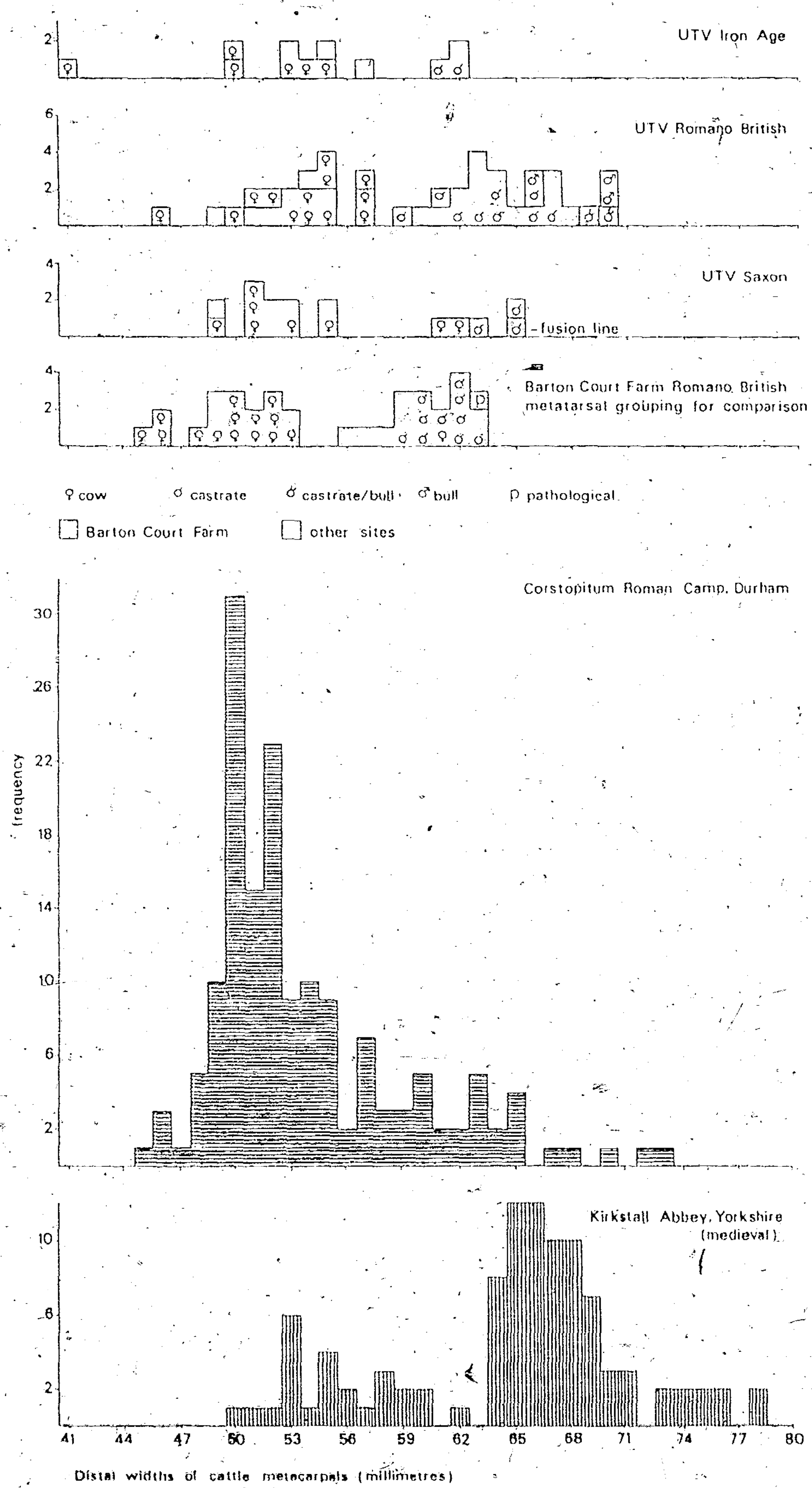


Fig 147 Histograms of distal widths for cattle metacarpals from the Upper Thames valley and elsewhere

resemble that at Corstopitum and possibly that at Glastonbury. From Abingdon results it is suggested that the distribution from Saxon Thetford (Clutton-Brock 1976, fig 9-2) is bimodal and could be interpreted as predominantly cows and castrates, rather than cows, bulls, and more numerous bullocks.

As the sexual proportions in the herd of c 3-4 year old cattle might differ from the proportions in c 2 year old cattle, a scattergram (Fig 148) was made of two measurements following Higham & Message (1968), modified by Wilson (1978a, 116). Barton Court Farm measurements divide into two groups in the RB sample : one of the intermediate-size bones (arrowed in Fig 148) is of 1st-2nd century AD date, emphasizing the size differences of the sexes in the later period. RB measurements from Appleford blur the overall distinction, perhaps representing larger cattle of each sex. As found for the metapodials, the group of smaller measurements are interpreted as cows and the more diffuse group of larger measurements as of castrates and possibly bulls. In contrast to the Iron Age scatter, more males than females are indicated by the villa sample.

From the evidence of sexual form it seems reasonable to say that the bimodal distribution of the distal tibia in Fig 145 also indicates a predominance of males in the RB sample but not in the Iron Age one. Similar trends seem to occur in the distributions of the distal humerus widths. Saxon samples are small but collectively the distal widths indicate a predominance of cows, more so at Corporation Farm than Barton Court Farm.

It appears at Barton Court Farm that male and female bones can be separated reasonably satisfactorily although a problem remains of separating bulls and castrates. Proportional presence of males and females vary considerably from site to site and, as there is a significant difference of the skeletal sizes of male and female bones in the only tested sample, the overall evidence of size changes from Iron Age to RB times (Jewell 1963) is less clear. Thus an increased proportion of males reaching metapodial maturity, as at Barton Court Farm, tends to exaggerate population size differences as indicated by significance tests on measurements of unsexed bones. Nevertheless, inspection of results suggests that specific interperiod size differences of local cattle eventually will be demonstrated properly.

TABLE XVIII Estimates of withers height for Upper Thames Valley cattle (m)

	Metacarpal			Metatarsal				
	n	r	x̄	n	r	X̄	X̄ difference	
IA ♀	8	1.00–1.10	1.056	6	1.01–1.14	1.088	-	0.032
RB ♀	11	0.96–1.20	1.110	20	1.07–1.27	1.160	-	0.050
Sax ♀	8	1.08–1.24	1.155	4	1.13–1.25	1.186	-	0.031
IA ♂	2	1.09–1.14	1.116	2	1.09–1.24	1.168	-	0.052
R-B ♂	9	1.14–1.26	1.215	11	1.15–1.32	1.269	-	0.054
Sax ♂	3	1.21–1.24	1.229	4	1.22–1.29	1.250	-	0.021

Table XVIII provides estimates of the withers heights of local cattle using the metapodial length measurements and the multiplication factors calculated by Fock (Boesneck & von den Driesch 1974, 336). Metatarsal lengths give consistently higher figures of 2-5cm, possibly reflecting a minor skeletal difference between local cattle and those used by Fock.

Local prehistoric cattle evidently stood between 0.96 and 1.32m at the shoulder: cows smaller than castrate/bulls- Iron Age cattle smaller than RB, and RB seemingly less than Saxon, these differences amounting to 5 or 10cm in height.

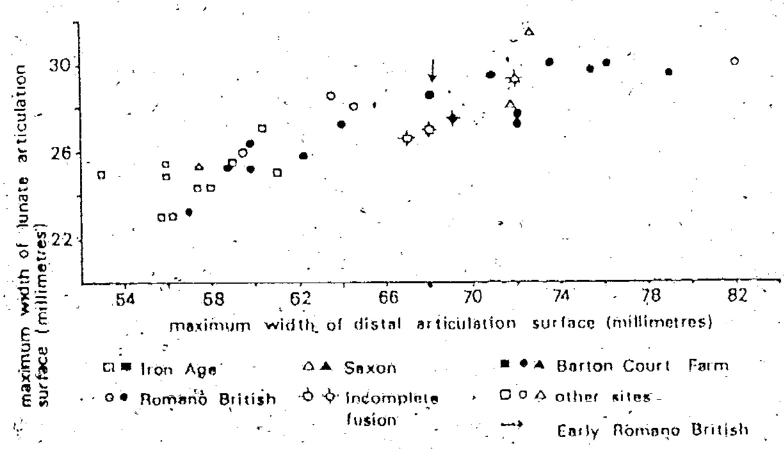


Fig 148 Scattergram of measurements for distal radii of cattle from the Upper Thames Valley

Table XIX Selected measurements of sheep bones

Width of distal humerus

	n	r	$\bar{x}$	s d
Ash.IA	30	23-32	26.3	1.76
UTV.IA	39	23-32	26.28	1.67
BCF.3-5	9	25-33	28.89	-
UTV.RB	14	23-33	28.71	2.67
BCF.Sax	5	25-32	28.0	-

t tests: UTV.RB significantly different to UTV.IA (p>.05)

Width of distal tibia

	n	r	$\bar{x}$	s d
Ash.IA	18	21-25	22.5	0.86
UTV.IA	24	20-25	22.5	1.14
BCF.1-2	1	20	20	-
BCF.3-5	38	20-31	24.47	2.11
Sha	11	24-27	25.09	1.04
UTV.RB	56	20-31	24.66	1.98
BCF.Sax	12	23-30	25.67	2.06
UTV	14	23-30	25.5	2.10
NEl	74	22-28	25.84	1.43
Sed	29	22-28	25.24	1.55

Saxon and RB Samples significantly different to Iron Age (p>.05) North Elmham significantly different to UTV and BCF RB

Site abbreviations: see Table XVI : NEl, North Elmham; Sed, Sedgeford.

Width of distal metacarpal

	n	r	$\bar{x}$	s d
UTV.IA	16	19-24	22.25	1.39
BCF.1-2	1	22	22	-
BCF.3-5	13	21-30	24.0	2.31
BCF.Sax	4	22-26	24.0	-

t test: BCF.3-5 significantly different to UTV.IA (H1 only, p>.05)

Width or metatarsal

	n	r	$\bar{x}$	s d
UTV.IA	13	19-23	21.31	1.18
BCF.3-5	9	20-28	22.89	-
UTV.RB	13	20-28	22.69	1.89
BCF.Sax	2	22-23	25.5	-

t tests: UTV.RB and IA samples signifcantly different (p>.05)

metacarpal lengths (mm)

	n	r	$\bar{x}$	s d
UTV.IA	8	109-134	121.0	-
UTV.RB	10	112-136*	123.1	6.01
UTV.Sax	5	115-132	126.2	-

metatarsal lengths (mm)

	n	r	$\bar{x}$	s d
UTV.IA	9	122-141	133.11	-
UTV.RB	11	119-148*	134.3	8.22
BCF.Sax	2	130-133	131.5	-

* Extreme metapodials from male/castrate 833 fiche.

VI.2.3.5.3 Sheep Metacarpal measurements following Payne (1969) were taken to indicate the presence of any goat remains. Figure 149 plots Barton Court Farm and medieval Abingdon data. Goats are not obvipis;u represented in these small samples in spite of a slight overlap of a possible sheep/goat separation line suggested by Payne.

Other measurements taken (Table XIV) are similar to those of cattle bones, although examination of sexual form was limited. Metapodial and upper limb bone lengths (IA ra 144; RB hu 140 ra 133 ti 192; Sax ra 152, 154 mm) are too few to compare adequately, but *t* tests of distal width distributions indicate that RB and Saxon sheep were more robust than Iron Age sheep. Testing, however, did not allow for sexual differences.

Left-side skewing to Fig 150 is most noticeable in Iron Age samples and probably less in RB and Saxon samples, although some samples are rather small. Nevertheless, if the peaks of these bimodal distributions are considered, there are 1-2mm shifts between likely male and between likely female peaks from Iron Age to RB samples. In measurements of this size these differences at least approach significance.

TABLE XX Estimates of withers heights of Upper Thames Valley sheep (m)

	Metacarpals			Metatarsals		
	n	r	$\bar{X}$	n	r	$\bar{X}$
Iron Age	8	0.53-0.66	0.59	9	0.55-0.64	0.60
RB	10	0.55-0.67	0.60	10	0.54-0.67	0.61
Saxon	5	0.56-0.66	0.62	2	0.59-0.60	0.60

Barton Court Farm sheep stood around 0.6m shoulder height. The differences in average height at these periods (Table XX: Teichert 1975) seems to amount to a few centimetres, but calculations from metapodial dimensions may underestimate any changes in body proportions (Hammond 1932)

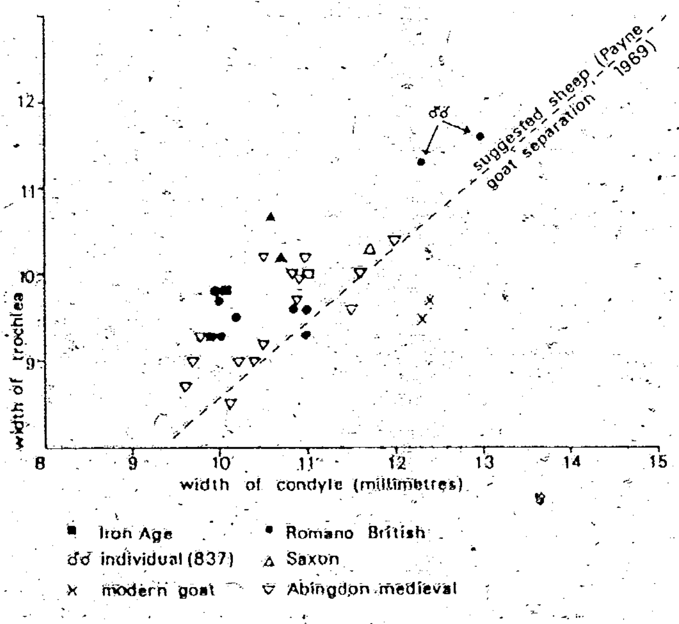


Fig 149 Scattergram of lateral condyle measurements of sheep or goat metacarpals

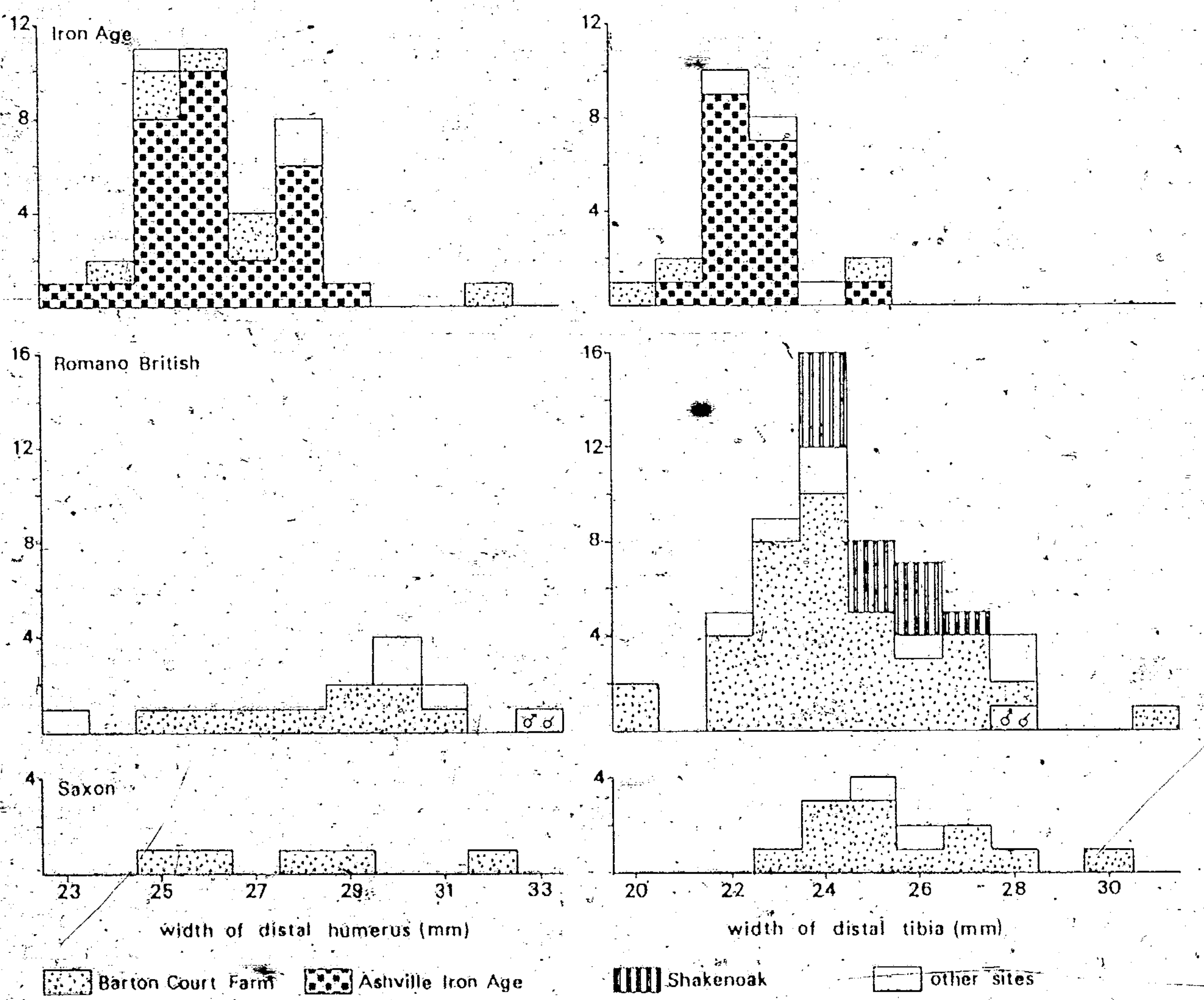


Fig 150 Histograms of distal widths of sheep humeri and tibiae

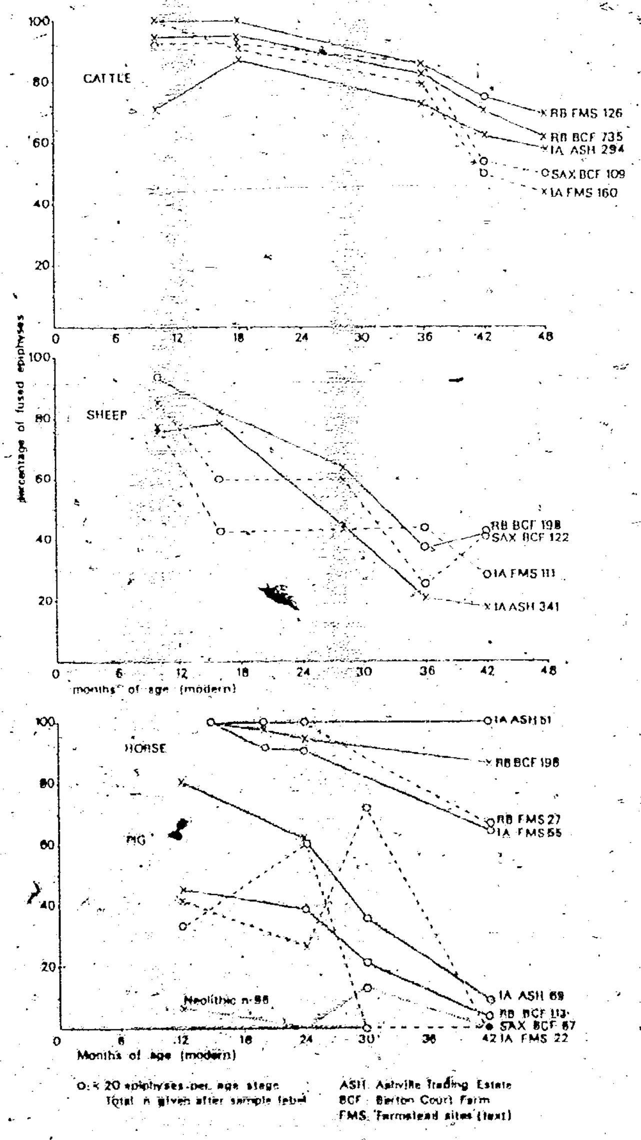


Fig 151. Kill-off patterns from grouped epiphysial fusion data for each species at different periods

TABLE XXI Selected measurements of horse bones

Length* of metacarpal

	n	r	X
Iron Age			
BCF	1	196	196
UTV	7	181-231	199.0
Romano-British			
BCF.1-2	2	198-200	199.00
BCF.3-5	6	201-227	214.33
UTV	9	198-227	212.33
Tri	8	205-217	210.9
UTV Sax	1	218	218.0
Length of radius			
UTV.IA	2	313-329	321.0
BCF.1-2	2	296-299	297.5
BCF.3-5	8	313-353	335.13

Length of metatarsal

	n	r	X	s d
Iron Age				
BCF	2	242-276	259.00	
UTV	7	223-276	247.28	
Romano-British				
BCF.1-2	2	232-238	235.0	
BCF.3-5	6	260-282	267.67	
UTV	15	233-287	258.80	16.28
Tri	8	245-260	252.3	
BCF Sax	1	275	275.0	
Width of distal tibia				
Ash.IA	8	58-67	62.63	
BCF.IA	4	50-71	62.00	
BCF.1-2	3	60-61	60.33	
BCF.1-2	10	57-73	67.70	5.26
BCF.Sax	2	71-82	76.5	

Abbreviations: see Table XVI - Tri = Tripontium

Length given is total length, not Kiesewalter measurements.

TABLE XXII Estimated withers heights of horses (m)

	From metacarpal			From metatarsal		
	n	r	$\overline{X}$	n	r	$\overline{X}$
Barton Court Farm						
Iron Age	1	1.21	1.21	2	1.26-1.43	1.35
RB 1-2	2	1.22-1.23	1.23	2	1.19-1.22	1.21
RB 3-5	5	1.26-1.39	1.31	6	1.33-1.46	1.38
Saxon	-	-	-	1	1.43	1.43
Upper Thames Valley						
Iron Age	5	1.21-1.42	1.29	5	1.20-1.43	1.29
RB	9	1.22-1.41	1.30	11	1.22-1.48	1.37

VI.2.3.5.4 Horse Measurements in Table XXI indicate a general size increase from Iron Age to RB periods, more noticeably at Barton Court Farm than in Upper Thames Valley data, which only show an average size increase of 1-7cm in withers heights (Table XXII). Ten Barton Court Farm RB distal tibia measurements indicate a bimodal distribution with a right side (? male) skew.

VI.2.3.5.5 Pig Possibly a size decrease in the length of M3 in RB and Saxon samples, although there is wider variation elsewhere: eg Fishbourne (Table XXIII). Wild pig may be represented by an exceptionally large RB 14 tusk (170mm on the outer curvature, 18.5mm in dorsal width 832 cv. 13.2, 12.5 RB and 12.9 Sax elsewhere, Barton Court Farm cf Gebbles 1974, photo). A few other bone measurements indicate relatively robust pigs in the Upper Thames Valley, perhaps especially in the RB period.

VI.2.3.5.6 Dog There were few complete bones, but the range given of the widths of humeri and tibiae confirms Harcourt's findings (1974a) of the variability of RB dogs. Table XXIV also indicates a decrease in the size of the carnasial M1 cf Harcourt (tables 9-11), but no significance is attached to this.

Estimated shoulder heights range from 0.24 to 0.60m, the latter from a tibia of 79mm in length (m.s.d. index 10.0, dw 13mm 712) slightly smaller than recorded by Harcourt (Table 11). A humerus of comparable size (dw 20mm) was recovered from the farmhouse cellar 295, as were two other bones indicating a dog of 0.31-0.33m. These are not fox bones.

TABLE XXIII Selected measurements of pig bones (mm)

Length of 3rd molar

	n	r	$\bar{X}$	s d
Dur. Neo	25	31-38	-	-
UTV.IA	9	30-35	31.9	-
BCF.RB	9	29-35	30.6	-
Fis. RB	53	28-44*	c33.0	2.8
BCF Sax	9	26-33	29.2	-

* wild pig?

Width of distal humerus

	n	r	$\bar{X}$
Dur. Neo	122	27-35	-
UTV. IA	5	36	36.0
Cro. IA	14	25-40	32.1
BCF. RB	2	39-40	39.5

Width of distal tibia

	n	r	$\bar{X}$
Dur. Neo	22+	21-25	-
UTV. IA	8	25-30	26.9
BCF. RB	2	31-37	34.0
BCF. Sax	3	30-32	31.0

TABLE XXIV Measurements of dog bones (mm)

Length of mandible M1

	n	r	$\bar{X}$
BCF. IA	8	20-26	22.8
BCF. RB	7	16-24	19.

Width of distal humerus

	n	r	$\bar{X}$	s d
UTV. IA	7	28-34	31.0	-
BCF. RB	12	20-40	31.5	6.33

Width of distal tibia

	n	r	$\bar{x}$
BCF. RB	8	13-26	20.8

VI.2.3.5.7 Red deer few measurements are given in Table XXV.

TABLE XXV Measurements of red deer bones (mm)

			n	r	$\bar{X}$
ra	length	Sax	1	306	306.0
mc	"	RB	2	256-275	265.5
ca	"	RB	2	116-120	118.0
ti	dw	RB	3	47-52	48.7
mc	"	RB	3	39-44	42.3

VI.2.3.5.8 <u>Breeds, introductions, and genetic change</u> Dogs have by far the greatest size variability of all the domestic mammals at Barton Court Farm: one dog may be twice the height of another, yet there has been no generally accepted differentiation of prehistoric breeds of this species. Some dogs, particularly small ones, must have been Roman introductions to the region. The same conclusion applies to polled sheep. These characters are the most obvious signs of genetic change in the Iron Age to RB periods. Possibly there are changes in the length of cattle horns.

Overall the impression is of genetic variability in species rather than the presence of particular animal breeds. Already differences of sex, not breed, have been attributed to the bimodal distributions of animal bone measurements. The general size increase of RB animals may be produced by improvements in animal husbandry in addition to other causes such as hybrid vigour.

VI.2.3.6 <u>Age estimates: slaughtering patterns</u>

VI.2.3.6.1 <u>Epiphyseal fusion data</u> Data were recorded as previously (Wilson 1978a, 113-5). Details of the RB samples are given in Table XXVI. Percentages of overall fusion data in species samples at different periods are given in Table XXVII.

<u>TABLE XXVI</u> Epiphyseal fusion record from RB sample

	Cattle		Sheep		Pig		Horse		Dog	
	f	u	f	u	f	u	f	u	f	u
sc	64	4	4	–	7	7	23	–	1	2
pe	69	3	12	1	9	2	23	–	2	2
d.hu	56	1	15	–	3	12	6	–	9	1
p.ra	64	5	13	2	3	7	18	1	2	1
1st ph	81	4	19	4	1	–	24	–	)	
2nd ph	24	–		–	1	–	7	–	)	nc
d.mc	32	8	8	13	2	8	15	–	)	
d.ti	55	7	42	6	4	3	12	2	4	–
d.mt	37	11	10	14	1	9	15	–	)	nc
ol,ul	3	7	5	4	1	5	2	1	3	1
ca	17	6	–	1	2	2	5	1	2	–
p.fe	21	10	1	5	–	4	3	1	1	1
d.ra	22	11	2	4	–	6	16	2	1	1
p.hu	27	12	–	3	–	11	3	–	1	1
d.fe	19	16	4	1	–	1	6	1	1	2
p.ti	25	14	2	3	–	2	10	1	3	–
	616	119	137	61	34	79	188	10	30	12

f fused epiphyses
u unfused epiphyses

VI.2.3.6.2 Sheep mandibles Eruption and wear among the sheep mandible samples was recorded using the diagrammatic method of Payne and classified according to the methods of Payne (1973) and Grant (1975a). Lack of a m3/P4 did not necessarily exclude a mandible (Payne 1973, table 1), but each sample was examined to see whether parts of any mandible had been counted twice. Note that previously (Wilson 1978a) I denoted milk teeth by p, not m. Some difficulty occurred in relating wear stages proposed by Grant to teeth (cf Hamilton 1978) and these stage schemata require some revision for local material.

Table XXVIII and Fig 153 show the results. The Iron Age and part of the RB sample was examined previously by Hamilton (1978, fig 80 and table XXXVI) and it will be seen that there are differences in the results. Paynes (pers comm, 1978) has examined the Ashville mandibles and found differences with the results obtained by Hamilton. These differences are more evident in the classification of F and G age stages (Hamilton 1982).

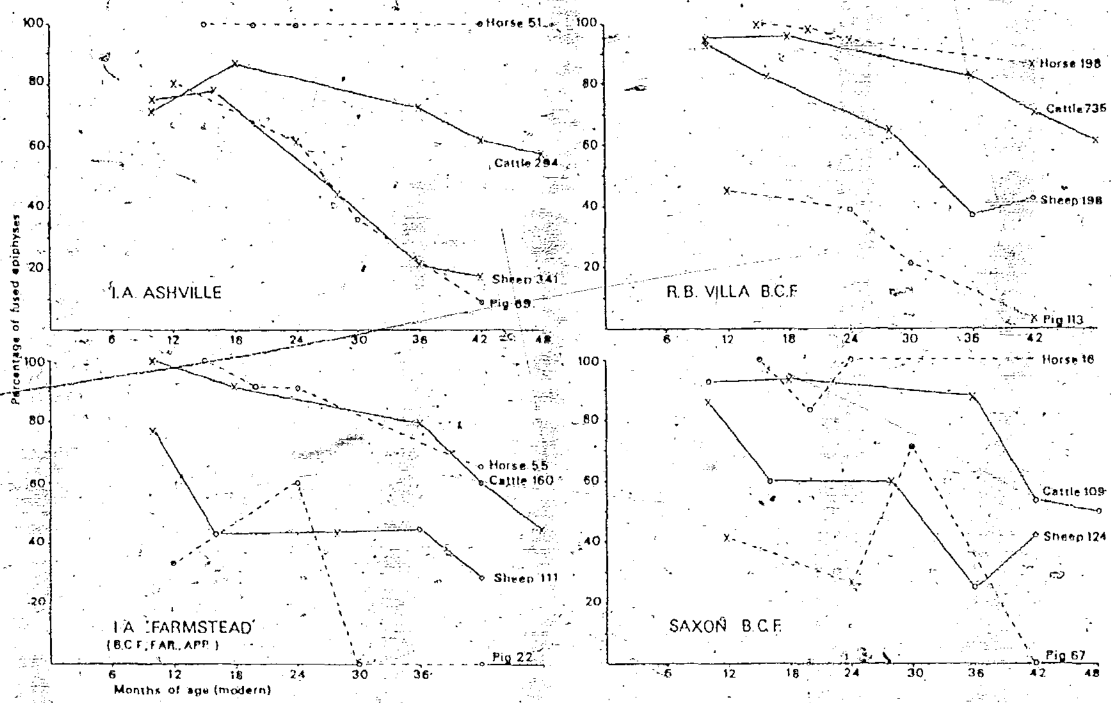
TABLE XXVII Percentages of fused epiphyses

		Neo	Iron Age	RB 1-2	RB 3-4	RB 4-5	all RB	Saxon
Cattle	n	3	57	41	581	133	735	109
% fused		67	74(79,74)	95	82	90	84(89)	84
Sheep	n	14	62	13	163	22	198	124
% fused		29	58(54,53)	85	68	73	69	68
Pig	n	13(96)	16	8	105	7	113	67
% fused		23(3)	31(25,27)	75	24	57	30	43
Horse	n	-	27	29	143	26	198	16
% fused		-	93(85,100)	100	94	96	95(91)	94

Percentages in brackets are respectively for 'farmstead' sites Farmoor (Wilson 1979a), Appleford (Wilson 1980b), and Barton Court Farm, together, and Ashville (Iron Age), and for Appleford and Farmoor combined (RB). The bracketed figure for the Neolithic includes epiphyses of piglets in 544.

Graphs are drawn of the same data grouped into age stages of epiphysial fusion for each species at different periods (Fig 151) and of these fusion age stages for different species at each period (Fig 152).

The slaughtering pattern of each species is distinctive: period samples also show some variation. Compared to the RB period, the greatest differences are the slaughtering of younger cattle and sheep during the Iron Age and Saxon periods.



• <20 epiphyses per age stage (Total number given after each species.)

Fig 152 Kill-off patterns from grouped epiphysial fusion data for different species at each period

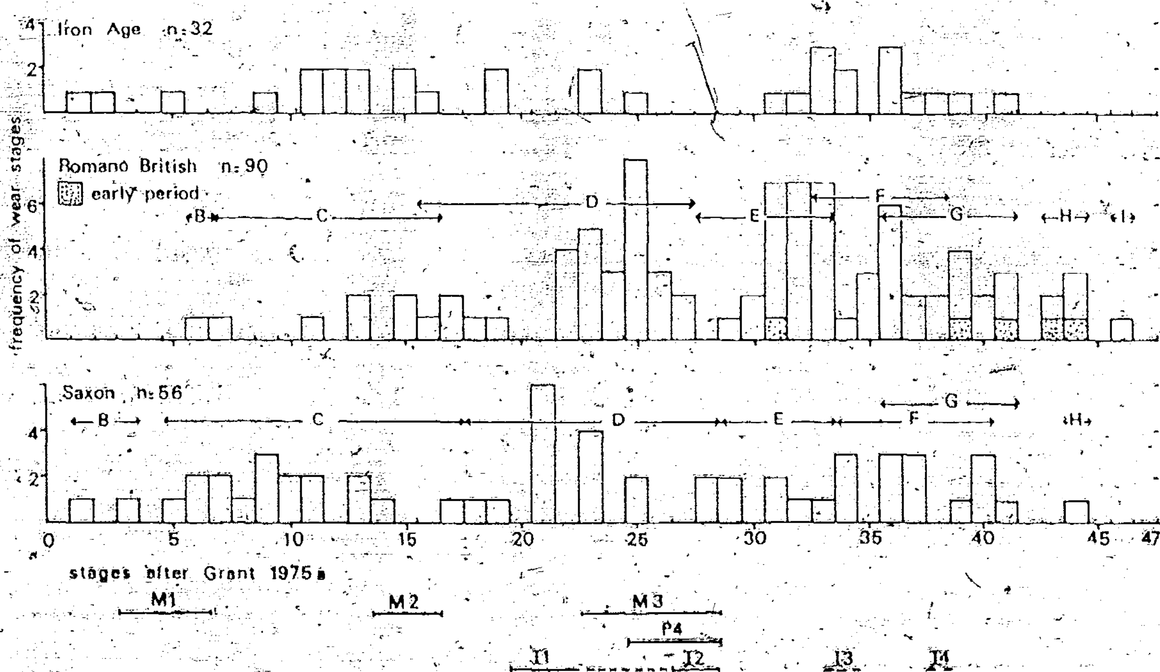


Fig 153 Tooth eruption and wear stages of sheep mandibles

Table XXVIII Stage distribution of sheep mandibles - stages according to Payne (1973).

Stage	Suggested age	Iron Age no	Iron Age %	RB no	RB %	Saxon no	Saxon %
A	0-2mths	1.0	2.6	-	0.0	1.0	1.6
B	2-6	2.0	5.3	1.2	1.5	3.0	4.7
C	6-12	10.7	28.1	5.8	5.8	15.1	23.6
D	1-2yrs	6.1	15.9	30.2	30.2	19.7	30.7
E	2-3	6.2	16.4	28.2	28.2	6.6	10.3
F	3-4	4.1	10.8	11.8	11.8	11.7	18.2
G	4-6	7.9	20.9	17.3	17.3	4.8	7.5
H	6-8	-	-	3.3	3.3	1.2	1.9
I	8-10	-	-	2.2	2.2	1.0	1.6
Total		38.0	100.0	100.0	100.0	64.1	100.1

VI.2.3.6.3 Discussion In Fig 153, while wear stages A-E are moderately consistent with wear stages 0-33 of Grant, stages F-G overlap each other considerably over stages 33-41 of Grant (cf Hamilton 1978, fig 80). In Fig VI/118 the eruption of molar teeth and P4 resembles Hamilton's staging (ibid). A small number of mandibles retained a moderately complete incisor region and occasionally contained an unerupted incisor tooth. A scheme of likely eruption dates is given, although variation from period to period is uncertain. This scheme may be complicated by cases of possible incisor eruption delay (see the ewe skeleton 709); M2s are erupted and tooth wear appears relatively greater than on comparable mandibles.

The apparent eruption of the second incisor, P4, and M3 around the same time is consistent with the sequence given by the data of Silver (1969, table E) for modern sheep; these teeth erupt in the 18-24 month period. This conjunction of tooth eruptions is less consistent with the 1790 data. Also, the first incisor appears after the eruption of the second maolar, again consistent with modern sheep and inconsistent with 1790 data, although possibly development was more similar in Iron Age sheep. 18th century figures therefore appear unreliable; so are those of Kreuzer (quoted by Levitan, table V 1977). The slight skeletal evidence from Ashville of this data being appropriate (Wilson 1978a, 124) should now be regarded as inconclusive (Wilson, in preparation).

Stages B-D and particularly D, of Payne suits the eruption evidence in Fig 153, but even if there were sufficient incisor remains later stages of incisor development seem difficult to relate until tooth wear schemes are made more comparable. In addition, there appear to be shifts in what may be similar peak frequencies at different periods in Fig 153 (and also in Hamilton 1978, fig 80) and tooth attrition may be greater in the earlier cultural periods. As the time spans of Grant's stages are not known, the peaking may be illusory, eg being accumulations of a steady slaughtering rate at periods of no eruption and slow wear change. Alternatively, if Payne's ages are correct, there may be autumnal-winter peaks.

At Barton Court Farm the Iron Age and Saxon samples have greater proportions of young sheep in the kill-off patterns. The Iron Age pattern is confirmed at Ashville (Hamilton 1978) and possibly the Saxon at Corporation Farm, Abingdon (Carter, unpublished). Survival of lamb mandibles is likely to be worst in the RB sample, but whether this is significant is unknown.

Comparable villa samples are almost non-existent. Fishbourne (Grant 1971, 384), a rather different villa had a higher proportion of young sheep than Barton Court Farm, while Gatcombe (Hall 1977) may have had fewer. RB town samples are sparse, too : small samples from Towcester (Payne 1980) and Cirencester (King 1975, a villa sample?) are more similar to Fishbourne, while results from Dorchester on Thames (Grant 1978; unpublished) are not useful here. Two Roman forts, Portchester (Fig 154; also Grant 1975b, 397) and Vindolanda (Hodgson 1977, table 6), have relatively high percentages of young sheep bones; to a lesser extent there is Corstopitum camp, which, however, appears not greatly different to Iron Age Catcote (Godgson 1968, 140). High proportions of young animals might be expected at Roman forts, but these samples are too distant to be used as evidence of marketing of sheep from Barton Court Farm!

The Saxon sample from Portchester (Grant 1976, 278) also differs from that at Barton Court Farm, although similar distributions of mandibles occurred at Wicken Bonhunt (Levitan 1977 fig 27) and at Sedgeford. Noth Elmham (Noddle, cited by Clutton-Brock 1976, 382) may be comparable to Portchester; as both tend to date toward the later Saxon period theser indicate changes, if not diversity, of the Saxon economy.

Samples with greater proportions of older sheep are attributed to husbandry of flocks for wool production (Payne 1973). This indicates the samples from middle-late Saxon/Porchester and Barton Court Farm RB villa as emphasizing wool production. However, the villa distribution resembles the

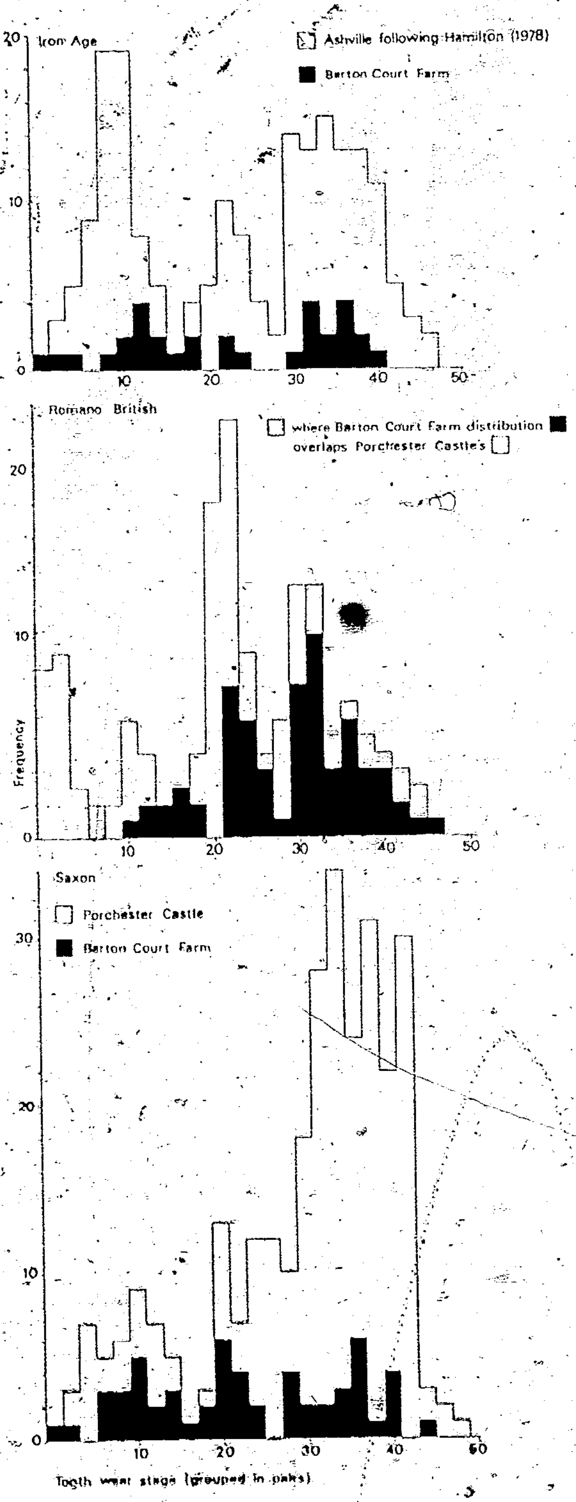


Fig 154 Comparisons of age stage distributions of sheep mandibles from Barton Court Farm, Ashville, and Portchester Castle

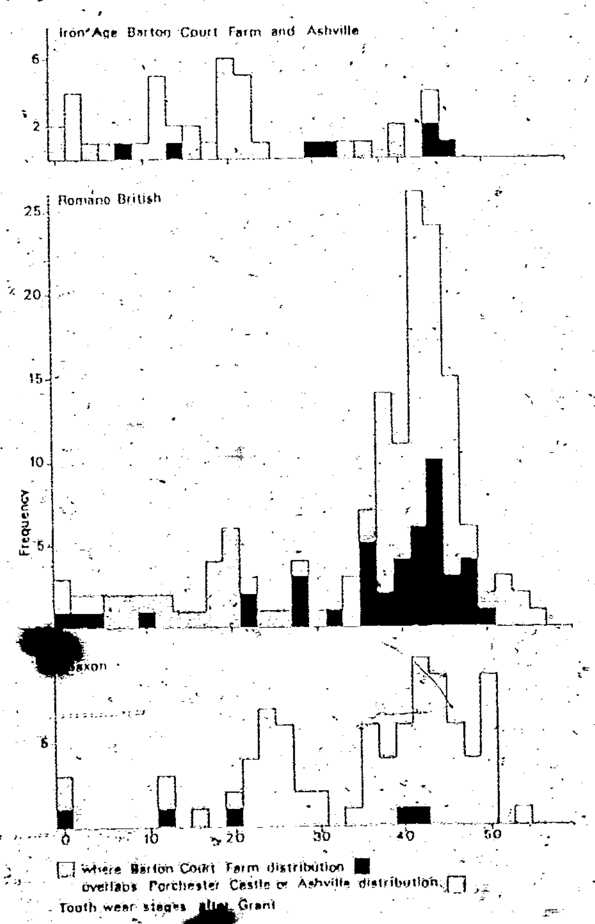


Fig 156 Comparisons of age stage distributions of cattle mandibles at Barton Court Farm, Ashville, and Portchester Castle

kill-off pattern of meat production hypothesized by Payne (1973 fig 1-3). One must also bear in mind the possibility that young RB sheep were killed and eaten away from the villa, but this is difficult to allow for.

VI.2.3.6.4 Cattle mandibles Age data were classified following Grant (1975a) with some approximations where wear stages of individual teeth did not match the lettered stages given. Results with estimates of tooth eruption timing are given in Fig 155.

Eruption periods of molar teeth are similar to those of Hamilton (1978, fig 81) but slightly later than M3 given by Grant (1976, fig 149: methodology?). Although the eruption evidence is slender, it suits the eruption sequence dictated by permanent tooth eruption of modern breeds and not that dictated by the data of 19th century stock (Silver 1963, table D). In particular I1 does not erupt before M2, neither I2 at the same time as M2, nor P4 before M3, as the 19th century figures determine. If early and late eruption data of permanent teeth of modern breeds are compared, eruption timing is more similar where later eruption dates are used.

One outcome is that, if the the eruption period of I4 is confirmed, and it is to be regarded as an indicator of cattle which have matured skeletally (c 36-54, perhaps 48 months of age), some 14-27% of cattle were killed at this stage or soon after. However, Grant's late stage wear patterns do not adequately discriminate the varied attrition on the molars, and some of this percentage may be considerably older than indicated in Fig 153.

The Iron Age and part of the RB sample were examined by Hamilton (1978, fig 81), differences being noted, but the overall results are similar. Figure 156 compares Barton Court Farm data with those from Ashville and Portchester (Grant 1975b, fig 203; 1976, fig 149). Although the Barton Court Farm Saxon sample probably under-represents the presence of older cattle, it appears that Barton Court Farm has greater proportions of younger cattle in RB and Saxon samples where compared to those at Portchester (Fig 156). However, Iron Age samples have the highest proportions of young animals slaughtered. A similar difference between the Iron Age and RB periods was observed between the Catcote and Corstopitum samples (Hodgson 1968, 130).

Probably greater proportions of older cattle were killed at Shakenoak (Cram 1973, table 1) and Gatcombe (Hall 1977), but smaller proportions at Fishbourne (Grant 1971, 385). There is little evidence of a considerable supply of young cattle to towns (eg Towcester: Payne 1980) or military centres (eg Corstopitum or Portchester), nor of Barton Court Farm cattle being sent

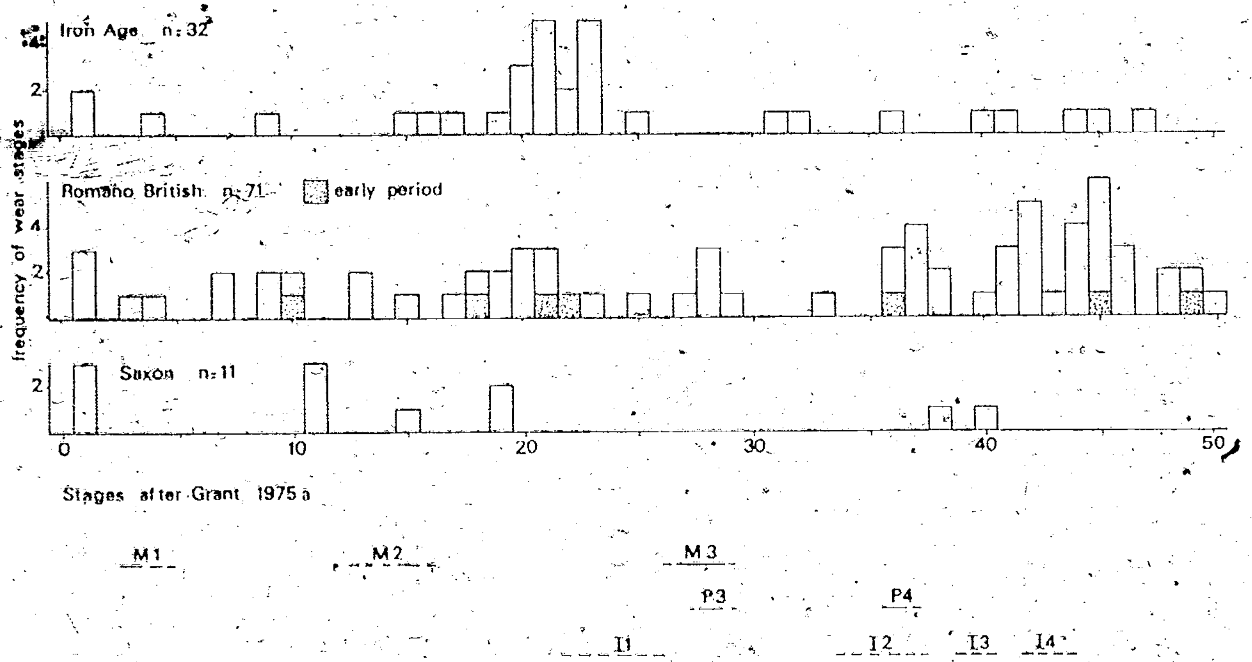


Fig 155 Tooth eruption and wear stages of cattle mandibles

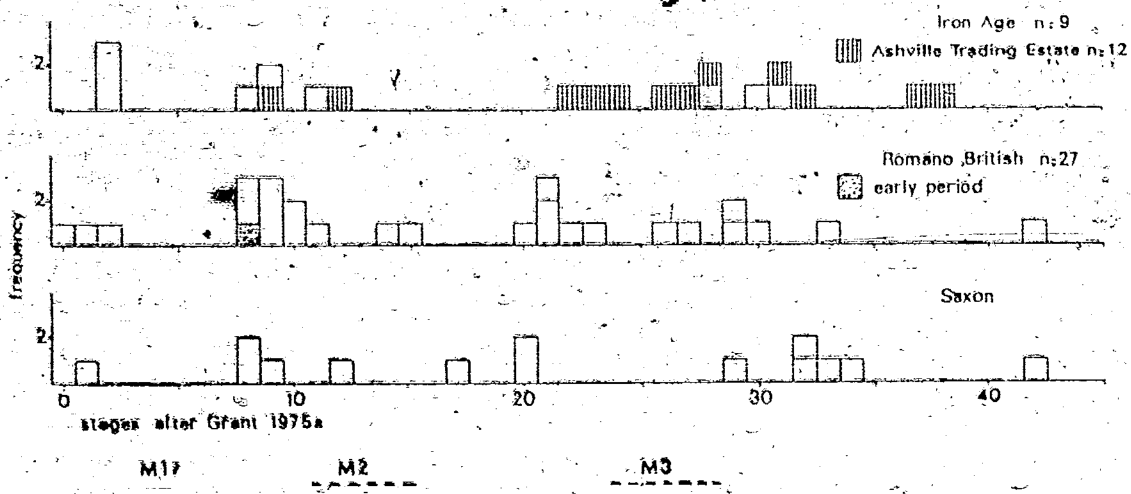


Fig 157 Tooth eruption and wear stages of pig mandibles

away in quantity. Unfortunately bone debris from Dorchester on Thames (Grant 1978; unpublished) is less helpful, indicating the presence of mainly older cattle in principally Saxon debris or RB-Saxon debris of disputable date.

VI.2.3.6.5. Pig mandibles Eruption and wear data were recorded and classified after Grant (1975a) for Barton Court Farm and Ashville mandibles, although again there were difficulties with the schemata of tooth-wear stages. The mandibles were more fragmented from butchery than those of sheep or cattle, and incisor and molar eruption could not be related. M3 seems to erupt later at Barton Court Farm than recorded at Porchester (Grant 1975b, fig 205) when the staged mandibles are compared (Fig 157), but this effect may be produced by wear assessment differences or by a difference in wear intensity at the two sites.

Little difference between periods is noticeable at Barton Court Farm, although a higher proportion of Ashville mandibles are from older pigs. In general pigs seem killed relatively younger than at RB and especially Saxon Porchester (Grant 1975b, fig 205; 1976, fig 151).

VI.2.3.6.6. Horse mandibles Using Silver (1969, 291-4), mandible symphyses gave age estimates of 4½ and 9 years (RB) and 5 years (Saxon). Three of four other RB mandibles indicate ages of over 3 years, the 4th 2-3 years of age, and a Saxon mandible 15-24 months. A mare's skull (lacking canines, Saxon 1023) ages at 12 years if fusion of the parieto-squamosal suture is used.

VI.2.3.6.7 Dog mandibles Immature mandibles (M2 erupting or earlier: 6 months): 1/6 IA, 1/13 RB; no Saxon mandibles except 1241 (8: B10).

VI.2.3.7 Pathology Bob Wilson with Ralph Harcourt

VI.2.3.7.1 Anomalies and lesions of mouth and teeth: dental aberrations
In 'sheep' the presence of an accessory pillar on m3 was noted in 2 RB and 1 Saxon mandibles. Payne found another in the Ashville sample and suggested (pers comm, 1977) that it might be specific for goat. In a Saxon mandible (1023) and additional posterior column on M2 contributed to the displacement of the tooth laterally (mesio-labially) and M3 medially (mesio-lingually). Less marked displacement for these teeth occurs in two other Saxon mandibles (all stage F or later). Two M3 third cusps were notably reduced in size, but this cusp seems variable in size anyway. In cattle the presence of accessory

pillars on M3 varies, sometimes being absent or considerably reduced, thus affecting age assessments of Grant (1975a). One dog, mandible has an additional tooth 2mm dia, behind the M3 (917).

Tooth loss or damage Occasionally P2 is absent from mandibles: sheep 2/11 2/32, and 1/17 for Iron Age, RB, and Saxon samples; cattle 0/9 3/26 and 0/8. P3 is absent in 1/35 RB sheep mandibles. In dog 2 P1s and 1 P2 have been lost from 13 mandibles (all periods), while in 2/19 foremandibles the 4th incisor or canine is broken out and the alveolar bone is restructured.

Also permanent incisor I1-3 loss occurs at least twice in dog mandibles. Periodontal disease caused further tooth loss except in dogs.

Periodontal disease Data collected prior to consideration of methodology of Levitan (1977). Incidence in moderately complete sheep mandibles is 1/43 Iron Age, 3/92 RB, and 3/63 of Saxon sample, mild infections probably not considered properly. The severer infections, with one exception, occur on mandibles of age stage G or later. P4 and M1 are lost from 2 Saxon and 1 RB mandibles: P4 in one from each period, and M2 from one RB mandible. In one Saxon specimen of stage F (618) the mandible is enlarged to 18mm in breadth, in part, by the lateral mesiolabial) rotation of M1 in the affected area. The ventral mandible is pitted and perforated by bone reabsorption and redeposition, perhaps draining an abcess. P4 and M1 are missing possibly around the time of death as no bone restructuring of the alveoli (cf Levitan 1977, pl 8) occurred.

In cattle 5/59 RB mandibles are affected in the region of P4- M1, but none of 32 Iron Age and 11 Saxon mandibles. In pig mandibles 1/14 Saxon is noticeably affected without tooth loss, and 1/21 RB has marked thickening of the mandible in the region of M1-2 without obvious signs of disease. None of 20 Iron Age mandibles were affected. Another Saxon pig mandible contains a spongy bone deposit to 8mm deep lining the medullary cavity of the forejaw, perhaps from some suppurative process, possibly (Harcourt, pers comm) osteomyelitis.

VI.2.3.7.2 Osteoarthropathy This category may include inflammatory or non-inflammatory diseases of joints. The inflammatory type is often but not necessarily associated with infection. The non-inflammatory form, known as osteoarthrosis, is caused, according to the current consensus, mainly by degeneration of the cartilage brought about by repeated minor trauma. In its later stages there can be some inflammatory reaction (Harcourt, pers comm).

Mandible i. Condylar joint surface pitted indicative of faulty articulation : cattle jaw (832).

Vertebrae ii. Cattle 7th cervical vertebra with posterior articular face pitted and polished by movement against next vertebra. Two lesions to depth of 10mm on ventral part of articular face (Plate 1b, 609). Most unusually, the neural spine is detached and lost from the vertebral body but was present in the living animal. Nearly all these observations have been disputed, but the species, the skeletal element, and the pathological absence of the neural spine is confirmed by Dr P Armitage (British Museum).

iii. Anterior articulation surface (75mm long) of cattle sacrum with pitting and eburnated by movement against anterior vertebra (Plate 1c, 363, early RB).

iv. 10th and 11th thoracic vertebrae of horse backbone fused together at dorsal articulation on RHS (Plate 1a, 543, RB). ?12-14th and probably 9th vertebrae are slightly enlarged by bone growth on the RHS at the same articulation. Harcourt (pers comm 1975) says this is ankylosing spondylosis and it may be associated with calcification of the intervertebral ligaments. It 'can be age-related ... but injury, a wound, a blow, infection can all be implicated. I would regard a fall as less likely'.

v. Slight periarticular osteophytes (or lipping) of thoracic vertebra of horse (1243) and of lumbar vertebra of dog (690).

Shoulder joint vi. Pig scapula with ventral surface of neck having smooth bony deposit 3mm thick from edge of glenoid cavity to vascular groove. Possibly deposited under joint capsule (IA 5).

Hock joint (vii-viii) vii. Navicular cuboid of cattle (male?) with slight exostoses (382). Another (cow?) showing fusion tendency with cuneiform (802) which is completed in another (castrate? 708). Less than 1 in 40 cattle metatarsals affected by fusion in hock joint (cf viii), although an additional unstratified metatarsal was affected.

viii. Two examples of central and fourth tarsal bones of horse in process of fusion, one (early?) with pitting and redeposition (690) and another with (later?) interdigitating growth (543). One example of these bones completely fused together (709). Two examples of the above, and two other tarsals fused together and to the main metatarsal and the subsidiary metatarsals. Exostoses slight (346 and 993). In former a fusion tendency with astragalus. Lastly, a calcaneum with slight exostoses toward the distal end (993). These seem progressive examples of fusion in the hock joint but

(Harcourt, pers comm, 1975) hindrance to joint movement is uncertain and therefore to the extent of lameness or spavin at death or prior to it. The two cases of severe fusion occur in 13 RB proximal horse metatarsals.

Distal metapodial joints, pastern etc (ix-xi) ix. In cattle metatarsals two examples of considerable exostosis and enlarged distal articulation surfaces (268 and 712: Plate 2a). At least five other metatarsals show similar distal width enlargement without being considered morbid ; one is slightly eburnated. These are probably all bones from castrates or bulls. Another from Saxon Corporation Farm, Abingdon, is also enlarged in this way, which probably contributed to its classification as a bull. Only two metacarpals show comparable growth. Such growth is more pronounced on the medial rather than lateral side as described at Ashville (Wilson 1978a, 119b (v)). Incidence of severe cases of such effects is 2/33 RB and 0/7 Saxon distal metatarsals.

x. At least four 1st phalanges of cattle show varying generally small bone outgrowths, including one Saxon (602); another is enlarged proximally as above (712); a matching pair, possibly from a cow (1222, RB) shows similar enlargement and exostosis and eburnation as well. Another is enlarged proximally and also distally to 50mm in width, the latter almost certainly affecting phalangeal joint movement (847).

xi. Three examples of exostosis of distal shafts of 1st phalanx of horse 282, 543. and unstratified 81). Effects on distal articulation unknown due to butchery and recent damage. Are cases of high ring bone but less severe than example shown by Siegel (1976 fig 3f). May be caused by direct injury or by continued concussion, perhaps the latter with this incidence.

xii. 4th metatarsal of pig with osteophytic lipping of proximal articulation, (295).

VI.2.3.7.3. Osteoitis

i. Proximal medial side of cattle metatarsal shaft fragment (708) thickened to 10-15mm by bone deposition with a relatively smooth surface which extends 11cm down shaft - less extensively than example from Ashville (Wilson 1978a, 119 c i)

ii. Local thickening of bone, 5 x 2cm, along distal lateral shaft of cattle metatarsal (1243). Harcourt (pers comm, 1978) suggests that these are non-malignant lesions (cf. Hodgson 1977, 2b)

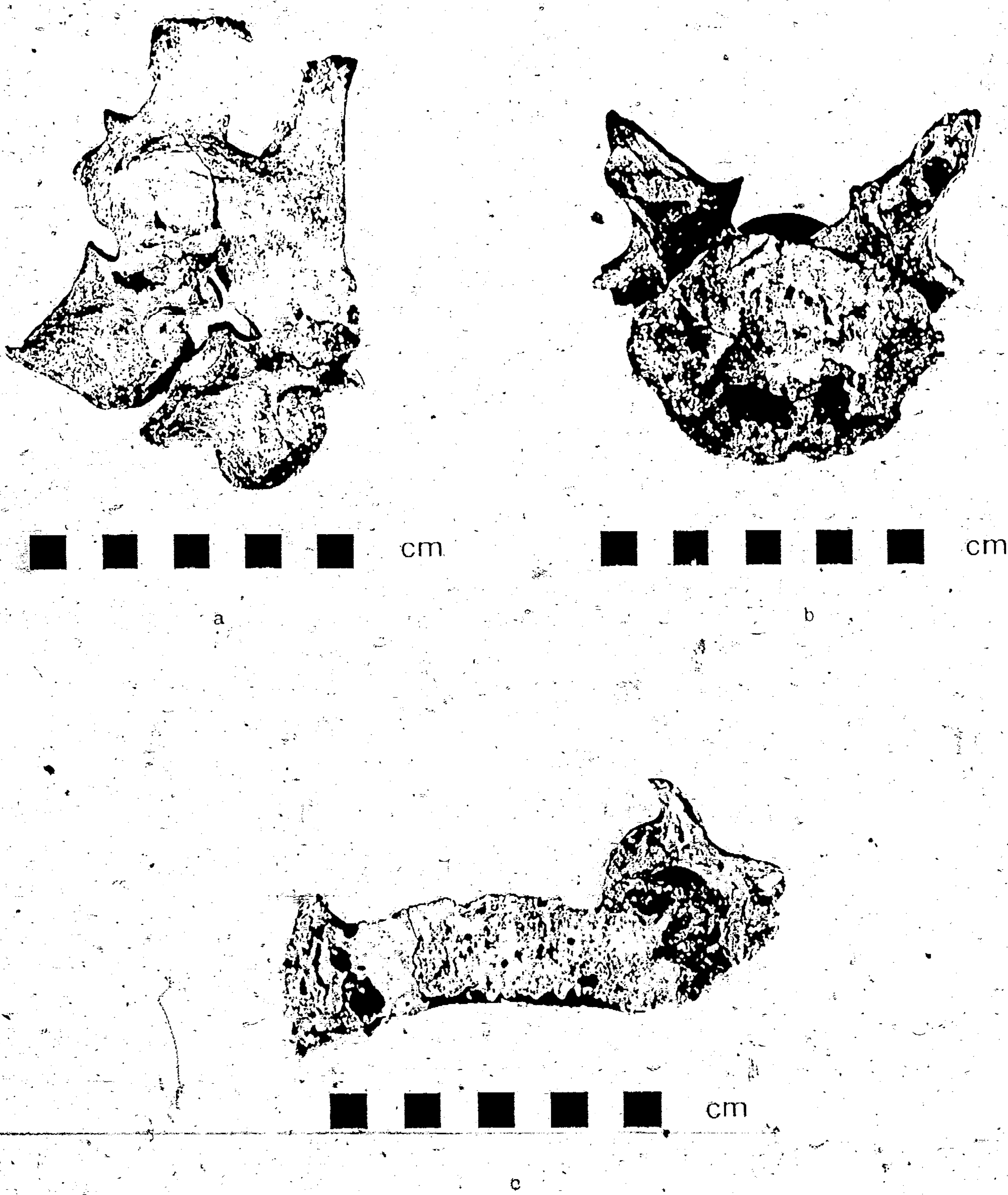


Plate 1 (Fiche 8:F4)
a. Partial fusion of RB horse thoracic vertebrae
b. Posterior articulation surface of RB cattle cervical vertebra
c. Anterior articulation surface of RB cattle sacrum
(Photos: Michael Burrell)

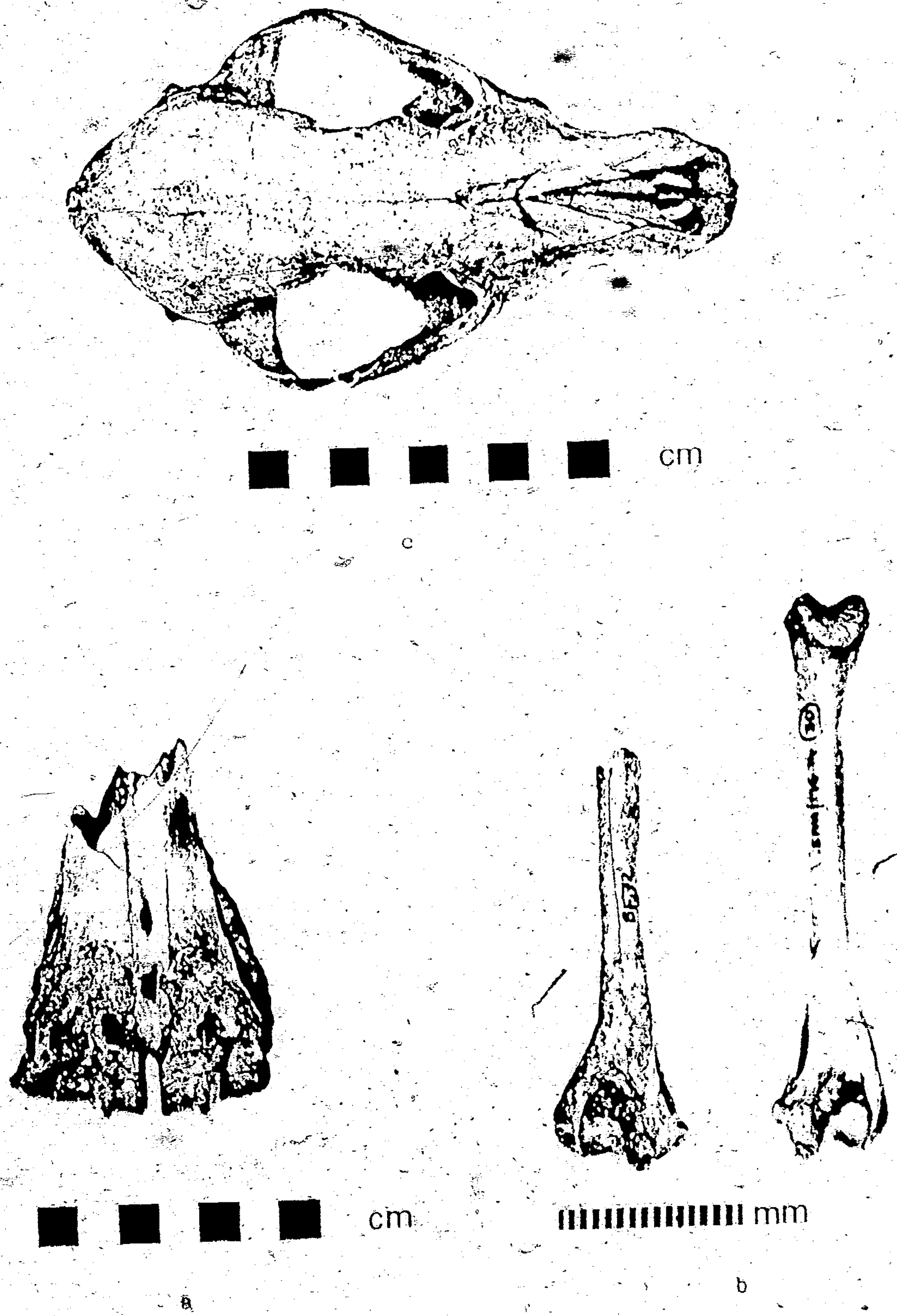


Plate 2 (Fiche 8:F5 and 8:F9)
a. Enlarged distal end of RB cattle metatarsal
b. Humeri of cat: normal RB on right (?healed fracture), IA cat (? wildcat) on left
c. crushed nasal area of RB dog skull

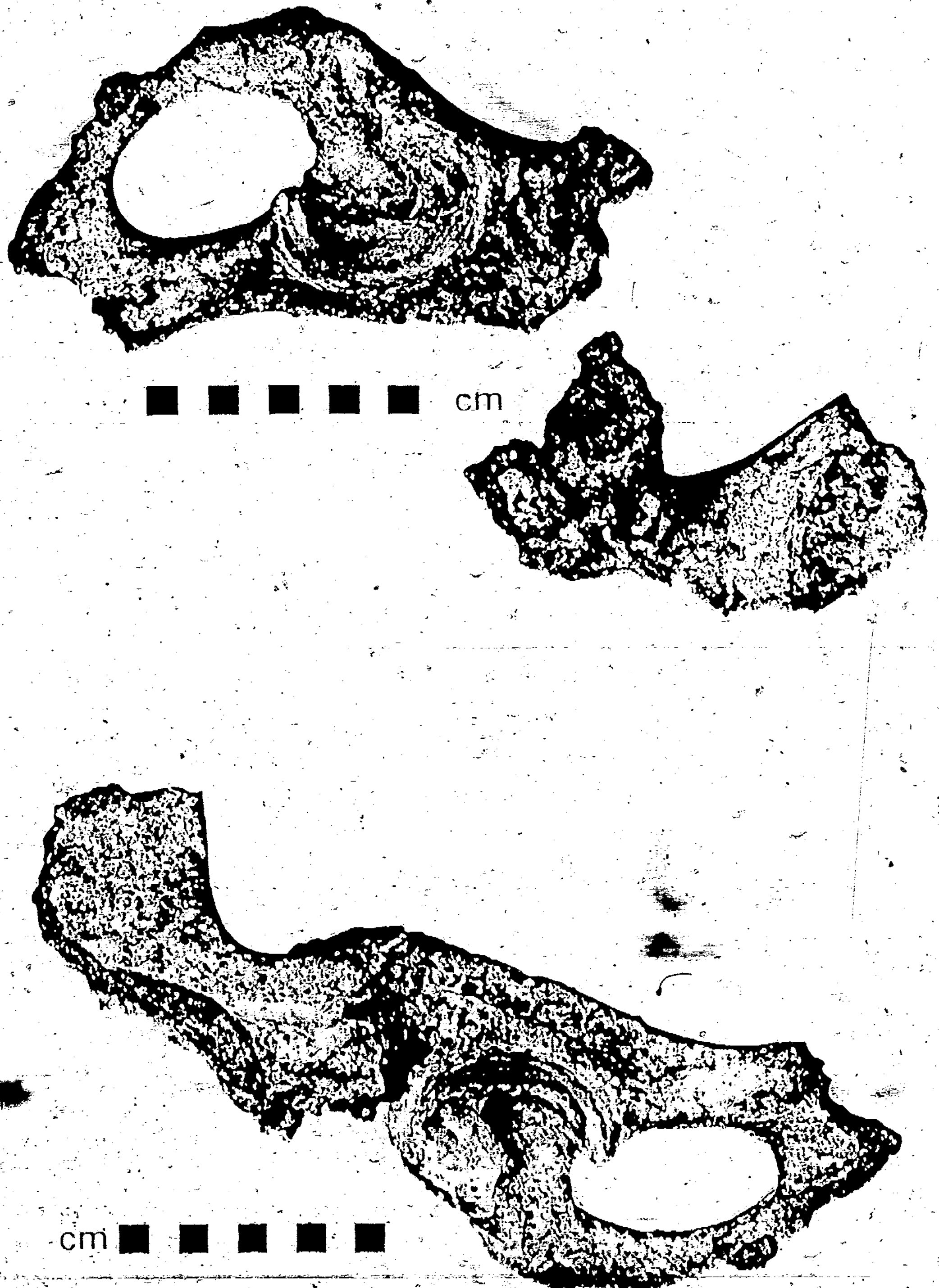


Plate 3 (Fiche 8:F9)
Left pelvis of RB horse showing pathological lesion

VI.2.3.7.4. Other pathological phenomena

i. Compressed fractures of both nasal bones and the anterior dorsal edges of the maxillae of a dog skull. Post-fracture bone reabsorption and redeposition is evident on the edges of the fragments (Plate 2c, 881, RB). A healed lesion, possibly a healed fracture of comparable size occurs latero-dorsally on the snout of a large Saxon dog (0.63m at the shoulder) from Corporation Farm (Henderson, in prep.).

Blows inflicted on the snout by humans are possible causes (Harcourt 1971a, 271), but other animal confrontations occur when dogs are herding and most acutely when hunting. Healed compressed fractures are frequently found on the snouts of wolves' skulls and are caused by blows from the hooves of prey. Blows striking posteriorly on the skull are likely to cause brain damage and often death (Rausch 1967, 258). Downward thrusts by front limbs of deer at bay may produce these dog skull injuries.

ii. Deformed distal shaft of (wild?) cat humerus probably resulting from a fracture of this region (Plate 2b, 5 Iron Age).

iii. Ralph Harcourt describes the pathology shown in Plate 3 : 'There was a severe lesion on the pelvis of a RB horse (609). The body of the left ilium showed a break just anterior to the acetabulum. The lack of reaction round the edges, especially on the medial surface, suggests that the break occurred either after death or only a very short time before it. If the latter, the animal may have been killed because of it as such an injury would completely cripple a horse. The normal architecture of the cortex was much altered and the medulla was filled with proliferated spongy bone, the appearance of which is consistent with a suppurative infection. There was a vigorous periosteal reaction extending from the rim of the acetabulum upwards to the ischiatic spine and forwards to the break but not over on to the medial surface. It seems possible that the condition was caused either by a penetrating wound in the overlying soft tissue which infected the periosteum or, perhaps more likely, by a blood-borne infection from some other site in the body.'

VI.2.3.7.5 Conclusions from pathology Tooth loss and damage and peridontal disease seem not unusual among cattle and sheep. In pigs, tooth damage is less evident, and in dog periodontal disease appears absent, as expected from its diet. Horse mouth lesions were not obvious in the few bones present.

On this site osteoarthropathic effects in the hock joint occur more in horse bones than in cattle, but the reverse occurs for the distal metatarsal joint. Harcourt, (pers comm, 1978) suggest this is generally not true of site samples. One wonders if the hock joint phenomena is related to the evolutionary trend of syndactyly which is more advanced in horse than in cattle, but clearly horses are affected by lameness from problems at this joint. With ring-bone present it would seem that various mechanical stresses are involved from riding and/or packhorsing probably over uneven or hard ground/roads. A further pointer for this is the example of ankylosing spondylosis in the vertebrae (V1.2.3.7.2 Osteoarthropathy, 1V).

The cause of deformation in the distal metatarsal joint is uncertain, although attributed to long-term stress in the back legs of draught oxen (Wilson 1978). Such effects may be more common on bones of castrates than of cows. A widening of the distal metatarsal would seem a reasonable response to long-term work stress, but it does not follow that oxen limb bones would invariably show considerable osteosis; continued working after a foot injury could initiate or accelerate the more extreme outgrowth noted.

VI.2.4. Developments of previous evidence and discussion

VI.2.4.1 The Romano-British cattle population and husbandry

VI.2.4.1.1 A population model : some assumptions Assessment of the structure of the herd is important at higher levels of discussion but is beset with problems. Fundamental assumptions to be used are the conclusions from a previous section (8: D2) : that the measurements of cattle bones show a broad separation of males and females, and that sexual differences contribute most to size differences among herd animals.

There is some uncertainty about this. After all, some previous authors interpret the same size differences as evidence of breeds of different size (references in Hodgson 1977). This interpretation may be rejected here until it is explained why different breeds are mated independently of each other over the long period that the Barton Court Farm R-B sample accumulated. Interbreeding of local stock with introduced cattle should produce individuals with bones of intermediate size. These are not obviously present. Nor is there certain evidence of distinct breeds of RB cattle.

A more radical interpretation of the bimodal distribution of measurements is that they represent two groups of cattle kept in contrasting environments: for example, properly fed and housed oxen and cows, and poorly nourished, unsheltered steers or bulls. Again, however, with acknowledgement of sexual dimorphism in size, a greater overlap of measurement distributions is to be expected than seems to occur, particularly among the metapodial bones.

A variant of explaining size differences by environmental causes is that the evidence of 'sexual dimorphism' may be exaggerated by contrasting husbandry: thus females were poorly cared for and males better husbanded. This would make sense if all males were used as draught oxen, but it is refuted by the evidence of slaughtering many immature animals, presumably steers and bulls, at most stages of development (8: D8), and probably worth less attention than cows. Measurements of intermediate size would be expected also.

Inability to see how other causes substantially contribute to variability of size reinforces the earlier conclusion that sexual differences contribute most to differences of size at this period. Thus the subsequent schemes of cattle population are based on the previous assumptions, results and discussion.

Two further assumptions are stated. First, bone debris represents cattle, killed, butchered, and consumed on site. Although the proportions of some bones (eg lower leg bones) are greater than might be expected <u>a priori</u>, it is probably unjustifiable to consider them as evidence of slaughtering and export of meat (cf Hall 1977, let alone as schlepp effects! :Perkins & Daly 1968), which in any case seems improbable logistically over any distance. Export or import by the hoof is more likely. Second, the sex and age evidence is assumed to be representative of the cattle which were killed and eaten on site, as over fifty contributing individuals can be distinguished.

VI.2.4.1.2 <u>Population model</u> Table XXIX gives the percentage ranges of the sexes in the bone sample as calculated from the number of probable and the number of probable plus possible identifications from horns and pelves, and also the percentages calculated from the separate metacarpal and metatarsal sexing methods and finally from the distal radius measurements. Using quite different sexing criteria, the table shows that male percentages exceed those of females. More bull/castrates were killed than cows.

TABLE XXIX Percentages of the sexes of RB cattle

	cows	castrates	bulls
horns	24-25	42-47	29-33
pelves	36-46	50-59	4-5
metapodials	39-49	51-61	?
d. radius	43	57	

Previously it was considered that an excess of cow over bull or castrate remains might be expected since the latter should be killed younger, and that immature bones were more subject to destruction and non-recovery (Wilson 1978a). Some differential preservation of the RB sample seems likely, but young cow bones are not expected to be absent as there seems to be no a priori economic reason to kill only heifer calves, since they could be reared for meat as readily as castrates. Another assumption is that males and females are born in roughly equal numbers, so that a complex explanation seems required. A partial model of the sex and age structures of the slaughtered animals has been roughed out to clarify some of the issues involved.

TABLE XXX Estimates of kill off and survivorship of RB cattle

Age stage (Grant 1975)	Age (Years)	Cumulative mandible number	% dead	% alive
12	1	11	15.5	84
24	2	27	38.0	62
36	3	41	57.7	42
42	4	53	74.7	25
47	5	66	92.9	7

Table XXX is based on Fig 144. Age stage relationships with age are supposedly intelligent guesses: the ages used are roughly related to the last eruption dates of modern cattle teeth (8: F1), eg M3 at 30 mths, I4 at 48 mths (Silver 1969). Age estimates beyond 4 years are suspect but critical to data interpretation.

TABLE XXXI. Approximate proportions (%) of the sexes of cattle in bone samples.

	Cows	Castrates	Bulls
Horn cores	25	45	30
Pelves	41	54	5
Distal humerus	55	45	?
Distal tibia	47	53	?
Metapodials	44	56	–
Distal radius	43	57	?

Table XXXI gives the full range of data on sex from the bones. Percentages used are rough midpoints in the percentage ranges given in Table XXXIX and those produced by a crude separation of bone measurements of the distal humerus and distal tibia. The next step was to use data from Tables XXX and XXXI to calculate the proportions of males and females surviving at each epiphyseal fusion stage. Oldest ages of the modern ranges of fusion from Silver (1969) were used here. From this some idea of cattle survival can be given.

TABLE XXXII Age and sex structure of slaughtered RB villa cattle (based on 100 new-born calves).

	Cows	Bulls	Steers	Total
New-born	50	50		100
Yearlings	37	4	42	83
2 years	32	2?	28	62
3 years	19		23	42
4 years	11	1?	13	25
5 years	3–10?		4–8?	7–18
6 years	2–9?		3–8?	5–17
7 years	1–5?		3–7?	4–12
Total	155–173	57?	116–129	328–359

Table XXXII estimates the age and sex structure of slaughtered cattle based on an average of 100 calves born each year. Categories of castration are centred on data from sexing of pelves and metapodials and may be biased against identification of bulls. For convenience each cohort of calves is assumed to be born around the same time each year. The fluctuating decline of the sexes is a result of varied sex data. The model indicates annual, not seasonal, kill-off. These mean annual figures are fictions based on varying husbandry over several hundreds of years. Only better-dated deposits at other villas would show whether there is sufficient change in the 3rd-5th century AD economy to invalidate the application of the data to the general model of the period at Barton Court Farm. Extrapolated death rates (ie of the rate of decline up to the last stages of epiphyseal fusion) allow few animals to survive 5 years of age, but a slowing in the slaughtering rate is expected after beef animals are killed and cows and oxen remain for other purposes.

These figures not only estimate the survivorship of an average cohort over time, but also the average population structure of slaughtered cattle in an average year. For every 100 new-born calves the population seems to consist of 325-360 cattle: 150/175 cows/heifer calves, possibly 60 bulls/bull calves, and 115-130 castrates. The population is assumed to be in equilibrium, with slaughter reducing the population by 100 individuals every year. Annual mortality therefore depletes population numbers by up to 30-40% depending on the spread of calving dates. Before calving, cows would number as few as 100 and castrates and bulls rather more.

This hypothetical structure of slaughtered animals was examined by asking if their regeneration capacity showed whether the animals could be typical of the population in general.

Easy addition indicated that at the death rate extrapolated from the early survivorship curve only about 70 cows of two or more years of life would be available to produce the required 100 calves. At the expected slower decline given until, say, 7 years of life, some 85 cows would be available and as both tallies ignore conception and calving losses, this population structure would seem unequatable with that of all local RB cattle.

Perhaps some assumptions could be changed. If animals were 12 months old for every 9 months assigned previously, about 110 cows of reproductive age would be available. Development could be slower in prehistoric animals (eg White, 1977, 288). However, the delay necessary for such a change is a substantial one for lowland cattle which are not proven to be slow-developing. More importantly, developmental delay should retard sexual maturation and indirectly affect fecundity. Even if the ages are wrong, the relative population structure seems reasonable in this respect.

In any case, these age assumptions do not solve the problems of excess bones sexed as males if an input of castrates or bulls occurred from other, presumably external, sources. Consequently, the proportion of villa cows among slaughtered stock would be depressed. If each cohort of new-born calves consisted of 80% villa stock (40% female and 40% male are farm-born) and 20% of animals calved elsewhere, the decline of the average local cohort allows insufficient regeneration at the extrapolated death rate. However, at a slower kill-off, 120 cows are available and appear sufficient to maintain the herd.

VI.2.4:1.3 <u>Cattle husbandry inferences</u> - An input of males from elsewhere allows a more convincing regeneration of villa cattle, yet any adequate model of the population should consider input and output of both sexes, possibilities for which the evidence is obscured or absent. It becomes apparent that one can only calculate the population which is maintained by the numbers of slaughtered cows at Barton Court Farm, or elsewhere, if their grazing territory or herding pattern is made explicit, or other local excavations provde supplementary evidence. Until now it has been implicitly and reasonably assumed that slaughtered animals come from some kind of residential herd, but the probability of two or more herds of different sex and age structures reveals much multi-locational complexity.

Three basic origins of the slaughtered cattle could be : a herd kept around the farmhouse; cattle on the villa estate but somehow more distant from the site; and outside herds owned by other people. An estate herd seems necessary if there was no inflow of males from outside producers, or if there was an outflow of cows from the villa herd. A concentration of cows in the estate herd could solve the regeneration problem of the overall farm population.

If there was no estate herd, predominately male cattle from outside must supplement the herd kill-off, and the extreme possibility is if all cattle eaten at the villa are brought in from outside. These possibilities mean that the villa would not be self-sufficient in meat and would require other farm produce to exchange. Obviously a viable pastoral economy is one which maintains the herd size and provides surplus (eg for eating, gifts, sales, and exchange of breeding stock). The implications of the bone debris for the balance of the overall villa economy suggests the presence of an estate herd or herds.

'Estate' here might be defined as villa ownership of these animals, but not necessarily that these would be kept on villa land, as commonland grazing is possible. Estate herds would be largely of cows for breeding and probably dairying, castrates for meat supply largely being taken to the farmhouse, which possibly might send heifer or bull calves born there to the estate herd.

The size of farmhouse and estate herds is disputable, but it may have been an advantage to keep the majority of cattle away from the farmhouse in order to ease grazing pressure of other animals kept there. This implies temporary or permanent occupation sites. Alternatively, it could be postulated that a division of farmhouse and estate cattle is unnecessary and that the slaughtered cattle represent a predominantly male herd which was centred around the farmhouse. The complexity of herd management would be moved one stage by postulating that bull calves were bought relatively cheaply from outside herds and raised and killed on the estate as required. It is now the outside herds which would be predominantly composed of cows.

Such occupation sites, estate or outside, can be searched for in terms of having predominantly cow debris in their features. They should also be functionally different and secondary to the excavated site in that the farmhouse is the end point of the accruement of surplus meat over and above the other functions of the herds. It is the farmhouse which may have more status. The secondary or contributary sites must be far enough away for them to slaughter their own cattle separately.

VI.2.4.1.4 Further consideration of evidence : age A major source of error in the reconstruction is not obvious. However, some of the assigned kill-off ages depend on the location of incisor tooth eruption in the sequence of wear stages and were estimated from a small number of mandibles. Improved data may show incisor eruption was given later than actually occurred and, with a greater duration of mandible wear stages around and after maturation, would imply that cattle were killed off more slowly than calculated. Reassignment of ages would be older than 4½-5 years suggested by Grant (1975b, 395) for age stages 45-48. This modification of ages might nearly resolve the problem of regeneration.

VI.2.4.1.5 Further considerations : castration and draught oxen The sexing of the cattle bones is poorly rationalized and reflects the limitations of contemporary methods. The separation of bulls and steers is a key problem. An important extension is estimating which slaughtered animals were used as draught animals.

If maturation occurred by the estimated eruption date of the fourth incisor, about 25% of the slaughtered cattle were mature and, by the proportions of the distal radius measurements, 10-13% were cows and 12-15% were castrates. From the age stage distribution of mandibles, 7%, more if loose teeth are counted, would indicate beasts which reached 6 or more years of age. Perhaps these are oxen killed off at the end of a useful life (Harcourt, pers comm, suggests after 12 years of age).

Pathology of metatarsals provide some corroboration : 21% of RB distal metatarsals appear deformed, mostly slight but severe in 6% of them. These percentages are related to some 52% of the cattle which passed the distal epiphyseal fusion stage around 36 months of age. Thus some 3-11% of the cohort (the cattle born in any one year) could have been trained as oxen.

There may have been a ratio of one ox to 10-40 animals in the herd around the farmhouse. The lower ratio of 1:40, or 2-3%, appears a more reliable figure. If, as possible, the cattle were older than allowed, and cattle lived to around 12 years, then perhaps 1 in 7 or 15% of the population were oxen. Immediately, the possible range of animal husbandry is seen to be very wide indeed. Any strong emphasis on the importance of arable agriculture is more hypothetical than the already tenuous arguments based on the detailed calculation, but could be a more valid view because of the bias in the superficial evidence of age and sex.

In comparison to early 13th century manorial herds (Biddick 1978), the overall kill-off pattern, and possible proportions of oxen in the Barton Court Farm cattle population resemble that of the fen edge manor of Eye where breeding and dairying were important. On the other hand, the herds of predominantly oxen and bullocks which might be hypothesized from débris at Kirkstall Abbey (Fig 144) and horn cores from Kingston Bagpuize (Oxon) (Armitage 1976 ; Wilson 1976b) may resemble that from the largely arable manor of Castor on the limestone uplands of Lincolnshire, where some 44% of the herd were oxen. Nevertheless Eye, with two-thirds of this percentage of oxen, maintained some 300 acres (125ha) of arable as well as some 270 cattle. Thus it appears that the oxen-arable component could easily be underestimated from a bone sample, especially without complementary environmental evidence or documentary sources. It is accepted, however, that the predictable proportion of cow debris from excavations at Eye is different to that at Barton Court Farm, and therefore that our archaeological sample appears the product of several husbandry marketing trends, probably involving separate groups of cattle with differing sexual proportions.

VI.2.4.1.6 Primitiveness of modelling In mature science hypothetico-deductive theory may be the best means of orientating population models. In the absence of theory, deduction or playing with data can refine discussion of results with less distortion than poorly articulated theory. However, ad hoc treatment has the disadvantage that data appropriate to modelling are not considered properly at the outset of data collection.

At Barton Court Farm taking a wide range of measurements appeared doubtful if the sample of cattle bones was to prove marginal in size for drawing substantial conclusions. In retrospect, too few measurements were taken. More important, too little attention was given to collection of data, which is useful to solve specific problems. The major difficulty was that most levels of population reconstruction were scarcely discussed previously.

The primitiveness of theory is illustrated by the possible herd organization being derived from estimates of population structure, and not because modelling demanded all or any elaborate explanation. Yet if the slaughtered population was shown capable of regenerating itself, the animals might have been identified with the population of the whole farm. An excess of cow bones might only be briefly related to destruction of immature bones of young bulls or castrates, or the inadequate evidence of regional marketing, but not necessarily to suggest the differentiation of herds on a farm or outside of it.

And yet a future sample of this kind from Abingdon would suit the 'contributory site' predicted by the Barton Court Farm material. To avoid such isolated and ill-defined postulates, comparison of regional information would give more realistic background of site types and proper contrasts of observable sex and age ratios, on which population and economic models can be based. Apart from regional data scarcely existing at present, such a level of analysis does not dissipate the problems of determining population structure on individual sites.

VI.2.4.1.7 Conclusions At this juncture, population reconstruction and its consequences are diffuse, unfortunately for those seeking concrete results : the alternatives, however, force a wide consideration of cattle husbandry. In summary, and on balance, it is suggested :

1 Cows are underrepresented among Barton Court Farm bones.

2 A considerable proportion of bulls or steers were slaughtered during the growth period of the cattle.

3 Bones of slaughtered animals do not represent the overall cattle population around Barton Court Farm. Some kind of input of male cattle in the husbandry system seems probable, possibly of steers or oxen. Alternative herd structures have been elaborated.

4 Perhaps 3-15% of the herd around the farmhouse were oxen.

5 There appears less emphasis on breeding calves and possibly of dairying, but some emphasis on arable farming and possibly on raising beef cattle.

6 The idea of secondary or contributary sites is potentially misleading and it may be an artefact of faulty analysis. Nevertheless, it appears to be the most testable postulate of population reconstruction, that is, by investigation of sites surrounding Barton Court Farm.

VI.2.4.2 Sheep

A virtual absence of identifiable goat bones indicates that an insignificant proportion of 'sheep/goat debris' could be goat. The age and sex structure of the sheep is of interest in view of the complexity implied by the RB cattle sample, but the sex data are infrequent and rather variable. On assumptions similar to those for the cattle model, it would appear that a higher proportion of ewes are represented among the sheep than cows among the cattle debris and, with the probability of twin births (eg 20% Grubb 1974, table 10.10), it appears that flocks are capable of maintaining the population although this may be marginal for the Saxon sample. There is a possibility of a surplus being produced from the RB flock. These deductions could be affected by evidence of size changes in sheep bones.

VI.2.4.3 General husbandry and economy

Cattle are clearly the most important species both in terms of feeding requirements and in meat yield and probably in other respects. Dairying is indicated for the local Iron Age but is less evident at Barton Court Farm villa. Cattle have less obvious variation in the kill-off patterns than sheep and this, with the presence of relatively older animals, suggest that secondary products (eg hides) or functions (eg draught) were important. This importance may have increased during Roman times when older cattle are more evident.

The sex and age structure of cattle is seen already to range widely from the predominance of young ones which were slaughtered at the site to the possible prominence of oxen around the farmhouse and the supposed cow-dominated herds away from it. It is difficult therefore to dismiss dairying as being unimportant at the farmhouse or for the surrounding settlements. At least some dairy cows and oxen seem likely to be based around the farmhouse, where potential grazing could be available to the S on the heavy ground of the interterrace slope and, to the E in the area of Daisy Banks stream. Cattle grazed further afield could have been located on larger acreages of meadowland near Thrupp or the poorly drained land near Lodge Hill. Substantial needs for fodder would encourage the management of most cattle on pasture away from the farmhouse and its essential working animals.

Small samples of sheep bones indicate a ewe more than a wether flock. Sheep could have been kept on the drier land, including corn stubble around the farmhouse : at least one skeleton indicates at least occasional folding there. The inter-site diversity of age data of sheep, in general more than cattle data, may indicate wider-ranging more adaptable local responses to fodder availability and any urban demand for meat. Yet high proportions of sheep bones are not indicated by sites in Dorchester and Abingdon town centre, so possibly wool production has some emphasis at the villa.

In the Saxon period the bones are more indicative than the RB of home consumption of sheep and, with the discussion on environment, suggest that the flock was more restricted to the vicinity of the site (eg. by a contraction of territory). These conclusions are somewhat contradictory but further discussion is constricted by paucity of data. A similar constriction eliminates a helpful discussion of pigs in the economy.

The representation of horses appears to be greater with the increase in communications in the RB period, but the possible roles are diverse, including herding, pack-horsing, and hunting. Bone deformities implicate some of these activities. In the Saxon period the diminution of horse remains suggests less reliance on these animals.

RB dogs, too, appear relatively abundant and there is good evidence of their diversity of size. Possible roles may be guarding, herding, hunting, or as pets. The presence of deer and hare bones, and pathological evidence, (with scenes on pottery and literary evidence) indicate that hunting was practised. This association of horses and dogs may be indicative of RB leisure and pleasure, and therefore of a certain affluence and prestige of villa inhabitants.

The variety of RB and Saxon meat diets is similarly evident in local medieval samples and indicates an increasing and diversifying exploitation of food resources after the Iron Age. If demonstrated for a wide range of sites (see King 1975), it indicates a diminishing (relatively) meat supply from the larger mammals which could be a cultural choice but probably results from necessity (eg limitations of grazing and arable land). Some ecological opportunism is indicated by the increasing proportion of domestic birds, and perhaps by wild species exploiting agricultural land. Hunting, however, seems a less productive alternative to agriculture and the contributions of the smaller species seem small as yet.

Species variety is, however, likely to be shown by dietary remains from relatively affluent households. There is an association of species diversity with skeletal proportions which indicate purchases of preferable meat joints at Banbury Castle and local medieval town sites (Wilson 1975; 1976a; 1979b; 1980a). It is therefore difficult to separate opposing trends indicated by species diversity, although other local RB sites seem less prolific than the villa in this respect. Also percentages of skeletal elements are not as helpful as on medieval town sites in indicating relative affluence.

Signs of prosperity might be inferred from the consumption of relatively young castrates at the farmhouse and perhaps by the complex organization that produced them, from the consumption of imported oysters, and from the horse and dog evidence above. The Saxon sample gives an impression of a less elaborate, more self-contained community.

VI.2.5. References

Armitage, P, 1976 in The sex of the cattle horn cores, in M Parrington, Roman finds and animal bones from Kingston Hill Farm, Kingston Bagpuize, Oxon, Oxoniensia, 41, 68-9

Armitage, P, & Clutton-Brock, J, 1976 A system for classification and description of the horn cores of cattle from archaeological sites, J Archaeol Sci, 3, 329-48

Biddick, K, 1978 Medieval Livestock account as sources for study of intensive animal management on monastic and lay estates in Great Britain : 1200-1400 AD, Paper presented at Third International Archaeozoological Conference Poland, forthcoming in Archaeozoological Studies (ed M Kubasiewicz)

Boesneck, J, & Driesch, A von den, 1974 Kritische Anmerkungen zur Widerristhohenberechnung aus Langenmassen vor-und fruhgeschichtlicher Tierknochen, Säugetierkunde Mitteilungen, 22 (4), 325-48

Bramwell, D, 1975 Report on bird bones from Broad Street and Old Gaol, Abingdon, Oxoniensia, 40, 111-2, 120-1

Bramwell, D, 1978 The bird bones, in M Parrington The Excavation at Ashville Trading Estate, Abingdon, Oxfordshire Counc Brit Archaeol Res Rep 28, 133

Bramwell, D, 1979 in G Lambrick & M Robinson Iron Age and Romano-British riverside settlements at Farmoor, Oxfordshire Counc Brit Archaeol Res Rep 32, 133

Bramwell D, & Wilson, R, 1979 The bird bones, in M Parrington, Excavations at Stert street, Abingdon, Oxoniensia, 49 1-25

Brothwell, D, & Higgs, E S (eds), 1969 Science in archaeology, 2 edn

Brown, L, 1976 British Birds of prey, 85-93

Carter, H H, unpublished bone report in Henderson, in preparation

Chaplin, R E, 1971 The study of animal bones from archaeological sites

Clutton-Brock, J, 1976 The animal resources, in D M Wilson (ed), The archaeology of Anglo-Saxon England, 373-92

Cowles, G, in preparation

Cram, C L, 1973 Report on the animal bones, in A C C Brodribb et al, Excavations at Shakenoak IV, 145-64

Cram, C L, unpublished report on Neolithic bones from Abingdon causewayed camp excavations 1963-64; report held by Ashmolean Museum, Oxford

Driesch, A von den, 1976 A guide to the measurement of animal bones from archaeological sites

Dudley-Buxton, L H, 1928 Bone report, in E T Leeds, A Neolithic site at Abingdon, Berks, Antiq J, 8

Frazer, F C, 1956 in The Neolithic causewayed camp at Abingdon, Berks, Antiq J, 36, 16-18

Frere, S 1975 Principles of publication in rescue archaeology. Report by a working party of the Ancient Monuments Board for England Committee for Rescue Archaeology.

Gebbles, A, 1974 An analysis of animal bones from Bishopstone and Newhaven in relation to the economy in the Iron Age and Romano-British periods in Sussex, BSc thesis, Inst of Archaeol Library, London

Grant, A, 1971 The animal bones, in B W Cunliffe Excavations at Fishbourne II, Soc Antiq London Res Rep 27 377-88

Grant, A, 1975a The use of toothwear as a guide to the age of domestic animals, in B W Cunliffe, Excavations at Portchester Castle I: Roman, Soc Antiq London Res Rep 32, 378-408

Grant, A, 1975b The animal bones, in B W Cunliffe Excavations at Portchester Castle I: Roman, Soc Antiq London Res Rep 32, 378-408.

Grant, A, 1976 Animal bones in B W Cunliffe, Excavations at Portchester Castle II : Saxon, Soc Antiq London Res Rep 33, 262-86

Grant, A, 1978 Animal bones, in R Bradley, Rescue excavations in Dorchester on Thames 1972, Oxoniensia, 43, 33-6

Grant, A, unpublished Animal bones in L Brown & R J Rowley, Excavations at Beech House Dorchester on Thames

Grigson, C, 1976 The craniology and relationships of four species of Bos, J Archaeol Sci, 3, 115-36

Grigson, C, 1978 The craniology and relationships of four species of Bos, J Archaeol Sci, 5, 123-52

Grubb, P, 1974 Population dynamics of the Soay sheep, in P A Jewell (ed), Island survivors, 242-71

Hall, H, 1977 Faunal sample, in K Branigan, Gatcombe Villa, Brit Archaeol Rep 44, 132-5

Hamilton, J, 1978 A comparison of the age structure at mortality of some Iron Age and Romano-British sheep and cattle populations, in Parrington 1978, 126-33

Hamilton, J, 1982 Re-examination of a sample of Iron Age sheep mandibles from Ashville Trading Estate, Abingdon, Oxfordshire, in R Wilson, C Grigson & S Payne (eds), Ageing and sexing studies of animal bones

from archaeological sites, Brit Archaeol Rep (British Series) 109
215-222

Hammond, J, 1932 Growth and development of mutton qualities in the sheep

Harcourt, R A, 1971a The palaeopathology of animal skeletal remains, Veterinary Record, 89, 267-72

Harcourt, R A, 1971b Animal bones, in A J Wainwright & I H Longworth, Durrington Walls : Excavations 1966-1968 Soc Antiq London Res Rep 29, 338-50

Harcourt, R A, 1974a The dog in prehistoric and early historic Britain, J Archaeol Sci, 151-75

Harcourt, R A, 1974b The animal bones, in D S Neal, The excavations of the Roman villa in Gadebridge Park, Hemel Hempstead. Soc Antiq London Res Rep 31, 256-61

Henderson, R, in preparation Excavations at Corporation Farm, Abingdon 1971-4

Higham, C, & Message M, 1969, An assessment of prehistoric techniques of bovine husbandry, in Brothwell & Higgs 1969, 315-30

Hodgson, G W I, 1968, A comparative account of the animal remains from Corstopitum and the Iron Age site at Catcote, Archaeol Aeliana, 4 n ser, 46, 127

Hodgson, G W I, 1969 Some difficulties of interpreting the metrical data derived from the remains of cattle at the Roman setlement of Corstopitum, in Ucko & Dimbleby, 347-53

Hodgson, G W I, 1977 The animal remains from excavations at Vindolanda 1970-5

Howard, M M, 1963 The metrical determination of the metapodials and skulls of cattle in Mourant & Zeuner 1963, 91

Jarman, M, Fagg, A & Higgs, E S, 1968 Animal remains in I M Stead, in An Iron Age hillfort at Grimthorpe, Proc Prehist Soc, 34, 182-9

Jewell, P A, 1963 Cattle from British archaeological sites, in Mourant & Zeuner, 80

King, A C, 1975 Animal bones in Romano-British archaeology with respect to Cirencester and its region, BA thesis, Instit of Archaeol Library, London

Lambrick, G, & Robinson, M, 1979 Iron Age and Roman riverside settlements at Farmoor, Oxfordshire, Counc Brit Archaeol Res Rep 32

Levitan, B, 1977 Pathological anomalies in sheep mandibles : a methodological approach, Report to the Ancient Monuments Laboratory (Department of the Environment) No 2245 London

Mourant, A & Zeuner, F, 1963 Man and cattle, Royal Anthrop Inst Occ Paper 8

Noddle, B A, 1974 Animal bones from two wells at Tripontium, Trans Birmingham Warwickshire Archaeol Soc, 85, 136-42

Noddle, B A, 1974 Ages of epiphyseal closure in feral and domestic goats and ages of dental eruption, J Archaeol Sci, 1, 195-204

Parrington, M, 1978 The excavation of an Iron Age settlement, Bronze Age ring-ditches and Roman features at Ashville Trading Estate, Abingdon (Oxfordshire) 1974-76, Counc Brit Archaeol Res Rep 28

Payne, S, 1969 A metrical distinction between sheep and goat metacarpals, in Ucko & Dimbleby 1969, 293-305

Payne, S, 1973 Kill-off patterns in sheep and goats : the mandibles from Aswan Kale, J Anatolian Studies, 281-303

Payne, S, 1980-81 Bone report, in Excavations at Park Street, Towcester Northants Archaeol, (in press).

Perkins, D, & Daly, P, 1968 A hunters village in Neolithic Turkey, Sci American, 219, 96

Piggott, S, 1962 Heads and hoofs, Antiquity, 36, 110-8

Rausch, R A, 1967 Some aspects of the population ecology of wolves, Alaska, Amer Zool, 7, 253-65

Ryder, M L, 1968 Animal bones in archaeology, Publ Thoresby Soc 48, 107

Siegel, J, 1976 Animal palaeopathology : possibilities and problems, J Archaeol Sci, 3, 349-84

Silver I A, 1969 The ageing of domestic animals, in Brothwell & Higgs, 283-302

Teichert, M, 1975 Osteometrische Untersuchungen zur Berechnung der Widerristhöhe bei Schafen, in A T Clason (ed), Archaeological Studies, 51-69

Ucko, P J, & Dimbleby, G W 1969 Domestication and exploitation of animals and plants

Watson, J P N, 1972 Fragmentation analysis of animal bone samples from archaeological sites, Archaeometry, 14, 221-228

White, K D, 1970 Roman farming 296

Whitehouse, R, & Whitehouse, D, 1974 in S C Stanford Croft Ambrey, 215-22

Wilson, R, 1975 Animal bones from the Broad Street and Old Gaol sites, Abingdon, Oxoniensia, 40, 105-8

Wilson, R, 1976a in K A Rodwell, Excavations at Banbury Castle 1973-4 ibid, 41, 144-7

Wilson, R, 1976b The animal bones, in M Parrington, Roman finds and animal bones from Kingston Bagpuize, Oxon, ibid, 41, 67-8

Wilson, R, 1978a The animal bones, in Parrington 1978, 110-26, 133-9

Wilson, R, 1978b Sampling bone densities at Mingies Ditch, in J F Cherry et al (eds), Sampling in contemporary British archaeology, Brit Archaeol Rep 50, 355-61

Wilson, R, 1979a The vertebrates in Lambrick & Robinson 1979, 128-33.

Wilson, R, 1979b The mammal bones and other environmental records, in M Parrington, Excavations at Stert Street, Abingdon, Oxoniensia, 44, 16-20

Wilson, R, 1980a Animal bone and shell, in N Palmer, A beaker burial and medieval tenements in The Hamel, Oxford ibid, 45 (in press).

Wilson, R, 1980b Bone and shell, in J Hinchliffe & R Thomas, Archaeological investigations at Appleford, Oxon, ibid, 45 (in press).

Wilson, R, in preparation A contrast between four sets of dental and epiphysial fusion data using information from six sheep skeletons from archaeological sites in the Upper Thames Valley, England.

Wilson, R, unpublished The Neolithic bones at Thrupp Farm, Abingdon: Report held by Oxfordshire Archaeological Unit, 46 Hythe Bridge Street, Oxford.

VII The Carbonized Plant Remains

Martin Jones

VII.1 INTRODUCTION

Until recently our knowledge of crop plants and their associated weeds in prehistoric and early historic Britain rested largely on the work of Jessen & Helbaek (1944) and Helbaek (1952). As the authors themselves stressed, these are preliminary and by no means exhaustive studies, and the plant records for many regions of the country remain rather sparse. From prehistoric sites on the Upper Thames river gravels, the impressions of only five cereal grains and no deposits of carbonized grain were recorded in these two publications. During the excavations at Barton Court Farm it was hoped to extend this knowledge by the careful collection and examination of stratified carbonized plant material. Since the excavations began, a number of other sites in the Upper Thames valley have received similar attention, and the data from this site may already be viewed in the context of data from other sites, in particular from the multi-period complex at the Ashville Trading Estate, Abingdon, 3km to the west (Jones in Parrington 1978).

The author was not present on the Barton Court Farm excavations until the 1974 season, and from previous seasons' excavations only two deposits were analysed: a small sample of soil from the Late Neolithic feature, 544, and a large sample from the bottom of an Iron Age pit, layer 311/5, which had been collected in toto following the observation of carbonized grain in the deposit. In 1974 a number of the features were investigated, and about one in ten were found to contain carbonized seeds. In following seasons, soil samples were saved and analysed according to their chronological or contextual significance.

The samples were floated over tap water and the floating material collected in a sieve with a mesh aperture of 500 m. This material was scanned under x20 magnification using a Meopta G11P stereomiscroscope. For identification of individual seeds, magnifications of up to x100 were used. Where larger samples were subdivided into subsamples more manageable quantities, the size of these subsamples is recorded in the main table of data.

The weed seeds were identified by comparison with the Cambridge University reference collection, under the guidance of Mrs D G Wilson. The cereal grains were identified by comparison with the author's own reference collection, mainly on the basis of grain shape. Less than 50% of the cereal grains have been identified to species on this basis, as many of the grains were either too distorted by carbonization for confident identification, or were intermediate in shape between the typical shapes of the various species (these typical shapes are described in Helbaek 1952). Grain dimensions are sometimes used as a means of identifying wheat species. However, this approach has little basis in cereal genetics, and grain dimensions often change substantially during carbonization. In the light of the general uncertainty about the identification of the wheat grains themselves, particular attention is drawn to the fragments of husk and rachis that have been preserved. It is on the basis of these parts of the wheat plant that the wheat genus is subdivided (Mackay 1963), and there is general consensus of opinion on the use of husk and rachis characteristics in species identification (Helbaek 1952). Measurements were made under the microscope using an eyepiece graticule.

The body of data collected is not as rich, in terms of quantity, as the data from the Ashville site. However, the Barton Court Farm material has two points of special interest: first, the samples span a wide range of dates, from Neolithic to Saxon, and particular importance is the record of crop plants in a grooved-ware context. Secondly, we can tentatively identify the factors that led up to the deposition of the richest Iron Age and Romano-British assemblages.

VII.2 THE CONTEXT OF THE DATA

VII.2.1 Neolithic

The four small assemblages of late Neolithic date, comprising in total 145 seeds, were recovered from the backfill of small pits of unknown function and unknown relationship with any settlement activity. It would be difficult to justify any inference further than the actual presence of the ten taxa identified; incidentally the seeds or fruits all of these are edible, in particular wheat, barley, hazelnut, and apples. In the absence of any chaff of bread wheat, the identification of this species rests on the less reliable criterion of grain shape. The Neolithic wheat grains have been illustrated in Fig 160.

VII.2.2 Iron Age and Romano-British

These assemblages are in clearer relationships with the contemporary settlement activity; the site in these periods may be interpreted as an enclosed farmstead, and the functions of some of the features from which the assemblages were recovered are easier to determine.

VII.2.2.1 Feature 749

A burnt, hardened area on the gravel, considered to be an Iron Age hearth.

VII.2.2.2 Feature 311

A pit in the inner enclosure of the possible Iron Age farmstead. Its sides were reddened and appeared to have experienced heat, and the bottom layer was rich in charred seeds. A plausible explanation of the seed assemblage is that it results from a burn-out in a grain storage pit, possibly for the purpose of sterilizing that pit.

VII.2.2.3 Features 657 and 733

Roman T-shaped corndrying ovens. The charred cereal and weed debris recovered from these features could have been derived from the corn that was being dried on top of the oven and which fell into the flue. A corn-drying oven from Farmoor (Oxon) contained a carbonized assemblage in which the main component was wheat chaff (Jones in Lambrick & Robinson). Since it is unlikely that the oven was used for the drying of wheat chaff, it can be assumed that cereal debris from other sources may be introduced into ovens of this kind.

To investigate the material further, samples were taken from various positions along the flues of the two corn-driers. The composition of the plant assemblages was found in each case to vary substantially from end to end. Whereas the component weed species and their relative proportions remained fairly consistent, the ratio between cereal grains, chaff fragments, and weed seeds varied considerably (see Fig 164). In both corn-driers the ash-pit end produced a slightly greater quantity of chaff fragments and a much greater of weed seeds than the T-end. This effect is difficult to interpret at this stage. It is hoped that the situation may be clarified by the experimental work of the Butser Ancient Farm Project, where corn-drier 849 from the present site has been reconstructed for use under the direction of Dr P J Reynolds.

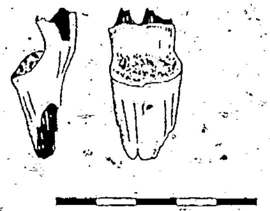


Fig 158 Triticum compactum internodes from Romano-British corn-drying oven

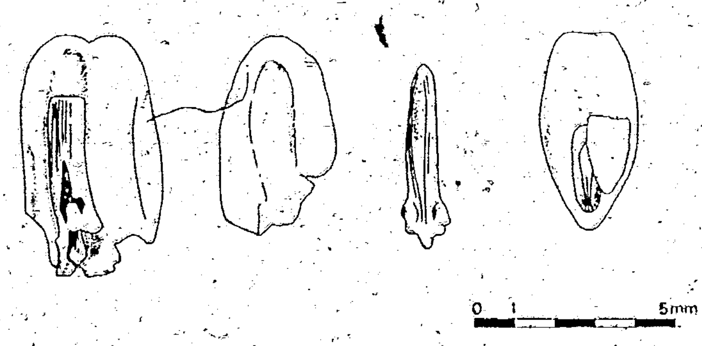


Fig 159 Germinated cereal grain: from left to right (i) grain of hexaploid wheat with well preserved germinated embryo - note the concave faces and the wasted base of the grain, both typical features of germinated grain, (ii) similar grain of hexaploid wheat with wasted base - the embryo is lost but the impression of its radical remains

There are two further points of interest about these corn-drier samples. The sample from 849 contains a number of detached coleoptiles of wheat and a few germinated grains of wheat and barley (Fig 159). Cereals require a period of vernalization (a cold spell) before germination is possible. This requirement had apparently been met, indicating that the grain had been stored fresh over winter prior to being dried. The sample from 732 included a carbonized bud scale of *Salix/Populus*. The presence of this bud suggest that the oven was used in the spring. These two points taken together suggest that the ovens were not in use in the autumn with preparation for over winter storage in mind, but instead that they were in use in the spring, perhaps to facilitate the process of threshing or milling of grain that had been stored fresh over winter. P J Reynolds has suggested their real use may be as malting floors (pers comm).

VII.2.2.4 Features 708 and 780

Roman pits of uncertain function. The colour of the deposit in 708 and its richness in pottery and bone suggest that it is a refuse deposit.

VII.2.3 Anglo-Saxon

The small Saxon assemblages are derived from the backfill of a sunken hut, a pit of unknown function, and from upper layers in ditches originally cut in the Romano-British period, but still receiving backfill with domestic refuse in the Saxon period. Eight taxa are represented, all of which occur in earlier contexts. Considering the richness of some of the earlier samples, there is a possibility that these small plant assemblages include redeposited Romano-British seeds. The records are therefore questionable, and do little to supplement the botanical information from waterlogged Saxon contents on this site.

VII.3 THE INTERPRETATION OF THE IRON AGE AND ROMANO-BRITISH ASSEMBLAGES

The assemblages are fairly consistent in qualitative terms. A major component is cereal grain, and the other components are cereal chaff and the seeds of a wide variety of weedy species. This consistency suggests that the assemblages had similar origins. The association of the richest assemblages with corn-storage and corn-drying would suggest these origins to be harvested crops and their associated impurities. The individual crop species are discussed in conjunction with crop species recovered from a waterlogged context on pages

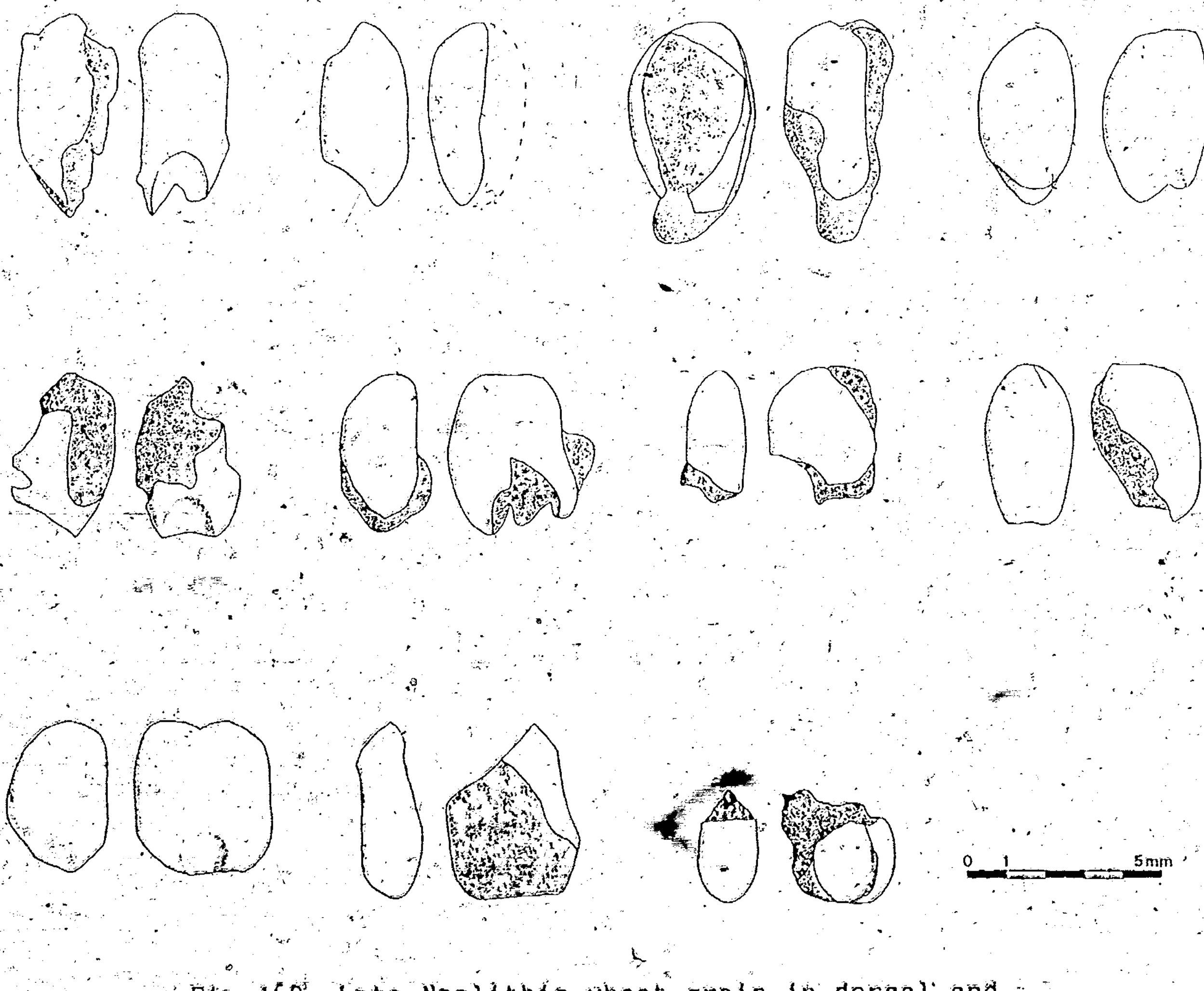


Fig 160 Late Neolithic wheat grain in dorsal and lateral views; despite the poor preservation, a range of forms is decernible from elongated emmer-type grains to broader shorter bread wheat-like forms

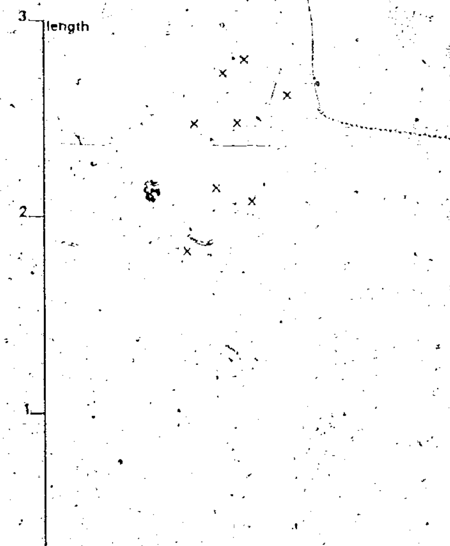


Fig 161 Barley internodes: scattergram of internode dimensions, length taken between corresponding points on successive internodes, the width across the basal node

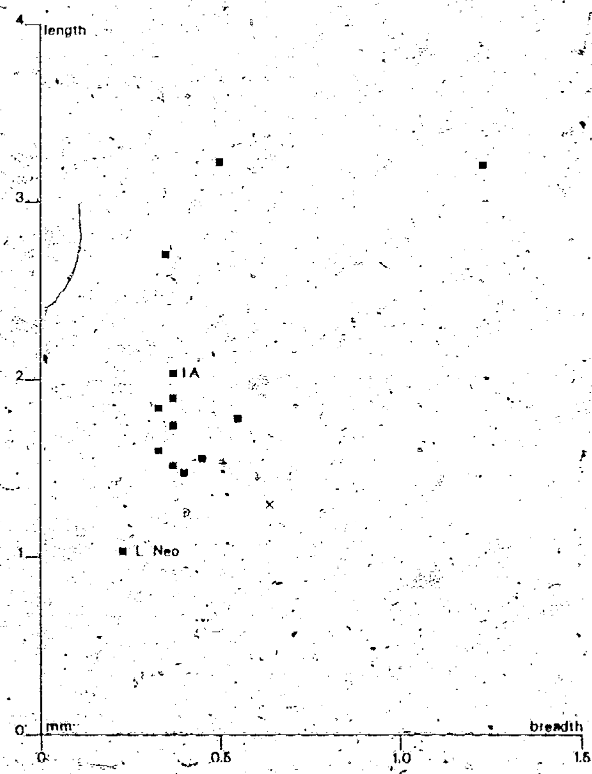


Fig 162 Vicia and Lathyrus: scattergram of hilum dimensions (hilum widths have been measured across their broadest points). All but two of the examples are from Romano-British contexts, and these two are labelled L Neo and IA respectively. The cluster around 2 x 0.5mm corresponds fairly well with the expected range and appearance of V. Tetrasperma, and the outlier at 3 x 1.2mm corresponds well with V. faba ver. minor

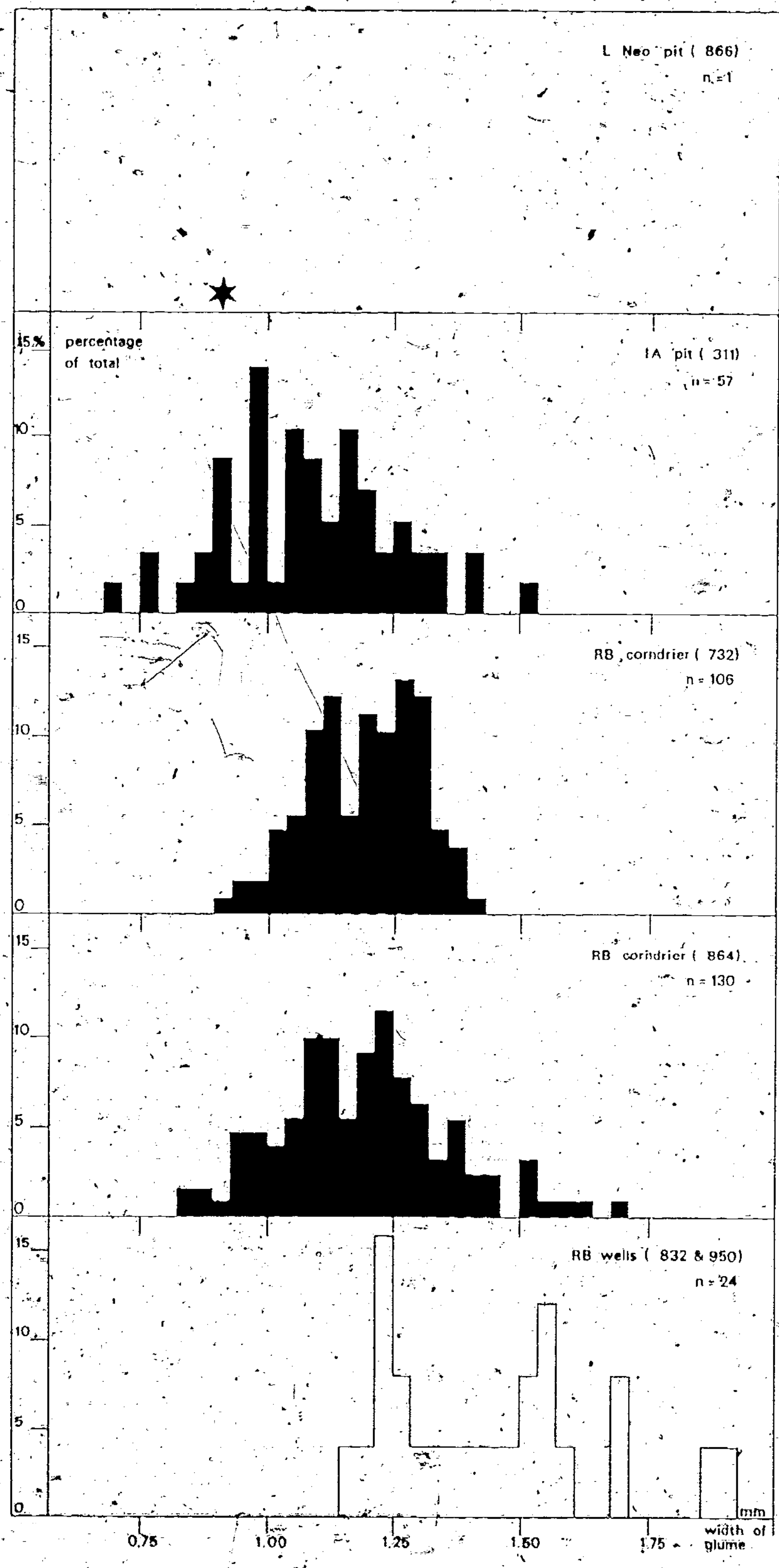


Fig 163 Wheat glumes: Histograms of glume-widths measured at the level of spikelet articulation; 'n' indicates the number of glumes measured for each histogram. The asterisk indicates the width of the one glume recovered from late Neolithic contexts. Black histograms correspond to carbonized material, the white histogram to waterlogged material

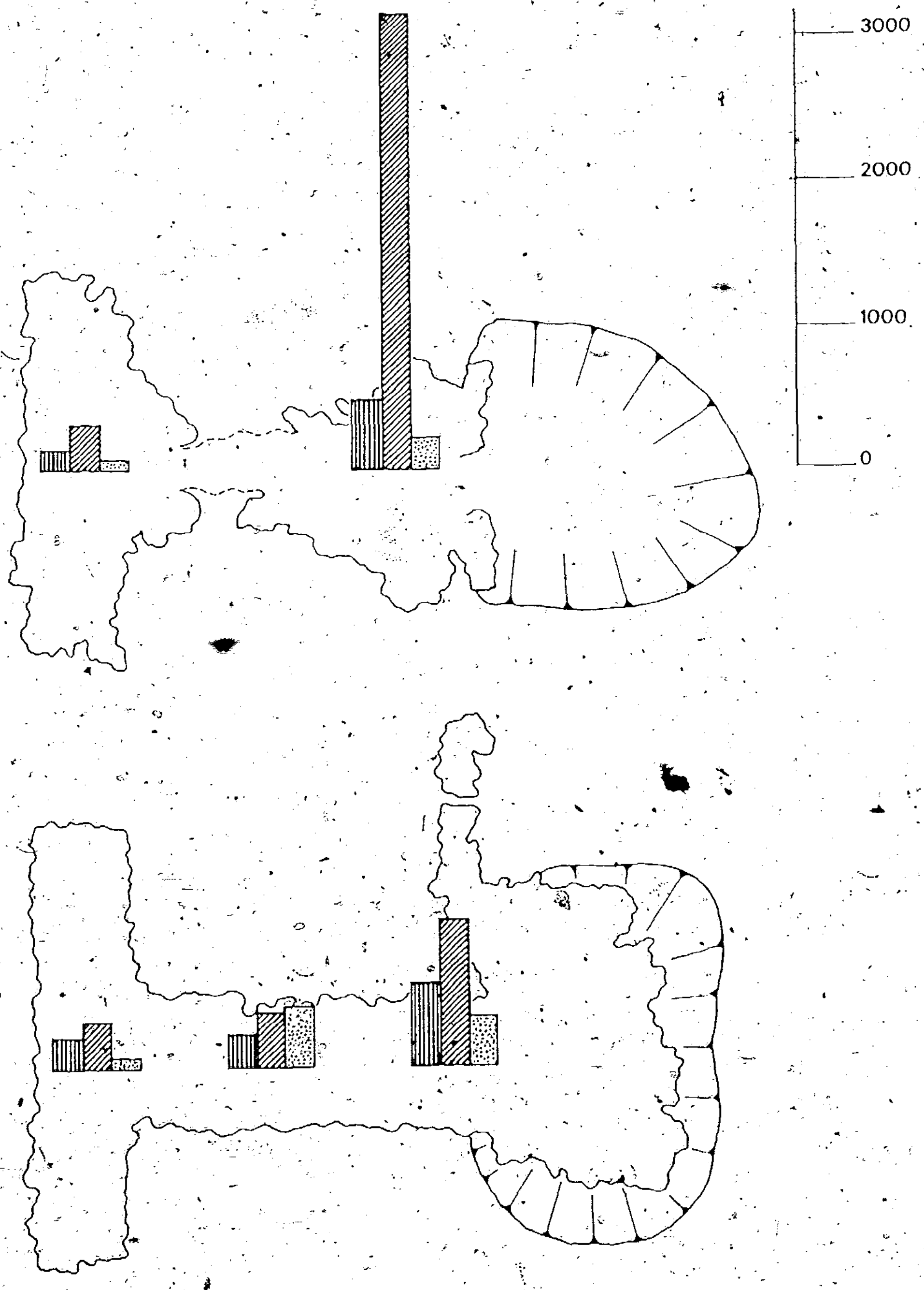


Fig 164 Romano-British corn-driers indicating the positions of samples and the relative proportions of cereal grain, chaff, and weed seeds. The unit of measurement is the number of seeds or glumes (chaff) in unit volume of soil (20 litres). Vertical hatching represents cereal grain, diagonal hatching weed seeds, and stippling represents glumes (chaff)

It is not easy to understand why the components occur in the proportions in which they do. For a harvested crop with associated impurities, the samples contain rather too few cereal grains and rather too many weed seeds. There are parallels to this situation. A corn-drier assemblage very similar in composition to those from the present site was recovered at Upton St Leonards in Gloucestershire (Clarke 1971). The samples from the Ashville site were rich in a similar range of weeds, and four relatively weedy samples, again with similar compositions, were found in early medieval contexts in the Netherlands (Van Zeist 1970). Generally, however, grain samples are found in a far purer state. Dennell has attempted to rationalize wide variations in the purity of early Bulgarian grain assemblages, in terms of various crop processing activities (Dennell 1974). He suggests that the composition of plant remains varies according to the activity of which they are the refuse. Very clean grain without weeds and chaff would be associated with a domestic site where the grain was being consumed. Conversely, agricultural sites would yield cleaning debris, rich in weeds and chaff.

It may be possible to expain variations in purity at the Ashville site in a similar way (Jones 1978), but on Barton Court Farm it is rather more difficult. Of the features that yielded seeds, only refuse deposits in 708 and posibly the pit 780 would be expected to contain an assemblage rich in weed seeds, according to Dennell's model. Ovens, hearths and storage features would be expected to contain very pure samples. The assemblages from this site also differ from those from the Ashville site and Dennell's Bulgarian assemblages, in that a high proportion of weed seeds is not necessarily accompanied by a high quantity of chaff. This also suggests that Dennell's model is not applicable to this site.

Van Zeist (1972), whose prehistoric grain samples from the Netherlands are commonly 95-100% pure, relates this purity not to crop-processing activities but to the method of harvesting. A crop harvested just below the ear is expected to be very pure, and one harvested at ground level very weedy. This suggestion has been ratified by experience at the experimental farm in Butser Hill (P J Reynolds, pers comm).

It may also be possible that some of the so-called 'weeds' were being harvested intentionally in order to bulk up the flour, for which purpose a number of the weed species present would be suitable. Seeds of Bromus sp. (chess or brome) were gathered in this way in Denmark up to this century, at times when the rye crop failed (Hjelmqvist 1955). Its distribution on other prehistoric sites has been taken to suggest its use as a food plant (Hubbard 1975: Jones 1978). The seeds of Chenopodium album (fat hen) were ground to flour by certain American Indian tribes. Other members of the Chenopodiaceae, members of the Graminae and Polygonaceae, and Vicia species are also suitable for this purpose (Winton 1932: Grieve, 1967). This may explain the large numbers of seeds of grasses and Chenopodiaceae in the Iron Age assemblage 311/5. However, Agrostemma githago, which is present in quantity in the same assemblage, is highly unsuitable for consumption, since it is poisonous.

There are many possible causes for the high weed content of the samples. They may be partly due to biases incurred by carbonization and depositional factors about which very little is known. This point is emphasized by the variation in relative proportions of cereal grain, chaff, and weed seeds from different parts of individual features, the two corn driers (see Fig 164). It would be over speculative to select the most probable cause on the basis of so few samples, which incidentally contained rather few seeds relative to the number that an individual plant can produce. In many species this figure is in the thousands.

In the light of the uncertainty about the quantitative aspects of the data, emphasis is here placed here on the qualitative aspects. The species list is very rich and its implications are considered here.

VII.4 IMPLICATIONS OF THE WEEDY SPECIES

This category includes a number of weeds that are still very familiar, such as the chickweeds, mayweeds, cleavers, and poppies, as well as some whose numbers have in recent history been drastically reduced by changes in agricultural method, for example, corn cockle, (Agrostemma githago) and corn gromwell (Lithospermum arvense). The presence of the latter two species, together with Valerianella dentata, in the Iron age feature 311 is of interest as Godwin (1975) considered them to be Roman introductions.

Also of interest is the occurrence of Cerastium holosteoides (mouse-ear chickweed), Galium aparine (goose-grass or cleavers), and Veronica hederifolia (ivy-leaved speedwell). These species germinate in the autumn, and when occurring as an arable week are normally associated with autumn sown crops (R J Chancellor, pers comm). At the Ashville site, the recurrent association of appreciable quantities of Galium aparine with the grain assemblages was taken to suggest the importance of autumn sowing on that site. A survey of the occurrence of such species in a wide range of grain assemblages could lead to valuable information about the early history of the autumn sowing practice.

Amongst the more troublesome weeds are corn cockle (Agrostemma githago) and stinking mayweed (Anthemis cotula). Both species, though now under control, are referred to frequently in the early agricultural literature of the 16th century onwards. The seeds of corn cockle, which up till this century were difficult to separate from the grain, are very poisonous. Gerard (1597) comments:

> 'What hurt it doth among corne, the spoil unto bread, as well in colour, taste, and unholsomnes, is better known than desired'.

Continued presence as a grain impurity will lead to the symptoms of gastroenteritis in the consumer, and livestock fed on the impure grain have been known to die. Godwin (1975) suggests that it may lead to an increased susceptibility to leprosy.

The harmful effects of stinking mayweed occur at harvest time. The leaves and seeds sting and blister any exposed parts of the body, hands, feet, bare chests, etc and, even in the 19th century, this sometimes caused men to be laid off for days during harvest time (Bromfield 1856).

As mentioned earlier, crops harvested just below the ear are expected to be almost free of weeds. Since the cereal grain from this site are mixed with a wide variety of weeds, a number of which are unsuitable for food and many of which bear seeds well below the cereal ears, it therefore seems that neither the Roman nor the Iron Age grain were harvested in this way, but rather that the crops were cut at ground level.

VII.5 PLANTS WITH SPECIAL ECOLOGICAL REQUIREMENTS

A number of species present are normally associated with grassland or damp ground. There are not necessarily two distinct habitats involved, as the grassland plants Festuca gigantea/pratensis, Trifolium repens, and Ranunculus sp. are all tolerant of damp conditions, and a number of the damp-ground species, Eleocharis palustris, Carex nigra, and Mentha sp., commonly occur in grassy places. The form of dampness required varies between species. Eleocharis and Montia fontana require marsh conditions in the spring but can tolerate drier soils in the summer. Sparganium erectum will only grow where the water table remains less than 10cm below the surface. Stellaria palustris and Galium palustre are more commonly associated with permanently marshy conditions. Neither Sparganium nor Eleocharis can tolerate shaded conditions or running water. Their ecological requirements are therefore unlikely to be fulfilled by a drainage ditch (Clapham et al 1962; Cook 1962; Walters 1949; 1953).

The degree of grazing resistence and pH preference vary between species. Eleocharis is tolerant of grazing and is normally associated with damp grazed grassland. By contrast, Sparganium is particularly susceptible to grazing damage and is typically associated with ungrazed marshland. Eleocharis and Stellaria palustris prefer alkaline soils, whereas the other species occur in both acid and alkaline soils, with the exception of Montia, which prefers light acid soils (Clapham et al 1962; Cook 1962; Walters 1949; 1953).

Another plant in the assemblages with dampness requirements, Anthemis cotula, is specifically an arable weed. In the counties of Oxfordshire and Berkshire this species has been found to be very selective for alkaline clays and poorly drained clay loams, the unsuitable soils being occupied by another mayweed, Tripleurospermum inodorum, which also occurs in the assemblages from this site (Kay 1970). The most suitable niche for Anthemis cotula in the vicinity of Barton Court Farm is found on the alluvial clay loams of the Thames soil-series, which occur on the flood plain of the river. The poorly drained clay loam on the slope between the first and second terraces immediately south of the site, is less suitable, as it tends to have too low a surface pH for this species (Jarvis 1973).

The ecological requirements of the other damp-ground species could be met on the soils of the first terrace and floodplain below Barton Court Farm, which in the present day are commonly alkaline. As well as Anthemis cotula, both Eleocharis and Stellaria palustris prefer alkaline conditions. A light acid soil for Montia is harder to find in a predominantly alkaline environment, but a niche may possibly exist at the interface between soils of the Isle Abbott and Sutton series at the base of the second terrace (Jarvis 1973).

The poppies Papaver sp. and annual knawel (Scleranthus annuus) require light free-draining soils (Clapham et al 1962). The requirement may be met on any of the free-draining gravel around Barton Court Farm.

A number of the plants with special ecological requirements discussed above are not normally associated with arable fields today, and their status in a cereal weed assemblage is not immediately clear. However, the range of plants growing as weeds in ancient arable fields would have been far greater than in modern fields, as the various changes in agricultural practice in history have tended to diminish the weed flora. The weeds most likely to disappear would be those with requirements for agriculturally unfavourable conditions such as dampness.

All the above species are sufficiently tolerant of human disturbance to have existed in this capacity. They may also have been present in a less permanent capacity, having invaded from neighbouring baulks and grassy areas by means of rhizomes and suckers. Ranunculus repens commonly behaves in this way today. The possibility that non-cereal species could be collected to bulk up the flour has already been mentioned. Of the plants with special ecological requirements considered here, the grass Festuca is the only one whose seed is at all suitable.

It is interesting to see that many of the same plants recur as elements in the cereal and weed assemblages from a variety of other sites: for example, Ranunculus repens from Bronze Age and Iron Age samples in Denmark and Sweden, from Neolithic samples in Switzerland and Bosnia, and from an early medieval sample in the Netherlands; Eleocharis sp. from two Iron Age samples in Denmark and an early medieval sample in the Netherlands; Trifolium repens from three Iron Age samples in Denmark and Sweden and a Bronze Age sample in Switzerland; Galium palustre and Carex nigra also occur in other samples (Helbaek 1954; 1955; van Zeist 1970). The majority of these species also occur in assemblages from the Ashville site, Abingdon (Jones 1978). This recurrent association with cereal and weed assemblages in northern Europe does suggest that these species existed in the capacity of arable weeds at a time when agricultural practice, and drainage methods in particular, were insufficiently rigorous to eliminate them.

VII.6 CHANGES IN THE ASSEMBLAGES OF WEEDS SPECIES WITH TIME

VII.6.1 Late Neolithic

In addition to the cereals, hazelnuts, and apple pips, a minimum of six taxa of weed species are present. Some of these taxa have ecological preferences; Rumex acetosella will prevail where conditions are acidic, and members of the Leguminosae flourish in response to a lowering of the soil nitrogen level, but neither is confined to these situations. The small quantities present on this site give no indication of the arable environment at this time.

VII.6.2 Iron Age

The minimum number of taxa of weed species increases to 31. Most of these taxa can adapt to a variety of arable invironments. Among the 2828 seeds in this category, six are of the damp-ground species cited above - one of Montia, two of Carex, and three of Eleocharis. All the grass taxa and the Chenopodiaceae are present in quantity. The possibility that these were collected deliberately has been considered above.

VII.6.3 Weeds: Romano-British period

The minimum number of taxa of weed species increases to forty three. A wide range of plants adapted to extremes of dryness and dampness are in evidence. The poppies Papaver sp. and annual knawel (Scleranthus annus) prefer light dry soils, and seven species prefer damp conditions. Of the damp ground species Galium palustre, Mentha sp., Sparganium sp., and Stellaria palustris occur as a trace, whereas Anthemis cotula accounts for 34%, Eleocharis for 7%, and Carex for 2% of the total number of non-cereal seeds of Romano-British date. In total 44% of the 2560 non-cereal seeds examined are of damp-ground species.

Anglo-Saxon

A minimum of five taxa occur, in addition to the cereals and hazelnut. They include the damp-ground species Anthemis cotula. As mentioned above (VII.2.3), we cannot confidently say these do not include redeposited plant material.

VII.7 THE SIGNIFICANCE OF THE DAMP-GROUND SPECIES

The settlements revealed by excavation at Barton Court Farm are situated on the edge of the second gravel terrace in a field known as Dry Piece. According to the soil survey (Jarvis 1973), this terrace has no tendency to become damp enough to hinder cereal agriculture, and the depth of the Roman wells suggests that the situation was similar in the Roman period. Well drained soils such as this are normally considered preferable for cereal agriculture to the kind of wet soils that would have borne the damp-ground species found in the later assemblages. To explain the presence of seeds of these species among the cereal grain, it therefore seems necessary to suppose that the area of cultivated ground extended beyond the limits of the well drained soils, and out of necessity included some very damp soils.

Although the uncertainty associated with the quantitative data has been stressed, it is interesting to note that whereas seeds of damp-ground species constitute 44% of the total number of Romano-British non-cereal seeds, they constitute only a more trace, 0.17%, of the Iron Age seeds. The Romano-British assemblages also include at least six damp-ground species not represented in the earlier assemblages. One such species is Anthemis cotula, the mayweed of clays and poorly drained clay loams, which is present in quantity in each of the corn-driers. By contrast the larger Iron Age assemblage, 311/5, includes a large number of seeds of Tripleurospermum inodorum, the mayweed that occupies habitats other than clays and poorly drained clay loams.

Thus the indication that the area of cultivated ground was extended beyond the limits of the well drained soils is far stronger for the Romano-British period than for earlier periods.

VII.8 CARBONIZED PLANT SPECIES LISTS

See Tables 4 - 6 9:F2-4

VII.9 References

Bromfield, W A, 1856 Flora Vectensis

Clarke, H H, in 1971 P J Fowler & C V Walthew, Archaeology and the M5 motorway, 1st report, North Gloucestershire 1969, Trans Bristol Gloucester Arch Soc, 90. 22-63

Clapham, A R, Tutin, T G, & Warburg, E F, 1962 Flora of the British Isles, 2nd edition

Cook, C D K, 1962 Sparganium erectum, J Ecol 50, 247-55

Dennell, R W, 1974 Botanical evidence for prehistoric crop processing activities, J Archaeol Sci, 1:3, 275-84

Gerard, J, 1597 Ther herbal or general historie of plantes

Godwin, H, 1975 History of the British flora, 2nd Edn

Grieve, M, 1967 A modern herbal

Helbaek, H, 1952 Early crops in Southern England, Proc Prehist Soc, 18, 194-233

Helbaek, H, 1954 Prehistoric food plants and weeds in Denmark, Danmarks Geoligiske Unders II, 80, 250-61

Helbaek, H, 1955 The botany of the Vallhagar Iron Age field in M Stenberger, Vallhagar a Migration Period site on Gotland, Sweden

Hjelmquist, H, 1955 Die Alteste Geschichte der Kulturpflanzen in Schweden, Opera Botanica (a societate botanica lundensi) I:3

Hubbard, R N L B, 1975 Assessing the botanical component of human palaeo-economies, Bull Inst Archaeol Univ London 12, 197-205

Jarvis, M G, 1973 Soils of the Wantage and Abingdon district

Jessen, K, & Helbaek, H, 1944 Cereals in Great Britain and Ireland in Prehistoric and early historic times, Kgl Dan Vidensk Selsk Biol Skifter Copenhagen 1-68

Jones, M, 1978 in M Parrington (ed) The excavation of an Iron Age Settlement, Bronze Age ring ditches and Roman features at Ashville Trading Estate, Abingdon, (Oxon) Counc Brit Archaeol, research rept 28, 93-110

Jones, M, 1979 Plant remains from the dry bulk samples, in G Lambrick & M Robinson (eds) Iron Age and Roman riverside settlement at Farmoor, Oxfordshire, Counc Brit Archaeol Research rept 32, 103-4

Kay, Q O N, 1971 Anthemis cotula, J Ecol, 59, 623-36

MacKay, E, 1963 Species relationships in Triticum, Proc 2nd International Wheat Genetic Symposium, Hereditas Supp.

Walters, S M, 1949 Eleocharis, J Ecol 37

Walters, S M, 1953 *Montia fontana*, *Watsonia*, *3*, 1-6

Winton, A L, & K G B, 1932-39. *The structure and composition of foods*

Van Zeist, W, 1970 Prehistoric and early historic food plants in the Netherlands. *Palaeohistoria* *14*, 41-173

VIII Waterlogged Plant and Invertebrate Evidence

Mark Robinson with sections by J H Dickson & J R A Greig

VIII.1 INTRODUCTION

The water table occurs close to the top of the Kimmeridge clay under the calcareous gravel of the second Thames terrace on which the site lay. The water table is therefore to be found at a depth of 2.5 - 3m where the gravel is at its full thickness but on the southern side of the site, where the gravel slopes towards the river, it is only c 1.5m below the modern ground surface. Apart from a rather deep length of ditch (III.7.4.1) with some poorly preserved organic remains, the only features to extend below the water table were two Roman wells (832 and 950) and one Saxon well (1083). Samples were examined from the three wells.

VIII.2 Acknowledgements

I am extremely grateful to Professor G C Varley for provision of facilities and use of collections in the Hope Department of Entomology, Oxford, where most of this work was undertaken. I am pleased to include reports by Dr J H Dickson on mosses and Mr J R A Greig on his pollen analyses. Mr C S Elton kindly made available information from the records of the Wytham survey. As usual, I would like to thank Mr J R A Greig, Dr R Hall, and Mr H K Kenward for numerous discussions on identification and interpretation. Finally, I am grateful to all those involved with the Barton Court project and my colleagues at the Oxford Archaeological Unit for help ranging from smashing out the lining of well 832 to commenting on the text.

VIII.3 METHODS - THE SAMPLES

Bulk and pollen samples were taken from the waterlogged layers as described in Lambrick & Robinson (1979, 78). Wet weights for the various sub-samples are given in Table 1, the sample numbers are those of their archaeological contexts.

950/5 lower level Roman well (see III.7.3.18.2). Brown (oxidizing to black) organic gritty loam with some broken lumps of limestone and many small fragments of plant material.

832 spit 4 Roman well (see III.7.3.18.1). Black, highly organic gritty silt. Much plant material and twigs, some limestone fragments.

832 spit 5 Description as above.

832 spit 4 Moss from between stone lining above well. Muddy moss stems.

1083/2 Saxon well (see III.8.4). Light grey-brown clay silt with gravel.

1083/4 Grey organic clay-silt with a large piece of oak and many smaller pieces of wood which could be from the wattle lining.

VIII.3.1 Extraction and identification

The samples were processed as described in Lambrick & Robinson (1979, 79-80). The 1.13kg samples were water-sieved to a mesh size of 0.2 mm. The residues on all the sieves down to 0.5 mm aperture were sorted for invertebrate and plant remains, while a 10% sample from the finest (0.2 mm) sieve was examined. The bulk samples were sieved over a 0.5mm sieve, wood and twigs picked out, and then the residues subjected to paraffin flotation. The flotants were sorted for arthropod remains.

All specimens were identified by direct comparisons with reference material using the collections and methods given in Lambrick & Robinson (1979, 80-1).

TABLE 1 The size of waterlogged samples

Sample from	Size of sub-sample examined for: Invertebrate & plant remains excluding pollen	Arthropods, woods, etc. twigs only	Separate moss sub-sample	Separate pollen sub-sample
950/5 lower level	1.13kg	7.94kg	-	+
832 spit 4	1.13kg	7.47kg	-	-
832 spit 5	1.13kg	7.94kg	-	+
832 spit 4 moss from lining	1.13kg	4.54kg	+	+
1083/2	1.13kg	15.42kg	-	-
1083/4	1.13kg	7.03kg	-	+

VIII.4 RESULTS FROM THE WATERLOGGED SAMPLES

VIII.4.1 Plant remains preserved by waterlogging

VIII.4.1.1 Pollen

The results of Mr Greig's analyses are given in Table 2 along with his report.

VIII.4.1.2 Seeds

The results given in Table 7 are for all the waterlogged seeds except cereals. Nomenclature follows Clapham et al (1962). Habitat information has been taken from Bowen (1968), Clapham et al (1962), Tansley (1965), The Biological Flora of the British Isles (various volumes) and my own observations. It must be emphasized that many of the species can live in a number of different habitats.

VIII.4.1.3 Cereal remains see Tables 5 and 6 (9:F4)

VIII.4.1.4 Wood see Table 9 (9:F8)

A total of 33 pieces of wood were identified, after a preliminary examination of the wood by binocular microsope so that as wide a range of species as possible were sectioned from each feature. Most of the pieces were *Quercus* (oak) or *Corylus* (hazel), many of which had cut marks or in the case of the oak had been worked.

Not included in the table are the wattles from well 1083. The uprights were *Quercus* and *Corylus*, the horizontals *Quercus*, *Corylus*, and *Salix* (willow). Many of the pieces of wood in the samples from 1083 were probably fragments of the wattling, but a massive lump of *Quercus* and a partly burnt stake of *Fraxinus* (ash) from 1083/4 presumably were not.

The timbers of well 950 were oak while those on which the stone lining of well 832 rested were probably oak, although no samples were taken.

VIII.4.1.5 Moss

Dr Dickson's report on the moss from the lining of well 832 is given below (9:G6). His 100 ml sample was made up of about ten sub-samples in the hope that it would contain a representative range of the species present.

VIII.4.1.6 Other plant remains

All other waterlogged plant remains (not counting cynipid galls) are given in Table 10 (9:F8).

VIII.4.2 Plant remains preserved by carbonization

These have been included in with Dr Jones' results (9:A1)

VIII.4.3. Molluscs

The minimum number of individuals of Mollusca from each sample are given in Table 8. Nomenclature follows Kerney (1976a) and Walden (1976). Habitat information is from Boycott (1934, 1936), Evans (1972), and Sparks (1959-60).

VIII.4.4 Insects

VIII.4.4.1 Coleoptera (beetles)

Minimum numbers of individuals represented by the fragments identified from the samples are given in Table 9. Nomenclature follows Kloet & Hincks (1977). Habitat information is from those sources given in Lambrick & Robinson (1979, 81-100) and also from Hammond (1971) and Johnson (1966).

VIII.4.4.2 Hemiptera (bugs)

Minimum numbers of individuals are given in Table 10. Nomenclature follows Kloet & Hincks (1964) with habitat information from Southwood & Leston (1959) and Le Quesne (1965).

VIII.4.4.3 Cynipid galls

Gall numbers are given in Table 13. Nomenclature and host plant information is from Eady & Quinlan (1963).

VIII.4.4.4 Other insects

Minimum numbers of individuals represented by the other insect remains are listed in Table 12 (9:F10-G2)

VIII.4.5 Other invertebrates

Results are listed in Table 11 (9:F9)

VIII.5 NOTES ON IDENTIFICATIONS

The *Prunus domestica* stone from 832 spit 4 was too badly damaged for its dimensions to be measured, but was probably about the size of *P. domestica* ssp. *insititia*.

The fragments of Cruciferae siliculae can be referred to *Camelina alyssum* (Mill.) Thell. The somewhat emarginate top to the silicula separates it from *C. sativa* (L.) Crantz. (gold of pleasure) and *C. macrocarpa*

Weir. ex Reich. (Tutin et al 1964, 315). This central to southern European alien is particularly associated with flax fields and sometimes occurs as a casual in Britain (Clapham et al 1962, 185). No Camelina seeds were present. There are no other archaeological records of C. alyssum from Britain but Helbaek identified it from the stomach of Tollund Man (Godwin 1975, 40). Interestingly, these siliculae occurred in both Roman (832 spit 5) and Saxon (1083/4) deposits.

The unidentified Umbelliferae mericarp from the insect sample of Well 832 spit 5 almost certainly belongs to the subtribe Scandicinae. Similar seeds to it have been found in three 12th and 13th century features at the Hamel, Oxford, and one of the unidentified Umbelliferae mericarps from a Roman well at Farmoor, F.1060/2 was of this type (Lambrick & Robinson, 1979, 84) (The other 20 unidentified Umbelliferae seeds from F.1060/2 were all Sison amomum L.). These fruit range between 8.75 mm and 11.5 mm in length. The only British species of Umbelliferac with seeds this long and roughly the same shape is Myrris odorata (L.) Scop. M. odorata can be eliminated, however, because its ridges are raised and, even after soaking in water, a mericarp is still very angular in cross-section, as well as in general being larger. Chaerophyllum aureum L. is a more likely candidate, with fruits ranging from 8-12 mm in length (Tutin et al 1968, 325), similarly flattened ridges and, after soaking in water, almost as great a diameter as the archaeological specimens. C. aureum is regarded as a central and southern European species now naturalized in Britain (Clapham et al 1962, 504) and there is a Roman record of it from Silchester (Reid 1908, 211-2). In the following details, however, C. aureum differs from the unidentified seeds: fruits of C. aureum tend to have their widest point towards the apex, contracting abruptly towards the style base, and the contraction of the base of the fruit is also abrupt (in the ancient fruits the widest place seemed to be in the middle with a more gradual contraction towards the apex and a very narrow base). In general, fruits of C. aureum, even when soaked in water, have a smaller inter-ridge measurement in relation to the ridge width, a rougher surface, and are less massive than the archaeological specimens under consideration.

The best match for the unidentified unbellifer has been achieved with seeds of Chaerophyllum aromaticum L., with which its seeds are compared in Fig 24. C. aromaticum is a plant of central and southern Europe with fruit ranging from 8-15 mm in length (Tutin et al 1968, 325). The only way in which the reference material differs from the archaeological specimens is that, although the base of the fruit of C. aromaticum is more gently contracted than in C. aureum, it is not pointed enough. Perhaps it will be possible to confirm the identification as C. aromaticum when more reference material becomes available, so far attempts to match it with other European species of large-seeded Chaerophyllum have all failed.

VIII.6 MOSSES FROM THE ROMAN WELL 832 by J H DICKSON

A small mass of mosses, approximately 100ml in volume, was sent to me by M Robinson from between and behind the stones lining a well (832 spit 4) associated with a 4th century AD Roman villa at Abingdon (Oxon). Robinson, who speculates that the mosses may have been used to filter the water, made up the sample from about 15kg of mosses saved from the well lining.

The species, in decreasing order of abundance, are as follows.

Hylocomium brevirostre (Brid.) Br. Eur.
Thuidium tamariscinum (Hedw.) Br. Eur.
Polytrichum formosum Hedw.
Isothecium myosuroides Brid.
Dicranum scoparium Hedw.
Antitrichia curtipendula (Hedw.) Brid.

The preservation of the mosses is very good. The *Hylocomium*, which makes up more than half of the bulk, consists of luxuriant well branched stems up to several centimetres long; one piece even has male inflorescences. The stems of *Thuidium* and *Polytrichum* are large, those of *Isothecium* less so, while *Antitrichia* and *Dicranum* are each represented by single short stems.

On page 277 of his bryophyte flora of Berkshire and Oxfordshire, Dr E W Jones (1953) gives the habitat of *Hylocomium brevirostre* as: "On calcareous earth in deep shade, rare and in small amounts only". The sole locality of this species in Bagley Wood (Jones 1955), only 3.5km from the Roman site, has now been destroyed by road construction.

Bagley Wood, which harbours a rich bryophyte flora (Jones 1952), had boundaries in the mid 10th century about the same as now. Because woodland is the habitat shared by all six species it is tempting to speculate that the mosses were gathered from Bagley Wood or Radley Great Wood, which extends from near Bagley towards Abingdon.

All the mosses grow or grew in Bagley Wood, where *Antitrichia* was last seen more than 100 years ago. Even outside woodland *Antitrichia* is unusual as a ground-dwelling species; tree trunks are very likely to have been the habitat of Antitrichia and Isothecium, and perhaps Dicranum, Hylocomium, Thuidium, and Polytrichum could well have been gathered from the woodland floor.

All six mosses are known, mostly well known, as Pleistocene species. Polytrichum formosum has only one previous Flandrian (post-glacial) record. The other five are known from archaeological contexts. All are robust species which could have been useful in packing, wiping, and caulking (Dickson 1973, 192).

Two other moss assemblages from Roman wells have little in common with the Abingdon assemblage. From Barnsley Park (Glos) there were nine taxa, with Eurhynchium swartzii and Thamnobryum alopecurum the most abundant. I thought that these mosses could have grown inside the well (Dickson 1973, 188 and 218). From Bunny (Notts) there were eleven taxa with Calliergon cuspidatum, Campylium stellatum, and Cratoneuron filicinum the most abundant (Dickson 1973, 219). Only Thuidium tamariscinum is common to all three assemblages.

The details of the archaeological excavation rule out any possibility that the Abingdon mosses were growing inside the well. The ecological unity of the assemblage points clearly to a woodland derivation, and it is bryologically of some little interest that two species now rare or extinct in the region were found. Indeed, here is yet another indication from an archaeological context of the past abundance of Antitrichia curtipendula (Dickson 1973, 124).

The occurrence of Hylocomium brevirostre points either to much greater abundance in the past or to deliberate selection. The latter explanation may seem very unlikely in the absence of any obvious reason, but the selective use of Neckera complanata for caulking Bronze Age boats in Yorkshire should be borne in mind (Dickson 1973, 192).

ACKNOWLEDGEMENT

I am grateful to Dr E W Jones for helpful information about Bagley Wood.

VIII.7 THE POLLEN REPORT by J R A Greig

VIII.7.1 Sources and species of pollen

Pollen was recovered from three waterlogged features and is listed below.

Table 2

	SAMPLE		percent total	
Pollen type (TREES & SHRUBS)	950/5	832s5	832s4 moss	1083/4
Pinus	1	+	+	1
Taxus	–	–	?	–
ROSACEAE cf. *Prunus*	–	–	–	1
Hedera	–	–	+	1
Ulmus	–	+	?	–
Betula	–	–	2	2
Alnus	+	1	3	1
Carpinus	–	1	+	–
Corylus	+	1	50	2
Fagus	–	–	1	–
Quercus	1	2	6	1
Salix	–	–	+	+
Fraxinus	+	–	1	1
Sambucus nigra	–	–	+	–
(HERBS)				
RANUNCULACEAE	1	2	1	2
CRUCIFERAE	–	+	+	–
Helianthemum	–	+	+	+
CARYOPHYLLACEAE	–	1	+	+
CHENOPODIACEAE	1	4	1	1
MALVACEAE	–	+	–	–
PAPILIONACEAE: Indet.	–	2	–	+
Trifolium type	2	–	–	5
cf. *Onobrychis*	–	–	–	1
Vicia type	+	–	–	+
ROSACEAE: *Filipendula*	1	+	1	–
Potentilla type	–	+	+	2
Poterium sanguisorba type	1	+	1	–
UMBELLIFERAE	+	4	4	+
POLYGONACEAE: *Polygonum avic.*	16	2	–	1
Rumex type	1	2	1	1
Urtica	3	–	+	2

	950/5	832s5	832s4 moss	1083/4
ERICACEAE	–	–	+	–
cf. GENTIANACEAE	–	+	–	–
SCROPHULARIACEAE				
cf. *Veronica*	+	+	–	–
LABIATEAE *Stachys* type	–	1	–	–
PLANTAGINACEAE: *Plantago*				
major	+	2	–	+
Plantago media	1	–	–	–
Plantago lanceolata	10	4	6	6
RUBIACEAE	–	1	+	–
DIPSACACEAE: *Succisa/Scabiosa*	–	+	+	–
COMPOSITAE Tubuliflorae	9	22	2	+
Artemisia	–	–	–	+
Carduus/Cirsium	–	–	+	–
Centaurea nigra	+	1	+	+
Liguliflorae	9	6	1	4
Sparganium	–	–	+	–
CYPERACEAE	3	–	1	2
GRAMINEAE	36	32	18	49
sect. Cerealia	4	4	–	11
Spores, indet.	–	+	–	–
	100	100	100	100
number of grains counted:	274	221	487	242

VIII.7.2 Tree and shrub pollen

The tree pollen results add several plant records to those already obtained from the macrofossils: Pinus (pine), Alnus (alder), Quercus (oak), Hedera (ivy), Ulmus (elm), Carpinus (hornbeam), and Fagus (beech). Many trees are wind-pollinated, and their growth form helps the dispersal of their pollen, which is often, although not invariably, produced in large quantities, so that most of them show up very well in pollen spectra such as these.

One sample (well 832 spit 4), which consisted of moss, had 62% tree/shrub pollen, of which 50% was from Corylus (hazel) and a further 12% from other trees such as oak, alder, birch, beech, and ash. This is an unusually high level for this kind of site, and a likely explanation is that the moss did not grow in situ but was collected somewhere else, evidently where there was hazel growing in thin enough woodland for it to flower abundantly, and was brought back to the site with the pollen it had collected in the woodland. The beech and ash have a low pollen productivity and may have been more important than their pollen percentages may suggest (Andersen 1970).

The other three samples have much less tree/shrub pollen (2% - 950/5, 6% - 832 spit 5, and 9% - 1083/4) although this still includes a range of different types. Quercus (oak) is always present, Ulmus (elm) has one certain record and a doubtful one, but there is no Tilia (lime) from this site at all. These three were the major components of the primeval forest cover, and their presence or absence is a sign of the presence in the vicinity of any traces of such forest. In this case there is only really the ubiquitous oak here, so there is little evidence of true forest in the area.

The rest of the tree/shrub pollen consists of plants which are mainly associated with secondary woodland in a context like this, such as Fraxinus (ash), Carpinus (hornbeam), Betula (birch), Corylus (hazel), Alnus (alder), and Sambucus nigra (elder). These are commonly found in archaeological samples as most of them grow well round human habitations.

The Saxon sample 1083/4 has a very slightly higher tree pollen count than 950/5 and 832 spit 5, which could be a sign that the surroundings were more wooded at this time but it would really be necessary to confirm this from more samples to see if the slightly greater tree pollen values are consistent or simply part of the normal fluctuations.

Some other sites have considerably less sign of forest tree pollen than these, like the well at Rudston Roman villa (Stead, forthcoming) which only had one doubtful oak record. Others, like the Iron Age settlement at Fisherwick (Staffs) have somewhat more, with oak, elm, and lime all present

(Smith 1979). These site-to-site differences in tree pollen may only represent very local differences in degree of afforestation, or they may be significant in showing what was the state of the inhabited landscape. Pollen diagrams from naturally deposited sediments such as peat bogs may, on the other hand, provide more information on the more or less uninhabited landscape round the bog which is less useful to the archaeologist. Interpretation of pollen spectra such as these is made uncertain by the vagaries of pollen production and dispersal from the various plants, so that their actual abundance is often greatly distorted by pollen percentages. Some modern pollen studies such as at Cowick (Humberside), where a medieval moat had preserved a succession going to the present day (Greig, unpubl.) show that the rosaceous trees, like hawthorn and sloe, deposit only a trace of pollen, and are often absent from the pollen record altogether when their presence is known from finds of fruit stones or thorns. Thus the 1% record of cf. Prunus type pollen from 1083/4 may be more significant than it might appear.

Some of the pollen could have travelled a considerable distance before being deposited, and the Pinus (pine) pollen could represent pines growing many miles away, perhaps in associated wth the Ericales (heathers).

VIII.7.3 Herbaceous pollen

The herbaceous pollen is best dealt with in comparison with the seed record. The small records of pollen of Ranunculaceae, Caryophyllaceae, Chenopodiaceae, Umbelliferae, Polygonaceae, Urtica, Rosaceae, and Cyperaceae simply confirm the macrofossil record for these plants. These pollen types could be said to be ubiquitous in archaeological deposits, at levels of 1-2%, and are not very informative.

The macrofossil records of members of the Papaveraceae, Fumariaceae, Solanaceae, Onagraceae, Juncaceae, and Hypericaceae have no corresponding pollen records, but these pollen types seem to be rarely, if ever, found even when seeds are very abundant, so the pollen would seem to be sparsely produced or hardly dispersed or simply not preserved. The Linum macrofossil records do not correspond to any pollen either (as at Hibaldstow (Lincs), where there were seeds but no pollen: Greig unpubl.) and the only substantial pollen records of flax come from lakes where it has been retted (Tolonen 1978), so this seems to be another 'pollen-shy' plant with poor pollen productivity or dispersal. Pollen from Valerianella was not found, and only one record of Labiatae pollen, while there was a substantial macrofossil record from both.

The pollen from the Papilionaceae, *Plantago lanceolata*, Rubiaceae, *Helianthemum*, and Dipsacaceae demonstrates the presence of plants not detected as macrofossils. The Papilionaceae seem to have rather soft seeds which rarely survive unless charred and even the pollen record is very patchy, but some sites where the pollen is well preserved show significant amounts of this pollen. The *Trifolium* type pollen seems referable to the two common clovers, *T. repens* (white clover) and *T. pratense* (red clover), and the qualified identification of *Onobrychis* pollen suggests the presence of the sainfoin, a strong calcicole. Some of the indeterminate pollen resembled *Lotus*, the bird's foot trefoil. *Plantago lanceolata* pollen is very commonly found in archaeological material, often exceeding 10% of the total pollen, but seed records are few (Godwin 1975) and probably fail to reflect the abundance of this plant. Rubiaceae pollen is also very common, but the seeds only occur sporadically, while in the case of the Dipsacaceae pollen or seeds turn up from time to time either singly or together; they seem to be rare enough to escape detection in the normal-sized sample. This may also be the case with the Malvaceae, here recorded in the seed and pollen lists.

The Compositae (Tubuliflorae) pollen record would appear to correspond with the seed record for *Anthemis cotula*, both reaching their greatest values in sample 832 spit 5. Archaeological samples often show this apparent connection between Tubuliflorae pollen and presence of mayweed achenes, and also the presence of the corn marigold when present (not in this case). A third cornfield weed which is often detected palynologically (but not here) is the cornflower.

The Compositae (Liguliflorae) pollen record may correspond to the seed records of *Sonchus* and perhaps *Taraxacum*, once again on the results from other sites. *Artemisia* pollen seems to be the only record of this plant, as its achenes are not usually found: Godwin (1975) does not record one occurrence of *Artemisia* macrofossils.

The Gramineae and Cerealia leave a good pollen record, but the caryopses do not always survive well in waterlogged material. They seem to have done so here, although the change in the abundance of the seeds does not match that of the pollen as in the case of *Anthemis cotula*.

An important question with a deposit such as this is the source of the pollen: in archaeological deposits pollen may have arrived from various sources, of which the main ones are more or less natural deposition from wind and water, and pollen which has come from the remains of flowers incorporated into the deposit with other plant matter (floral pollen) (Buckland et al. 1974; Robinson & Hubbard 1977). There do seem to be criteria which allow some clue to the pollen source (Greig, forthcoming). The high tree pollen of sample 832 spit 4 has already been mentioned, with the suggestion that this pollen suite could have been brought in with moss from woodland. The other samples have lower levels of tree pollen, but not as low as the mere trace found in deposits thought to have solely been the result of decayed plant matter without atmospheric pollen. Other signs which appear to demonstrate atmospheric pollen are the fairly high values of pollen from _Plantago lanceolata_ and from _Urtica_.

On the other hand, pollen records associated with those of abundant seeds suggest that there is some floral pollen here too - records such as those of Compositae pollen which appear to match those of _Anthemis_ and _Sonchus_ achenes, and the very large _Polygonum aviculare_ record in sample 950/5. This picture of mixed origin would be consistent with a well, which was able to act as an efficient trap for atmospheric pollen, but into which amounts of vegetation were also introduced.

VIII.7.4 Comparison with other sites

Other Roman sites have yielded rather similar pollen spectra from wells, ditches, and a pond. Some sites were on a rather calcareous substrate, others on the more neutral Keuper clay, but there are not many pollen types which can be attributed to calcicole or calcifuge plants to see if soil type can be detected this way, apart from _Poterium sanguisorba_ type, which has appeared at two other calcareous sites, and the possible _Onobrychis_, which has not been identified from anywhere else. Most of these Roman spectra are dominated by Gramineae pollen, as might be expected from a largely grassy landscape, with only 2% - 3% Cerealia. At Barton Court Farm the cereal count is higher, but this is likely to be due to floral pollen, since caryopsis remains were found in most of the samples. High _Plantago lanceolata_ pollen values are another feature which seems to be quite common in these sites, and the first Barton Court Farm sample with 10% seems to fit this pattern. High Compositae (Liguliflorae) pollen with little or nothing in the seed list to match is another feature of many Roman spectra, but this does not appear to be the case here. The Fisherwick pollen results, although dated to the Iron Age, have a lot in common with the Barton Court spectra, although the calcicole records are lacking.

VIII.8 THE ANTS FROM BARTON COURT - by Mark Robinson

About two years after the completion of the report on the waterlogged plant and invertebrate remains, the ants were re-examined and specific identifications made. The results have been listed in Table 3, the three castes being enumerated separately because the fertile females and males can fly whereas the workers are wingless. Nomenclature follows Bolton and Collingwood (1975), which has also been used for habitat information unless otherwise stated. The Lasius flavus gp. is made up of L. flavus (F.) L. mixtus (Nyl.) and L. umbratus (Nyl.). The Lasius niger gp. comprises L. alienus (Foer.), L. brunneus (Lat.) and L. niger (L.); some of the heads identified from Barton Court Farm were sufficiently hairy to be reasonably sure that they belonged to L. niger (L.).

Ants of the L. niger gp. were the most abundant species from the three Roman samples which accumulated on the site of the villa (950/5 lower level, 832 spit 4 and 832 spit 5). L. niger itself nests in soil or under stones in woodland, cultivated fields and grassland. It is a common species and often occurs in the vicinity of buildings. The presence of Tetramorium caespitum, however, was very unexpected. In Britain it is predominantly a coastal species, although it is locally abundant on a few inland heaths in southern England. It has not been recorded at all living in the old county of Oxfordshire (Collingwood & Barrett 1964, 115). There is only a single record of it from that part of Berkshire which has now been incorporated by Oxfordshire, when Donisthorpe (1912, 6) found T. caespitum on the acid sands at Tubney. T. caespitum has now been identified from four archaeological sites on the gravel terraces or floodplain of the Upper Thames ranging in date from Neolithic to Roman (Robinson, unpublished). It seems likely that not only was this species more widespread in Oxfordshire than at present, but that it was also occurring in non-heathland habitats.

Workers of Stenamma westwoodi were present in samples 950/5, 832 spit 4, and 832 spit 5, and they perhaps provide the best evidence from any of the insect remains for some trees or bushes in the vicinity of the villa. S. westwoodi nests under large stones or amongst the roots of trees in shady woodland or hedgerows. The only large stones on the site would have been in the structure of the villa buildings. The other ants from these three samples do not give any additional information about the site which has not been deduced from the other insect remains.

The ants from the moss between the lining stones of spit 4 of well 832 give similar information to the other invertebrates in suggesting that the moss had been collected from woodland. S. westwoodi was the most numerous species and there was also a single head of a Formica rufa L. worker. F. rufa, the wood ant, nests in mounds that it makes out of leaf litter in woodland or scrub. It usually favours oak or pine woods. F. rufa L. is the particular species which occurs in the Oxford region at present out of the four members of the F. rufa group (Yarrow 1955, 11-14). This Roman record from Barton Court is useful because F. rufa now only survives in a very few woods in Oxfordshire. It seems to have a relict distribution over some of its range which is probably related to difficulties with long distance colonisation (Yarrow 1955, 17-19).

The few ants from the Saxon samples do not give any extra environmental details about the site.

VIII.8.1 References

Bolton, B, & Collingwood, C A, 1975 Hymenoptera: Formicidae Royal Entomological Society Handbooks for the identification of British Insects VI Part 3c

Collingwood, C A, & Barrett, K E J, 1964 The vice-county distribution of indigenous ants in the British Isles, Transactions of the Society for Entomology, 16, 114-121

Donisthorpe, H S, & J K, 1912 Myrmecophilous notes for 1911, The Entomologist's Record, 24, 4-10

Yarrow, I H H, 1955 The British ants allied to Formica rufa L. (Hym., Formicidae), Transactions of the Society for British Entomology, 12, 1-48

Table 3

		950/5 lower level	232 spit 4	832 spit 5	832 spit4 moss	1083/2	1083/4
Myrmica sp.	worker	–	–	2	–	–	–
Myrmica sp.	female	–	–	4	–	–	–
Myrica sp.	male	–	1	3	2	–	–
Tetramorium caespitum (L.)	worker	–	–	3	–	–	–
Stenamma westwoodi West	worker	6	1	2	8	–	–
S. *westwoodi* West	female	–	–	1	–	–	–
Myrmecina graminicola (Lat.)	female	–	–	–	2	–	–
Formica rufa L.	worker	–	–	–	1	–	–
F. cf. *cunicularia* Lat. or *rufibarbis* F.	worker	3	–	3	3	–	–
Lasius flavus gp.	worker	10	–	–	–	–	–
L. *fuliginosus* (Lat.)	female	–	–	1	–	–	–
L. *niger* gp.	worker	55	1	17	1	9	2
Lasius sp. (not *fuliginsus*)	worker	7	–	1	1	–	–
Lasius sp. (not *fuliginosus*)	female	3	–	6	–	–	2
TOTAL		84	3	43	18	9	4

VIII.9 INTERPRETATION

There is no reason to suggest that any of the remains identified from the wells entered them after they became filled with soil. The deposits seem to have remained below the water table, and thus the level to which animals burrow, ever since.

The interpretation is divided into three parts. Firstly, the broader aspects of the distributions of the species identified are considered and secondly the origin of the assemblages. Finally, an attempt will be made to give details of the Roman and Saxon environments of the villa site.

VIII.9.1 Distributions, ancient and modern

Barton Court Roman villa lies within the 10 km National Grid Square SU 59. Apart from *Camelina alyssum* and the alien Umbelliferae mericarp, *Valerianella rimosa*, represented by a single seed from Well 950, is the only other species of wild plant which has not been recorded growing in that square by Bowen (1968) or Perring & Walters (1962). *Anthriscus caucalis* seeds were present in all the wells and this plant has not been found growing in the grid square since 1870. The greater abundance of these species in the past is probably due to changing agricultural practices, and this trend has been noted elsewhere in the county at Farmoor (Lambrick & Robinson 1979, 107, 113-4).

Four of the molluscs from the site have not been recorded in SU 59 (Kerney 1976b). Two of the species, *Anisus leucostoma* and *Nesovitrea hammonis*, are common and widespread in their distribution; their apparent absence is likely to be due to under-recording. One of the other two species, *Azeca goodalli*, was from the moss between the stones of the lining of Well 832, which is very likely to have been imported from outside the grid square. The final species, *Vertigo angustior*, is confined to a small area of Norfolk at present but was once much more widespread in England (Kerney 1966, 7; 1976, 75). Other archaeological records from Oxfordshire are given in Robinson (1975, 166).

Barton Court Farm falls within the 11km radius of Oxford for which Walker compiled Coleoptera lists, although there does not seem to have been any collecting in the vicinity of the site itself. Excluding tentative identifications, seven species, *Geotrupes vernalis*, *Aphodius conspurcatus*, *Opatrum sabulosum*, *Mecinus circulatus*, *Apion malvae*, *A. urticarium*, and *Gymnetron labile*, have not been recorded living within the area (Walker 1906-29; 1939). The last three species, all weevils, have been found from several

Roman contexts in Oxfordshire (Lambrick & Robinson 1979, 107).

One species of bug, Arenocoris waltli, which was found from sample 832 spit 5, has a very restricted British range at present. With the exception of a single Kentish record it is confined to dry sandy places in Norfolk and Suffolk (Southwood & Leston 1959, 63). The modern range of all the other bugs includes Oxfordshire.

It is probable that various separate ecological factors, some of which are due to human activity, are responsible for the absence of the above plants and animals from the area today. Certainly climatic change does not provide a general explanation for the differences.

There are no species whose presence is at all surprising considering the dates of the deposit, although the find of the bacon beetle (Dermestes lardarius) from the Saxon well is pleasing. This cosmopolitan species most commonly occurs in buildings, where it can be a pest feeding on skins or dried meat (Hinton 1945, 284). It does, however, have outdoor habitats in Britain such as dead animals (Fowler 1889, 358).

VIII.9.2. The origins of the assemblages

The deposits fall into two groups. All but one built up in the wells over a period of time largely as a result of local debris falling or being dumped in them. The remaining context sampled (832 spit 4 moss) was moss, which had been deliberately collected by man and brought to the site to pack between the stones of the well lining. The moss probably came from a calcareous wood (see VIII.6). It is likely that many, though not all, the other plant and animal remains in the moss represent debris which accumulated on the woodland floor. It is possible that pollen and a few macroscopic remains washed into the well from the moss.

In contrast with the Saxon well, the Roman wells had no autochthonous floras and only a very limited invertebrate population. It is unlikely that water beetles bred in them and, interestingly, the terrestrial species of Helophorus (H. nubilus, H. porculus, and H. rufipes) (Allen 1960) outnumber the aquatic individuals from that genus in the Roman deposits. 950/5 contained a few chironomid larval head capsules and ostracods, but the water of well 832 seems to have been free of livestock, perhaps partly a factor of the great depth of the shaft. Water beetles are much more numerous from 1083, the Saxon well: indeed, Helophorus brevipalpis, represented by 40 individuals (21% of the fauna), may have been breeding in it, although they do swarm in large numbers and temporarily visit small bodies of water (Grenstead 1939). Chironomid larvae, branchiopods, and ostracods were all abundant in the two samples from well 1083. When newly constructed (sample 1083/1) it seems unlikely that the well had any indigenous flora, but it was allowed to silt up and the sides collapsed until it became no more than a shallow pool with water cress growing in it, both true (Rorippa nasturtium-aquaticum, 56 seeds present) and fool's (Apium nodiflorum, represented by 59 seeds).

Kenward (1978) uses species diversity and a plot of percentage rank order of the Coleoptera and Hemiptera in a sample to assist in establishing whether the assemblage is dominated by species living in the deposit or one habitat very close to it as opposed to containing individuals from many different habitats without one predominating. Following Kenward, rank order plots for the Hemiptera and Coleoptera of the samples are given in Figs 165, 166. The percentage scale enables the population structure for the more numerous species to be compared, but it is the length of the 'tail' of rare species which gives an indication of diversity. To enable the diversities of faunas containing a different number of individuals to be compared on the plots, a theoretical end for the 'tail' (the number of species the sample might be expected to contain had it consisted of 1,000 individuals) has been estimated. The same formula used by Kenward (1978, 21-3, after Fisher et al 1943) for the calculation of species diversity has been followed for this estimation:

where S is the number of species, N the number of individuals (in this case 1,000), and α an index of diversity obtained graphically from Fisher et al (1943) using the actual values of S and N identified from the sample.

Unfortunately there were several quite numerous taxa from the site which could not be separated into their component species. They have been excluded from the rank order curves where it was thought that more than one species was present.

The population structure for samples 832 spit 4, 832 spit 5, and 950/5 and their species composition are relatively similar. No species makes up more than 7.5% of the totals, ie there are no superabandant species (Kenward 1978, 16) and their species diversity is high, with values of $S^{N=1,000}$ ranging from 140 to 164. It is likely that these death assemblages were derived from many different habitats, although various types of decaying organic material were

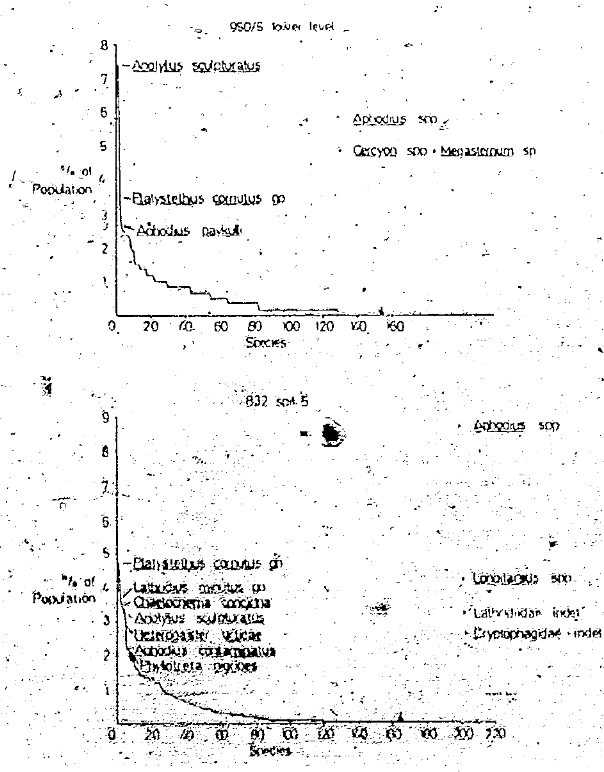


Fig 165 Coleopteran and Hermipteran death assemblage rank order histograms: well 95075; well 832 spit 5

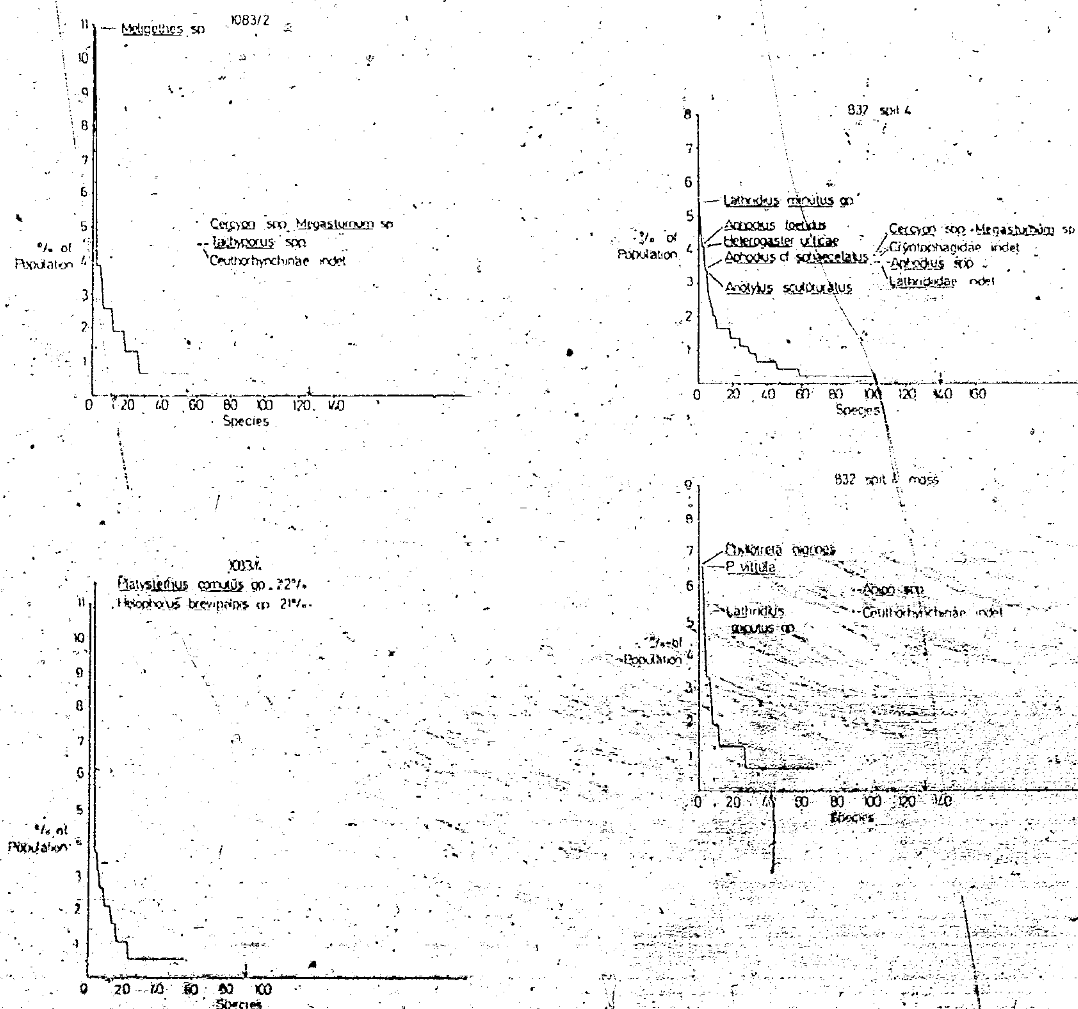


Fig 166 Coleopteran and Hermipteran death assemblage rank order histograms: well 832 spit 4 and moss lining; well 1083/2 and well 1083/4

particularly important, perhaps owing to their proximity to the wells. There is no reason to suggest that individuals of distant origin became concentrated in the wells at the expense of those living locally; the Coleoptera and Hemiptera can be taken as representative of the environs at the villa.

The other three samples were rather small but the fauna from 832 spit 4 is reasonably diverse, with no superabundants, although it is very hard to establish for many of the species whether they entered the moss after it had been collected. The population structures for the Saxon samples are different, with superabundant species (over 10%) present. In the case of 1083/2 it is likely that this difference is an artefact of sample size. If Meligethes sp. is excluded, the population structure is similar to the Roman assemblage. Meligethes sp. can occur in very high numbers on flowers feeding on pollen. One such infested plant growing close to the well could have been more than adequate to distort the results with such a small sample. For 1083/4, however, the rank order plot suggests that the species diversity was reduced by the presence of an autochthonous fauna, especially Helophorus brevipalpis gp. living in the water (see above) and Platystethus cornutus gp. perhaps in wet, organic rich, mud around the wattle lining of the well (Hammond 1971). Apart from the aquatic species and P. cornutus gp., the fauna probably originated from as diverse a range of habitats as for the Roman well-shaft samples.

It has been assumed that many, if not most, of the seeds were from plants growing close to the deposits (apart for 832 spit 4 moss) in various different habitats. As for the insects, it is presumed that more distant habitats tend to be less well represented, but at present it is difficult to quantify this. The few seeds of water dropwort (Oenanthe fistulosa) an aquatic or marsh plant provide a good example of the long-distance component where the method of transport is not obvious. An important proportion of the seeds were, however, likely to have been brought to the site by man. They include both crops and weeds. A comparison with the carbonized seed list for the site is useful in trying to establish which they were. Many of the pieces of wood identified showed signs of cutting and it is probable that most of them fell down the wells as a result of human activity. Indeed, rubbish disposal may be the cause of many of the remains entering the wells, even though - and this will be particularly true for the insects - they first colonized the rubbish in the settlement itself.

A final point worth considering about the origin of the assemblages is that the wide diversity of species and types of debris in the wells suggests that they were not roofed over when the deposits accumulated. This is particularly relevant for well 950 because the cellar-like structure in which it was set (III.7.3.18.2) could easily be interpreted as a covered well-house or a well in a cellar under a building.

VIII.10 THE ROMAN ENVIRONMENT

James Greig's results for pollen analysis show that the villa was surrounded by an open, relatively unwooded environment. This impression is confirmed by the Coleoptera, a few individuals of Phymatodes testaceus being the only representative of the Cerambycidae and Scolytidae (both families of timber beetles). There are very few tree-feeding species from amongst the Chrysomelidae (leaf beetles) and Curculionidae (weevils). Almost all the seeds are from terrestrial open-country plants. The faunas and floras examined from the Roman villas of Barnsley Park (Coope & Osborne 1967) and Rudston (Buckland & Greig in Stead forthcoming) indicate similarly open landscapes, as do the results from the Roman first Thames gravel terrace round villa settlements of Appleford (Robinson unpublished) and Farmoor (Lambrick & Robinson 1979).

The open country seems to have been divided into three main sorts: grassland, arable, and disturbed, weedy, uncultivated ground. It is very difficult to assess their relative importance because evidence from different groups of waterlogged remains seems to be biased in favour of one type and their distance from the wells is also important. Coleoptera seem to give precise information about grassland but are generally vague about disturbed ground/arable (except nettles and stored grain). Seeds from waterlogged deposits on occupation sites usually seem to be predominantly from species of disturbed ground, with grassland species and the crops themselves poorly represented. This is presumably because most of the seeds are from plants growing in the disturbed ground in the settlement itself. Two other major groups of biological evidence are even more biased: animal bones towards grassland and carbonized seeds, by the very nature of the process which resulted in them being charred, towards arable, particularly cornfields. Pollen is only of much use when changes with time can be detected from a column sample through a deposit which has accumulated over many years.

A useful comparison can be made between the plants and invertebrates from the waterlogged Roman deposits at Barton Court (excluding 832 spit 4 moss) with those in the Roman samples from Farmoor. In general the main differences seem to be the absence of the marsh and wet grassland species, which were present at Farmoor, and their replacement by Coleoptera of sandy places with sparse vegetation.

There is neither the range of species nor such high numbers of individuals of Bembidion, mostly denizens of wet places, as at Farmoor. Likewise the proportions of seeds of such plants as Filipendula ulmeria (meadow sweet) and the Cyperaceae (sedges etc) were reduced at Barton Court. This reflects the drier situation of the Barton Court Villa, on the second gravel terrace of the Thames, whereas the Farmoor settlement was on the river's edge of the first gravel terrace.

The carabid genus of Amara provides a good example of beetles of sandy, open places which occurred at Barton Court. A. cf. anthobia, A. apricaria, A. bifrons, and A. tibialis all occur in such a habitat (Lindroth 1974), and were absent from Farmoor. Their presence is probably due both to soil at Barton Court being a well drained sandy loam of the Sutton series, rather than the clay loam of Farmoor, and to a greater proportion of the soil surface being exposed perhaps as arable.

VIII.10.1 Grassland

Along with the pollen the Coleoptera indicate the presence of a significant area of grassland in the vicinity. There are some grassland Elateridae but, the best evidence is indirect, in the form of dung beetles from the super-family Scarabaeoidea. Individual species of them from the genus Aphodius are named amongst the most abundant species from all three of the Roman well fill samples in the rank order plots (Fig 165). They made up over 17% of the Coleoptera from 832 spit 5, Aphodius contaminatus being one of the more numerous species. Most of them require dung of large herbivores under 'field' conditions and therefore show the presence of pasture.

The herbs in the grassland probably included Poterium sanguisorba (salad burnet) and Plantago lanceolata (ribwort plantain) (from their pollen); Trifolium sp. (clover) and other Papilionaceae (from phytophagous Coleoptera); and Ranunculus cf. repens (buttercup), Stellaria graminea (stitchwort), Linum catharticum, Pimpinella saxifraga (burnt saxifrage), Rumex spp. (dock), Prunella vulgaris (self heal) and Leontodon sp. (hawkbit) (from seeds). Many other grassland plants are given in the tables. A small calcicole element is present including P. sanguisorba, P. saxifraga, and a single grain of

Helianthemum pollen. There is little evidence for hay-meadow, with only three seeds of Chrysanthemum leucanthemum (ox-eye daisy), though many of the Curculionoidea (weevils) which feed on grassland herbs are more common in meadow than pasture. However, without any such good indication group as dung beetles are for pasture, meadowland tends to be under-represented.

The few marshland beetles could easily have flown to the site and likewise the small seeds of Juncus sp. (rush) could have been blown there. However, there are a few larger seeds of marshland plants, eg Montia fontana (blinks), Filipendula ulmeria (meadow sweet), Oenanthe fistulosa (water dropwort), and Eleocharis sp., and also the rare snail Vertigo angustior. Perhaps they lived around wet areas on the clay slope or in marshy areas on the floodplain. Whether they reached the site in the guts of grazing animals which had consumed them or in hay, they probably show that the villa was exploiting wetter places off the gravel terrace. The charred seeds (VII.5) give another example of wetland use, for Eleocharis sp. occurred as a cereal weed.

VIII.10.2 Arable

Remains of three species of arable crops which had been brought to the site for processing were found: spelt wheat, barley and flax (Linum usitatissimum) represented by seeds and capsule fragments from all the Roman well samples except 832 spit 4 moss. It must be remembered that flax can be grown for linseed as well as to make linen. Flax retting requires suitable water-filled pits or tanks, for which there was no evidence, and is a disgustingly smelly process which would not be pleasant for the occupants of the site. It seems more likely that the capsules were harvested and brought to the villa for pressing or consumption of the seeds while their stems were retted elsewhere, perhaps where they were cultivated. The second gravel terrace may be rather dry for flax growing (plants that I grew in a garden on the second terrace suffered from drought), but there would be suitable conditions on the clay slope.

Spelt wheat (Triticum spelta) and barley (Hordeum sp.) were identified from chaff fragments. In addition, a couple of cereal caryopses were found and cereal pollen was present. Most of the area around the villa would have been suitable for cereal cultivation, apart from the floodplain. However, the evidence from the carbonized seeds is much more extensive for grain and it is from it that details of cereal culture can be elaborated.

A fourth field crop may have been from the Brassicae tribe (turnip, cabbage, rape etc) but the seeds could not be identified to species, so weeds such as Sinapis arvensis L. (charlock) are equally likely. On the basis of quantity of waterlogged remains flax was the most important arable crop, an intriguing possibility which apparently contradicts the results from charred seed analysis. An attempt is made to resolve this problem below.

Along with the crops there are also seeds of their weeds, but it is mostly impossible to establish which of them were growing in the arable fields rather than on disturbed ground around the settlement. Again the carbonized seed results are more useful, though the alien flax weed Camelina alyssum is an exception. The closely related C. sativa has been shown to cause a significant reduction of linseed yield when present in flax fields due to a toxic secretion (Dimbleby 1967, 88). C. sativa, however, and perhaps C. alyssum can also be cultivated for oil-seed themselves. C. sativa has been found as a stored crop in the migration period settlement of Feddersen Weirde (Prof U. Körber-Grohne pers. comm.) Agrostemma githago (corn cockle) is so dependent on arable agriculture that if the seeds did not come from a cultivated field they were probably from a plant which grew out of discarded threshing debris. Anthemis cotula (stinking mayweed) is another species likely to have had a similar origin.

The insects do not provide much information about the arable fields of the villa. Bare-ground species of beetle from the genus Amara have already been alluded to and grain beetles will be discussed under synanthropic species (VIII.10.6). None of the phytophagous beetles are restricted to crops or their weeds but some have been recorded as pests: eg Helophorus rufipes which has gained the name 'turnip mud beetle' (Petherbridge 1928), while a species of Longitarsus damages flax (Joy 1932, 415).

VIII.10.3 Other cultivated plants

Excluding trees grown for their wood, there were seeds of three more species of definitely cultivated plant, though their numbers are so small that there is no way of determining whether they were grown in gardens on site or not. Plum (Prunus domestica) is represented by a single stone from 832 spit 4 along with a seed of dill (Anethum graveolens). Each of the wells contained a single seed (mericarp) of coriander (Coriandrum sativum). Dill and coriander are frequently found from Roman sites and so is plum (Lambrick & Robinson 1979, 120-1). With the Roman liking for Umbelliferae as flavourings (Apicius; Godwin 1975, 222) it is quite likely that the unidentified Umbelliferae seed from 832 spit 5 was also a culinary herb.

It is possible that apple (Malus sylvestris) and hazel (Corylus avellana) were grown for their fruit, but the fragment of apple 'core' (endocarp) and hazel nuts identified are indistinguishable from their ancestors which are native in the area. They could easily have been collected by man or animal from wild bushes.

Finally, the seeds of opium poppy (Papaver somniferum) must be considered. They could have grown as weeds, have been cultivated in small garden plots, or have been harvested as a field crop. Alternatively, they could have been imported. P. somniferum is described as growing as a relic of cultivation, especially in the Fens, at the present time (Clapham et al 1962,99). In Oxfordshire, as well as occurring in gardens, it is able to compete effectively as a weed of refuse tips and allotments. Opium poppy had been introduced into Britain by the Iron Age (Godwin 1975, 129) and its seeds have been recorded from several Romano-British sites, for example Rudston villa (Greig in Stead, forthcoming). It was almost certainly cultivated in Britain during Roman times and is useful as an oil as well as a medicinal crop, the crushed seeds which remain being used as animal fodder (Crawford 1973, 230-1). Contrary to popular mythology it does seem that opium poppy can be grown as a drug plant under the English climatic conditions (Godwin 1978, 157-8). Crawford (1973, 232) cites several Roman (though Eastern) examples of medicinal usage for opium.

VIII.10.4 Disturbed ground

Weed seeds were the most abundant seeds in the fills of the Roman wells and the only phytophagous insects abundant enough to be named in the rank order plots (Fig 165, 166) all feed on plants of disturbed ground of one sort or another. Such a habitat is therefore likely to have been at least locally very important.

Most of the annual weed seeds are probably not from plants which grew in the arable fields but from weeds growing in the vicinity of the wells in the yards and work areas of the villa. Seeds of poppies (Papaver spp.), chickweed (Stellaria media gp.), and knotgrass (Polygonum aviculare agg.) are particularly numerous in some of the samples and would have been able to grow in both of those habitats. Likewise, the Chrysomelidae (leaf beetles) and Curculionoidea (weevils) include many species that feed on weeds which could have grown around the settlement, along its tracks and in the arable fields: for example Chaetocnema concinna on knotgrass and Phyllotreta spp. on Cruciferae. Apart from Amara spp., other species of ground beetle (Carabidae) would have lived in the weedy areas around the settlement and in the arable fields. Some of the larger species (eg Nebria brevicollis) can be particularly abundant in such habitats, though they cannot be taken as indicative of them as they also occur in lower numbers in grassland and sometimes woodland. Since they are very active predators on the ground, most of the individuals probably lived on weedy ground in close proximity to the wells and fell in rather than flying in from further afield. They are some of the species most commonly caught by pitfall trapping.

As well as the weeds which can occur in arable in the settlement there would have been plants of waste ground such as stinging nettle (Urtica dioica) and perhaps a few elder bushes (Sambucus nigra). Common mallow (Malva sylvestris) is another perennial of waste places and roadsides represented by several seeds. The group of mallow-eating weevils, Apion malvae, A. aeneum and A. radiolus, are likely to have been feeding on it.

Finally along with a large proportion of the Coleoptera, many of the plants (eg dock (Rumex spp.) and a plantain (Plantago major)) could have occurred in any of the three main types of open country which have been suggested: grassland, cultivated ground, and weedy ground along roadsides and in the settlement.

VIII 10.5 Other habitats

As well as major components of the landscape interpreted as existing around the villa that have already been described, there is evidence for other important, though perhaps localized, habitats nearby. The few water beetles, for example, must have had their origins from somewhere, be it the River Thames or puddles of stagnant water in drainage ditches. There is also evidence of a distant habitat: woodland (VIII 6, VIII.10.8).

VIII.10.6 Accumulated organic material: buildings and muck heaps

One of the effects of permanent human occupation of a site is to bring together large accumulations of organic materials: the timber and thatch of buildings, stored food (especially grain), and waste material such as domestic refuse and dung. Certain species of Coleoptera are greatly favoured by these habitats and some of them were numerous in the Barton Court samples. Most of the beetles abundant enough to be named in the rank order plots are individuals of decaying or dead organic remains (Fig 165, 166). Although not numerous enough to be named in the plots there are 40 individuals of Anobium punctatum, the woodworm beetle, which is particularly common in domestic habitats although it does also occur in dead wood elsewhere.

Species associated with decaying vegetable material accumulated by man range from those which feed on rather dry material such as thatch, eg Ptinus fur (39 individuals present), through species of relatively 'sweet' compost, eg Lathridius minutus agg. (97 individuals), to those of wet, smelly somewhat anaerobic muck, eg Anotylus sculpturatus (122 individuals). Different groupings of beetles of decaying plant material and their archaeological interpretation are given by Kenward (forthcoming). A full range of different types of decaying organic material including dung heaps was probably present but can only be inferred from the number of individuals since, apart perhaps from the enigmatic Aglenus brunneus (Kenward 1975), all could be expected to occur in natural habitats in the area such as birds' nests (P. fur), under dead tree bark (L. minutus agg.), and in animal droppings (A. sculpturatus).

Although the villa was probably involved in cereal growing and grain was certainly processed and presumably stored at the site, there is nothing to suggest serious infestation. The major pests which can infest granaries in their millions, Cryptolestes, Oryzaephilus, Sitophilus, Tribolium, and Palorus, were present in Britain by the date of the wells and infestations of serious proportions had occurred (Hall & Kenward 1976; Buckland 1978, 44), but none of them was found in the samples from Barton Court. Several of the species which were identified have been recorded in old grain and flour residues (eg P. fur) but only the four individuals of Stegobium paniceum can be regarded as true pests of stored farinaceous material. The paucity of grain beetles is in agreement with the results from the Roman settlement at Farmoor (Lambrick & Robinson 1979, 122) but it is interesting that they should be almost absent from a true villa site which is assumed to be a major cereal producer at a time when there were serious grain infestations in towns. Perhaps this is related to an efficient system whereby most of the grain was sold or paid in tax during the autumn and promptly removed to town and military granaries. The only grain stored on the site may have been that needed for seed and local consumption.

While the accumulated organic material present in and around the villa significantly influenced the insect assemblage which collected in the wells, it had not done so to the extent which can occur in towns, where some deposits are dominated by synanthropic or 'filth' species. The insects from Barton Court still comprise very much a rural fauna (Kenward & Robinson forthcoming).

VIII.10.7 Hedges

It was suggested (Lambrick & Robinson 1979, 121-2) that hedges were present on the Roman site at Farmoor. Firstly, the low level of tree and shrub pollen combined with the abundant remains of thorny twigs and wood of *Prunus* sp. bud scales and leaf abscision pads were thought to indicate the presence of a restricted type of scrub (*Prunus* species, being insect-pollinated, rarely occur in the pollen record). Also, the *Prunus* wood and twigs were not present in Iron Age features on the site which gave similar pollen results. Therefore, it was thought that the shrub may have been in the form of thorn hedges. Secondly, hedges of a different nature were suggested by finds of *Buxus sempervirens* L. (box) leaves.

The pollen analyses of 950/5 and 832 spit 5 have low values for tree and shrub pollen, but *Prunus* / *Crataegus* sp. (blackthorn/hawthorn) thorns were not very common, there being none in 950/5 and only a few in 832 spits 4 & 5. Likewise, *Prunus* sp. wood was only present in the latter two samples and was greatly outnumbered by wood of *Quercus* (oak) and *Corylus* (hazel). Many of the pieces of oak and hazel showed signs of cutting or working. There were no remains of exotic bushes.

The above evidence is not regarded as good enough to suggest that there were hedges around the enclosures of the Barton Court Roman villa. Hedges may have been present, - indeed, the field ditches by themselves are not substantial enough to present a barrier to domestic animals. However, there is not the quantity of *Prunus* wood and twigs as at Farmoor, ~~and what remains~~ existed were outnumbered by wood of other species, which had probably been brought to the site for the use of the villa's occupants. The pieces of *Prunus* likewise may have been offcuts. Also, Barton Court does not have evidence from another period apparently without hedges for comparison.

VIII.10.8 Woodland

As is only to be expected, wood was used at the villa, including substantial oak timbers and hazel rods. The other preserved biological remains suggest that woodland was absent from the immediate vicinity of the site. A fortunate discovery, however, means that some details can be given about a particular piece of woodland exploited by the villa, though its exact location, is uncertain.

Sample 832 spit 4 moss was composed almost entirely of moss which had been packed between and behind the stones of the well lining, perhaps to filter the water. The mosses, identified by Dr Dickson, are all woodland species. The most abundant, Hylocomium brevirostre, occurs on calcareous soil in deep shade and is at present uncommon. Many of the other biological remains in the moss had been transported with it from the woodland floor. They include insects which overwinter in moss: e.g. the bug Sehirus biguttatus, and the woodland snail Azeca goodali. 62% of the pollen from the moss was tree/shrub pollen, compared with 5% and 4% from the other two Roman samples. 50% of the pollen from the moss was hazel (Corylus), the remaining 12% tree pollen being birch (Betula), alder (Alnus), beech (Fagus), oak (Quercus), and ash (Fraxinus). There were only a couple of twigs in the 5.7kg of moss examined, which were both oak. The seeds confirm the evidence from the moss for the predominately calcareous substrate of the wood, for they include Viburnum lantana (wayfaring tree) and Fragaria vesca (wild strawberry). Several of the Coleoptera are associated with trees but, apart from Chalcoides sp. on Salix (willow) and Populus spp. (poplar), none are at all specific. However, eighteen oak galls caused by parasitic Hymenoptera (wasps) from the sub-family Cynipinae were present in the 1.1kg examined for seeds. They included spangle galls of leaves (Neuroterus cf. albipes a.g) and bud galls of Andricus cf. albopunctatus. Further details of wasp galls from archaeological contexts are given by Robinson (1980).

While the various aspects of the biological evidence all agree that the moss came from a largely calcareous wood, they apparently conflict as to its type. The bryophyte flora is very much 'old woodland' and some of the species are rare or extinct in this region at present (VIII.6). However, the pollen is certainly not what would be expected from the high forest of climax woodland. The pollen emphasizes the presence of hazel and has a low value for oak, whereas the wasp galls might suggest that oak was an important component of the wood. One way of interpreting the results is to suggest that the wood was indeed of ancient origin and thus contained a relict moss flora, but by the late 3rd century was being managed for timber. Felling of the larger trees or coppicing would have the effect of opening the wood up and enabling the hazel to flower profusely, while pollen production of the high forest trees would be reduced. If the wood were mixed oak/hazel coppice this might explain the high level of hazel pollen, for unshaded hazel produces pollen in very large quantities, wheras oak is not so prolific and also takes longer to reach flowering size. This would reconcile the evidence from the pollen with that from the wasp galls.

This wood, with its resources of timber, moss, and perhaps strawberries and hazel nuts, may have been situated on the Corallian limestone to the north of the site, as is the present - day wood of Bagley with which its flora and fauna have some affinities. However, there are many other localities where calcareous woodland could have grown, in particular, the gravel terraces which have now been so thoroughly cleared of trees that the type of forest it would support is rather uncertain.

VIII.11 THE SAXON ENVIRONMENT

Although the Saxon well was very different from its Roman counterparts in possessing an aquatic fauna and flora which lived in it (VIII.9.2), superficially there appears to be little difference between the general environment and the site. Unfortunately, where the results are not similar the Saxon samples tend to be too small or the differences inexplicable.

As for the Roman period the pollen suggest an open, relatively unwooded environment which is supported by the results from the seeds and coleoptera. It is of particular interest to know whether there was any increase in scrub, perhaps on abandoned land, after the end of the Roman period, but the slight rise in tree and scrub pollen from values of 4% and 5% to 10% is not sufficient to suggest any change on the basis of the sample.

VIII.11.1 Grassland

The same type of grassland as in the Roman period was probably present. There is rather less evidence in the form of dung beetles for pasture but it must be remembered that when the superabundant species (Helophorus brevipalpis and Platystethus cornutus in 1083/4 and Meligethes sp. in 1083/2) are left out, the sample sizes are just too small to attempt to relate this change to any decrease in grazing.

VIII.11.2 Disturbed ground

There seems to have been bare disturbed ground and waste areas with populations of annual weeds, perennials, ground beetles, and phytophagous species as before. The species of Amara of open sandy habitats were absent, but it is difficult to say whether this is significant, let alone try to relate it to changes in arable or bare ground around the settlement. A difference which is probably significant though without an obvious explanation, is the absence of seeds of Papaver spp. (poppies) and the find of only a single seed of Anthemis cotula (stinking mayweed). Together they made up between 11% and 16% of the seeds in the Roman samples (excluding P. somniferum and 832 spit 4 moss). Agrostemma githago seeds were also absent. This difference is perhaps related to a change in agricultural practices (the arable link of the latter two species has already been mentioned, VIII.10.2), but the change need be no more than crop processing being carried out on a different area of the site. Most interestingly, however, Camelina alyssum evidently continued as a weed in flax fields.

VIII.11.3 Cultivated plants

The evidence from the waterlogged remains for the Saxon period is particularly important at Barton Court. This is because there was considerable residual Roman pottery in some of the Saxon features, so it is to be assumed that some of the carbonized seeds were residual too. Roman material which had not been charred would have decayed in the soil, therefore crop records from 1083 can be regarded as reliably Saxon.

The only cereal identified is Hordeum vulgare (six-row barley) from its rachis nodes. It is unfortunate that no wheat was found because it would be most interesting to know whether spelt continued in use into the Saxon period here. However, bread wheat chaff is not as robust as that of spelt and it is possible that it is not as easily preserved in a recognizable form. The other arable crop indicated is flax (L. usitatissimum), again on the basis of numerous capsule fragments as well as seeds. The problem remains that the Brassicae seeds could be from crops or weeds.

The range of exotic species of Umbelliferae used by the Romans was absent.

VIII.11.4 Coleoptera of refuse and synanthropic species

As in the Roman period, coleoptera associated with accumulations of plant debris and manure in various stages of decay were present, though probably at a lower percentage level. Those species particularly associated with buildings were at a much reduced level or absent. There was only a single specimen of Ptinus fur and none at all of Anobium punctatum. There were no grain beetles but, if they were occurring at the same percentage level as in the Roman period, the sample sizes were too small to expect any. Unfortunately (from the archaeological point of view) Dermestes lardarius is not restricted to eating bacon. This reduction in synanthropic species may be related to a less intensive level of human occupation of the site.

VIII.11.5 Shrubs and trees

Hedges may have been present on the site, but there is even less evidence for them than from the Roman period (VIII.10.7). A range of wood was certainly being brought to the site, though. The wattles of the well 1083 consisted of oak (Quercus), hazel (Corylus), and willow (Salix). Some of the horizontal wattles of the well had been woven out of long thin sticks of oak. It is quite likely that they had been obtained from a tree which had previously been pollarded or in some way cut back, since this is not its usual growth form.

VIII.1.2 References

Allen, A A, 1960 On the habitat and incidence etc of the rufipes group of Helophorus (Col. Hydrophilidae) and its allies in Britain, Entomologist Monthly Magazine, 96, 23-4

Andersen, S Th, 1970 The relative pollen productivity and pollen representation of Northern European trees, and correction factors for tree pollen spectra, Danmarks Geologiske Undersøgelse, II Raekke Nr 96

Apicius, The art of cooking

Biological Flora of the British Isles, J Ecology, various vols

Bowen, J M, 1968 Flora of Berkshire

Boycott, A E, 1934 The habitats of land Mollusca in Britain, J Ecology, 22, 1-38

Boycott, A E, 1936 The habitats of fresh-water Mollusca in Britain, J Animal Ecology 5, 116-86

Buckland, P C, 1978 Cereal prodcution, storage and population: a caveat, in The Effect of Man on the landscape: the Lowland Zone (eds S Limbrey & J G Evans) CBA Research Report 21

Buckland, P C, Greig, J R A, & Kenward, H K, 1974 York: an Early Medieval Site, Antiquity, 48, 25-33

Clapham, A R, Tutin, T G, & Warburg, E F, 1962 Flora of the British Isles

Coope, G R, & Osborne, P J, 1967 Report on the Coleopterous fauna of the Roman well at Barnsley Park, Gloucestershire, Trans Bristol & Gloucestershire Archaeol Soc, 86, 84-7

Crawford, D J, 1973 The Opium poppy a study in Ptolômaic agriculture, in Problemes de la terre en Grèce ancienne (ed M I Finley), 223-51

Dickson, J H, 1973 Bryophytes of the Pleistocene

Dimbleby, G W, 1967 Plants and archaeology

Eady, R D, & Quinlan, J, 1963 Hymenoptera: Cynipodoidea, Royal Entomological Society of London handbooks for the identification of British insects 8, pt 1 (a)

Evans, J G, 1972 Land Snails in Archaeology

Fowler, W W, 1889 The Coleoptera of the British Islands, 3

Godwin, H, 1975 The history of the British flora

Godwin, H, 1978 Fenland: its ancient past and uncertain future

Greig, J R A, forthcoming The interpretation of pollen from urban contexts, in Environmental archaeology in the urban context (eds A R Hall & H K Kenward) CBA Research Report

Grensted, L W, 1939 Colonisation of new areas by water-beetles, Entomologist's Monthly Magazine, 75, 174-5

Hall, R A, & Kenward, H K, 1976 Biological evidence for the usage of Roman riverside warehouses at York, Britannia, 7, 274-6

Hammond, P M, 1971 Notes on British Staphylinidae, 2 - On the British species of Platystethus Mannerheim with one species new to Britain, Entomologist's Monthly Magazine, 107, 93-111

Hinton, H E, 1945 A monograph of the beetles associated with stored products, 1

Johnson, C, 1966 Coleoptera: Clambidae, Royal Entomological Society of London handbooks for the identification of British insects 4, pt 6 (a)

Jones, E W, 1952 A Bryophyte flora of Berkshire and Oxfordshire I, Hepaticae and Sphagna, Trans Brit Bryological Soc, 2, 19-50

Jones, E W, 1953 Ibid, II Musci, Trans Brit Bryological Soc, 2, 220-77

Jones, E W, 1955 Ibid, III Addenda, Trans Brit Bryological Soc, 2, 537-8

Joy, N H, 1932 A practical handbook of British beetles

Kenward, H K, 1975 The biological and archaeological implications of the beetle Aglenus brunneus (Gyllenhall) in ancient faunas, J Archaeol Sci, 2, 85-94

Kenward, H K, 1978 The analysis of archaeological insect assemblages: a new approach, The Archaeology of York 19/1, York Archaeological Trust & CBA

Kenward, H K, forthcoming, Insect communities and death assemblages: comparative problems of interpretation, in Environmental archaeology in the urban context (eds A R Hall & H K Kenward) CBA Research Report

Kenward, H K, & Robinson, M A, forthcoming The interpretation of urban and rural archaeological insect assemblages: a comparative assessment, in Environmental archaeology in the urban context (eds A R Hall & H K Kenward) CBA Research Report

Kerney, M P, 1966 Snails and man in Britain, J Conchology Lond, 26, 3-14

Kerney, M P, 1976a A list of fresh and brackish water Mollusca of the British Isles, J Conchology Lond, 29, 26-8

Kerney, M P, (ed) 1976b Atlas of the non-marine Mollusca of the British Isles, Cambridge: Institute of Terrestrial Ecology

Kloet, G S, & Hincks, W D, 1964 A Check List of British insects Part 1: small orders and Hemiptera, 2nd edition, Royal Entomological Society of London

Kloet, G S, & Hincks, W D, 1977 Ibid Part 3 Coleoptera, Royal Entomological Society of London

Lambrick, G, & Robinson, M, 1979 Iron Age and Roman riverside settlements at Farmoor, Oxfordshire, Oxfordshire Archaeol Unit Report 2, Oxfordshire Archaeol Unit & CBA

Le Quesne, W J 1965 Hemiptera: Cicadomorpha, Royal Entomological Society of London handbooks for the identification of British insects 2, pt 2 (a)

Lindroth, C H, 1974 Coleoptera: Carabidae, Royal Entomological Society of London handbooks for the identification of British insects 4, pt 2

Perring, F K, & Walters, S M, (eds) 1962 Atlas of the British flora

Petheridge, F R, 1928 The turnip mud beetles (Helophorus rugosus OI and H. porculus Bedel), Ann Applied Biol, 15, 659-78

Reid, C, 1908 in Excavations on the site of the Roman city at Silchester, Hants, in 1907 (W H St J Hope), Archaeologia, 61, pt 1, 199-218

Robinson, M, 1975 The environment of the Roman defences at Alchester and its implications, in C J Young, The defences of Roman Alchester, Oxoniensia, 40, 161-70

Robinson, M, 1980 Wasp galls and archaeology, J Archaeol Sci, 7, 93-95

Robinson, M, & Hubbard, R N L B, 1977 The transport of pollen in the bracts of hulled cereals, J Archaeol Sci, 4, 197-9

Smith, C, (ed), 1979 Fisherwick

Southwood, T R E, & Leston, D, 1959 Land and water bugs of the British Isles

Sparks, B W, 1959-60 The ecological interpretation of Quaternary non-marine Mollusca, Proc Linnean Soc London, 172, 71-80

Stead, I M, forthcoming Excavations at Rudston Roman villa, North Humberside, Yorkshire Archaeological Society

Tansley, A G, 1965 The British Islands and their vegetation

Tolonen, M, 1978 Palaeoecology of annually laminated sediments in Lake Ahvenainen, S. Finland. I: Pollen and charcoal analyses and their relation to human impact, Ann Biol Fennici, 15, 177-208

Tutin, T G, Heyward, V H, Burgess, N A, Moore, D M, Valentine, D H, Walters, S M, Webb, D A, (ed), 1964, 1968 Flora Europaea 1, 2

Walden, H W, 1976 A nomenclature list of the land Mollusca of the British Isles, J Conchology London, 29, 21-5

Walker, J J, 1906-29 Preliminary list of the Coleoptera observed in the neighbourhood of Oxford and six supplements, Ashmolean Natural History Society of Oxfordshire Reports

Walker, J J 1939 Coleoptera in a limited area at Oxford, Entomologist's Monthly Magazine, 75, 9-11

IX The Crop Plants

by Martin Jones and Mark Robinson

IX.1 INTRODUCTION

Both carbonized and waterlogged remains of various species of crop plant were recovered from the site. It must be remembered that separate means of preservation will tend to favour different species for two reasons. First, one means of preservation will be more effective on some species than others. Thus cereals are readily incorporated into the archaeological record by charring, but only survive under the very best waterlogged conditions. By contrast, flax seeds are readily incorporated by either means. Secondly, different methods of preservation may be biased towards particular activities. There is a growing number of empirical observations that suggest that debris of a grain crop are more likely than other plant crops to be incorporated into carbonized assemblages. The view that this is related to corn-drying accidents may be too simple, but some bias clearly exists. In a similar way, the retting of flax might lead to its over-emphasis in waterlogged deposits. Hubbard (1965) has argued that grain impressions may be biased towards animal fodder.

The contrast between crop records from waterlogged and carbonized assemblages observed here is therefore to be expected. If a species dominates the archaeological record, it does not necessarily follow that it also dominates the contemporary crop economy. The primary botanical data cannot be directly translated into that crop economy. It must be viewed in the light of the whole range of archaeological information before economic models are constructed.

IX.2 TRITICUM DICOCCUM (EMMER WHEAT)

Emmer is a constituent of at least two of the carbonized samples from this site, the Neolithic feature 866 and the late Iron Age pit 311 and possibly one waterlogged sample, the R-B well feature 950. Although only 36 out of the 1943 wheat grains from the latter context were confidently identified as emmer, the high proportion of glumes from this assemblage which had articulation widths below 1mm would suggest that many of the unidentified wheat grains are also of emmer. A small number of grain impressions have been found in locally produced pottery from the Neolithic causewayed camp, 400m to the north-east of the site (Helbaek 1952; Murphy forthcoming). Six impressions of wheat have been recorded, and the three that were identified to species level were all emmer wheat. The late Neolithic samples from this site contained one glume and possibly two grains of this species, but emmer was absent from the Middle Bronze Age samples from the Ashville site. This series of records in itself is no basis for determining the relative importance of emmer wheat in the Upper Thames Valley. It is nevertheless consistent with the national picture of this cereal in prehistory after Hubbard (1975) with peaks in the Neolithic and Iron Ages and a trough between.

Emmer produces a very fine white flour and has a relatively high protein content, but is difficult to thresh and has almost vanished from cultivation. Although autumn-sowable varieties do exist, emmer is generally less frost-hardy than spelt and bread wheat, and this may account for its diminished importance in later prehistory (Applebaum 1954; Percival 1921; Winton 1932).

IX.3 TRITICUM AESTIVOCOMPACTUM SCHIEN (BREAD WHEAT S.L.)

Owing to the ease with which this wheat can be threshed and its suitability for intense fertilizer application, bread wheat has become the most widely grown cereal today. However, although Helbaek has verified its presence in Britain from the Neolithic period onwards, bread wheat appears only sporadically and in small quantities in archaeological contexts. The reason behind the slowness of its rise to dominance in the crop is not yet clear.

The earliest Upper Thames Valley records of bread wheat are the Late Neolithic assemblages from this site. It was also recorded from a Middle Bronze Age context at the Ashville site. This record is supplemented by two other Bronze Age records from just outside the region; an early Bronze Age grain impression from Lambourn Downs (Berks) and a Late Bronze Age carbonized deposit from Theale (Berks). At the Ashville site bread wheat also occurs in early and middle Iron Age contexts and on this site in Late Iron Age and Romano-British carbonized contexts.

This fairly continuous series of records is in contrast with the national record, in which there appears to be a gap in the bread wheat record, roughly corresponding to the Bronze Age (Hubbard 1975). The suggestion has been made partly on the basis of this gap, that the bread wheats of the Neolithic and the late prehistoric periods are genetically distinct (Hubbard 1975). The carbonized bread wheat samples from the earlier Upper Thames Valley contexts are not sufficiently well preserved to allow any such distinctions within the material to be detected. The popular modern bread wheat is the lax-eared form T. aestivum, and not the dense-eared 'club wheat' T. campactum, of which rhachis fragments were recovered from the corn-drier 657.

IX.4 TRITICUM SPELTA (SPELTA WHEAT)

From the archaeological record so far, spelt wheat appears to be the charasteristic wheat of the Iron Age and Roman periods. It is a very hardy wheat, well suited to autumn sowing, and the grain has good baking and milling properties. Owing to the difficulty of threshing spelt and its poor response to the intense application of fertilizers, it has almost vanished from cultivation (Percival 1921; Bluntritt 1974).

IX.5 HORDEUM VULGARE L. EMEND. (SIX-ROW BARLEY)

Six-row barley occurs continuously in the Upper Thames Valley record from the Neolithic period onwards. The earliest record is the impression of a triplet of grains in locally made pottery from the Neolithic causewated camp 400m from the present site (Murphy forthcoming). This is followed by the three carbonized grains of Late Neolithic date from this site. Records of Early Bronze Age date come from a pottery impression at Somertom (Jessen & Helbaek 1944) of Middle Bronze Age date from carbonized grain at the Ashville site (Jones 1978) and of Late Bronze Age date from a grain impression at Abingdon (Helbaek 1952). Carbonized barley grains occur in all phases of the Iron Age at this site and the Ashville site, and an Early Iron Age pottery impression was found at Radley (Helbaek 1952). It also occurs in both carbonized and waterlogged contexts from all Romano-British phases at this site and the Ashville site, as well as at a third site in Abingdon (Jones 1975). In Anglo-Saxon contexts it occurs as pottery impressions at Abingdon and Sutton Courtenay (Jessen & Helbaek 1944), and as waterlogged grain from the Saxon well on this site.

In the country as a whole, barley may be found in all periods following and including the Neolithic. In Jessen and Helbaek's data very few records of barley exist for the Romano-British period. Data from the Upper Thames Valley have ratified those authors' suggestion that this reflected the paucity of barley in this period. Where it can be identified, the barley from archaeological contexts has been the six-row form. Some of the grains from Iron Age and Romano-British contexts on this site were identifiable as hulled six-row barley. This is consistent with the national picture, which indicates that hulled forms superseded naked forms at the beginning of the Iron Age. The dimensions of the internode fragments from the corn-drier indicate a density of grain on the ear intermediate between that of the typical lax-eared and dense-eared forms (see fig 161). The measurement of a larger number of internode fragments from the Ashville site indicate that, for the Iron Age at least, a division of barley into lax- and dense-eared forms may be unrealistic. The range of genotypes appears to have been continuous.

IX.6 LINUM USITATISSIMUM (FLAX)

Flax seems to have been a crop in Britain from the Neolithic period onwards. In terms of the number of seeds encountered it is the commonest economic plant in the Romano-British and Saxon waterlogged deposits from Barton Court Farm. One carbonized seed was also recovered from the Romano-British corn-drier feature 657. It is best grown on soils that are relatively water-retentive. The free-draining sandy loam on the second gravel terrace at Barton Court may be rather too dry, but soils nearer the river would be suitable.

IX.7 OTHER CROP SPECIES

Prunus domestica (plum) Anethum graveolens (dill), Coriandrum sativum (coriander), and Papaver somniferum (opium poppy) from waterlogged contexts, and Vicia faba var. minor (Celtic bean) from a carbonized context, are all likely to be either crop plants or escapes from cultivation in the Romano-British period. Although not all are Roman introductions, only Celtic bean is at all common before the Roman period.

Other species were almost certainly cultivated, but either have not been preserved in the archaeological record or have seeds morphologically indistinguishable from their wild relatives.

IX.8 References

Applebaum, S, 1954 The Agriculture of the British Early Iron Age, as exemplified at Figheldean Down, Wiltshire, Proc Prehist Soc, 20, 103-14

Blumtritt, L, 1974 Das Schivabenkorn-Wer Kenut Es Noch?, in Miirsingen Alb Beutenlay.

Helbaek, H, 1952 Early Crops in Southern England, Proc Prehist Soc, 18, 194-233

Hubbard, R N L B, 1975 Assessing the botanical component of human palaeo-economies, Bull Inst Archaeol Univ London, 12, 197-205

Jessen, K and Helbaek, H, 1944 Cereals in Great Britain and Ireland in Prehistoric and early historic times, Kgl Dan Vidensk Selsk Biol Skifter Copenhagen, 1-68

Jones, M K, 1975 Seed Report, in Excavations in Broad Street, Abingdon (eds M Parrington and C Balkwill), Oxoniensia, 40, 50-2

Jones, M K, 1978 The Plant Remains, in The excavation at Ashville Trading Estate, Abingdon, Oxon 1974-6 (ed M Parrington), CBA Research Report 28, 93-110

Percival, J, 1921 The Wheat Plant

Winton, A L, and K G B, 1932-39 The Structure and Composition of Foods

Species Lists

Notes and Abbreviations for Tables 4-14

Tables 4-6 Habitat information: D, disturbed ground; G, grassland; M, marsh and aquatic; S, scrub; W, woodland; a, arable; b, basic; d, free draining; h, heavy; l, light; s, acidic; w, wet.

Table 7 Habitat information: A, aquatic; B, bankside; C, cultivated; D, disturbed ground; Da, disturbed ground including arable; G, grassland; M, marsh; S, scrub; W, woodland. Less usual habitats given in brackets. * against number of a species from a particular sample indicates that it has been derived from a tenth sub-sample. + indicates presence in insect but not seed sample.

Table 8 Habitat information: C, cultivated; Da, disturbed ground including arable; G, grassland. Less usual habitats given in brackets.

Table 9 Habitat information: C, cultivated; Da, disturbed ground including arable; G, grassland; S, scrub; W, woodland. + indicates present but uncounted.

Table 10 Habitat information: A, aquatic; M, obligate marsh dweller; (M), terrestial species which can live in marshes; T, terrestial. Qualified by: o, open habitat; s, shaded habitat. + indicates present by uncounted.

Table 11 Habitat or food information: A, aquatic; B, bankside/water's edge; C, carrion; D, disturbed ground/bare ground; F, dung; G, grassland; M, marsh; P, pest of stored farinaceous foods; T, terrestial (but no detailed habitat information available); V, decaying plant remains or scrub. Less normal habitats given in brackets. * against number of a genus not identified to species from a particular sample means that it includes other species than those named to species in that sample. + indicates present but uncounted.

Table 12 Habitat information: T, terrestial. * against number of a genus as for Table 11.

Table 13 Habitat information: A, aquatic; T, terrestial. + indicates present but uncounted.

Table 14 Notes as for Table 11.

TABLE 4

CARBONISED SEEDS OTHER THAN CEREALS

		Neo				IA		RB													RB-AS		AS		HABITAT
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 5	849 F1	849 F2	849 T	849/1 F	849/1 T	950/5	955	1241	1174	1190	
RANUNCULACEAE																									
Ranunculus acris/bulbosus & repens L.	Buttercup						2		1																Gw
FUMARIACEAE.																									
Fumaria sp.	Fumitory																	1							Dal
CRUCIFERAE																									
n.f.i.																				1					
CARYOPHYLLACEAE																									
Silene dioica (L.) Clairv.	Red Campion								4							1									W+Sb
S. alba (Mill.) Krause	White Campion														1		1	1							Da
Silene sp.						5		2																	
Agrostemma githago (L.)	Corn Cockle					248				1				1	3	2	1	7							Da
Cerastium sp.	Mouse-ear				1		1		4																Da+G
Stellaria media (L.) Vill.	Chickweed					5			4			1													Da
S. palustris Retz	Marsh Chickweed								1																Mb
Scleranthus annuus L.	Annual Knawel																	1							Dadl
n.f.i.						19	7	1	11						2	1	1								
PORTULACACEAE																									
Montia fontana Subsp. chondrosperma (Fenzl)	Blinks					1																			M+Gws

CARBONISED SEEDS OTHER THAN CEREALS

		Neo				IA		RB													RB-AS		AS		HABITAT
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 5	849 F1	849 F2	849 T	849/1 F	849/1 T	950/5	953	1241	1174	1190	
CHENOPODIACEAE																									
Chenopodium album L.	Fathen					115			11	11					2	1									Da
C. urbicum L.	Upright Goosefoot					107																			Da
Chenopodium sp.	Goosefoot					148			47	21						4							1		
Atriplex patula L.	Common Orache					128											1								Da
Atriplex patula/hastata L.	Orache					90				1															Da
n.f.i.						61																			
LINACEAE																									
Linum usitatissimum L.	Flax								1																
PAPILIONACEAE																									
Trifolium repens L.	White Clover								3																G
Trifolium sp.	Clover				1				2						3										
Vicia faba var. minor	Celtic Bean								1																
Vicia/Lathyrus sp.				3	2	11	3	1	2	11					1	2		21	3				1		
n.f.i.						10	2			3				1											
ROSACEAE																									
Malus sylvestris Mill.	Crab Apple				23																				W+S
UMBELLIFERAE																									
Torilis/Anthriscus sp.						28	1		2																Da

TABLE 4 (continued)

CARBONISED SEEDS
OTHER THAN CEREALS

		Neo				IA		RB													RB-AS		AS		HABITAT
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 5	849 F1	849 F2	849 T	849 F	849/1	950/5	953	1241	1174	1190	
POLYGONACEAE																									
Polygonum aviculare L.	Knotgrass					7																			Da
P. convolvulus L.	Black Bindweed					6												1							Da
Polygonum sp.						5		9							1		2								
Rumex acetosella L.	Sheep's Sorrel			1		16		1	37	1					11			1							DaS
Rumex sp.	Dock/Sorrel					11		3	64	7		6			59	15	5	8	2		1		1		
n.f.i.						3	1																		
URTICACEAE																									
Urtica dioica	Stinging Nettle																			1					D
CORYLACEAE																									
Corylus avellana L.	Hazelnut		37	12	35			1			1											1	1		W+S
BORAGINACEAE																									
Lithospermum arvense L.	Corn Gromwell					110	3	24		1					10	4	10								Da
SCROPHULARIACEAE																									
Veronica hederofolia L.	Ivy-leaved Speedwell							1	3																Da
Rhinanthus sp.	Hayrattle								4						1										G/Da
Euphrasia/Odontites sp.						82			1			1			2	1	2								G/Da
LABIATAE																									
Mentha sp.									2	1															Gw
PLANTIGINACEAE																									
Plantago lanceolata L.	Ribwort Plantain								5							1		1							Da

CARBONISED SEEDS
OTHER THAN CEREALS

		Neo				IA		RB													RB-AS		AS		HABITAT
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 6	849 F1	849 F2	849 T	849/1 F	849/1 T	950/5	953	1241	1174	1190	
RUBIACEAE																									
Sherardia arvensis L.	Field Madder					6																			Da
Galium palustre L.	Marsh Bedstraw								2																Mb
Galium aparine L.	Goose Grass					2	1		1						1			4							Da
Galium sp.									6																
VALERIANACEAE																									
Valerianella dentata L. Poll.	Lamb's Lettuce					10			1																Da
COMPOSITAE																									
Anthemis cotula L.	Stinking Mayweed								704	68			2	9	82	13	9	1	1	1	1		1		Dawbh
Tripleurospermum maritimum (L.) Koch	Scentless Mayweed					205		3		1				2	27	7	6	5							Da
Carduus/Cirsium sp.	Thistle																2								D
Centaurea sp.	Cornflower/Knapweed														17	2	2	3	1						Da/G
n.f.i.																	1								
PAPAVERACEAE																									
Papaver sp.	Poppy								19									2							Dal
Papaver argemone L.	Prickly-head Poppy								3																Dal
SPARGANIACEAE																									
Sparganium erectum L.	Bur-reed								1																M
CYPERACEAE																									
Eleocharis palustris (L.) Roem. and Schult.	Spike-rush					1	2	101	17	1		1	1	3	31	23	23		1	1					M+Gwb
Carex sp.	Sedge					2		1	37	1		1	1	1		3									M

TABLE 4 (continued)

CARBONISED SEEDS OTHER THAN CEREALS

		Neo				IA		RB													RB-AS		AS		HABITAT
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 5	849 F1	849 F2	849 T	849/1 F	849/1 T	950/5	953	1241	1174	1190	
GRAMINEAE																									
Festuca gigantea/pratensis	Fescue					378			4						7	5	3	2	1						Gw
Bromus mollis/secalinus L.	Brome/Chess			1?		[illegible]		3	36	10					15	5	7	5							Da
Hordeum sp.	Wild Barley					[illegible]	1	1	2																Da
Avena sp.	Wild Oats				1?	128		2	17	11					75	28	18	8							Da
n.f.i.						614	3	3	109	4		1			12	7	2	4							
N.F.I.				3	3	30	30	69	158	22	6	13	2	1	75	25	5	38		1	1		10	2	
TOTAL		0	37	20	66	2791	57	226	1327	176	7	24	6	19	440	150	101	114	9	5	3	1	16	2	
VOLUME OF DEPOSIT ANALYSED		20	20	50	25	50	50	50	10	20	55	10	0.5	0.5	20	20	20	20	20	0.5	20	20	20	10	

CARBONISED PLANT MATERIAL TABLE 5 OTHER THAN SEEDS OR CHARCOAL

		Neo				IA		RB													RB-AS		AS	
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 5	849 F1	849 F2	849 T	849/1 F	849/1 T	950/5	953	1241	1174	1190
TRITICUM	Wheat																							
Glumes				1		75			114	52		1	1	1	279	411	201	70	21	8		3	1	
Internodes (brittle rhachis)									12								1		2	2				
Internodes (tough rhachis)									2						1	*	1							
Internodes (rhachis-type indeterminate)													1	1										
Awns																		1	1					
Detached embryos															*	*	*	*	*					
HORDEUM	Barley																							
~~Internodes~~					~~1?~~				~~16~~	~~1~~					~~1~~	~~6~~			~~1~~					
AVENA	Oats																							
Awns												1				*	1	1	1					
Panicle fragments																		*						
A. fatua floret base															1	1	1	1						
GRAMINEAE indeterminate	Grasses																							
Straw fragments													1								3			
Lemma/palea fragments									*	*														
RUMEX subsp. Rumex	Dock																							
Perianth tubercle									1															
SALIX; POPULUS	Willow/Poplar																							
Bud									1															
LINUM USITATISSIMUM	Flax																							
Capsule fragment																				1				

CARBONISED CEREAL GRAIN TABLE 6

		Neo				IA		RB													RB-AS		AS	
		544	865	866	1244	311	749	708	732 F	732 T	780	801	832 4	832 5	849 F1	849 F2	849 T	849/1 F	849/1 T	950/5	953	1241	1174	1190
TRITICUM	Wheat																							
T. spelta L.	Spelt Wheat					630	9	35	27	16	2				44	14	22	46					1	4
T. aestivocompactum Schiem.	Bread Wheat Club Wheat			3	1	217	1		5								1						1	
Hexaploids n.f.i.			1	4		705	6	22	35	15	1				170	48	43	90	3		1		10	4
T. dicoccum Schübl.	Emmer			2?		36										2?	1?							
n.f.i.				3		255	9	36	43	45	1	5	2		96	46	17	101	2		1		4	1
TOTAL TRITICUM			1	12	1	1843	25	93	110	76	4	6			310	110	84	237	5		2		16	9
HORDEUM sp.	Barley	1			2	420	19	24	47	70			1		79	36	44	125	5		2	1	6	2
CEREALS n.f.i.			1	3		451	36	69	90		5	13			176	94	81	116	9		1	1	18	2
TOTAL CEREALS		1	2	15	3	2714	80	186	247	146	9	18	3		565	240	209	478	19		5	2	40	13

TABLE 7

WATERLOGGED SEEDS

		Number of seeds in sample of 1.15 Kg. (2½ lbs.) Late Roman 950/5	832-4	832-5	832 moss	Early Saxon 1083/2	1083/4	HABITAT
RANUNCULACEAE								
Ranunculus c.f. *acris* L.	Buttercup	–	–	1	–	–	–	G
R. c.f. *repens* L.	Buttercup	8	1	3	2	1	1	damp G and W, D (a)
Thalictrum flavum L.	Meadow Rue	1	–	–	–	1	–	M, wet G
PAPAVERACEAE								
Papaver rhoeas L. *dubium* L. *lecoqii* Lamotte or *hybridum* L.	Poppy	11	5	10	–	–	–	Da.
P. argemone L.	Poppy	75	10	47	1	–	–	Da- esp. dry sandy soils
P. somniferum L.	Opium Poppy	71	–	–	–	–	–	C. Da.
Papaver spp.	Poppy	25	–	–	–	–	–	Da.
FUMARIACEAE								
Fumaria sp.		–	1	1	1	1	–	Da.
CRUCIFERAE								
Brassiceae spp.		7	–	26	–	80	–	Da. B, C.
Coronopus squamatus (Forsk) Aschers	Swine-cress	–	–	3	–	–	–	Da.- esp trampled muddy places
Thlaspi arvense L.	Penny-cress	1	–	–	–	1	–	Da.
Rorippa nasturtium - aquaticum (L.) Hayek	Watercress	–	–	–	–	56	–	at edge of clean water
gen. et. sp. indet.		81	77	13	–	–	2	
VIOLACEAE								
Viola sp.	Violet	–	–	–	2	–	2	M, G, S, W Da.

WATERLOGGED SEEDS

		Number of seeds in sample of 1.15 Kg. (2½ lbs.) Late Roman 950/5	832-4	832-5	832 moss	Early Saxon 1083/2	1083/4	HABITAT
HYPERICACEAE								
Hypericum sp.	St. John's Wort	–	–	–	–	1	–	M. G. S. W.
CARYOPHYLLACEAE								
Silene c.f. *alba* (Mill) Krause	White Campion	1	–	2	–	–	–	Da. (G. S.)
Agrostemma githago L.	Corn Cockle	3	1	1	–	–	–	Da.
Cerastium c.f. *holosteoides* Fr.	Mouse-ear Chickweed	4	–	–	–	–	–	G. Da.
Stellaria media gp.	Chickweed	248	6	10	2	9	12	Da.
S. graminea L.	Stitchwort	1	1	–	–	–	1	G. W.
Scleranthus annuus L.		1	–	2	–	–	–	Da - dry sandy often acid soil
gen. et sp. indet.		18	14	6	1	13	9	
PORTULACEAE								
Montia fontana L. c.f. *chondrosperma* (Fenzl) Walters	Blinks	1	–	–	–	–	–	M. G. Da. W, all wet and usually acid soil
CHENOPODIACEAE								
Chenopodium album L.	Fat Hen	23	14	10	2	102	8	Da.- esp nitrogen rich soil
Atriplex sp.	Orache	26	24	10	1	1	2	Da.
gen. et. sp. indet.		18	14	6	1	19	9	Da.
MALVACEAE								
Malva sylvestris L.	Common Mallow	5	–	3	1	–	1	D - esp. roadsides (G)
LINACEAE								
Linum usitatissimum L.	Flax	5	10	40	–	–	10	C.
L. catharticum L.		9	–	13	–	–	1	G - esp. calcareous

TABLE 7 (continued)

WATERLOGGED SEEDS

		Number of seeds in sample of 1.15 Kg. (2½ lbs) Late Roman 950/5	832 4	832 5	832 moss	Early Saxon 1083/2	1083/4	HABITAT
ROSACEAE								
Filipendula ulmaria (L.) Maxim	Meadow-sweet	–	–	2	–	–	–	M. wet G. and W.
Rubus fruticosus agg.	Blackberry	10	–	9	1	+	1	W.S.D.
Potentilla cf. erecta (L.) Räusch	Common Tormentil	3	–	–	–	–	1	G.M (W) all esp. light acid soils
P. cf. reptans L.		3	2	6	–	–	–	G.D.
Fragaria vesca L.	Wild Strawberry	–	–	–	23	–	–	W.S. and G. on bare rich soils
Agrimonia eupatoria L.	Common Agrimony	–	–	–	–	–	+	S. and D. - esp. hedges and roadsides, G.
Aphanes arvensis agg.	Parsley Piert	6	2	4	–	–	1	Da. and G. mostly on dry soils
Poterium sanguisorba L.	Salad Burnet	–	–	–	2	–	–	G. esp. calcareous
Prunus domestica L.	Plum	–	+	–	–	–	–	C.
Crataegus sp.	Hawthorn	1	–	–	1	–	–	S.W.
ONAGRACEAE								
Epilobium sp.	Willow-herb	–	–	10	–	–	1	M.B.W.S. Da.
UMBELLIFERAE								
Anthriscus caucalis Bieb		120	–	1	–	2	–	Da. - often dry or sandy
Torilis sp.		1	–	2	1	–	–	Da
Coriandrum sativum L.	Coriander	1	+	–		–	–	C.
Conium maculatum L.	Hemlock	–	3	+	1	2	6	B.W.S and D - all damp
Apium nodiflorum (L.) Lagg	Fool's Watercress	–	–	–	–	59	–	A.M.
Pimpinella cf. saxifraga L.		–	2	–	–	–	–	G. - esp. dry calcareous
Oenanthe fistulosa L.	Water Dropwort	1	1	–	–	–	1	A.M.
Aethusa cynapium L.	Fool's Parsley	1	–	1	–	–	–	Da.
Anethum graveolens L.	Dill	–	+	–	–	–	–	C.
Daucus carota L.	(Wild) Carrot.	1	–	–	–	–	–	D. and G. on dry calcareous soil, C.
gen. et sp. indet.		–	–	+	–	–	–	

WATERLOGGED SEEDS

		Number of seeds in sample of 1.15 Kg (2½ lbs) Late Roman 950/5	832 4	832 5	832 moss	Early Saxon 1083/2	1083/4	HABITAT
POLYGONACEAE								
Polygonum aviculare agg.	Knotgrass	253	100	68	3	8	28	Da
P. persicaria L.	Red Shank	1	–	–	–	–	1	M.G.B. and Da. - all damp
P. lapathifolium L. or nodosum Pers.		1	–	1	–	–	1	Da and B. - damp
Rumex spp.		55	3	17	1	11	33	Da G.M.S.W.
URTICACEAE								
Urtica urens L.	Small nettle	208	30	19	1	27	1	Da. - often dry light soils
U. dioica L.	Stinging nettle	437	13	45	4	286	172	D.W.S.B. - oft. nitrogen + phos. rich soil
CORYLACEAE								
Corylus avellana L.	Hazel	1	+	1	+	+	–	S.W.
OLEACEAE								
Fraxinus excelsior L.	Ash	–	1	–	–	–	–	S.W.
BORAGINACEAE								
Myosotis sp.	Forget-me-not	–	–	2	–	–	–	B.M.G.W.Da.
SOLANACEAE								
Hyoscyamus niger L.	Henbane	4	3	–	1	8	1	D. - esp. nutrient rich soil
Solanum sp.		14	1	1	–	–	13	Da.S.W.B. (A)

TABLE 7 (continued)

WATERLOGGED SEEDS

		Number of seeds in sample of 1.15 Kg. (2½ lbs.) Late Roman 950/5	832 4	832 5	832 mass	Early Saxon 1083/2	1083/4	HABITAT
SCROPHULARIACEAE								
? *Veronica* sp.		10	–	–	–	–	–	
Rhinanthus sp.	Yellow Rattle	–	1	–	–	–	–	(Da) G.
Odontites verna (Bell) Dum or *Euphrasia* sp.		7	2	29	1	–	–	Da. G.
LABIATAE								
Mentha sp.	Mint	–	–	1	–	–	3	G. and W. wet., Da. M A.
Lycopus europaeus L.	Gypsy-wort	–	–	–	–	–	2	M. B.?
Prunella vulgaris L.	Self-heal	3	2	4	–	–	3	G.
Stachys sp.	Woundwort	–	–	–	–	–	3	Da, M. B. S. W. (G)
Glechoma hederaceae L.	Ground Ivy	–	–	–	–	–	1	G. S. W.
Ballota nigra L.	Black Horehound	4	–	3	–	147	10	D
gen. et sp. indet		3	2	–	–	–	–	
PLANTAGINACEAE								
Plantago major L.	Plantain	17	9	12	–	5	10	G. short or grazed
P. media L. or *lanceolata* L.	Plantain	–	–	1	–	–	–	G.
CAPRIFOLIACEAE								
Sambucus nigra L.	Elder	4	1	20	–	–	5	S. W and D. *esp* base + nitrogen rich soils
Viburnum lantana L.	Wayfaring Tree	–	–	–	4	–	–	S and W on calcareous soils
VALERIANACEAE								
Valerianella locusta (L.) Betcke	Corn Salad	–	–	–	1	–	–	Da. – esp dry soils
V. rimosa Bast.	Lamb's Lettuce	1	–	–	–	–	–	Da. – basic soil
Valerianella sp.		–	–	1	–	–	–	

WATERLOGGED SEEDS

		Number of seeds in sample of 1.15 Kg. (2½ lbs) Late Roman 950/5	832 4	832 5	832 mass	Early Saxon 1083/2	1083/4	HABITAT
COMPOSITAE								
Senecio sp.	Ragwort	1	–	2	–	–	–	Da. M. G.
Anthemis cotula L.	Stinking Mayweed	159	68	168	1	1	–	Da. – esp base rich heavy soil
Achillea sp.		–	–	1	–	–	–	
Tripleurospermum maritimum (L.)	Scentless Mayweed	–	–	1	1	–	–	Da.
Chrysanthemum leucanthemum L.	Ox-eye Daisy	–	–	3	–	–	–	G.
Arctium sp.	Burdock	–	–	1	–	–	–	D. S
Carduus sp.	Thistle	1	–	–	–	2	–	Da. ~~M~~ G. S.
Carduus or *Cirsium* spp.	Thistle	4	1	1	3	1	–	Da. M. G. S.
Onopordon acanthium L.	Cotton Thistle	–	1	–	–	–	–	D
Centaurea sp.		–	1	2	–	–	–	Da. G.
Leontodon sp.		–	3	7	–	–	–	G.
cf. *Picris hieracioides* L.		–	–	1	–	–	–	G.
Sonchus oleraceus L.	Sow-thistle	1	–	1	–	–	2	Da.
S. asper (L.) Hill	Sow-thistle	7	1	–	–	9	24	Da.
Taraxacum sp.	Dandelion	–	–	1	–	–	–	D. M. G.
gen. et sp. indet		1	2	7	–	–	2	
JUNCACEAE								
Juncus spp.	Rush	142	323	140	41	50	–	esp M and wet G
CYPERACEAE								
Eleocharis S. *Palustris* sp.		7	3	7	–	–	1	A – shallow water M. G. – wet all open veg
Carex spp.	Sedge	3	3	5	2	2	2	esp wetter soils
GRAMINEAE								
gen. et sp. indet.	Grass	127	4	28	10	120	22	
Vars.		21	30	78	11	26	25	
	TOTAL	2346	784	873	137	1044	432	

TABLE 8

UNCARBONIZED CEREAL REMAINS

	Late Roman				Early Saxon		HABITAT.
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
Cereal size Graminae caryopses,							
cf. Bromus sp.	-	1	7	-	-	1	Da. G.
cf. Triticum or Hordeum sp. (wheat or barley)	1	-	1	-	-	3	C. (Da.)
Cereal chaff,							
Triticum cf. dicoccum Schübl (emmer wheat), single glume base	1	-	-	-	-	-	C. (Da.)
T. spelta L. (spelt wheat), pair of glumes	-	-	1	-	-	-	C. (Da)
T. spelta L. (spelt wheat), single glume base	18	1	6	-	-	-	C. (Da)
Hordeum vulgare L. emend (six row barley), rachis node	-	-	-	-	-	3	C. (Da.)
H. vulgare L. emend or distichon L. (barley), rachis node	4	1	1	-	-	28	C. (Da)
Avena fatua L. (wild oat), lemma/palea base	-	-	-	-	-	1	Da.

WOOD TABLE 9

		Late Roman				Early Saxon	
		950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4
Corylus	Hazel	-	+	+	-	-	+
Fraxinus	Ash	-	-	-	-	-	+
Prunus	Sloe, Plum	-	+	+	-	-	+
Quercus	Oak	+	+	+	+	+	+

OTHER PLANT REMAINS TABLE 10

	Late Roman				Early Saxon		HABITAT
	950/5 Lower level	837 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
Bryophyta (Moss)	+	+	+	+	-	+	
Bud scales	+	+	+	+	-	+	S.W.
Crataegus or Prunus sp. (Hawthorn or Sloe), thorny twigs	-	+	+	-	-	+	S.W.
Camelina alyssum (Mill.) Thell. capsule fragments	-	-	8	-	-	17	Da.
Deciduous Tree Leaf Fragments	+	+	+	+	-	+	S.W.
Leaf Abscission Pads	+	+	+	+	-	-	S.W.
Linum usitatissimum L. (Flax) capsule fragments	1	49	64	-	-	43	C.
Malus sylvestris Mill. (Apple) endocarp	1	-	-	-	-	-	S.W.C.
Medicago sp. (Medick) seed pods	-	3	3	-	-	-	G. Da.
Papaver sp. (Poppy) capsule lid	-	1	1	-	-	-	Da.
Raphanus raphanistrum L. (Wild Raddish) capsule fragments	-	-	-	-	7	-	Da.
Rosa sp. (Rose) prickle	-	+	-	-	-	-	S.W.
cf. Trifolium sp. (Clover) calyx	2	3	3	-	-	-	G.
cf. Vicia sp. (Vetch) seed pod fragment	-	-	x2	-	-	-	

TABLE 11

MOLLUSCA	Min. number of individuals						HABITAT
	Late Roman				Early Saxon		
	950/5	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
ELLOBIIDAE							
Carychium sp.	-	-	-	-	-	6	(M)
LYMNAEIDAE							
Lymnaea truncatula (Müll)	-	-	-	-	15	2	A.M.
PLANORBIDAE							
Anisus leucostoma (Müll.) < COCHLICOPIDAE	-	1	-	-	-	1	A.
Azeca goodalli (Férussac)	-	-	-	1	-	-	T.s., mostly woodland
VERTIGINIDAE							
Vertigo angustior Jeff.	-	-	1	-	-	-	M
Vertigo sp.	-	-	-	1	-	2	(M)
VALLONIIDAE							
Vallonia costata (Müll)	-	-	1	-	-	2	T.o.
Vallonia sp.	-	-	-	1	-	2	(M) o.
ENDODONTIDAE							
Discus rotundatus (Müll)	-	-	-	1	-	-	T.s.
ARIONIDAE							
Arion sp.	-	-	+	-	+	+	(M.)

MOLLUSCA	Min. number of individuals						HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
ZONITIDAE							
Nesovitrea hammonis (Ström)	1	-	-	-	-	-	(M)
Oxychilus cellarius (Müll)	-	1	1	6	-	1	T.s.
MILACIDAE							
Limax or *Deroceras* sp.	-	-	-	-	2	-	(M)
HELICIDAE							
Trichia hispida (L.)	-	-	-	-	5	1	(M)
Cepaea sp.	-	-	-	-	1	1	(M)
gen. et sp. indet.	1	-	-	-	-	-	(M)
TOTAL	2	3	3	9	23	16	

TABLE 12

COLEOPTERA	Min. number of individuals: Late Roman 950/5 Lower level	Late Roman 832 Spit 4	Late Roman 832 Spit 5	Late Roman 832 Spit 4 moss	Early Saxon 1083/2	Early Saxon 1083/4	FOOD or HABITAT
CARABIDAE							
Carabus nemoralis Mull.	-	-	1	-	-	-	T.
Carabus sp.	1	-	-	-	-	-	T.
Nebria brevicollis (F.)	6	7	23	-	-	4	W.G.D.
Notiophilus sp.	-	3	6	1	-	-	M.W.G.D.
Loricera pilicornis (F.)	-	-	1	-	-	-	M.W.G.D.
Clivina collaris (Hbst.) or fossor (L.)	2	1	2	-	1	-	moist. B.W.D. and G. often under dung.
Trechus obtusus Er. or quadristriatus (Schr.)	6	4	10	-	4	1	B.W.G.D. (cut vegetation)
Bembidion lampros (Hbst.)	1	-	-	-	-	-	G and D - dry open soil (W)
B. properans Steph.	5	-	6	-	-	-	T. - less dry open clay soil and mud
B. gilvipes Strm.	-	-	1	-	-	-	(W) B., also wet meadowland
B. obtusum Ser.	-	-	-	-	1	-	T. - open, clayish
B. guttula (F.)	-	-	1	-	-	-	M.G. and W. - moist. (in manure heaps)
B. lunulatum (Geofr. in Fourc.)	-	-	-	-	3	-	(W) D.B. and M. - well vegetated often clay soils
Bembidion spp.	-	-	3	1	1	1	mostly in wet or marshy places
Pterostichus cupreus (L.)	-	-	1	-	-	-	G.D. and (W) - moist
P. cupreus (L.) or versicolor (Strm.)	-	1	1	-	1	-	G.D.
P. melanarius (Ill.)	3	3	3	-	1	1	D.G. (W)
P. nigrita (Pk.)	-	1	2	-	-	-	M.B.
P. oblongopunctatus (F.)	-	-	-	1	-	-	W.
P. strenuus (Pz.)	-	-	-	-	1	-	W.G.D. and B. - often near water
P. cf. strenuus (Pz.)	-	-	-	-	1	-	W.G.D. and B. - often near water
P. vernalis (Pz.)	-	-	1	-	-	-	(W) and G. - moist, often near water
Calathus fuscipes (Goez.)	9	7	27	1	-	1	W.D. and G. - often in meadowland
C. melanocephalus (L.)	6	1	12	-	1	-	(W), G.D.
Calathus sp.	2	-	11	-	-	-	T.
Synuchus nivalis (Pz.)	-	-	1	-	-	-	G. and D. - often in sandy or gravelly places, (W)
Agonum dorsale (Pont.)	-	1	3	-	-	-	G. and D. - usually open
A. cf. moestum (Duft.)	-	-	1	-	-	-	B - rich vegetation, (W)
A. muelleri (Hbst.)	1	-	-	-	-	-	(W), M.G.D.

COLEOPTERA	Min. number of individuals: Late Roman 950/5 Lower level	Late Roman 832 Spit 4	Late Roman 832 Spit 5	Late Roman 832 Spit 4 moss	Early Saxon 1083/2	Early Saxon 1083/4	FOOD or HABITAT
CARABIDAE (continuation)							
Agonum obscurum (Hbst.)	-	-	-	1	-	-	W - wet, M - well vegetated
A. viduum (Pz.)	-	-	-	-	-	1	B - rich vegetation, (W)
Agonum sp.	2	-	1	-	-	-	mostly wet habitats
Amara cf. aenea (DeG.)	11	1	10	-	-	1	T - dry open ground
A. anthobia Vill. or plebeja (Gyll.)	2	-	4	-	-	-	T.
A. apricaria (Pk.)	2	3	13	1	-	-	D - dry
A. aulica (Pz.)	3	-	1	1	-	-	G. and D. - often feeding on Compositae seeds
A. bifrons (Gyll.)	-	-	11	-	-	-	D and (G) - usually sandy and open
A. tibialis (Pk.)	1	-	4	-	-	-	D and (G) - usually sandy and open
Amara spp.	15	13	19	-	-	2	T.
Harpalus rufipes (DeG.)	5	11	17	2	1	2	D - often cultivated, (G)
H. aeneus (F.)	1	-	-	-	-	-	D and G - short vegetation
H. S. Ophonus sp.	5	12	10	1	-	-	T. - mostly dry and open
H. affinis (Schr.)	2	1	9	1	-	-	D.G. (W)
H. cf. dimidiatus (Ross.)	-	-	1	-	-	-	D and G - short vegetation on chalk
H. S. Harpalus sp.	6	1	3	-	-	-	T.
Bradycellus sp.	1	1	-	-	-	-	T.
Acupalpus sp.	-	-	-	-	-	1	M.B. (W)
Badister bipustulatus (F.)	1	-	-	-	-	-	mostly wet places
Odacantha? ... ruficornis (F.) or nitidulus (Schr.)	-	-	1	-	-	-	
Dromius linearis (Ol.)	1	-	2	-	-	-	G (M)
D. cf. notatus Step.	1	-	2	-	-	-	T - dense vegetation
Dromius sp.	-	1	-	-	-	-	T.
Microlestes maurus (Strm.)	-	-	1	-	-	-	inc. V
Metabletus foveatus (Fourc.)	7	-	2	-	-	-	esp. sandy soil with sparse vegetation, (W)
Brachinus crepitans (L.)	1	-	2	-	-	-	G - dry, open - often on chalk

TABLE 12 (continued)

COLEOPTERA	Min. number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
DYTISCIDAE							
Hydroporus sp.	-	-	-	-	1	2	A.
Agabus bipustulatus (L.)	-	-	-	-	2	1	A. - ponds, puddles and ditches
cf. A. chalconatus (P.)	-	-	-	-	-	1	A.
Colymbetes fuscus (L.)	-	-	-	-	-	1	A. - stagnant water, ponds, ditches with much vegetation
HYDROPHILIDAE							
Helophorus aquaticus (L.)	3	-	1	-	-	-	A. - puddles, ponds, rarely flowing water
H. aquaticus (L.) or grandis Ill.	-	1	-	-	-	-	A. - puddles, ponds, rarely flowing water
H. cf. flavipes (F.)	-	-	-	-	1	-	A. - often puddles and ponds
H. grandis Ill.	2	-	1	-	6	7	A. - puddles, ponds, rarely flowing water
H. nubilus F.	2	7	12	-	1	1	T. - often on Cruciferae
H. porculus Bed.	-	-	1	-	-	-	T. - often on Cruciferae
H. rufipes (Bosc.)	4	7	31	3	-	-	T. - often on Cruciferae.
Helophorus spp. (brevipalpis size)	8	4	5	1	4	40	A. - but sometimes spend much time out of water
~~Sphaeridium bipustulatum F.~~	-	-	1	-	-	-	F V G.
S. lunatum F. or scarabaeoides (L.)	-	-	1	-	-	-	F. - esp. cow dung (V.)
Cercyon quisquilius (L.)	1	-	-	-	-	-	F V.
Cercyon spp.	9	10	19	1	3	3	F V C. - some species on mud at water's edge
Megasternum obscurum (Marsh)	19	7	13	2	5	1	F V C.
Cryptopleurum sp.	1	-	-	-	-	-	F V C.
Hydrobius fuscipes (L.)	-	-	-	-	4	-	A. - stagnant water often with detritus bottom
Laccobius sp.	-	-	1	-	2	-	A.
HISTERIDAE							
Acritus sp.	-	-	1	-	-	-	V and burnt ground
Gnathoncus nannetensis (Mars.)	-	-	1	-	-	-	C.V. - esp rotten fungi F. - often bird's nests & droppings
Saprinus aeneus (F.) or immundus (Gyll.)	-	1	-	-	-	-	F.C. (V)
Kissister minimus (Aub.)	3	1	1	-	-	-	at roots of grass and Rumex acetosella L.

COLEOPTERA	Min. number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
HISTERIDAE (continuation)							
Onthophilus striatus (Forst.)	6	3	3	1	1	-	F V C.
Hister bissexstriatus F.	5	-	-	-	-	-	F V.
H. S. Margarinotus sp.	4	-	-	-	-	-	F V C.
Paralister purpurascens (Hbst.)	-	-	3	-	-	-	F V.
Abraeus duodecimstriatus (Schr.)	-	-	1	-	-	-	F V.
HYDRAENIDAE							
Ochthebius minimus (F.)	-	-	-	-	1	-	A. - often stagnant
Ochthebius sp.	-	-	2	-	-	2	A. - mostly standing water, B. - mud at water's edge
Limnebius papposus Muls.	-	1	-	-	-	2	A. B - mud at water's edge, moss
LEIODIDAE							
Cholera or Catops spp.	5	3	9	1	-	-	V. - often leaf litter or fungi in woods C., (G.)
SILPHIDAE							
Thanatophilus rugosus (L.)	-	-	1	-	-	-	G.
SCYDMAENIDAE							
gen. et sp. indet.	-	-	1	-	-	-	C.
STAPHYLINIDAE							
Micropeplus fulvus Er.	-	-	-	1	-	-	V - often straw or hay, (B - on mud)
Anthobium sp.	-	-	1	1	-	-	on flowers, W - leaf litter and fungi
Acidota cruentata Man.	-	-	1	-	-	-	moss, leaf litter etc.
Lesteva sp.	1	1	2	1	-	-	B - often at water's edge, M.
Phyllodroma cf. salicis (Gyll.)	-	-	1	-	-	-	V.

TABLE 12 (continued)

COLEOPTERA	Min. number of individuals: Late Roman 950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	Early Saxon 1083/2	1083/4	FOOD or HABITAT
STAPHYLINIDAE (continuation)							
Omalium sp.	2	6	15	1	-	-	V - all sorts C.F.T.
Coprophilus striatulus (F.)	-	1	2	-	-	-	V.
Carpelimus bilineatus (Step.)	-	-	1	-	1	1	B - on wet mud. (G.V. and F. on wet soil)
Aploderus caelatus (Grav.)	1	-	-	-	-	-	V.F.
Platystethus cf. alutaceus Th.	1	-	-	-	-	-	T.
P. arenarius (Fouc.)	4	6	24	-	-	4	F.V.
P. capito Heer or nodifrons (M.)	2	-	-	-	-	-	V.F.
P. cornutus gp.	21	6	89	1	2	41	M and B - often on mud, (V.F.)
P. nitens (Sahlb.)	6	1	9	1	-	-	F.V. B.
P. nodifrons (Man.)	-	-	1	-	-	-	V.
Anotylus inustus (Grav.)	-	-	4	-	-	-	V.F.
A. nitidulus (Grav.)	-	-	1	-	2	-	V.F.C. (M)
A. rugosus (F.)	1	4	5	-	6	1	V.F. (C.)
A. sculpturatus (Grav.)	44	15	63	-	3	-	V.F.C. (also G. D.)
Oxytelus sculptus (Grav.)	3	-	-	-	-	-	F.V. (C)
Stenus sp.	1	1	2	2	2	-	W.G.D.M.
Paederus littoralis (Grav.)	1	-	-	-	-	-	G. and D. - mostly dry
Lathrobium sp.	1	-	-	-	-	-	W.G.D.M.V. (C)
Achenium depressum (Grav.)	-	-	1	-	-	-	G.W.
Rugilus orbiculatus (Pk.)	-	-	4	-	-	-	V. (G.)
Leptacinus batychrus (Gyll.)	-	-	1	-	-	-	F.V.
Leptacinus sp.	1	-	-	-	-	-	F.V.
Gyrohypnus angustatus Step.	4	1	1	-	-	-	V. - sometimes at water's edge
G. fracticornis (Müll.)	7	-	23	-	1	4	F.V. (C.)
G. fracticornis (Müll.) or atratus Heer	5	2	-	1	-	-	F.V. (C.), also ant's nests
Xantholinus glabratus (Grav.)	2	-	8	1	-	-	G.D.F.V.
X. linearis (Ol.)	3	12	35	-	-	-	W.G.V. (F)
X. longiventris Heer	2	3	7	-	1	-	W.G.V. (F)
X. linearis (Ol.) or longiventris Heer	5	-	-	1	-	-	W.G.V. (F.C.)

COLEOPTERA	Min. number of individuals: Late Roman 950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	Early Saxon 1083/2	1083/4	FOOD or HABITAT
STAPHYLINIDAE (continuation)							
Philonthus laminatus (Cr.)	1	-	-	-	-	-	W.G.V.F.C.
P. intermedius (B & L.) or laminatus (Cr.)	-	-	5	-	-	-	W.G.V.F.C.
Philonthus spp.	8	6	15	2	1	1	V.F.C. (W.G.D.)
Gabrius sp.	-	-	3	-	-	-	W.G.V.F.C.
Staphylinus aeneocephalus Deg. or fortunatarum (Woll.)	-	-	2	-	-	-	W.G.
S. ater Grav. or pedator Grav.	1	-	2	-	-	-	V (T)
S. caesareus Ced. or dimidiaticornis Gem.	2	-	-	-	-	-	T.
S. globulifer Four., melanarius Heer, or winkleri Bern.	1	-	-	-	-	-	T.
S. olens Müll.	1	2	2	-	-	-	W.G.
Quedius sp.	4	1	1	-	-	-	T.
Tachyporus spp.	13	5	10	-	7	-	T.
Tachinus spp.	2	8	6	1	5	-	T.
Aleocharinae gen. et sp. indet.	+	+	+	-	+	-	T.
GEOTRUPIDAE							
Geotrupes vernalis (L.)	-	-	1	-	1	-	F.
Geotrupes sp.	2	1	1	1	1	1	F.
SCARABAEIDAE							
Colobopterus erraticus (L.)	-	-	-	-	-	1	F. (C)
Aphodius conspurcatus (L.)	-	-	1	-	-	-	F.
A. contaminatus (Hbst.)	14	9	42	-	-	-	F.
A. distinctus (Müll.)	-	-	2	-	-	-	larvae V., adults F.V.C.
A. fimetarius (L.)	1	-	-	-	-	-	F.V.
A. luridus (F.)	-	1	1	-	-	1	F.
A. paykulli Bed.	16	1	3	-	-	-	F.
A. porcus (F.)	1	-	1	-	1	-	F. - in Geotrupes burrows

TABLE 12 (continued)

COLEOPTERA	Min. number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 6	832 Spit 4 moss	1083/2	1083/4	
SCARABAEIDAE (continuation)							
A. cf prodromus (Brahm)	1	1	12	-	-	2	F.V.
A. putridus (Fouc.)	-	-	-	-	1	-	F.
A. rufipes (L.)	1	2	1	-	-	-	F.
A. foetidus (Hbst.)	5	18	21	1	-	-	F.V.
A. cf. sphacelatus (P.)*	9	15	24	1	3	-	F.V. (C)
Aphodius spp.	35	16	167	8	1	7	mostly F.
Oxyomus sylvestris (Scop.)	8	7	25	3	6	1	V.C.F. - mostly as dung heaps
Onthophagus coenobita (Hbst.)	-	1	-	-	-	-	F. mostly
O. ovatus (L.)	2	-	-	-	1	-	F.C.V.
O. similis (Scrib.)	-	1	2	-	-	-	F.
Phyllopertha horticola (L.)	1	1	1	-	-	-	larvae on roots in permanent grassland
CLAMBIDAE							
Calyptomerus dubius (Marsh)	-	2	2	-	-	-	V - esp. old hay and straw
Clambus sp.	-	-	1	2	-	-	V.
BYRRHIDAE							
Simplocaria semistriata (F.)	-	1	6	-	-	-	T. ?
DRYOPIDAE							
Dryops sp.	-	-	2	-	-	-	B.A. and M. - in or close to water. (V)
ELATERIDAE							
Agrypnus murinus (L.)	1	-	-	-	-	1	G.
Melanotus erythropus (L.)	-	-	1	-	-	-	rotten wood
Athous haemorrhoidalis (F.)	-	-	-	-	-	-	W.G. - esp. meadowland, larvae esp. on roots of grasses, also shrubs and trees

COLEOPTERA	Min. number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 6	832 Spit 4 moss	1083/2	1083/4	
ELATERIDAE (continuation)							
Athous cf. haemorrhoidalis (F.)	3	-	-	1	-	-	W.G. - esp. meadowland, larvae esp. on roots of grasses, also shrubs and trees
A. hirtus (Hbst.)	-	1	1	-	-	-	W.G.
Agriotes acuminatus (Step.)	1	-	-	-	-	-	larvae mostly on roots of grassland plants, adults esp. in meadowland, also on trees, bushes and sometimes decaying vegetation
A. lineatus (L.)	1	-	1	-	-	-	
A. obscurus (L.)	-	1	-	-	1	-	
A. pallidulus (Ill.)	-	-	-	2	-	-	
A. sputator (L.)	-	-	1	-	-	-	
Adrastus pallens (F.)	-	1	1	-	-	-	G. and trees often close to water
THROSCIDAE							
Trixagus obtusus (Curt.)	-	-	1	-	-	-	inc. rotting wood; G.
CANTHARIDAE							
Cantharis livida L. or pellucida F.	2	-	-	-	-	-	Adults often on flowers of herbs and shrubs
C. cf. pellucida F.	-	-	2	-	-	-	
C. cf. fusca L.	1	-	-	-	-	-	
Cantharis sp.	-	1	-	-	-	1	
DERMESTIDAE							
Dermestes lardarius L.	-	-	-	-	-	1	C.
ANOBIIDAE							
Grynobius planus (F.)	-	-	-	1	-	-	dead hardwood
Stegobium paniceum (L.)	1	1	2	-	-	-	P.; flour, bread, grain, (in open?)
Anobium punctatum (Deg.)	6	4	50	3	-	-	dead wood

TABLE 12 (continued)

COLEOPTERA	Min. number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 [illegible]	1043/2	1043/4	
PTINIDAE							
Ptinus fur (L.)	5	10	24	2	-	1	straw and bird's nests etc., P - grain (C old wood)
LYCTIDAE							
Lyctus linearis (Goez)	-	1	2	-	-	-	dead hardwood, not standing trees
MELYRIDAE							
Malachius marginellus (Ol)	-	-	2	-	-	-	adults often on flowers
Malachius sp	1	-	-	-	-	-	adults often on flowers
NITIDULIDAE							
Brachypterus urticae (F)	-	-	-	-	-	1	Urtica sp
Brachypterus sp	7	1	1	-	3	-	Urtica sp
Meligethes sp	-	-	1	2	17	-	herbs and trees - mostly on flowers
Omosita colon (L)	-	-	1	-	-	-	C - dry
O. discoidea (F)	-	1	1	-	-	-	C - dry
RHIZOPHAGIDAE							
Monotoma picipes Hbst.	1	-	-	-	-	-	V
Monotoma sp	-	-	1	-	-	1	V (manure, C)
CRYPTOPHAGIDAE							
Atomaria sp	5	1	18	5	-	-	V F T
Ephistemus globulus (Pk)	4	-	5	-	-	-	V F
gen et sp indet	7	16	50	2	-	5	V - of all sorts T

COLEOPTERA	Min. number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 [illegible]	1043/2	1043/4	
PHALACRIDAE							
Olibrus sp	-	-	1	1	-	-	adults and larvae on Compositae flowers
Stilbus cf testaceus (Pz)	-	2	-	-	-	-	in dry grass and hay
Stilbus sp	1	-	5	-	1	-	as above + Typha sp
CORYLOPHIDAE							
Corylophus sp	-	[illegible]	4	-	-	-	V
COCCINELLIDAE							
Coccidula rufa (Hbst)	2	-	1	-	-	-	aphids of marsh and aquatic plants
Coccinella septempunctata L.	1	1	2	-	-	-	T
ENDOMYCHIDAE							
Mycetaea hirta (Marsh)	-	-	1	-	-	-	in fungal infested material mostly indoors
LATHRIDIIDAE							
Stephostethus lardarius (DeG)	-	-	-	-	1	-	V (G W)
Lathridius minutus agg.	[illegible]	24	69	8	1	6	V - also manure (C G W)
Enicmus transversus (Ol)	4	7	28	2	-	-	V (G W)
Corticaria punctulata Marsh	1	3	18	2	-	1	V
Corticaria, Corticarina, Cortinicara, or Melanophthalma spp.	5	16	[illegible]	[illegible]	-	2	mostly V
CISIDAE							
Cis sp	-	-	1	-	-	-	rotten wood and tree fungi

TABLE 12 (continued)

COLEOPTERA	Min. number of individuals: Late Roman 950/5 lower level	837 Spit 4	832 Spit 5	832 Spit 4 mod	Early Saxon 1083/2	1083/4	FOOD or HABITAT
MYCETOPHAGIDAE							
Typhaea stercorea (L.)	-	-	12	-	-	-	V - esp hay and straw ref. P
COLYDIIDAE							
Aglenus brunneus (Gyll)	-	-	1	-	-	-	V
Orthocerus clavicornis (L.)	-	-	-	-	-	1	sandy places esp under lichens
TENEBRIONIDAE							
Opatrum sabulosum (L.)	-	-	1	-	-	-	dry, sandy soil
ANTHICIDAE							
Anthicus antherinus (L.)	-	-	4	-	-	-	V
CERAMBYCIDAE							
Phymatodes testaceus (L.)	4	-	-	-	-	-	recently dead hardwood with bark on, - esp Quercus
CHRYSOMELIDAE							
Timarcha goettingensis (L.)	-	-	1	-	-	-	esp Galium sp
Chrysolina fastuosa (Scop)	-	-	1	-	-	-	Labiatae, esp Galeopsis sp.
C. staphylaea (L.)	-	-	-	1	-	-	Labiatae, esp Mentha sp
Chrysolina sp	-	-	-	-	-	1	?
Gastrophysa polygoni (L.)	3	5	13	1	-	-	Rumex and Polygonum spp
Phaedon sp	-	-	2	-	-	-	various herbs
Hydrothassa marginella (L.)	-	-	-	2	-	-	Ranunculus and Caltha spp
Prasocuris phellandrii (L.)	-	-	1	-	-	-	aquatic Umbelliferae
Phyllotreta atra (F)	-	-	68	1	4	-	Cruciferae and Reseda sp
P. nemorum (L.) or undulata Kuts	-	-	-	-	3	-	

COLEOPTERA	Min. number of individuals: Late Roman 950/5 lower level	837 Spit 4	832 Spit 5	832 Spit 4 mod	Early Saxon 1083/2	1083/4	FOOD or HABITAT
CHRYSOMELIDAE (continuation)							
Phyllotreta nigripes (F)	2	2	41	10	-	-	Cruciferae and Reseda sp
P. vittula Redt.	4	1	8	10	1	1	
Phyllotreta sp	-	-	5	-	-	-	
cf Aphthona sp	-	-	-	1	-	-	various herbs
Longitarsus spp	15	9	81	4	4	5	various herbs
Altica sp	-	1	-	-	-	-	includes Corylus, Salix, Rumex and Epilobium spp
Crepidodera ferruginea (Scop)	-	-	1	-	-	-	various herbs
Chalcoides sp	-	-	-	1	-	-	Salix and Populus spp
Altica sp or Podagrica sp	-	1	2	-	-	-	Podagrica on mallows
Chaetocnema concinna (Marsh)	1	7	66	2	2	3	Polygonaceae, esp P. aviculare L.
Chaetocnema sp	4*	2*	13*	2*	-	1	various herbs
Sphaeroderma sp	-	[illegible]	[illegible]	[illegible]	-	-	Compositae esp thistles and knapweeds
Psylliodes cf chalcomera (Ill)	-	-	[illegible]	-	-	-	Carduus spp and perhaps other herbs
P. cf cuprea (Koch)	-	6	5	-	-	-	Capparis, Cruciferae and perhaps other herbs
P. cf hyoscyami (L)	-	2	-	-	-	-	Hyoscyamus niger
Psylliodes spp	5	-	2	-	4	-	various herbs
Cassida sp	-	-	1	-	-	-	various herbs
APIONIDAE							
Apion malvae (F)	2	-	2	-	-	-	various Malvaceae
A. aeneum (F)	9	2	11	-	1	-	
A. radiolus (Marsh)	3	2	6	-	-	-	
A. urticarium (Hbst.)	1	2	7	1	2	-	Urtica dioica L. and Urtica urens L.
A. aethiops Hbst. or pisi (F)	1	-	1	-	-	-	larvae Medicago and Onobrychis spp, adult - Papilionaceae
A. [illegible] (L)	-	-	1	-	-	-	Vicia and Lathyrus spp
A. [illegible] (F)	-	-	1	1	-	-	larvae on various Papilionaceae
Apion spp	5*	8*	26*	9*	3*	2	mainly on herbs

TABLE 12 (continued)

COLEOPTERA	Min number of individuals						FOOD or HABITAT
	Late Roman — Early Saxon						
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 moss	1083/2	1083/4	
CURCULIONIDAE							
Trachyphloeus bifoveolatus (Beck)	-	-	2	-	-	-	T.
Trachyphloeus sp	-	-	1	-	-	-	T.
Phyllobius sp	-	-	2	2	-	-	trees, grasses and Urtica sp
Polydrusus sp	-	-	-	1	-	-	trees, bushes and a few herbs
Barypeithes sp	-	-	1	1	-	-	T.
Sciaphilus asperatus (Bons)	1	-	-	-	-	-	woodland herbs, esp Primula and Sanicula
Strophosomus sp	-	-	2	1	-	1	T.
Sitona spp	5	7	28	-	-	3	Papilionaceae - esp Trifolium spp
Cleonus piger (Scop)	1	-	1	-	-	-	Carduus, Cirsium and Onopordon spp
Hypera punctata (F)	1	-	2	-	-	-	Papilionaceae - esp Trifolium spp
Hypera sp	1	-	3	-	-	-	various herbs
Alophus triguttatus (F)	-	-	1	-	-	1	various herbs
Tanysphyrus lemnae (Pk)	-	-	-	-	3	-	Lemna sp
Notaris acridulus (L)	-	-	1	-	1	-	larva esp Glyceria maxima H adults also on Polygonum amphibium L
Orthochaetes setiger (Beck)	-	1	-	-	-	-	T.
Ceutorhynchus erysimi (F)	6	5	14	1	-	-	Cruciferae
C. pollinarius (Forst)	-	3	1	-	1	-	Urtica dioica L.
C. trimaculatus (F)	-	1	-	-	-	-	Carduus and Cirsium sp
Ceuthorhynchinae gen et sp indet	14	5	26	7	7	-	various herbs
Tychius sp	-	-	1	-	-	-	mostly Papilionaceae
Mecinus circulatus (Marsh)	1	-	1	-	-	-	Plantago sp
M. pyraster (Hbst)	-	-	1	-	-	1	Plantago lanceolata L. and P. media L.
Gymnetron labile (Hbst)	-	-	1	-	-	-	P. lanceolata L.
TOTAL	577	411	1759	144	153	180	

TABLE 13

HEMIPTERA	Min number of individuals						FOOD or HABITAT
	Late Roman				Early Saxon		
	950/5 Lower level	832 Spit 4	832 Spit 5	832 Spit 4 Moss	1083/2	1083/4	
HETEROPTERA							
ACANTHOSOMATIDAE							
Acanthosoma haemorrhoidale (L)	1	-	-	-	-	-	trees and bushes, mostly Crataegus sp
CYDNIDAE							
Sehirus bicolor (L)	-	1	-	-	-	-	Lamium album L, Ballota nigra L
S. biguttatus (L)	-	-	-	5	-	-	Melampyrum spp, overwinters in moss
S. luctuosus Muls	-	-	1	-	-	-	Myosotis arvensis (L) Hill, and perhaps other spp
Thyreocoris scarabaeoides (L)	-	-	2	-	-	-	perhaps Viola spp
PENTATOMIDAE							
Dolycoris baccarum (L)	-	1	-	-	-	-	often at woodland margin
Eurydema oleracea (L)	-	-	1	-	-	-	Cruciferae
COREIDAE							
Coreus marginatus (L)	-	-	1	-	-	-	Polygonaceae
Arenocoris waltli (H Schaf)	-	-	1	-	-	-	perhaps Erodium sp
LYGAEIDAE							
Heterogaster urticae (F)	12	18	55	-	-	-	Urtica dioica L
Drymus sylvaticus (F)	-	-	3	-	1	-	T
Scolopostethus sp	-	5	7	-	1	-	T
TINGIDAE							
Dictyonota tricornis (Schr)	-		1	-	-	-	dry places
CIMICIDAE							
Anthocorinae gen et sp indet	3	-	5	-	-	1	T
MIRIDAE gen et sp indet	1	-	-	-	-	-	T
HETEROPTERA gen et sp indet	-	-	2	1	-	1	
HOMOPTERA							
CICADELLIDAE							
Aphrodes bicinctus (Schr)	3	[illegible]	16	-	1	1	grasses
A. albifrons (L) or fuscofasciatus (Goeze)	1	2	16	-	-	-	grasses
A. histrionicus (F)	1	1	6	-	-	-	grasses
APHIDOIDEA gen et sp indet	-	2	-	-	-	5	
HOMOPTERA gen et sp indet	-	6	35	2	-	1	
TOTAL	[illegible]	[illegible]	[illegible]	8	3	9	

TABLE 14

OTHER ARTHROPODS

	Min. number of individuals: Late Roman / Early Saxon						HABITAT
	950/5 Lower level	832 Sect. 4	832 Sect. 5	832 Sect. 4 [illegible]	1083/2	1083/4	
CRUSTACEA							
Branchiopoda	-	-	-	-	+	+	A
Ostracoda	+	-	-	-	+	+	A
ARACHNIDA							
Araneae							
Dysdera erythrina (Walc.) or *crocata* Koch	-	-	1	-	-	-	T
gen. et sp. indet.	31	12	57	9	2	-	
Acari	+	+	+	+	+	+	

TABLE 15

OTHER INSECTS

	Min. number of individuals: Late Roman / Early Saxon						HABITAT
	950/5 Lower level	832 Sect. 4	832 Sect. 5	832 Sect. 4 [illegible]	1083/2	1083/4	
DERMAPTERA							
Labia minor (L.)	-	-	1	-	-	-	T
Forficula auricularia L.	40	3	47	-	2	2	T
HYMENOPTERA							
Formicidae	84	3	43	18	5	4	T
adult heads other than Formicidae	25	32	153	38	14	8	T
DIPTERA							
Chironomid larval head capsules	+	-	-	-	+	+	A
Diptera puparia	14	15	1	5	6	4	
Diptera adults	31	22	46	2	3	6	

TABLE 16

CYNIPINAE GALLS

	Late Roman				Early Saxon		HOST PLANT
	950/5	832 Sect. 4	832 Sect. 5	832 Sect. 4 [illegible]	1083/2	1083/4	
cf. *Andricus* [illegible] (Hart.) a.g.	-	-	-	4	-	-	*Quercus* sp.
cf. *A. ostreus* (Hart.) a.g.	-	-	-	1	-	-	*Quercus* sp.
A. cf. *albopunctatus* (Schl.) a.g.	-	-	-	2	-	-	*Quercus* sp.
Neuroterus cf. *albipes* (Schen.) a.g.	-	-	2	6	-	-	*Quercus* sp.
gen. et sp. indet.	-	-	1	5	-	-	mostly *Quercus* sp.

X Summary Contents and Future Research

The gravel terraces of the Thames have some distinct advantages for the archaeologist and certain obvious drawbacks. Barton Court Farm illustrates a number of these Aerial photography and field survey reveal the location of sites and their basic form more clearly than in many other regions. The tradition of arable farming particularly on the higher gravel terraces, at the same time limits the extent to which stratigraphic detail survives. Sites which have been ploughed relatively little must therefore assume great priority for preservation or, if necessary, excavation.

In spite of a history of regular ploughing the work at Barton Court Farm has shown the extent to which structural detail may be recovered by careful area excavation. If structural detail is a priority in any research design, extensive clearance of topsoil with heavy bulldozing machinery is likely to be a wasteful exercise.

The extensive excavation proved worthwhile in term of locating a wide range of activity centres and showing the time span of human activity In retrospect the excavation suffered from a lack of long term planning. Subsequently there was a tendency to work outwards from the original focus of the excavation. A much more satisfactory approach to the study of a settlement area (given the opportunity) would be to sample it as a whole In the case of Barton Court Farm important information about the character of the northern area is missing.

Barton Court Farm has shown the potential for environmental studies even on a site which did not appear to have great promise. Carbonised and waterlogged deposits provided complementary evidence and emphasised the need for multi-disciplinary strategies. Much greater emphasis needs to be placed on the strategies of data gathering. At Barton Court Farm the dominant strategy was a judgemental one, that is, based on common sense and collecting visible data. Great potential exists for systematic random sampling and the correlation of distribution of different classes of data It is particularly important that the context of data is understood. Small random holes by themselves may be misleading.

The original aim of the excavation at Barton Court Farm was to clarify the chronology and function of several overlapping rectangular enclosures In this limited task the excavation was largely successful. The excavation revealed a chronological complexity not often observed on other settlements, particularly small-scale explorations of well known Romano-British villas. It also provided information about Neolithic and Saxon settlement that had not been predicted from preliminary site exploration. Surveys of late prehistoric and Roman settlement in the Upper Thames Valley have shown the wide range of site types that exist. A number of excavations including Barton Court Farm have emphasised the inter dependent nature of these settlements. Generalizations based on a single site are likely to be of litle use in any regional study. Future excavation should normally help to classify the site types on a regional basis but also aim to examine inter-site relationships.

The settlement history of Barton Court Farm suggests a number of models which are in need of testing. For example are individual enclosed farmsteads a Late Iron Age phenomenon reflecting changes in the class structure of Celtic society? Are higher-status Celtic farms likely to develop into higher-status Romano-British farms? Rectangular enclosed farmsteads are a feature of the lower areas of the Thames Valley. On the higher, limestone slopes banjo enclosures appear at about the same time but the settlement types have discrete distributions. Whether they fulfil similar roles or indicate tribal, social, or economic variation within the region is as yet uncertain.

The large-scale excavation provided a broader picture of the economic and social activities on the Romano-British villa than has been customarily found at such sites. Major difficulties which remain include the precise dating of important features on the site and the existance or otherwise of gaps in the settlement sequence. Sampling over a wider area might help to clarify the second of these on the other sites but precise dating will remain a problem. The status of the Barton Court Farm villa and its likely tenurial arrangements remain a matter for speculation.

The investigation of contemporary sites in the region should help to place Barton Court Farm itself within a better defined settlement hierarchy. Within the Upper Thames region there are, however, little understood variations of Romano-British settlement pattern While some tributary valleys of the Thames, eg the Coln, and the nearby hill slopes are divided into large estates dominated by rich houses, the Thames Valley has a different character. Native settlements predominate but none of them has been excavated on any scale It is not known whether these are hamlets or villages, independent or tied to estates. Romanised farmsteads in the Thames Valley were once thought to be a rarity Fieldwork suggests farms like Barton Court Farm are not unusual, even though stone robbing may make them less visible than elsewhere. Aerial photography also reveals that many of the farmhouses sit within extensive enclosure complexes and show evidence of earlier Iron Age occupation. Most remain, however, at the lower end of the wealth scale in terms of investment in buildings.

At Barton Court Farm settlement is persistent on a favoured site with free drainage, convenient water supply, and easy access to a variety of soil types. Major changes do not necessarily coincide with events on the historical calender The Late Iron Age is one period when important developments take place both on the site and at regional level. In broad terms, the next four centuries are a time of consolidation until the decline and collapse of the 4th/5th century. Barton Court Farm has produced slight evidence for a period which is abysmally lacking in environmental information. The discovery of better preserved Early Saxon settlements is an important priority. Early Saxon sites in the Thames Valley show a close correlation with Romano-British settlements. A major shift seems to have taken place in the late 6th/7th century, when most of the excavated Saxon settlements and cemeteries were abandoned. An opportunity exists to investigate this problem further at nearby Barrow Hills.

The 1970s saw the development and growth of rescue archaeology in the Abingdon area. Much of the evidence has already disappeared under urban development, new roads, housing estates, and quarries. Nevertheless, the work of the past decade, building on the previous archaeological excavations of bodies like the Ashmolean Museum, must make this one of the most intensively investigated parts of the British Isles. This accumulation of evidence gives an added importance to the few remaining ancient sites.

Of these the most important is the Barrow Hills complex. This site is designated for housing in the local structure plan and development is likely to take place in the near future. Barrow Hills is an integral part of the Barton Court Farm settlements. Its Early/Middle Neolithic and Bronze Age phases supplement gaps in the landscape history of Barton Court Farm. It could also provide complementary evidence with its Romano-British and Saxon cemeteries and extensive Saxon settlement.