

CHAPTER 2

Hunter-gatherers and first farmers:

The Mesolithic wildwood to the end of the monumental landscape of the Neolithic
(10,000 BC–1700 BC)

by John Lewis and Fraser Brown

CD-Rom queries
Neolithic landscape
Mesolithic landscape
Burnt flint from cursus and Mesolithic pits
Neolithic Pre-C1 Stanwell Cursus postholes and pits
Postholes and pits
C1 Stanwell Cursus
Tree-throws
C2 Cursus
Neolithic HE1 enclosure
Early Bronze Age flint and pot distributions

Introduction

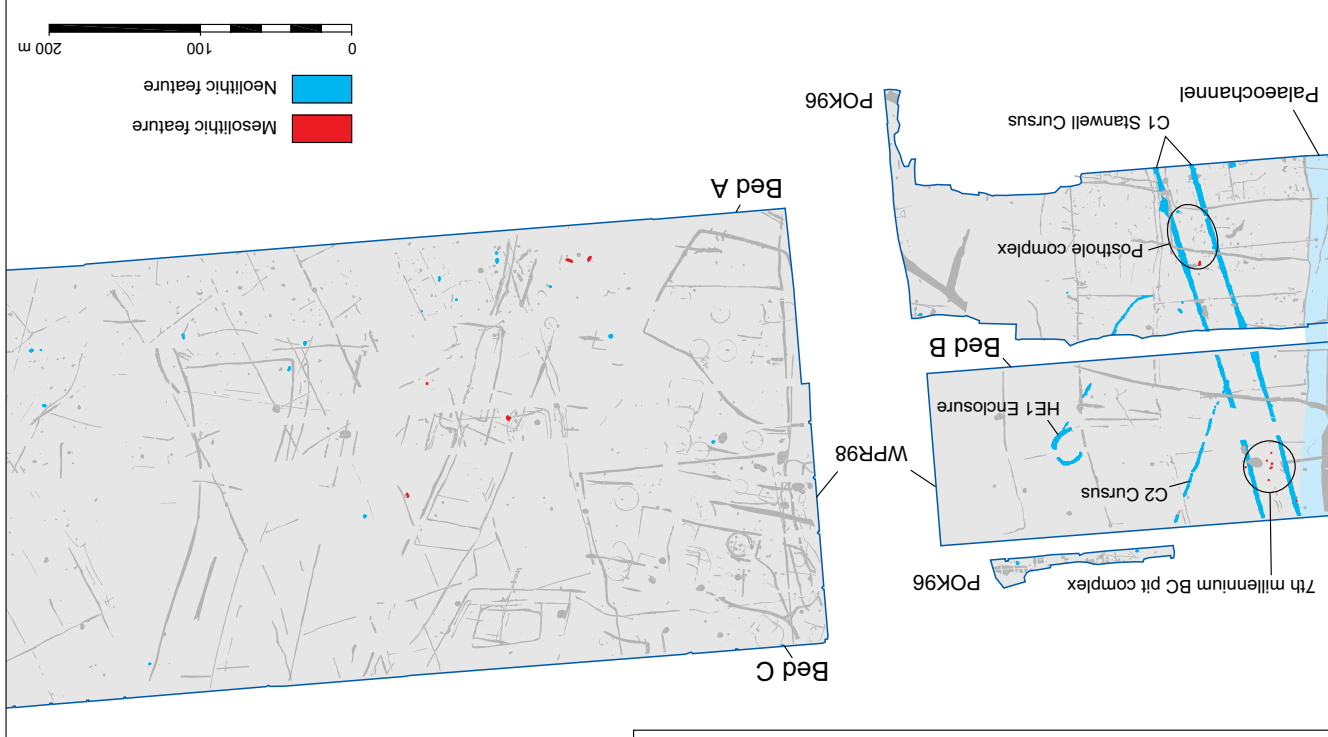
This chapter deals with the hunter-gatherer landscapes prior to c 4000 BC (the Palaeolithic and Mesolithic), and the appearance of the first agriculturists and transformation of the landscape through the construction of ceremonial monuments between 4000 and 1700 BC (the Neolithic and early Bronze Age). The chapter first lays out the framework of material evidence and assumptions regarding dating that will guide our analysis, relative to the research approach established in Chapter 1. This is then followed by a chronological narrative.

Summary of the evidence (Fig. 2.1)

Palaeolithic and Mesolithic

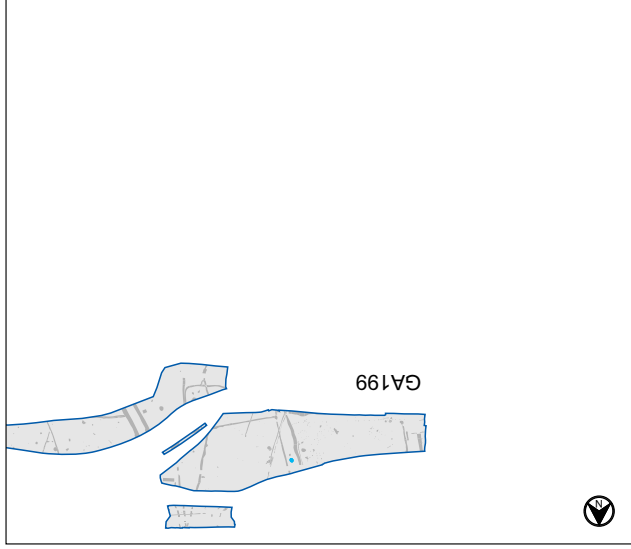
Five heavily rolled flint artefacts (including a small handaxe), none of which was in situ, are our only testimony to the Palaeolithic at Perry Oaks, whilst the Mesolithic is represented by c 80 flint artefacts, including 10 diagnostic types, mostly residing in features of much later date. Most notable were a cluster of pits excavated in the northern part of Bed B (WPR98; see Fig. 2.1) which contained burnt flint. This material provided thermoluminescence dates suggesting activity in the middle of the 7th millennium BC, excavated features

Figure 2.1: The Mesolithic and Neolithic datasets



Neolithic

The Neolithic evidence from Perry Oaks consisted of three earthen monuments and one posthole complex, together with scatters of pits, tree-throws and occasional postholes. Neolithic flint artefacts and pottery fragments were also found residing in later features, as well as in the Neolithic features themselves.



The specific Neolithic monuments excavated were as follows:

- A posthole complex within POK96. This was undated but was stratigraphically earlier than the construction of the C1 Stanwell Cursus.
- The C1 Stanwell Cursus. This monument consisted of two parallel ditches c 20 m apart, orientated NNW-SSE. It ran for at least 4 km and passed through Ferry Oaks in Bed B and POK96. The cursus ran through the 7th millennium pit complex and earlier posthole complex, and was unusual in having a single central mound. More posts were erected in the area of the posthole complex when the cursus ditches began to silt up, suggesting a reaffirmation of this location. Roughly contemporary with this event, a second cursus (the C2 monument) was constructed.
- The C2 Cursus consisted of two parallel ditches, c 60 m apart and orientated NNE-SSW. This monument probably had the more usual arrangement of an internal bank adjacent to each of the two ditches. The C1 Stanwell Cursus served as the southern terminal of the C2 Cursus and the Terminal 5 excavations suggest this monument ran for at least 480 m.
- On the basis of pottery, stratigraphy and analogy with other monuments of this type, both the C1 and C2 Cursus were probably constructed sometime between 3600 and 3300 BC. The HE1 'horseshoe' shaped enclosure was

located within the C2 Cursus. It is unclear whether this enclosure pre- or post-dated the C2 Cursus. No ceramic dating evidence was retrieved from the enclosure and the lithic material is inconclusive, but suggestive of a period of use in the 3rd millennium BC. The enclosure was c 17 m in diameter and probably consisted of ditches with internal banks. It was orientated on the mid winter sunset and the mid summer sunrise.

Ground water had completely leached out the collagen from all the skeletal material associated with these Neolithic features, making radiocarbon determinations impossible. Furthermore, the radiocarbon determinations of non-skeletal material conflicted with the stratigraphy and/or artefacts contained within the features, and so the chronology of the Neolithic landscape relies on a relative chronology of pottery styles which are present across much of southern Britain. In this respect, no Peterborough Ware pottery (3400 to 2500 BC) was recorded on site, although a small quantity of Grooved Ware pottery (3000 to 2000 BC) was recovered from a handful of pits scattered across the area.

Environmental evidence for the entire Neolithic period was very limited, with just a single pollen diagram presenting the results from a pit cutting one of the ditches of the C1 Stanwell Cursus. The pollen evidence suggests the location was either in a glade or on the woodland edge. The radiocarbon date for this feature is however contradictory. Another sample from a pit in Bed C was assessed and suggested a more open

landscape, but it was not fully analysed due to poor preservation of pollen grains.

Early Bronze Age

Direct evidence of activity in the early Bronze Age is limited to a few diagnostic flint artefacts and pottery. A single sherd of Beaker pottery dating from some time between 2400 and 1700 BC was recovered, together with a few more sherds of less diagnostic pottery, which could either be Beaker or Collared Urn, and thus date from 2000 to 1500 BC. However, all these sherds appear to reside in features dated to later periods.

Outline of the narrative

Next we will outline the evidence for constructing a chronological framework for human activity during the huge time-span under consideration. The nature of the evidence for Palaeolithic and Mesolithic occupation is assessed, before turning to look at the Mesolithic in more detail. Several zones of Mesolithic activity are postulated, both from lithic material residing in later features and from the cluster of mid 7th-millennium pits. These locations are interpreted as meeting places for kin-groups, with the pit complex being especially important.

Moving forward to the Neolithic, the sequence of monument construction is explored. The construction of the C1 Stanwell Cursus is seen as revolutionary, both in terms of an architectural

In Chapter 3 we will show how, around 1700 BC, the whole process was replaced by the physical division of the land by boundary ditches, banks and hedgerows, a process as revolutionary in terms of the community and inhabitation of the landscape as the construction of the cursus monuments had been almost 2000 years earlier.

Chronological framework

In order to describe the human inhabitation of the Mesolithic, Neolithic and early Bronze Age landscapes, and to understand the transformation of one to the other, it is necessary to define the tools available to build a chronological framework for these periods. This framework is largely defined by ceramic and lithic artefacts, which can be dated with varying chronological precision.

The chronological framework adopted in this chapter is one that is generally accepted for southern Britain. Details are presented below.

The paucity of Mesolithic evidence, and in particular radiometric dates, from Perry Oaks frames our debate in terms of the early / late Mesolithic. With regard to the Neolithic, there persists in the literature a confusion of terms dividing the period. Two schemes have generally been adopted—earlier and later, and early, middle and late. This duality has arisen largely because researchers in different parts of the country have different components of the Neolithic ‘package’ in a variable mix and with varying and imprecise absolute chronologies.

interpreted as marking the end of a sequence of ceremonies, which started at the now ancient earthwork monuments. The pit deposits were the final act, which sealed the agreement over which kin-group had rights over a particular clearing or parcel of land. This represents the first physical act of marking a kin-group’s rights over a piece of land, however small or however transient it may have been.

Other evidence from West London and the Terminal 5 excavations suggests that new small circular monuments were constructed in association with the use of Grooved Ware pottery from the latter half of the 3rd millennium BC onwards (see Vol. 2). There was thus a renewed requirement for architectural settings in which representatives of the kin-groups would meet and maintain the cohesion of the community.

The mechanisms by which the community had operated cohesively had been changing since the construction of the cursus monuments, up to 1500 years before, and so it is perhaps not surprising that we see changes at the turn of the 3rd and 2nd millennium BC. During this period, Beaker pottery and the associated burial rights seem to have been ignored in the Heathrow area. Instead, Collared Urn appears to have been utilised in similar ways to the Grooved Ware of earlier centuries, except that now it sometimes incorporated the remains of the dead in making claim to land. In many ways this marked the ‘last gasp’ use of monuments, ceremonies and discrete artefact deposits to negotiate access to land and resources in what was by now an increasingly open landscape.

a physical manifestation of kin-groups coming together to form a community. This was achieved by communal effort to build a monument whose architecture linked locations of great importance (such as the Mesolithic pit complex and the pre-cursus timber complex) to kin-groups over several millennia. We suggest that this transformation occurred in a landscape which was becoming increasingly cleared following the ‘elm decline’, and may have occurred in response to the need for new mechanisms to apportion land and resources. These new mechanisms may have required architectural settings for ceremonies to negotiate these matters.

This transformation set in motion the construction of the C2 Cursus and probably the HE1 enclosure, as ceremony associated with access to land and resources rapidly became established as the way in which the community developed. Tree-throws and the occasional pit show that occupation was spreading across the landscape at this time, probably in the many woodland clearings that were being exploited for transient arable and pastoral agriculture.

This pattern of ceremony associated with monuments seems to have lasted through the currency of Peterborough Ware pottery, until perhaps the middle of the 3rd millennium BC. At this time, evidence from other West London sites suggests changes in the landscape, with a marked increase in the deposition of artefacts in isolated pits, starting with Peterborough Ware and continuing with Grooved Ware. These pit deposits can be

Table 2.1: Thermoluminescence dates for Mesolithic pits in area of the Stanwell C1 Cursus at Perry Oaks WPR98

Pit context number	Lower date-range	Upper date-range	Mean date
165005	6840 BC	5580 BC	6210 BC
165005	7330 BC	6170 BC	6750 BC
165007	7160 BC	5760 BC	6460 BC
165009	7810 BC	6550 BC	7180 BC

This is partly due to the relatively undiagnostic nature of lithic waste and debitage. These terms cover much broader periods of time than the ceramic evidence and so the chronological resolution of the historical narrative is coarser when relying on lithic evidence alone, as Table 2.2

- Early and late Mesolithic
- Mesolithic or Neolithic,
- Earlier and later Neolithic.

We will now look at the context and distribution of the Mesolithic and earlier Neolithic flint work within the Perry Oaks and wider Heathrow landscape, and try to construct a non-monumental geography of the period 9000 to 3000 BC. Lithic artefacts and assemblages have an important part to play in defining a relative chronological sequence. However, in chronological terms, it is generally only possible to speak in terms of the following:

Lithic technology and typology

Relative chronology

The earliest Neolithic radiocarbon date came from sediment in a pit (150011) that cut the Stanwell Cursus ditch fills, although the date (4349-4047; NZA14902 cal BC 2 sigma) was very early, suggesting that the organic material tested was residual. A radiocarbon date of 3030-2870 BC (WK11473 cal BC 2 sigma) was obtained from a small bowl-shaped pit (137027) containing cremated human bone. In all pits of this type where ceramics were also present, the pottery was Grooved Ware, confirming the Neolithic date. The more recent excavations associated with the construction of Terminal 5 (T5) have yielded more radiocarbon and Optically Stimulated Luminescence (OSL) dates (see Vol. 2). An OSL sequence was obtained from deposits in both ditches of the Stanwell Cursus, with the dates indicating that the monument's ditches were silted during the early Neolithic. Analyses of the T5 data is ongoing and the results are not included in this volume. In view of the paucity of absolute dates, we will consider the relative dating of stratigraphy and the ceramic sequence.

Neolithic dates

However, recent developments in the dating of particular Neolithic ceramic traditions have allowed some refinement of chronology of the Neolithic monumental landscape at Perry Oaks. Absolute dates from the Mesolithic to early Bronze Age at Perry Oaks are extremely sparse. This is largely due to the poor state of preservation of many of the deposits. Most features lay above the permanent water table in conditions not conducive to organic preservation. The charcoal recovered was generally heavily comminuted, and bone collagen was depleted. Four thermoluminescence (TL) dates were obtained from burnt flint recovered from a series of pits sealed below the Stanwell Cursus (Table 2.1). The dates extended across the 7th millennium BC but it is probable, given the nature and spatial distribution of the pits, that they represent either contemporary activity or phases of activity confined to a few generations. A radiocarbon date of 6240-5990 (cal BC 2 sigma) from the 2003 evaluations at Bedford Court on the Colne floodplain attests to activity in this area at broadly the same time as the burnt flint pits of the terrace were filled (Framework Archaeology 2003).

Mesolithic dates

Absolute dates

Lithic Period Division	Calibrated BC
	10,300-8800
	Late Glacial
	8800-7000
	Early Mesolithic
	7000-4000
	4000-3200
	Earlier Neolithic
	3200-2400
	Later Neolithic
	2400-1500
	Early Bronze Age

Table 2.2: Chronological divisions of lithic artefacts

indicates. Crampton, who analysed the lithic assemblage from Perry Oaks, makes the following observations on the chronologically diagnostic Mesolithic and Neolithic flint assemblages (full lithics report can be found on accompanying CD, Section 3).

While diagnostic tool types, such as microburins and microliths, provide a more reliable and quantifiable resource, it is possible that a significant quantity of undiagnostic Mesolithic flintwork is present but has been subsumed by the early Neolithic assemblage with which it shares many technological characteristics. This invisible element may, not entirely but to some extent, account for the apparent under-representation of the earlier period in terms of flintwork from the site. Examples include some of the blades, bladesets and rejuvenation flakes, along with the two blade cores from WPR98. These pieces were isolated according to general technological traits, such as the presence of platform edge abrasion and evidence for the use of soft-hammer percussion.

These potentially Mesolithic artefacts are quantified by feature and phase in Table 2.3, which provides an indication of the low numbers of flints involved.

(Crampton, CD Section 3)

Ceramic chronology

The ceramics cannot be used to achieve accurate absolute dating, but they can support the general sequence established using absolute methods. It is important to stress that the dates referred to in this section reflect the main period of use of the ceramics concerned.

Firstly, we will examine the Neolithic ceramics and assess their relative position in the chronology of the period.

Problems with ceramic fabrics

During initial analysis of the ceramics recovered from Perry Oaks a fabric type series was established. These fabrics, however, are not chronologically precise indicators of ceramic development. In the middle and lower reaches of the Thames in particular, a range of flint-tempered fabrics was used intermittently throughout the Neolithic and Bronze Ages. It follows that dating deposits on the basis of otherwise undiagnostic body sherds does not provide a precise chronology for these deposits. As a result, at Perry Oaks and other West London sites, it has been common practice to date features containing undiagnostic flint-tempered fabrics to the late Bronze Age. Therefore, during excavations at Perry Oaks in 1999 (WPR98) it was assumed, on the basis of the ceramics, that the ditches of Stanwell Cursus were open into the late Bronze Age.

During analysis, a reassessment of the flint-tempered pottery fabrics and their associations

with lithic artefacts, combined with detailed

stratigraphic analysis, has shown that the pottery from the cursus and many other features (notably the horseshoe monuments and tree-throws) better accords with an early Neolithic date. For example, all of the pottery from the primary fills of the cursus was originally identified as flint-tempered fabric type FL1, assigned to the late Bronze Age. This would imply that no sediment had accumulated in these ditches although they had been open for many hundreds of years, contrary to the fill processes in other features in the vicinity. Alternately, it could suggest that the ditches had been entirely re-excavated in the late Bronze Age, although this is at variance with the observed stratigraphic relationships.

The associations between diagnostic lithic artefacts and pottery fabrics also played an important part in the reassessment of the dating of these fabrics. Tree-throws containing Neolithic flints and pottery fabric FL1 were classified as late Bronze Age, it being assumed that the flintwork was residual. However, we know that the landscape from the middle Bronze Age onwards was largely clear of trees, and therefore the lithic material could provide a more accurate date for the tree-throws. The pottery could then be earlier Neolithic rather than late Bronze Age in date.

This reassessment resulted in a reclassification of the pottery as early Neolithic fabric FL4, suggesting that the early Neolithic inhabitation of the Heathrow landscape was much more widespread and populous than was previously believed. Having discussed the problems of ceramic dating,

Feature	Interpretation	Feature cut date	Number of Mesolithic flints
POK96			
961017	Gully	Early Neolithic	1
961501	Ditch	Neolithic	2
961508	Ditch	Late Bronze Age	1
961540	Natural feature	Mesolithic	1
962363	Ditch	Middle Bronze Age	1
963163	Tree-throw	Unphased	1
963218	Ditch	Middle Bronze Age	1
Undefined	Undefined	Unphased	14
WRP98			
106013	Cremation	Late Bronze Age	1
107042	Ditch	Early Neolithic	2
107084	Ditch	Romano-British	1
108022	Ditch	Middle Iron Age	1
113131	Ditch	Romano-British	1
119240	Ditch	Middle/late Iron Age	1
119259	Ditch	Middle/late Iron Age	1
120072	Tree-throw	Mesolithic	1
121173	Ditch	Neolithic	1
122036	Ditch	Late Bronze Age	1
122084	Pit	Mesolithic	1
127022	Pit	Late Neolithic	1
128028	Ditch	Neolithic (western cursus ditch)	5
129013	Posthole	Neolithic	1
129109	Pit	Neolithic	2
132190	Posthole	Middle Bronze Age	1
continued on right			
Feature	Interpretation	Feature cut date	Number of Mesolithic flints
WRP98			continued
132199	Undefined	Unphased	1
133198	Waterhole	Romano-British	1
134029	Ditch	Early Neolithic	2
135055	Pit	Late Bronze Age	1
136177	Pit	Neolithic	1
137114	Pit	Middle Iron Age	1
141228	Pit	Neolithic	1
147106	Ditch	Middle Bronze Age	1
148029	Ditch	Early Iron Age	1
148093	Ditch	Romano-British	1
148303	Pit	Middle Iron Age	1
149209	Posthole	Late Bronze Age	1
151031	Pit	Unphased	1
156191	Tree-throw	Early Neolithic	11
158143	Ring gully	Middle Iron Age	1
160016	Ditch	Middle Bronze Age	1
160104	Ditch	Late Bronze Age	2
163135	Tree-throw	Mesolithic	1
166195	Ditch	Romano-British	1
167037	Ring ditch	Middle Iron Age	1
172081	Tree-throw	Mesolithic	1
180080	Well	Early Iron Age	1
GA199			
218038	Ditch	Middle Bronze Age	1
GAA00			
401075	Ditch	Middle Bronze Age	1
Total			80

Table 2.3: Distribution of possible Mesolithic flints, by feature

Date	Fabric Type	No. sherds	Weight (g)	ASW (g)
Early Neolithic	FL4	769	2216	
	FL8	1	15	
	QU13	17	119	
	Subtotal EN	787	2350	3
Late Neolithic	GR2	62	184	3
Early Bronze Age	GR1	32	75	2.3
Totals		881	2609	3

Table 2.4: Quantification of Neolithic and early Bronze Age pottery from Perry Oaks

...that the majority were carinated in some way, but were not all of the Classic Carinated Bowl form, which should focus our attention and interest particularly on the minority which were not carinated at all (Cleal 2004)

The evidence for this tradition at Perry Oaks is elusive, but could be represented by a single, possibly carinated, sherd from tree-throw 156191, although the remaining pottery from this feature appears to be later (see below).

Undecorated Bowls and Decorated Vessels

The bulk of the earliest ceramics from Perry Oaks probably dates to later within the early Neolithic sequence. This part of the assemblage consists of undecorated Plain Bowl Ware types, with a small proportion of decorated vessels. These types are thought to have emerged sometime before c 3600 BC, continuing in use to c 3300 BC (Gibson 2002, 70).

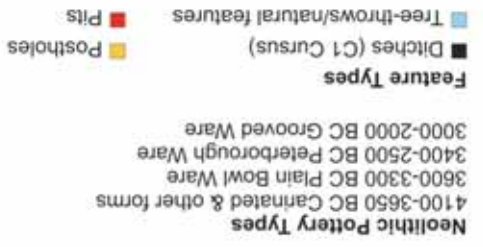
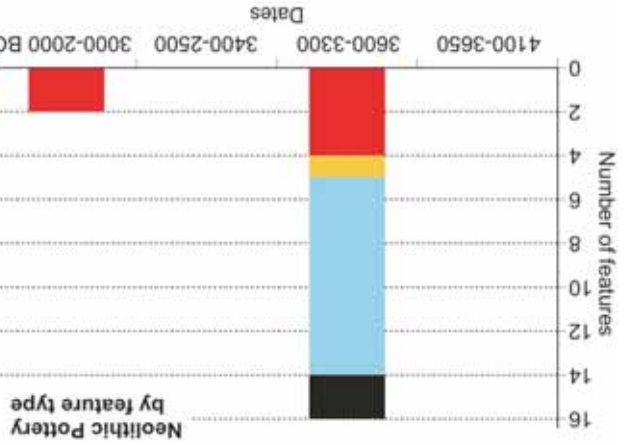
we can return to the evidence from Perry Oaks and place this element of the pottery assemblage more precisely within the early Neolithic period. The majority of the pottery was of a single fabric type, FL4, with only a handful of sherds in other fabrics (see Table 2.4). This apparent homogeneity might suggest that the assemblage covers a relatively restricted time span, but evidence from across the region and beyond indicates that fabrics did not change significantly within this period, or indeed subsequently, during the currency of Peterborough Ware. The condition of the sherds from Perry Oaks is poor and diagnostic material is relatively scarce, but on the basis of the existing evidence a chronology for the ceramic assemblage can be proposed.

The earliest ceramic form identified in Britain is the Carinated Bowl, generally dated to c 4000–3600 BC (Herne 1988; Gibson 2002, 70). However, Cleal has recently re-appraised the type, and concluded,

Carinated Bowls

Early Neolithic pottery is scarce within the West London area, and parallels for the fabrics and forms found within the Perry Oaks assemblage are more common from a wider area of the Thames Valley, including Staines and Runnymede Bridge (Robertson-Mackay 1987; Kinnes *et al.* 1991). However, the lack of decoration within the Perry Oaks assemblage is in distinct contrast to these groups. In this respect the assemblage is closer to those from three sites in east Berkshire: Cippenham, Slough; Manor Farm, Horton and Charvil (Raymond 2003a; 2003b; Lovell and Mepham 2003). This may seem anomalous in an area that falls within Whittle's decorated style zone (1977), but the legitimacy of such stylistic classification has been questioned more recently (eg Cleal 1992). The relative lack of decoration within the Perry Oaks and Cippenham assemblages may be a chronological factor, suggesting that these assemblages fall earlier within the early Neolithic than those at Staines or Runnymede.

A large proportion (61.4%; 541 sherds) of the Neolithic and early Bronze Age pottery assemblage derived from a single context, tree-throw 156191, with a smaller residual group of 80 sherds coming from Bronze Age field ditch 961508. In general, the condition of this material is poor but the fabrics, particularly the flint-tempered wares, tend to be extremely friable and a high degree of fragmentation does not necessarily reflect a commensurate level of post-depositional movement. The main group, from tree-throw 156191, seems to have been deposited as a single event, whilst the group from ditch 961508, while



obviously residual, is likely to have derived from a disturbed deposit nearby. The original deposition of the two groups could have been separated by a wide chronological gap, but the homogeneity of the fabrics across the groups and the stylistic similarity of the rims suggests otherwise.

The distribution of early Neolithic pottery (Fig. 2.2) extends across most of the site. However, the complete absence of sherds to the west of the C1 Stanwell Cursus is notable. In fact, with the exception of two sherds from the western ditch,

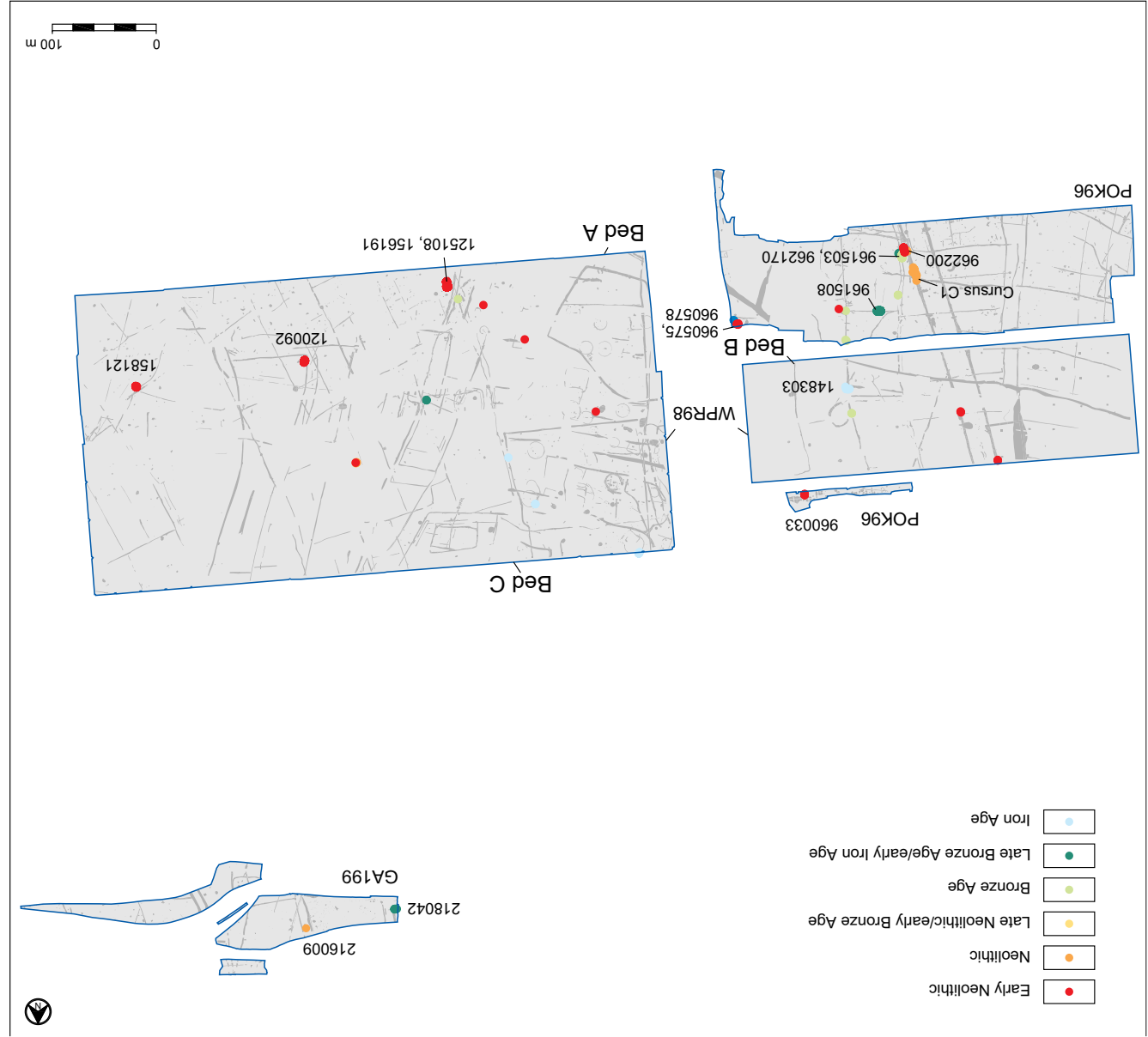


Figure 2.2: The distribution of early Neolithic pottery

Ware were found in association with the Grooved Ware, but at Perry Oaks Peterborough Ware is notable by its absence (see above).

Beaker

The chronology of Beaker ceramics has been discussed in detail elsewhere (eg Kinnes *et al* 1991; Case 1993), and here our main concern is the relationship between Grooved Ware and Beaker ceramics. A recent review by Garwood (1999) has concluded that there is little overlap between the two and argues that Beaker funerary deposits in southern Britain belong to the period after c 2500/2400 BC and persist until 1700 BC (also Needham 1996, 124).

Only one diagnostic sherd of Beaker pottery has been identified at Perry Oaks, although a small group of other undiagnostic grog-tempered sherds (fabric type GR1) may belong either to this or to the Collared Urn tradition. It is notable that lithic types contemporary with Beakers (such as barbed and tanged arrowheads and thumbnail scrapers) are present, the former only as unstratified finds. It seems therefore that the Beaker ceramic traditions were not adopted in this area, as was the case with Henge monuments and single burials, which also appear to be absent. The absence of the Beaker complex seems, on current evidence, to be a genuine and widespread characteristic of the middle Thames gravel terrace. It is one of the factors that distinguishes this landscape from surrounding areas (eg Surrey, London and the Upper Thames Valley).

Grooved Ware

The ceramic sequence at Perry Oaks continues with the use of Grooved Ware. The overall currency of this ceramic tradition in southern Britain, based on radiocarbon dating, falls c 3000–2000 BC (Garwood 1999, 152). Some 62 sherds from Perry Oaks have been identified as Grooved Ware, primarily on the basis of decoration and fabric. The fabric is a homogeneous grog-tempered type, classified as GR2.

Forty-one sherds of Grooved Ware, the majority of the total, came from a single feature excavated at the Northern Taxiway (GA199), pit 216009/216118 (respective secondary fills 216011 and 216120). A radiocarbon sample from pit 216009 produced a completely anomalous medieval date (sample WK9377). Additional small quantities of Grooved Ware came from six stratified contexts at the main central drying bed area (WFR98), one from Grass Area 21 (GAA00), and two from the MoLAS excavations (POK96).

This small group is significant, although a substantial assemblage of more than 500 sherds, representing approximately 12 vessels in Durrington Walls sub-style, had previously been recovered in Harmondsworth (Field and Cotton 1987). More recent fieldwork in Harmondsworth has added to this, with a further four vessels in the same sub-style from Prospect Park (Laidlaw and Mepham 1996) and a substantial assemblage of c 9.5 kg from Holloway Lane (unpublished data, MoLAS site code HL80; cf. Merriman 1990, 24–5). At the latter site, a few sherds of Peterborough

none were identified beyond the eastern cursus ditch. A rough clustering of findspots was apparent in part of the MoLAS excavations (POK96), where pottery was found in the fills of the eastern cursus ditch (most of the 31 sherds from the cursus were concentrated in this area) and within the fills of the Bronze Age field system, including the large group from ditch 961508. The identification of early Neolithic pottery within the cursus ditches has considerable implications for their dating. Most of the sherds came from secondary fills, but two were recovered from a primary fill within ditch 961501. Other sherds came from a scatter of tree-throws, including the largest group from 156191 on the southern edge of Bed A, and from pits and other features. Tree throw 156191 was the only feature with a possible *in situ* deposit, perhaps the result of deliberate middening. Other occurrences were sporadic and more likely to be residual.

Peterborough Ware

A recent programme of radiocarbon dating has established a currency for Peterborough Ware ceramics c 3400–2500 BC (Gibson and Kinnes 1997). No Peterborough Ware was recovered from the Perry Oaks excavations but it is known elsewhere at Heathrow (Grimes 1961), including the recent T5 excavations (see Vol. 2). It has also been found at a number of other excavated sites in the West London area.

Collared Urn

Collared Urns are also scarce, both on this site and generally in the West London area. None have been identified at Perry Oaks although, as noted above, undiagnostic prog-tempered body sherds in fabric GRI could belong to this tradition. Collared Urns emerged at around 2050 cal BC and lasted until c 1500 cal BC (Needham 1996, fig. 2). Reliable radiocarbon dates for Collared Urns are rare and there is insufficient evidence to demonstrate continuous development from Fensgate Ware (Gibson and Kinnes 1997; Gibson 2002, 96).

Conclusion of ceramic technology

The relative ceramic chronology at Perry Oaks allows us to discuss historical change within the following time periods:

Ceramic type

Calibrated BC

Carinated bowl	4000–3600
Undecorated Plain Bowl & decorated vessels	3600–3300
Peterborough Ware	3400–2500
Crooved Ware	3000–2000
Beaker	2400–1700
Collared Urn	2000–1500

A number of caveats must be applied in using this relative chronology. Firstly, the currency of different ceramic types is apparently overlapping—they are not *chronologically* mutually

exclusive. This overlap may be a product of the vagaries of radiocarbon dating, as discussed by several authors (eg Garwood 1999; Gibson and Kinnes 1997). Secondly, the ceramic types (particularly Peterborough Ware) cut across traditional chronological subdivisions of the Neolithic, 'earlier and later' or 'early, middle and late'. Thirdly, the chronology is based on national reviews of the ceramics and the regional and even local ceramic sequence could show significant variations.

Implications of a relative chronology for the Neolithic landscape at Perry Oaks

Having reviewed the chronological evidence from Perry Oaks, we now turn to what that evidence might mean in terms of landscape history in the 4th and 3rd millennia BC.

Cleal, in a recent paper, has described succinctly the current practice applied to chronological divisions of the early Neolithic and ceramics thus:

This focus on chronology raises a more general question of how pottery, if it could be better dated, would influence our understanding of the development of the Neolithic. At present there is not even a consensus on the terminology for describing the Neolithic period as a whole. There are two common usages, both of which are applied to the ceramics: some writers prefer a bipartite division into 'earlier' and 'later' Neolithic, the division occurring at around 3000 BC; others use a tripartite division into early (c 4000 BC to, variously, anything from c 3600–c 3300 BC),

(Cleal 2004)
After reviewing the ceramics in Wesssex and the south-west of England for the 4th millennium BC, Cleal proposed a four part regional chronology for the period. Whilst geographically removed from the Heathrow area of the Thames Valley, this scheme is worth summarising as it does offer certain parallels.

Earliest or Contact Neolithic (c 74100–3850 BC). This may have been virtually aceramic and is attested mainly by interventions in the environment which are often difficult to distinguish as Neolithic.

Early or Developing Neolithic (say c 3850–3650 cal BC). Ceramics of this phase are largely carinated, but... other forms were used alongside these, principally inflected forms and cups and small bowls, nor were the carinated forms exclusively the Classic Carinated Bowl. By 3800 cal BC, as demonstrated by the Sweet Track, an early stage of woodland management, exploitation of the Levels, ceramics, polished exotic axes and flint axes were all current, in what could be termed the earliest phase of the Neolithic to have most of the features we recognise as typical of the period. Some of the earliest long mounds may belong here, although the dating is uncertain, and there are as yet no convincingly early mounds quite this early in the south-west.

middle (variously c 3600–3300 to 3000, or 2900/2800 BC) and late.

(Cleal 2004)

volume, but it is surely no coincidence that following this event, during the currency of Plain Bowl Ware pottery, we see a sudden and extraordinary flowering of monument construction in the form of large causewayed and small circular enclosures and cursus monuments. The chart reflects the impact of the Stanwell Cursus, but also the level of tree clearance at this time. Whether this was deliberate felling or removal of dead trees (perhaps groups of dead elms) to produce glades and clearances in the forest is uncertain. These local clearances may have acted as foci for shifting settlement and agriculture, which left their mark in the form of pits excavated for domestic refuse and ritual deposits. However, it is clear that the construction of major linear monuments such as the Stanwell Cursus and the C2 Cursus would have required at least local clearance of the forest along their course. This is particularly true of the Stanwell Cursus, which deviates only slightly from a straight course over at least 3.6 km.

The chart in Figure 2.2 indicates that people made little physical impact on the landscape at Perry Oaks during the succeeding period from 3400 to 2500 BC. It is only in the late Neolithic that the adoption of Grooved Ware coincided with renewed deposition of material in pits, and the construction of new, small circular enclosures in the landscape.

No Peterborough Ware was recovered during the Perry Oaks excavations although a small amount was found during recent Framework Archaeology excavations at Terminal 5 (see Vol. 2).

Although across southern Britain as a whole there appears to be some chronological overlap between Peterborough Ware and late Neolithic Grooved Ware, in West London the two are never found in the same contexts. In this region Grooved Ware is most frequently found deposited with lithics and often with charred plant remains such as hazelnuts and crabapple pips. This may be a continuation of the ritual autumnal deposition initiated during the Peterborough Ware phase. In addition, small circular or hengiform monuments were constructed during this period, but not large henge monuments. At Perry Oaks, Grooved Ware was recovered only from a small number of pits but was not present in the H&I horseshoe enclosure.

Using the ceramic chronology described by Cleal and others—and noting the distribution of Neolithic ceramics by feature type at Perry Oaks—the chart in Figure 2.2 provides an indication of the modification of the landscape by people during the 5th and 4th millennia BC. Prior to 3600 BC there appears to have been little human activity in terms of monument construction. The decline through disease of the elm population in Greater London (the ‘elm decline’) has recently been dated to 3750 BC (Rackham and Sidel 2000, 22). The effects of the elm decline on human behaviour are outside the scope of this

As we have shown, the lithic and ceramic evidence for these early phases of the Neolithic at Perry Oaks is scarce. To all intents and purposes, the lithics are virtually indistinguishable from the latest Mesolithic and suggest a relative continuum in human inhabitation of the landscape in the late 5th and early 4th millennia BC.

‘High’ or Developed Neolithic (c 3650–3350 BC). This is the phase with features of the ‘classic’ earlier part of the Neolithic most fully developed: causewayed and ‘tor’ enclosures (and cursus) emerge here, joining long barrows, and ceramics; it also includes the origins of Peterborough Ware as part of a widespread developing pattern of impressed wares.

(Cleal 2004)

In the Heathrow area, this is the period which sees the main phase of construction of large communal monuments, such as causewayed enclosures at Yeoveny Lodge, Staines (Robertson-Mckay, 1987), Eton Wick (Ford 1986) and Runnymede (Needham and Troit 1987, 482 and fig. 2). At Perry Oaks, major elements of the C1 Stanwell Cursus and possibly the C2 Cursus were constructed.

Middle Neolithic (3350–3000/2950 cal BC). In ceramic terms this is the period in which the Peterborough tradition is fully developed and in which the bow styles of the mid-late 4th millennium BC go out of use.

(Cleal 2004)

Geographies of the Palaeolithic

The artefacts listed in Table 2.5 are our only evidence for the inhabitation of Ferry Oaks prior to the last glaciation. This is not an impressive corpus and the artefacts do not conform to any specific technological type. Indeed some question must remain as to whether they do actually represent a Palaeolithic assemblage at all. We might also note the small assemblage of flakes and a crested core recovered from the Cargo Distribution Service Site, Heathrow (Lewis in prep.), dating to 28,000–24,000 BP. These suggest low intensity inhabitation of a periglacial steppe landscape, just prior to the onset of another epoch of glaciation proper.

We pick up the Heathrow narrative circa 10,000 BC, when steppe tundra conditions once more prevailed. No evidence was recovered from the Ferry Oaks excavations but other sites in the Colne Valley system, notably Church Lammas (Jones 1995) and Three Ways Wharf, Uxbridge (Lewis 1991; Lewis *et al.* 1992; Lewis in prep.),

furnish us with analogues for the kind of inhabitation we might expect in the immediate area. Upper-Palaeolithic long-blade lithic technology used by the first reindeer hunters to re-colonise major river courses from a North Sea Basin that was dry and habitable at that time. It is perhaps unsurprising that we have retrieved no long-blades from Heathrow, as these hunting bands were probably merely passing through the area, following the migrating herds that were most populous in the valley networks. As such, these people would have had little material need to venture up on to the terrace.

The second phase of the site at Three Ways Wharf is set against a very different material backdrop to the first. This is evident from the pollen data (Lewis *et al.* 1992), which places the site in a Holocene/Boreal environment: a sedge/red swamp populated by pine, oak, hazel, birch and elm. The faunal remains recovered from this site included red and roe deer—sylvan species suited to such an ecology, as well as swan. The people

who hunted these animals had adapted their technologies and inhabitation strategies to suit their needs and to the local ecology. They probably restricted their movements to smaller territories than their reindeer-hunting predecessors and were, as such, the first post-glacial residents of the Heathrow landscape. It is now that we can start to talk about the Mesolithic, a period archaeologists identify from the microlithic toolkits people fashioned into the composite tools with which they carved out a world in wood, hide and horn.

Mesolithic / earlier Neolithic geographies

The Mesolithic period at Ferry Oaks is characterised by geological and topographical features, a small number of cut features and a number of lithic scatters that occurred across a wide area as a residual component within later deposits (see Figs 2.3–4 and below).

Table 2.6 shows features dated to the Mesolithic period, between 8500 and 4000 BC. The majority

Site code	Bed	Context no.	Object no.	Object	Object description
WPR98		100000		Aw1	Thermal fragment with possible retouch creating spur. Poor condition.
GA199	1A	216040	4020	Tertiary flake 0%	Large, broad secondary flake in extremely poor condition. Very heavily rolled, iron-stained and damaged. May be Palaeolithic.
WPR98		100000	444	Secondary flake 1-74%	Secondary flake in very poor condition. With heavy cortication and deep surface iron-staining. Possibly an axe-trimming flake?
WPR98		100000	3531	Axe/adze	Small handaxe, bifacially worked. Very rolled and corticated. Found in a land drain.
GA199	1B	214009	4019	Other scraper	Scraper made on a non-flake blank. Irregular, elongated thermal fragment with some abrupt scraper retouch to one end, c 30mm. Further small area of retouch to one of the longer edges, c 12mm, forming small notch, for hafting? Condition (rolled, iron-stained) suggests Palaeolithic.

Table 2.5: Palaeolithic finds from Heathrow

Total flint assemblage by date

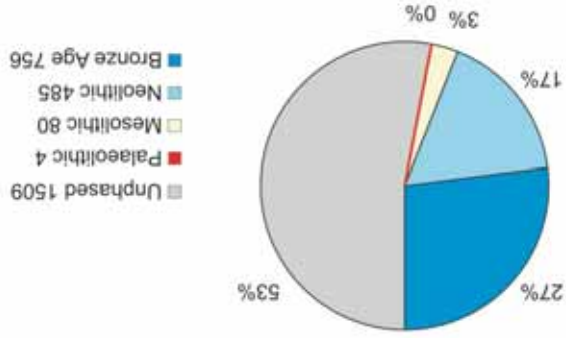
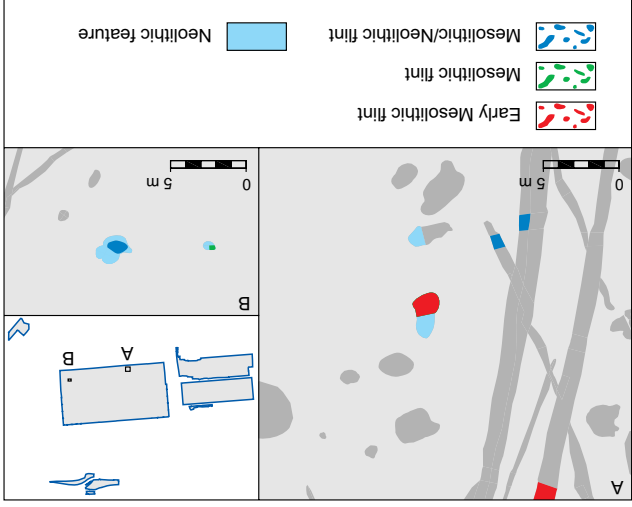


Table 2.6: Mesolithic Features from Perry Oaks

Feature interpretation	Feature
Natural feature	961540
Pit	120028
Pit	122084
Pit	137021
Pit	160021
Pit	162010
Pit	165005
Pit	165005
Pit	165007
Pit	165009
Pit	178054
Tree-throw	120072
Tree-throw	122086
Tree-throw	163135
Tree-throw	172081



Figure 2.3: Quantity and distribution of Mesolithic and Mesolithic/earlier Neolithic flint



Chronology and distribution of Mesolithic activity

Distribution maps of the Colne Valley and Heathrow area (eg Lewis *et al.* 1992, 236; MOLAS 2000, map 2) display a series of Mesolithic findspots largely preserved below the alluvium of the River Colne. These sites, such as Three Ways Wharf, are often restricted to small areas (eg 100 sq m) and have little time depth, often encompassing only single episodes of inhabita-

years of post-depositional movement through agricultural and other processes. A single Mesolithic flint *could* be all that remains of an erstwhile scatter and several flints in close proximity increase the likelihood that a scatter was once located in the vicinity.

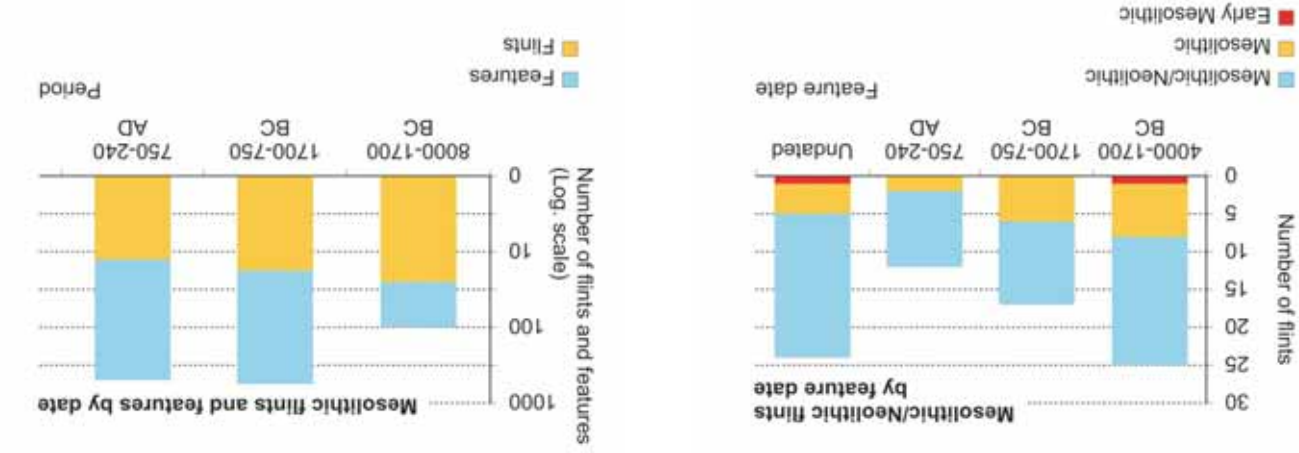


Figure 2.4: Mesolithic and Mesolithic/Neolithic flints by feature type and date

or strategies (eg test-pitting or field walking) to recover this material from the ploughsoil, landscape studies in the Neolithic [and presumably the Mesolithic] are of limited value' (2004, 84). We would contend that it is the sort of questions and scale of analysis of the landscape that are the most important factors when considering lithic material. We would also contend that in some ways, lithic material which resides in later contexts can provide as precise a guide to activity locations as material collected from the ploughsoil by fieldwalking (see Fig. 2.4). Consider Neolithic flintwork residing in the middle 2nd millennium BC ditches of the field system. The excavation of those ditches took place perhaps 1500 years after the activity which left the lithic material, and locked those artefacts into the 2nd millennium soil would have been subjected to a further 3500

are pits containing burnt flint within the C1 Stanwell Cursus and dated by thermoluminescence. Some tree-throws have been assigned a Mesolithic date on the basis of stratigraphic relationships with Neolithic features, while some deposits contained only typologically dated Mesolithic flints. Only six diagnostic Mesolithic flints were recovered from deposits dated to the Mesolithic on the basis of stratigraphy or absolute dating. The vast majority of the remainder were recovered from deposits within later features, and it is those that we will deal with next.

The sudge works had removed all traces of the original ploughsoil, which in rural locations could be expected to contain lithic material derived from prehistoric flint scatters. Allen *et al.* have stated that without adequate preservation

- The data may represent chronologically short or closely grouped activity that is either entirely Mesolithic or entirely earlier Neolithic in date. If the former, then a case could still be made for continuity of place from the later Mesolithic into the 4th millennium BC. If the latter, then two further possibilities emerge. We could either be witnessing activity predating Neolithic monument construction dating to about 4000 BC to 3600 BC, or else activity associated with monument construction from 3600 to 3300 BC.

In actuality, the lithic data could have been generated by a combination of all these scenarios. The chronological problems of this data can be shown by looking at certain concentrations of flintwork in the landscape, as illustrated by the plan in Figure 2.4.

Two other concentrations of Mesolithic and/or Mesolithic/Neolithic flintwork were recovered adjacent to and within the C1 Stanwell Cursus and the small 'horseshoe' enclosure (HE1). The importance of place from the middle of the 7th millennium BC to the construction of the Stanwell Cursus in the middle of the 4th millennium BC. This is discussed in more detail below.

Mesolithic activity. But this does not mean that we cannot write the Mesolithic into a history of the landscape as a whole. The Mesolithic landscape as it has been defined at Heathrow (see above), consists of scatters of predominantly lithic material distributed over an extensive landscape. Archaeological analysis traditionally treats such material either at the scale of activity cluster or at the regional level (ie analysis of activity within a flint scatter of 100 square m, or as dots on the distribution map). The analysis in this volume will be at the local level of the Perry Oaks site and surrounding topography.

The problems of lithic chronology (the small number of datable lithics and the residual context of the majority in later features) have been discussed above. What can we say of this data that has historical meaning? Firstly, the lithic material attests to a human presence on the Heathrow plateau between 10,000 BC and 3000 BC. The assemblage is too small to allow particular activities to be defined and the blurred chronology leaves us with several different interpretations of the data. These may be summarised as follows:

- The lithic data may indicate repeated activity at (and therefore the continued importance of) certain locations in the landscape from the late Mesolithic through to the earlier Neolithic. We may be witnessing how the meanings and uses of these locations changed and were embellished architecturally from c 6500 BC to c 3300 BC.

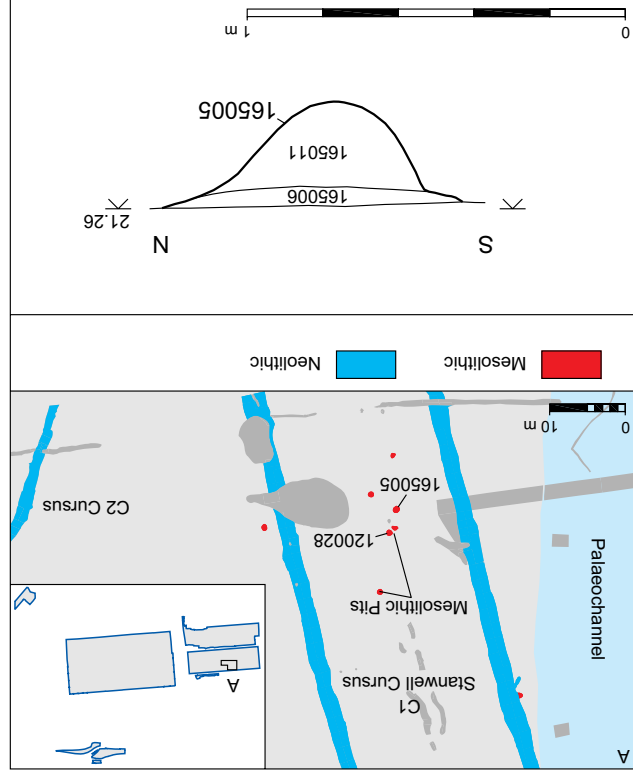


Figure 2.5: Mesolithic pits under the C1 Stanwell Cursus

tion. They provide us with a detailed record of short-lived inhabitation episodes and allow us to describe and distinguish types of activity in rarely afford us a history, in the sense that they do not provide us with the means to link these discrete places and temporalities into coherent narrative sequences.

In contrast, the Heathrow terrace, and indeed anywhere in Greater London outside the main

Continuity of place: From late Mesolithic pits to the Stanwell Cursus

Prior to the construction of the C1 Stanwell Cursus, a small stream flowed north-south across the western part of the Perry Oaks excavations, now marked by the remains of a palaeochannel (see Figs 2.1 and 2.5). This area is known to have been wet in the later Neolithic, as spores of *Sphagnum* moss were detected in a core sample from pit 150011 that had been dug mid-way through the cursus ditch fill sequence. This is the only obvious source of surface water to have been detected in this part of the landscape, however, no finds were recovered from the fills of the palaeochannel, and no material suitable for radiocarbon dating was present. The watercourse flowed on the edge of the Colne floodplain, along which the Stanwell Cursus would later be constructed. At one point the alignment of the watercourse changed, following the topography westwards into the floodplain. This may have influenced the alignment of the C2 Cursus and established its general SW-NE trajectory. To the west of the C1 Cursus, the stream is well defined, having cut alluvial deposits of the Colne. Adjacent to the stream, in the area that would later be sealed under the Stanwell Cursus bank, eight small pits were dug (Fig. 2.5; Plates 2.1-2). These were filled with burnt flint and stone and a few pieces of worked flint (Fig. 2.6), with the pits were dated by thermoluminescence to the mid 7th millennium BC. The absence of burnt flint from the adjacent stream channel suggests

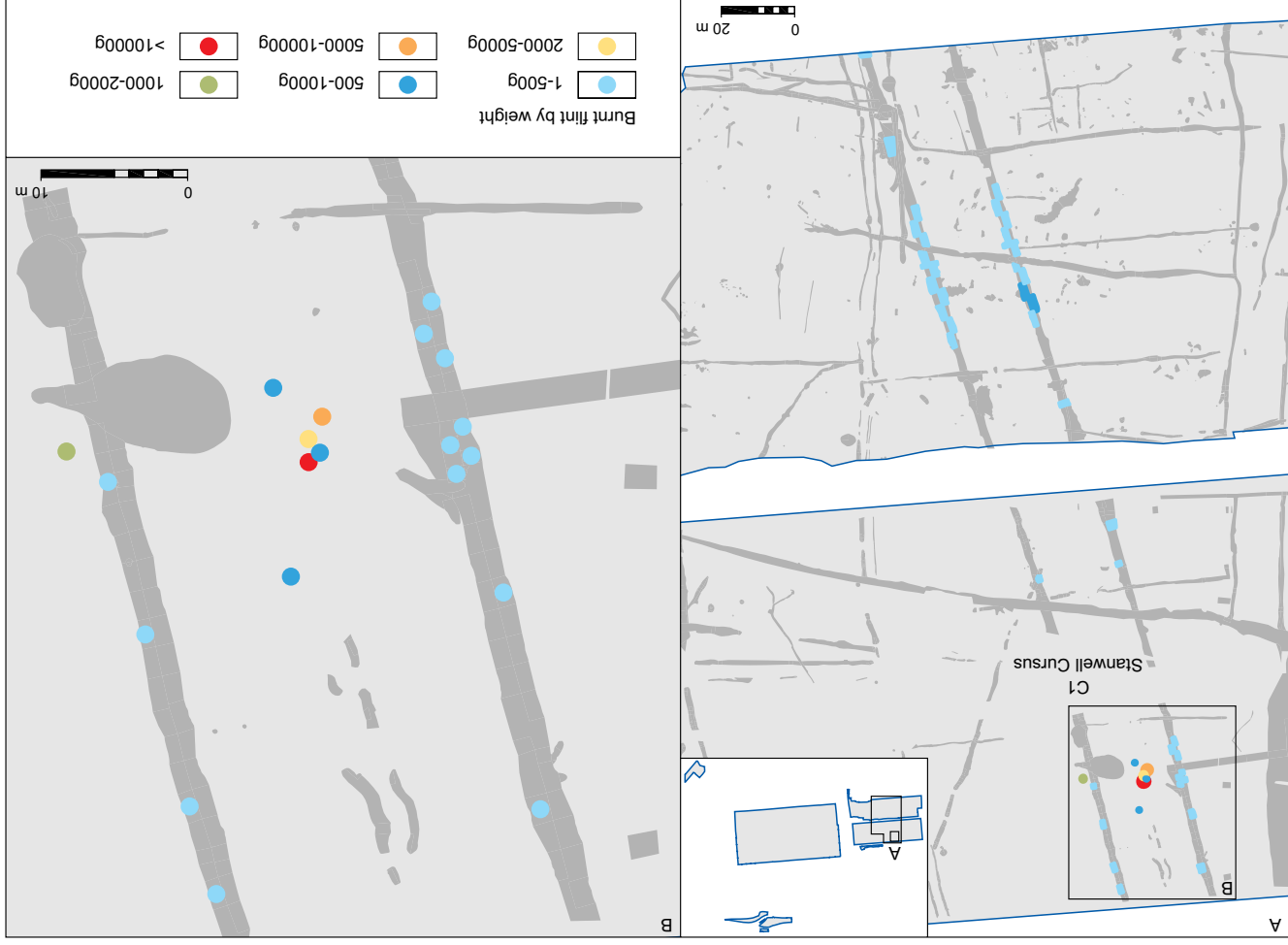


Figure 2.6: Burnt flint distribution and density in Mesolithic pits and C1 Stanwell Cursus ditches

that this had silted up by the middle of the 7th millennium BC. The small assemblages of flint from the pits were undiagnostic and in an extremely poor condition. Almost without exception, the flakes appeared to be heavily rolled and glossed, often exhibiting a considerable degree of post-depositional edge-damage. Given the condition of the material and the lack of diagnostic traits, it is probable that they represent residual material incorporated into the fill of later features.

A small cluster of Mesolithic/earlier Neolithic flint work occurred in the ditches of the Stanwell Cursus in the area adjacent to the Mesolithic pits. However, it was impossible to distinguish if the majority of this material was contemporary with the 7th millennium pits or with the construction and use of the C1 Cursus in the 4th millennium BC. Only a burin from the western cursus ditch was typically Mesolithic.

It is impossible to establish whether the pit digging was a single event of the Mesolithic or whether it took place episodically, but the consistency in form of the pits suggests the former. The location was probably somehow marked, whether by distinctive vegetation in the form of a clearing, topographically by their proximity to the stream channel or by a man-made feature such as a midden. The distribution



Plate 2.1: View from C1 Cursus ditch looking towards the Mesolithic pits

of burnt flint in the Stanwell Cursus ditches adjacent to the pits (Fig. 2.6) suggests that whatever activity was undertaken here, the residues were originally more widespread, perhaps covering an area 30 m in diameter. The low density of burnt flint in the cursus ditches to the north and south of this location demonstrates that this activity was very localised. No comparable features have been detected anywhere else at Ferry Oaks, and perhaps the break in slope between the Colne floodplain and the Taplow terrace formed a traditional routeway through the landscape, presenting a cleared or convenient route through flanking forest.

Both the specific distribution of the pits and the close focus on one place in the landscape, implies that a certain awareness had dictated some highly structured activity. Slight though these remains are, their significance lies in the fact that in the 7th millennium BC, a community had marked a significant place in the landscape by digging into the surface of the earth, piling up the residue and filling the void with culturally derived material. These activities had now become incorporated in the permanence of the place.

The practice of breaking the ground and processing the earth in a way that explicitly realised human intent, operating within a structure defined by the natural topography and a geography of cleared pathways and places, was to give rise to the inscription of a monumental landscape that pre-figures the Neolithic.



Plate 2.2: Mesolithic pits 120028, 160021 and possible Mesolithic pit 159025

We have seen how, during the 7th millennium BC, one location was marked by a distinctive pattern of activities. We have previously seen that other parts of the landscape contained lithic residues that also indicate activity sites during the Mesolithic/earlier Neolithic. When we consider the construction of the C1 Stanwell Cursus in the 4th millennium BC, we will show how it came to incorporate the location of the Mesolithic burnt flints, and how the residual meaning attached to that location was transformed into something new.

Monumentality and the architectural transformation of the landscape in the 4th and 3rd millennia BC

In previous sections we have described how

human activity took place at various locations around the Heathrow landscape from the early Holocene to the early centuries of the 4th millennium BC. We have shown that the dating of the lithic assemblages means that our understanding of historical change is limited. With one or two exceptions, our crude datasets do not allow a fine resolution of human activity at particular places

and times. However, we have been able to demonstrate that the first visible architectural modification of a specific location in the landscape occurred in the middle of the 7th millennium BC with a series of pits containing burnt flint.

We have argued that as a result of the activities undertaken at this point, the location gained an importance which may have lasted for centuries if not longer. We have also suggested that this also occurred at certain other locations in the landscape which saw the deposition of Mesolithic

and/ or Mesolithic / Neolithic flintwork.

In this section, we will look at how these places

were marked, embellished and finally transformed in the 4th and 3rd millennia BC, through the use of architecture in the form of ditches, banks and standing-post structures. This architectural transformation, which we know as monumentality, is one of the key elements along with the adoption of ceramic and novel lithic technologies and the use of domesticated animal and plant species, of a period which we understand as the Neolithic.

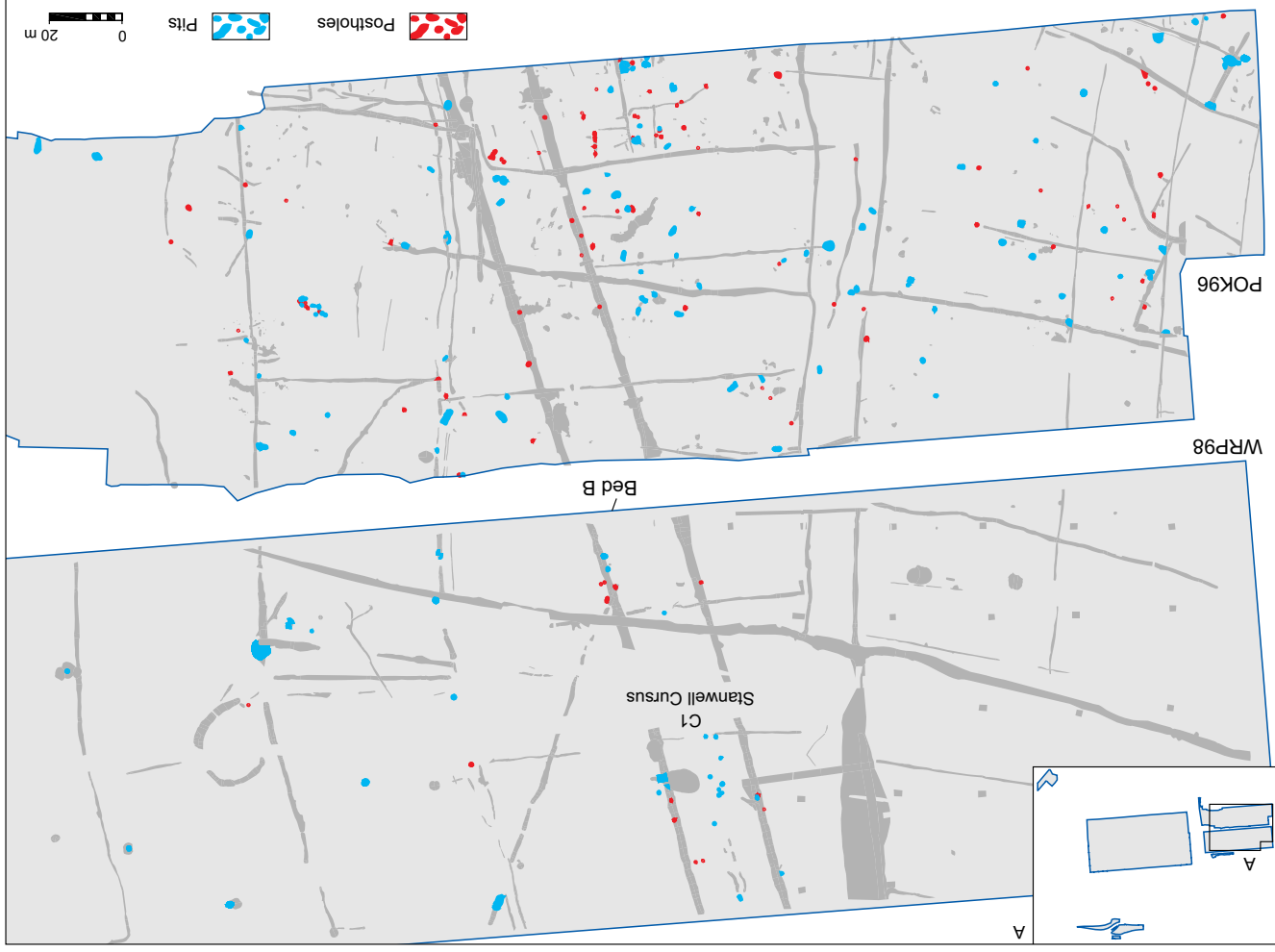


Figure 2.7: All pits and postholes around the C1 Stanwell Cursus

Firstly, we will examine a series of postholes and pits which predate the C1 Stanwell Cursus and show how particular locations of social importance became marked by architectural and physical means. Secondly, we will study the two cursus monuments excavated at Ferry Oaks, and compare their construction, development, and possible use. We will then move on to the small sub-circular monument, the horseshoe enclosure, and show how this served to demarcate locations

which were used at particular times of the year for ceremonies, and how the cursus monuments served to link these locations together.

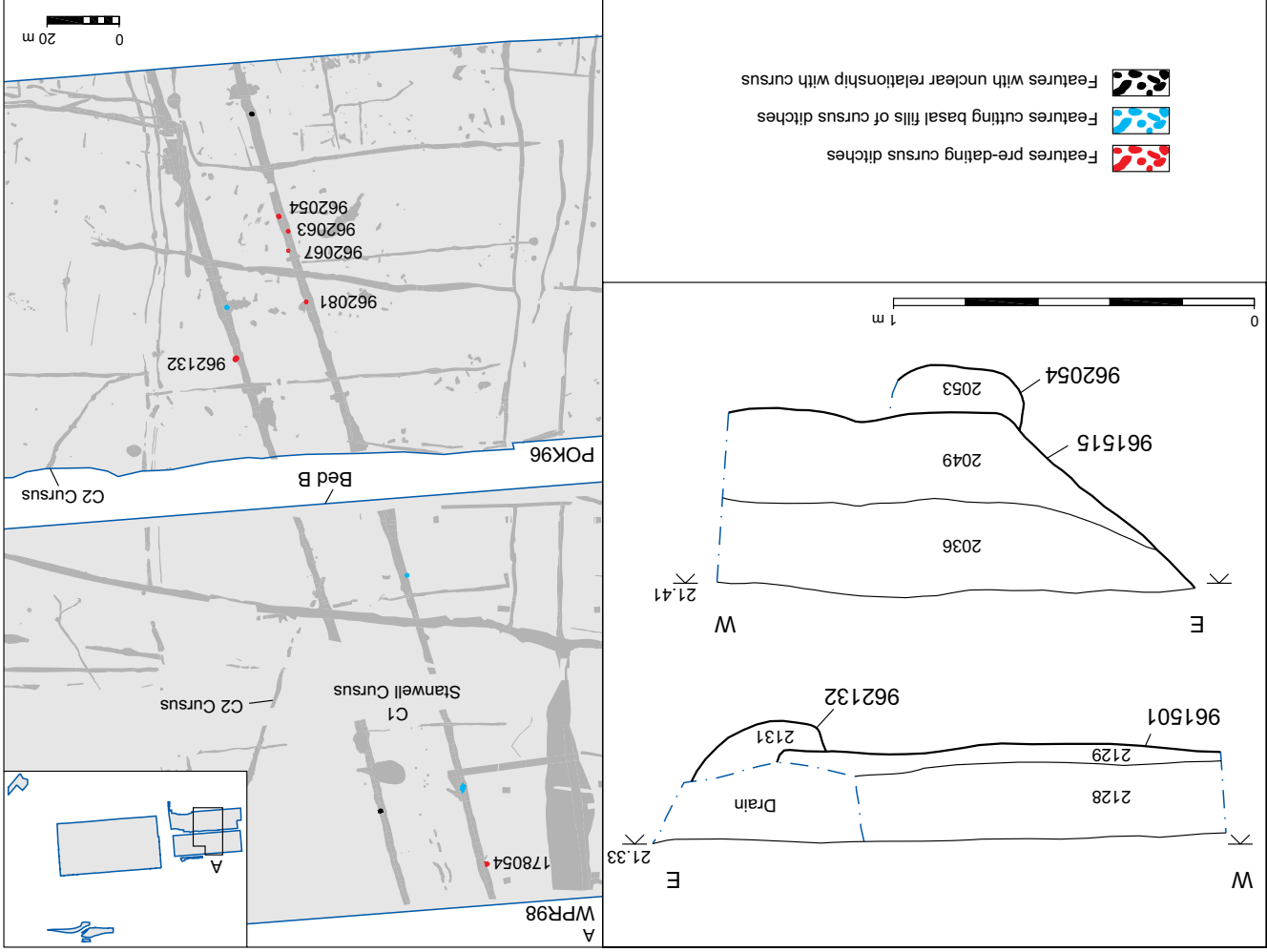
Activity predating the C1 Stanwell Cursus

We have already discussed the 7th millennium BC pit complex and shown how this location became overwritten by the C1 Stanwell Cursus 3000 years later. Figure 2.7 shows that the western area of the site, POK96 in particular, contained many small pits and postholes, the majority undated and some post-dating the middle of the 2nd millennium BC. A few features, however, contained burnt or struck flint, although problems of residuality make it impossible to say whether any of these features were associated with late Mesolithic or Neolithic pre-cursus activity. One exception is a handful of postholes which were stratigraphically related to the C1 Cursus ditches (Fig. 2.8).

A pit (178054) and five postholes (962132 962063, 962054, 962067 and 962081) can with some confidence be shown to predate the cursus, although none had any dating (Fig. 2.8). Pit 178054 lies at the extreme north of the site and may be associated with the adjacent mid 7th millennium BC burnt flint pit complex. The remainder of the features were clustered south of the junction of the C1 and C2 Cursus, and only one (962132) was located in the eastern C1 ditch. Only two of the section drawings demonstrate the stratigraphic relationship with the cursus (Fig. 2.8). These features vary in size, and some

could have supported substantial timbers when the effects of ground level truncation are considered. Posthole 962054, for example, was 0.5 m in diameter.

Figure 2.8: Postholes and pits with stratigraphic associations with the C1 Stanwell Cursus



The function and date of these postholes is unknown. They may date to the later Mesolithic and be associated with the burnt flint pit complex to the north. They may thus have been similar to

the early Mesolithic "totem pole" like structures at Stonehenge (Allen 1995, 471). Alternatively, they may have formed part of a pre-cursus Neolithic timber monument, possibly a post 'screen' or facade. They may even have been associated with the construction of the C1 Cursus. The important point is that they represent the construction of some sort of structure at a location along the interface between the Colne floodplain and the Heathrow Terrace. Together with the burnt flint complex, it demonstrates how these sites formed a string of locations along this axial border and how subsequently people felt compelled to physically link those sites together with the construction of the C1 Cursus, turning it into a monumental pathway.

C1 Stanwell Cursus

The history of investigation

The Stanwell Cursus was first recognised from cropmarks on aerial photographs (see Chapter 1, Fig. 1.1). Excavation of a length of the cursus to the south of Perry Oaks conclusively proved that the twin parallel ditches were stratigraphically earlier than a Bronze Age field system, and that the few finds contained within their fills dated to the Neolithic (O'Connell 1990). Although the monument was now recognised as being a Neolithic cursus, its exact architectural form was unclear. O'Connell (ibid., 33) favoured a central mound between the two ditches rather than the more common twin banks adjacent to the ditches (Plate 2.3).

Location and orientation

The location and orientation have been discussed in some detail elsewhere (O'Connell 1990) and will only be summarised here.

Cropmarks indicate that the monument ran for at least 3.6 km from the Colne Valley in the north-west to Stanwell in the south-east. The northern terminal was apparently rounded in plan before destruction through gravel extraction and lay

Plate 2.3: Excavation of the C1 Stanwell Cursus looking north



close to the Bigley Ditch, an arm of the Colne Valley which originally formed part of the Middlesex county boundary. The southern terminal was destroyed beneath the housing of Stanwell, but it is likely that it lay close to the marked topographic break in slope caused by the boundary of the Taplow and Kempton Park gravel terraces. The cursus runs along and almost defines the 22 m contour that separates the Colne Valley floodplain from the Heathrow Terrace.

Excavations at Perry Oaks in 1996 (POK96) and 1999 (WPR98) confirmed that the Stanwell Cursus consisted of two parallel ditches between 20.5 and 22 m apart, the spoil from which was used to construct a single central bank. The width and depth of the ditches will be explored in more detail below, but they averaged c 2.6 m wide and between 0.20 m and 0.5 m deep. The evidence for a central bank takes two forms.

Firstly, it is clear from Figure 2.9 that the middle Bronze Age field system ditches which cross the cursus become shallower and narrower as they cross the central part of the monument. In some places they actually stop just inside the cursus ditches. Perhaps the best example is middle Bronze Age ditch 962363, which has a distinctive hourglass plan as it crosses the central cursus area. Sections across these 2nd millennium BC ditches confirmed that they became much shallower between the two cursus ditches (Fig. 2.9), as they were dug across an already decayed central bank. The sections excavated across these ditches suggest that by the middle of the 2nd millennium BC the cursus bank was c 13 m wide and at least c 0.23 m high.

Form

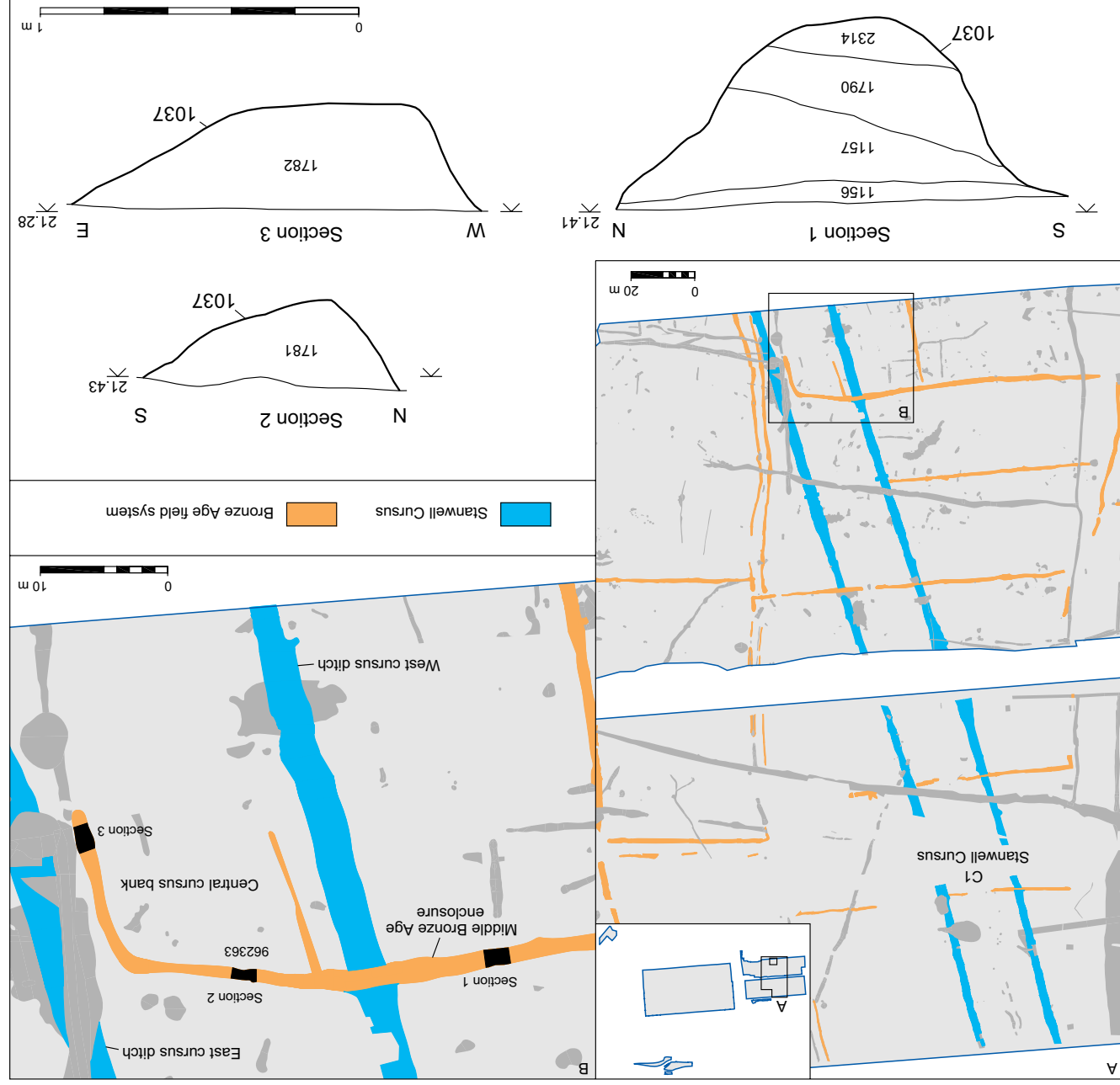


Figure 2.9: The Stanwell C1 Cursus in relation to the Bronze Age field system

The second piece of evidence for a central cursus bank comes from the Air Ministry survey of Heathrow undertaken in 1943. Whilst the surveyors did not notice a remnant bank at the time, the digitisation and processing of the survey data for this project revealed the presence of just such a feature coincident with the cursus cropmarks, running from Stanwell and terminating just to the south of Burrows Hill, immediately south of Perry Oaks. At the time of the 1943 survey, the broad remnant bank was c 0.20 m high and c 30 m wide, and it was this that led originally to the identification of the cursus as a Roman road.

Classification

Throughout this report, we have continued to refer to the Stanwell monument as a cursus, whilst others have started to refer to it as a bank-barrow. We continue to refer to it as a cursus for two main reasons. Firstly, the English Heritage Monument Protection Programme monument class description definition of bank-barrows states, 'Specifically excluded from the class of bank barrows are cursus that have a central bank'. The term 'barrow' has funerary connotations which none of the excavations of the Stanwell Cursus have yet suggested. However, the Stanwell-type cursus with its long central bank is clearly architecturally different from most cursus monuments, which generally have two banks and external ditches. The central-bank cursus is widely distributed, with other examples being found as far apart as Scorton in Yorkshire (Harding 1999) and Cleaven Dyke in Perthshire (Barclay and Maxwell 1998).

Table 2.7: Neolithic Ceramic assemblage from the C1 Stanwell Cursus

Intervention	SG number	Stratigraphic order	East or west ditch	Fabric type	Ceramic tradition	No. of objects (g)	Weight (g)
230326	230336	Top	E	FL4	Plain Bowl Ware	1	1
230329	230336	Top	E	FL4	Plain Bowl Ware	2	5
230328	230336	Top	E	FL4	Plain Bowl Ware	2	2
133016	134033	Top	E	GR1	early Bronze Age Grog tempered	2	2
133016	134033	Top	E	FL4	Plain Bowl Ware	1	2
230327	230335	Middle	E	FL4	Plain Bowl Ware	4	2
230329	230335	Middle	E	FL4	Plain Bowl Ware	4	8
133016	134032	Middle	E	FL4	Plain Bowl Ware	1	5
230333	230334	Basal	E	FL4	Plain Bowl Ware	2	7
229242	230334	Basal	E	FL4	Plain Bowl Ware	2	4
157188	128029	Basal	W	FL4	Plain Bowl Ware	2	25
Totals						23	63

The exact terminology and classification of these monuments is outside our scope, and to us, it does not matter. This is our second reason for continuing to call it a cursus: we are clear that the architecture of the C1 Stanwell and C2 Cursus at Perry Oaks was radically different. We are also clear that this difference reflected the variable responses to the structural principles that existed at different times in the late 4th millennium BC. Thus to us, whether these monuments are called cursus, bank-barrows or long mounds is irrelevant; they are simply labels.

When was the C1 Stanwell Cursus built?

Cursus monuments have traditionally proved very difficult to date accurately, due to the general paucity of artefactual material in their ditches. Recent work on dating cursus monuments has concluded that they were built between 3640–3380 cal BC and 3260–2920 cal BC (see above) may also be of this date or earlier.

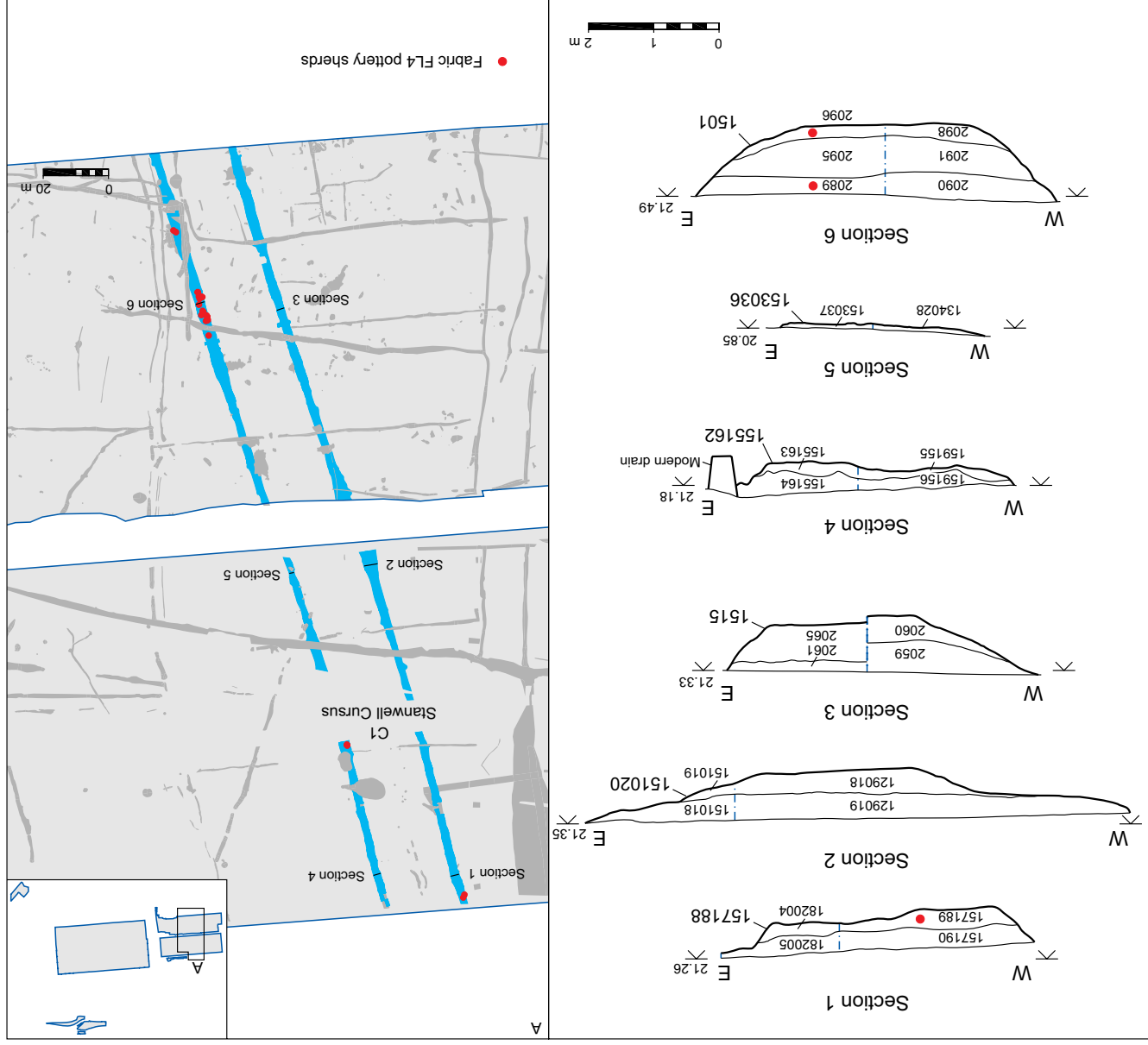
(Barclay and Bayliss 1999, 24). However, we have already made the point that the Stanwell Cursus belongs to a class of monuments with radically different architecture to traditional cursus, and therefore chronological parallels with these monuments must be viewed with caution. None of the samples of organic material from the C1 Stanwell Cursus submitted for radiocarbon determination produced a result (see above), and thus we are reliant on the relative chronology provided by pottery and flintwork from the ditch fills. Based on radiocarbon dates on comparable pottery from other sites, it would appear that the Stanwell Cursus was built sometime between 3600 and 3300 BC. However, before examining in detail the implications of this material, it is worth exploring an alternative hypothesis. That is, that the Stanwell monument could have been constructed in the 5th millennium BC, and the timber postholes which predate the cursus ditches (see above) may also be of this date or earlier.

For instance, there is now good evidence for early Mesolithic 'totem pole' like structures at Stonehenge (Allen 1995, 471). Unfortunately, in the absence of radiocarbon dates from the lowest fills of the Stanwell Cursus, we are reliant on ceramic material for dating, which suggests a mid to late 4th millennium BC date.

Before turning to ceramics and relative chronology, it is worth remembering that the wide berm (ledge/path) prevented any bank material entering the ditches, the fill sequence of which suggests a natural process of siltting with no deliberate back filling, at least within the segment excavated in WPR98 (the T5 segments to the south were somewhat different; see Vol. 2). The natural siltting of cursus ditches in general has been contrasted with the deliberate backfilling of many other contemporary monuments (Harding 1999, 34), and they can therefore be taken to provide a reliable stratigraphic succession against which the ceramic assemblage can be viewed.

It is worth acknowledging, however, that the cursus ditches contain intrusive pottery from later periods (see above). Most of this later pottery was recovered from locations adjacent to the points where 2nd millennium BC or medieval features cut the cursus and so intrusion can be easily explained. Even the two small sherds of grog tempered early Bronze Age pottery were recovered from a section of the cursus cut by a small gully and could therefore be intrusive. The Neolithic ceramic assemblage, discounting these later contaminants and arranged by west or east ditch and stratigraphic order, is presented in

Figure 2.10: Distribution of Fabric FL4 pottery within the C1 Stanwell Cursus



Category	Sub-category			East ditch Top	East ditch Middle	East ditch Basal	West ditch Top	West ditch Middle	West ditch Basal	Other	Total
	Flake/broken flake	Primary flake	Secondary flake								
Flake/broken flake	14	43	33	5	4	1	1	1	2	4	1
	1	1	1	1	1	1	1	1	1	1	1
	4	33	11	1	1	1	2	2	1	1	4
	1	1	1	1	1	1	1	1	1	1	1
	1	6	4	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Flake/broken blade	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Blade/broken blade	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Thinning/sharpening flake	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Spall	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Core/core fragment	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Nodule	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Retouched flake/blade	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Scraper	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Serrated/denticulate	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Knife	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
Total	14	43	33	5	4	1	1	1	2	4	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1

Table 2.8: C1 Stanwell Cursus lithic assemblage

Table 2.7. It shows that the Plain Bowl Ware fabric FL4 occurs throughout the fills, with a slight concentration in one area of the eastern ditch (Fig. 2.10).

The later excavations at Heathrow Terminal 5 (T5) have produced larger sherds of plain undecorated Neolithic pottery of this date from the cursus, 874 m to the north of Perry Oaks. Conversely, the T5 excavations also produced Peterborough Ware pottery from the higher fills of the C1 Cursus, 860 m further south along the course of the monument. Peterborough Ware sherds were also retrieved from the upper fills of the cursus during excavations by O'Connell immediately to the south of the T5 site (Cotton 1990, 28-9).

As outlined earlier, if we rely on ceramics to provide a relative chronology, this would mean that the cursus was constructed sometime between 3650 and 3350 BC. The presence of abraded Peterborough Ware in the upper fills would suggest that these were accumulating, or

perhaps parts of the cursus were re-worked, sometime between 3400 and 2500 BC. The lithic evidence broadly agrees with this, but is less precise than the ceramic evidence. Analysis of the flint from the C1 Cursus is summarised in Table 2.8 and as follows:

A total of 158 struck flints and 883 pieces (4352 g) of burnt unworked flint were recovered from various interventions along the length of the two ditches that compose the C1 Stanwell Cursus. The material is in fresh condition and is mostly uncut. The

The function of the C1 Stanwell Cursus

In the recent publication arising from a session of The Neolithic Studies Group that specifically set out to explore the cursus phenomenon (Barclay and Harding 1999), a number of interpretations concerning cursus monuments were offered. Negotiating a line between the various theoretical positions, outlined in the introductory chapter of this volume, the position taken here concerning the cursus monuments at Heathrow can be summed up as follows:

- They were arenas for the production of explicit knowledge.
- They were constructed in the early Neolithic but their existence was acknowledged into the later Neolithic and their use in some form continued.
- They reinterpreted a Mesolithic geography, thereby reinterpreting subtleties of the local topography and hydrology.
- They represented an axial and connective focus within the wider monumental landscape.
- They had long histories of development. The construction of the monuments was probably at least as important as their continued use.
- They were associated with the rivers and may have metaphorically embodied or acknowledged them.

up-profile (Bates, Figures 4 and 6). Infilling of the central section of the eastern ditch (155165) suggests differing patterns of infilling dominated here.

The peaks of values for both magnetic susceptibility and organic content within the eastern ditch (Bates Figures 7 and 8) suggest variation in the nature of patterns of sedimentation and the possibility that a phase of stability exists within the middle part of the profile (thus implying a period of ditch fill stability and cessation of infilling – this may be reflected in the age distribution of finds from the uppermost fills being considerably later than the assumed age for the early fills).

The construction of the C1 Cursus between 3600 and 3300 BC took place at the same time as the construction of other ceremonial monuments in the Middle Thames Valley and nationally. In the West London area the C1 (and, as we will suggest, the C2) Cursus was contemporary with the Thameside causewayed enclosure complexes such as Yeoveney Lodge, Staines (Robertson-Mckay 1987), Eton Wick (Ford 1986) and Dorney (Needham and Troit 1987).

What drove people to build these monuments at this time? If we accept that the architecture of the cursus monument reflects its various uses, then a detailed study of its original form, how it was built and how many people might have built it may allow us to partially understand some of the historical processes that led to the monumentalisation of the landscape.

flintwork probably dates mainly to the later Neolithic or Bronze Age, although a small residual component was also isolated. This element probably dates to the Mesolithic or early Neolithic period, and includes a burin, an axe-thinning flake and a number of blades/bladelike flakes.

In terms of their vertical distribution, the majority of struck flints occurred in the upper ditch deposits. The basal fills contained just over 20% of the material, compared to 42% and 38% in the middle and upper fills respectively. The distribution is consistent with the assertion that the uppermost fills of the ditch were laid down in the later Neolithic and early Bronze Age. An analysis of the condition of the flintwork, however, showed no distributional patterning. Pieces in poor condition were scattered throughout the deposits and, as such, do not contribute to the discussion of the chronological development of the ditch fills.

(Cramp, CD Section 3)

- With regards the sedimentary processes that led to the filling of the C1 Stanwell Cursus ditches, Bates (CD Section 14) makes the following observations:
 - The magnetic susceptibility determinations from the western ditch fills..... perhaps indicates gradual, slow and continual accumulation of sediment.
 - Infilling of the eastern ditch suggests that progressive infilling of the feature resulted from a winnowing out of the finer elements of the bedrock, and their subsequent deposition as ditch fills, and a decrease in gravel content

- In conjunction with the other monuments of the terrace, they may have been used as foci of mediation with the ancestors and a parallel metaphysical world.

- They may have embodied a cultural core that expressed group identity but was not overly concerned with demarcating territory.

- They united communities, landscapes and histories.

- They were socially and politically significant locations, serving as arenas of social contestation within which social equilibrium could be negotiated and groups or individuals could acquire increased power and status.

- They were not obviously exclusive in the same sense as the monuments of Wessex. They had an open form, accessible as theatres for the performances of the living or conduits of the dead.

The linking of locations by the C1 Stanwell Cursus

In plan the Stanwell Cursus is remarkably straight, although some minor deviation has been noticed (O'Connell 1990, 9). We propose that the cursus was constructed along a pre-existing pathway of great antiquity to physically link and tie together numerous important places along the route such as the timber post alignment and the remnants of the 7th millennium midden and pits (see above). The Dorset Cursus

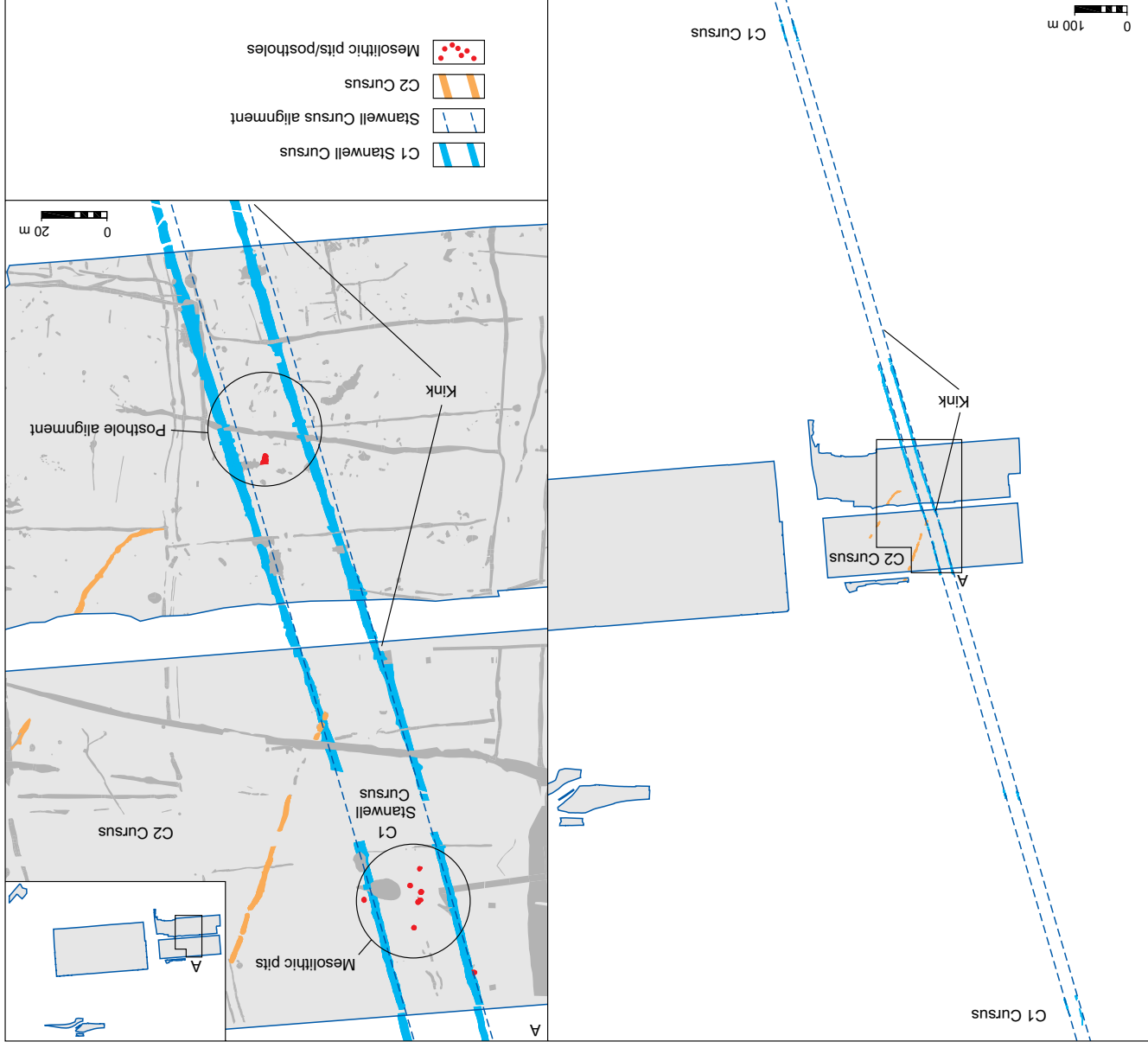


Figure 2.11: The C1 Stanwell Cursus linking earlier locations of importance

on average 0.40 m to 0.60 m deeper when dug in the 4th millennium BC than when excavated in 1999. When the depth is measured from the 1943 ground surface, the eastern ditch varied in depth between 0.65 m and 0.95 m, with the majority of the length varying between 0.70 m and 0.82 m. The western ditch varied between 1.3 m and 0.62 m deep, but was more variable in depth within this range than the eastern ditch. Excavations at Terminal 5 have subsequently shown that the cursus ditches become deeper to the north and south of the Perry Oaks excavations (see Vol. 2). Further south, O'Connell (1990) recorded several sections through the cursus ditches as up to c. 1.80 m deep from the 1980s ground surface, which had not changed greatly since 1943.

In order to attempt to recreate the architecture of the cursus as originally constructed, the volume of spoil excavated from various lengths of each of the ditches was calculated. This was done by comparing cross sections along the monument, both from the WPR98 and O'Connell excavations (O'Connell 1990, figs 7, 16 & 17), and working out their cross-sectional area. It soon became apparent that the profiles of the ditches were generally very uniform, so uniform in fact that a chart could be plotted and an equation calculated to produce the cross sectional area of a cursus ditch for any given depth from the 1943 ground surface (Fig. 2.12).

The regularity in spacing of the Stanwell Cursus ditches and the straightness of their alignment over 3.6 km has been remarked upon many times. The ability to produce such a chart relating to

decades at most. The T5 excavations have revealed a complex history of back-filling and re-cutting over parts of the cursus, and these re-workings may have spanned centuries (see Vol. 2). However, they are re-workings within the template of the original layout, not extensions or additions.

What did the C1 Stanwell Cursus originally look like?

By the time the Stanwell Cursus was excavated at Perry Oaks in 1999, nothing survived of the remnant central bank. In order to understand the constructional history of the cursus and its architectural development, we must therefore rely on the stratigraphic sequences contained in the western and eastern flanking ditches to reconstruct the central bank.

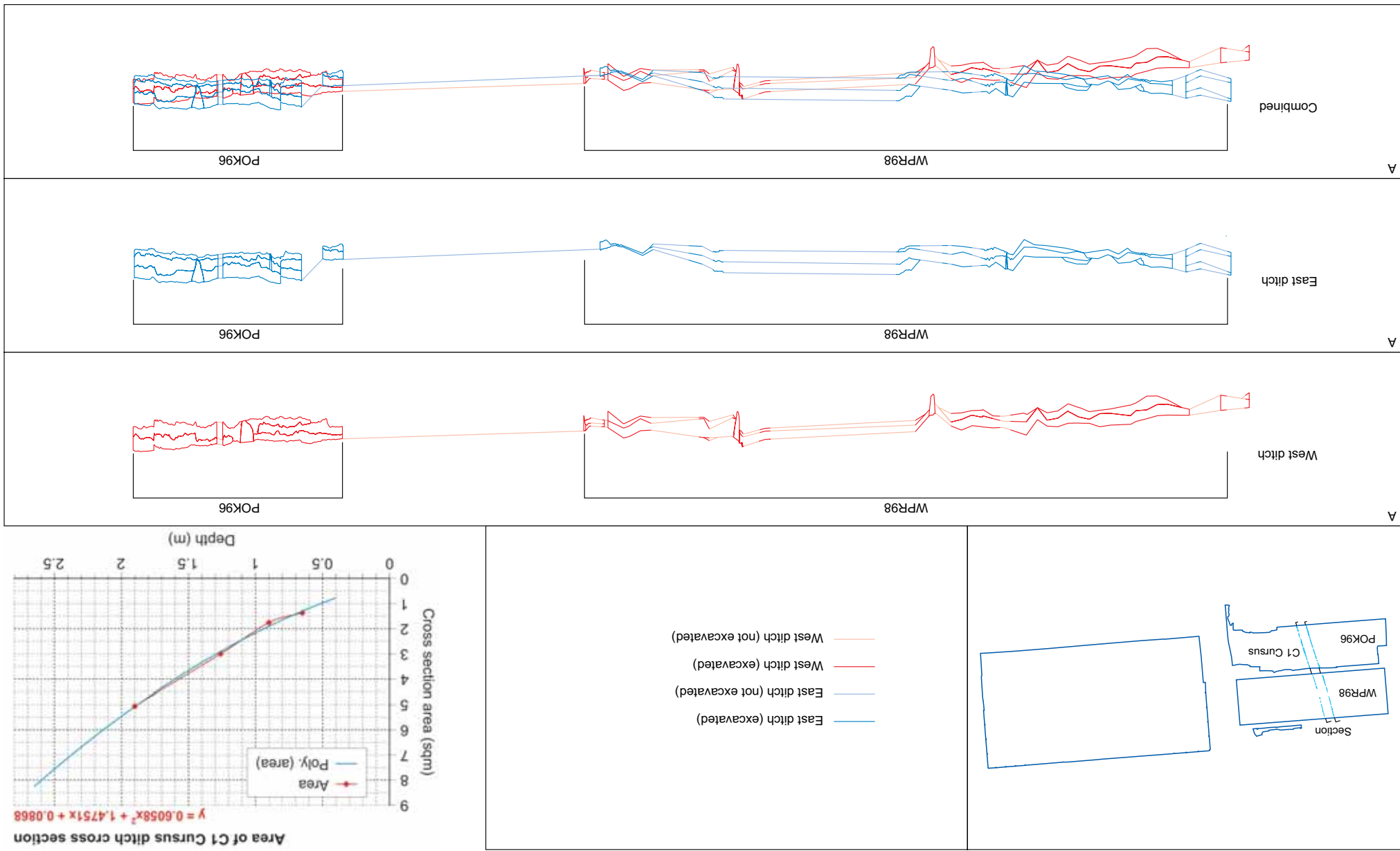
The depth of the ditches was not consistent, but varied by 0.25–0.30 m. The western ditch, furthermore, tended to be deeper than the eastern ditch over much of the exposed length. The varying amounts of spoil generated from ditches of fairly uniform width but differing depth would have led to corresponding variations in the width and or height of the central bank. The long section in Fig. 2.12 shows longitudinal sections through both cursus ditches, from north to south. The vertical scale has been exaggerated by a factor of 10 to make the differences in depth of the ditches clearer.

Between 0.40 m and 0.66 m has been lost between the 1943 ground surface and the uppermost fills of the cursus ditches as excavated. So at any given length along the cursus, the ditches were

performed a similar function by linking together the separate long barrows along its course (Barrett *et al.* 1991, 58). Within the Perry Oaks excavations, the Stanwell Cursus makes an almost imperceptible deviation (the 'kink' in Fig 2.11) to accommodate these two locations, but almost as importantly, to accommodate the area between these two places. This location was subsequently further enhanced by becoming the terminus of the C2 Cursus. The ditches in the kinked section, c. 150 m long, are also slightly shallower than those to the north and south, suggesting that this section may have been constructed separately, perhaps by a different construction team. We suggest, therefore, that the C1 Cursus was excavated in relatively short lengths by different teams, but within an overall rigid plan.

The uniformity of the cursus over at least 3.6 km suggests that it was laid out in a landscape that was at least locally cleared, and was very carefully aligned to incorporate special locations. It may even have been that the course of each ditch was marked on the ground with string or rope for the construction teams to follow. The Dorset Cursus contained clear examples of deviation from the main course once the sighting point the construction team was aiming at (eg a long barrow) temporarily disappeared from view (Barrett *et al.* 1991, 47). With the Stanwell Cursus, even necessary deviations, such as the kink described above, were accommodated almost imperceptibly. Achievement of such uniformity would suggest that the initial construction period, the length of time that the whole length of the cursus was set out and remained an active project, would have spanned

Figure 2.12: Longitudinal sections through both cursus ditches, from north to south, and area of C1 Stanwell Cursus ditch cross section



If we apply these assumptions to the first 50 m length of the cursus, they produce a bank 5 m wide at the base, c 1.2 m high and 2 m wide at the top. Table 2.9 shows that these dimensions, particularly height, would have varied along the length of the cursus depending on the depth of the flanking ditches. For instance, the bank along the 'kink' section of the cursus could have been c 0.20 m lower than the lengths immediately adjacent to the north and south. This may seem, and indeed may have been insignificant, but in a relatively flat landscape, small variations in vertical height would stand out.



Plate 2.4: Reconstructed cursus looking south

At the end of the Perry Oaks excavations, a short length of the C1 Cursus was reconstructed using a mechanical excavator (Plates 2.4–6). The result-ant bank was not quite as wide at the base and top as our calculations, but it does give some indication of the original form of the monument at this location.

Height of bank of various widths	Volume (cubic m)			Average depth from 1943 surface (m)		Sections of cursus from N-S (m)		North	20	27	Kink	40	36	46	South	24	Totals	(or average depth of ditch/height of bank)	
	Neolithic possibly 5 m	Middle Age 13 m	Total volume after expansion factor of 1.1	West ditch	East ditch	West ditch	East ditch												
1.19	0.21	963.90	408.87	467.40	0.81	0.91	243	50	1	0.75	108.39	76.69	203.59	0.23	1.23	50	1	0.75	108.39
1.37	0.28	88.48	37.08	43.35	0.88	1	20	20	1	0.88	43.35	37.08	88.48	0.28	1.37	20	1	0.88	43.35
1	0.14	94.70	44.67	41.41	0.8	0.75	27	27	0.75	0.8	41.41	44.67	94.70	0.14	1	27	0.75	0.8	41.41
1.17	0.20	156.63	66.18	76.20	0.8	0.9	40	40	0.9	0.8	76.20	66.18	156.63	0.20	1.17	40	0.9	0.8	76.20
1.06	0.16	131.16	55.22	64.02	0.75	0.85	36	36	0.85	0.75	64.02	55.22	131.16	0.16	1.06	36	0.85	0.75	64.02
1.11	0.18	173.71	76.11	81.80	0.8	0.85	46	46	0.85	0.8	81.80	76.11	173.71	0.18	1.11	46	0.85	0.8	81.80
1.39	0.29	107.52	45.72	52.02	0.9	1	24	24	1	0.9	52.02	45.72	107.52	0.29	1.39	24	1	0.9	52.02
1.19	0.21	963.90	408.87	467.40	0.81	0.91	243	Totals	0.91	0.81	467.40	408.87	963.90	0.21	1.19	243	(or average depth of ditch/height of bank)		

Table 2.9: Volume of spoil excavated from Stanwell Cursus at Perry Oaks (WPR98)

- Without turf or any other reversion the angle of the slope of the bank would have been unlikely to exceed c 40 degrees.
 - If our assumption that that one of the functions of the bank was to provide an elevated ceremonial processional route, then we can assume that the top of the bank was flattened, and for ease of use would have been up to 2 m wide.
 - The base of the bank would have been comparatively narrow, leaving a large berm (ledge/path) between bank and ditch. This is clear from the distinct lack of evidence from the C1 Cursus ditch sections for an adjacent bank.
- depth and cross-sectional area suggests that the ditches were also dug to a well defined template. Table 2.9 shows the volume of spoil excavated from various lengths of the Stanwell Cursus ditches at WPR98, arranged from north to south. The geology at Perry Oaks is fine grained 'brick-earth' and gravel, and the expansion factor for spoil volume would therefore be similar to that employed by Startin (Startin 1998) of about 1.1. Unfortunately, we do not know the actual dimensions or shape of the cross section of the bank when it was constructed. A turf reversion, for example, could have radically altered the shape and height of the bank. However, in this attempt to reconstruct the central bank, we have adopted the following assumptions:

How much effort was required to build the C1 Stanwell Cursus?

We have made a case above for the cursus to have been constructed as relatively short, connected lengths, possibly each having been excavated by a different team. If we take the length of the cursus we have described as the 'kink', then we can estimate how this was constructed and by how many people and how long it took.

The method used by Startin (1982; 1998) for the Abingdon causewayed enclosure and Cleaven Dyke cursus has been followed. Startin assumed a rate of excavation of 0.35 cubic m per person per hour. From personal experience of excavating the compacted gravel and brickearth deposits of the Perry Oaks area, a more likely rate would be c 0.25 cubic m per person per hour. We can assume that for each ditch, the team consisted of



Plate 2.5: Reconstructed cursus central bank looking east

one digger with antler picks and one shoveller using scapulae and baskets, who would also carry the spoil to the central bank. If all the trees and vegetation were cleared from the course of the cursus and the course had already been set out, then two teams of two people working 10 hour days, six days a week, could complete the 150 m long 'kinked' section of the cursus in 16 to 18 weeks.

If we suppose that the C1 Cursus was built in

similar 150 m long segments, then the whole 3.6 km could be built by 24 teams of two people per ditch (a total workforce of 96 using c 97,000 man hours) in 16–18 weeks. Of course, we have already noted how the ditches were deeper in

some sections of the cursus and the bank would have been higher, but this calculation gives some idea of the effort required. It is apparent that the cursus could have been constructed by relatively few people, within a relatively short time scale. It is probable that the labour was spread over more than one year to accommodate other domestic activities, but as we have suggested, the regularity of the scheme would suggest that it would have taken a few years at most.

What was the architectural impact of the C1 Stanwell Cursus?

The resulting monument would have been a long, low mound or 'causeway', bisecting and radically altering the landscape. Its impact cannot be understated. Until this moment, the only human architectural modifications or construction within the landscape consisted of pits and postholes.

Plate 2.6: Standing on reconstructed cursus bank looking east



The major landscape impact up to this point would have been forest clearance, but its extent and the involvement of human agency are still unclear. The C1 Cursus was therefore without precedent, and it reflects the desires and motivation of the people who built it.

In order to explore those motivations further, we will consider firstly the way the cursus was used and experienced by people who would have processed along its course, and secondly how the cursus affected people outside the monument, both in terms of what they could see of ceremonies and the general impact of the monument on the landscape.

It is impossible, due to profound changes to the landscape, to attempt to construct the sort of perceptual narrative for the Stanwell Cursus that Tilley (1994, 173–200) produced for the Dorset

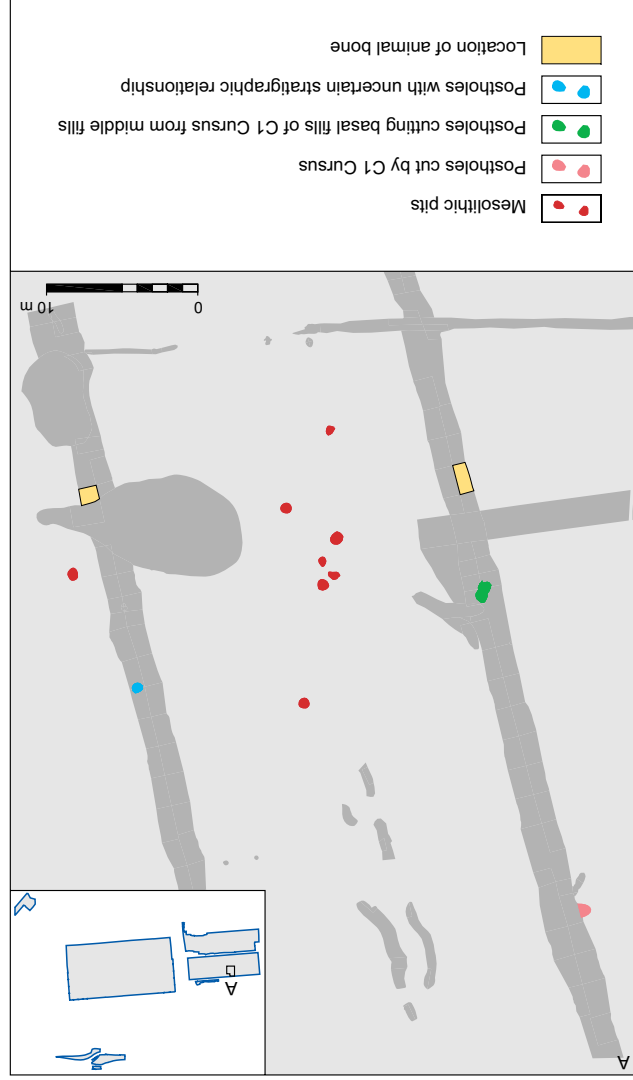
However, as the first 500 years or so of the Neolithic unfolded, the cumulative impact of agriculture and pastoralism, coupled with new technologies and new expressions of old practices in the form of the first monuments, meant the world was being transformed. Individual kin-groups now had to resolve questions and conflicts regarding access to land and resources. How was it decided where a group would plant this year's crops? Who grazed their animals on a certain stretch of the floodplain? Who placed this year's settlement in the old woodland clearing, or burnt some fallen trees to create a new field? We suggest that the ceremonies undertaken at certain locations in the landscape helped to facilitate these decisions. Perhaps each location was of importance to separate kin-groups. As the generations passed, the ceremonies changed and developed. Some locations were forgotten, others increased in importance, new ones emerged and others were embellished architecturally, for example, the timber post alignment. If so, then the string of locations which grew up along the boundary of the Colne floodplain and the Heathrow Terrace to the east show that this zone was of crucial importance, since it marked the boundary between the water resources of the floodplain and the dryer, higher terrace to the west. It is perhaps not surprising then that Mesolithic pits and ceremonial processions together by ceremonial processions.

We do not know how many people took part in these processions and ceremonies or how they were arranged or led. Without formal demarcation, the processions and ceremonies could have

Cursus. Nonetheless, prior to the construction of the C1 Cursus, people moving from place to place along the floodplain margins did so along a path that was only formalised and maintained by human memory and agreement. Each place visited may have been consecrated with a ceremony that may or may not have included the deposition of artefacts, but the important element of the ceremony would have been the ritual, the display and the words exchanged between the participants and onlookers.

What was the importance of these locations and why were they revisited? We of course cannot answer this, but it is our view that one of the important subtexts of the ceremonies and processions was the concern with access to the resources of the landscape. Throughout the Mesolithic this concern may have been settled in many different ways, and had to take into account mobile and seasonal resources of animals as they moved through the landscape. Indeed it is possible that the burnt flint pit cluster and possible midden described above may have acted as a meeting place and context for settling these concerns in the 7th millennium BC. It is now generally agreed that the adoption of agriculture and domestic animals from 4000 BC in this country did not at first cause a radical shift in the late Mesolithic subsistence economy. As we have shown previously, with the exception of 'type fossils' such as microoliths and leaf-shaped arrowheads, it is hard to distinguish chronologically the lithic assemblage for this period, and this must reflect a minor change in the subsistence economy.

Figure 2.13: Relationship between animal bone, Mesolithic pits and postholes in C1 Stanwell Cursus



radiocarbon dates this is impossible to determine. If the animal bone is contemporary with the middle fills of the cursus, then this would explain the presence of a posthole cutting the basal fills of the western ditch from this level, and another posthole in the eastern ditch, which had unclear stratigraphic relationships. Put simply, the posts may have been driven into the basal fills of the ditch to serve as markers signifying the location of the pit complex and midden once the cursus had buried these sites. The burnt flint and animal bone may then be seen as the remnants of ceremonies undertaken once the procession had stopped at this location.

This association of burnt flint and postholes sealed by the middle fills of the cursus is repeated further south at the location of the earlier timber post alignment (Fig. 2.14). Again, one or possibly more postholes were driven through the basal fills of the cursus from the middle fills. These fills also contained relatively large amounts of struck and burnt flint. A glance at Figure 2.10 shows that the distribution of FL4 fabric pottery sherds in the C1 Cursus shows a similar association. This material may be the residues of ceremonies carried out as the procession group halted at the now ancient ancestral location. The graph in Figure 2.14 shows the vertical distribution of these artefact types through the fills of the cursus, and shows that the C1 Cursus remained a focus of activity throughout the remaining depositional sequence.

along its length, most of the community would probably have been engaged more in observing the ceremonies than in taking part. The architecture of the Stanwell Cursus now served to emphasise the processional ceremonies along the top of the bank in a way that was impossible within an informal pathway at ground level. Although the leaders of the processions might have been differentiated from the rest of the community, the community remained an essentially open one. The participants were now on very obvious display against the horizon and visible for all to see (see Plate 2.6 and Fig. 2.25 below). Thus the architecture of the C1 Cursus did not mask the activities that went on inside to the exclusion of those outside, unlike those with a pair of flanking ditches such as the Dorset Cursus. The C1 Cursus was the product and celebration of an essentially open community.

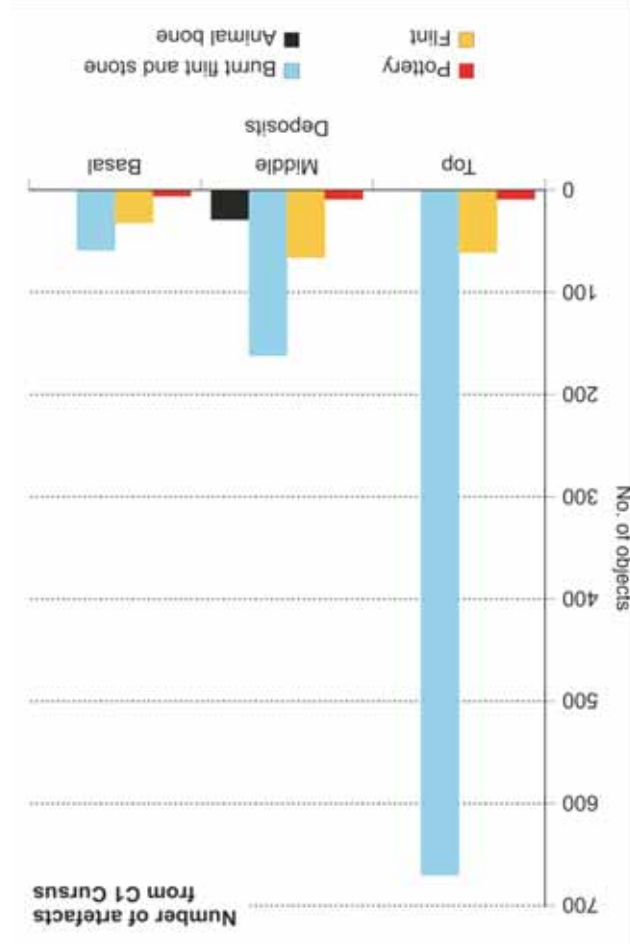
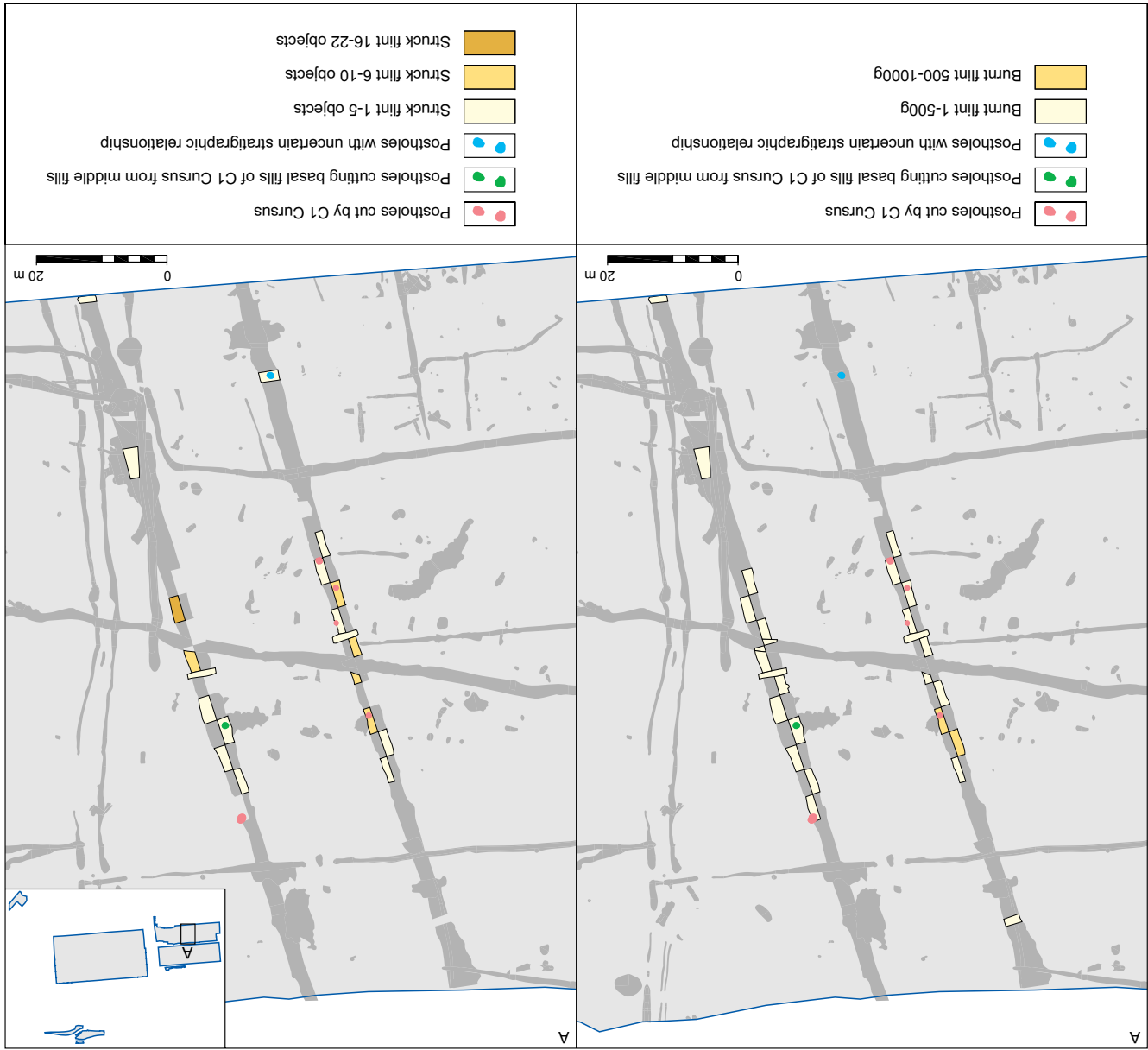
The cursus acted as a unifying device for the community, and there is some evidence that the special places now cut or buried by the monument retained their importance, and may even have been involved in the ceremonies associated with the processions. Two examples serve to demonstrate this. The first is the occurrence of fragments of cow skull in the middle fills of both cursus ditches adjacent to the Mesolithic burnt flint pit complex (Fig. 2.13). Burnt flint clusters also occur in these locations. We consider the flint to be of Mesolithic date, and this may also be true of the skull fragments. However it is conceivable that they represent the residues of ceremonies enacted at the location following the construction of the cursus. In the absence of

the kin-groups or communities associated with individual locations were now linked together by processional pathway and ceremony. Through this process the separate groups started to form into a larger, more cohesive community. Whereas before disputes and negotiations over land and resources occurred *between* separate kin-groups and were resolved through ceremony at distinct locations, now negotiations were contained *within* a wider community, whose important ceremonies and locations were linked by procession.

The creation of a *community* at this time is pivotal. It could be said that, without a community, the opportunities for forest clearance and agricultural expansion represented by the 'elm decline' could not have been exploited, and causewayed enclosures and cursus could not have been built. We view the construction of the C1 Cursus in particular as a physical manifestation, formalisation and celebration of the emergence of a community. We have shown how the cursus was built in sections, each by a small team of people, and we can see how each section was built by a team drawn from the individual kin-groups, and each group probably built a length of cursus associated with their own ceremonial location. The result was a monument that physically tied together all the groups through shared labour in a common enterprise to build a communal monument, which bound together the histories of the individual groups as invested in special locations.

Although the architecture of the mound served to restrict the numbers of people who could process

Figure 2.14: Relationship of postholes, burnt/struck flint and other artefacts with the C1 Stanwell Cursus



What did the landscape look like at this time?

The following is derived from Pat Wiltshire's analysis of the pollen sequences and the full report can be found on the accompanying CD-Rom (Section 11).

Unlike their descendants in the middle Bronze Age, Neolithic people did not dig deep pits and waterholes across the Heathrow Terrace. This means that, for the period prior to about 1600 BC, there is a dearth of suitable waterlogged deposits yielding well-resolved environmental evidence. Thus, our conception of the impact of these people on the local landscape is fragmentary and blurred.

The lack of convincing environmental evidence from Perry Oaks during this period means that we need to rely again upon information gleaned from other sites in the region. Data from Meadlake Place, Egham, Surrey (Branch and Green 2004, 12) suggest that between 8000 and 5860 uncal BP (approximately 6800 to 4800 cal BC), dry ground supported mixed, deciduous woodland while *Alnus* (alder) and *Salix* (willow) dominated the riverine environment.

The nature of the early to middle Neolithic landscape in Surrey and the middle/lower Thames has recently been reviewed by Branch and Green (2004). The Lower Thames Valley around Southwark is seen as consisting of, 'an ever changing mosaic of closed and open woodland, temporarily cultivated land, grazing land, and meadows interrupted by tributary rivers

and streams, small ponds, and lakes' (Branch and Green 2004, 13). It might be reasonable to imagine the Lower Colne Valley and the Heathrow Terrace in a similar way.

Unlike in Southwark, the sequence at Runnymede produced no evidence for the elm decline (Scaife 2000). However, evidence for this event has been outlined by Sidel and Rackham (2000) for the London area, and for Surrey by Branch and Green (2004) who date the horizon to about 5000 uncal BP (3700 cal BC). The elm decline coincides with the period of use of Plain Bowl Ware early Neolithic pottery. In later sections of this volume, we will discuss further the chronology of this ceramic, and demonstrate that the major

monuments of the Heathrow area were constructed during the currency of this pottery type. The link between monument construction and the elm decline has been discussed previously, but it is pertinent in this context since the major monuments of the early Neolithic, such as the Stanwell C1 Cursus and the C2 Cursus, would have required a terrain that had been at least partially cleared of woodland. Certainly, the landscape picture presented by Scaife (2000, 184–5) for the Neolithic at Runnymede appears to have been similar to that described by

Branch and Green (2004).

Pollen evidence

The pollen evidence from pit 150011, which cuts the basal fills of the cursus adjacent to the burnt flint pits, suggests that the cursus was located either at the edge of woodland or in a woodland glade (Fig. 2.15). The pollen suggests that the pit

was cut some time after the elm decline of 3700 BC, but a radiocarbon date of 4349–4047 BC (NZA14902 cal BC \pm 2 sigma) from sediment from the upper silt of this feature appears to be far too early, and was probably obtained from residual organic matter redeposited in the pit.

The results of the pollen analysis are shown in Figure 2.15 (full report by Wiltshire on CD-Rom Section 11). The three pollen zones were designated 150011/1–3 respectively. Changes in the pollen spectra in this sequence are rather subtle and indicate that only moderate changes were happening in the landscape around the feature. It must be stressed, however, that pits can become infilled very quickly and the sediments might represent a single generation of trees.

Many forest trees are potentially long-lived; a healthy specimen of *Quercus* (oak) can live for at least 600 years (Mitchell 1974), and managed trees (pollarded and coppiced) can live even longer (Rackham 1986).

Zone 150011/1: The deposits represent a period some time after the elm decline of approximately 5000 years ago. The soils around the waterhole were wet enough to support occasional *Sphagnum* moss

but there is no evidence of the feature having had an aquatic and emergent community in or around it. People were certainly active in the environs of the site since microscopic charcoal levels were relatively high throughout the zone. Furthermore, occasional cereal-type pollen grains were found. Considering the nature of the palynological assemblage, these grains are unlikely to be those

Summary

Pit 150011 shows that the Neolithic landscape supported mixed, deciduous woodland, dominated by oak and hazel in the vicinity of the site. However, some impact was being made on the wildwood. Because of the relatively short life of the feature, the picture presented here may represent a brief period, certainly within a single generation of oak, lime, and alder trees. There appear to have been relatively small areas of grasses and herbs, and the environs of the pit had moist soils. There seems to have been some arable agriculture being carried out locally and it is possible that cereals were being grown in the woodland glades, the so-called practice of 'forest farming' (Coles 1976; Göransson 1986; Edwards 1993). Unfortunately, we cannot be sure whether pit 150011 and therefore the C1 Stanwell Cursus were located within a local clearing, or at the edge of the transition from a wooded environment (perhaps on the floodplain) to a more open landscape on the terrace.

The taphonomy associated with pollen fallout in woodlands is highly complex, and high arboreal values need not reflect very densely wooded conditions. There can be higher tree/shrub values for pollen in open-canopied woodland, or at the woodland edge, than in the dense interior (see Taber 1965). Certainly in some mixed woodlands, the canopy component does *not* seem to fall through to the woodland floor when trees are growing densely, but it *does* reach the ground beneath the parent trees where they are more spaced, or the branching is relatively open (personal observation). Modern pollen studies have

was a drop in *Quercus* in the middle of the zone. This may have been the result of pollarding trees close to the feature. The fall in *Quercus* was reciprocated by a rise in Poaceae and ferns, and *Acer* (maple) was recorded. Rosaceae were also consistently represented at fairly high level and *Hedera* increased at the end of the zone. There was very little change in the herbaceous plants other than the rise in grasses as described above. It would seem that the local oaks were being exploited and that this allowed more light to reach shrubs and herbs. Cereal-type pollen was found which shows continued (though very small-scale) arable activity nearby.

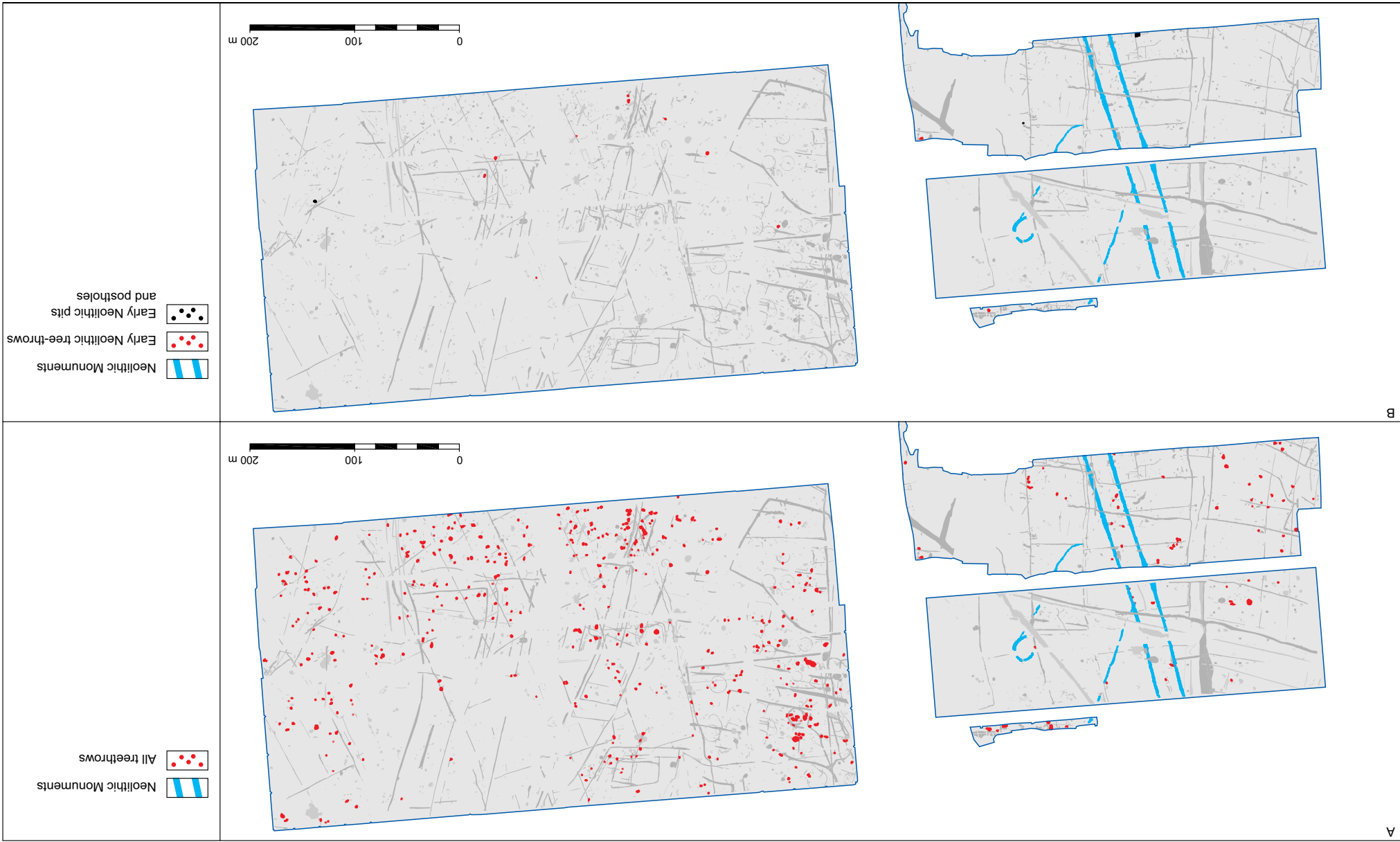
Zone 150011/3: The amount of microscopic charcoal accumulating into the feature declined in this zone and the centre of activity might have moved away slightly. *Corylus* (hazel) continued to be a dominant member of the woodland, while *Alnus* and *Tilia* both declined. *Quercus* also declined towards the top of the zone but the more light-demanding shrubs (*Salix*, *Acer*, *Hedera* and Rosaceae) were all well represented. Some light-demanding herbs flowered more prolifically than before, and ferns certainly increased. This suggests that there was more light available to the area so that marginal shrubs and herbs were able to flower more profusely. It is tempting to suggest that animal grazing played some role in these changes at the site and the drop in Poaceae might be a function of grazing of flowering heads. Certainly, arable agriculture seems to have increased, and the canopy was open enough to allow *Calluna* (heather) to grow in the area.

The suggestion that the feature was close to a woodland edge or in a glade is supported by the presence of Poaceae (grasses), Rosaceae (hawthorn, bramble, rose), *Salix* (willow) and a range of weeds and ruderals such as *Artemisia* (mugwort), Chenopodiaceae (goosefoot), *Rumex* (docks), Lactuceae (dandelion-like plants), and *Plantago lanceolata* (ribwort plantain). There were also herbs such as *Lotus* type (bird's foot trefoil), *Trunella* type (egg self heal), *Silene* type (egg red campion), and *Epidobium* type (egg greater willowherb). All these could have been growing in grassy areas and places where the soil was disturbed.

Oak and hazel dominated the local woodland although *Alnus* (alder) was well represented and probably growing on the wetter soils near the river. *Betula* (birch), *Pinus* (pine), and *Fraxinus* (ash) were growing in the catchment area but were either some distance away or present in small numbers. *Tilia* (lime) and *Ulmus* (elm) were both growing in the vicinity but their relatively low abundance suggests that they might have been already been subjected to management. Both plants produce highly nutritious foliage and they could have been exploited for cattle fodder. Lime is also the source of many other useful commodities (Bates and Wiltshire 2000) and was probably targeted by early settlers.

Zone 150011/2: This zone is characterised by small but discernible changes in the local vegetation. The relatively high levels of microscopic charcoal attest to a continued human presence. Both *Tilia* and *Alnus* declined slightly and there

Figure 2.16: All dated early Neolithic tree-throws at Perry Oaks



Tree-throw 156191 produced the largest pottery and lithic assemblages, and Figure 2.17 shows that it lay in an area with a relatively large number of other Mesolithic and early Neolithic residual finds. The assemblages from this feature are revealing and will be discussed more fully:

Tree throw 156191 produced 541 sherds of Plain Bowl Ware fabric of total weight 1444g. In general the condition of this material is poor; sherds are small and moderately to heavily abraded. However the fabrics (in particular the flint-tempered fabrics) tend to be extremely friable, and a high degree of fragmentation does not necessarily reflect a commensurate level of post-deposition movement. Tree-throw 156191 seems to have been deposited as a single event. 156191 is the only tree-throw, pit or other feature where an in situ deposit can be postulated, perhaps resulting from deliberate middening. Other sherd occurrences are sporadic and are more likely to be residual.

(Every and Mephram, CD Section 1)

The lithic assemblage from tree-throw 156191 consisted of 230 flints (Table 2.10), all recovered from the upper fill, sub-group 223003. Within this, the flint was recovered almost exclusively from context 148109, although one piece, a broken tertiary flake, was retrieved from context 156190. A further 137 pieces of burnt unworked flint were also recovered from the tree-throw, weighing a total of 514g. Again, the majority of the burnt flint derived solely from context 148109. Further details of this deposit, as derived from the archive flint report (in CD-Rom Section 3), are as follows:

landscape around pit 150011 might have been more open than the pollen diagram might suggest. The problems associated with identifying the extent of woodland clearance from palynological data alone ensure that the local environment at Ferry Oaks during construction and the life of the cursus remains unclear. The monument itself is testimony to the creation of open ground, and yet pit 150011, which cut the cursus ditch, seems to indicate densely wooded conditions. However, as outlined above, this may be because higher pollen levels are often associated with freer dispersal facilitated by an open canopy.

Settlements and clearance?

We have one other strand of evidence for clearance and activity on the Heathrow Terrace in the 4th millennium BC, in the form of tree-throws, the bowls left by falling trees as their roots are torn out of the ground. A handful of pits and postholes are also tentatively ascribed to this period. The dating evidence from all these features consists mostly of small fragments of Plain Bowl Ware pottery and/or lithic material datable broadly to the 4th millennium BC. Some of the lithic and ceramic material is contradictory and far from clear. What is clear is that the 11 dated tree-throws in Figure 2.16 seem to be distributed through the centre of the site and perhaps all that can be made of such a small sample is that they show that clearance (either humanly or naturally induced) was occurring during the 4th millennium BC.

revealed many inconsistencies in palynological profiles obtained from a variety of woodland types and, indeed, open ground. As much as 50% arboreal pollen can be recorded on very open sites (such as the middle of a golf course) while over 80% can be obtained from woodlands where the canopy is relatively open. Herbaceous pollen is often recorded in some closed woodlands, and these can even include significant levels of pollen from cereals and hay meadow. Invariably in this instance the pollen has been derived from the dung of grazing animals (horses in the modern context). In ancient woodland, dung from browsing and grazing animals (including stock animals) could create the same effect. Furthermore, it must be noted that considerable amounts of herbaceous pollen can find their way into deposits well within the heart of woodland if there is adjacent open ground (Wiltshire 2003). There is little doubt then, that interpretation of data relating to woodland cover in the Neolithic period is fraught with difficulty. The patchiness of the landscape and the essentially low sampling frequency mean that complexities of taphonomy cannot be easily resolved. But, in spite of the difficulties listed here, wherever arboreal pollen levels are very low indeed, the catchment must be very open (see Chapter 3 for discussion on the middle Bronze Age landscape). To get low arboreal pollen values, the woodland edge would have had to have been some (unknown) distance away from a feature, or the local trees would have had to have been very heavily exploited so that flowering was suppressed. In spite of the high arboreal pollen values, the Neolithic

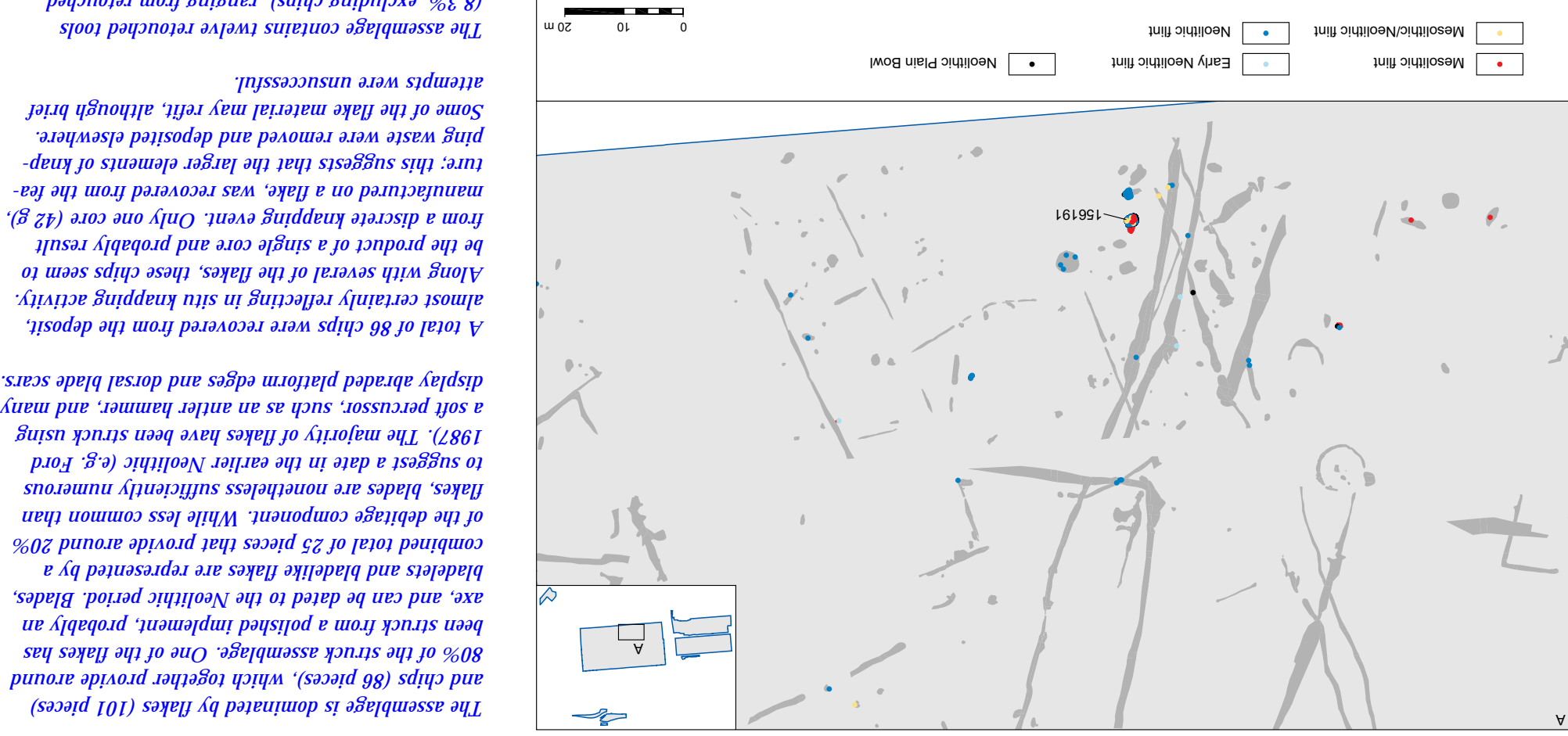


Figure 2.17: Location of tree-throw 156191

The flintwork is in fresh, uncorrupted condition and can be dated to the early Neolithic on technological and typological grounds. While the majority of the struck flints represent the use of locally available river gravel, bullhead flint and chalk flint are also present

in small quantities. One of the serrated flakes, for example, has been manufactured on a blade-like blank of bullhead flint. Local nodules, on the other hand, seem to have been preferred for burning.

The assemblage is dominated by flakes (101 pieces) and chips (86 pieces), which together provide around 80% of the struck assemblage. One of the flakes has been struck from a polished implement, probably an axe, and can be dated to the Neolithic period. Blades, bladelets and blade-like flakes are represented by a combined total of 25 pieces that provide around 20% of the debris component. While less common than flakes, blades are nonetheless sufficiently numerous to suggest a date in the earlier Neolithic (e.g. Ford 1987). The majority of flakes have been struck using a soft percussor, such as an antler hammer, and many display abraded platform edges and dorsal blade scars. A total of 86 chips were recovered from the deposit, almost certainly reflecting in situ knapping activity. Along with several of the flakes, these chips seem to be the product of a single core and probably result from a discrete knapping event. Only one core (42 g), manufactured on a flake, was recovered from the feature; this suggests that the larger elements of knapping waste were removed and deposited elsewhere. Some of the flake material may refit, although brief attempts were unsuccessful.

The assemblage contains twelve retouched tools (8.3%, excluding chips), ranging from retouched flakes and scrapers to piercing tools and serrated flakes. Numerous unretouched flints also display utilised edges. These retouched and utilised pieces are combined with the knapping waste described above, suggesting that the assemblage results from a series of activities performed on several occasions. (Cramp, CD Section 3)

Category	Sub-category	Total
	Primary flake	10
	Secondary flake	54
	Tertiary flake	37
	Flake from a polished implement	1
	Unclassified	1
Blade/broken blade	Blade	11
	Bladlet	6
	Bladlike flake	8
Core preparation flake	Core face/edge rejuvenation flake	1
	Rejuvenation flake tablet	1
Axe/adze sharpening flake	Axe/adze thinning flake	1
	Chip/sieved chip	86
Core/core fragment	Core on a flake	1
	Retouched blade/flake	3
Scraper	Retouched blade(let)	1
	End scraper	2
	Side scraper	1
Serrated/denticulate	Unclassified scraper	1
	Serrated piece	2
	Piercer	1
Total		230
	No. of burnt struck flints	14
	No. of broken struck flints	64
	No. of burnt unworked flints	137
	Weight (g) burnt unworked flints	514

Table 2.10: Lithic assemblage from tree-throw 156191

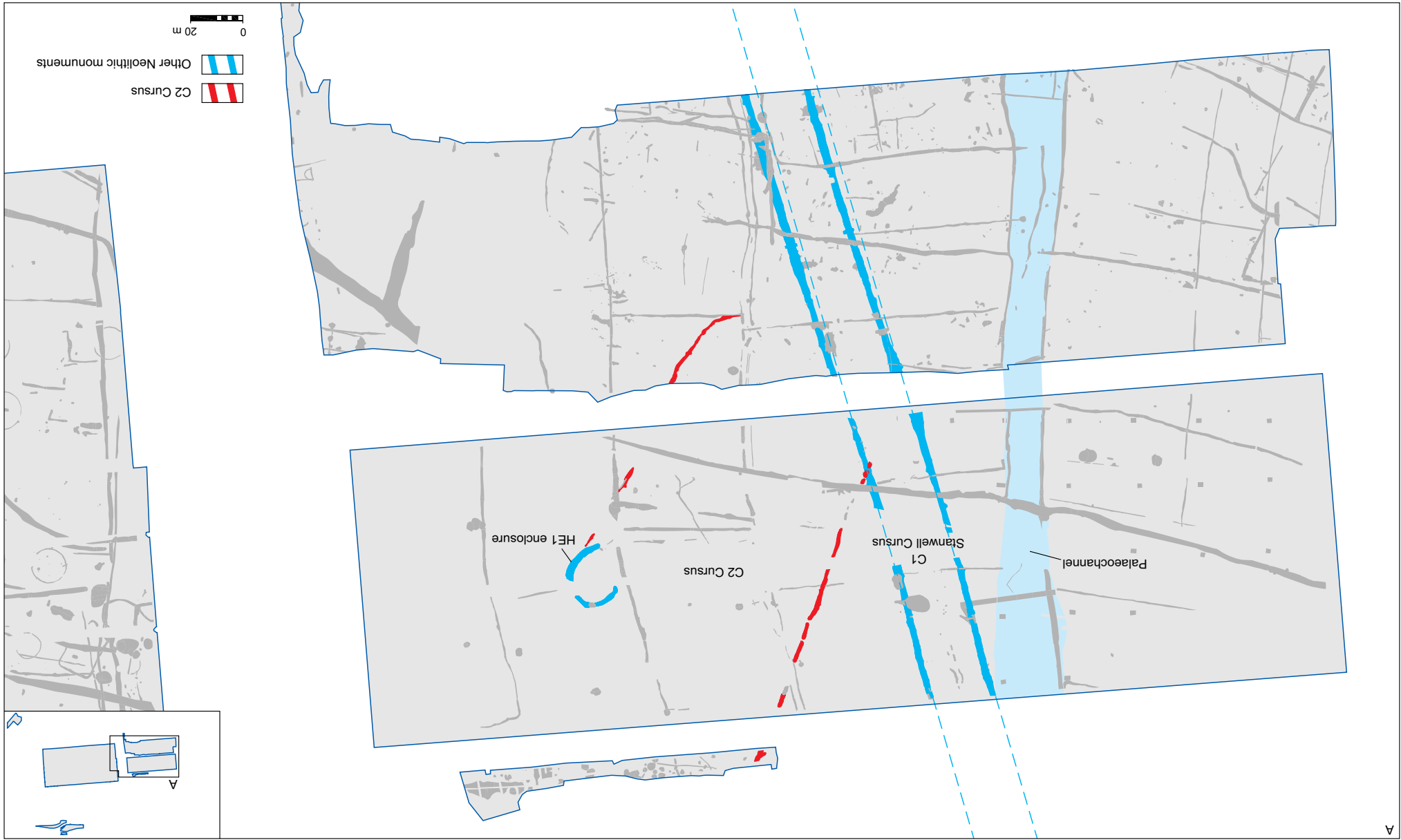
the Stanwell Cursus bank. The landscape and social trajectory of the community had been transformed by the construction of this monument, and the community now turned to the construction of a second cursus, which we have called C2. The C2 differed in architectural form to the Stanwell monument, and more closely resembled traditional cursus monuments. In the next section we will explore the form and function of this monument and what it might tell us of the evolution of the community that built it.

At this location at least, we can picture a domestic settlement dating sometime between 3600 and 3300 BC and located within a clearing. The settlement would therefore be roughly contemporary with the construction of the C1 and C2 Cursus monuments. The size of both clearing and settlement is unknown, but both could have been extensive.

Summary of C1 Stanwell Cursus

We have suggested how the construction of the C1 Stanwell Cursus, sometime between 3600 and 3300 BC, was an act of celebration by physically manifesting the emergence of a cohesive, essentially open community composed of individual kin-groups. These groups had histories and associations with places dotted along the edge of the Colne floodplain, which in some cases stretched back several millennia. At these locations the individual groups would have met other groups for the necessary social interactions: births, passage, marriages, funerals and negotiation of access to landscape resources. We have suggested that with the introduction and increasing importance of agriculture throughout the early 4th millennium BC, these individual groups had to become more closely associated and this led to the linking of their important locations and histories by ceremonial procession. With this, the community was born, and it was to lead to the construction of the C1 Cursus. We have also shown that the previously important locations remained significant foci for ceremonies as groups processed on top of

Figure 2.18: The extent of the C2 Stanwell Cursus and its relationship with other Neolithic monuments



C2 Cursus

The two parallel, widely spaced discontinuous ditches that represent the C2 Cursus were considered during excavation to date to the early Bronze Age, possibly representing the earliest attempts at land enclosure. Subsequent analysis of the field system of the 2nd millennium BC, together with analysis of the C2 Entity itself, has led to its reclassification as a cursus monument. The extent of the C2 Cursus and its relationship with other Neolithic monuments is shown in Figure 2.18.

Original architecture of the C2 Cursus

The distance between the ditches of the C2 Cursus is 80 m to c 90 m. These dimensions are similar to other more traditional cursus monuments rather than the C1 monument, with for example the Dorset Cursus ditches being c 90 m apart (Barrett *et al.* 1991). Although no conclusive evidence for the above ground architecture of the C2 Cursus is available it is unlikely to have had a central bank and probably had a bank running parallel to each of the flanking ditches. The parallel ditches are typically 1.4 m wide and relatively shallow at 0.15–0.30 m deep. Truncation since 1943 has removed between 0.4 m and 0.8 m from the original ground surface. The lack of clear evidence for asymmetric siltting or sudden collapse of material into the ditches suggests that the associated banks were relatively wide, stable and low. If we apply the same sort of calculations to the C2 Cursus as we used for the C1 monument (see above), the flanking banks could have been between c 2.6 m and 3 m wide and c 0.75 m to 1.0 m high.

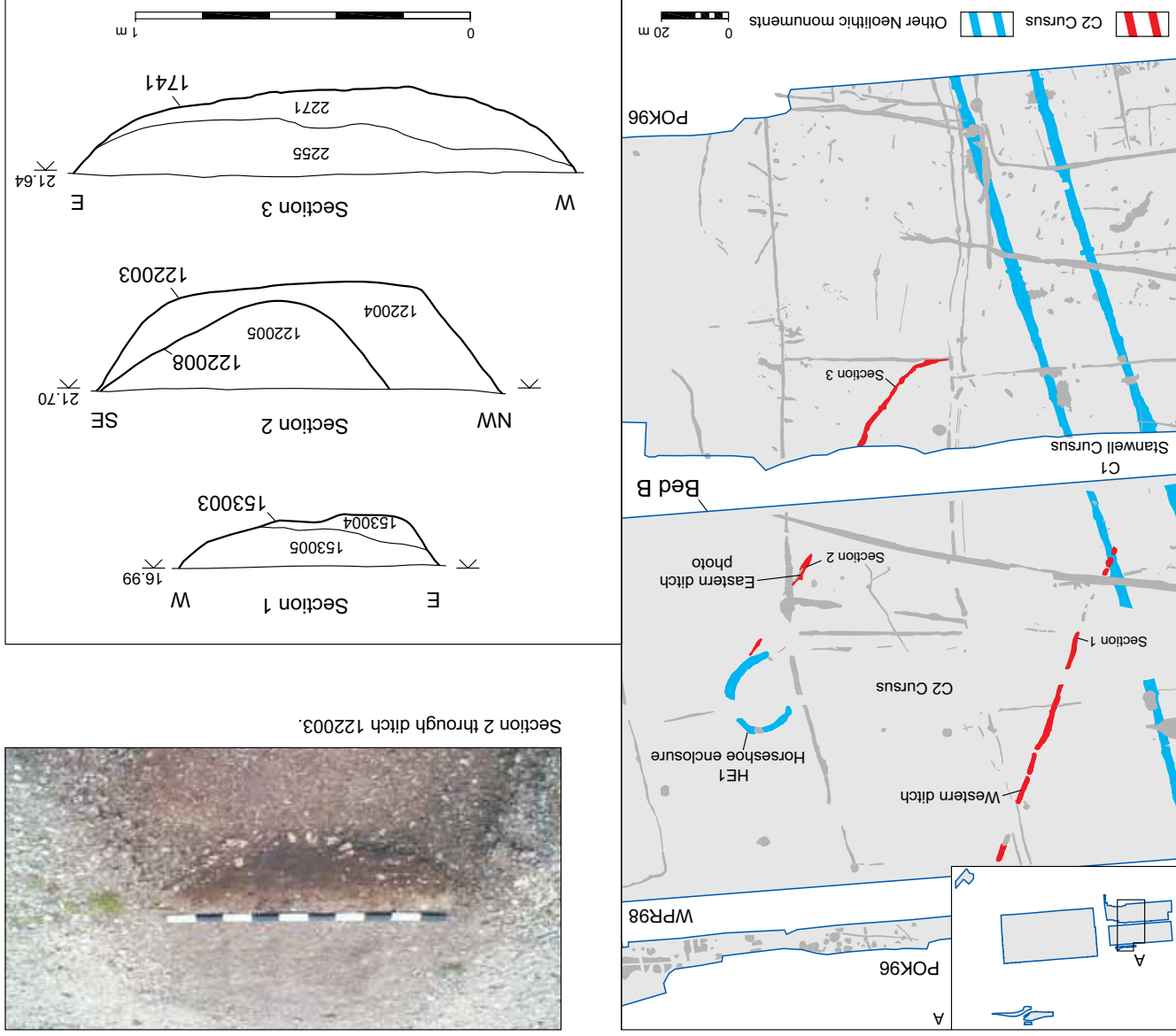


Figure 2.19: The C2 Stanwell Cursus

The southern terminal of the C2 Cursus is formed by the Stanwell C1 Cursus bank and ditches. The northernmost C2 ditch cuts the eastern Stanwell Cursus ditch and probably terminated just short of the C1 central bank. (see Fig. 2.19). The southern C2 ditch makes a distinct curve and terminates some 26 m from the eastern C1 Cursus ditch, and this gap would have formed a wide entrance into the C1 Cursus from the south-east, between the C1 and C2 Cursus ditches.

From this southern terminus, the C2 monument had been traced as cropmarks and was revealed during the Terminal 5 (T5) excavations running at least 430 m further north-east, before a lagoon associated with the former sludge processing works completely destroyed the land surface. The C2 Cursus was not identified in excavations north of the lagoon, and it is possible that a Neolithic rectangular enclosure partially recorded during the T5 excavations in Area 61 (N-S central Perry Oaks Road) formed the northern terminus. This enclosure will be mentioned later, but its analysis and full consideration will appear in Volume 2 of this series.

For the purposes of this volume, the southern part of the C2 Cursus will be considered, in particular its relationship with the Stanwell C1 Cursus and the small 'horseshoe' enclosure, HE1.

In absolute chronological terms, the C2 Cursus remains undated. The only finds recovered were a handful of undiagnostic flint flakes and a small core fragment, together with c 60g of burnt flint. No material suitable for radiocarbon dating

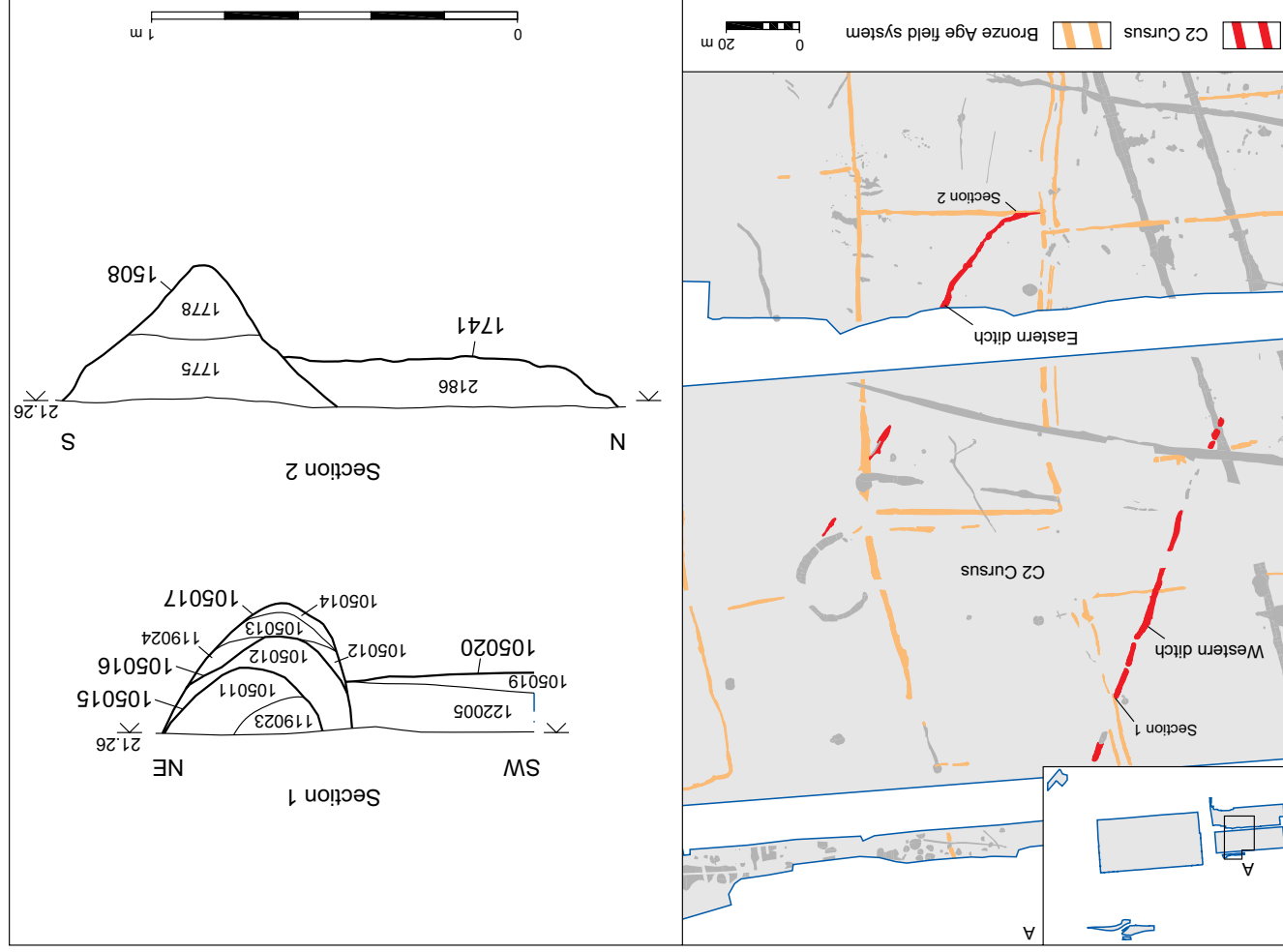


Figure 2.20: Stratigraphic relationship of the C2 Stanwell Cursus and Bronze Age field system

if internal banks were also absent at these points. The C2 Cursus does not follow the same rigid template as the C1 Stanwell Cursus, and appears more 'informal' in its layout.

The ditches were constructed as a series of intercutting, elongated discontinuous segments, leaving several causeways. These causeways would have afforded access/egress to the monument and potentially clear lines of sight

survived and no ceramic material of any description was recovered from the numerous interventions excavated through this entity. However, during the later T5 excavations, eight sherds (12g) of early Neolithic Plain Bowl Ware were recovered from the basal and middle fills of the southern C2 Cursus ditch in a narrow previously unexcavated strip between POK96 and WPR98. These sherds are not presented in the dataset distributed with this volume, but will appear in more detail in Volume 2 following further analysis. Nonetheless, although the few small sherds were abraded and may be residual, they do at least suggest that the silt of the C2 and C1 Cursus ditches were broadly contemporary events.

Stratigraphic relationships of the C2 Cursus

In several places, the C2 Cursus was cut by the ditches of the early-middle 2nd millennium BC field system, convincingly demonstrating that the monument predated this period (Fig. 2.20).

The stratigraphic relationship between the C1 and C2 Cursus monuments is ambiguous, but there is some limited evidence to further refine their relative chronologies. The excavated section of the intersection of the eastern C1 and northern C2 ditches was cleaned and examined repeatedly in order to determine a stratigraphic relationship. That relationship is, nonetheless, far from certain. The conclusion of the excavator was that the C2 ditch cut the fills of the C1 Cursus and the section drawing (Fig. 2.21) does indicate the lower fills of the C1 ditch were cut, but uncertainty remains since the illustrated C2 cut was projected

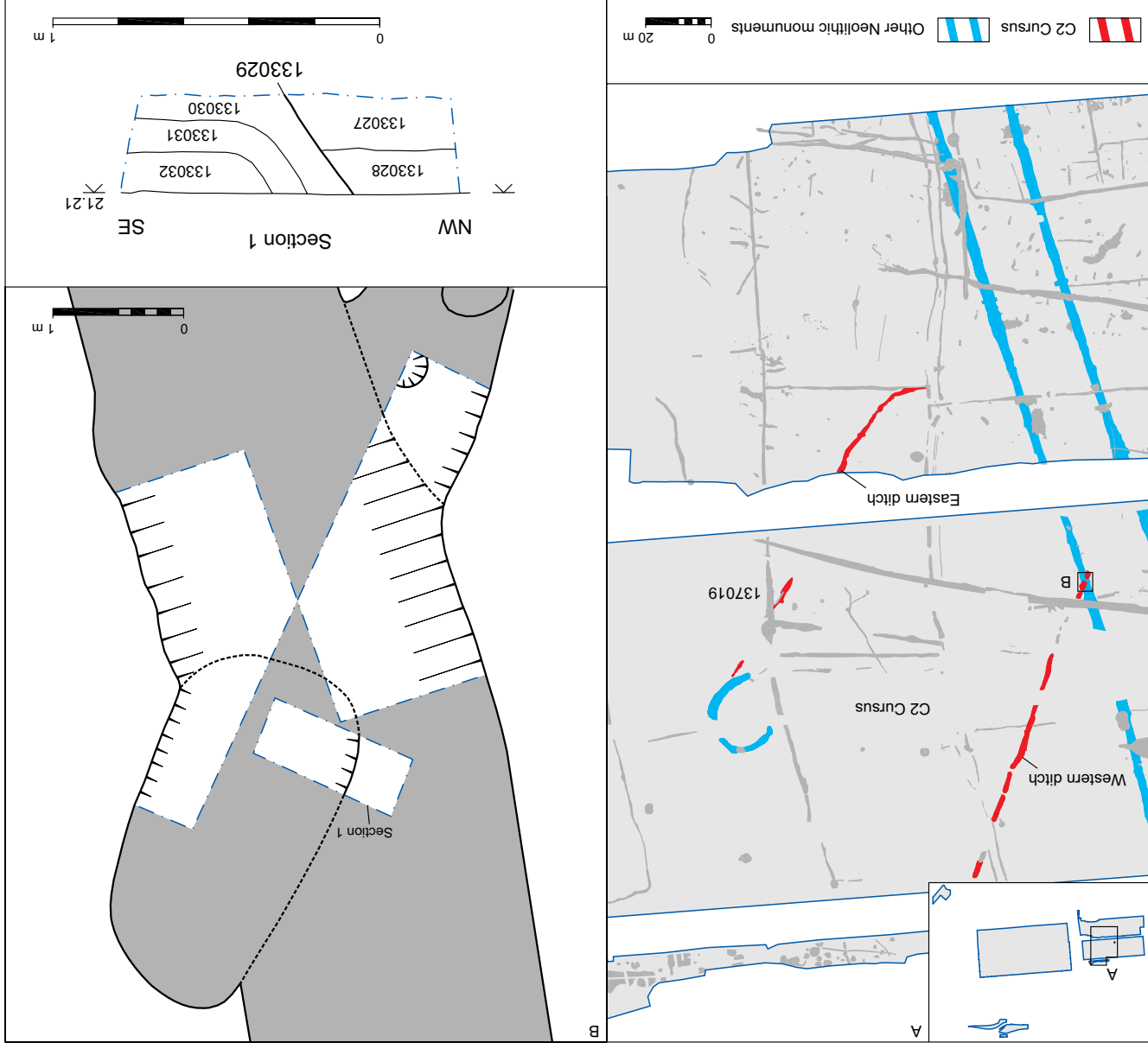


Figure 2.21 Relationship of Stanwell C1 Cursus with C2 Cursus

the opposite side of the watercourse, just to the north-west of Perry Oaks.

The HE1 enclosure was located within the C2 Cursus. The 1943 contour survey indicated that the HE1 was located on a slight gravel ridge, up-slope from the Stanwell Cursus and just under 0.5 m higher than it. This slight topographic elevation together with cultural determinations must have led to this choice of location for its construction. In such a flat landscape any

upstanding architectural features would have been visible at quite a distance, especially if the eye were drawn to them by cleared 'rides' through scrub or woodland. Generally however, unless wooden structures were used to augment the monuments, they would not have been visually impressive in the same way as the comparable monuments of Wesssex, for example.

The HE1 enclosure may never have been intended to make an impressive visual statement, rather it would have been inferred from afar and only fully revealed through close encounter. It was, therefore, primarily concerned with the circumscripton of the area it enclosed and segregation from the world of the everyday.

Form and architecture of the HE1 enclosure

HE1 was just in excess of 20 m in diameter and comprised two continuous but segmental ditches arranged as opposing horns, with unexcavated causeways between them to the north-east and south-west (Fig. 2.22). The internal diameter of this sub-circular monument was approximately 17 m and the monumental ditches enclosed an

We have described how the C1 Stanwell Cursus was a celebration and manifestation of the newly emerged community, but if we are to understand the part the C2 Cursus played in the lives of the community, then we must look at the locations and monuments that it incorporated, and in particular, the HE1 horseshoe enclosure.

We will now explore in detail the other monuments on the terrace, examine their development and demonstrate how they integrated the cursus with its immediate landscape setting, or depending on one's perspective, linked places to it.

Horseshoe Enclosure 1

The western area of the Perry Oaks site appears to have been a place of strategic importance within the monumental scheme at large. We have seen how the C1 and C2 Cursus monuments intersected in an area that had been repeatedly modified by the construction of postholes and pits. If the cursus monuments are accepted as denoting formal and traditional paths through the landscape, then this area was an interchange, controlling and concentrating people, information and knowledge. We have discussed above the focal nature of this location—the local topography and its long and acknowledged history demonstrated by the presence of the Mesolithic pits. The sitting of the HE1 horseshoe enclosure lends further weight to this assertion (Fig. 2.22). This enclosure was initially recognised as a cropmark, and significantly, two similar cropmarks lie adjacent to the C1 Cursus, upon a promontory of land on

As has been argued elsewhere, it is likely that the C1 Cursus ditches were completely silted by the early Bronze Age. If so, then it is more likely that the C2 Cursus ditch was excavated through the lower fills of the C1 Cursus, after which time both ditches continued to silt-up simultaneously.

The ditch silt of the C2 Cursus were very similar to those of the C1—predominantly dark greyish brown. In places an upper and lower fill could be distinguished, but neither fill produced finds in any significant quantity. The HE1 horseshoe enclosure had no direct stratigraphic relationship with the C2 Cursus. In one area south of the enclosure the southern C2 ditch, 11001, had been re-cut as feature 137019 (Fig. 2.21). There was

no dating evidence from the recut, so it is unclear whether this was a roughly contemporary

modification of the monument, or if it was excavated during the 2nd millennium agricultural transformation of the landscape (see Chapter 3).

Despite the radical architectural difference

between the C1 and C2 Cursus, both defined significant pathways through the monumental landscape. For instance, the southern terminus of the C2 Cursus coincided with—and reaffirmed the importance of—the section of the Stanwell

C1 Cursus south of the Mesolithic pit cluster and just north of the postholes cut by the western C1 Cursus ditch. The C2 monument then extended to include the location of the HE1 horseshoe enclosure and probably terminated at the location of the rectangular enclosure excavated in Area 61 of the T5 excavations (see Vol. 2).

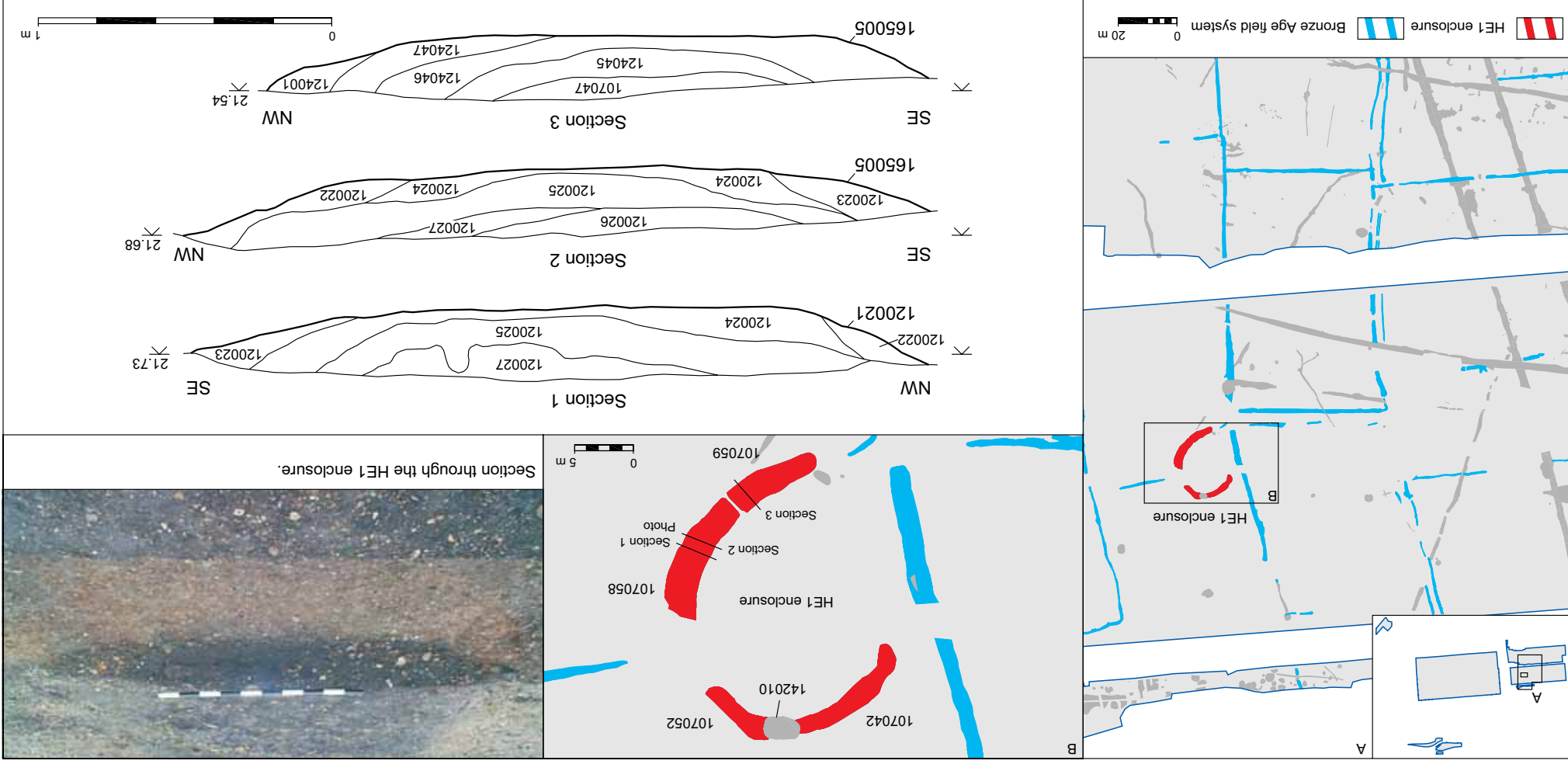


Figure 2.22: HE1 Enclosure

area of 225 m². The northern ditch (107042 and 107052) was on average 1.3 m wide and 0.2 to 0.3 m deep. The southern ditch (107058 and 107059) was wider at 2.3 to 2.4 m but of a similar depth

to the northern ditch. Both ditches had a shallow 'U' profile. The south-west causeway or entrance faced the CI Cursus and was 16 m wide; the north-east causeway was much narrower at 6 m

wide. The north-east causeway was directed towards the segmented ring ditch (Site A) excavated in 1969 (Canham 1978, 6) that is possibly of a similar date.

Estimated		Northern bank		Southern bank	
Length (m)	15.2	17.7			
Width at base (m)	3.2	3.3			
Height (m)	1.6	1.9			
Volume (cu m)	38.9	55.5			

Table 2.12: Estimated dimensions and volume of H&I banks

Chronology of the H&I enclosure

As with many of the 3rd and 4th millennium features in the Perry Oaks landscape, dating the construction of the H&I enclosure is difficult. The extensive contamination from the activities of the sudge works has ensured that no attempt was made to obtain radiocarbon dates from the continued fragments of charcoal recovered from the monument. The small fragments of associated pottery were found to be the result of contamination by later features. For instance, a shallow pit, 142010, was excavated into the fills of the northern circuit of the enclosure ditch (Fig. 2.22). This was not recognised during excavation, but the dense concentration of late Bronze Age pottery in this intervention, together with some evidence from the section drawings, confirms this interpretation.

accepted, then the ditches would originally have been much deeper and slightly wider. More importantly, the resulting internal banks would have been significant structures, especially considering the monument was located on a slight natural rise. Tables 2.11 and 2.12 provide some estimates for the dimensions of the ditches and banks as originally constructed.

Figure 2.23 shows a possible layout of the internal banks, based on the simulated data in the tables. The north-eastern entrance is very narrow or even non-existent, whilst the south-western entrance was substantial. The southern bank is slightly longer, wider and higher than its northern counterpart. Whatever the original architecture, it is clear that the H&I monument would have been a substantial feature in the relatively flat Heathrow landscape. In Figure 2.23, the circles represent the area occupied by a standing adult with an outstretched arm (Fairweather and Shiwa 1970, 44). These suggest that approximately a dozen people could have stood within the embanked enclosure and still have left clear the central space and sight lines out of the monument.

The exact architecture of the H&I monument cannot be confidently reconstructed, as only the footprint survives and superstructures in wood may have enhanced upstanding earthen features. The evidence of asymmetric siting of the southern ditches suggests that an internal bank or mound of some type existed (see Fig. 2.23), and the splayed and open arrangement of the monumental ditches suggest internal banks rather than an internal mound. The incorporation of this monument into the Bronze Age field system as a means of channel movement supports this interpretation of its construction (see Chapter 3). During excavation the H&I enclosure did not appear to have been a particularly imposing monument. However, the Truncation Model (see Chapter 1) shows that approximately 1 m of deposits and topsoil have been lost since the construction of the sudge works in the 1930s. This may, however, be an overestimate, since the remnant bank material would have made the local ground surface artificially higher. It is more likely that c 0.8 m has been lost from the original pre-monumental ground surface, and if this is

Length of ditch (m)	19.3	19
Depth on excavation (m)	0.3	0.3
Estimated original depth (m)	1.1	1.1
Width on excavation (m)	1.4	2.4
Estimated original width (m)	2.2	3.2
Estimated original cross-sectional area (sq m)	1.8	2.6
Estimated original volume after expansion factor 1.1 (cu m)	38.5	55.2
Northern ditch	SG 107042 & 107052	Southern ditch
		SC 107058 & 107059

Table 2.11: Estimated original dimensions and volumes of H&I ditches

Figure 2.23: Plan of the estimated dimensions of the internal banks of HE1 enclosure and suggested arrangement of standing adults with site lines

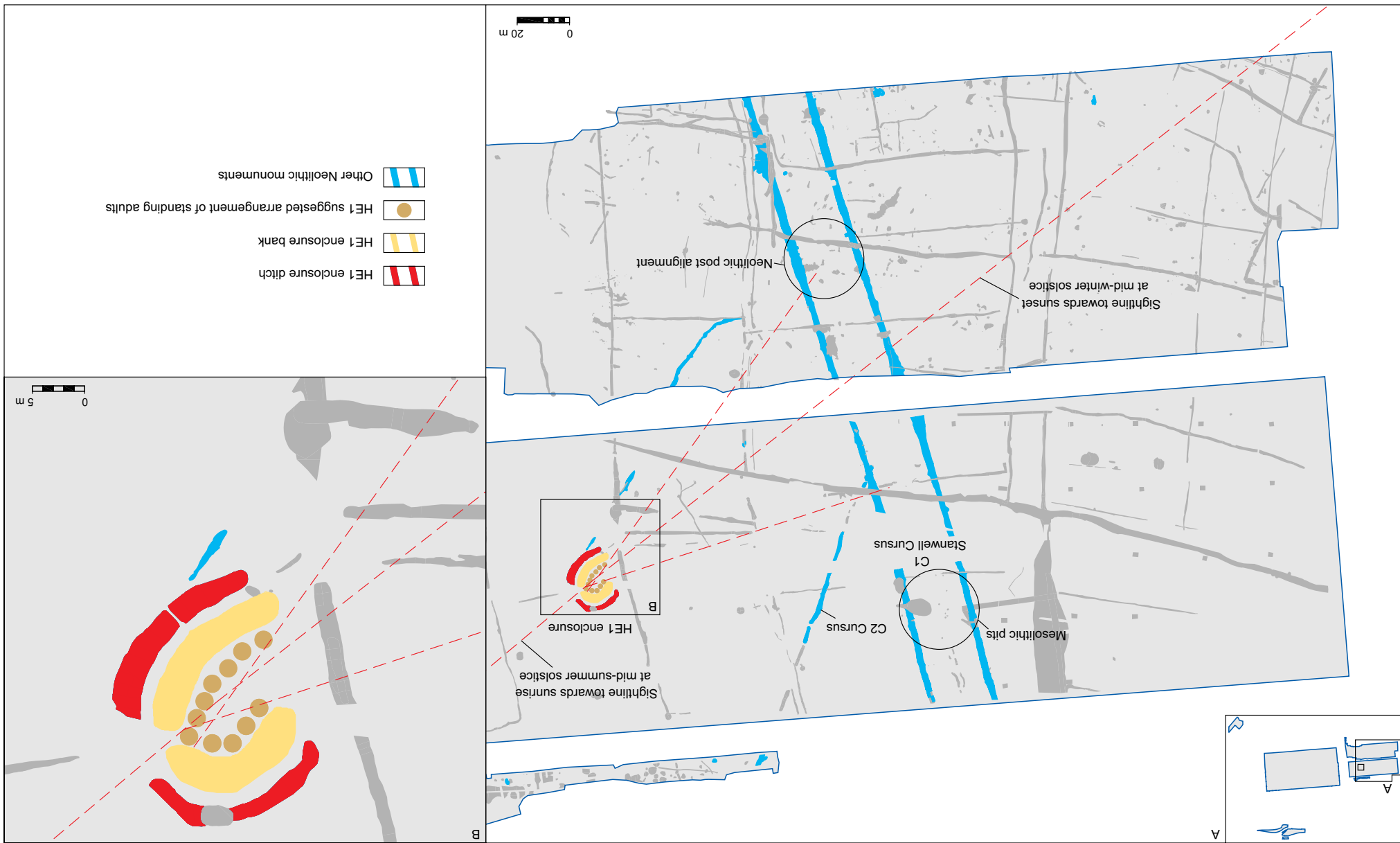


Table 2.13: Lithic assemblage from the HE1 enclosure

Category	Sub-category		Weight (g) of burnt unworked flints										
	Lower	Upper	107015	107053	107064	107065	107041	107042	107043	107056	107057	107061	107063
Flake/broken flake	Primary flake >75%	2	3	4	1	3	1	3	1	1	1	1	10
	Secondary flake 1-74%	7	6	4	1	2	2	1	1	1	1	6	28
Blade/broken blade	Tertiary flake 0%	1	3	1	1	3	1	1	1	1	1	1	11
	Bladelike flake	2	1	1	1	1	1	1	1	1	1	1	11
Spall/spall bag	Unclassified debitage	1	2	1	1	3	1	1	1	1	1	1	5
	Bladlet	1	1	1	1	1	1	1	1	1	1	1	2
Core/core fragment	Spall	3	6	14	4	7	2	6	2	2	7	7	51
	Core on a flake										1	1	1
Nodule	Unclassifiable/fragmentary core									1		1	1
	Partially worked nodule	1			2			1				3	3
Retouched blade/flake	Retouched flake												2
	Miscellaneous retouch												1
Serrated/denticulate	Serrated piece	7	18	26	12	10	2	16	3	1	3	19	117
													1
No. of burnt unworked flints		199	6	43	14	6	6181	386	65	97	62	7053	
Weight (g) of burnt unworked flints		73	6	5	6		1605	24	2	10	23	1754	
Total													

The lithic assemblage from the enclosure (Table 2.13) is relatively undiagnostic, as Cramp has described:

As a group, the assemblage consists mainly of nretouched debitage. Excluding spalls (51 pieces), flakes are the most common removal type. These pieces tend to be small and squat in shape. The reduction strategy involved a mixed hammermode and the occasional use of platform edge abrasion. Although one bladlet and one bladelike flake were recovered, blades are conspicuously absent from the collection. The flake-based character of the assemblage might indicate a date in the later Neolithic or Bronze Age for the majority (Pitts and Jacobi 1979; Ford 1987), although much of the material is chronologically undiagnostic.

The flintwork from the ditch deposits is in very variable condition, but some significant differences were noted in the relative severity of the damage observed on the flints from the lower and upper fills [Table 2.14]. The flints recovered from the primary fills (SG 107051, 107053, 107064 and 107065) have suffered more extensively from post-depositional damage and rolling, suggesting that the assemblage is composed mainly of residual material. By contrast, the material from the upper deposits is in much fresher condition and forms a more technologically coherent assemblage. It seems likely that the material contained within the primary deposits derives from a pre-existing scatter of lithic material, perhaps formed over several millennia, that was incorporated unintentionally

into the later ditch cut. A microburin was recovered from the late Bronze Age intrusive context 107037. The flintwork from the upper fills is probably associated with the use of the monument and may have been deposited over a much shorter period of time...and...probably relates to the use of the monument...which...morphologically and technologically, is most consistent with a later Neolithic or Bronze Age industry, although the paucity of chronologically distinctive types does not allow much confidence in dating. (Cramp, CD Section 3)

Condition category	No. of flints	% of total	No. of flints	% of total	Upper fill	
					No. of flints	% of total
Fresh	7	11.11%	12	22.22%		
Slight post-depositional edge damage	9	14.29%	15	27.78%		
Moderate post-depositional edge damage	22	34.92%	19	35.19%		
Heavy post-depositional edge damage	25	39.68%	8	14.81%		
Total	63	100%	54	100%		

Table 2.14: Comparison of flint condition from the upper and lower fills of the ring ditch (HE1)

north-eastern entrance would have been very narrow; the south-western entrance would have allowed open views towards the Stanwell C1 Cursus, but only that section where the C1 and C2 Cursus meet. It is also notable that the area of post alignments in the western and eastern C1 Cursus ditches would not be visible from inside the HE1 monument and neither would the location of the late Mesolithic pits to the north. The focus was emphatically on the junction of the two cursus monuments.

Figure 2.23 shows that sunset at the mid winter solstice fell centrally to the field of vision from the HE1 monument. At sunset on the shortest day of the year, a group of people inside the HE1 monument would have observed the sun disappear behind the mound of the Stanwell Cursus (see Fig. 2.25 below). Conversely, the narrow north-eastern entrance would allow the observation of sunrise at the mid summer solstice. This would have been aided by the large gap in the southern bank and ditch of the C2 Cursus, affording views across the landscape. However, these sight lines do not take into account topography and vegetation. For instance, the sun is more

In some respects, it makes little difference which came first. The important point is that the C2 Cursus and the HE1 enclosure (and probably the rectangular enclosure excavated in T5) worked together as a ceremonial complex.

Function of the HE1 enclosure

We will now turn to our final question: what purpose did the HE1 monument serve, and what does it and other similar enclosures tell us about human inhabitation and social change?

In order to answer this, we must look at the architecture of the monument, its location and relationship with the existing monuments of the 4th millennium BC, and the finds assemblage from the ditches.

We have already shown that the architecture of the monument would suggest that a small group of people could undertake ceremonies around a central space. We have shown that the banks would have been substantial and would have prevented views into and out of the monument apart from through the two entrances. The

This confirms our view that the location of the HE1 enclosure had already had a long history of human activity. We have suggested previously that the residual lithic material in later features in this area was produced as a result of activity in the late Mesolithic or earlier Neolithic, perhaps within a small forest clearing. The HE1 enclosure therefore served to architecturally enhance a place which was already of some importance. Unfortunately, the lithics do not closely date the construction of the HE1 monument. When considering the lithic material, it is worth remembering that the terms upper and lower fills are strictly relative when bearing in mind that up to 1 m depth of deposits had been removed prior to the excavation of this monument.

In summary, the lithic material suggests that the monument was constructed at a location which had a history of activity dating to the late Mesolithic/early Neolithic, and the construction of HE1 probably post-dated that activity. The lithics from the upper fills of the monument ditches suggest that it was in use anywhere between 3300 and 2000 BC. In addition, the major north-south field boundary, 138018, and much of the rest of the 2nd millennium field system changed orientation at this point, with respect to the HE1 enclosure.

Turning to the relationship with the C2 Cursus, the lack of a direct stratigraphic relationship between the two monuments means that it is impossible to be sure if the cursus was built to incorporate the existing enclosure, or whether the enclosure was built within the extant cursus.

from the remnants of the ditches could be interpreted in this way. If the HE1 enclosure was built for a small group of people to meet, perform ceremonies and observe solar events in relative seclusion, then the architecture of the C2 Cursus would seem to cater for a large group of people, especially when compared to the C1 Stanwell Cursus. The widely spaced ditches and banks would allow a relatively large gathering of people, perhaps most of the community, to congregate inside the C2 Cursus, with perhaps only selected individuals or leaders entering the HE1 enclosure to take part in the most sacred rituals. We may thus picture the events that may have taken place in this landscape. The community that built and used the C1 Stanwell Cursus may have used the monument in ceremonial processions by a small number of people along the top of the bank, while the rest of the community observed. It is possible, even probable, that the location of the HE1 enclosure and the T5 enclosure were already important and used for solar observations. Due to increasing concerns over land and agricultural resources, the community may have needed to architectural-ly formalise these locations, which would also more clearly differentiate the leaders of those ceremonies as representatives of the constituent kin-groups. It would be this smaller group that would now lead and take part in the most sacred ceremonies, but the rest of the community ensured that they were involved in these as well

In terms of function, this later assemblage [from the upper fill] is hard to characterise. The presence of small quantities of knapping waste in combination with burnt, broken, retouched and utilised pieces implies a range of tasks. Given the presence of animal bone, it is possible that some of the flintwork results from feasting activity.

(Cramp, CD Section 3)

The animal bone was poorly preserved and very fragmentary (apart from a cow maxilla from basal deposit 107063), and consisted of cattle and sheep/goat as well as indeterminate fragments of large mammal. These remains were present throughout the sequence, as was burnt flint. This latter material was significantly more frequent in the upper than the basal fills.

Spatially, the animal bone and other finds are largely coincident, with a particular concentration in the southern ditch (see Fig. 2.24). Whether these deposits were produced by activity inside the enclosure or in the immediate vicinity of the monument is unclear. We believe that the primary use of the monument was to facilitate the meetings of groups of people (Figure 2.23 suggests c 12 individuals) at particular times of the year. These people negotiated, through various media, access to land, water and other resources. These negotiations may have taken place via ceremonial occasions such as marriages, births and rites of passage and may have been facilitated through rituals which involved slaughter and / or consumption of animals. Although fragmentary, the finds signature

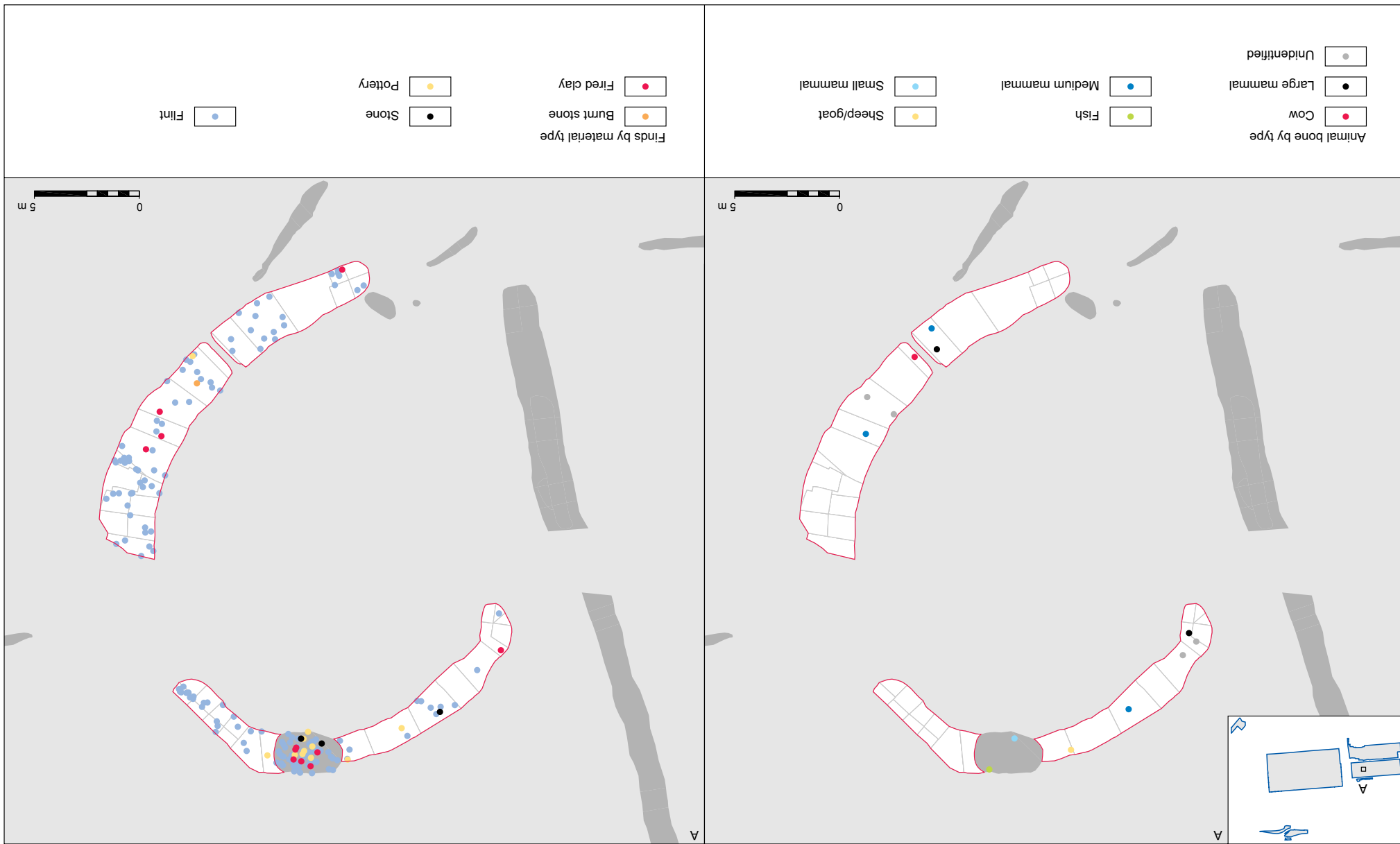
likely to have disappeared at mid winter behind the higher ground now occupied by Windsor Great Park than the Stanwell Cursus mound. Nevertheless, we feel the coincidence is strong enough to associate the HE1 monument and possibly the C2 Cursus with the general Neolithic monumental association with astronomical events (eg Parker Pearson 1993, 62–65).

We have already mentioned the small rectangular enclosure, which possibly formed the northern terminus of the C2 Cursus, and which was excavated in T5. More detailed analysis of this enclosure will be presented in Volume 2, but before discussing how these enclosures and observations were tied together by the C2 Cursus, we will consider what people may have done at the HE1 enclosure.

Use of the HE1 enclosure

The finds assemblage from the HE1 enclosure was relatively large in comparison to others thus far explored at Heathrow (eg Canham 1978), which might suggest more intensive use and the relative strategic importance of this area in general (Fig. 2.24). The finds included worked flint, burnt flint and animal bone (a rare find from deposits at Heathrow from this period). The upper fills were charcoal rich and contained high frequencies of burnt flint, all of which appear to have tipped in from the centre of the monument. The upper fills also contained 'tested' flint nodules and cores. Cramp compares the lithics from the lower fills with the upper fills (Table 2.13) and makes this point:

Figure 2.24: Finds distribution within the HE1 Enclosure



in the construction of the C2 Cursus. This linked together the C1 Stanwell Cursus and the two small enclosures, and allowed the community to take part in the processions between these locations. For instance, at sunset at the mid winter solstice, the community would gather outside the H&I enclosure, possibly having previously observed their leaders processing along the C1 Cursus to this point. The leaders would take part in ceremonies inside the enclosure which included observing the sun setting in the south-west. The community and their leaders may have continued ceremonies and feasting through the night until before dawn, when they all processed along the C2 Cursus to the rectangular enclosure at its northern terminus. Here, the leaders would enter the small enclosure whilst the community waited outside, and the sunrise in the south-east would be greeted with further ceremony. This sequence would be reversed at the mid summer solstice. Figure 2.25 shows an artist's reconstruction of this solstice ceremony.

Architecture, monuments and society: a summary

Through the preceding pages we have demonstrated and suggested how the architecture of the C1 and C2 Cursus and H&I enclosure reflected the major changes which came about in the latter half of the 4th millennium BC. We have suggested how a loose association of small kin-groups chose to become a cohesive community in response to growing concerns of

access to land and resources following the adoption of agriculture and the opening of the forest canopy. They did this at first by ceremony and procession between ancient ancestral locations, but soon formalised this process by constructing the C1 Stanwell Cursus. This monument's precision in layout and adherence to a specific template also allowed for the incorporation of earlier locations, and the continuation of ceremonies at these locations. Its construction was a product of the community and tied together the disparate histories of the constituent kin-groups. However the C1 Cursus also reflected the transformation in society and the landscape. A smaller group of people would now actively take part in the processions along the top of the bank. Ceremonies, the sub-texts of which were concerned with land and resources, would be led and mediated by that smaller leadership group. Nonetheless, the wider community was not isolated: the C1 Cursus facilitated their involvement and allowed all to see the ceremonies and processions. Very soon the community encompassed other landscape locations with banks and ditches forming small enclosures, which reflected the increasing importance and detachment of the leaders and negotiators. However even now the community still played an active part in this process, through the construction of the C2 Cursus. The architecture of this monument was radically different from that of the Stanwell monument, for it served a different purpose. The C2 Cursus tied together important locations, but it allowed the community to take part in the procession between these locations, even if they

were physically excluded from the ceremonies that took place within the small enclosures. We can view the monumental complex of the latter half of the 4th millennium BC as being revolutionary and transformational in that a community was born and within that community was the emergence of a small leadership group. The tensions between community and leadership reached an equilibrium through the inclusion of the wider community in observation and participation in ceremonies conducted on their behalf at crucial times of the year. Nonetheless, the construction of small circular enclosures such as the H&I example illustrate that spaces of 'explicit order' were becoming more closely defined and possibly more exclusive in terms of the select group that occupied those spaces during the later 4th and 3rd millennia BC. Our ceramic-based relative chronology has allowed us to place these observations within the currency of Plain Bowl Ware Neolithic pottery between 3600 and 3300 BC. The WPR98 excavations revealed relatively little in the way of monuments or artefacts from the succeeding 3rd millennium BC. No Peterborough Ware, current from 3400 to 2500 BC, was encountered, and only four pits containing Grooved Ware dating from 3000 to 2000 BC were excavated. More substantial evidence for human activity in the 3rd millennium BC was recorded during the T5 excavations and will be presented in Volume 2. However, for our purposes here, we will conclude our chapter with some general observations on inhabitation of the landscape in the 3rd millennium BC.

Figure 2.25: Artist's reconstruction of the monumental landscape at the end of the 3rd millennium BC



3300 to 2000 BC: Peterborough and Grooved Ware

The period following the construction of the major monuments from 3300 BC to the emergence of the first field boundaries between 2000 BC and 1700 BC is not well represented in the WPR98 dataset at Perry Oaks. For instance, no Peterborough Ware was recovered during the WPR98 excavations and Grooved Ware was only recovered from a handful of pits. In addition, as we have seen, our lithic chronology is not sufficiently refined to allow us to use those artefacts to examine this period in detail. It is worth discussing the meagre data from WPR98 at the outset, before moving on to outline some of the trends that may have taken place in the community of the 3rd millennium BC. We will do this by analogy with the material in West London and nationally.

The evidence from Perry Oaks

We have already described the HE1 horseshoe enclosure, which on the basis of the meagre lithic assemblage from the ditch fills, could date to the 3rd millennium BC. However, our evidence for the 3rd millennium BC at Perry Oaks in general consists largely of Grooved Ware and lithics residing in later contexts. Only two pits containing Grooved Ware could confidently be dated to this period (216121 and 127022; Figure 2.26), and even these were far from normal Grooved Ware pits. Pit 127022 for instance was contaminated by slag deposits from the construction of the sludge works, and contained only 5 g of Grooved Ware

GR2 fabric. It also contained 22 g of an indeterminate grog-tempered fabric, GR1, which could date to the early Bronze Age.

On the basis of technology, the lithic assemblage from pit 127022 appears to date to the late Neolithic or early Bronze Age and contains evidence of both knapping and tool use (Table 2.15).

Pit 127022 contained a total of 52 struck flints and 289 pieces (1203 g) of burnt unworked flint within SG deposit 127017. Technologically, the assemblage is in fresh condition and probably dates to the late Neolithic or early Bronze Age, although several residual pieces are present, including one microburin and one, probably later Neolithic, Levallois core. Retouched tools include five retouched flakes and two piercers.

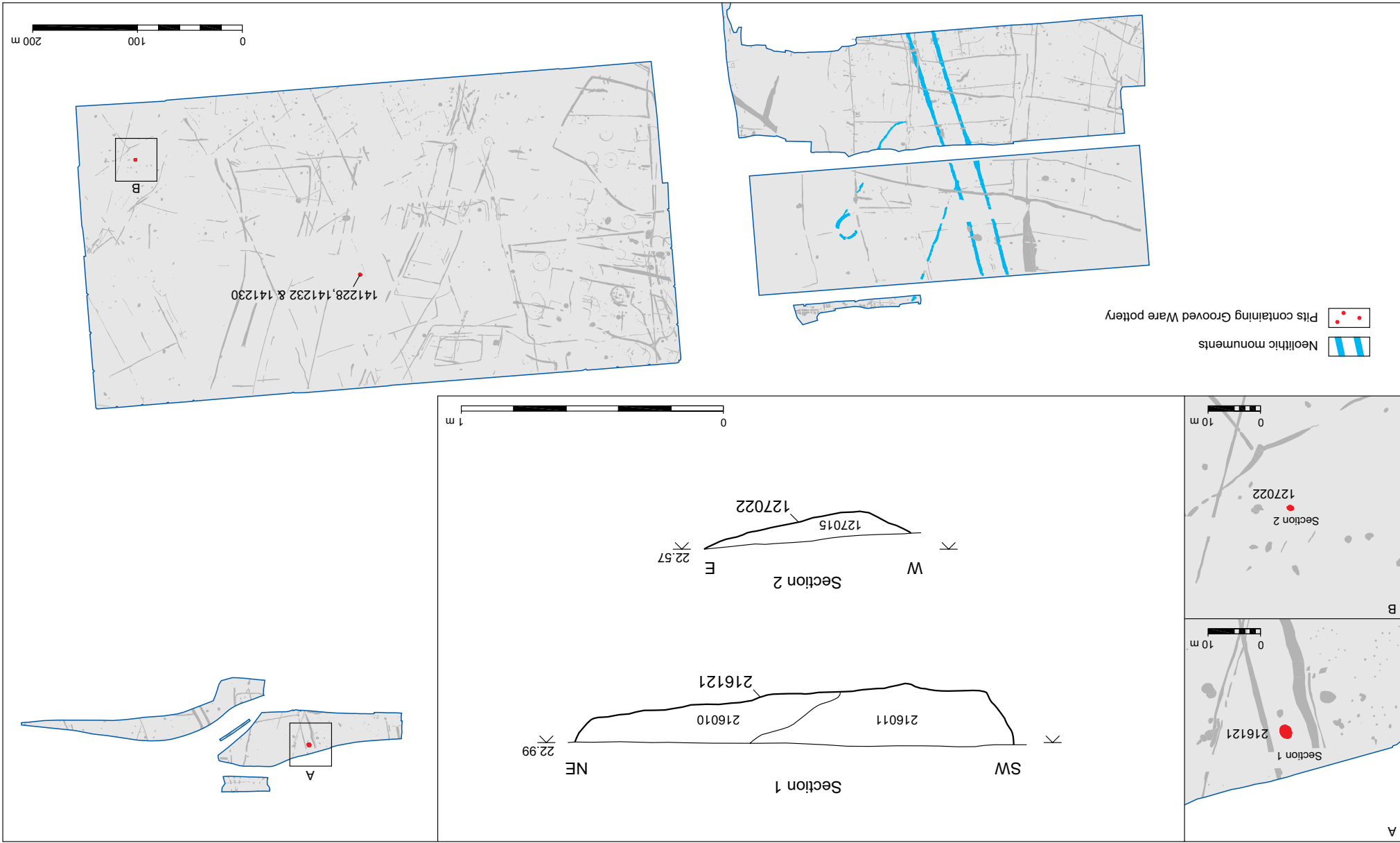
(Cramp, CD Section 3)

Table 2.15: Late Neolithic/early Bronze Age lithic assemblage from pit 127022

Category	Sub-category	Total
Flake/broken flake	Primary flake Secondary flake Tertiary flake	4 13 11
Blade/broken blade	Blade-like flake	1
Microburin	Microburin	1
Chip/sieved chip	Chip	13
Core/core fragment	Multi-platform flake core Levallois/other discoidal flake core	1 1
Retouched blade/flake	Retouched flake	5
Piercer	Aw/piercer	2
Total		52
No. of burnt struck flints		1
No. of broken struck flints		18
No. of burnt unworked flints		289
Weight (g) burnt unworked flints		1203

Given the problems of distinguishing with certainty changes in lithic technology between 2400 and 1700 BC, we must conclude that this pit (127022) could date to anytime between 3000 and 1700 BC. It is even conceivable that the pit dates to the period between 2400 and 2000 when both Beaker and Grooved Ware pottery appears to have been in use (but see Garwood 1999, 161). Nonetheless, the lithics do represent the traces of some sort of specialised domestic (?) activity. Pit 216121 contained 132 g of Grooved Ware and 12 flint flakes of broadly late Neolithic date (Fig. 2.26). However, a radiocarbon date on seeds from context 216011 of this feature produced a medieval date of AD 1180 to 1400 (WK9377 cal AD 2 sigma).

Figure 2.26: Pits containing Grooved Ware



A radiocarbon date of 3030–2870 BC (WK11473 cal BC 2 sigma) was obtained on *Arrhenatherum elatius* (onion couch) tubers from pit 137027, which also contained cremated human bone. No Grooved Ware pottery was recovered from this pit, but the radiocarbon date places the cremation during the use of Peterborough Ware and the emergence of Grooved Ware. Unfortunately, the pit was again contaminated by the construction of a nearby concrete wall. In addition, the human bone report noted the presence of pyre goods in the shape of copper alloy and animal bone. The presence of copper alloy and the association of *Arrhenatherum elatius* (onion couch) tubers with cremations is more indicative of the Bronze Age, and certainly unlikely for the beginning of the 3rd millennium BC.

Three intercutting features (141228, 141232 and 141230) contained fragments of Grooved Ware (Fig. 2.26), but they also contained various sherds of early Bronze Age, early Iron Age and late Iron Age fabrics.

Pit 129109 in the north-eastern part of WPR98 contained a sizeable lithic assemblage (Fig. 2.27), broadly dated to the 3rd millennium BC. Nearby were two further pits (148324, 148328), which contained no finds, and a tree-throw (148326) containing one struck flint and some burnt flint. Although undated, these further features could well be contemporary with pit 129109. The lithic assemblage from pit 129109 provides a good example of the sort of features which resulted from inhabitation of the 3rd millennium BC landscape.

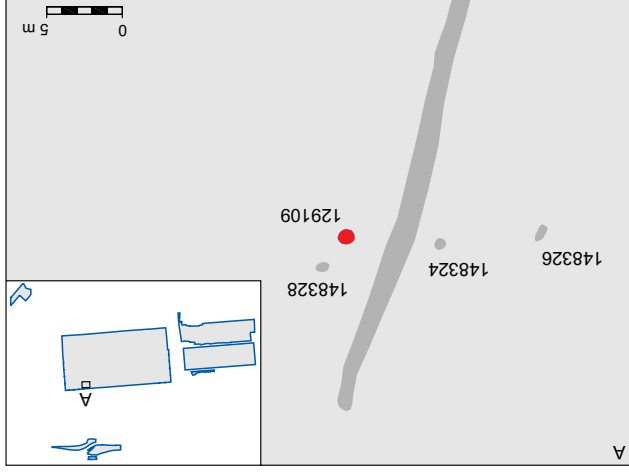
A total of 57 struck flints were recovered from two deposits in pit 129109, which was excavated in quadrants. The flintwork can be dated to the Neolithic on the presence of one fragment and three flakes from three polished implements; the general technological appearance of the flintwork might support a date in the later half of the period.

The majority of flints are in a fresh, uncorroded condition. While most is local gravel flint, a few flakes of bullhead flint along with several pieces of a distinctive derived flint are also present. Local nodules seem to have been preferred for burning.

Most of the material (53 pieces) came from the upper fill; only four pieces were recovered from the lower fill. A further 710 pieces (4130 g) of burnt unworked flint came from the pit, again mainly from the upper fill

Category	Sub-category	SG deposit 129110	SG deposit 129111	Total
Flake/broken flake	Primary flake	1	1	1
	Secondary flake		12	12
	Tertiary flake	3	22	25
Blade/broken blade	Flake from a polished implement		33	33
	Blade		11	11
	Bladellet		11	11
	Bladelle flake		55	55
Core preparation flake	Rejuvenation flake tablet	1	1	1
Axe/adze sharpening flake	Axe/adze thinning flake		22	22
Chip/sieved chip	Chip		11	11
Core/core fragment	Single platform flake core		11	11
	Core on a flake		11	11
Retouched blade/flake	Retouched blade(let)		11	11
Serrated/denticulate	Notched piece		11	11
Axe/core tool	Polished axe fragment		11	11
Total		4	53	57

Figure 2.27: Lithic assemblage from pit 129109



forthcoming) illustrates the difficulty in extrapolating data obtained from features separated by only a short distance. Analysis of the ditch deposits in this feature showed that the local landscape was extensively open in the early Neolithic but this failed to be recorded in contemporaneous palaeochannel sediments of the nearby River Nene (Brown and Keough 1992), which indicated an extensively wooded catchment throughout the period. It is not surprising that trees fringing a river bank would dominate the local pollen record and filter out regional pollen, and the wider landscape may have consisted of woodland with a mixed mosaic of newly created and neglected clearings, similar to Ferry Oaks.

Another factor of importance is the tendency to ascribe 'periods' to features that may, in fact, be temporally separated. For example, two water-holes separated by a short distance might both be regarded as being late Neolithic, but this period may span 800 years. There might be clearance and abandonment at the site several times within that period and the features might just be reflecting one set of environmental conditions. This could prove problematical for landscape interpretation for the late Neolithic.

Data relating to the 3rd millennium BC have been recovered in greater quantity and with more reliable provenance during the T5 excavations, and these will be discussed in Volume 2. In the meantime, we will briefly turn to some of the broader trends of the 3rd millennium BC within the wider West London landscape.

not unusual for several axes to be represented by single flakes. It seems that, once knapped, the flakes from prolonged circulation, with the effect that material from the same implement was only rarely - and perhaps unintentionally - recombined for deposition.

Beyond the group of polished flakes, there were very few formal tools in the pit. A retouched bladelet was recovered from context 129104 (NW quadrant) and a notched flake was recovered from context 129095 (SW quadrant). Numerous unretouched edges show evidence of use.

(Cramp, CD Section 3)

Environmental samples taken from pit 129109 (1124 and 1125) yielded no arboreal pollen and only Poaceae (grasses) and ruderal weeds were found. The occasional cereal-type pollen grain supports the possibility of nearby cultivation, but some reworking of sediments is a possibility. Microscopic charcoal was present in moderate amounts but palynomorph preservation was poor and it is difficult to characterise the landscape from such impoverished data. The absence of tree and shrub pollen might reflect a genuinely open Neolithic landscape, but the paucity of palynomorphs makes interpretation tenuous. Furthermore, the pit can only be dated on the lithic assemblage, and could thus have been excavated anytime between 3000 and 2000 BC. This Neolithic pit might, indeed, be reflecting a cleared landscape, although other areas of the site may yield evidence of wooded conditions. For instance, an example from a long barrow at Redlands Farm in Northamptonshire (Wiltshire,

(707 pieces, 413 g). There was little horizontal variation in the distribution of either struck flint or burnt unworked flint.

The assemblage is mostly composed of flakes (38 pieces). Blades, bladelets and blade-like pieces are less numerous (seven pieces), suggesting a flake-based later Neolithic technology. The majority of flakes are broad and thin with fine dorsal flake scars. Many have been carefully struck from an abraded platform edge using a soft-hammer percussor. The presence of a platform rejuvenation tablet reflects attempts to maintain the flaking angle during knapping. Two possible axe-thinning flakes were also recovered.

The paucity of preparatory flakes, pieces of unclassified waste, chips and cores suggests that the assemblage contains little knapping waste. No refits were found, despite the presence of several related groups of flint, which again suggests that the assemblage does not result directly from knapping activity. An important exception is the polished axe fragment from the northeastern quadrant and the indirectly refitting flake from the southeastern quadrant. It is possible that other pieces that might have refitted have been lost to truncation, although it is not uncommon to find that only elements of a polished implement have been selected for deposition; examples of both 'cores' and flakes are known from the nearby Neolithic causewayed enclosure at Staines, Surrey (Robertson-Mackay 1987, 104 and 107).

Two additional polished flakes, originating from two different axes, were recovered from the northwestern and northeastern quadrants. As seen at Ascot-under-Wychwood in Oxfordshire (Cramp forthcoming), it is

Evidence for the wider landscape in the 3rd millennium BC

In the West London area, Peterborough Ware was deposited in three main contexts. Firstly, isolated or small clusters of pits, often with lithic material and charcoal. Secondly, from the upper fills of causewayed enclosures (eg Yeoveny Lodge Staines) and the Stanwell Cursus (O'Connell 1990). Thirdly, Peterborough Ware is often associated with the modification of earlier Neolithic small circular monuments. Examples include Manor Farm Horton (Preston 2003) and Staines Road, Shepperton (Bird *et al.* 1990). Taken together, the three main contextual occurrences of Peterborough Ware give the impression of a time when people inhabited a landscape defined by ancient places and relatively new monuments and practices. However, this landscape did not see a continuation of the major architectural constructions undertaken in the period 3600 to 3300 BC. Rather, existing large monuments continued in use in some way, even if they were in advanced decay, whilst small monuments were modified and / or enlarged. Groups of pits, possibly to accept the ceramic, lithic and ecofactual residues of autumnal rituals, were dug in woodland clearings that had been or were to be used for cultivation or pasture. We have termed the Peterborough Ware Phase of the Neolithic the 'Period of Contentment' in West London, as it appears to have been a time when the community that built the major monuments of the latter part of the 4th

millennium were content to live their lives within the physical and social framework they provided. Hence new monuments were not constructed, but old ones were modified or re-used.

If we can detect a subtle change in this period, then it is in the practice of pit digging and the assemblages they contain when compared to the earlier 4th millennium BC.

Allen *et al.* (2004) have contrasted this pattern with that of pits dated by radiocarbon to the period 3350–2900 BC containing Peterborough Ware. They have suggested that these pits saw the deliberate deposition of selected pottery and flint assemblages rather than the general midden deposits of the early Neolithic, which were placed in tree-throws. Pits 127022 and 129109 at Perry Oaks both contained lithic assemblages which show some specialisation and selection of pieces for deposition, and of course the former also contained Grooved Ware.

This pattern is repeated across the West London area, where excavations by the Museum of

London and others, for example at Imperial College Sports Ground (Crockett 2001), in the latter quarter of the 20th century recorded isolated or small clusters of pits containing Peterborough Ware, often with lithic material and charcoal.

If we are to try to understand this trend beyond ascribing it to ritual practices, we should consider how people moved around a landscape divided by monuments and tradition—how they decided where people would live, graze animals, gain access to water and plant crops. By whatever process, these issues had to be resolved and settled, perhaps every year or season. We have already suggested that the cursus and small

pit deposition. Evans *et al.* (1999) have drawn attention to the patterns of artefact deposition in tree-throws across southern Britain in the 4th millennium BC, and suggested that many were the deliberate receptacles for midden material. Allen *et al.* (2004) have drawn similar conclusions from their excavations at Dorney, near the Thames, eight miles (13 km) away from Terminal 5. They support the findings of Evans *et al.* that middening occurred after the trees had fallen, and possibly after significant clearance in the early Neolithic (Allen *et al.* 2004, 91). Furthermore, they go on to suggest that the deposition of early Neolithic material within tree-throws can be seen as a continuation of a Mesolithic tradition (*ibid.*, 92).

human engagement with the landscape. This was principally concerned with agricultural production enclosed by boundaries marked by ditches, banks and hedges. Within the enclosed areas lay fields, waterholes and permanent settlements accessed by trackways that gradually developed along the lines of the boundaries. This was a marked shift from the character of the Neolithic landscape, which was defined by highly visible major monuments set within open tracts of land that preserve more subtle traces of human activity. The society that was marked by the coming together of peoples using Grooved Ware pottery appears to have been transformed from *c* 2000 BC. A comparison between the Neolithic and Bronze Age landscapes as shown in Figure 2.28 clearly demonstrates this radical transformation, from an ancient, monumental landscape at *c* 2000 BC to the rural agricultural landscape of *c* 1700–750 BC, which would be more familiar to us today.

The change to a pattern of enclosed field systems and settlements implies an ethos of claiming ownership of land by individuals or communities, although this may not have been either sudden or dramatic, either in landscape or in ideological terms. In addition, the pattern of enclosure was not chronologically or morphologically consistent across the Heathrow area. It may have been either a relatively swift or a gradual and cumulative process, reflecting emerging and shifting relationships between individuals, communities and settlements, negotiated with reference to a consciousness and memory of the landscape they inhabited.

ny laying claim to the land at issue, involving burying some of the ceramic and lithic material used in the ceremony, or derived from the respective settlements of the people involved. Allen *et al.* (2004, 92) have noted that the material deposited in Grooved Ware pits was carefully selected, not merely a sample of occupation debris. It is not surprising, therefore, that some pits containing Grooved Ware in the West London area also contained wild autumnal fruits such as sloes, crab apple and hazelnuts. These suggest that representatives of the produce of the wild, non-domesticated landscape also formed part of the ceremonies, and were deposited in acts of affirmation. These deposits were the final link in a chain of events which commenced with ceremonies undertaken at the monuments.

As we will see in our final section of this chapter, these practices were to change during the period 2000–1700 BC, as people, kin-groups and the community came to terms with new conditions in society, and adapted the mechanisms of the 3rd millennium BC to a point where the manner in which land was apportioned was completely transformed.

The social origins of the landscape transformation of the 2nd millennium BC

The period between the late Neolithic (*c* 2000 BC) and middle Bronze Age (*c* 1600 BC) saw a major transformation of the Heathrow landscape that was so conspicuous that it clearly represented a correspondingly significant transformation of

circular monuments constructed between 3600 and 3300 BC played a vital role in this process of negotiation. These meetings may have become cloaked by rituals involving worship and even disposal of the dead, but the subtext remained the fundamentals of ordering life. In the 3rd millennium BC, new monuments were constructed and were associated with Grooved Ware. These take the form of small 'hengiform' enclosures, but are essentially very similar in plan and dimension to the small circular enclosures of the 4th millennium BC. One such small Grooved Ware enclosure was revealed in Area 77 (Fond 17) of the T5 excavations, and will be discussed in more detail in Volume 2. For the time being, we can say that with the adoption of Grooved Ware, there was a re-emphasis on the monumentalising of meeting places for small groups of people to undertake ceremonies.

We cannot know the details of these negotiations, rituals and ceremonies, and in this context negotiation is taken to cover a wide range of possibilities. It may have taken place in the context of peaceful discussions with ritual feasting or negotiation by force through trials of strength or combat. The deliberate digging of pits and the deposition of pottery and flint may be part of the process of negotiation itself, or it may be an outcome of that process. In other words, once agreement had been reached over access to a particular resource or part of the landscape under the guise of a ceremony undertaken at one of the monuments, a small ritual may have been undertaken at the part of the landscape under contention. This may have ended with a ceremony

Chronology

Our first concern in trying to understand this revolution in landscape use is to consider chronology. The excavations at WPR98 produced over a dozen radiocarbon dates from 1600 BC to 900 cal. BC from a range of waterlogged contexts, but we have nothing from the early Bronze Age. Therefore, ceramic evidence continues to play a large part in understanding the chronology of the 2nd millennium BC (see Table 2.16).

Firstly, we must consider the chronological overlap between Grooved Ware pottery of the 3rd millennium BC and Beaker pottery which spans the late 3rd and early 2nd millennium BC. Both Grooved Ware and Beaker utilised grog-tempered fabrics, and we have already discussed the pattern of Grooved Ware deposition. The Perry Oaks excavations produced even smaller quantities of Beaker pottery, and in fact there is very little in the way of Beaker pottery at Heathrow generally, although south of the Thames it is more common. Furthermore, if



Figure 2.28: Transformation from monumental to enclosed landscape

Table 2.16: Ceramics of the 2nd millennium BC

Pottery type	Date range BC
Grooved Ware	3000-2000
Beaker	2400-1700
Collared Urn	2000-1500
Deverel Rimbury	1700-1150
Post-Deverel Rimbury	1150-750

For West London and the Middle Thames in general, we are therefore unable to resolve the relationship between Collared Urns and Beaker pottery, in contrast to Burgess' treatment of the link between Collared Urns and food vessels in northern Britain (ibid., 348–9). Early Bronze Age metalwork occurred as isolated finds across the site, but was very uncommon. The chronology of the early Bronze Age lithic repertoire, represented particularly by barbed-and-tanged arrowheads, is, as already mentioned, insufficiently precise to allow us to understand changes within the period 2000 to 1600 BC. It is also difficult to determine the association of the lithics generally with Beaker and Collared Urn ceramics.

The plan in Figure 2.29 shows the distribution of pottery and lithics that can be dated to the late Neolithic or early Bronze Age with any degree of certainty. Early Bronze Age pottery is relatively uncommon at Perry Oaks—only 32 sherds (75 g) have been tentatively assigned to this period, in almost every case on the grounds of fabric alone. All late Neolithic sherds are grog-tempered and all have been assigned to a single fabric type (GR1). While the fabric itself is visually very similar to Grooved Ware fabric GR2, sherds in GR1 are invariably oxidised, at least externally, a trait more characteristic of early Bronze Age ceramics. Only one diagnostic sherd was identified amongst this group—a comb-impressed body sherd, probably from a Beaker vessel. The remainder are all plain body sherds, and could belong either to Beakers or Collared Urns.

for settlement and agriculture. Tenure of land, probably on a seasonal basis, was then confirmed by the enactment of ceremonies, which included the deposition of Grooved Ware ceramics and associated lithics. Wild fruits and nuts also accompanied the process of deposition, suggesting that the ceremony occurred in autumn. We have argued that the monumental architecture and absence of large hengge monuments suggests that society remained organised around smaller groups, possibly at the kin or clan level.

Our next firm chronological horizon is defined by a raft of radiocarbon dates associated with Deverel Rimbury pottery. The dates span the period 1600 to 1100 cal. BC and were obtained on material derived from pits and waterholes associated with fields and settlements contemporary with the full floruit of the middle Bronze Age 'complex' (see Chapter 3).

The period of transformation thus coincides with the early Bronze Age and corresponds, in terms of Needham's chronology (1996), with his Periods 3 (2050–1700 BC) and 4 (1700–1500 BC). These periods in West London, however, are better defined by the rarity or absence of diagnostic artefacts and monuments rather than their presence. There are no individual burials, barrows or large hengge monuments unequivocally associated with Beaker pottery. Collared Urns, by comparison, are more abundant but still scarce. As Needham (ibid., 131) has pointed out, nationally there is a large degree of overlap in the chronology of late Beaker and the early and middle Bronze Age Collared Urns (Burgess 1986).

Carwood (1999, 161) is correct, then there may have been relatively little chronological overlap in the use of Grooved Ware and Beaker pottery. In ceramic terms Heathrow has a greater representation of Collared Urns, which, although still not common, are a clear element of activity of this date. Subsequently, during the middle Bronze Age and into the late Bronze Age there was a return to an almost universal flint-tempered tradition, and body sherds can sometimes be only broadly dated as middle/late Bronze Age. The Deverel Rimbury ceramic tradition embraced a relatively conservative repertoire of forms—essentially thick-walled bucket and barrel shaped urns in coarse fabrics and smaller globular urns—generally containing better sorted and finer temper.

Lithic material can be broadly dated to the late Neolithic/early Bronze Age, a somewhat crude chronological range, apart from individual diagnostic artefact types. Lithics in the latter part of the 2nd millennium BC become increasingly crude and flake-based, and so serve as only broad chronological indicators. There is no direct evidence from the site for environmental conditions or prevalent vegetation cover prior to 1600 BC.

Social changes

We have argued in the previous section that by the end of the 3rd millennium BC small groups of people negotiated, through ceremonies at monuments, access to and use of areas of landscape

Shards were recovered from 15 contexts. Condition overall was poor, shards are very small and abraded (mean sherd weight 2.3 g) and no context produced more than 22 g of pottery. The diagnostic Beaker sherd came from a primary ditch fill (ditch recut 105009). The overall distribution is quite dispersed across the excavated areas (Fig. 2.29), although some loose clustering can be observed on the southern edge of POK96 (ditches 961009 and 962366; pit 961024), and to the north in WPR98 Bed B (secondary fill of the eastern cursus ditch; ditch recut 105009; ditch 107029, 129006). Shards from all of these contexts can be regarded as residual.

Lithic material is similarly sparse. Small assemblage size, residuality and chronologically imprecise technological evolution all combine to restrict the range and usefulness of lithics of definite early Bronze Age date.

The distribution pattern of artefacts residing in later features is generally similar to patterns from the 4th and 3rd millennia BC, and from this we may infer that settlement and activity patterns in the early Bronze Age landscape were broadly similar to the latter part of the 3rd millennium BC. In contrast, ceremonial monuments unequivocally dated to the early Bronze Age are rare. In West London as a whole, many small circular cropmarks attributed to the early Bronze Age, have, on excavation, proved either undatable (eg Heathrow Site A, Canham 1978) or to date to the 4th and 3rd millennia BC (eg the Perry Oaks HE1 enclosure). Excavations by Wessex Archaeology at Imperial College Sports Ground, however,

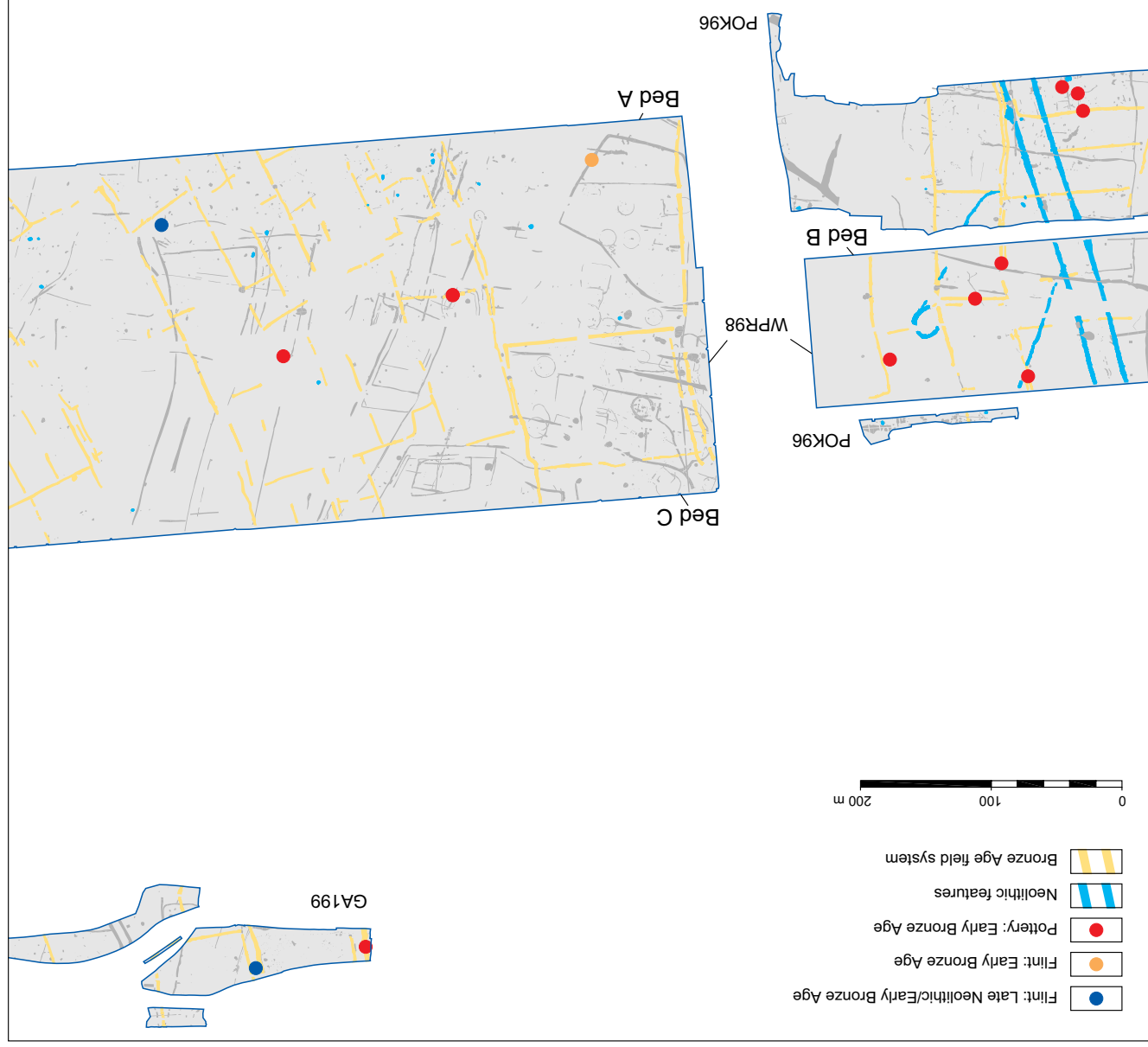


Figure 2.29: Distribution of pottery and lithics dated to the late Neolithic or early Bronze Age

wild animal of some rarity by the early 2nd millennium BC, and its deposition is in contrast to the wild fruits and nuts predominantly associated with Grooved Ware depositional practices. Excavations in Area 91 of T5 revealed a pit containing Grooved Ware, which was cut by another pit containing relatively large quantities of Collared Urn (see Vol. 2). There were no traces of cremated bone, and this too appears to be an attempt to continue the tradition of ceremonies culminating in the deposition of material employed in the ritual. It may well be, however, that these attempts at continuing the tradition of negotiated land access eventually proved insufficient and that social agreements following ceremonies of deposition gave way to more formal agreements manifested in more blatantly physical demonstrations of the negotiation process.

We have already mentioned the first occurrence of barrows and cremation burials, perhaps the first indication of a concern with treating certain individuals differently and erecting monuments around them. It would be logical to suggest that this provided the more formal mechanism for asserting land tenure which people adopted in the early 2nd millennium BC. However, even in these cases there is a clear link with the past. For example, the Imperial College barrow was constructed within an existing small Neolithic enclosure, and although undated, it must be presumed to date to the early Bronze Age. Elsewhere on the Imperial College site, two Collared Urns were associated with cremated

powerful individuals and leaders who emerged from the ceremonies associated with the large monuments of the day. Instead society was centred on small kin or extended kin-groups, whose mechanism of land access and usage we have previously described. However it is clear that between 2000 and 1600 BC that centuries-old mechanism was breaking down or transforming. Society sought new ways of dealing with the problems of land access and tenure, although why this occurred we do not know. It could have been due to population growth or any number of other interrelated or unrelated factors. Nonetheless, we can see from the depositional contexts of Collared Urns an attempt to accommodate new monumental and burial traditions with old traditions of ceremonies resulting in deposition of material in pits.

For example, the six Conygar Hill type barbed-and-tanged arrowheads used to kill an aurochs, which was butchered and buried in a large pit at Holloway Lane to the north of T5 (Brown and Cotton 2000), are nationally associated with food vessels and Collared Urns (Green 1980 130). No ceramics were recovered from this pit, but the act of deposition clearly has echoes of the Grooved Ware pits of the late 3rd millennium BC. In fact, the pit containing the aurochs was excavated through a small pit containing Grooved Ware (Brown and Cotton 2000, 86) and other Grooved Ware pits were close by. Cotton has speculated (Lewis 2000, 74) that the aurochs burial may be the culmination of the Neolithic 'structured deposition' tradition, although if it is the culmination, then it also heralds changes. The aurochs was a

recorded a round barrow that had been inserted into an existing small Neolithic circular enclosure, although unfortunately the associated primary cremation was undated (Crockett 2001). However, a barrow with a Collared Urn cremation was excavated adjacent to the Thames on the Surrey bank at Hurst Park (Andrews 1996). Early Bronze Age round barrows are usually associated with individualised burial rites and personalised artefacts, despite the occurrence of successions of later inserted burials. Barrows and Beakers tend to denote individuality and high status. The paucity of evidence of this type from across the large area excavated at T5 suggests that this tradition was virtually absent in the vicinity of Heathrow. Clearly people were still present in the landscape, and living in a broadly similar fashion to the late 3rd millennium BC. The reasons for the extreme scarcity of Beaker ceramics, burial traditions and monuments are unclear, although it is possible that Beaker ritual and funerary activity were re-located to a focus on the floodplains of the Thames and its tributaries, as suggested by wider distributional patterns (Brown and Cotton 2000, 85). It is also possible that in this part of the Middle Thames at least, there was a closer chronological relationship between Neolithic Grooved Ware (or even late Peterborough Ware) and Collared Urns. The Baker 'package' was adopted only in part, for example lithics, and did not find a hold in society. We have argued previously that late Neolithic society in West London was not geared towards the sort of

ceremonial and physical affirmation of claims to land and resources. It would thus appear that the unity of the community was breaking down, and these mechanisms may have developed as an increasingly desperate attempt to maintain orderly access to resources, and therefore to retain community cohesiveness. Indeed, if we accept the physical division of the landscape by the first field boundaries as being a logical progression of this process, then it would appear that the community of kin-groups had finally broken down.

It could be argued that the act of landscape division was itself an expression of the importance of the individual and the small group, an imperative which elsewhere in the country was expressed by the adoption of high status monuments and artefacts such as barrow burials, rich grave goods, metalwork, Beaker and other forms of ceramics. However, in the Heathrow area there may have been a more egalitarian backdrop to the apparently personalised activity of splitting off plots of land from a previously communal landscape. In the following chapter we will examine how the landscape was divided and how it developed through the latter half of the 2nd millennium BC. We will show how the individual landholdings reflected the individual kin-groups, and how these locked together to form a field system which was the product of the overarching community.

centuries, since evidence from Perry Oaks indicates that the first division of the landscape by formal field boundaries took place during this period or even earlier. Most importantly, Needham (1996, 132) has suggested that Deverel Rimbury pottery probably originated in his Period 4, which accords with the appearance of land division and the first proper settlements (see Chapter 3).

If we accept that the adoption of cremation burial, sometimes accompanied by barrows and Collared Urns, was an attempt at formalising claims to land and resources, then it would appear that after an unknown period even this approach was not sufficient to achieve a long lasting agreement over access to resources. The strategy of excavating a series of banked and ditched boundaries across the landscape was thus a logical progression in a series of progressively more overt attempts at claiming land tenure.

It would thus appear that the united community which built the Neolithic monumental landscape of 3600 to 3300 BC had itself undergone transformation during the 3rd millennium BC. After many years of the community living contentedly within the monumental and social architecture they had constructed in the latter half of the 4th millennium BC, we have suggested the second half of the 3rd and early 2nd millennia BC saw an increasing trend towards more overt

remains buried in a pit, located close to a deep shaft or well containing Peterborough Ware. At Hurst Park, the barrow enclosing a Collared Urn cremation burial enclosed a shallow oval 'scoop' or tree-throw containing Grooved Ware. Located 30 m to the west of the barrow was a large rectangular feature containing six sherds of Peterborough Ware.

In all of these cases we see a clear link with the practices of the 3rd millennium BC, which we have argued were concerned with ceremonies relating to affirmation of land access and resources. The practice of cremation and the construction of barrows at these locations could represent a change in the methods of laying claim to land and resources. Instead of the deposition of ceramics, lithics and wild produce following ceremonies, human bodies were cremated, buried with Collared Urns and the places marked with monuments. The monuments were clear physical markers of territory and the association of individuals of defined ancestries with that land.

Once again we have no refined chronological outline for this process, and do not know how long these practices continued. Put crudely however, the Imperial College and Hurst Park Collared Urns fit in the Late Series of Burgess' classification, which in turn accords with Needham's Period 4, 1700–1500 BC (Needham 1996, 132). These would appear to be crucial