REPORTS

A Prehistoric Enclosure at Eynsham Abbey, Oxfordshire

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SUMMARY

Part of a prehistoric enclosure ditch was excavated prior to the extension of the graveyards of the churches of St. Peter's and St. Leonard's, Eynsham, Oxfordshire. Late Bronze Age artefacts were found in the upper fills of this ditch but it is possible that it was constructed earlier, perhaps in the Neolithic. Alongside the late Bronze Age material, artefacts of Neolithic and Beaker/early Bronze Age date were also identified. A possible roundhouse gully, a number of pits and postholes, and areas of ground surface, all of late Bronze Age date were found within the enclosure. Six radiocarbon dates were obtained on material deriving from the enclosure ditch fills and the prehistoric ground surface.

INTRODUCTION

The Oxford Archaeological Unit (OAU) excavated an area of approximately 1800 m.[2] within the Inner Ward or Court of Eynsham Abbey during 1990-92. The excavations were made necessary by proposed cemetery extensions, and were wholly funded by English Heritage. The abbey excavations will be reported on elsewhere.[1] The typical depth of stratigraphy was 2.5 m., although some deep features were cut to a depth substantially below this. The occupation of the site commenced with the construction of a large enclosure during the Neolithic or Bronze Age. Following the late Bronze Age, a hiatus in occupation of *c.* 1500 years was followed by the establishment of a Saxon settlement characterised by sunken-featured buildings.

LOCATION AND GEOLOGY

The village of Eynsham sits on the calcareous Second Gravel Terrace overlying Oxford Clay between the confluences of the river Evenlode and the Chil brook with the river Thames, some 9 km. west and upstream of Oxford, and 4.5 km. east of Witney (Fig. 1). A natural fording point of the Thames, now occupied by Swinford Bridge, lies immediately to the east of the town on the road to Oxford. Thus the town sits close to an important control point, a natural advantage which has been exploited since at least the Bronze Age.

[1] A. Hardy, A. Dodd and G.D. Keevill, *Excavations at Eynsham Abbey, 1989-1992* (Thames Valley Landscapes Monograph, forthcoming).

ARCHAEOLOGICAL BACKGROUND

The town lies in an area rich in prehistoric, Roman and pagan Saxon settlement.[2] A variety of prehistoric features were excavated north of the town at City Farm,[3] and previous excavations on the site of the abbey have produced prehistoric, Roman and Saxon material.[4]

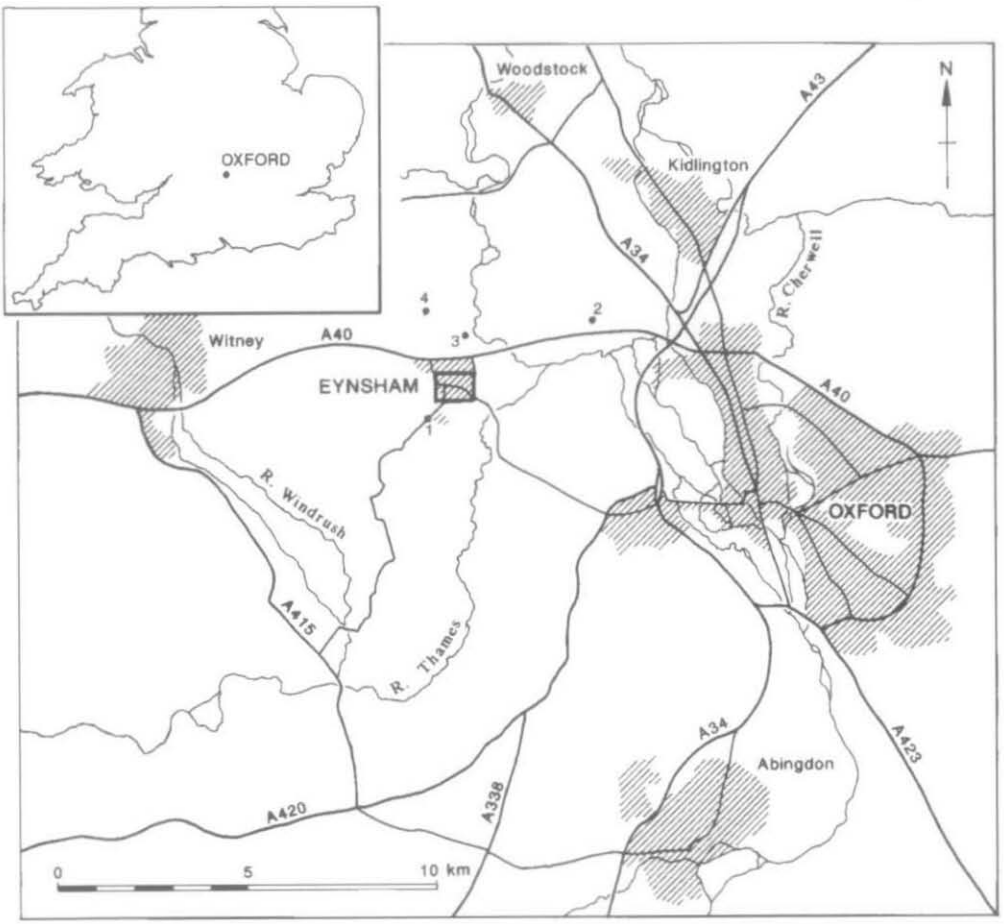

Fig. 1. Eynsham Abbey: site location and other prehistoric sites referred to in the text.

[2] J. Munby, K. Rodwell and H. Turner, *Historic Towns in Oxfordshire: a Survey of the New County* (1974), 113, map 1.

[3] H.J. Case, N. Bayne, S. Steele, G. Avery and H. Sutermeister, 'Excavations at City Farm, Hanborough, Oxon.', *Oxoniensia*, xxix-xxx (1964-5), 1-98.

[4] M. Gray and N. Clayton, 'Excavations on the Site of Eynsham Abbey, 1971', *Oxoniensia*, xxxiii (1978), 100-22.

Several large excavation and salvage projects have taken place in the Eynsham area during the last century (Fig. 1). The principal reason for this has been the continuation of gravel extraction extending from the northern half of Eynsham parish, eastwards into Cassington parish, Yarnton, and on towards Kidlington. Notable discoveries include the Bronze Age ring ditches at New Wintles Farm, Eynsham,[5] the Bronze Age barrow cemetery at Foxley Farm, Eynsham,[6] and the multi-period site at Yarnton.[7]

Evaluation and subsequent excavation along the route of a Thames Water pipeline, located *c.* 0.2 km. to the south of the prehistoric enclosure (Fig. 2), was carried out by the OAU in February and March 1992. These excavations uncovered a palaeochannel and possible gully,[8] as well as a thin layer of waterlogged clay probably representing an *in situ* deposit within the original course of the Chil brook. A small assemblage of worked and burnt

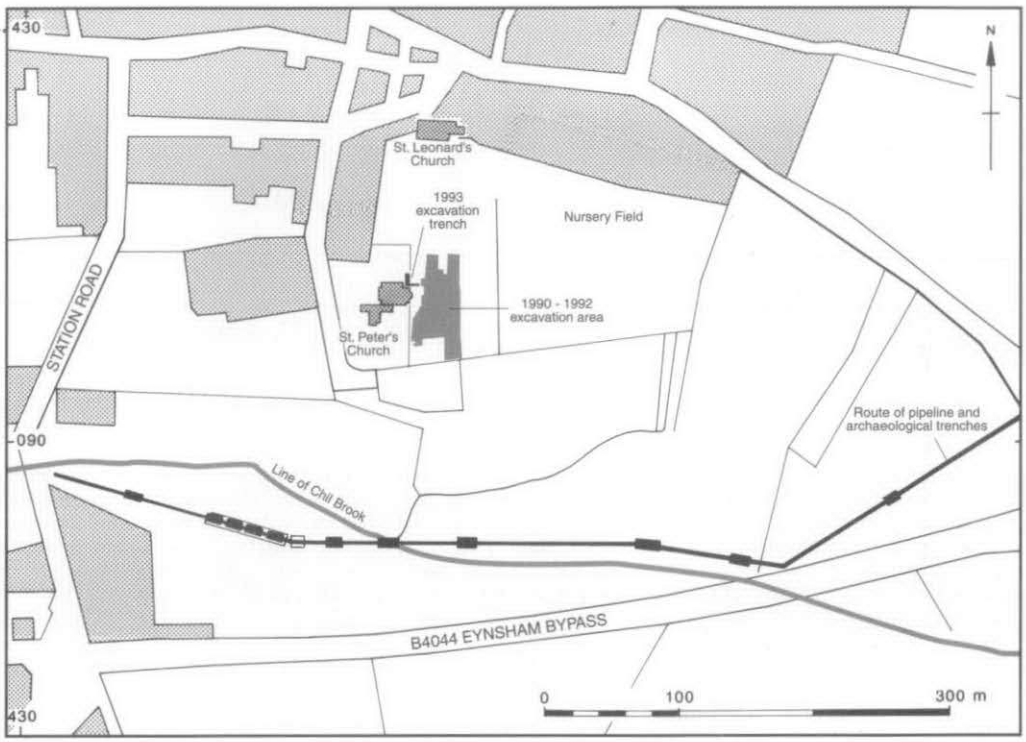

Fig. 2. Eynsham Abbey: plan showing excavation areas.

[5] R. Kenward, 'A Neolithic Burial Enclosure at New Wintles Farm, Eynsham', in H.J. Case and A.W.R. Whittle (eds.), *Settlement Patterns in the Oxford Region: Excavations at the Abingdon Causewayed Enclosure and Other Sites* (CBA Res. Rep. 44, 1982), 51-4.

[6] D. Benson and D. Miles, *The Upper Thames Valley: an Archaeological Survey of the River Gravels* (OAU Survey 2, 1974), map 20.

[7] C. Bell and G. Hey, *The Neolithic and Bronze Age Settlement and Landscape at Yarnton* (Thames Valley Landscapes, in prep.).

[8] G.D. Keevill, *In Harvey's House and in God's House: Excavations at Eynsham Abbey, 1991-3* (Thames Valley Landscapes 6, 1995), 7.

unworked flint, ranging in date from Mesolithic to Neolithic/Bronze Age was recovered, all of which, however, was residual in later contexts.[9] The nature of the topography suggests that such material is unlikely to have travelled far by natural processes, but the only deposits which might represent *in situ* prehistoric material were layers of mottled sandy clay overlying the natural substrate which were cut by several Roman features. These layers were tentatively identified as a (possibly later) prehistoric subsoil or ploughsoil.[10] A small number of Iron Age sherds and one flint-tempered sherd believed to be late Bronze Age in date were also recovered.[11] It is conceivable that features of Mesolithic and/or Neolithic date were destroyed by later activity. The prehistoric topographical situation would not have been unattractive, consisting of small sandy islands overlying gravel, close to a minor stream flowing into the Thames about 1 km. to the east. Case noted the apparent significance of the distribution of later Mesolithic material associated with the river Evenlode,[12] and Mesolithic cores have been found to the north of Eynsham.[13] More recently a scatter of later Mesolithic flint has been found at Mead Lane.[14]

In advance of a proposed extension to the west end of St. Peter's church, further excavations took place in 1993 which uncovered limited prehistoric evidence in the vicinity of the abbey.[15] A layer of sandy silt, equivalent to the prehistoric layer found in the main excavations described below, was located. Five sherds of early Saxon pottery were recovered from this context which could, however, be intrusive. As well as two undiagnostic worked flints, one in a Saxon dark earth layer, and the other in a post-medieval robber trench, four sherds of prehistoric pottery were also found, two in a quartzite-tempered fabric almost certainly middle to late Bronze Age in date, and a third in a soft and oxidised fabric (S3) which could also be Bronze Age.[16]

BACKGROUND TO THE EXCAVATIONS

The expansion of the medieval churchyard of St. Leonard's was severely constrained by the existence of the abbey to the south. The latter's dissolution, and the gradual removal of all traces of its buildings, opened up more land for burial. Most of the precinct was retained in private hands, however, and it seems that only the abbey church site was taken over for the cemetery in the 18th and 19th centuries. By the early 20th century the available space was under considerable pressure. In 1930 the cemetery was extended to the south, in a narrow strip bordering the Nursery Field.[17] During the late 1930s building work commenced on the Roman Catholic church of St. Peter.[18] A small area immediately to the north of the church was used for its cemetery. It had become apparent by the late 1980s, however, that the cemeteries of both St. Peter's and St. Leonard's would soon be full. The two churches therefore agreed to extend their cemeteries into an area of open ground immediately east of St. Peter's church.

It was suspected that abbey buildings would lie within the threatened area, and the OAU therefore undertook an evaluation of the land in November 1989.[19] This demonstrated the existence of well-preserved Saxon, medieval and post-medieval deposits on the site, including robber trenches and floors of abbey structures. English Heritage accordingly agreed to fund a major rescue excavation programme in advance of

9 P. Bradley, 'The Worked Flint', in Keevill, op. cit. note 8, pp. 20-1.
10 Keevill, op. cit. note 8, p. 10.
11 A. Barclay, 'Prehistoric Pottery', in Keevill, op. cit. note 8, p. 17.
12 H.J. Case, 'The Mesolithic and Neolithic in the Oxford Region', in G. Briggs, J. Cook and T. Rowley (eds.), *The Archaeology of the Oxford Region* (1986), 18-19.
13 Case, op. cit. note 12, map 2.
14 R. Holgate, *Neolithic Settlement of the Thames Basin* (BAR clxxxxiv, 1988), 211.
15 Keevill, op. cit. note 8, p. 31.
16 Barclay, op. cit. note 11, p. 40.
17 *V.C.H. Oxon.* xii, 151.
18 Ibid. 152.
19 'Evaluation at Eynsham' (Oxford Archaeological Unit, 1989).

extension of the cemeteries. This work took place in stages from January 1990 until February 1992, with further work in December 1993 adjacent to, and funded by, St. Peter's church (Fig. 2). Associated surveys and excavations which took place during 1991-3 are discussed above (see above, 'Archaeological background').

METHODOLOGY AND INTRUSION

Total excavation in a single season of work was not practical because of the need for St. Peter's to access the churchyard for various events. The area was therefore split into two (Fig. 3). Trench 1, which lay within the newly extended churchyard of St. Leonard's, was excavated in 1990. Trench 2, which lay within the grounds of St. Peter's, was dealt with in early 1991-early 1992. The excavation of Trench 1 was directed by Richard Chambers; Graham Keevill took over in 1990.

In both trenches late post-medieval and modern layers (including topsoil) were removed mechanically. Their depths varied substantially. Some post-medieval robber trenches were also mechanically excavated, in agreement with English Heritage, once it had been demonstrated that they had little archaeological potential due to high residuality. Thereafter most excavation was manual, although a machine was used to remove archaeologically contaminated deposits in some late medieval and post-medieval features. The OAU's then standard recording system was used for all context, sample and finds recording.[20] This used a system of supplementary numbers for layers within a feature, and letters for cuts within a linear feature. So 251/A/3 = layer number 3 within cut A of ditch 251. Similarly 659/-/6 = layer 6 within feature 659. Although single-context-recording was adopted as policy by the OAU for the duration of the excavation, it was decided to continue to use the old system for the remainder of the excavation, in the interests of clarity and consistency.

ARCHAEOLOGICAL DESCRIPTION by ALISTAIR BARCLAY, ANGELA BOYLE and CHRIS HAYDEN

Traces of prehistoric activity on the site survived below a considerable accumulation of later deposits and features. The later activity on the site had clearly partially destroyed and disturbed many of the remaining prehistoric features and may have completely removed or obscured others. Nevertheless, isolated islands of relatively undisturbed Bronze Age land surface and a range of prehistoric features were found (Fig. 3). Principal amongst these was a large enclosure ditch which crossed the northern parts of Trenches 1 and 2, oriented WNW.-ESE., before turning, beyond the eastern side of the excavated area, and re-entering the southern part of Trench 1, now oriented NE.-SW. (Fig. 3). The ditch terminated in the southern part of the site. Within the area enclosed by this ditch a range of other features was found, including part of a ring gully and associated postholes – both possibly related to a roundhouse - and a number of other postholes and large pits, mostly heavily truncated by later activity (Fig. 4). The surviving Bronze Age soils and the fills of the prehistoric features were a consistent orange-brown silt with varying proportions of gravel inclusions.

Prehistoric ground surfaces

Areas of prehistoric ground surface survived in various places within the excavated area. Most, however, were observed only in the sections of later robber trenches, and their extent was not recorded. Chronologically significant finds, notably late Bronze Age pottery, were recovered from several of these ground surfaces and from stratigraphically related contexts. The worked flint from these contexts is probably residual.

Ground surfaces around gully 1977 (Fig. 4): 1976 and 3052, and 1577, 3054 and 1678. A series of prehistoric ground surfaces were concentrated around gully 1977 in Trench 2. The earliest were layers 1976, seen in the eastern edge of the trench, and 3052, which were thought to form part of the same layer. Layer 1976 consisted of bright orange-red-brown silty sediment, 0.40 m. thick, whilst 3052 was recorded as a thick layer of orange-red-brown fine clay silt mixed with a little quartzite and gravel and occasional charcoal flecks. Both layers contained late Bronze Age pottery: four sherds in layer 3052 and three in 1976. Layer 3052 also contained 32 pieces of worked flint.

The relative chronology of these layers was fixed by several stratigraphic relationships. Layer 3052 overlaid the natural gravel substrate and three features were cut into it: posthole 3082 and pits 3079 – from which a worked flint was recovered - and 3083 (see below, 'Features cut into natural gravel'). Layer 3052 was

[20] 'Oxford Archaeological Unit Field Manual' (OAU, 1992).

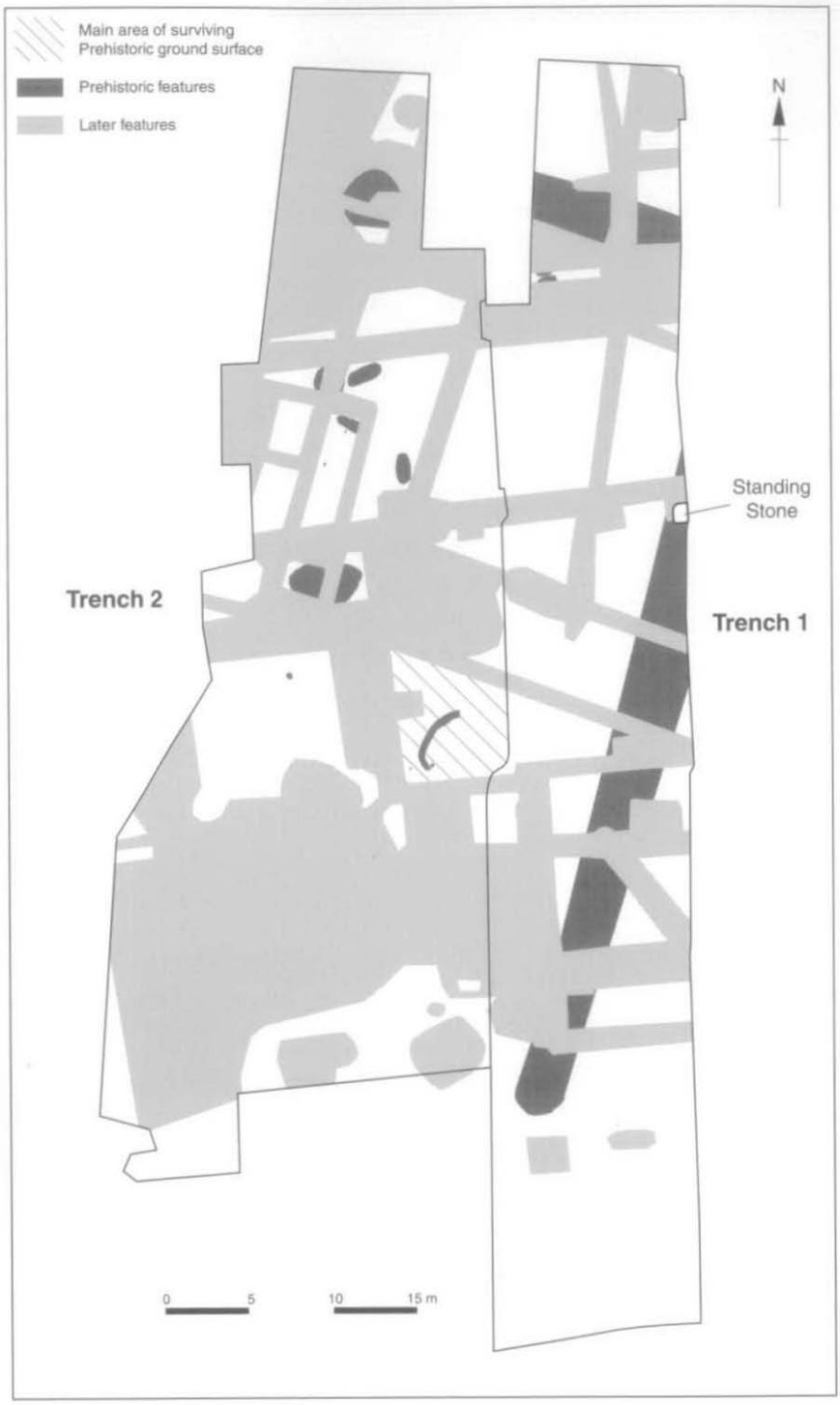

Fig. 3. Layout of trenches showing main prehistoric features and later disturbance.

itself overlain by layer 3048 which contained one possible Neolithic sherd and two of late Bronze Age date. Layer 1976 was cut by roundhouse gully 1977.

A further complex of layers interpreted as ground surfaces, 1577, 3054 and 1678, overlaid layers 1976 and 3052. The stratigraphic relationships between these three layers were not always clear. Layer 1577 was seen to the north of gully 1977 overlying 3052. It formed part of the same layer as 3054, seen within the area enclosed by gully 1977 again overlying 3052. Layer 1577 was also thought to form part of the same layer as 1678, which overlay layer 1976. However, 1678 was also recorded as having overlaid layer 3054 (see below, 'Posthole 3071'). The inconsistency of these observations suggests that 1577, 3054 and 1678 are perhaps best regarded as having formed a slightly varied, but not clearly differentiated complex of layers, 3054 forming the earlier, and 1678 the later part. All three consisted of silty deposits containing gravel and charcoal flecks.

Late Bronze Age pottery was found in both layer 3054 and layer 1678: seven sherds in 3054 and approximately 70 in 1678. Both, however, also contained later pottery: single Saxon sherds in both layers and one Roman or medieval sherd in 1678. This small quantity of later pottery may, however, be intrusive. Worked flint also occurred in both layers: three pieces in 3054 and 78 pieces, including a possible sidescraper, in 1678.

Three radiocarbon dates were obtained from material within layer 1678 (see Table 16):
1310-910 cal BC (95% confidence OxA-7930; 2895±60 BP)
1320-1030 cal BC (95% confidence OxA-7931; 2950±40 BP)
1300-920 cal BC (95% confidence OxA-7932; 2900±55 BP)

Layer 3048 was a further ground surface which may have been related to layers 3054 and 1577. It was an extensive spread, 0.12 m. thick, of silty clay mixed with quartzite and gravel and occasional charcoal flecking, seen to the north and east of penannular gully 1977. It overlay layer 3052 and was overlain by layer 1678.

Ground surfaces in other areas: Layer 1042, to the north of the areas described above, may have formed part of the same surface as 1678. It consisted of a stony, red-orange-brown clay loam with a maximum thickness of 0.40 m. It contained two sherds of pottery, one of late Bronze Age and one of late Bronze Age/early Iron Age date. It overlay pit 1982 (see below, 'Shallow pits or hollows') and was itself overlain by layer 1041, a 0.24 m. thick spread of red-grey-brown loam mixed with gravel, which contained five late Bronze Age sherds, one early Bronze Age/late Bronze Age sherd and one intrusive probable Saxon or medieval sherd. Four worked flints, including one retouched blade, were also recovered. A Beaker sherd found in 916/1, the upper fill of one of the robber trenches in which this layer was observed, was almost certainly redeposited from the prehistoric ground surface.

Other possible areas of prehistoric ground surface were also observed during the excavation of robber trenches. Layers 207 and 588 were seen towards the centre of Trench 1. Layer 207 overlay the natural substrate and consisted of a red-brown silt loam with occasional small pebbles, 0.28 m. thick. Layer 588, a natural deposit 0.35 m. thick lying above gravel, was identical in composition with the addition of a very small quantity of pea gravel. Layer 1963 was an orange-brown clay loam mixed with a large amount of gravel and oolitic grit. Layer 3688 was a slightly reddish-brown sandy silt 0.18 m. thick seen towards the south-west of Trench 2, and was cut by a number of later features. Due the constraints of the excavation a further disturbed prehistoric ground surface, layer 1665, was not fully recorded.

The enclosure (Figs. 3-8)

The most obvious prehistoric feature uncovered was what is interpreted as having been a single, probably continuous, enclosure ditch. Parts of this ditch were observed in three parts of the site: two segments (947 and 250), oriented NW.–SE., ran along the northern side of the excavation, and the third (407 and 720), oriented NNE.–SSW., ran along the eastern side, terminating just short of the southern edge of the trench. The remaining parts of the ditch, including the corner at which the northern and eastern segments may join, and – if they exist – the western and southern sides of the enclosure, lie outside the excavated area. It is possible, too, that the ditch terminal on the eastern side (407 and 720) marks only a causeway or entrance and that this side also continues further. The overall size of the enclosure cannot, therefore, be estimated. The ditches themselves varied in width from 3-4.5 m. and in depth from 1.6-1.9 m. Their profiles were very uniform. All of the pottery recovered from the enclosure ditch, mostly of late Bronze Age date, was found in the upper and middle ditch fills. No pottery was present in the lower fills which ranged in depth from 0.55-0.95 m. Substantial numbers of finds, predominantly worked flint, were, however, noted only in ditch segment 250.

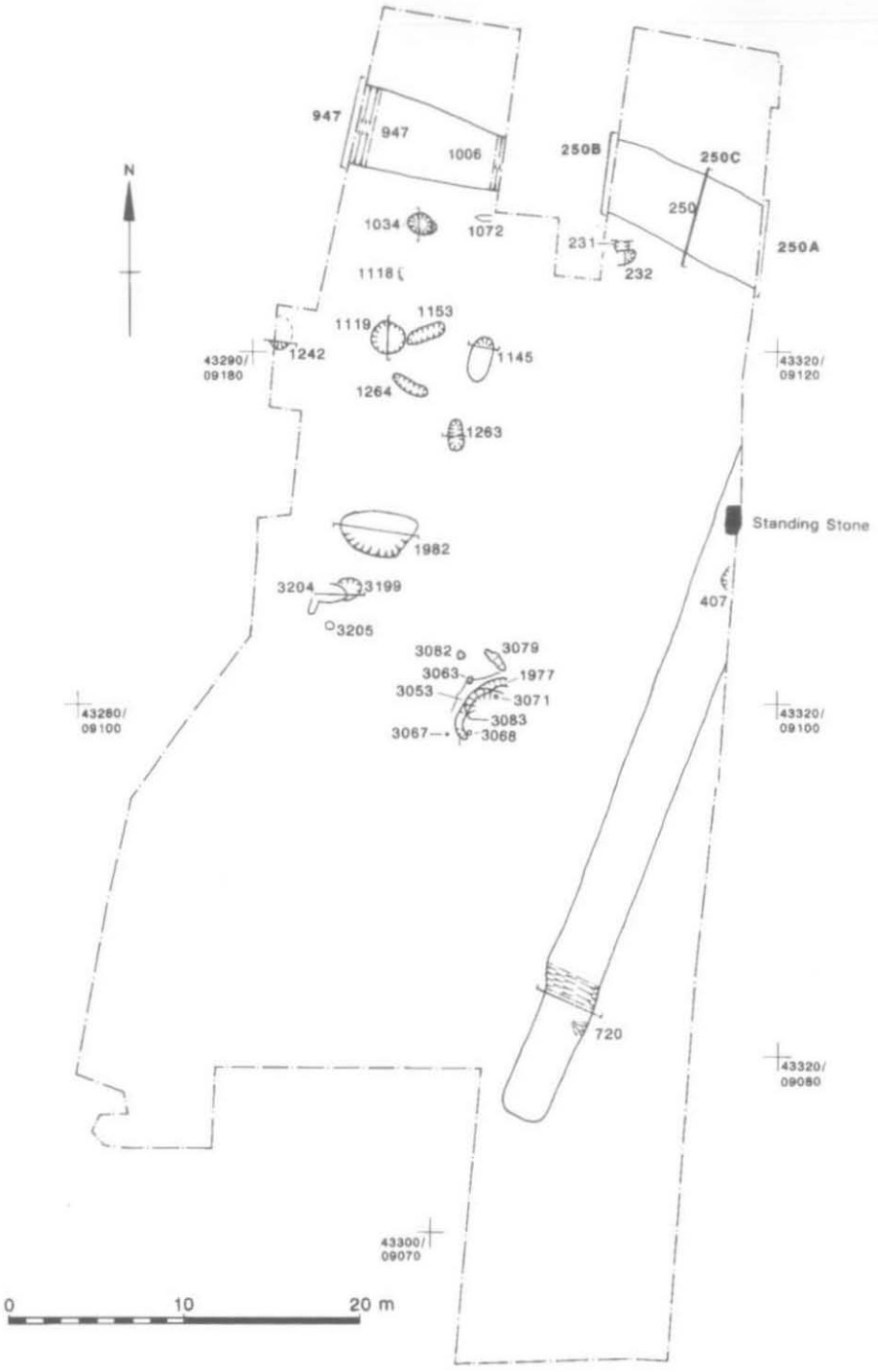

Fig. 4. Plan of enclosure and associated features.

The enclosure ditches (Figs. 4-8)

Ditch 250 (Fig. 5). Ditch 250 was a large ditch, with a V-shaped profile, which ran NW.- SE. across the north of Trench 1. Three complete sections were excavated through the ditch. The lower fills of all of the sections consisted of redeposited or collapsed natural gravels or mixed sands. A band of burnt material containing substantial quantities of pottery, bone and burnt stone was seen in the upper layers of all three sections (250/A/3, 250/B/3, 250/C/3).

Ditch section 250/A was located at the east of Trench 1. Above the lower fills was a sequence of sandy layers containing varying amounts of gravel. Artefacts found in these upper layers included: three late Bronze Age sherds and two worked flints in 250/A/3; and three late Bronze Age sherds and five worked flints (including one serrated blade and one cortical flake) from the final fill, 250/A/1. Six worked flints and one burnt piece also found in 250 were not assigned to layers.

Ditch section 250/B was seen in the western part of Trench 1. The lower fills were overlain by a sequence of five orange-brown silts (250/B/5- 250/B/1), mixed with varying proportions of gravel. Finds from these upper layers included: four worked flints from layer 250/B/4; two late Bronze Age Plain Ware sherds, two worked flints and one fragment of fired clay from layer 250/B/3; two worked flints from 250/B/2; and two late Bronze Age Plain Ware sherds from the final fill 250/B/1. Ten late Bronze Age sherds and seven worked flints including one small side scraper were also recovered but were not assigned to a layer.

Section 250/C was located in the centre of the ditch. The lower fills were overlain by a series of four fills (250/C/1-4). One radiocarbon date was obtained from burnt residues on a sherd in fill 250/C/4: 1260-1000 cal BC (95% confidence OxA-7929; 2915±35 BP; see Fig. 20). This layer contained one sherd of late Bronze Age Plain Ware and two of late Bronze Age/early Iron Age date. A further two radiocarbon dates were obtained from residues on a pig bone and sherd in the succeeding layer 250/C/3: 1380-1040 cal BC (95% confidence OxA-7858; 2960±40 BP) and 1270-1010 cal BC (95% confidence OxA-7928; 2925±35 BP). This layer contained 50 sherds of late Bronze Age Plain Ware, nine worked flints and a fragment of a shale bracelet (Fig. 17.2). A further three sherds of late Bronze Age Plain Ware were recovered from the final fill 250/C/1.

A number of other contexts including 149, 152, 184, 192, 193 and 197, seen in the section of robber trench 127, were subsequently recognised to be parts of ditch 250. Layers 192, 193 and 197 formed a short sequence. Layer 192, probably the latest fill of ditch 250, overlay layer 193, up to 0.10 m. thick. Layer 193 in turn overlay layer 197, also up to 0.10 m. thick. The other layers, 149 (probably the latest fill of ditch 250), 152 and 184, were between 0.12 and 0.50 m. thick and between 0.24 and 2.18 m. wide. All of these layers consisted of dark or reddish-brown silty or sandy loams mixed with varying amounts of gravel and occasionally pebbles, limestone fragments and charcoal flecks.

Ditch section 947 (Figs. 6-7). A further two lengths of the ditch (947=1006) were seen across the northern part of Trench 2. Both were aligned NW.- SE. At the western side (947) the ditch was 4.5 m. in width while at the eastern edge (1006) it was 3 m. wide. Gravel slip was again present at the bottom of the ditch. The remaining fills, 947/8-1, were all red-brown loams with the exception of 947/3. Single worked flints were present in both 947/-/3 and 947/-/2. Three sherds of late Bronze Age/early Iron Age date were also recovered though not assigned to a layer.

Ditch section 407 (not illustrated). Although it was not fully excavated, the enclosure ditch (457=407) was recognised emerging obliquely from the eastern side of the centre of Trench 1. The fills observed were 407/1, a charcoal-flecked reddish-brown silty clay loam mixed with a little gravel, and 457/1, an orange-red-brown silty clay loam, again mixed with a little gravel. Two worked flints were recovered from 457. Layer 183, seen in the northern section of robber trench 131, was subsequently recognised to have been the fill of ditch 457. It was a reddish-brown sandy silt loam mixed with a substantial quantity of gravel and had a maximum thickness of 0.30 m.

Ditch section 720 (Fig. 8). Further to the south, the enclosure ditch was seen at various points throughout the southern half of Trench 1, aligned NE. to SW. The eastern side of the ditch was seen in section 720 (=791). Here it measured 3.3 m. in width at its widest extent, although it narrowed towards its terminus. A serrated blade was recovered from layer 720/-/1 as well as ten other worked flints not assigned to layers.

Features within the enclosure

A range of features – gullies, pits and postholes – were found in the area inside the enclosure ditch. Although they are generally concentrated in the north-western part of the excavation, in most cases there is little apparent order in their distribution. One set of features, however, centred around gully 1977 near the middle of the site, may have been related to a roundhouse. All of the features located within the enclosure had the same 'prehistoric fill', a red-brown silty clay loam with occasional charcoal flecks.

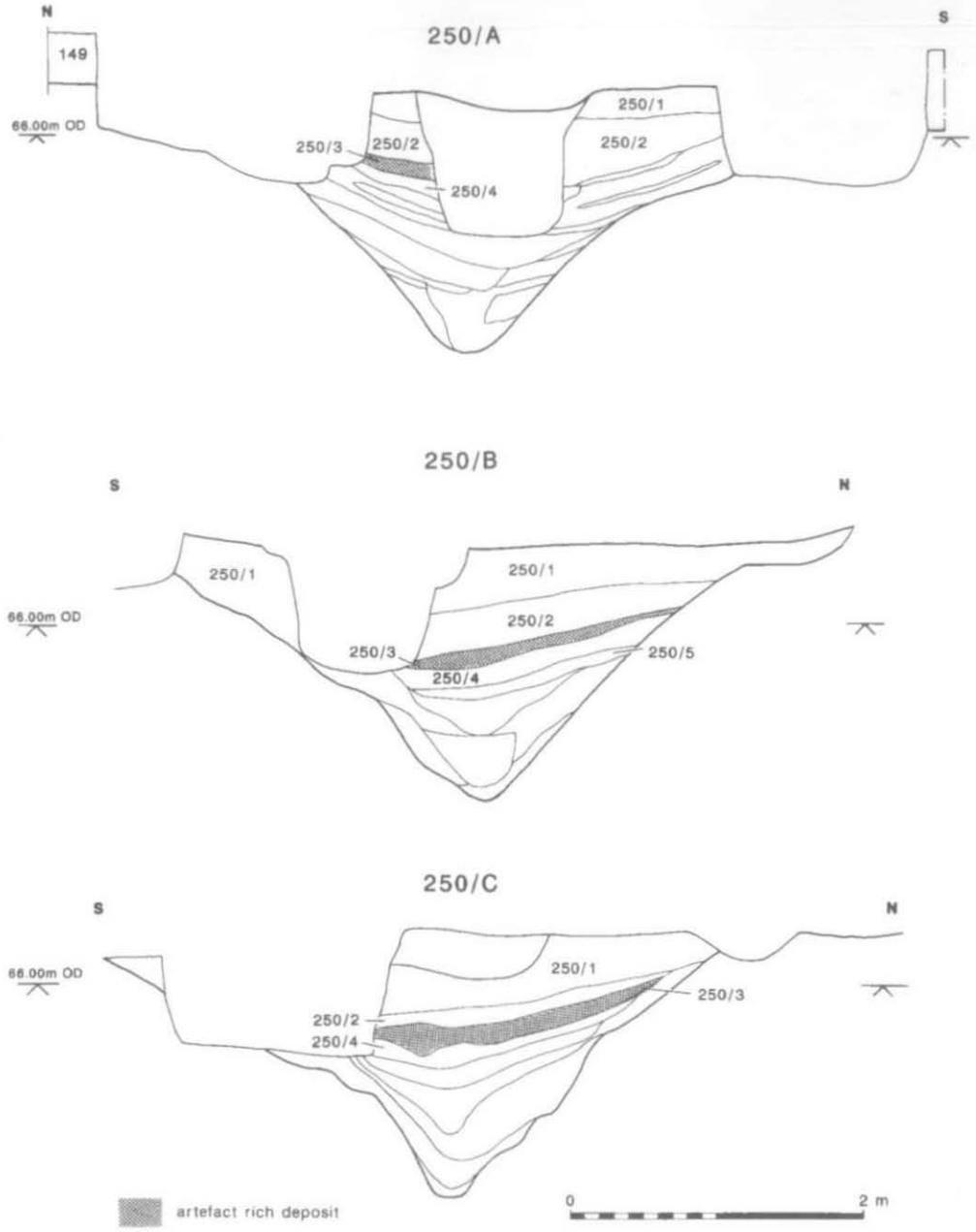

Fig. 5. Enclosure ditch sections, segments 250/A, 250/B and 250/C.

Fig. 6. Section 947 through enclosure ditch, showing truncation and overburden.

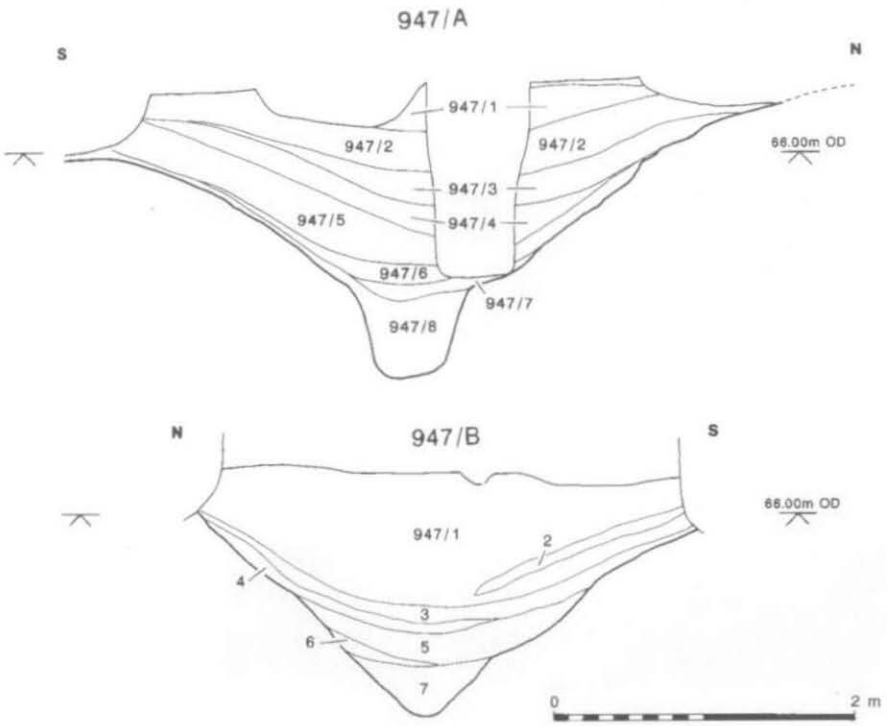

Fig. 7. Enclosure ditch sections, segments 947/A and 947/B.

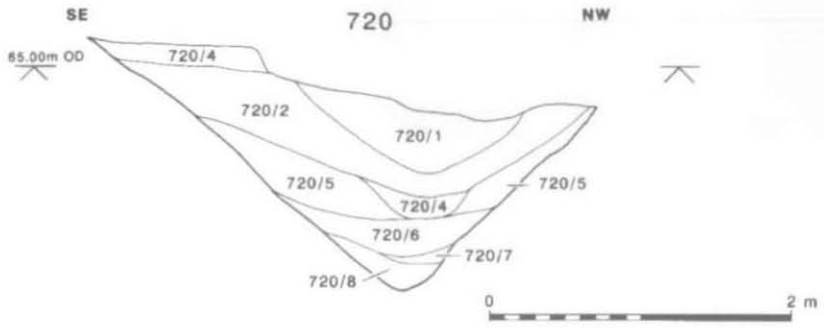

Fig. 8. Enclosure ditch sections, segment 720.

The Roundhouse: Structure 1977. Half of a possible penannular roundhouse gully 1977 was excavated in the centre of the site, forming a line which curved SW.-NE. for a distance of 4 m. A small length of the gully was also observed to the south-east of this line, running E.-W., but the eastern terminal had been destroyed by a later cellar. The excavated terminal represents one side of the entrance, which would have been on the SSW. side of the feature. The diameter of the putative roundhouse would have been around 5 m.

The sides of the gully sloped gently to a rounded bottom. It was 0.40 m. in width and the depth was variable, measuring up to 0.13 m. The gully was filled by a mid-dark orange-grey-brown slightly silty clay loam with occasional charcoal flecks and a little coarse gravel (1977/1). Twelve sherds of late Bronze Age pottery were recovered from it: one from section A, one from section C, and ten unassigned. There were also seven worked flints. It was overlain by layer 1678 from which late Bronze Age Plain Ware sherds and a single, probably intrusive Saxon sherd, as well as a Roman or medieval sherd, and three radiocarbon dates were obtained (see above, 'Prehistoric ground surfaces').

Gully 1977 was cut into the Bronze Age ground surfaces discussed above. This was clear in the case of layers 3052 and 1976, but its relationship with the overlying layers 3054, 3053 and 3048 was less clear. The context sheet and section suggested that the gully was cut through layers 3053 and 3054, but with some uncertainty. Layer 3053 was a 0.06 m. thick deposit of mottled grey-brown and red-brown silty clay mixed with quartzite and gravel and occasional charcoal flecks, located on the outer edge of roundhouse gully 1977. It may have been bank material from the gully. It produced one sherd of early Bronze Age date and 15 sherds of late Bronze Age/early Iron Age date as well as four worked flints. Layer 3053 formed part of the same layer as 3048, the ground surface discussed above, which contained one Neolithic and two late Bronze Age sherds and fifteen worked flints (see above, 'Prehistoric ground surfaces'). The ground surface within the gully, 3054=1577, was similar to 3053, except that it contained more frequent charcoal flecks and occasional red fired clay flecking. It contained seven late Bronze Age and one Saxon sherd and three worked flints. Its relationship with layer 3053 was not fully clarified.

Postholes associated with gully 1977. Three postholes (3071, 3063 and 3068) which may have been contemporary with gully 1977 were found within 0.40 m. of its edges (Fig. 4). They are insufficient on their own to suggest the form of a structure, and may, in fact, have been related to differing structures.

Posthole 3071 cut layer 3054 and was overlain by layer 1678. It had steep sides and was filled by a grey-red-brown slightly sandy silty clay mixed with small stones and gravel. It was overlaid by layer 1678. Posthole 3063 cut the outer edge of layer 3053. It had steep sides and a rounded bottom, and measured 0.36 m. in length, 0.25 m. in width and 0.09 m. in depth. It was filled by a red-brown slightly sandy silty clay mixed with very small stones and occasional charcoal flecks.

Shallow pits or hollows (Fig. 9)

With the exception of two deeper examples, most of the pits or hollows excavated were similar in form and can be classified as shallow scoops. Although they were usually around one to two metres wide, they were never more than 0.40 m. deep: their depth is generally less than half their width. Even the exceptionally large pit 1982 (4.46 m. long by 2.54 m. wide and 1.45 m. deep) was only just over half as deep as it was wide. Some of these features may be natural hollows, perhaps associated with tree clearance, rather than deliberately dug pits. Many of them were cut by later features, often robber trenches, which occasionally obscured their original form.

Two abutting pits, 231 and 232, were located approximately 1.5 m. to the south of the northern enclosure ditch in Trench 1. Pit 231 was subcircular in plan and lay on the northern edge of pit 232. It was smaller though less irregular than pit 232 and measured 0.82 m. in length, 0.58 m. in width and 0.14 m. in depth (Fig. 9). The single fill was a sandy loam mixed with mortar and pea gravel. The fill contained a possible flint scraper (s.f. 60), a possible flint pot boiler (s.f. 61) and a fragment of burnt limestone. Pit 232 was an irregular oval shape in plan and measured 1 m. in length, 0.80 m. in width and 0.30 m. in depth (Fig. 9). The single fill was a brown silty clay loam mixed with a little gravel. It contained pottery and animal bone.

Pit 1072 was located 1.5 m. south of the northern enclosure ditch in Trench 2. It was cut by four later robber trenches and was therefore irregular in plan. It measured at least 0.98 m. in length, 0.36 m. in width and 0.16 m. in depth (Fig. 9). The fill was a red-brown silty clay loam mixed with a little gravel.

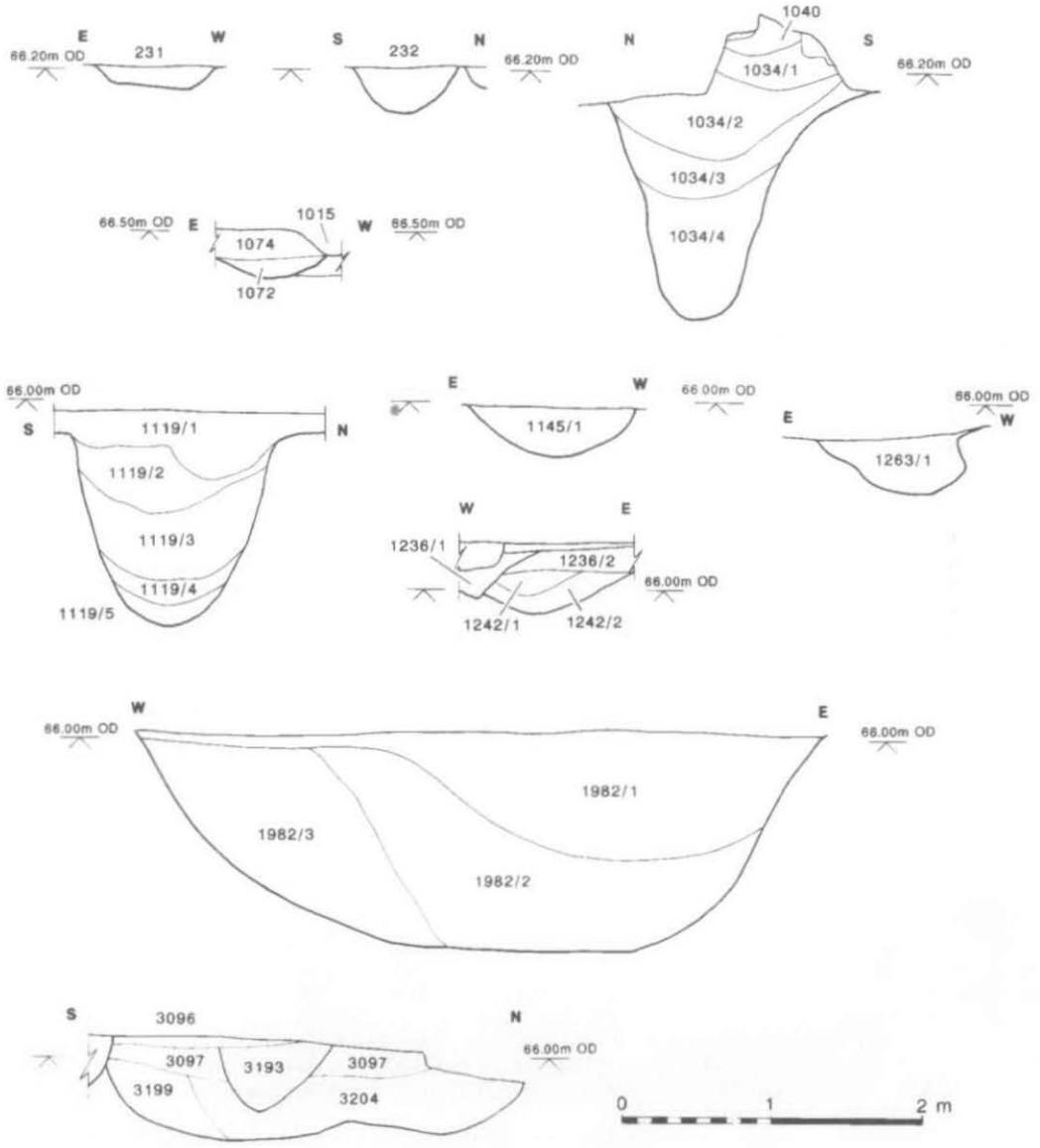

Fig. 9. Sections through pits and postholes.

Pit 1242 was located at the extreme south-west edge of the trench, 9 m. south-west of the northern enclosure ditch, against robber trench 1191, only partially within the excavation trench. It was an irregular oval shape in plan and measured 1.76 m. in width and 0.38 m. in depth (Fig. 9). The primary fill, 1242/2, was a dark red silty clay loam with some sand and a little gravel. The secondary fill, 1242/1, was an orange sandy silty loam mixed with gravel and contained a snail shell.

Pit 1243 was seen in the eastern section of robber trench 980B, 9 m. south-west of the northern enclosure ditch (not illustrated). It appeared from the section to be cut into the top of pit 1119. It contained three sherds of late Bronze Age/early Iron Age pottery and two worked flints.

Pit 1263 was located 2 m. south-east of gully 1264 and was overlain by layer 1041 from which five late Bronze Age sherds, one early or late Bronze Age sherd and one probable Saxon or medieval sherd (probably intrusive) as well as four worked flints were recovered (see above, 'Bronze Age ground surfaces'). The pit was oval in plan and measured 1.76 m. in length, 0.86 m. in width and 0.36 m. in depth (Fig. 9). The profile of the pit was extremely irregular: the eastern side sloped gradually while the western side was near vertical and flared out towards the rounded base. The fill was a reddish-brown sandy clay silt loam containing a few pebbles.

Pits 3199 and 3204 were located to the east of pit 1982, and were seen in the section of robber trench 1632. Pit 3199 was cut by pit 3204 and posthole 3198. The sides of both pits sloped gradually down to a rounded (3199) or slightly irregular (3204) bottom (Fig. 9). Both pits were filled with a silty red loam mixed with a little gravel, and contained animal bone.

Pit 1145 was located 2 m. east of gully 1153. It was oval in plan and measured 2.60 m. in length, 1.30 m. in width and 0.34 m. in depth (Fig. 9). The fill was a bright orange-red-brown clay silt loam mixed with gravel and occasional charcoal flecks. Three pieces of worked flint were recovered from the fill. The top of the pit was located at a much lower level than all of the pits described above. One piece of worked flint was present.

Pit 1982 was a much larger, irregular oval-shaped pit (Fig. 9). It was overlain by layer 1042 which contained one late Bronze Age and one late Bronze Age/early Iron Age sherd (see above, 'Bronze Age ground surfaces'). The primary fill was a reddish clay with gravel (1982/3). The secondary fill was a layer of gravel (1982/2). The final fill consisted of gravel and reddish clay (1982/1).

Deeper pits (Fig. 9)

Two deeper pits (1034 and 1119) were identified north of Structure 1977, near the northern arm of the enclosure.

Pit 1034 was located 2 m. south of the enclosure ditch in Area 14. It was cut by no less than four robber trenches. The pit was circular in plan and its sides sloped steeply to a rounded bottom (Fig. 9). There were four fills and the pattern of silting suggests that at least in the case of the primary deposits, it was deliberately filled. The primary fill (1034/3) was a layer of gravel with some loam. The secondary fill (1034/3) was a dark grey-brown slightly clay silty loam mixed with fine gravel. The third fill (1034/2) consisted of a mid grey-brown slightly clay silty loam mixed with gravel. The final fill (1034/1) was a bright red-orange-brown slightly clay sandy loam mixed with gravel. Two worked flints were recovered.

Pit 1119 was located 5 m. south of pit 1034. It was cut by two later postholes and three robber trenches. The pit had steeply sloping sides and was circular in plan. At the top of the pit the sides sloped very gradually but then descended nearly vertically to a depth of 1.58 m. (Fig. 9). The primary fill (1119/5) was an orange-yellow gravel. The secondary fill (1119/4) was a mid-brown-orange sandy silt mixed with a substantial quantity of gravel. The third fill (1119/3) was an orange-yellow gravel with lenses of mid-brown-grey silty sand. The fourth fill (1119/2) was a dark red-brown sandy silt loam mixed with pea gravel and pebbles. The final fill (1119/1) was a red-brown very silty loam mixed with a little fine gravel. Pit 1119 was cut by 1243 (see above, 'Shallow pits or hollows'). One sherd of late Neolithic/early Bronze Age date and three worked flints were recovered.

Postholes

Three postholes, 1118, 1234 and 3205 were found towards the north-west of the site (Fig. 4).

Posthole 1118 was truncated by two later features. It appeared almost rectangular in plan with slightly rounded ends and measured 0.78 m. by 0.25 m. The sides sloped gradually to a rounded bottom and the single fill was a reddish-brown gravelly silty clay loam (Fig. 10).

Posthole 1234 was cut by a later robber trench and was seen in section when the trench was excavated. It was circular in plan, had steep sides which splayed out at the top, and a rounded base (not illustrated). It measured 0.24 m. in width and 0.25 m. in depth. The single fill was an orange-grey-brown quite sandy silt clay loam mixed with a little gravel.

Posthole 3205 was circular in plan with near vertical sides and a rounded bottom measuring 0.40 m. in width and 0.35 m. deep (not illustrated). 1234 and 3205 were filled with orange-grey-brown silty clay loam; 1234 also contained a little gravel.

Gullies 1153 and 1264

Two short, shallow stretches of gully, 1153 and 1264, were found towards the north-west of the site (Fig. 4).

Gully 1153 was located immediately east of prehistoric pit 1119, and measured 2.24 m. by 0.76 m. The sides of the gully sloped gently at an angle of 45° to a rounded bottom (Fig. 10). One end of the gully was rounded and the other was rectangular. The single fill was a bright orange-red-brown clay silt loam with occasional charcoal flecks, a little pea grit and a few quartzite pebbles. It was cut by pit 1243 (see above, 'Shallow pits or hollows'). One sherd of late Bronze Age/early Iron Age pottery and five worked flints were recovered from it.

Gully 1264 measured 2.22 m. in length, 0.56 m. in width and 0.26 m. in depth. The sides of the gully sloped very gently to a rounded bottom (not illustrated). Both ends of the gully were rounded. The single fill was a reddish-brown sandy slightly clay silt loam mixed with a little rounded gravel.

The 'standing stone' (Figs. 4 and 11)

Mention must also be made of a large fragment of extremely weathered limestone, measuring 1.10 m. in width and 0.33 m. in thickness, which was found lying flat in the bottom of medieval robber trench 132 at the point where it cut the eastern enclosure ditch. It had formed the base of a medieval buttress which was built where the wall it supported crossed the enclosure ditch. Smaller fragments of this type of stone have been found sporadically in and around Eynsham, sometimes reused in house construction. The large size of this stone, however, distinguishes it from the other, much smaller pieces of stone otherwise used in the medieval foundations at the Abbey, and it seems peculiar that such effort would have been expended on one large stone when smaller pieces sufficed elsewhere. Its weathered state implies that it has been exposed for a considerable period.

One possible explanation for its presence is that it was originally a prehistoric standing stone which was reused in the construction of the medieval wall. Its position within a robber trench that cut the prehistoric ditch indicates that it could have derived from the latter feature. As a standing stone, however, it would be an unusual feature for a mortuary enclosure of Neolithic date, and even if it is assumed that it was deliberately removed from the upper ditch fill in the medieval period, it has to be accepted that it had been derived from elsewhere, perhaps another prehistoric monument, prior to being dumped in the ditch. Similar stone was used in the north-east Cotswolds for megalithic monuments such as the Rollright Stones.[21] This would be the first recorded use of Cotswold stone on the Thames gravels. The only other known megalithic monument on the Upper Thames gravels is the destroyed Devil's Quoits stone circle, which utilised the local gravel conglomerate.[22] It thus seems far more likely that the stone from Eynsham was brought to the site during the medieval period.

Features cut into natural gravel (Fig. 10)

A number of early features – pits or postholes – which do not form any coherent structure were cut into the natural gravel substrate. The natural gravel was reached at a level of 65.27 m. O.D. in the north-east corner of the trench, rising slightly to the south-east (65.37 m. O.D.) and to the south-west (65.48 m. O.D.).

A small posthole 3067 was located to the west of pit 3083. It was circular in plan and had steep, near vertical sides and a flat bottom (Fig. 10). It measured 0.15 m. in length, 0.11 m. in width and 0.12 m. in depth. The single fill was a charcoal-flecked grey-brown-red silty clay mixed with gravel.

Pit 3079 was a complex linear feature immediately north-west of gully 1977 below layer 3052. It appeared to be an irregular gully comprising two pits linked by a shallow gully some 0.20 m. long. It was aligned north-west to south-east. The pit at the north-western end was almost pear-shaped with very steep sides, while the pit at the south-eastern end was circular and round-bottomed (Fig. 10). The fill was a mottled grey-red-brown silty clay with occasional quartzite pebbles, pea grit and gravel slip. It measured 1.16 m. in length, 0.60 m. in width and 0.20 m. in depth. It contained a single piece of worked flint.

Pit or posthole 3082 was located west of gully 3079. It had sloping sides and a rounded bottom (Fig. 10). It measured 0.40 m. in width and 0.20 m. in depth. The fill was a red-grey-brown silty clay mixed with a little gravel and pea grit. It was overlain by layer 3052.

Pit 3083 (not illustrated) was a large shallow pit which extended beyond the southern and eastern edges of the excavation in the vicinity of gully 1977. It measured 3.0 m. in length, 2.0 m. in width and 0.12 m. in depth. The fill was a red silty clay mixed with a little charcoal, quartzite and gravel.

[21] G. Lambrick, *The Rollright Stones: Megaliths, Monuments and Settlement in the Prehistoric Landscape* (HBMCE Archaeol. Report 6, 1988), 85.

[22] A. Barclay, M. Gray and G. Lambrick, *Excavations at the Devil's Quoits, Stanton Harcourt, Oxfordshire, 1972-3 and 1988* (Thames Valley Landscapes 3, 1995).

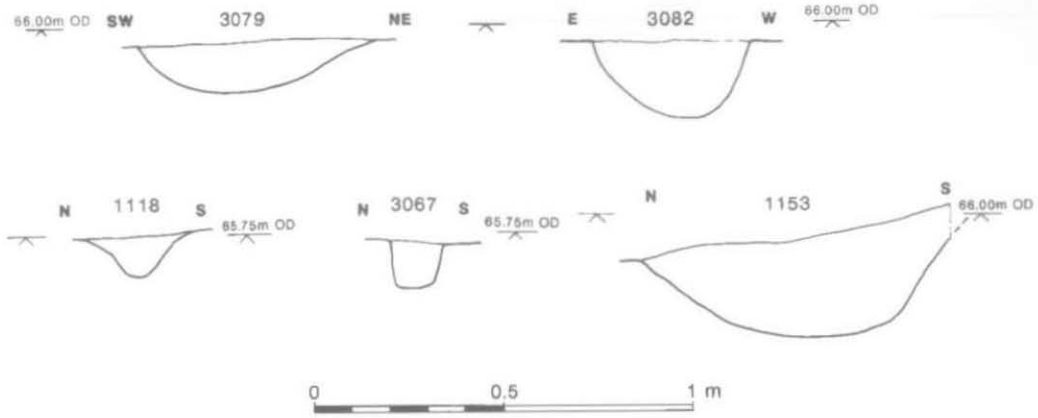

Fig. 10. Sections through pits, postholes and gullies.

Fig. 11. The 'standing stone'.

THE FLINT ASSEMBLAGE by TESS DURDEN

A total assemblage of 583 pieces of flint, mostly probably of later Neolithic or early Bronze Age date, was recovered from a variety of mostly Saxon or later features and layers. Approximately a third of the lithic material, however, was collected from prehistoric contexts, which form the earliest structural evidence on the site. Almost all of the contexts from which flint was recovered contained only a handful of pieces, though a number of contexts (250, 394, 1041, 1678, 3052 and 3571) contained between 30 and 80 flints.

Raw material

The flint was generally translucent or mottled opaque brown or dark grey in colour. Further colour variation occurred through cortication, ranging from incipient blue/white speckles to completely white cortication. Where present, cortex is thin and worn, and brown in colour. Occasional dark flint with a paler, thin cortex may be chalk flint derived from a secondary geological context. This suggests that the flint used is gravel-derived or from a clay-with-flint deposit. The site is situated on a gravel terrace so the collection of raw material locally would have been possible. The quality of this local flint is, however, not particularly good, so it is possible that flint was brought to the site from further afield, possibly from clay-with-flint deposits in the Chilterns or Berkshire Downs.

Assemblage composition

Flakes clearly dominate the lithic assemblage, with narrow flakes and blades present in much smaller proportions (Table 1). The majority of the flake material (flakes, blades and blade-likes) consists of inner flakes (78%), with side and distal trimmings forming 19%, and completely cortical flakes making up only 3% of flake material. Although cortical flakes generally form the smallest category of flake material, this percentage is noticeably low and may indicate that the earliest stages of flint knapping were sometimes carried out elsewhere.

TABLE 1. FLINT ASSEMBLAGE COMPOSITION

Flakes	Narrow flakes	Blades	Chips	Cores	Retouched	Other	Total
410	35	20	3	21	54	40	583

TABLE 2. CORE TYPES

Single platform blade	Bipolar blade	Other blade	Tested nodule	Single platform flake	Multi platform flake	Discoidal levallois	Fragment/ unclassified	Total
1	1	1	1	4	7	3	1	21

Some core rejuvenation and preparation was carried out on site; three core tablets and three core face/edge rejuvenations were found, as well as two plunging flakes and a crested flake. Core tablets and crested flakes are typical of Mesolithic and earlier Neolithic industries, and two of the face/edge rejuvenations bore dorsal blade or narrow flake scars.

Simple prepared butts and unprepared or cortical butts dominate on flake material. A few punctiform and narrow-butted flakes are present, but the majority of butts are thicker. A mixture of hard and soft hammers were used for knapping, but as many of the flakes are squat and thick-butted, the presence of soft hammers is not necessarily indicative of an earlier industry.

A total of 21 cores were collected (Tables 1 and 2). These were typically very small (see Fig. 12.1-4), ranging in weight from 5-49 g. with the majority being at the lower end of the scale. Many of the flake cores and the bipolar core were in fact flakes from which smaller flakes had been removed, often with a high rate of hinge fracturing. The three blade cores also gave the impression of being considerably worked down. With the exception of the blade cores, the general impression is that little control over the shape of the removals was exercised, and that removals tended to be small and squat.

The small size of the cores may be related to two factors. Cores may have been worked down as far as possible and larger flakes used as cores because raw material was at a premium. This would, however, seem strange as the site is situated on a gravel terrace where flint would have been locally available. It may be that

non-local flint was used in preference and so cores were worked down as much as possible. Nodule size will also obviously determine the size of cores. There are, however, large flakes within the collection, some of which may be levallois flakes. The preparation of levallois cores generally requires a reasonably large piece of flint, so some larger nodules must also have been available. It may be the case that larger cores were struck and prepared off-site, perhaps at the flint source.

Retouched material

A total of 54 retouched implements of various types were recovered (Table 3), with scrapers occurring in the largest numbers (e.g. Fig. 12.6-7). A few pieces are more diagnostic of particular periods than others. One of the arrowheads is barbed and tanged, indicating a Beaker/early Bronze Age date (Fig. 12.12). Denticulates can also be assigned an early Bronze Age date. Serrated pieces are present in assemblages up to and including the later Neolithic (Fig. 12.9-11). A flake from a polished implement was also recovered, providing a broad Neolithic date. Similar fragments were recovered during excavations at Reading Business Park.[23]

TABLE 3. RETOUCHED FLINT

Arrowhead	Scraper various	Awl	Piercer	Serrated flake	Saw	Notch	Denticulate	Retouched flake	Total
2	17	4	2	5	1	2	2	19	54

Catalogue of illustrated flints (Fig. 12)

1 Blade core. SF:1833, Ctx:250/B/3.
2 Flake core. SF:901, Ctx:153/A/1.
3 Discoidal flake core. SF:1777, Ctx:3097/-/-.
4 Flake core. SF:1821, Ctx:250/A/3.
5 Levallois flake. SF:1122, Ctx:1511/-/-.
6 Discoidal scraper manufactured on a cortical flake exhibiting shallow invasive retouch. SF:894, Ctx:1042/-/-.
7 Side (thumbnail) scraper, fine invasive retouch 50° to 75°. SF:1824, Ctx:250/B/-.
8 Denticulate. SF:801, Ctx:433/-/-.
9 Serrated flake, fine serrated teeth are present along the left-hand side, silica gloss is present on the ventral surface of the flake. The proximal end of the flake is broken. SF:1164, Ctx:1501/-/-.
10 Serrated blade, serrated teeth are present on the left proximal and right-hand sides of the blade; the teeth are well worn. SF:1813, Ctx:250/A/1.
11 Serrated blade, fine serrated teeth are present on the left and right-hand sides, silica gloss is present on the left-hand ventral surface. The proximal end of the blade is broken. SF:477, Ctx:720/-/1.
12 Barbed and tanged arrowhead, slight damage to the tip and one barb is missing. SF:151, Ctx:251/-/1.

Discussion

The bulk of lithic material from the site would appear to be of indeterminate later Neolithic/early Bronze Age date. The percentage of blades and blade-like flakes combined (12%) is consistent with what one might expect to find in a later Neolithic assemblage, and the presence of flakes with dorsal blade scars is suggestive of a small earlier Neolithic element in the assemblage.[24] This is supported by the presence of some flakes with narrow or punctiform butts and soft-hammer flaking. The majority of flakes, however, with their squat dimensions and plain, thick butts, are indicative of later industries. The core types present also reflect this. Some flakes and cores may be more securely assigned to the later Neolithic. For example, broad flakes with faceted butts and dorsal flake scars indicating flaking from

[23] D. Jennings, 'The Small Finds', in J. Moore and D. Jennings, *Reading Business Park: a Bronze Age Landscape* (Thames Valley Landscapes: the Kennet Valley 1, 1992), 93-7.

[24] S. Ford, 'Chronological and Functional Aspects of Flint Assemblages', in A.G. Brown and M.R. Edmonds, *Lithic Analysis and Later British Prehistory* (BAR clxii, 1987), 79, tab. 2.

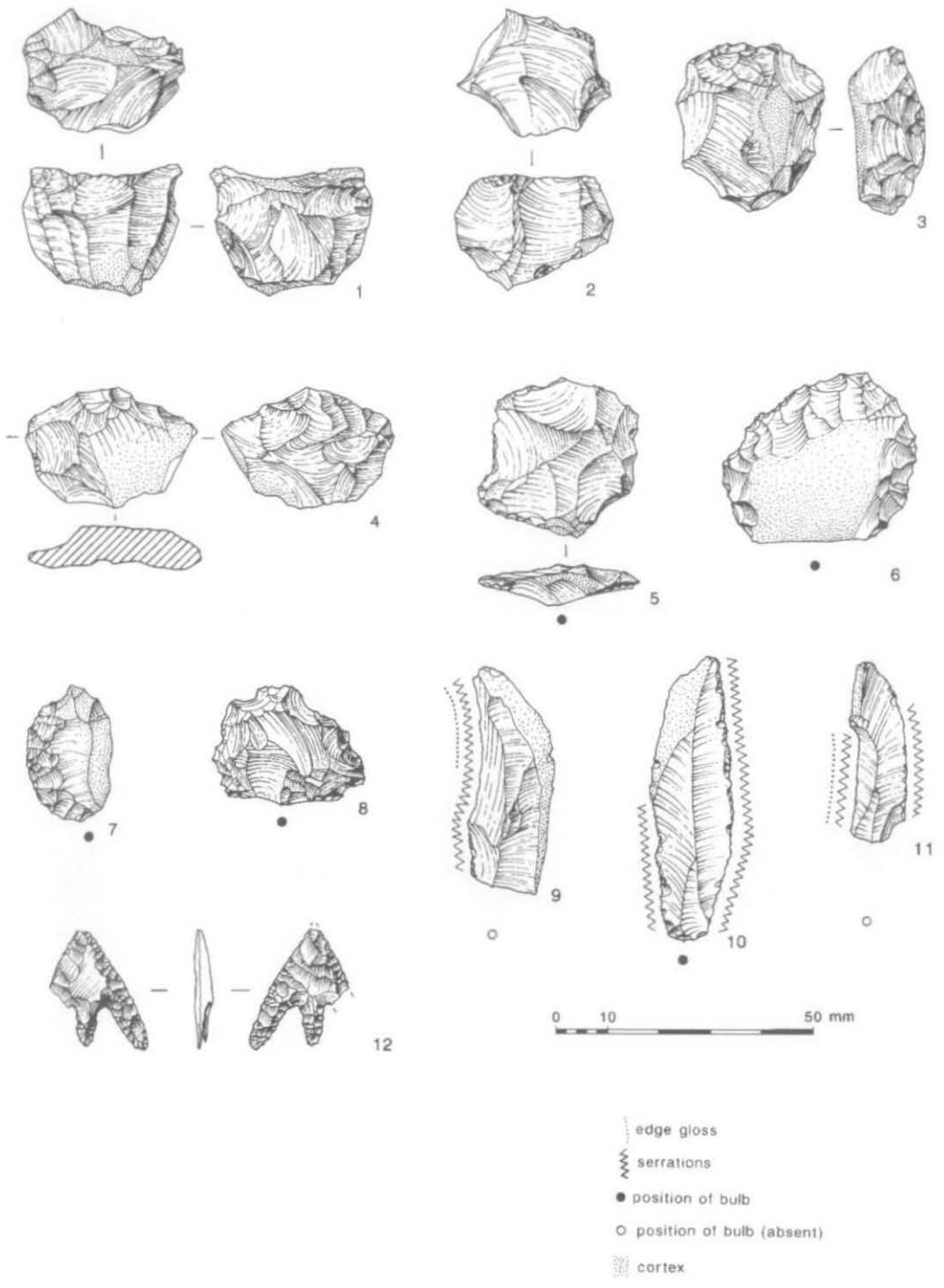

Fig. 12. Worked flint.

several directions (Fig. 12.5) may be the product of tortoise cores, a levallois-type core used in this period. Possible tortoise core flakes were recovered from 3052, a prehistoric ground surface. The discoidal cores recovered could also be dated to the later Neolithic. Most of the scrapers, including two disc scrapers, are quite finely worked and not steeply flaked, which suggests a later Neolithic/early Bronze Age rather than a later Bronze Age date. The range of retouched implements present could suggest activity of a domestic nature. Flint knapping was also carried out on the site though it is possible that the initial stages were carried out elsewhere. The small size of most of the cores and the use of flakes for flake cores may be explained by the use of non-local flint in preference to the local gravel deposits.

Flints from all contexts appear to be fairly mixed. As already stated, about two thirds of the lithic material was redeposited in Saxon or later contexts. It is also likely that the bulk of material from the probably later Bronze Age contexts is of later Neolithic/early Bronze Age date, mixed with a small amount of earlier Neolithic material. Activity of various prehistoric periods might be expected at Eynsham Abbey as the site is located on a gravel terrace ideal for settlement and the exploitation of flint; indeed Mesolithic and Neolithic activity in the form of flintwork is recorded from the Eynsham area,[25] as well as Neolithic pits[26] and Peterborough Ware and Beaker sherds.[27] If the enclosure ditch is of Bronze Age date much of the worked flint found within it, serrated flakes, a small discoidal core and a blade core for example, are also likely to have been redeposited. A similar range of material was present in the other, more clearly later contexts, which suggests that flint deriving from Neolithic and early Bronze Age activity on the site was redeposited in the enclosure ditch and later features. This also appears to have been the case at the late Bronze Age enclosure at Rams Hill.[28] If, however, the enclosure is of Neolithic date (see below 'The form and date of the ditch'), some of this material may have remained *in situ*.

BEAKER AND EARLY BRONZE AGE POTTERY by ALISTAIR BARCLAY

The excavations produced 15 sherds (138 g.) of earlier Bronze Age pottery including some Beaker material. Cord-impressed sherds recorded in the assessment as coming from context 338/B have not been seen by the writer and are assumed to have been lost. The assemblage is characterised by small, often worn, featureless body sherds. With the exception of one sherd recovered from a pit, all of the material is considered to be residual within later contexts.

Methodology

Table 4 gives a quantification of the assemblage by weight and sherd number (excluding refitting fresh breaks and sherds less than 10 mm. in width/diameter). The pottery is characterised by fabric, form, surface treatment, decoration and colour. The sherds were analysed using a binocular microscope (x 20) and were divided into fabric groups by principal inclusion type. OAU standard codes are used to denote inclusion types: A = sand (quartz and other mineral matter), G= grog, Q= quartzite, S = shell, V= voids (either leached shell, burnt organic or miscellaneous). Size range for inclusions: 1 = <1 mm. fine; 2 = 1-3 mm. fine-medium and 3 = 3 mm. < medium-coarse. Frequency range for inclusions: rare = <3%, sparse = <7%, moderate = 10%, common = 15% and abundant = >20%.

Fabrics

Six fabrics have been identified and all of these contain either medium or coarse grog as a main tempering agent as well as either sand, shell or quartzite. All of the sherds have a heavily oxidised outer margin, often yellowish-brown in colour and an incompletely oxidised inner margin, often greyish-black or black in colour.

[25] Briggs, Cook and Rowley, op. cit. note 12, maps 2 and 4.
[26] Ibid. map 3.
[27] Case, op. cit. note 12, pp. 32-3.
[28] S. Needham and J. Ambers, 'Redating Ram's Hill and reconsidering Bronze Age Enclosure', *Proc. Prehist. Soc.* lx (1994), 240.

Sometimes the inner surface is oxidised as well. The sherds have a wall thickness range of between 7-13 mm. All of the fabrics are consistent with either a Beaker or earlier Bronze Age date. A fabric similar to GQ3 occurs at Yarnton where it is associated with the manufacture of Biconical Urns.[29]

TABLE 4. EARLIER BRONZE AGE SHERDS (NOSH= NUMBER OF SHERDS)

Context	Fabric	NOSH	Weight	Decoration	Catalogue no.	Date
394/B/8	GA2	1	9 g.		P5	
916/1	G2	1	4 g.	Impressed comb	P1	Beaker, ?W/MR
1041 EBA	GA2	1	3 g.			
1119/B/1	GA2	1	7 g.	Impressed or incised	P2	Beaker
1677	GA2	1	3 g.	Very worn impressed comb	P3	Beaker
	GAS2	1	8 g.			
1678	GA3	1	3 g.			EBA
	GQ2	3	40 g.			EBA
	GS3	1	7 g.			EBA
1884/A/1	GA2	1	4 g.			Beaker
1947/-/1	GA2	1	4 g.	Incised line	P4	Beaker
3052	GQ3	2	34 g.			EBA
3053	GS3	1	12 g.			EBA
Total		15	138 g.			

Grog-tempered fabrics:

GA2: Soft fabric with moderate medium subangular grog and rare quartz sand inclusions.
GA3: Soft fabric with moderate coarse subangular grog and rare coarse quartz sand inclusions.
GAS2: Soft fabric with moderate medium subangular grog, moderate medium shell (mostly voids) and rare quartz sand inclusions.
GQ2: Soft fabric with moderate medium subangular grog and sparse angular quartzite inclusions.
GQ3: Soft fabric with moderate coarse subangular grog and sparse coarse angular quartzite inclusions.
GS3: Soft fabric with moderate coarse subangular grog inclusions and moderate coarse shell platelets (sometimes leached).

Form, decoration and surface treatment

The sherds were nearly all from the bodies of relatively thin walled vessels, with the exception of P1 which could be from a shoulder.

Four sherds, P1-4, carry either impressed or incised decoration. P1 has zones of impressed comb (Fig. 13). It is fired a dark reddish-brown and is highly burnished. The sherd is likely to come from a very fine Beaker, perhaps of European or Wessex/Middle Rhine type. Its firing and surface treatment would fit Clarke's description of the 'extremely fine, bright sealing-wax red' finish that is so indicative of many Wessex/Middle Rhine Beakers.[30] In appearance the sherd is identical to the very fine unpublished Wessex/Middle Rhine Beaker that was recovered from a grave at Yarnton.[31] P3 has what appears to be a very worn rectangular

[29] A. Barclay, 'The Prehistoric Pottery', in Bell and Hey, op. cit. note 7.
[30] D.L. Clarke, *Beaker Pottery of Great Britain and Ireland* (1970), 86.
[31] G. Hey, 'Yarnton: Recent Work', *Past*, 17 (1994), 8.

comb impression. P2 has a simple and short impressed or incised line and P4 has what could be a number of faint incised lines. Similar decoration occurs on Beaker pottery, in particular of Clarke's Southern styles/groups.[32]

With the exception of P1, the yellowish-brown oxidised outer surface, the range of grog-tempered fabrics and the incised and impressed decoration suggest a date within the 'late' Beaker or earlier Bronze Age ceramic traditions.

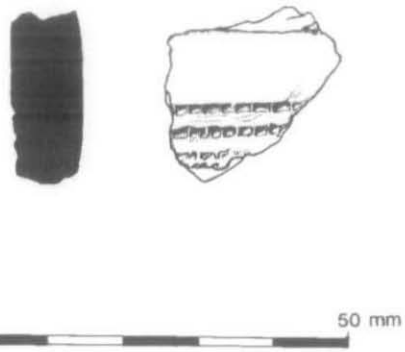

Fig. 13. Beaker sherd with impressed decoration, P1.

Catalogue of featured sherds

P1 916/1. (Fig. 13) Beaker body sherd (4 g.). Zones of impressed comb. Fabric G. Colour: ext: dark reddish-brown; core: black; int: dark reddish-brown. Outer surface is highly burnished.
P2 1119/B/1. (not illustrated) Beaker body sherd (7 g.). Impressed or incised line. Fabric GA2. Colour: ext: yellowish-brown; core: black; int: black.
P3 1677. (not illustrated) Beaker body sherd (3 g.). Very worn impressed comb. Fabric GA2. Colour: ext: yellowish-brown; core: black; int: brown.
P4 1947/-/1. (not illustrated) Beaker body sherd (4 g.). Incised line. Fabric GA2. Colour: ext: yellowish-brown; core: black; int: black.
P5 394/B/8. (not illustrated) Base sherd. Plain. Fabric GA2. Colour: ext: yellowish-brown; core: grey; int: grey.

Discussion

The sherds are all quite small and most are in a worn condition. Only one sherd, P2, came from an earlier prehistoric feature; the remainder are from later contexts, either late Bronze Age or Saxon. The majority of the sherds belong to the 'late' Beaker and Biconical Urn ceramic traditions of the earlier Bronze Age. In date this material may represent at least two phases of activity during the period c. 2100-1500 cal BC, with the Beaker material predating the use of Biconical Urns.[33]

There is good evidence from the Upper Thames region for the use of the two ceramic styles in both domestic and funerary contexts. There is a notable concentration of Beaker pottery from Oxfordshire.[34] Most of this pottery is from funerary contexts, although a number of domestic sites have now been found. Near to Eynsham, Beaker pottery from domestic contexts has been found just to the

[32] Clarke, op. cit. note 30.
[33] I. Kinnes, A. Gibson, J. Ambers, S. Bowman, M. Leese and R. Boast, 'Radiocarbon Dating and British Beakers: the BM Programme', *Scottish Archaeol. Review*, viii (1991), 39; D.L. Tomalin, 'Armorican Vases à Anses and their Occurrence in Southern Britain', *Proc. Prehist. Soc.* liii (1988), fig. 6.
[34] H.J. Case, 'The Lambourn Seven Barrows', *Berks. Archaeol. Jnl.* lv (1956-7), 15-31.

north at New Wintles Farm (unpubl.), Cassington[35] and Yarnton[36] and to the south it has been found at the Devil's Quoits henge and from the surrounding landscape at Stanton Harcourt.[37] Biconical Urn is less well represented within the county, although this ceramic is associated with domestic features, including a post-built house at Yarnton.[38]

LATER PREHISTORIC POTTERY by ALISTAIR BARCLAY

The excavated assemblage consists of a total of 414 sherds of handmade prehistoric pottery weighing *c.* 4 kg. Of this total, 352 sherds were recovered from later prehistoric contexts, while 62 sherds were recovered from Saxon and later contexts. The pottery is a Plain Ware assemblage of late Bronze Age date and is characterised by mostly undecorated straight or barrel-shaped vessels and round-shouldered jars with everted rims that are manufactured from a range of quartzite- and/or shell-tempered fabrics. It is thought that the assemblage may have a date range between 1200 cal BC and 800 cal BC. A series of five radiocarbon dates were obtained from burnt residues that adhered to sherd surfaces and these provide a set of high quality dates for the assemblage (see below).

Methodology

The assemblage is quantified by sherd number and weight (see Tables 5-6). Refitting fresh breaks are excluded from the sherd count. The pottery is characterised by fabric, form, surface treatment, decoration and colour. Only the more diagnostic featured sherds are listed in the catalogue. A record was made of burnt residues. The sherds were analysed using a binocular microscope (x 20) and were divided into fabric groups by principal inclusion type. OAU standard codes are used to denote inclusion types: A = sand (quartz and other mineral matter), F = flint, G = grog, C = calcareous matter excluding shell, S = shell, P = clay pellets, Q = quartzite. Size range for inclusions: 1 = <1 mm. fine; 2 = 1-3 mm. fine-medium and 3 = 3 mm. < medium-coarse.

Seventeen fabrics were identified and these can be divided into six fabric groups.

Fabrics

Sand-tempered:
AG1 Fine quartz sand and fine grog.
AQ2 Fine quartz sand and fine-medium angular quartzite.
ASQ1 Fine quartz sand, fine shell platelets and fine angular quartzite.

Calcareous-tempered:
C2 Fine-medium calcareous limestone. Some sherds also contain rare quantities of shell, quartzite and/or quartz sand.
C3 Coarse calcareous limestone. Some sherds also contain possibly grog or clay pellets or quartzite.
CQS2 Moderate fine-medium calcareous limestone, sparse fine-medium angular quartzite and sparse quartz sand.

Flint-tempered:
F3 Moderate coarse angular calcined flint.

Grog-tempered:
G2 Moderate medium grog. Some sherds also contain quartz sand and/or fine shell.
GQ2 Moderate medium grog with either sand, shell and/or calcareous matter.

Quartzite-tempered:
Q1 Moderate fine angular quartzite.
Q2 Moderate-common medium angular quartzite. Some sherds also contain either quartz sand, grog, shell or ferruginous pellets.
Q3 Moderate-common coarse angular quartzite. Some sherds also contain calcareous matter.
QSCP3 Sparse coarse quartzite, rare shell platelets, rare calcareous limestone and rare clay pellets.

35 Case et al., op. cit. note 3, pp. 59-63.
36 Barclay, in Bell and Hey, op. cit. note 29.
37 Barclay et al., op. cit. note 22.
38 Barclay, in Bell and Hey, op. cit. note 29.

TABLE 5. QUANTIFICATION (SHERD NUMBER, WEIGHT) OF POTTERY FROM LATE BRONZE AGE CONTEXTS BY FABRIC GROUP

Context	Sand	Calcareous	Flint	Grog	Quartzite	Shell	Total
250/A/1		1, 2g				1, 5g.	2, 7g.
250/A/3					8, 27g	2, 8g.	10, 35g.
250/B			1, 8g.		8, 77g.	3, 2g.	12, 87g.
250/B/2					3, 14g.		3, 14g.
250/B/3		1, 13g.			1, 6g.		2, 19g.
250/B/4					4, 21g.		4, 21g.
250/C/1			1, 8g.		2, 15g.		3, 23g.
250/C/3				2, 26g.	23, 202g.	38, 352g.	63, 580g.
250/C/4					1, 6g.	1, 35g.	2, 41g.
360				1, 9g.		5, 52g.	6, 61g.
440					1, 8g.		1, 8g.
578				1, 9g.			1, 9g.
947/A/4		1, 8g.			1, 4g.		2, 12g.
947/B/3					2, 5g.	9, 45g.	11, 50g.
1042	1, 1g.				28, 485g.	7, 41g.	36, 527g.
1153/A/1						1, 1g.	1, 1g.
1243	1, 2g.				1, 2g.	1, 2g.	3, 6g.
1678	1, 8g.	3, 20g.		2, 19g.	71, 340g.	45, 323g.	122, 710g.
1976						2, 8g.	2, 8g.
1977				1, 3g.	5, 34g.	6, 33g.	12, 70g.
3048				1, 3g.	1, 4g.	1, 2g.	3, 9g.
3052						2, 6g.	2, 6g.
3053					2, 31g.	5,15g.	7, 46g.
3054		1, 21g.			3, 13g.	3, 20g.	7, 54g.
3096	1, 17g.						1, 17g.
3517/A/1				13, 261g.			13, 261g.
3517/A/2				2, 22g.			2, 22g.
3517/B/1				19, 164g.			19, 164g.
Total	4, 28g.	7, 64g.	2, 16g.	42, 516g.	165, 1294g.	132, 950g.	352, 2868g.

TABLE 6. QUANTIFICATION (SHERD NUMBER, WEIGHT) OF POTTERY FROM NON-PREHISTORIC CONTEXTS

Context	Sand	Calcareous	Flint	Grog	Quartzite	Shell	Total
154/-/1	1, 15g.					1, 5g.	2, 20g.
165						1, 7g.	1, 7g.
251/G./1						1, 10g.	1, 10g.
278/-/2						1, 4g.	1, 4g.
360				1, 9g.		5, 52g.	6, 61g.
394/-/4						2, 14g.	2, 14g.
570						1, 5g.	1, 5g.
931		1, 12g.					1, 12g.
1040						1, 4g.	1, 4g.
1041	3, 13g.				7, 33g.	2, 5g.	12, 51g.
1097/B/1					1, 6g.		1, 6g.
1132/A/2			1, 2g.				1, 2g.
1181					1, 19g.		1, 19g.
1225/A/2					1, 14g.	1, 4g.	2, 18g.
1256/B/1					2, 13g.		2, 13g.
1552/-/1					1, 6g.		1, 6g.
1671					2, 14g.		2, 14g.
1677	1, 7g.				6, 42g.	4, 22g.	11, 71g.
1884/-/1 &A/1					1, 9g.		1, 9g.
1886/-/2		1, 26g.					1, 26g.
1890/B					2, 13g.		2, 13g.
1890/C					1, 4g.		1, 4g.
1946/-/1						1, 1g.	1, 1g.
1947/-/1						1, 4g.	1, 4g.
1962		1, 4g.				1, 10g.	2, 14g.
1995/-/1					1, 5g.		1, 5g.
2118				1, 6g.			1, 6g.
3034						1, 3g.	1, 3g.
3600/-/1						1, 3g.	1, 3g.
Total	5, 35g.	3, 42g.	1, 2g.	2, 15g.	28, 190g.	23, 141g.	62, 425g.

Shell-tempered:
S2 Common fine-medium shell platelets. Some sherds also contain grog.
S3 Common coarse shell platelets. Some sherds also contain grog.
SQ2 Common fine-medium shell platelets and rare-sparse medium angular quartzite. Some sherds also contain grog and, or quartz sand.
SQ3 Common coarse shell platelets and sparse coarse quartzite.

Discussion of fabrics

Table 7 gives a breakdown of the fabric groups by later prehistoric and non-prehistoric contexts. The quartzite-tempered fabric group is dominant and accounts for between 45-49% of the total assemblage. The shell, and shell and quartzite fabric groups account for 31% and 12-15% of the total assemblage, respectively. Collectively the remaining four fabric groups (sand, calcareous, flint and grog) accounted for only 9% of the total assemblage.

Quartzite temper is used extensively in the manufacture of late Bronze Age pottery and its appearance at Eynsham is significant as a chronological indicator. Similar quartzite fabrics have been recorded at Mead Lane, Eynsham, at Yarnton and at Wallingford.[39] Whilst quartzite temper is found in earlier prehistoric ceramics within the region (e.g. later Neolithic Peterborough Ware and middle Bronze Age Deverel-Rimbury Ware) it is almost never found in pottery of Iron Age date. The occurrence of shell-tempered fabrics and their use to manufacture late Bronze Age forms at Eynsham is of some interest within the region. Shell-tempered fabrics were used to a great extent to produce both middle Bronze Age ceramics and early Iron Age ceramics in the Upper Thames Region.[40] It is not surprising, therefore, that its use as temper for potting clay continued, albeit to a lesser extent, throughout the late Bronze Age. Of related interest are the two shelly fabrics with added crushed quartzite temper (SQ2-3). It is noteworthy that similar fabrics also occur at Worton Rectory Farm and Cresswell Field, Yarnton and Whitecross Farm, Wallingford.[41] It is assumed that quartzite was used in those areas of the Upper Thames where flint was not locally available. At Wallingford both quartzite- and flint-tempered fabrics are present and sometimes a mixture of the two occurs.

TABLE 7. PROPORTIONS OF FABRIC GROUPS FROM ALL PREHISTORIC AND NON-PREHISTORIC CONTEXTS

Fabric group	Later prehistoric contexts				Non-prehistoric contexts				All contexts			
	NOSH	%	Wt.	%	NOSH	%	Wt.	%	NOSH	%	Wt.	%
Sand	2	1	10g.	1	4	11	20g.	9	6	2	30g.	1
Calcareous	7	3	64g.	4	2	1	16g.	8	9	3	80g.	4
Flint	2	1	16g.	1	-	-	-	-	2	1	16g.	1
Grog	6	2	51g.	3	-	-	-	-	6	2	51g.	3
Quartzite	137	50	802g.	44	17	45	108g.	51	154	49	910g.	45
Shell	87	32	585g.	32	10	26	41g.	19	97	31	626g.	31
Shell and quartzite	34	12	277g.	15	5	13	26g.	12	39	12	303g.	15
Total	275	100	1805g.	100	38	100	211g.	100	313	100	2016g.	100

[39] Yarnton, unpubl. archive report (OAU). The later prehistoric pottery from Yarnton has been assessed by the author and will form part of an English Heritage funded post-excavation programme, see Barclay, in Bell and Hey, op. cit. note 7; A. Barclay, 'Late Bronze Age Pottery', in A. Cromarty, A.J. Barclay, and G. Lambrick, *Excavations along the Line of the Wallingford Bypass* (Thames Valley Landscapes, in prep.).
[40] Barclay, in Cromarty et al., op. cit. note 39.
[41] Ibid.

Forms

Twenty-seven rims were recorded, the majority of which were of simple form and either upright or everted. The rims have been divided into three basic types: R1-3, straight, incurving and everted. Shouldered sherds were rare amongst the assemblage and were always rounded. Sherds from at least 14 bases were recorded. These were classified into three types: B1-2, either flat bottomed with a steep rounded or squared basal angle; or B3, flat bottomed with an expanded and pinched 'foot'.

Four broad vessel types (V1-4) are defined. All of the forms recorded at Eynsham are characteristically late Bronze Age and common amongst the numerous contemporary assemblages from the Thames Valley.[42] Table 8 illustrates the correlation between rim and vessel types and fabrics and demonstrates that there is no significant correlation between forms and fabrics.

Rims:
R1: straight either rounded or squared. Undecorated. Fabrics: A1, AQ2, Q2, QSCP3, S2, SQ2-3. Contexts: 250/B/3, 250/C/3, 1041, 1677, 1678.
R2: incurving either rounded, bevelled or squared. Some rims are decorated with either oblique incised lines or finger-nail impressions. Fabrics: C3, G2, Q2-3, S2. Contexts: 250/C/3, 1678, 3048/-/-, 3054/-/-.
R3: everted either rounded or squared. Fabrics: Q1, Q2, S2, SQ2. Contexts: 250/A/1, 250/B/-, 250/B/2, 250/C/3, 3054/-/-.

TABLE 8. CORRELATION BETWEEN RIM AND VESSEL FORMS AND FABRIC

Form	Sand	Calc.	Flint	Grog	Quartzite	Shell	Total
R0						1	1
R1	2				4	5	11
R2		1		1	3	2	7
R3					3	2	5
Total	2	1		1	10	10	24
V1					2	1	3
V2		1			3	1	3
V3					1	1	2
V4				2			2
Total		1		2	6	3	12

Vessels:
V0: indeterminate.
V1: straight sided. Some vessels with circular indentations or perforations. Rim form: R1. Fabric: Q1, QSCP3, S2. Contexts: 250/C/3, 1678.
V2: rounded with incurving rim. Some vessels with circular indentations or perforations. Rim form: R2. Fabrics: C3, Q2-3, SQ2. Contexts: 250/C/3, 1678, 3054/-/-.
V3: slightly shouldered. Rim form: R1. Fabric: SQ3. Context: 1678.
V4: round-shouldered jar. Rim forms: R1, R3. Fabrics: AQ2, GQ2, Q1. Context: 1041/-/-.

Bases:
B0 Indeterminate.
B1 Simple flat with steep basal angle. Fabrics: Q2, S2, SQ3. Contexts: 250/B/-, 1678.
B2 Simple flat, slightly rounded with steep basal angle. Fabrics: Q3, S2. Context: 1678.
B3 Flat and expanded foot with a steep basal angle. Fabrics: Q3, S3. Contexts: 250/C/4, 1678, 1977/-/1.

[42] J. Barrett, 'The Later Pottery: Types, Affinities, Chronology and Significance', in R. Bradley and A. Ellison, *Rams Hill: A Bronze Age Defended Enclosure and its Landscape* (BAR xix, 1975); J. Barrett, 'The Pottery of the Later Bronze Age in Lowland England', *Proc. Prehist. Soc.* xxxxvi (1980), 297-319.

Catalogue of featured sherds (Figs. 14-16)

1 250/A/1. Rim sherd. R3. Fabric S2. Firing colour: ext: reddish-brown; core: dark grey; int: dark grey. Condition fair-worn.
2 250/B/-. Two base sherds. B1. Fabric Q2. Firing colour: ext: brownish-grey; core: grey; int: grey. Condition fair.
3 250/B/-. Rim sherd. R1. Fabric Q2. Firing colour: ext: greyish-brown; core: grey; int: grey. Condition fair.
4 250/B/2. Rim sherd. R3. Fabric SQ2. Firing colour: ext: reddish-brown; core: reddish-brown; int: reddish-brown. Condition fair.
5 250/B/3. Rim sherd. R1. Fabric Q2. Firing colour: ext: dark grey; core: dark grey; int: dark grey. Condition fair.
6 250/C/3. Rim sherd. Burnished surfaces. R3. V4. Fabric Q1. Firing colour: ext: black-greyish-brown; core: dark grey; int: dark grey. Condition fair.
7 250/C/3. Shoulder sherd. Burnt residue on interior surface. Smoothed surfaces. V4. Fabric GQ2. Firing colour: ext: brown; core: black; int: black. Condition fair.
8 250/C/3. Rim sherd. R2. V2. Fabric Q3. Firing colour: ext: greyish-brown/reddish-brown; core: greyish-black; int: greyish-black. Condition fair.
9 250/C/3. Rim sherds. Burnt residue on inside of vessel. Vertical finger-wiping. R1. V1. Fabric S2. Firing colour: ext: yellowish-brown; core: black; int: black. Condition fair.
10 250/C/4. Base sherd. Burnt residue on interior surface. B3. Fabric S3. Firing colour: ext: yellowish-brown; core: grey; int: reddish-brown. Condition fair.
11 1041/-/-. Rim sherd. R1. Fabric AQ2. Firing colour: ext: reddish-brown; core: grey; int: grey. Condition fair.
12 1041 Sherd with boss. Fabric GA2. Firing colour: ext: reddish-brown; core and int. greyish brown. Condition worn. This sherd could be late Bronze Age or residual early-middle Bronze Age.
13 1042 Rim sherd. Fabric Q2. Firing colour: grey throughout. Condition worn.
14 1042 Six sherds (36 g.) from the same vessel including one from the neck that has an applied cabled cordon. Fabric SA2. Firing colour: greyish brown throughout. Condition fair to worn.
15 1042 Shoulder and base from the same vessel (24 sherds, 468 g.). Base is partially gritted. Fabric Q2.
16 1042 Shoulder sherd. Fabric Q1. Firing grey throughout. Condition worn.
17 1677. Rim sherd. R1. Fabric AG2. Firing colour: ext: reddish-brown; core: reddish-brown; int: reddish-brown. Condition fair-worn.
18 1677. Body sherd with perforation. Fabric Q2. Firing colour: ext: reddish-brown; Core: reddish-brown; int: grey-brown. Condition fair-worn.
19 1678/-/1. Rim sherd. R1. Fabric SQ3. Firing colour: ext: greyish-brown; core: grey; int: grey. Condition fair-worn.
20 1678. Rim sherd. Burnt residue on interior surface. R2. Fabric SQ2. Firing colour: ext: reddish-brown; Core: grey; int: grey-brown. Condition fair.
21 1678. Base sherd. B1. Fabric SQ3. Firing colour: ext: yellowish-brown; Core: grey; int: grey. Condition fair-worn.
22 1678. Base sherd. B1. Fabric SQ3. Firing colour: ext: brown; Core: grey; int: grey. Condition worn.
23 1678. Rim sherd. R1. Fabric QSCP3. Firing colour: ext: reddish-brown; Core: grey; int: grey-brown. Condition fair.
24 1678. Rim sherd. R2. Fabric Q2. Firing colour: ext: dark grey; Core: dark grey; int: dark grey. Condition fair.
25 1678. Rim sherd. R2. Fabric Q2. Firing colour: ext: yellowish-brown; Core: yellowish-brown; int: reddish-brown. Condition fair.
26 1678. Rim sherd. R1. V1. Fabric Q2. Firing colour: ext: dark grey/yellowish-brown; Core: grey; int: yellowish-brown. Condition fair.
27 1678. Rim and body sherd. Perforated hole. Vertical wiped outer surface. R2. Fabric Q2. Firing colour: ext: reddish-brown; Core: grey; int: grey. Condition fair.
28 1678. Base sherd. B1. Fabric S2. Firing colour: ext: yellowish-brown; Core: black; int: black. Condition fair.
29 1678. Base sherd. Burnt residue on interior surface. B2. Fabric S2. Firing colour: ext: yellowish-brown; Core: grey; int: grey. Condition fair.
30 1678. Base sherd. B3. Fabric Q3. Firing colour: ext: yellowish-brown; Core: grey; int: grey. Condition fair.
31 1678. Base sherd with burnt residue on interior surface. B2. Fabric Q3. Firing colour: ext: yellowish-brown; Core: black; int: black. Condition worn.
32 1678. Rim sherd. R1. Fabric SQ2. Firing colour: ext: dark grey; Core: dark grey; int: dark grey. Condition fair.

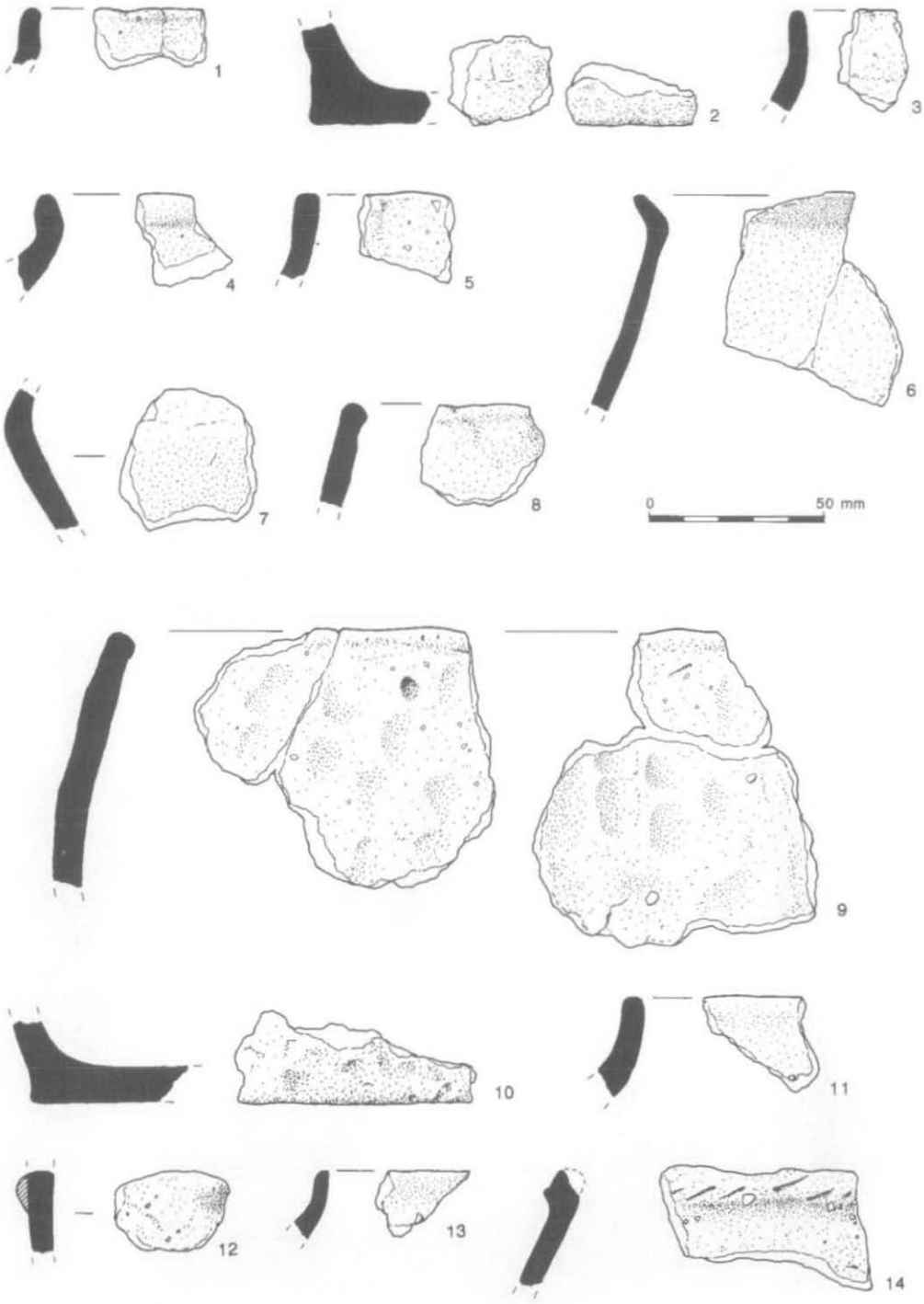

Fig. 14. Later prehistoric pottery: 1-14.

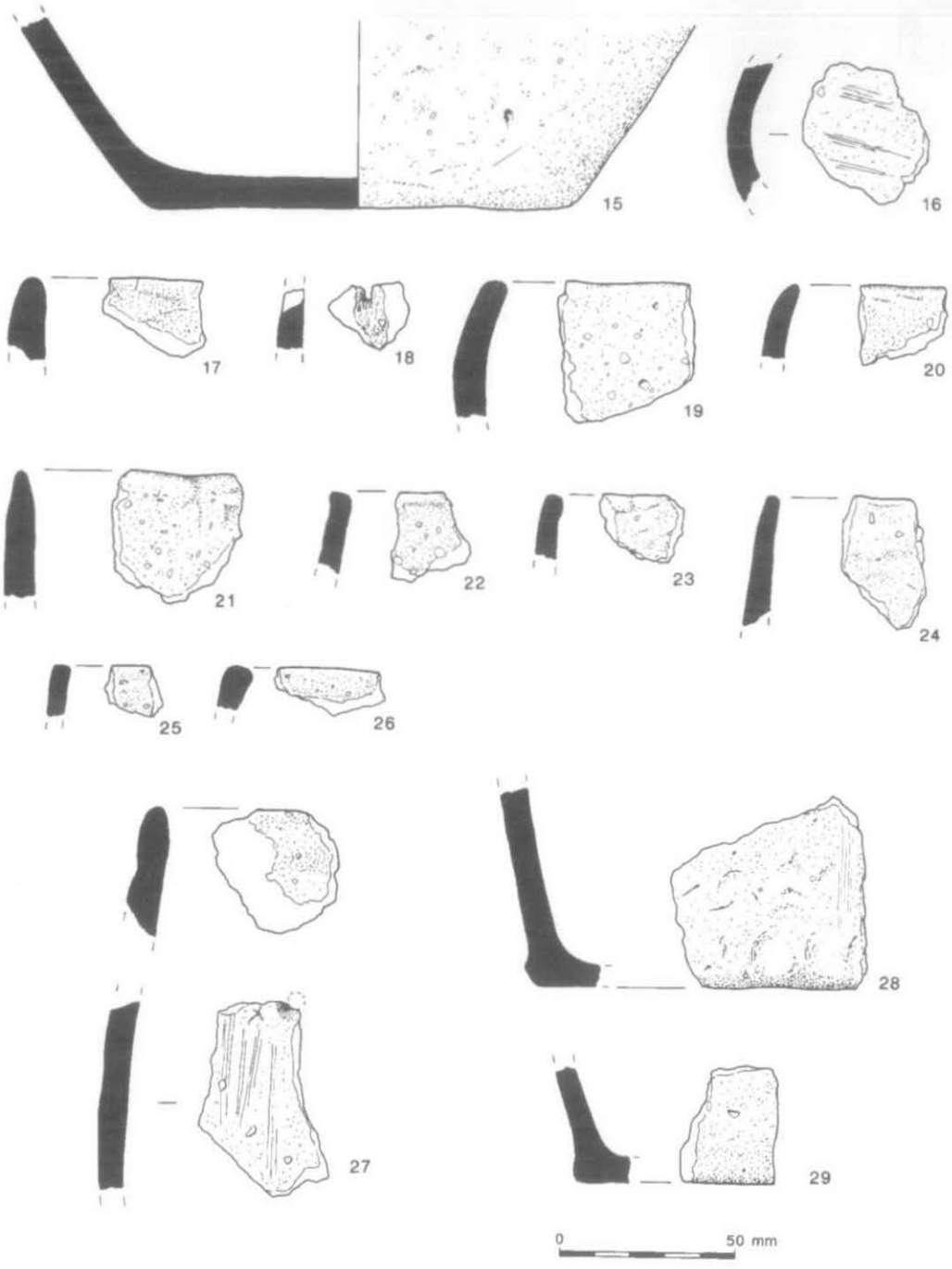

Fig. 15. Later prehistoric pottery: 15-29.

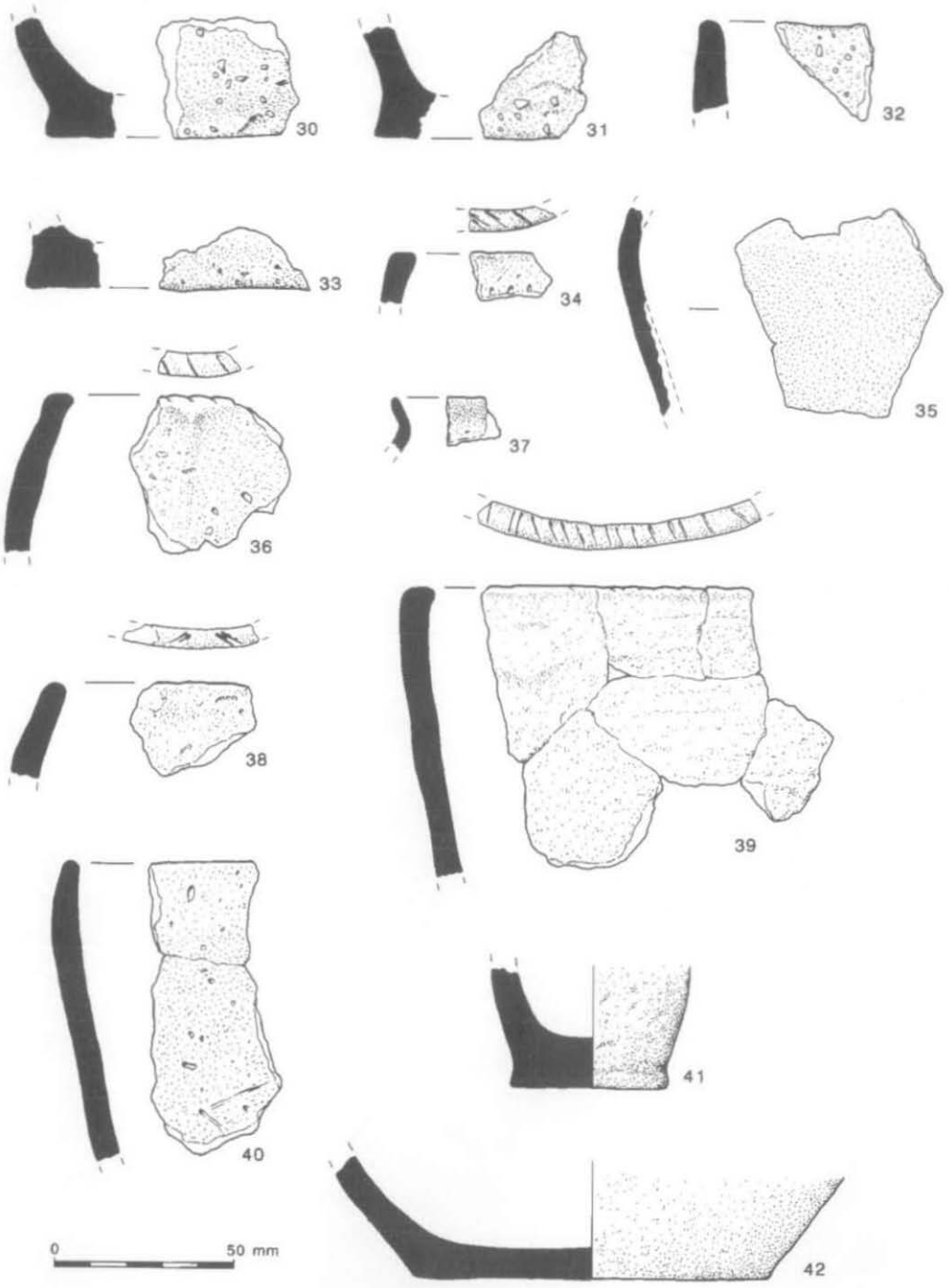

Fig. 16. Later prehistoric pottery: 30-42.

33 1977/-/1. Base sherd. B3. Fabric Q3. Firing colour: ext: reddish-brown; core: grey; int: greyish-brown. Condition fair.
34 3048/-/-. Rim sherd with oblique incised decoration on the rim and impressions on the exterior surface. R2. Fabric G2. Firing colour: ext: dark grey; core: dark grey; int: dark grey. Condition fair-worn.
35 3053/-/-. Rounded shoulder sherd. Fabric Q1. Firing colour: ext: grey; core: grey; int: grey. Condition fair-worn.
36 3054/-/-. Rim sherd with oblique finger-nail impressions. R2. Fabric C3. Firing colour: ext: yellowish-brown; Core: black; int: greyish-brown. Condition fair.
37 3054/-/-. Rim sherd. R3. Fabric SQ2. Firing colour: ext: reddish-brown; Core: grey; int: greyish-brown. Condition fair-worn.
38 3517/B/1 Decorated rim sherd. R2. Fabric GA2. Firing colour: brown throughout. Condition fair.
39 3517/B/1 Rim from a simple jar (7 sherds, 72g.). R2. Rim diameter approx. 200 mm. Fabric GS2. Firing colour: greyish brown throughout. Condition fair.
40 3517/A/1 Rim. R1. Two refitting sherds along an old break. Burnt residues on the interior surface. Fabric: G2. Firing colour : greyish brown throughout. Condition fair.
41 3517/A/1 Base from a miniature vessel. Diameter 40 mm. Fabric G2. Firing colour. Condition fair.
42 3517/A Three refitting base sherds and a body sherd from the same vessel. Approx. dia. 100 mm. Fabric G2. Firing colour. Condition fair.

Discussion of forms

The pottery is characterised by a restricted range of forms, although this may partly be due to the relatively small size of the assemblage. The simple jar forms, V1-3, can be paralleled at Mead Lane, Eynsham,[43] Whitecross Farm, Wallingford,[44] Yarnton[45] and Rams Hill.[46] The round-shouldered jar form, V4, occurs at Wallingford and Rams Hill. Forms V1-3 were manufactured in either calcareous- (including shell) or quartzite-tempered fabrics while the form V4 occurred in grog-tempered fabrics (see Table 8). The rim forms (R1-3) are typical and can be paralleled amongst the material recovered from all three sites mentioned above.

Decoration and surface treatment

Decoration is rare and occurs on sherds from only five vessels which include four rims and a neck. Two of the rims have been classified as form R2 and are possibly from similar types of vessel. P34 from context 3048 is decorated with oblique incised lines and is a grog-tempered fabric. This vessel also has a row of fingertip impressions below the rim. P36 from context 3054 is decorated with oblique fingernail impressions and is manufactured from the crushed limestone fabric C3. Although the fabric is unusual, the form of this vessel is late Bronze Age. Two further rims (P38-9) from context 3517 are similar, although both are grog-tempered. All four rims are without parallel amongst the late Bronze Age pottery from the Upper Thames Valley, although similar decorated rims are recorded from sites of this date within the Kennet Valley, from Reading Business Park and Aldermaston Wharf, Burghfield, Berks.[47]

Surface treatment in the form of wiping and burnishing was recorded on a number of vessels. Vertical finger wiping occurred on some vessels, including P9. Only two examples of burnishing were recorded, the rim fragment P6 which was burnished all-over and a body sherd from context 1243. Shoulder sherd P7 had been smoothed rather than burnished.

Circular indentations and perforations were recorded on sherds from three vessels (Fig. 14.9; Fig. 15.18 and 27). In two cases the hole was made during manufacture before firing. It may have been intended to form a means of attaching a lid or handle, while the indentation in vessel P9 could be an attempt to repair the vessel. Drilled holes and indentations are a common feature of both Deverel-Rimbury and Post-Deverel-Rimbury pottery.

43 Unpublished pottery from Mead Lane, Eynsham, held by OAU.
44 Barclay, in Cromarty et al., op. cit. note 39.
45 Barclay, in Bell and Hey, op. cit. note 29.
46 Barrett, in Bradley and Ellison, op. cit. note 42.
47 R. Bradley, 'The Pottery', in R. Bradley, S. Lobb, J. Richards and M. Robinson, 'Two Late Bronze Age Settlements on the Kennet Gravels: Excavations at Aldermaston Wharf and Knight's Farm, Burghfield, Berkshire', *Proc. Prehist. Soc.* xxxxvi (1980), fig. 160b; M. Hall, 'The Prehistoric Pottery', in Moore and Jennings, op. cit. note 23, fig. 44.14 and 19.

One neck sherd had an applied and decorated cordon (Fig. 14.14) and another had an applied boss (Fig. 14.12). The later is in the grog-tempered fabric (GA2) and could be of middle Bronze Age date. The neck sherd with applied cordon is likely to come from a shouldered jar.

Function, use and residues

Residues consisting of black carbonaceous material, almost always on the interior surface, were recorded on a number of sherds, five of which are illustrated in the catalogue (Fig. 14.7, 9 and 10; Fig. 15.20 and 29; Fig. 16.31). Residues occurred on sherds manufactured from a wide range of fabrics including calcareous, grog, shell or quartzite-tempered fabrics (C2, GQ2, Q2, S2, S3, SQ2). There is no apparent correlation with any one particular inclusion type (Table 9). A series of radiocarbon dates were obtained from burnt residues on sherds from contexts 250 and 1678 the results of which are given in Table 16 (see also Bayliss et al. below).

TABLE 9. LATER BRONZE AGE SHERDS WITH BURNT COOKING RESIDUES ON INTERIOR SURFACE

Context	Catalogue No.	Description	Fabric	Radiocarbon sample & uncal. date bp	Comment
250/B/3		Body sherd	C2		
250/C/3	7	Shoulder	GQ2		
250/C/3	9	Rim	S2	OxA-7928; 2925±35	Probably same vessel as 10
250/C/4	10	Base	S3	OxA-7929; 2915±35	
360		Rim	S2		
1677		Body sherds	QG2		
1678		Body sherds	Q2		
1678	31	Base	Q3		
1678	29	Base	S2	OxA-7930; 2895±60	
1678		Base	S2	OxA-7931; 2950±40	Same or similar base to 29
1678/-/1		Base	Q2		
1678/-/1	20	Rim	SQ2	OxA-7932; 2900±55	
1977/A/1		Body sherds	SQ2		
3034/-/1		Body sherds	SQ2		
3517/A/1		Rim sherd	G2		Refits with body sherds from 3517/B/1 along old breaks – same vessels
3517/B/1		Body sherd	G2		

Discussion

The site. Most of the late Bronze Age assemblage was recovered either from the enclosure ditch (250, 947) or the preserved ground surface (1042, 1678), although a small number of pits, gullies and other layers also produced late Bronze Age pottery (see Table 10). These contexts are all assumed to predate the Saxon occupation. Most of the pottery from the ditch came from the middle fills and was concentrated in section 250/C. The rim and base from the same plain jar were recovered from layers 3-4. The presence of refitting sherds together with the quantity of sherds indicate that this vessel may have been deliberately placed. It was also found in the same layer as an animal burial, although their exact relationship was not recorded. The form of this jar indicates an early date, perhaps at the start of the late Bronze Age sequence and this is confirmed by two radiocarbon dates, 1260-1000 cal BC (95% confidence OxA-7929; 2915±35 BP) and 1270-1010 cal BC (95% confidence OxA-7928; 2925±35 BP), on burnt residues from interior surfaces (see Table 16). Articulated animal bone, probably from a

burial, gave a very similar date of 1380-1040 cal BC (95% confidence OxA-7858; 2960±40 BP). Other pottery from the ditch, some of which is from higher fills could perhaps be seen as slightly later (e.g. Fig. 14.1, 3-4 and 6). None of this pottery is decorated indicating that it could all belong within the Plain Ware phase.

TABLE 10. RIM AND VESSEL TYPES BY CONTEXT

Context	R1	R2	R3	Total	V1	V2	V3	V4	Total
250	2	1	4	7	1	1		2	4
360	1			1					
1041	1			1					
1042			1	1					
1677	1			1					
1678	5	5		10	2	4	2		8
3048	1			1					
3054		1	1	2		1			1
3517			3	3			3		3
Total	11	7	9	27	3	6	5	2	16

The group of plain jars recovered from layer 1678 is broadly contemporary with this pottery. Three dates were obtained on sherds with burnt residues. These gave the following results: 1310-910 cal BC (95% confidence OxA-7930; 2895±60 BP), 1320-1030 cal BC (95 % confidence OxA-7931; 2950±40 BP), 1300-920 cal BC (95% confidence OxA-7932; 2900±55 BP). The results are virtually indistinguishable from those obtained for the vessel from ditch 250. Taken together all six dates suggest that part of the late Bronze Age assemblage belongs to end of the 2nd millennium BC, while it is argued that other material may post-date this phase. The possibly contemporary context 1042 also produced a quantity of pottery (36 sherds, 527 g.). However, despite some overall similarity in the type and proportion of fabrics, all of the featured sherds are of slightly different character. The everted rim (Fig. 14.13), the decorated neck cordon (Fig. 14.14) and the shoulder (Fig. 15.16) could all belong to vessels of early 1st millennium date.

One group of pottery from pit 3517 (Fig. 16.38-42), located in the extreme west corner of Trench 2, occurs in grog-tempered fabrics. Two fragmentary flat-rimmed vessels are decorated (Fig. 16.38-9). The simple jar forms are similar to those from 1678, although the fabrics and decoration are notably different. Similar decorated rims also come from contexts 3048 and 3054. Given the limited size of these groups, and of the overall assemblage, it is impossible to be certain whether or not such differences reflect chronological development.

Regional context. The assemblage is characterised by a limited range of vessel forms and mostly by plain undecorated sherds. Shouldered vessels are rare and where present tend to be rounded rather than angular. It is therefore suggested that the overall assemblage belongs to the Plain Ware tradition of the late Bronze Age (perhaps 1150-800 cal BC). It is possible, however, that the material belongs to two ceramic phases within the late Bronze Age period. Ceramic phase I defined by shoulderless vessels may represent the transition from the middle to the late Bronze Age during the final centuries of the 2nd millennium cal BC (1150-950 cal BC), with a range of simple straight-sided or ovoid jars replacing the heavier Bucket Urns that are so typical of the local Deverel-Rimbury tradition. Changes in vessel form at this time coincide with a shift to the use of quartzite instead of shell temper. Decoration is rare, although some elements of the Deverel-Rimbury tradition may continue (e.g. impressions or incision on rims and more rarely on the walls of vessels). Ceramic phase II is defined by the appearance of a wider range of vessels that includes a number of shouldered vessels (jars, bowls and cups) possibly belonging to the period 950-800 cal BC. Decorated pottery more typical of the period 800- 600 cal BC is notably absent from the assemblage under discussion here.

The ceramic group from layer 1678, characterised by shoulderless vessels, could be early within the Plain Ware tradition (perhaps 1150-950 cal BC), a conclusion supported by the radiocarbon determinations. An unpublished assemblage of similar character, along with a smaller quantity of Deverel-Rimbury pottery, was recovered from an open settlement at Mead Lane, Eynsham.[48] There are also similar groups of material from excavations at Yarnton some of which are associated with pit deposits and a post-built house.[49] At Rams Hill shouldered vessels appear later within the stratified sequence,[50] while at the riverside site at Whitecross Farm, Wallingford, the primary levels are marked by plain sherds and at least one example of a hooked rimmed jar.[51] In general such early assemblages are rare, and the sequence of development from 'late' Deverel-Rimbury ceramics is as yet poorly understood. The sequence from middle to late Bronze Age is represented at both the neighbouring sites of Yarnton and Mead Lane and their eventual publication is likely to enable the reconstruction of an absolute chronology.[52] Outside this region the settlement at Reading Business Park presents a similar sequence from Deverel-Rimbury through to Plain Ware.[53] Bradley described an assemblage of simple jars, some of which have decorated rims, applied bosses and finger-tip impressed sides as being transitional and suggested a date within the 11th century BC.[54] The redating of the Rams Hill enclosure to the mid 13th century, possibly, but not certainly associated with simple Plain Ware jars would support the general sequence suggested here.[55]

At Eynsham the upper fills of ditch 250 contained a group of pottery of slightly different character from that recovered from layer 1678 and it is suggested that some of this material is of later date. This group included vessels with everted rims and rounded shoulders that can be paralleled amongst the later material from Rams Hill[56] and amongst the assemblage at Whitecross Farm, Wallingford.[57] It is possible that the material from 250 belongs to a secondary phase of activity. This material is more like the assemblage recovered from the occupation deposits at Whitecross Farm, Wallingford. At Wallingford there is a sequence from plain to decorated. Most of the assemblage is characterised by shouldered vessels including examples with fingertipped cordons, rims and shoulders.[58] At Wallingford the Decorated Ware assemblage post-dates the abandonment of a 10th- to 9th-century timber structure.[59]

FIRED CLAY LOOMWEIGHT by ALISTAIR BARCLAY

Just under half a cylindrical loomweight (s.f. 742) weighing 284 g. was recovered from ditch context 250/B/4 (Fig. 17.1). The loomweight is manufactured from pure clay with no obvious added inclusions and has been oxidised reddish-brown on both the exterior surfaces and the surface of the break. It is in a worn condition with rounded edges and, given its oxidised appearance, it may well have been reused as a hearth stone. This type of loomweight has a middle to late Bronze Age date range and is found in association with either Deverel-Rimbury or post-Deverel-Rimbury assemblages. Few weights of similar type have been found in the Upper Thames Valley although examples are known from a series of later Bronze Age sites at Blackbird Leys, Oxford, Wallingford and Cresswell Field, Yarnton.[60]

48 See note 43.
49 Barclay, in Bell and Hey, op. cit. note 29.
50 Barrett, in Bradley and Ellison, op. cit. note 42.
51 Barclay, in Cromarty et al., op. cit. note 39.
52 Ibid., and see note 43.
53 E. Morris, 'The Prehistoric Pottery', in A. Brossler and R. Early, *Excavations of an Early Prehistoric Landscape at Reading Business Park, Phase 2* (Thames Valley Landscapes, in prep.).
54 Bradley, in Bradley et al., op. cit. note 47, pp. 27-8.
55 Needham and Ambers, op. cit. note 28.
56 Barrett, in Bradley and Ellison, op. cit. note 42.
57 Barclay, in Cromarty et al., op. cit. note 39.
58 Ibid.
59 Ibid.
60 A. Barclay, 'The Decorated Cylindrical Loomweight', in C. Cropper and M. Roberts, 'Peripheral Road and Housing Area C2, Blackbird Leys' (OAU unpubl. post-excav. assessment and publication synopsis, 1996); A. Barclay, 'The Fired Clay', in Cromarty et al., op. cit. note 39; A. Barclay, 'The Fired Clay', in G. Hey, *Yarnton-Cassington* (in prep.).

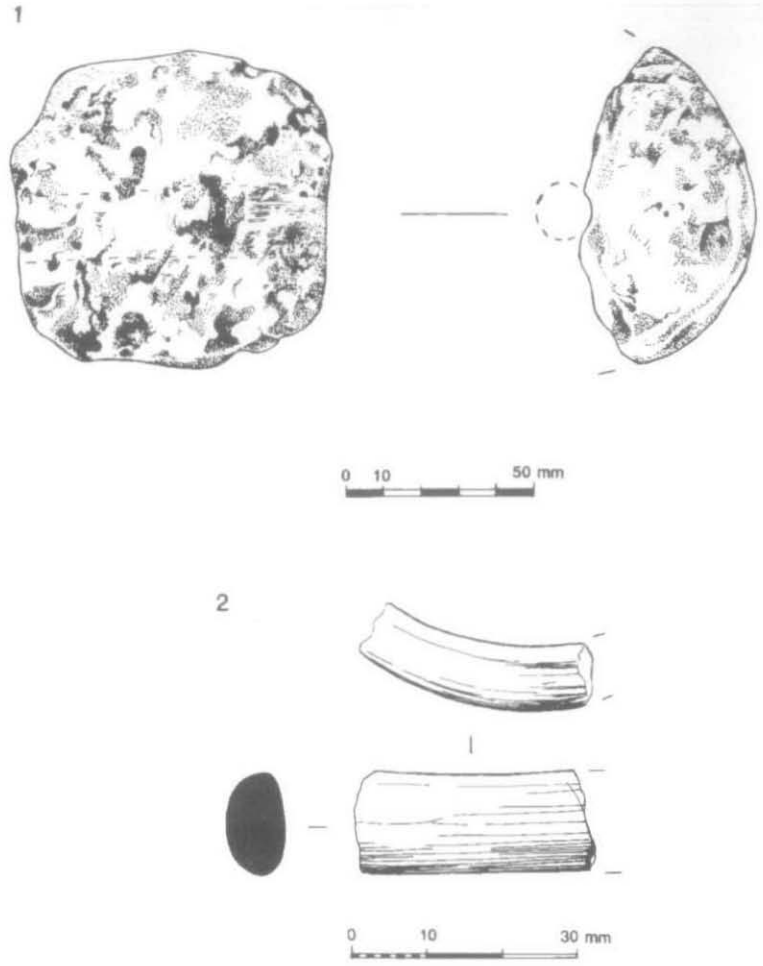

Fig. 17. Loomweight and shale bracelet fragment.

THE WORKED STONE by FIONA ROE

There are three pieces of worked stone: a macehead fragment, a possible stone axe fragment, and a whetstone.

Catalogue

1 Half-pestle macehead (context 3052, s.f. 1331): incomplete, only wider end survives, broken across shafthole, very weathered but with traces of a polished surface, length 50 mm., breadth 59.5 mm., depth 46.5 mm. Probably of Thames variety. Group I greenstone from Cornwall. Implement Petrology No. Oxon. 83 (Fig. 18.1).

2 Possible stone axe fragment (context 599, s.f. 1659): fragment of porphyritic rhyolite, no clear traces of working, 49 x 41 x 15 mm. Near black fine-grained rock with small, white inclusions. Implement Petrology No. Oxon. 86 (not illustrated).

3 Whetstone (context 407, s.f. 134): incomplete, hole for suspension drilled near break, wear on two sides, 50 x 21 x 10.5 mm. Dark, near black, fine-grained sedimentary rock with a little mica, compares with Ordovician shales of Wales and Welsh borders (Fig. 18.2).

Discussion

The macehead fragment (Fig. 18.1), which came from prehistoric ground surface 3052, consists of the wider half of the implement, broken across the shafthole, and is now very weathered. It can, however, probably be assigned to the Thames pestle group, having a distinct pestle end and straight or near straight sides.[61] Thin sectioning has demonstrated that it is made from Group I greenstone with a probable source in Cornwall, and it has been assigned the Implement Petrology number Oxon 83.

Stone maceheads of this variety have been shown to have connections in particular with Grooved Ware.[62] Few maceheads were made from grouped rocks with known sources, since varied igneous and metamorphic rocks of striking appearance were often preferred, but in southern England at least, Group I greenstone was used for a number of examples.[63] This is the first occurrence of a Group I macehead in Oxfordshire, although elsewhere nine other examples are known, with findspots extending northwards to near Wirksworth in Derbyshire.[64] No less than eight of these ten maceheads are of the Thames pestle variety. The macehead from Eynsham is a little wider than is usual for such implements, but this may simply be the result of selecting a similarly broad beach pebble for utilisation.

Stone axes made from Group I greenstone are relatively common in Oxfordshire, so the find of a macehead made from the same variety of stone comes as no surprise.[65] Recent finds of Group I axes have included a fragment from the Rollright Stones.[66] There is another fragment from a Grooved Ware Pit at Barrow Hills, which demonstrates the typical association of Group I with this type of pottery.[67] An almost complete axe came from an old ground surface near to the southern end of the Drayton (North) Cursus.[68] There is also a broken Group I axe reused as a grinding stone from Yarnton floodplain, where it was recovered from a Neolithic/Bronze Age ground surface.[69]

The purpose for which these maceheads were made has always remained enigmatic. However, it may now tentatively be suggested that they would have been useful for flax processing, to beat and separate the fibres after they had been soaked to soften them. Flax is included among the crops grown by Neolithic farmers,[70] and was already being used for woven material at Çatal Hüyük.[71] By the Bronze Age flax was being grown at Yarnton floodplain only some 4.8 km. (3 miles) from Eynsham.[72] Some of the maceheads made from flint or quartzite are ornamented with a carved lozenge design.[73] This could also have had a practical purpose, since the rough surface of the shaped facets on the wider end of the implement could have facilitated the task of separating the fibres. This may explain the presence of similar carving on some antler maceheads.[74] It has not been possible to detect wear traces

61 F. Roe, 'Stone Maceheads and the Latest Neolithic Cultures of the British Isles', in J.M. Coles and D.D.A. Simpson (eds.), *Studies in Ancient Europe* (1968), 154.

62 Ibid. 155.

63 F. Roe, 'Typology of Stone Implements with Shaftholes', in T.H.McK. Clough and W.A Cummins (eds.), *Stone Axe Studies: Archaeological, Petrological, Experimental and Ethnographic* (CBA Research Report 23, 1979), 30.

64 Ibid. 46.

65 F. Roe, 'The Worked Stone', in Bell and Hey, op. cit. note 7.

66 F. Roe, 'Stone Axe Fragment', in Lambrick, op. cit. note 21.

67 F. Roe, 'Stone Axes', in A. Barclay and C. Halpin, *Excavations at Barrow Hills, Radley, Oxfordshire*, 1: *The Neolithic and Bronze Age Monument Complex* (Thames Valley Landscapes 11, 1999), 228.

68 F. Roe, 'The Stone Axe', in A. Barclay, G. Lambrick, J. Moore and M. Robinson, *Cursus Monuments in the Upper Thames Valley: Excavations at the Drayton and Lechlade Cursuses* (Thames Valley Landscapes, forthcoming).

69 Roe, op. cit. note 65.

70 G.C. Hillman, 'Crop Husbandry: Evidence from Macroscopic Plant Remains', in I.G. Simmons and M.J. Tooley, *The Environment in British Prehistory* (1981), 188.

71 M. Ryder, 'Report on Textiles from Çatal Hüyük', *Anatolian Studies*, xv (1965), 175-6.

72 Bell and Hey, op. cit. note 7.

73 Roe, op. cit. note 61, p. 149.

74 D.D.A. Simpson, '"Crown" Antler Maceheads and the Later Neolithic in Britain', *Proc. Prehist. Soc.* lxii (1996), 295.

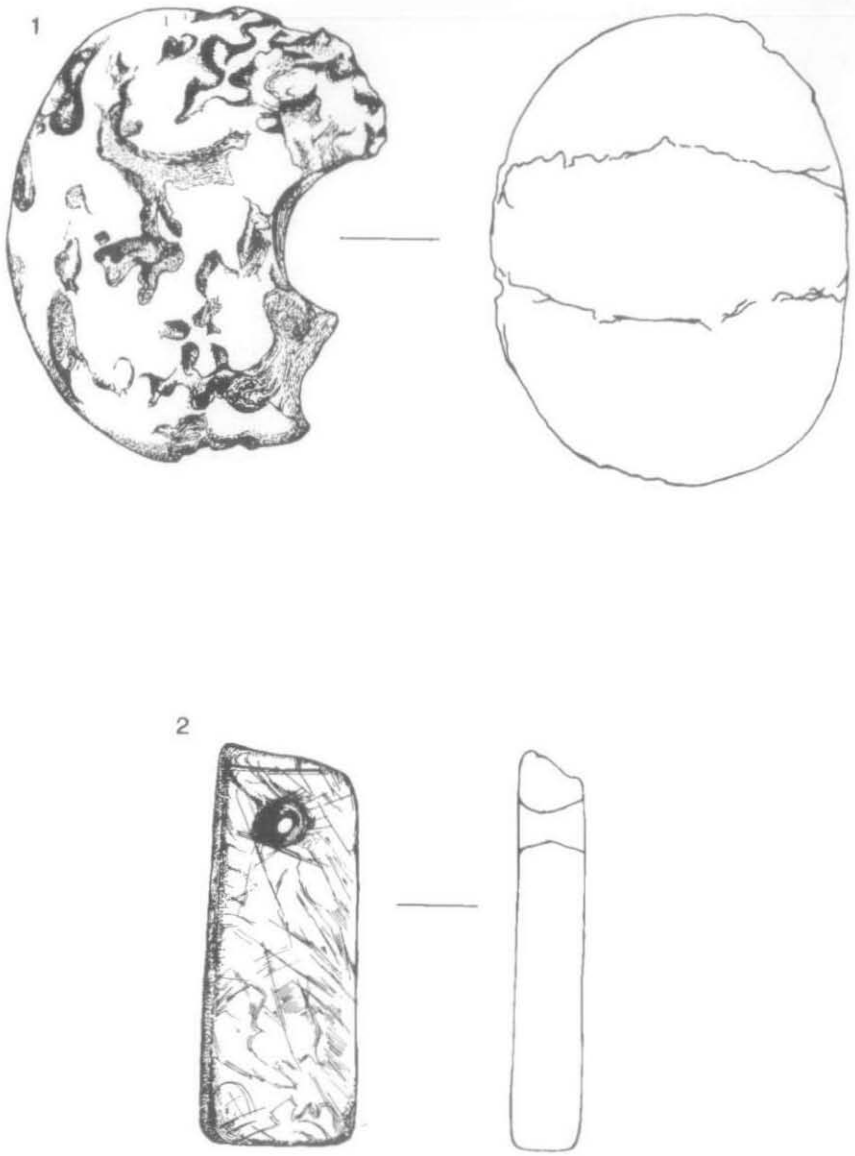

Fig. 18. Worked stone: macehead fragment and whetstone.

of any kind on stone or antler maceheads, but a specialised use to hammer flax fibres might leave no detectable evidence, except just possibly in the form of organic residues. Both antler and stone maceheads appear to have been relatively high status objects,[75] culminating in the elaborately decorated stone macehead from Knowth.[76] A link with prestigious linen garments, which were no doubt only worn by those able to afford them, could perhaps explain the value attributed to these maceheads. The macehead from Eynsham was made of imported stone, brought in long distance from Cornwall, which would no doubt have added to its prestige value.

Possible stone axe fragment

Thin sectioning of the fragment, found redeposited in medieval pit 599 (s.f. 1659), has shown that the white flecks are phenocrysts of alkali feldspar set in a cryptocrystalline matrix scattered with crystallites. Rhyolites were sometimes used as stone axe materials, although such axes are not particularly common. No further examples have been recorded from Oxfordshire, although they are known from adjacent counties.[77] It is felt that this fragment is more likely to have come from a stone axe than from the local gravels.

Whetstone

The whetstone came from pit 407. It was probably once longer, and has had a hole for suspension added near to the break (Fig. 18.2). Each of the long sides has been worn smooth by whetting. The stone is a fine-grained, dark grey sedimentary rock with a little mica, which seems best matched by the Ordovician shales of Wales and the Welsh borders.

The earliest whetstones, needed to sharpen bronze knives and daggers, appear to have been the 'sponge finger' type. A recent find of such a whetstone came from a Beaker grave group at Gravelly Guy, Stanton Harcourt, where the grave goods also included a bronze dagger of early type and a stone bracer.[78] Long, slender whetstones with a hole at one end first appear in the archaeological record towards the end of the early Bronze Age, particularly in grave groups containing Camerton-Snowshill daggers.[79] A grave group at Stanton Harcourt contained such a dagger, with other grave goods which included an incense cup, amber and jet, bone pins and a perforated whetstone.[80] Another typical grave-group from Hove in Sussex contained a similar whetstone, with a fragmentary dagger, an amber cup and a Southern Variant battle-axe.[81] At Snowshill in Gloucestershire an ogival dagger was associated with a Southern variant battle-axe made from Group XII picrite, but although the grave group also contained a bronze spearhead and pin, there was no whetstone.[82] Perforated whetstones have been recorded especially from barrows in Wessex,[83] and most of the known finds come from

[75] Ibid. 299.

[76] G. Eogan and H. Richardson, 'Two Maceheads from Knowth, County Meath', *Jnl. Royal Soc. Antiqs. Ireland*, cxii (1982), 123-38.

[77] T.H.McK. Clough and W.A. Cummins (eds.), *Stone Axe Studies 2: the Petrology of Prehistoric Stone Implements from the British Isles* (CBA Research Report 67, 1988).

[78] F. Roe, 'Stone Artefacts from Grave 4013', in G. Lambrick et al., *Gravelly Guy, Stanton Harcourt: the Development of a Prehistoric and Romano-British Landscape* (Thames Valley Landscapes, forthcoming).

[79] S. Gerloff, *The Early Bronze Age Daggers in Great Britain and a Reconsideration of the Wessex Culture* (Prähistoriche Bronzefunde 6/2, 1975), 101.

[80] D.B. Harden and R.C. Treweeks, 'Excavations at Stanton Harcourt, Oxon. 1940', *Oxoniensia*, x (1945), 26.

[81] Gerloff, op. cit. note 79, p. 105.

[82] Ibid. 101.

[83] F.K. Annable and D.D.A. Simpson, *Guide Catalogue of the Neolithic and Bronze Age Collections in Devizes Museum* (1964).

southern Britain.[84] This type of whetstone appears to have lasted until the late Bronze Age, as for instance at Carshalton, Surrey[85] and Nottingham Hill, Gloucestershire.[86] Therefore it is not possible to date the Eynsham whetstone more closely than to the Bronze Age.

Little information is currently available on the materials used for Bronze Age whetstones. The dark grey shale from which this example is thought to be made made occurs widely in Wales and the Welsh Borders. However, in the Shelve area of Shropshire there are links with a chain of associated objects which suggest that whetstone material may also have been acquired here. Battle-axes of Southern Variant type were often made from Group XII picrite, with a known source at Cwm Mawr, Hyssington, in the Shelve area.[87] Such battle-axes were in turn often associated with Camerton-Snowshill daggers, and these are clearly linked with perforated whetstones. Ordovician shale, which in hand specimen resembles the stone used for the Eynsham whetstone, can be found in the vicinity of the Group XII picrite outcrop.[88] It might therefore have been natural to collect stone for whetstones from an area which was already familiar to the users of bronze daggers. By the late Bronze Age further relations with the Shelve area of Shropshire are indicated by the trading of a gabbro saddle quern to Knight's Farm, Burghfield in Berkshire.[89] By this time the presence of lead in the same area could also have been an attraction.[90]

BURNT STONE by ALISTAIR BARCLAY

The excavations produced a small quantity, 1.527 kg., of burnt stone most of which can be described as fire-cracked pebbles of quartzite and quartzitic sandstone, although some limestone was also recorded. The greatest concentrations came from 1977/1 (840 g.) and 947/A/3 (500 g.) with smaller quantities recorded from 3744/-/1 (128 g.) and 3779 (59 g.). The fragmentary nature of this material indicates burning elsewhere before deposition.

THE SHALE BRACELET by ANGELA BOYLE

A fragment of a shale bracelet was recovered from context 250/C/3. This was a layer of burnt material located within the enclosure ditch, which contained approximately 50 sherds of late Bronze Age Plain Ware pottery. The bracelet is undecorated and has a D-shaped cross-section. It measures 12.5 mm. in width (Fig. 17.2). Comparable shale bracelets dating to the late Bronze Age include a fragment recovered during excavations of the riverside settlement at Runnymede,[91] and a further example found within a burnt mound deposit at Reading Business Park.[92] Two incomplete shale armlets have been recovered from a late Bronze Age settlement at W34 Fargo Wood II, Wiltshire.[93] An unstratified fragment of worked shale was found in the vicinity of a middle Bronze Age hollow (tr. 1, 254) at Dunston Park, Thatcham.[94]

[84] V.W. Proudfoot, 'Report on the Excavation of a Bell Barrow in the Parish of Edmonsham, Dorset, England 1959', *Proc. Prehist. Soc.* xxix (1963), 395-425.

[85] L. Adkins and S. Needham, 'New Research on a Late Bronze Age Enclosure at Queen Mary's Hospital, Carshalton', *Surrey Archaeol. Coll.* lxxvi (1985), 40.

[86] M. Hall and C. Gingell, 'Nottingham Hill, Gloucestershire 1972', *Antiquity*, xxxxviii (1974), 308.

[87] Roe, op. cit. note 63, p. 26; P. Toghill, *Geology in Shropshire* (1990), 74.

[88] Toghill, op. cit. note 87, p. 68.

[89] R. Bradley et al., op. cit. note 47, p. 275.

[90] Toghill, op. cit. note 87, p. 75.

[91] S. Needham and R. Longley, 'Runnymede Bridge, Egham: a late Bronze Age Riverside Settlement', in J.C. Barrett and R.J. Bradley, *Settlement and Society in the British Later Bronze Age* (BAR lxxxiii, 1980), fig. 3.6.

[92] A. Boyle, 'The Shale Bracelet', in Brossler and Early, op. cit. note 53.

[93] J. Richards, *The Stonehenge Environs Project* (HBMCE, Archaeol. Report 16, 1990), 207, fig. 147.

[94] A. Fitzpatrick et al. 'An Early Iron Age Settlement at Dunston Park, Thatcham', in I. Barnes, W.A. Boismier, R.M.J. Cleal, A.P. Fitzpatrick and M.R. Roberts, *Early Settlement in Berkshire: Mesolithic-Roman Occupation in the Thames and Kennet Valleys* (Wessex Archaeology Report 6, 1995), 72.

BRONZE PIN FRAGMENT by PETER NORTHOVER

A fragmentary bronze pin was recovered from a probable disturbed prehistoric ground surface which was seen in a robber trench section (Fig. 19).

Nail-headed pin fragment (context 165; s.f. 113): the head is in the form of a thick, bun-like disc with rounded edge, a hollowed top with small central boss, and a secondary moulding under the head; the surviving section of the shank is oval in cross-section and does not taper. The patina, after conservation, is rather rough and dark green, with cuprite showing through where it is chipped. Present length 42 mm.; diameter of head 6.5 mm.; diameter of shank 2.5-2.8 mm.

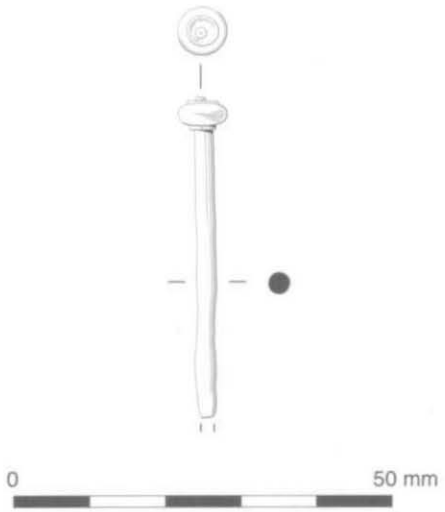

Fig. 19. Bronze pin fragment.

The object is typologically clearly identifiable as a nail-headed pin; in O'Connor's definition it is distinguished from the disc-headed pins by the head being less than four times the diameter of the shank.[95] The type is rather heterogeneous and could have had a long life, perhaps throughout the late Bronze Age. A very close parallel can be found in a recent excavation further down the Thames below Maidenhead at Marsh Lane East and a plainer example has been excavated at Wallingford.[96] The examples cited by O'Connor are well scattered but it is noteworthy that there is no hoard association, except possibly at Isleham (*pace* O'Connor), such pins generally coming from settlement or votive contexts.

Sampling and analysis

A single sample, labelled Ox 172, was drilled from the shank. The sample was hot-mounted in a carbon-filled thermosetting resin, ground and polished to a 1 µm. finish. Analysis was by electron probe microanalysis using wavelength dispersive spectrometry. Operating conditions were an accelerating voltage of 25 kV, a beam current of 30 nA, and an X-ray take-off angle of 62°. Counting times were 10 s. per element, and pure element and mineral standards were used. Thirteen elements were analysed as listed in Table 11. Detection

[95] B. O'Connor, *Cross-Channel Connections in the Later Bronze Age* (BAR Internat. Ser. lxxxxi, 1980), 200, list 180, map 63.

[96] Both these pins have been analysed and are in course of publication by J.P. Northover; *Marsh Lane East*, OAU Monograph; Wallingford, in Cromarty et al., op. cit. note 39.

limits were 100-200 p.p.m. for most elements, except 300 p.p.m. for gold and 0.20% for arsenic. The last is because of the compromises made to avoid the well-known interference between the strongest lines in the lead and arsenic spectra, the lead Lα and arsenic Kα lines. The relatively strong lead Mα line could be used, but it was necessary to use the weak arsenic Kβ line, hence the degradation in performance. The stronger Lα line was unsuitable because of the high accelerating voltage. It is possible to make a more sensitive analysis for arsenic but it was not thought necessary here. Two areas, each 30x50 μm, were analysed on the sample. Individual analyses and their means, normalised to 100%, are given in Table 11. All concentrations are in weight %.

TABLE 11. ANALYSIS OF THE BRONZE PIN

Sample	Fe	Co	Ni	Cu	Zn	As	Sb	Sn	Ag	Bi	Pb	Au	S
OX172/1	0.00	0.04	0.16	86.62	0.02	0.00	0.65	11.28	0.23	0.00	0.92	0.03	0.04
OX172/2	0.00	0.00	0.21	85.20	0.00	0.00	0.78	12.98	0.29	0.02	0.49	0.00	0.02
OX172	0.00	0.02	0.19	85.91	0.01	0.00	0.72	12.13	0.26	0.01	0.71	0.01	0.03

The alloy

The metal used to make the pin is a low-lead bronze with a measured 12.13% tin and 0.71% lead. Although it seems certain the pin was not heavily leaded, corrosion has probably modified both these values. The principal impurities in the metal are 0.19% nickel, 0.72% antimony, and 0.26% silver; arsenic was not definitely detected for the reasons cited above but was probably around 0.20%. There are also very small traces of cobalt, zinc, bismuth and sulphur. This impurity pattern, with arsenic, antimony, nickel and silver, and with antimony much greater than nickel is most typical of the Wilburton period at the beginning of the late Bronze Age,[97] although there was some continuation into the early Ewart Park period. The pattern first appears along the Thames before the full development of Wilburton metallurgy with flange-hilted swords from Type Limehouse onwards.[98] Some of these swords are also characterised by rather low lead levels so that it is entirely possible that this pin could be of this early a date, perhaps the 12th century BC. The closely similar pin from Marsh Lane East has a rather similar analysis but with a heavy iron impurity (perhaps partly from corrosion) and more lead. It could very easily be of a similar date. The composition is of no assistance in determining whether the pin was made in southern Britain or across the Channel; a lead isotope analysis could be of assistance because the lead added to Wilburton metalwork produced in Britain had a British origin.[99]

Conclusions

The pin from Eynsham Abbey is a nail-headed pin with a date range suggested by the composition of the 12th to 10th centuries BC. The type is typically found on settlement and votive sites.

THE ANIMAL BONE by JACQUI MULVILLE

The animal bone was all recovered by hand and was recorded using the zonal recording system described by Serjeantson[100] with the aid of the Faunal Remains Unit reference collection.

The assemblage is small, comprising a total of 257 fragments, 101 of which (39%) were identified to species (Table 12). The material was generally in good condition, although 9% of bones were gnawed. Bone was recovered from five different types of context: layer, surface, ditch, gully and pit. The majority (74%) of the material was recovered from the ditch fills (Table 13).

97 J.P. Northover, 'The Metallurgy of the Wilburton Hoards', *Oxford Jnl. Archaeol.* 1/1 (1982), 69-109.

98 J.P. Northover, 'The Analysis and Metallurgy of British Bronze Age Swords', in C.B. Burgess and I.M. Colqhoun, *The Swords of Britain* (Prähistorische Bronzefunde 4/5, 1988), 130-46.

99 B.M. Rohl, 'Application of Lead Isotope Analysis to Bronze Age Metalwork from England and Wales' (Oxford Univ. unpubl. D.Phil. thesis, 1995).

100 D. Serjeantson, '"Rid Grasse of Bones": A Taphonomic Study of Bones from Midden Deposits at the Neolithic and Bronze Age Site of Runnymede, Surrey, England', *Internat. Jnl. of Osteoarchaeology*, i (1991), 73-89.

TABLE 12. ANIMAL SPECIES BY CONTEXT TYPE

Species	Ditch	Gully	Layer	Pit	Surface	Total
Cattle	27	0	5	5	1	38
Cow size	31	3	9	4	0	47
Sheep	1	0	0	0	0	1
Sheep size	65	1	17	2	2	87
Sheep/goat	13	0	7	0	0	20
Pig	21	0	5	0	0	26
Horse/ass	1	0	0	0	0	1
Dog	13	0	0	0	0	13
Red deer	2	0	0	0	0	2
Fish	0	0	1	0	0	1
Unidentified	16	0	2	1	2	21
Grand Total	190	4	46	12	5	257

The assemblage was dominated by the main domestic species – cattle, sheep and pig – with small amounts of horse and dog (Table 12). Due to the small size of the assemblage no inferences can be drawn from the relative abundance of the species. Wild species were only represented by two fragments of red deer (*Cervus elaphus*) and a single fragment of fish which could not be definitely identified to species. The identification of sheep was possible from a single horncore. No goat was identified, thus all the remains recorded as either sheep or goat are discussed as sheep.

Cattle, sheep and pig were all represented by a mixture of meat and waste bones (Table 12) which suggests that whole animals were being brought to the site. The other species were present in very small quantities: horse was represented by a single premolar, dog by a partial burial of 13 bones (see below), and red deer by an upper molar and a first phalanx.

Of particular interest was the presence of three groups of articulated bones in the enclosure ditch. Two of the groups, a partial dog burial and a neonatal partial pig burial, were found in the same context (250/C/3). The partial skeleton of a dog consisted of the spine and ribs, with the atlas, axis, two cervical vertebrae and three thoracic vertebrae also present. There was evidence of pathology in the spine, with two thoracic vertebrae and articulating ribs showing severe exostosis. A further two articulating dog metapodials from the same context may belong to the same individual. The neonatal partial pig burial comprised bones of the hind limb, with the left and right femur, left tibia and fibula present. A date of 1380-1040 cal BC (95% confidence OxA-7858; 2960±40 BP) was obtained from a sample of the pig bone.

Another ditch fill contained the articulated remains of the left and right hind limbs of a cow (context 720/-/2). Only part of the right leg was recovered (calcaneum and astragalus), with more of the lower left leg present (calcaneum, astragalus, navicular cuboid, metatarsal). Fragments of left femur and tibia were also recovered. There were no butchery marks on the bones, although they had been gnawed. This suggests that the bones were not swiftly buried, but were exposed long enough for dogs to chew them prior to disposal. There was little evidence for butchery with only one cow skull bearing any butchery marks. This was a single chop mark through the frontal, an action consistent with the removal of either the horn sheath or core.

Dentition

Only six mandibles containing ageable teeth were recovered. Details of the tooth wear and age stage of the more complete mandibles are listed in Table 14. Only one pig mandible could be sexed from the canines, and this single example was identified as female (context 250/B/-). The presence of young sheep, demonstrated by the dental evidence, and neonatal pig suggests that stock were raised at the site.

TABLE 13. NUMBER OF IDENTIFIABLE ANIMAL BONE SPECIMENS (NISP)

	Cattle	Sheep	Pig	Dog	Horse	Red deer
Frontal	2	0	0	0	0	0
Maxilla	0	0	1	0	0	0
Zygomatic	0	0	1	0	0	0
Skull fragment	0	0	0	0	0	0
Horn core	0	1	0	0	0	0
Mandible	5	1	5	0	0	0
Lower incisor	0	0	4	0	0	0
Lower premolar	1	0	0	0	1	0
Lower molar	3	3	1	0	0	0
Upper molar	2	3	0	0	0	1
Tooth frag	1	0	0	0	0	0
Atlas	0	0	0	1	0	0
Axis	0	0	0	1	0	0
Scapula	1	2	1	0	0	0
Humerus	2	0	3	0	0	0
Radius	3	3	0	0	0	0
Ulna	0	0	2	0	0	0
Pelvis	2	0	1	0	0	0
Femur	3	1	2	0	0	0
Tibia	1	5	1	0	0	0
Fibula	0	0	1	0	0	0
Astagalus	3	0	0	0	0	0
Calcaneum	3	0	0	0	0	0
Nav.-Cuboid	1	0	0	0	0	0
Metatarsal	3	0	0	2	0	0
Lat Metapodial	0	0	2	0	0	0
1st Phalanx	0	2	1	0	0	1
3rd Phalanx	1	0	0	0	0	0
Grand Total	38	21	26	13	1	2

TABLE 14. TOOTH WEAR STAGES

Context	Species	Side	DP4	P4	M1	M2	M3
407/-1	Pig	r		D			
250/C/3	Pig	l				c	
250/B/4	Pig	l			f	e	a
407/-/1	Sheep/goat	l	f		V		
407/-/2	Sheep/goat	r	h		f	d	
250/B/4	Sheep/goat	r	j		g		

TABLE 15. METRIC MEASUREMENTS OF ANIMAL BONES

Context	Species	Element	Side	L1	L2	BP	SD	BD	DD	BPA	BDA	M13	M14	M15
250/B/-	Cattle	Astragalus	L	54.1	48.9	–	–	33.2	–	–	–	–	–	–
720/-/2	Cattle	Astragalus	R	64.4	–	–	–	–	–	–	–	–	–	–
720/-2	Cattle	Astragalus	L	64.7	57.6	–	–	42.6	–	–	–	–	–	–
250/A/3	Dog	Metatarsal	R	81.6	–	–	–	–	–	–	–	–	–	–
407/-/1	Pig	Humerus	L	–	–	–	–	41.0	30.2	–	21.5	–	–	–
250/B/4	Pig	Molar 1	L	–	–	–	–	–	–	–	–	13.9	9.2	10.8
250/C/3	Pig	Molar 2	L	–	–	–	–	–	–	–	–	20.3	13.7	14.3
250/B/4	Pig	Molar 2	L	–	–	–	–	–	–	–	–	20.5	13.0	14.4
250/-/-	Sheep/ goat	Radius	R	145.5	–	28.3	14.38	25.8	–	25.0	22.8	–	–	–
407/-/2	Sheep/ goat	Tibia	L	–	–	–	–	25.3	20.5	–	–	–	–	–

Metrical data

Few bones could be measured, but it was possible to calculate the withers height for a single complete sheep radius (Table 15). Using the factors of Teichert[101] it was calculated that this individual would have stood at 0.52 m. high. Analysis of measurements contained within the Animal Bone Metrical Archive Project[102] revealed only one other sheep of Bronze Age date with a greater length measurement for the radius. This individual, from the site of Lodge Farm, Dorset, had a withers height of 0.58 m.

Conclusion

Although this sample is small the range and proportions of the three main domestic species fit that of the late Bronze Age site at Runnymede.[103] The presence of a horse tooth confirms that by this time the species was widely found.

While the range of species and anatomical elements is characteristic of a domestic site, the burial of the partially articulated remains of a dog, cow and a piglet may suggest, through analogy with sites such as Danebury and Rams Hill,[104] that there was a ritual aspect to activities on the site. The closest parallel to Eynsham can be found at Easton Lane, Winchester, where part of a dog skeleton was recovered from a Beaker pit.[105]

THE RADIOCARBON DATING by ALEX BAYLISS, CHRISTOPHER BRONK RAMSEY, ALISTAIR BARCLAY and ANGELA BOYLE

Six radiocarbon measurements were obtained on samples from the prehistoric ground surface and enclosure ditch. All were dated by the Oxford Radiocarbon Accelerator Unit in 1998.The samples were measured using accelerator mass spectrometry and were processed using published methods.[106]

The laboratory maintains continual programmes of quality assurance procedures, in addition to participation in international intercomparisons.[107] These tests indicate no laboratory offsets and demonstrate the validity of the precision quoted.

The results are given in Table 16, and are quoted in accordance with the international standard known as the Trondheim convention.[108] They are conventional radiocarbon ages.[109]

[101] A. von den Driesch and J. Boessneck, 'Kritische Anmerkungen zur Widerristhöhenberechnung aus Längenmaβen vor- und fruhgeschichtlicher Tierknochen', *Säugetierkundliche Mitteilungen*, 4 (1974), 325-48.

[102] 'Animal Bone Metrical Archive Project: Draft Report on the Project Phase for English Heritage' (Centre for Human Ecology, Dept. of Archaeology, Univ. of Southampton, 1995).

[103] G. Done, 'The Animal Bone', in D. Longley, *Runnymede Bridge 1976: Excavation of a Late Bronze Age Settlement* (Research Vol. of Surrey Archaeol. Soc. vi, 1980), 74-9.

[104] A. Grant, 'Animal Husbandry' in B. Cunliffe, *Danebury: an Iron Age Hillfort in Hampshire 2, The Excavation, 1969-1978: the Finds* (CBA Res. Rep. 52, 1974), 533-42.

[105] M. Maltby, 'The Animal Bone' in P.J. Fasham, D.E. Farwell and R.J.B. Whinney (eds.), *The Archaeological Site at Easton Lane, Winchester* (Hants Field Club and Archaeol. Soc. Monograph, 1989), 122-31.

[106] R.E.M. Hedges, C.R. Bronk Ramsey and R.A. Housley, 'The Oxford Accelerator Mass Spectrometry Facility: Technical Developments in Routine Dating', *Archaeometry*, xxxi (1989), 99-113; R.E.M. Hedges, M.J. Humm, J. Foreman, G.J. van Klinken and C.R. Bronk, 'Developments in Sample Combustion to Carbon Dioxide, and the Oxford AMS Carbon Dioxide Ion Source System', *Radiocarbon*, xxxiv (1992), 306–11; C. Bronk Ramsey and R.E.M. Hedges 'Hybrid Ion Sources: Radiocarbon Measurements from Microgram to Milligram', *Nuclear Instruments and Methods in Physics Research* B, 123 (1997), 539-45.

[107] E.M. Scott, A. Long and R.S. Kra (eds.), 'Proceedings of the International Workshop on Intercomparison of Radiocarbon Laboratories', *Radiocarbon*, xxxii (1990) 253-397; K. Rozanski, W. Stichler, R. Gonfiantini, E.M. Scott, R.P. Beukens, B. Kromer and J. van der Plicht, 'The IAEA ^{14}C Intercomparison Exercise 1990', *Radiocarbon*, xxxiv (1992), 506-19; E.M. Scott, D.D. Harkness, G.T. Cook, B.F Miller, F.H. Begg and L.Holton, 'The TIRI Project: a Status Report', *Radiocarbon* (forthcoming).

[108] M. Stuiver and R.S. Kra, 'Editorial Comment', *Radiocarbon*, xxviii (2B) (1986), 2.

[109] M. Stuiver and H.A. Polach, 'Reporting of ^{14}C Data', *Radiocarbon*, xix (1977), 355-63.

TABLE 16. RADIOCARBON RESULTS

Laboratory number	Sample reference	Material	Radiocarbon age (BP)	($\delta^{13}C$ (‰)	Calibrated date range (95% confidence)	*Fig. 18: Estimated date range (95% confidence)*	*Fig. 19: Estimated date range (95% confidence)*
OxA-7929	2: 250/C/4	charcoal	2915±35	-26.8	cal BC 1260–1000	*cal BC 1170–1000*	*al BC 1200–1040*
OxA-7858	250/C/3	pig bone	2960±40	-20.9	cal BC 1380–1040	*cal BC 1190–1010*	*al BC 1200–1040*
OxA-7928	1: 250/C/3	charcoal	2925±35	26.6	cal BC 1270–1010	*cal BC 1220–1060*	*cal BC 1220–1060*
OxA-7930	3: (1678)	charcoal	2895±60	-27.0	cal BC 1310–910	*cal BC 1320–1090 (94%)*	*cal BC 1260–1090*
OxA-7931	4: (1678)	charcoal	2950±40	-26.6	cal BC 1320–1030	*cal BC 1320–1110 (94%)*	*cal BC 1270–1090*
OxA-7932	5: (1678)	charcoal	2900±55	26.0	cal BC 1300–920	*cal BC 1320–1090*	*cal BC 1260–1080*

The calibrations of these results, which relate the radiocarbon measurements directly to the calendrical time scale, are given in Table 16 and Fig. 20. All have been calculated using the datasets published by Pearson and Stuiver[110] and the computer program OxCal (v2.18).[111] The calibrated date ranges cited in the text are those for 95% confidence. They have been calculated according to the maximum intercept method[112] and are quoted in the form recommended by Mook,[113] with the end points rounded outwards to 10 years. Probability distributions have been calculated using the usual probability method.[114]

Although the simple calibrated date ranges of the radiocarbon measurements are accurate estimates of the dates of the samples, this is usually not what we really wish to know as archaeologists. It is the dates of the archaeological events which are represented by those samples which are of interest. Fortunately explicit methodology is now available which allows us to combine the results of the radiocarbon analyses with other information which we may have, such as stratigraphy, to produce realistic estimates of these dates of archaeological interest. It should be emphasised that these distributions and ranges are not absolute, they are interpretative *estimates*, which can and will change as further data becomes available and as other researchers choose to model the existing data from different perspectives.

The technique we have used is known as 'Gibbs' sampling' and has been applied using the program OxCal v2.18.[115] Full details of the algorithms employed by this program are available from the on-line manual (http://units.ox.ac.uk/departments/rlaha/) or in print form,[116] and fully worked examples are given in the series of papers by Buck and others.[117] The algorithms used in the models described below can be derived either from the structure shown in Figs. 20 and 21 or from the listings of the OxCal input files which are contained in the project archive, and should allow the analyses to be repeated by anyone with access to the program.

In this case we have stratigraphic information which allows us to determine the relative chronology of some of the samples. The sherds from 1678 (OxA-7930–2) must be earlier than the ditch fills since ditch 250 cut through the land surface.

Sample 250/C/4 (OxA-7929) is from a ditch fill. However, crucially, there is evidence that the pot must be close in date to the context in which it was deposited. This is because the sampled base sherd is from a fragmentary jar, from which both the base and rim survive. Some old breaks also refit. This suggests that the pot was relatively intact when it reached the context and is not residual from elsewhere. There is a similar argument for the contemporaneity of sample 250/C/3 (OxA-7928) with its context. This is a Plain Ware jar, of which 34 sherds were recovered, all from the same context. Again some of them refit.

The bone sample from 250/C/3 (OxA-7858) must also be close in date to the context, as it was an articulated pig burial. Context 250/C/3 is a ditch fill which is stratigraphically later than context 250/C/4.

This relative dating information has been incorporated with the radiocarbon results in the model shown in Fig. 20. This analysis provides more realistic estimates of the dates of the sherds and contexts involved. These *estimated date ranges* are given in Table 16 and are cited *in italics* to distinguish them from simple calibrated radiocarbon dates.

110 G.W. Pearson and M. Stuiver, 'High-Precision Calibration of the Radiocarbon Time Scale, 500-2500 BC', *Radiocarbon*, xxviii (1986), 839–62.

111 C. Bronk Ramsey, 'Radiocarbon Calibration and Analysis of Stratigraphy', *Radiocarbon*, xxxvii (1995), 425-30.

112 M. Stuiver and P.J. Reimer, 'A Computer Program for Radiocarbon Age Calculation', *Radiocarbon*, xxviii (1986), 1022-30.

113 W.G. Mook, 'Business Meeting: Recommendations/Resolutions Adopted by the 12th International Radiocarbon Conference', *Radiocarbon*, xxviii (1986), 799.

114 M. Stuiver and P.J. Reimer, 'Extended ^{14}C Data Base and Revised CALIB 3.0 ^{14}C Age Calibration Program', *Radiocarbon*, xxxv (1993), 215-30.

115 A.E. Gelfand and A.F.M. Smith, 'Sampling Approaches to Calculating Marginal Densities', *Jnl. Amer. Stat. Assoc.* lxxxv (1990), 398-409.

116 Bronk Ramsey, op. cit. note 111.

117 C.E. Buck, J.B. Kenworthy, C.D. Litton and A.F.M. Smith, 'Combining Archaeological and Radiocarbon Information: a Bayesian Approach to Calibration', *Antiquity*, lxv (1990), 808-21; C.E. Buck, C.D. Litton and A.F.M. Smith, 'Calibration of Radiocarbon Results Pertaining to Related Archaeological Events', *Jnl. Archaeol. Sci.* xix (1992), 497-512; C.E. Buck, C.D. Litton and E.M. Scott, 'Making the Most of Radiocarbon Dating: Some Statistical Considerations', *Antiquity*, lxviii (1994), 252-63; C.E. Buck, J.A. Christen, J.B. Kenworthy and C.D. Litton, 'Estimating the Duration of Archaeological Activity using 14C Determinations', *Oxford Jnl. of Archaeol.* xiii (1994), 229-40.

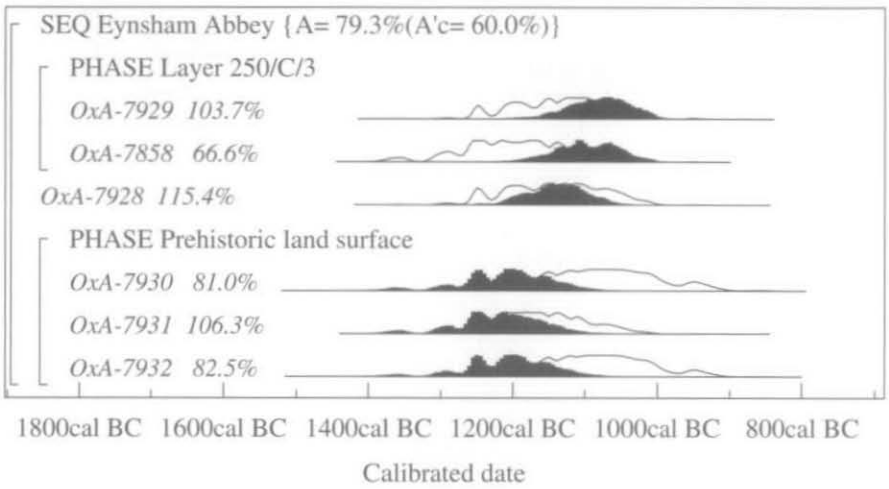

Fig. 20. Probability distributions of dates from Eynsham Abbey: each distribution represents the relative probability that an event occurs at some particular time. For each of the radiocarbon dates two distributions have been plotted: one in outline which is the result of simple radiocarbon calibration and a solid one which is based on the chronological model used. The large square brackets down the left-hand side, along with the OxCal keywords, define the overall model exactly.

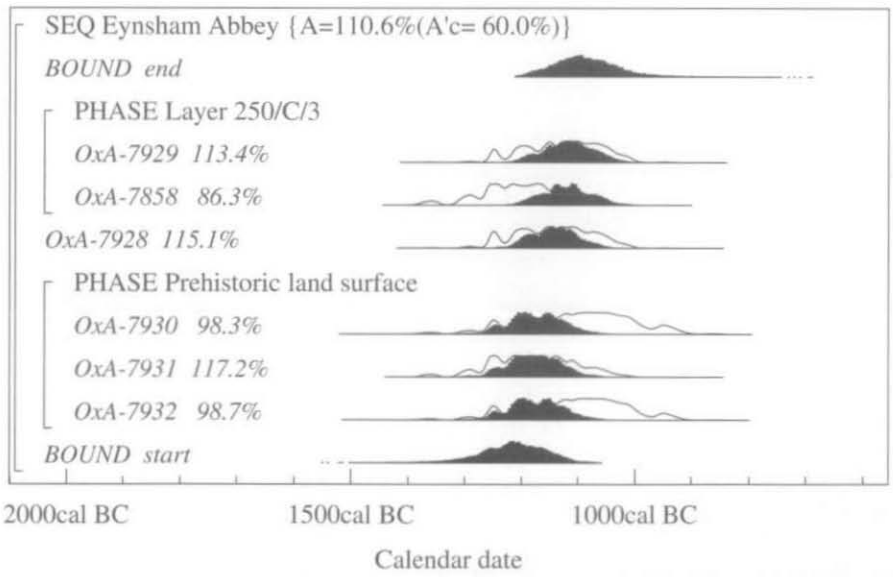

Fig. 21. Alternative model for the prehistoric dates from Eynsham Abbey: the format is identical to that for Fig. 20. In this model the dated activity is assumed to follow a uniform distribution.

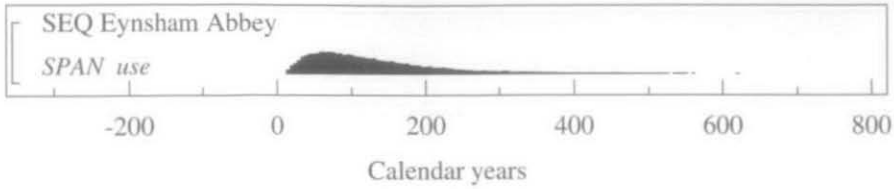

Fig. 22. Probability distribution showing the number of years spanned by the dated activity: the format is identical to that for Fig. 20. The model is that shown in Fig. 21.

However, with this model, the inevitable statistical scatter on the radiocarbon measurement is likely to suggest that the activity on the site continued for longer than was actually the case. All six radiocarbon results are statistically consistent ($T'=1.6$; $T'(5\%)=11.1$; $\upsilon=5$),[118] which could suggest that all the material was of exactly the same calendar date were it not for the archaeological evidence which proves that this cannot be the case. The consistency of the results does suggest, however, that the period of activity represented by these measurements may well be relatively short (see also Fig. 22).

A better model for this group of measurements is shown in Fig. 21. In this case, we have assumed that the activity on the site was relatively continuous and constant, from the activity on the ground surface through to the deposition of context 250/C/3 in the ditch filling. Although we do not have any evidence concerning whether the activity actually met the assumptions of the model, this approach has the advantage that it counteracts the effect of the statistical scatter on the measurements (see above). However, visual comparison of Figs. 20 and 21, and comparison of the *estimated date ranges* in Table 16 shows that the results are sufficiently constrained by the stratigraphic information to be fairly robust against the assumption. The main effect of including the assumption is to push the results from 250/C/3 a little later, and those from the prehistoric land surface a little earlier, although in both cases this effect is limited, amounting to less than 50 years even when the *estimated date ranges* rather than the probability distributions are considered.

The archaeological significance of the results

The sequence of radiocarbon determinations confirm the date of the deposits within the mid-upper part of the ditch and the occupation spread on the ground surface as belonging to the late 2nd millennium cal BC. The dates obtained from these two areas are virtually indistinguishable indicating that the two areas of activity could be considered to have been broadly contemporary.

DISCUSSION by ALISTAIR BARCLAY and ANGELA BOYLE

Earlier prehistoric activity

The earliest activity on the site is represented by a scatter of material of Neolithic and early Bronze Age date. This scatter consists mostly of flintwork but also includes a possible stone axe fragment and a broken macehead as well as some pottery. Some of the flintwork is of early Neolithic date, although the majority can be assigned to an indeterminate later Neolithic/early Bronze Age date. The flint from all contexts is of mixed date and it would appear that material deriving from Neolithic and early Bronze Age activity on the site was redeposited in both the enclosure ditch and its associated features as well as Saxon and later contexts. The earliest pottery is of Beaker date (two Beaker sherds were also found in two medieval graves during excavations on the site of the abbey in 1971),[119] while other sherds are of early Bronze Age date. With the exception of one sherd from 1119/B/1 all of this material is thought to have been redeposited.

[118] G.K. Ward and S.R. Wilson, 'Procedures for Comparing and Combining Radiocarbon Age Determinations: a Critique', *Archaeometry*, xx (1978), 19–31.

[119] H.J. Case, 'The Prehistoric Pottery', in M. Gray and N. Clayton, 'Excavations on the Site of Eynsham Abbey, 1971', *Oxoniensia*, xxxxiii (1978), 116, fig. 5.

Although its date remains uncertain, it is argued below that the enclosure ditch could belong to a ceremonial monument of earlier Neolithic date. If this were the case it could be contemporary with the earliest flintwork.

The recovery of flintwork and pottery mostly as redeposited finds indicates possible domestic activity within the general area of the prehistoric ditch. Amongst the flint, the range of retouched forms, dominated by scrapers, indicates domestic activity (see above, 'The flint assemblage'). Some fine objects were recorded, although all were in an already broken state. These include a sherd of Beaker pottery that possibly comes from a classic Wessex/Middle Rhine Beaker, a broken macehead, a Group VI stone axe flake and a broken barbed and tanged arrowhead. None of these finds need be anything other than domestic refuse. Holgate has noted that within the Upper Thames lithic scatters tend to be of a general, mixed character with the persistent use of sites in both the Neolithic and Bronze Age.[120] At Eynsham the preservation of the prehistoric ground surface meant that other more fragile finds, such as earlier prehistoric pottery, had survived, although many became redeposited as the surface was disturbed by post-Roman features.

Such preservation is rarely found on lowland sites and the surface scatter can be compared with only a small number of sites in the Upper Thames. At Yarnton recent excavations identified an *in situ* surface scatter containing Neolithic and early Bronze Age flintwork and pottery as well as animal bone,[121] and a similar scatter was found preserved on a land surface at one end of the Drayton cursus.[122] However, both these sites were on the lower first gravel terrace where they had been sealed by later alluvium, while at Eynsham part of the ground surface had been preserved within the enclosure.

The form and date of the ditch

The similarities between the ditch profiles and fills for the three lengths of ESE.–WNW. ditch (250/947) and the NNE.–SSW. ditch (720) indicate that they are probably contemporary and directly related. This L-shaped ditch could form part of a much larger enclosure. A terminal to ditch 720 was found to the south, and although this was planned it was not excavated. It is not known whether this feature defined one side of an east facing entrance or the end of the ditch. No features were found to suggest a gate structure. Similarly, nothing is known of the western extent of the northern section of the ditch. If the ditch is indeed Bronze Age then we can speculate that it defined either a rectilinear enclosure which was open to one side or had a substantial eastern entrance. Alternatively, the L-shaped ditch could be just part of a more substantial co-axially arranged system of enclosures.

Late Bronze Age finds including pottery, animal bone, and a shale bracelet were recovered from the upper and middle fills, while nothing was recovered from the primary fills. This could be taken to suggest that the ditch's origin predates the late Bronze Age, but could just as well indicate that domestic refuse and other deposits were only placed in the ditch after it had been allowed to partially silt up.

The ditch profiles are generally wide V-cuts with some possible evidence for recutting or cleaning out. It can be noted that they are similar in profile to other late Bronze Age enclosure ditches such as Carshalton, Surrey[123] and the North Ring, Mucking, Essex.[124] Whilst the linear ditches (possibly field ditches) of known middle Bronze Age date at Yarnton

120 R. Holgate, *Neolithic Settlement of the Thames Basin* (BAR clxxxxiv, 1988).
121 Bell and Hey, op. cit. note 7.
122 Barclay et al., op. cit. note 68.
123 L. Adkins and S. Needham, op. cit. note 85.
124 D. Bond, 'Excavation at the North Ring, Mucking, Essex', *East Anglian Archaeol.* 43 (1980).

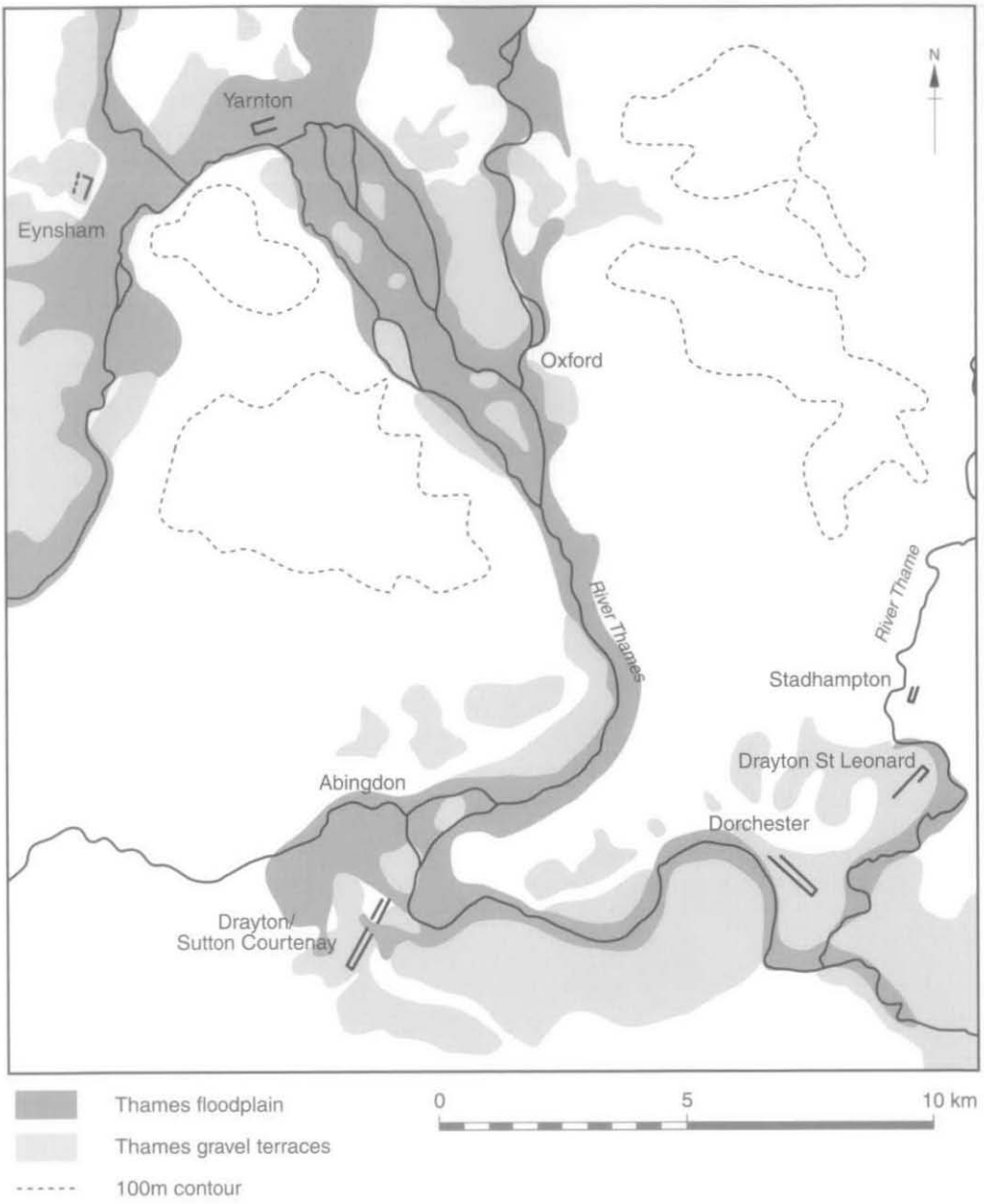

Fig. 23. Location and orientation of the prehistoric enclosure at Eynsham and comparable sites in the landscape.

and Dorchester-on-Thames are less substantial, with both U- and V-shaped profiles.[125] However, there is some similarity between the Eynsham ditch profiles and those of a Neolithic enclosure excavated at Yarnton[126] and the same point can be made by comparisons with the ditches of the cursus (Site III) and mortuary enclosure (Site VIII) at Dorchester-on-Thames.[127] The similarity in the ditch profiles is striking.

One possibility, then, is that the ditch belongs to a much earlier period and was perhaps Neolithic. Although it could have been a mortuary enclosure, the actual size perhaps suggests a cursus monument with a squared terminal at the northern end. Certainly its possible NNE.–SSW. alignment would be consistent with many of the cursus and related monuments that are concentrated along the Upper Thames Valley to the south of Abingdon and the gap in the eastern ditch would not be an unusual feature (Fig. 23).[128] The somewhat smaller long enclosure excavated at Yarnton could provide a convincing parallel. At this site, as at Eynsham, the primary ditch fills contained little or no finds, while the enclosure was a focus for secondary Bronze Age activity. Bronze Age pits were cut through the ditch fill, in the interior, and just outside the ditch, while a possible post-built house was found in the interior.[129] Although on the available evidence the precise character and origins of the ditch remain unclear, it can, therefore, be suggested that the Eynsham ditch may belong to a similar earlier Neolithic mortuary enclosure that was reused in the late Bronze Age.

Internal features

If the ditch does indeed belong to a Bronze Age enclosure, then it is interesting to note that it lacks many of the other features that characterise later Bronze Age enclosures (although it must be remembered that the site was heavily disturbed and truncated during the post-Roman period). Other enclosures tend to contain a variety of features that normally include substantial post-built palisades and gateways as, for example, at Rams Hill, North Ring, Mucking, and Lofts Farm.[130] The enclosed space tends to contain a range of buildings and can be subdivided by fencelines, with areas set aside as yards and for pits. Ponds or waterholes may also occur. At Eynsham there is rather little evidence for internal features and no evidence for a timber palisade or elaborate gate structure.

Part of a penannular gully, an arc of postholes, further postholes and a slight hollow were, however, identified within the enclosure. At least some of these features may belong to domestic settlement of late Bronze Age date. Interestingly they intercut one another suggesting more than one phase of activity.

The curving gully which has been identified as a possible roundhouse gully was incompletely revealed due to truncation and the fact that part of it lay beyond the limits of excavation. The possibility that the gully belonged to a natural feature such as a tree-throw hole was considered and thought unlikely by the excavator. It is, however, unusual, both for the region and southern England, for a house to be associated with a penannular ring in this

[125] Gill Hey pers. comm.; A. Whittle, R.J.C. Atkinson, R. Chambers and N. Thomas, 'Excavations in the Neolithic and Bronze Age Complex at Dorchester-on-Thames, Oxfordshire', *Proc. Prehist. Soc.* lviii (1992), 159, fig. 5.

[126] G. Hey, 'Yarnton-Cassington Project: Yarnton Floodplain B, 1995' (OAU post-excav. assessment, 1996), fig. 7.

[127] A. Whittle et al., op. cit. note 125.

[128] A. Barclay and S. Brereton, in Barclay et al., op. cit. note 68, chap. 11.

[129] Hey, op. cit. note 126.

[130] Bradley and Ellison, op. cit. note 42; Bond, op. cit. note 124; N. Brown, 'A Late Bronze Age Enclosure at Lofts Farm, Essex', *Proc. Prehist. Soc.* liv (1988), 249-302.

period, although a few examples from the Upper Thames gravels have been recognised.[131] Most houses of this date tend to be defined by postholes rather than gullies, although the relatively small size, 4.5 m. in diameter, would be consistent with known houses of this date from Yarnton.[132] Gullies to define household areas have been found at the middle Bronze Age settlement at Corporation Farm, Abingdon,[133] where an arc of gully partially enclosed a post-built structure. At Eight Acre Field, Radley, a ring gully of probable late Bronze Age date was found within a complex of ditches.[134] Further afield at Thwing in Yorkshire the central house within a ringwork was enclosed by a gully-like feature that is interpreted by the excavator as a bedding trench.[135] At Mucking, Essex, the so-called South Ring contained a central gully.[136]

Other, mostly pit-like features within the enclosure could predate the late Bronze Age occupation. Most of these features can be interpreted as probably natural hollows, perhaps associated with the disturbance caused by tree clearance (e.g. 1982). Some, however, could be deliberately dug pits, although these are rare and of uncertain date.

The date of the later Bronze Age activity

The sequence of six radiocarbon determinations obtained on animal burials and charred residues adhering to pottery sherds indicates a phase of activity estimated to have taken place at between 1270-1040 cal BC. This date range would be consistent with the suggestion that the site was established at the beginning of the late Bronze Age, perhaps around the late 13th/early 12th centuries.[137] Barclay has argued above that the pottery belongs to a wider date bracket extending down to around the 9th century (see pottery discussion). However, all dated sherds are from typologically early vessel forms that would be consistent with a late 2nd millennium date. The ceramic evidence indicates that the late Bronze Age activity at the site continued until perhaps the 9th or 8th centuries. Also from the site, but from a later context, is a bronze nail-headed pin that could date from as early as the 12th century BC (see Northover above). In addition, the cylindrical loomweight fragment from ditch context 250/B/4 is likely to be mid to late Bronze Age in date. Other finds of Bronze Age date include a whetstone, which is not more closely datable, and a fragment of shale bracelet of probable late Bronze Age date.

The radiocarbon sequence can be compared with two other important sites within the region, the eyot at Whitecross Farm, Wallingford and the Rams Hill enclosure.[138] Of the two sites the Rams Hill enclosure has the earlier beginnings. As Needham and Ambers suggest, the phase 1 earthwork was constructed within the late 13th century, broadly contemporary with the establishment of late Bronze Age activity at Eynsham. There are a number of similarities between these two sites: both involved enclosure, formal animal burials and both

131 A. Mudd, 'Excavations at Eight Acre Field, Radley', *Oxoniensia*, lx (1995), 57.

132 Gill Hey pers. comm.

133 P. Shand, E. Henderson and R. Henderson, 'Corporation Farm, Wilsham Road, Abingdon: a Summary of the Earlier Prehistoric Excavations', in A. Barclay et al., op. cit. note 68.

134 Mudd, op. cit. note 131, pp. 23-5.

135 T.G. Manby, 'Bronze Age Settlement in Eastern Yorkshire', in Barrett and Bradley, op. cit. note 91, fig. 9.

136 M.U. Jones and D. Bond, 'Later Bronze Age Settlement at Mucking, Essex', in Barrett and Bradley, op. cit. note 91, fig. 2.

137 S.P. Needham, 'Chronology and Periodisation in the British Bronze Age', *Acta Archaeologica*, 67 (1996), 121–40.

138 A. Bayliss et al. 'The Radiocarbon Dating', in Cromarty et al., op. cit. note 39; Needham and Ambers, op. cit. note 28.

had assemblages of Plain Ware ceramics. The ceramic evidence from Eynsham suggests that occupation continued into the early 1st millennium at a time when the earthworks at Rams Hill underwent two phases of remodelling. The similarity in sequence is important because Rams Hill is an upland site located on the edge of the Chalk Downs, while Eynsham is a lowland site located on the second gravel terrace.

The recorded sequence at Whitecross Farm, Wallingford, contrasts with these two sites. This site has its origins within the early 1st millennium cal BC and is of very different character from Eynsham and Rams Hill. A series of four radiocarbon dates were obtained on deposits of wood (some of which was structural) which were sealed by channel silts and a midden. Calibrated, these dates fall within the range 1000-800 BC. Much of the settlement occupation was recovered from a midden and occupation deposits that post-dated this phase.[139] Collectively the three radiocarbon dated sites provide a chronological framework for late Bronze Age developments within the Upper Thames region.

The use of the enclosure

Regardless of the true character and origins of the ditch, domestic refuse and burials were subsequently placed in its ditches. Dumps of burnt material with sherds of pottery and animal bone occurred mostly in the middle ditch fill. Deposits of articulated animal bone, interpreted as partial burials, from the middle to upper fills of the north (250) and east ditch (720) recall possible ritual activity at other later Bronze Age enclosure sites. A number of these deposits may have been structured or of a ritual nature. Layer 250/C/3 contained the fragmentary remains of a plain jar, a fragment from a shale bracelet, burnt material, a partial dog burial and a neonatal partial pig burial. At Corporation Farm, Abingdon, a number of complete or partial animal burials were recovered from a system of middle Bronze Age enclosures.[140] Ritual deposits were found at the junction of the central and curvilinear enclosures in the first and third phases of use. The facial region of a human cranium, associated mainly with pig mandibles and dog remains, was found in a pit at the terminal of the phase 1 enclosure. At Rams Hill a number of animal burials were placed around the southern entrance to the enclosure.[141] The fully articulated skeleton of a young male dog was found in the western terminal of the southern entrance.[142] A post had been set over its legs, and in a later phase it appears that the position of the burial was carefully respected as the line of the western palisade was actually broken to avoid it.[143] A sheep burial was located in a posthole which formed part of the palisade.[144] It was adjacent to and post-dated the dog burial. The excavators suggested that the sheep was probably arranged about the base of a post which had been subsequently removed. The remains of a piglet were found in a posthole which had been cut into the filling of the trench flanking the entrance. The posthole contained a post which originally rested on the remains of the piglet and had rotted *in situ*.

The animal bone at Eynsham was dominated by the main domestic species (cattle, sheep and pig), the majority of which derived from enclosure ditch fills. It has been suggested that whole animals were being brought to the site with the majority of bone being disposed of in

139 Bayliss et al., op. cit. note 138.
140 Shand et al., op. cit. note 133.
141 Bradley and Ellison, op. cit. note 42.
142 Ibid. 42, fig. 2.14.
143 Ibid. 45.
144 Ibid. 47, fig. 2.16.

the ditches (see Mulville above). Wild animals were represented by two fragments of red deer and a single fish bone. No samples for charred plant remains were taken from the site, although a number of the ditch and feature fills were noted as containing burnt material or charcoal flecks, indicating that such remains were probably present.

Part of a fired clay loomweight from the ditch indicates that textiles were produced on the site, and there is at least evidence that the occupants kept sheep for consumption.

Regional context

If the excavated ditch is interpreted as a form of late Bronze Age enclosure or ringwork then it represents the first such example from the gravels of the Upper Thames Valley. No other enclosures of this date are known, although there is some evidence to suggest that a number of Neolithic enclosures were reused (e.g. a long enclosure at Yarnton and perhaps the Big Rings henge at Dorchester-on-Thames if the Iron Age pottery is reclassified as late Bronze Age).[145] A few other later Bronze Age enclosure sites do, however, exist within the wider region, although the number of known examples is small. At Corporation Farm, Abingdon a complex of enclosures was found to be of middle Bronze Age date,[146] while at Eight Acre Field, Radley a somewhat similar arrangement of enclosures was thought to be of late Bronze Age/early Iron Age date.[147] Elsewhere within the Upper Thames settlement is generally small-scale and unenclosed. Just to the north of Eynsham a number of late Bronze Age settlement sites, all of which can be regarded as open settlements, are now known.[148] On the southern edge of the Upper Thames is the well known Rams Hill enclosure that has been recently redated to the later Bronze Age.[149] This site remains the only known enclosure of this date, while many of the known hillfort enclosures seem to be no earlier than Iron Age in date. Just beyond this area, on the Marlborough Downs, a number of middle Bronze Age enclosures have been excavated.[150]

The enclosure at Eynsham might well belong to a class of monument which consists of either a rectilinear or circular ditch that usually contains one or more roundhouses, often centrally placed. Such late Bronze Age enclosures, most of which are described as ringforts, are a more common feature of the middle Thames Valley and eastern and south-east England, with examples distributed from East Yorkshire to Kent.[151] Many of these sites take the form of ringworks, as, for example, at Mucking North and South Rings, Essex, although others are rectilinear in plan. Many have palisades, were clearly gated, and surrounded only one or two centrally placed structures. As they are generally set within landscapes that contain many more open settlements, it is generally accepted that these sites represented high status settlements. Both Rams Hill and Eynsham Abbey would on present evidence be earlier than most of these sites, which on the whole date between 1000-700 cal BC.[152]

145 Gill Hey pers. comm.; Whittle et al., op. cit. note 125, p. 190.

146 Shand et al., op. cit. note 133.

147 Mudd, op. cit. note 131.

148 Gill Hey pers. comm.; D. Miles, 'Conflict and Complexity: the Later Prehistory of the Oxford Region', *Oxoniensia*, lxii (1997), 9.

149 Bradley and Ellison, op. cit. note 42; Needham and Ambers, op. cit. note 28.

150 C. Gingell, *The Marlborough Downs: A Later Bronze Age Landscape and its Origins* (Wilts. Archaeol. Nat. Hist. Soc. Monograph 1, 1992), 155-6.

151 Adkins and Needham, op. cit. note 85, p. 45; R. Bradley, *The Social Foundations of Prehistoric Britain* (1984), 120; T. Champion, 'Settlement and Environment in Later Bronze Age Kent', in Barrett and Bradley, op. cit. note 91, pp. 242-3, fig. 10.

152 S.P. Needham, 'The Structure of Settlement and Ritual in the Late Bronze Age of South-East Britain', in C. Mordant and A. Richard (eds.), *L'Habitat et l'Occupation du Sol à l'Âge du Bronze en Europe* (1992), 52.

Until relatively recently little was known of the later Bronze Age settlement pattern in the Oxford region.[153] However, many new and important discoveries have been made over the last ten years. Just to the north of Eynsham, in the Cassington-Yarnton area, a number of mid to late Bronze Age settlements have been investigated. Excavations on the floodplain at Yarnton have revealed a pattern of dispersed open settlement consisting of single or paired post-built roundhouses and other features such as waterholes, burnt spreads, fencelines, pits and occasional ditches.[154] A possible continuation of this settlement pattern has been found at Mead Lane, Eynsham. The enclosure at Eynsham Abbey is located within a wider area of generally open settlement, and in this respect it is unusual. It could, like other ringworks, represent a high status settlement, a conclusion that could be supported by some of the artefactual evidence. Whatever the true date of the enclosure, its use would have marked the settlement out as a place of special importance. Its date, centred on the end of the 2nd millennium cal BC, would make it later than the enclosure complex at Corporation Farm and many of the field systems that have been recorded around Abingdon and Dorchester.[155] At Yarnton the settlement pattern described above appears to have changed little during the later Bronze Age.

Later activity and Saxon reuse

If the origins of the enclosure lie within the Neolithic rather than the later Bronze Age then it can be suggested that other monuments such as round barrows may well also have existed. No barrows are known from the village itself, although an extensive barrow cemetery can be found less than 2 km. to the south-west at Foxley Farm, and a dispersed group of barrows have been recorded as cropmarks and excavated at New Wintles Farm just to the north, while a large barrow cemetery has been recorded at Cassington Mill.[156] Many of the so-called long mortuary enclosures that have been identified on the Upper Thames gravels became foci for later monument building. Mortuary enclosures are known as cropmarks from Foxley Farm and from Stanton Harcourt, while at Yarnton the excavated enclosure became a focus for later burials and pit deposits and was reused in the later Bronze Age for settlement.[157] There is good evidence from the Upper Thames and other parts of lowland England for the reuse of prehistoric enclosures, especially disc barrows, in later periods. Saxon settlements are sometimes sited next to barrow cemeteries and the barrows themselves are sometimes reused.[158] A good example of reuse comes from the excavated ringwork at Springfield Lyons in Essex, where the inside of the late Bronze Age enclosure was reused for burial in the early Saxon period and a settlement developed outside during the late Saxon period.[159]

There is little evidence to suggest that the enclosure survived as an earthwork beyond the Roman period. Its ditches had certainly silted up by this time as one of the sunken-featured buildings cut the line of the silted up ditch, and was positioned so that it would have cut the line of any interior bank. The layout of the Saxon settlement not only cuts the line of the

153 Miles, op. cit. note 148.

154 Gill Hey pers. comm.

155 A. Barclay, R. Bradley, G. Hey and G. Lambrick, 'The Earlier Prehistory of the Oxford Region in the Light of Recent Research', *Oxoniensia*, 61 (1996), 13, fig. 1; Shand et al., op. cit. note 133.

156 Benson and Miles, op. cit. note 6, maps 20 and 26.

157 Barclay et al., op. cit. note 155; Gill Hey pers. comm.

158 J. Blair, *Anglo-Saxon Oxfordshire* (1994), 32, figs. 19 and 21; Barclay and Halpin, op. cit. note 67, p. 325.

159 J.D. Hedges and D.G. Buckley, *Springfield Cursus and the Cursus Problem* (Essex C.C. Occas. Paper 1, 1981).

enclosure ditch but also extends beyond its limits, indicating that it was certainly not contained by the ditch. It can be concluded that the enclosure had little or no direct influence on the siting of the Saxon settlement. The situation can perhaps be compared with the siting of a Saxon settlement across the cursus at Sutton Courtenay, where the layout of the houses appeared to be oblivious to the line of the cursus ditches.[160] At this site it seems probable that the building of Bronze Age barrows around the cursus, which then survived as earthworks, influenced the siting of the settlement. Elsewhere a similar case can be made for the settlement at Barrow Hills, Radley, where some of the prehistoric barrows were also reused for Saxon burial.[161] It seems likely that the position of the enclosure was nothing more than fortuitous and that the settlement was placed at a site that was perhaps used in prehistory for ritual and ceremony.

ACKNOWLEDGEMENTS

The excavation of the prehistoric site comprised a relatively small part of a much larger project directed at the Anglo-Saxon and medieval monastic complex in Eynsham. Many more people were involved at all stages of the project than can be individually acknowledged here. The authors' gratitude is extended to all who contributed to the project in whatever capacity.

The project was entirely funded by English Heritage, and the constant support and encouragement of officers Andrew Fleming, Steve Trow, and Helen Keeley is particularly appreciated.

The first part of the excavation was directed by Richard Chambers, the second part by Graham Keevill. The principal Supervisor throughout was Alan Hardy. Over one hundred people worked on the site at one time or another. All of their contributions were welcome, but those of Naomi Hutchings (Supervisor), Olivia Pierpoint (Training), and Nicki Scott (Finds) deserve particular gratitude.

The authors would like to express their admiration and thanks for the inexhaustible tolerance and interest shown by the incumbent priest of St. Peter's Church, Father J. Tolkien, who patiently waited for over two years for his churchyard to return to normal.

Finally, credit and profound appreciation are due to the people of Eynsham whose interest and support was unflagging.

The illustrations were produced by Lesley Collett and Luke Adams; the text was edited by Chris Hayden and Rachel Tyson.

The Society is grateful to English Heritage for a grant towards the publication of this report.

160 Barclay et al., op. cit. note 68.
161 Barclay and Halpin, op. cit. note 67, p. 325.