Oxfordshire

Later Bronze Age and Iron Age

Historic Environment Resource Assessment

Tim Allen   December 2006

Nature of the evidence

The Sites and Monuments Record for Oxfordshire attributes 485 records (monuments, events and findspots) to the Iron Age, and a further 42 records specifically to the Middle and Late Bronze Age (but 897 to Bronze Age). These records mask a great diversity in the level of information recorded, from single findspots to major investigations of large areas of prehistoric landscape. Many formally undated cropmark sites probably also date to one of these periods. In addition, many further sites are likely to lie buried beneath alluvium on the floor of the Thames valley and of its tributaries.

Later prehistoric sites have been recorded in Oxfordshire since the 16th century, when Leland wrote about the earthworks on Castle Hill, Little Wittenham (Leland cg. Vol. 120; Gelling 1974, 128). Knowledge was originally restricted to a few very visible earthworks, supplemented in the 18th and early 19th century by a few prominent finds. Interest and knowledge grew from the mid-19th century onwards, with the excavations of Stephen Stone at Standlake (1847) and the protection of ancient monuments through scheduling came about in the later 19th century through the destruction of part of the valley fort at Dyke Hills, near Dorchester-upon-Thames, which led Lane-Fox to raise the matter in the House of Commons and eventually to the Scheduled Monuments Act (Lane-Fox 1870; Cook and Rowley 1985, 18-20). The aerial photography of Major WF Allen in the late 1920s, followed by Derek Riley and others, led to an explosion of information about buried sites on the river gravels, which the excavations of the Ashmolean Museum, in the persons of ET Leeds, JNL Myres, Bradford and others, began to investigate. A programme of hillfort excavations conducted by the Oxford University Archaeological Society in the 1950s and early 1960s provided important insights into the region's most visible later prehistoric monuments, and much of this information was drawn together by DW Harding's thesis upon Iron Age settlement in the Upper Thames region (Harding 1972). In the 1970s and 1980s the Oxford Archaeological Unit carried out and published a series of large-scale excavations upon Iron Age settlements under threat with support from English Heritage and Amey Roadstone, aspects of which were summarised in The Archaeology of the River Gravels (Lambrick in Fulford and Nichols 1992, 78-105).

Since the introduction of PPG 16 there has been a continuing expansion in volume of developer-funded work, and a major English-Heritage funded project at Yarnton looking at an even larger landscape than previously. Aerial photography in the exceptional summer of 1976, and occasionally since then, has revealed a great many new cropmark sites off the gravels, and the spread of development has also led to much more work on other geologies and in other parts of the county, for instance around Banbury, around Witney or in the Vale of the White Horse around and west of Didcot. The valley has also seen further work, for instance around Faringdon. These have been supplemented by a number of pipelines that have provided useful transects across the countryside, particularly in South Oxfordshire, and by exploratory work for the new reservoir in the Vale of the White Horse. Research excavation has seen a new lease of life, with the campaigns of first the Oxford Archaeological Unit and latterly Oxford University on the Hillforts of the Berkshire Ridgeway and at Frilford, and the work of the Northmoor Trust and Oxford Archaeology at Castle Hill, Little Wittenham.

There has always been a bias in the archaeological record towards those areas, principally on the river gravels and the chalk, where cropmarks are most visible, although recently this imbalance has been partly redressed (see especially Featherstone and Bewley 2000). For a long while the pressure of development was most evident in the gravel and sandpits of the valleys, but the extension of the M40, and the subsequent development of towns like Bicester and Banbury, has provided new foci for archaeological investigation. The release of Upper Heyford from military control has also made another large area available for investigation. There is still a significant imbalance between the character of archaeological work in the valley and on the limestone uplands and the Berkshire Downs, the latter being mostly research investigations, the former largely development-led, and our understanding of the Cotswolds in later prehistory still lags behind that of the valley and the Downs.

Cropmark evidence has been supplemented in Oxfordshire by a number of important earthwork, landuse and fieldwalking surveys, such as the Upper Thames Valley survey funded by the British Academy, which included the Frilford/Marcham survey (Hingley 1980a and 1980b) and the Thames floodplain survey at Port Meadow, Oxford (Lambrick 1982a), and other surveys at Rollright (Lambrick 1982 b) and the fieldwalking around Standlake (Armstrong 1979). Such surveys have continued sporadically more recently, most important being that on the proposed reservoir south of the Ock (Hearne 2000). Important work was carried out upon the large linear boundaries making up the North Oxfordshire Grims Ditch (Copeland 1988).

The use of geophysical survey was pioneered at Madmarston in Oxfordshire (Fowler 1960) and at Rainsborough just over the border in Northants, and has since proved of great value. It has been carried out in all of the hillforts recently investigated by the Oxford Archaeological Unit and Oxford University (eg. Uffington, Segsbury and Alfred's Castle), on a larger scale at Frilford, and most spectacularly at Little Wittenham, where a block of some 48 ha. on the greensand was surveyed (Bartlett 2006). Other important surveys include those carried out at Rollright on the limestone of the Cotswolds (David in Lambrick 1988) and at Woodeaton (Archaeotechnics 2000).

At least 30 major area excavations, including some complete excavations of settlements, have either been published or are very close to publication, and their results made available for this survey. Interim accounts of several more are in the public domain, while a large number of grey literature reports, mainly of smaller sites, are held in the SMR. A much larger number of smaller sites is also published in the county journal.

Chronology

artefact chronologies

The typological chronology of the Middle to Late Bronze Age and the Iron Age is based upon two separate artefact types, metalwork and pottery. For metalwork, there is a wide variety in various types of weapon, and the occurence of metalwork in hoards and (on the Continent) in burials, aided by metallurgical analysis, has allowed the identification of a sophisticated typological development of various weapon types and dating of individual artefacts to within a century or so. The scarcity of metalwork from most settlement sites has however severely limited the value of this for dating purposes. Few sites in Oxfordshire have benefited from metallurgical analysis, important exceptions being the group from Wallingford Bypass (Northover in Barclay et al. 2006), the Tower Hill hoard (Northover in Cromarty et al. 2004) and Yarnton (Northover in Hey et al forthcoming).

A detailed typology already exists for brooches, and these are often used to indicate dates within a range of only half a century (or less). There is however still considerable

disagreement between specialists about the dates to be assigned to the various types and sub-types. Metallurgical analysis was applied to brooches of the later Iron Age and early Roman period at Gravelly Guy, Stanton Harcourt, to assist in refining the already developed chronology of brooches, and achieved some success (Northover in Lambrick and Allen 2004), although more extensive sampling of brooch assemblages is needed to tie the metallurgical data and the typologies together. Brooch typology is a useful aid to the dating of late Iron Age sites, but the rarity of brooches on earlier sites limits the usefulness of these artefacts.

Coinage only appears in Oxfordshire in the 1st century BC, and Late Iron Age coins are very scarce, making them of limited value for dating archaeological sites. Although much work has been done on their chronology and sequence, making it possible to date the introduction of particular types quite closely, such coins are believed to have been in circulation throughout the Late Iron Age, and to a limited extent even into the Roman period, further limiting their value as chronological indicators.

Pottery dating is much less accurate than the metalwork chronologies, but is almost ubiquitous in Oxfordshire, and remains the most used artefact type for dating. The chronology of the later Bronze and Iron Ages can be divided by forms into the following main phases:
Deverel Rimbury globular and bucket urns
Post- Deverel Rimbury plain ware assemblages
Late Bronze Age Decorated ware assemblages
Earliest Iron Age decorated ware assemblages (All Cannings Cross)
Early Iron Age angular vessels
Middle Iron Age slack-profiled assemblages characterised by globular bowls and jars
Late Iron Age handmade and wheelturned vessels, characterised by necked jars and bowls

Spread over the 1600 years of later prehistory, it is immediately evident that these phases mostly refer to periods of 200 years or more. Although some distinctions between vessel types within these periods have been suggested, such as round-bodied flaring-rim red-coated bowls and heavily shell-tempered piecrust T-rimmed cooking pots in the later Early Iron Age (Gingell and Morris 2000; Edwards in Allen, Cramp and Heatley 2006), no generally accepted refinements of this basic development have yet been produced. This is partly the result of the types of excavation that have mainly been carried out, that is of ploughed sites without vertical stratigraphy, and where often multi-phase activity occurred, resulting in high percentages of redeposited material. Fabric analysis has provided one or two fabrics that can be linked to specific periods, such as quartzite temper for late Bronze Age pottery, and a number of trends or preferences for certain temper have been linked to particular periods, but the wide range of geologies in Oxfordshire makes the use of fabric for dating difficult to apply consistently and with confidence.

Scientific dating

The radiocarbon curve has a particularly pronounced wiggle between 800 and 400 cal BC, and this has severely limited the use of radiocarbon dating for the Earliest and Early Iron Age. The use of radiocarbon dating was hampered until relatively recently by the large error margins and consequent wide ranges provided, with the result that little refinement of the typological pottery chronology through radiocarbon dating was possible. Improvements in pre-treatment and the development of AMS dating have reduced the error margins, while the application of Baesian statistical analysis can (where samples can be put in series), significantly refine the precision of the dating. This is however rarely possible, and little progress has yet been made.

Other forms of scientific dating, such as Optical Stimulated Luminescence dating, Thermo-Luminescence dating and Thermo-remanent Magnetic dating, have all been used on occasions

within the county. Such techniques are valuable when artefactual evidence and material suitable for radiocarbon dating are lacking, but the accuracy of these types of dating (at best offering 5-10% accuracy, ie ± 200 years, and often with ranges of 500 years or so) is of limited value.

Radiocarbon dating has been used sporadically within Oxfordshire for later prehistoric sites, but large-scale programmes of radiocarbon dating have to date only been carried out at Yarnton, and have not been targeted upon the refinement of the pottery chronology. The excavation of a well-stratified stratigraphic sequence of pottery, backed up by an extensive programme of radiocarbon dating, is urgently required to advance our chronological understanding in Oxfordshire. Sites providing such sequences are few, but are likely to include the termini of hillforts with proven long-term occupation, or with evidence of intense activity within one or more phases of later prehistory.

Inheritance

Key elements of inheritance from the past were the monuments of the Early Bronze Age (and to a lesser extent, the Neolithic). Many round barrows continued to attract satellite burials during the Middle Bronze Age, and on rare occasions new barrows were created. At Radley, Barrow Hills a group of Deverel-Rimbury cremations was inserted into Barrow 16 and two inhumations were inserted into pond barrow 4583 (Barclay and Halpin 1999, 162-3 and 167). Deverel-Rimbury pottery from the ditch of barrow 13 could also indicate further, now ploughed-out, cremations. A group of six cremations was inserted into ring ditch XV, 4 at Stanton Harcourt (Hamlin 1963, 7-9 and Barclay et al. 1995, 94-5).

Deverel-Rimbury cremation cemeteries proper are known from Long Wittenham and Standlake (Barrett and Bradley 1980, 251), Mount Farm and Shorncote (Barclay 1995, 112). Other Later Bronze Age inhumations are known from Mount Farm, Roughground Farm, Lechlade (Allen et al. 1993) and Shorncote 45 (Barclay and Glass 1995) and possibly the Wessex burial barrow at Stanton Harcourt (Sturdy and Case 1961-2, 338; Case 1963, 42).

Long barrows, as at Wayland's Smithy, continued as visible monuments in the landscape, although evidence of later prehistoric use of these sites is sparse. An early Iron Age boundary ditch was dug into the silted quarry ditch of the long barrow, showing that the monument was still used as a marker in the landscape divisions of later prehistory (Whittle 1991, 84, 87, 99 Figs 6 and 12).

Stone circles of the late Neolithic and Early Bronze Age are rare in Oxfordshire, occurring only at the Devil's Quoits, Stanton Harcourt and Rollright on the Cotswolds. A local tradition of late Neolithic and early Bronze Age timber circles and pit-circles is also evident at Dorchester-on-Thames in association with the cursus there (Atkinson 1958; Whittle et al.1992, 197). There is little evidence from the stone circle sites themselves of continuing use in later prehistory (see for instance Lambrick 1988), but there may be a continuing tradition of the construction of post-circles and related timber structures.

A probable double post-circle, the outer represented by an arc of close-set postholes, the inner by a wider-spaced arc of postholes, was excavated at Spring Road, Abingdon, in 2000 (Allen and Kamash forthcoming). Pottery from the postholes consists of a few abraded sherds of Middle Neolithic, Late Neolithic and Early Bronze Age date. Charcoal from the packing of a posthole in the outer circle has been radiocarbon-dated to 1690-1510 cal. BC, and bone from the post-pipe of a posthole in the inner circle to 1520-1390 cal BC.

A ring ditch surrounded by a timber post-circle was found at Standlake (Catling in Case and Whittle 1982, 88-102, Fig. 56), and was given a late Bronze Age date on the basis of pottery

found in the upper fills of the ring ditch. This may be a rare example of the probable continuing use of ring-ditches for burial in the region. Other possible examples are a circle of post-pits at Gravelly Guy, Stanton Harcourt, which was cut by early Iron Age activity, contained an abraded sherd of Late Neolithic/ Early Bronze Age pottery in one post-pit and Iron Age pottery in the top of another (Healy in Lambrick and Allen 2004, 61-4). A post-circle found within a late Bronze Age/early Iron Age and Late Iron Age settlement at Langford Downs, Oxfordshire, was undated, but was cut by the Late Iron Age activity, and so was ascribed to the late Bronze Age, but may of course have been earlier (Williams 1947).

The continuing influence of the Devil's Quoits stone circle and henge, and of the many barrow mounds around it, is evident in the arrangement of Iron Age settlements around the periphery of the monument complex, which Lambrick has convincingly argued represents the continuing use of the monument area as traditional grazing by the communities whose ancestors were buried there (Lambrick in Fulford and Nichols 1992, 78-105). Most of the burial monuments do not show evidence of plough-damage before the Roman period (pace Case and Whittle 1982,   ), suggesting that, even if no longer actively used as places of burial, the sacred character of this landscape continued to be recognised. A similar avoidance has been argued for the barrow cemetery at Radley, where Iron Age settlements are numerous in the surrounding area, but not within the area of the cemetery itself (Allen 2000, 11-12). Even at Dorchester-on-Thames little evidence of later Bronze Age or Iron Age activity has been recovered from the monument complex, although in this case areas of field system (probably of Middle Bronze Age date) were laid out adjacent to the Big Rings henge and overlay the more ancient cursus (Lambrick 1992, 88-9).

Barrows across the river at Northfield Farm, Long Wittenham, appear to have been respected by the field system there, and to have been incorporated within enclosures, not cut by them. Although the field system is still undated, it predates a Roman trackway of 2nd century date, and is most likely to be Middle Bronze Age. On the Berkshire Downs just south of Alfred's Castle limited excavation of a field system has led to the suggestion that the late Bronze Age field boundaries were aligned upon earlier barrows (Gosden and Lock 2001, 86-7). This pattern of avoidance and incorporation is not, however, universal.

Landscape and land use

Linear boundaries

Large linear boundary ditches dating to the late Bronze Age are known on the Berkshire Downs, forming `ranch' boundaries. Late Bronze Age linear ditches have been found at Alfred's Castle, apparently associated with extensive field system (Gosden and Lock 2001). In the valley bottom no certain Middle Bronze Age major land boundaries have been confirmed, although a pair of ditches at right angles was found at Frilford (Lock et al. 2002). A possible Bronze Age example within Oxfordshire is a large ditch found during pipeline construction south of Castle Hill at Little Wittenham, from which the upper fill produced calcined flint tempered sherds (Lingard and Wilson 1995, 50).

These major land divisions continue into the Early Iron Age. At Lechlade on the Oxfordshire/Gloucestershire border two parallel ditches running between the rivers Leach and Thames have been identified from excavation and from cropmarks (Allen et al. 1993, 46 and Fig. 110; Jennings 1998). At Allcourt Farm, Lechlade, two parallel ditches were found, one Early Iron Age, the second Middle Iron Age, possibly indicating the survival of these boundaries for much of the Iron Age (Allen 2001). Jennings suggested that these boundaries were cutting off loops in or between rivers, and suggested further examples, one at Fullamoor Farm near Culham and another at Northfield Farm, Long Wittenham (Jennings 1998). The 600 m long ditch at Fullamoor Farm ditch has been dated to the Iron Age (Boyle et al. 1993, 106-115), and the Northfield Farm ditch, which is the axial ditch of a field system, remains

undated, although often quoted as Middle Bronze Age (eg. Baker 2002). At Slade Farm, Bicester, an Iron Age boundary was traced for 420 m, and had single or double ring gullies alongside at intervals. Dating evidence suggests that the boundary may have begun in the Early Iron Age, but was largely active in the Middle Iron Age, continuing in use into the Late Iron Age (Ellis, et al. 2000). This boundary was not very deep, and was not seen as a barrier so much as a demarcation, perhaps separating summer grazing from cultivated land. A similar boundary ditch was traced for 300 m across the floodplain at Yarnton, and has been radiocarbon-dated to the Middle Iron Age (Hey and Timby Forthcoming).

Pit alignments may have been an alternative form of such boundaries, of which one example at Northfield Farm runs for nearly 1 km (Gray 1977). Two others have been identified from cropmarks just to the south, the more southerly running for several hundred metres just east of the village of Long Wittenham. Another example runs for 400 m at Binsey west of Oxford along the middle of the gravel terrace parallel to the Thames (Lambrick forthcoming). Others are known at Langford Downs (Williams 1947), and a number in the Gloucestershire Thames valley, eg at Butlers Field, Lechlade (Jennings 1988) and at Latton Lands, but not otherwise in Oxfordshire.

Both long straight boundaries and systems of interrupted lengths of curving ditch of the Late Iron Age complement the enclosed oppida of Oxfordshire. The South Oxfordshire Grims Ditch was dug at this period (Cromarty et al. 2004), and the Late Iron Age date of Aves Ditch east of the Cherwell has recently been confirmed (Sauer 1999; Sauer 2005). These have been interpreted as marking boundaries between tribes, as they bear some correspondence to the limits of Late Iron Age coin distributions (Sellwood 1984; Allen 2000).

While no focus has yet been identified, the North Oxfordshire Grims Ditch either side of the river Evenlode encloses an even larger area than most other territorial oppida, and has been tentatively dated to this period (Copeland 1988). A possible further LIA large ditched enclosure may exist at Barton just N of Oxford. Here a very large ditch has recently been found on the edge of the high ground overlooking the Bayswater Brook (Moore 2005), and is accompanied by settlement on the north side, though this could instead be a linear boundary like Aves Ditch east of the Cherwell.

Field systems

Lambrick (1992, 88-9) has drawn together fragmentary evidence for Middle Bronze Age ditches in the Dorchester area to suggest the establishment of field systems at this time. At Northfield Farm, Long Wittenham an extensive area of enclosures has been claimed to be of this date (Baker 2002), but remains undated. Ditches of Middle and Late Bronze Age date suggesting fields have however been excavated at Eight Acre Field, Radley (Mudd 1995), and at Wallingford Road, Didcot (Ruben and Ford 1992). More recently a larger complex of co-axial fields of Middle Bronze Age date has been excavated at Appleford Sidings (Booth and Mudd forthcoming). Other such sites are now known from evaluation west of Steventon (Hearne 2000, 7-8 and Fig. 1), where there is an extensive co-axial system, and from West Didcot (Masefield 2003).

In the Iron Age groups of small paddocks or cultivation plots adjacent to settlements, as for instance at Mingies Ditch, Hardwick (Allen and Robinson 1993), Watkins Farm, Northmoor (Allen 1990) or Old Shifford Farm, Standlake (Hey 1995), are common, and the numerous banjo enclosures now evident from aerial photography both on the Berkshire Downs and on the Cotswold slopes of North Oxfordshire, represent the incorporation of these into an integrated settlement type. Some of the banjos, for instance a group at Fewcott (Featherstone and Bewley 2000, Fig. 11), enclose large areas within which possible fields are evident, but these are not yet dated. Extensive areas of fields dated to the Iron Age are very scarce, but possible candidates are a loosely rectilinear system of Early-Middle Iron Age ditches at

Watchfield (Birkbeck et al. 2001, Fig. 3 Area 11) and a series of parallel ditches at Jugglers Close, Banbury (Stevens 2004).

At Little Wittenham a curving ditch of Middle Iron Age date has been revealed by geophysical survey running for 800 m or more along the plateau south of Castle Hill hillfort, and has one or two ditched square enclosures alongside, as well as lines of pits that may represent former field boundaries (Allen et al forthcoming). The Iron Age settlement is largely confined to the south side of the boundary, but does extend in places to the north, so the boundary may define zones within a settlement rather than fields. Overall the evidence suggests that Celtic fields are mostly either Bronze Age or early Roman in origin, rather than Iron Age.

Soils and Environmental evidence

Based upon environmental evidence from the excavation of a number of sites on the alluvial floodplain of the Upper Thames Valley, there is a well-established model for the chronology of clearance and runoff leading to flooding and later alluviation within later prehistory in Oxfordshire (Robinson 1981; Robinson and Lambrick 1984; Robinson 1992a; Robinson 1992b). This model has also drawn upon the evidence from charred plant remains on sites like Ashville (Jones in Parrington 1979), and of preserved ard-marks at sites such as Drayton (Barclay et al. 2003).

Several pollen sequences from waterlogged peat deposits in Oxfordshire have now been examined, including those at Sidlings Copse (Day 1991), Spartum Fen on the Thame (Parker ??) and Little Wittenham (Parker in Allen et al. Forthcoming).

Evidence for cereals (spelt wheat and six-row hulled barley) has been recovered from a large number of settlements within the county. Spelt wheat has now been found in Middle Bronze Age contexts both at Appleford Sidings and at Yarnton, a grain from the latter giving a radiocarbon date of 1740-1410 cal BC (OxA- 6548), showing that the change over from emmer occurred at this time. Flax was also found at these Bronze Age sites. The introduction of bread wheat as a main crop occurred in the Late Iron Age, as shown at Barton Court Farm (Miles 1986).

Animal husbandry has been equally well-served on the gravels and floodplain of the Thames in a series of reports by Bob Wilson, and important assemblages have also been recovered from the greensand and the chalk more recently. The evidence for animal husbandry has been summarised by Hambleton (Hambleton 1999).

Particularly important evidence for detailed environmental change has come from the seasonally inundated enclosures on the floodplain at Farmoor (Lambrick and Robinson 1979), and more recently from a sequence of Middle Bronze Age waterholes at Yarnton (Robinson in Hey and Timby forthcoming), where rapid short-term changes in temperature are indicated.

Social Organisation

Society, heirarchy and social interaction

This topic is a very difficult one to address, as it requires the integration of a wide range of evidence, much of which is only present in small quantities from single sites. This problem is compounded by the low level of investigation of many sites, particularly recently. Written evidence for the Iron Age of Oxfordshire, even for the latest Iron Age, is lacking.

For the later Bronze Age the number of excavated sites, and the limited scale of the excavations, makes examination of heirarchy and social organisation difficult. At Yarnton several pairs of houses of the Middle Bronze Age are known, each at some distance from the next, possibly indicating several nuclear family groups spread across the low-lying floodplain. One group of four houses is also present, perhaps indicating an extended family (Hey pers. comm.). The single house at Eight Acre Field, Radley may also indicate a nuclear family group, though here the house is larger (Mudd 1995). At nearby Cassington recent excavation has suggested a larger, more nucleated Late Bronze Age settlement consisting of half a dozen houses, together with four-post structures and pits, in effect a hamlet (Hey pers. comm.).

A different type of site is the group of Middle Bronze Age enclosures at Corporation Farm, Abingdon (Shand et al. 2003), which was of several phases. Only one probable house site was identified, and this was secondary. While details of the finds assemblages are not given, the number of placed deposits, comprising animal skeletons, human burials, whole pots, and the variety of other material recovered, may indicate that this settlement was of particular significance or status. At Frilford a pair of ditches of Middle Bronze Age date at right angles may represent an enclosure, but this is as yet unconfirmed (Lock et al. 2001, Fig. 14).

Enclosed late Bronze Age settlements with large deep ditches like that partially exposed at Eynsham (Barclay et al. 2001) or at Castle Hill (Allen et al. 2006, Figs 2.2 and 11.1) may represent high status settlements; the latter produced a fragment of syenite from the south-west, used on other sites for stone moulds in metalworking, and a decorated jar similar to those on other enclosed sites along the east coast (ibid. Fig. 3.2 No. 9), but no structural remains have yet been found.

Social units of various sizes are evident in the Iron Age Oxfordshire landscape. Occasionally single house enclosures and annexes are found, as at Gill Mill, Ducklington (Lambrick 1992, Fig. 33), Thrupp (Ainslie 1992), or possible Deer Park Farm, Witney (Walker 1995), but usually these belong to groups of three to five such enclosures, as again at Thrupp (Everett and Eeles 1999), at Farmoor (Lambrick and Robinson 1979) or Port Meadow (Atkinson 1942; Lambrick). Enclosed settlements in apparent isolation may have been single family homesteads; the cropmark enclosure at Neptune Wood, Long Wittenham, shows only one central roundhouse, and even where a group of houses has been found, may, like Mingies Ditch, perhaps have had only one house in use at a time (Allen and Robinson 1993). At others like Watkins Farm there could have had two or three contemporary houses, though the size and organisation of the enclosure suggests that only one extended family is likely to have used the site (Allen 1990).

Some open settlements, such the linear pit-cluster settlement completely excavated at Gravelly Guy, seem likely to have involved 3-5 families, each with its own house and subsidiary enclosures. There is no indication amongst these of any with a different status. Lines of ring gullies probably indicating roundhouse sites are now relatively common, for instance at Finmere (Cotswold Archaeology 2003). The plan of the excavated part of this settlement shows one slightly larger enclosure facing the line of ring gullies, and this might indicate the separation of someone of especial importance, but the detailed report is not yet available.

The organisation of the linear pit-cluster settlements at Stanton Harcourt, surrounding one large area of communal grazing containing Bronze Age and Neolithic earthwork barrows, has suggested to George Lambrick that these settlements worked together to control communal or shared grazing (Lambrick 1992). In this case, anything from four to ten of these settlements may have been involved, a social group of between 20 and 40 households (see also Lambrick and Allen 2004).

Larger single settlements are indicated at Abingdon, both at Ashville/Wyndyke Furlong (Parrington 1978; Muir and Roberts 1999), and under the town centre (Allen 1990), both of which suggest hamlet or even small village size. There appears to be a pattern of nucleation in progress here, from a larger group of smaller Early Iron Age sites to the survival of only a few, much larger Middle Iron Age ones. Cropmark evidence from within Dyke Hills near Dorchester also suggests a large Iron Age settlement (Cook and Rowley 1985), similar to that under Abingdon town centre, that probably predated the defences. More recently similarly extensive settlements have been found at Faringdon (Weaver et al. 2004; Cook et al. 2004), on the Chalgrove to Islip pipeline, where several settlements stretching over several hundred metres have been found (Network Archaeology 2006), and most clearly outside Castle Hill at Little Wittenham. Here a single settlement some 200 m wide stretches for more than 800 m, and incorporates at least a dozen likely house-sites on the geophysical survey. Limited excavation has shown that there are considerably more houses present than indicated by the survey, making it possible that 12 households or more were present at any one time.

Some distinctions in status have been suggested from the differing character of enclosed settlements across the county. Examples may include the two Late Bronze Age hilltop enclosures at Rams Hill and at Castle Hill, Little Wittenham, or the small but deep-ditches group of sub-rectangular enclosures around Dorchester-on-Thames, whose type site is Allen's Pit (Bradford 1942; Harding 1972). Alfred's Castle may be another example of this type. All of these sites are Early Iron Age, and such obvious differences do not appear to persist into the Middle Iron Age. Clear differences are evident between the artefact assemblages from similar-sized enclosed settlements within the Windrush Valley, for instance between the plain pottery from Mingies Ditch, Hardwick-with-Yelford and the decorated vessels from Watkins Farm, Northmoor, but these differences may be chronological rather than due to differing status or clan groupings.

Social interaction is evident from the widely shared settlement elements such as storage pits, four-post structures, house types and orientations. The scale of excavation is generally too incomplete to allow confident recognition of geographical patterns in settlement type or evidence of central control should this exist, but such as the evidence is, it suggests a great diversity of settlements rather than uniformity, arguing against any strict heirarchy in society.

The number of identified later Bronze Age buildings is still far too small to make patterning within Oxfordshire possible. Even for the Iron Age, the varying survival of structures on different sites, the inexact chronology within this period, and the generally limited scale of excavation, makes it difficult to identify clear house types that might be characteristic of particular groups of settlements. Houses in the Early Iron Age do include some larger examples, such as the aisled examples from Gravelly Guy, Stanton Harcourt, but no very large roundhouses, like those at Pimperne or Longbridge Deverill in Wessex, have been found, nor even ones of 13 m diameter like that at Dunston Park, Thatcham in Berkshire, at Milton Keynes or at Crickley Hill in Gloucestershire (Fitzpatrick 1994; Williams 1994 ; Dixon 1973). In the Middle Iron Age there appears to be a wide range of variation both in buildings and the arrangement of the small enclosures that surround them, but within a restricted size range.

Four-post structures are common to most Early Iron Age settlements, and examples also continue on Middle Iron Age sites. Rectangular buildings are becoming more common from recent work. Six-post structures occur at Hill Farm outside Castle Hill, Little Wittenham (Allen et al. Forthcoming), and more elaborate rectangular structures at Radley (Cotswold Archaeology 2004) and at Cassington and Yarnton. The example from Radley was Iron Age and had 15 posts with one open side, while the examples from Cassington West include Late Bronze Age examples,and at Yarnton one Early or Middle Iron Age example had 16 postholes.

Semicircular structures have been postulated at Farmoor (Lambrick 1979), and both D-shaped and semicircular convincing examples of Late Bronze Age and Early Iron Age date have come from Yarnton (Hey and Timby forthcoming), often associated with pits containing charcoal and burnt stone. A concentric semicircular example at Yarnton was also associated with a concentration of slag, giving rise to the suggestion that these were workshops. Other possible Early Iron Age examples have recently been found at Little Wittenham (Allen et al. Forthcoming). A boat-shaped structure was tentatively suggested at Mingies Ditch, Hardwick-with-Yelford (Allen and Robinson 1993), but was probably conflated from two separate lines of posts.

Although there is a growing corpus of human skeletal material from the region, notably from the large-scale excavations at Gravelly Guy, Stanton Harcourt (Lambrick and Allen 12004) and from Yarnton (Hey et al. 1999), there are insufficient sizeable assemblages to make examination of variation in burial rite (especially taking into account variables such as age and gender) meaningful. Study of diet from human bones is similarly constrained by the low number of skeletons.

A wide range of burial practise, from complete formal inhumations in purpose-dug graves, through pit burials, partly articulated burials and the formal burial of skulls or other bones to disarticulated remains, is apparent. Examples of burial in rivers, now known in the Middle Thames (eg at Eton Rowing Course), has not been confirmed in Oxfordshire. What can be said is that no high status burials of the type that characterise the Hallstatt period in Continental Europe have yet been found. Until the very late Iron Age no individuals found in Oxfordshire are distinguished by high-status goods or different burial treatment. This suggests either a lack of status differentiation, or that this was expressed in ways less easy to interpret than in earlier prehistory or in the succeeding Roman period. Very occasionally burials, such as the burial of a man overlain by parts of the articulated skeleton of a young woman at Castle Hill, Little Wittenham, hint at differences of gender status, but these are too few to allow confident interpretation.

A cemetery of some 30 individuals has been found at Yarnton, and has been dated by radiocarbon sampling of the bones to a short 50-year period in the 4th century cal. BC (Hey et al. 1999). This cemetery is at present unique in Oxfordshire, although other small groups of burials, such as that at Spring Road, Abingdon, dated to much the same part of the Iron Age (Allen et al. Forthcoming), may also represent parts of similar groups.

Study of animal bone assemblages across the county generally suggests a similar diet across most settlements; the Late Bronze Age and Early Iron Age hillfort assemblage from Castle Hill has a much higher proportion of pig than that of most settlements, but the hillfort is unlikely to have been permanently occupied in these periods, so the bones most likely reflect feasting by the wider community at the site (Worley in Allen et al. Forthcoming).

The region appears to share a common cultural heritage in artefactual terms. Most sites within the county share a common range of pottery types throughout the late Bronze Age and Iron Age. Some differences in pottery forms and decoration were noted by Harding in his consideration of the Upper Thames Basin (Harding 1972), and were incorporated by Cunliffe into different pottery style zones eg the Long Wittenham-Allen's Pit style and the Chinnor-Wandlebury style, or later the Blewburton-Southcote and Frilford-Cassington styles (Cunliffe 1990). Distinctions in pottery decoration were studied in 1984 (Lambrick 1984), when designs were shown to be grouped in certain areas (ibid., Fig. 11.3). The dataset available in 1984 was however limited, and a further study attempting to update this analysis is not yet complete. There is still an urgent need for fabric analysis to supplement the work on decorative designs.

Considerably more variety is evident from further excavations, but some broad distinctions persist, notably forms such as saucepan pots shared with Wessex in the south of the county. The pottery from Blewburton Hill has long been recognised to contain elements also found further south, and more recent excavations in the south of the county, for instance at Faringdon (Weaver and Ford 2003; Cook et al. 2003) and Little Wittenham (Edwards forthcoming), have revealed assemblages that also include vessels with strong similarities to those in neighbouring Wessex, whether red haematite-coated bowls or saucepan pots. Thin-section analysis is urgently required to pin down whether vessels, as well as ideas, are travelling between these regions. Geometric decoration on middle Iron Age globular vessels from Abingdon downriver is similar to that in the Middle Thames valley, for instance at Eton Rowing Course in Buckinghamshire, while curvilinear swag-decorated vessels predominate upstream. Middle Iron Age globular bowls with the swag decoration characteristic of Abingdon and Frilford have now been found at Reading (Meopham in Barnes et al. 1997, Fig. 38 No. 6).

Late Iron Age coins do show a broad separation between those of the Dobunni north of the Thames and west of the Cherwell, those of the Catuvellauni east of the Cherwell and north of the Thames, and those of the Atrebates south of the Ock and the Thames east to Dorchester (Sellwood 1984; Allen 2000). There is an area of overlap around Abingdon, whether due to the fluctuating borders between tribes over time, or reflecting communities that acted as intermediaries between them. Such communities may have had special status to allow trade and exchange to take place, or may have owed allegiance to none of these wider coin-using groups. Philip de Jersey has suggested a fourth grouping along the southern border of the county (see also Bean 2000). As yet, however, these geographical distinctions have not been studied for wider, or more long-lasting, differences in cultural traits.

Querns found across Oxfordshire reveal both some of the local social networks and the long-distance contacts of Iron Age society. At Abingdon, Little Wittenham, Appleford and Mount Farm, for instance, the Culham greensand and the Corallian Lower Calcareous Grit were by far the most common sources for saddle querns in the earlier part of the Iron Age, and the most local. Occasional querns from Maes Hill on the Severn or Lodsworth in East Sussex are also found (at Abingdon Vineyard and Gravelly Guy, Stanton Harcourt, respectively). In the later Middle Iron Age rotary querns from Lodsworth are found at Little Wittenham and at Abingdon Vineyard, and are the most numerous type at Abingdon at this time. Sarsen querns also travel from the Berkshire Downs down onto the valley floor, eg to Mingies Ditch, Hardwick-with-Yelford (Allen and Robinson 1993).

Even limestone, which is found ubiquitously on sites north of the Thames on the valley floor, shows the transportation of material from the Cotswold slopes up to 10 km to the north, or from the Corallian Ridge south of the Thames. Limestone was sometimes also carried further south, for instance in the revetting of the entrance at Blewburton Hill on the slopes of the Berkshire Downs (Collins 1952-3, 38).

Enclosed Settlements

A large number of probable Iron Age enclosures have been identified from cropmarks, although relatively few have been excavated. Early Iron Age examples include rectangular enclosures such as those at Allen's Pit near Dorchester-on-Thames and Wigbalds Farm, Long Wittenham (Savory 1937). The ditch at Allen's Pit was over 2 m deep and 5 m wide (Bradford 1942, Fig. 7 and Plates 4-5), although the enclosed area was only 0.24 ha. A third enclosure, at Neptune Wood, Long Wittenham, was square, 0.36 ha. in area with an internal roundhouse enclosure visible on the cropmark, and excavation of one section through the ditch has suggested an Early Iron Age date, and a much less substantial ditch (OA 2006). The enclosed area is of average size for those in the Upper Thames Valley (Hingley and Miles 1984, Fig. 4.3). The Neptune Wood enclosure, with its possible roundhouse inside, is better regarded as

a domestic farmstead, similar to others local sites such as Mount Farm, Dorchester (Lambrick 1981), Smiths pit 1, Cassington (Harding 1972, 15 and Pl. 27) and a cropmark site at Culham Heights overlooking Andersey Island, from which Early Iron Age pottery has been noted when fieldwalking.

Middle Iron Age enclosures have been excavated in the Windrush Valley, a double-ditched example at Mingies Ditch, Hardwick and a single-ditched one at Watkins Farm, Northmoor. Although enclosed cropmark settlements believed to be of Iron Age date are more common away from the Thames than on the valley floor, a number of enclosed settlements are known. In the Windrush valley of the Upper Thames two of these only 5 km apart, one (Watkins Farm Northmoor) on low-lying first gravel terrace, the other (Mingies Ditch, Hardwick-with-Yelford) on the floodplain, have been excavated. Watkins Farm had a single surrounding ditch, Mingies Ditch was double-ditched, and had been laid out to incorporate a bow of the Mingies Ditch stream within the outer circuit, presumably for watering livestock. At Mingies Ditch the Iron Age ground surface and overlying occupation deposits survived, as did structural detail, while Watkins Farm was only partly preserved by a medieval headland, and had been modified in the Early Roman period, but at both waterlogged environmental remains were preserved, allowing good environmental reconstruction of the surrounding environment.

At both the Windrush valley sites the enclosed area is c. 0.5 ha, though at Mingies Ditch the occupied area enclosed by the inner ditch is only 0.25 ha. The enclosure ditch or ditches was not of defensive proportions, being between 0.8 m and 1.2 m deep and around 2 m wide. The gravel upcast at Mingies Ditch survived, showing that there had never been a substantial bank inside either ditch, and at both sites waterlogged plant remains suggest that selective retention of scrub when clearing the site was used to create hedges as barriers. These sites were therefore not enclosed primarily for defence.

Internally both of the Windrush valley enclosures show considerable organisation. Both have a ditched trackway leading to the centre of the site, with a central house enclosure at Watkins Farm and a gate leading to separate houses, storage structures or open area at Mingies Ditch. Externally there are antennae ditches or tracks leading to small enclosures or fields. The high water table probably prevented pit storage on these sites, though one well or waterhole was found at Watkins Farm containing a wooden plank and the bones of a pike.

The external ditched trackway at Mingies Ditch is reminiscent of banjo enclosures, a possible example of which was excavated at Groundwell Farm, Wilts (Gingell 1982). This site had two surrounding ditches, so was either enlarged during the life of the site, or was double-ditched like Mingies Ditch. Four houses were found in the interior, five at Mingies Ditch and four or more at Watkins Farm, but not all were contemporary. There was only one house at a time at Groundwell Farm, and for the Windrush valley sites it was argued that only one or two houses were probably in use at one time. Massive four-post structures were found at Mingies Ditch (and Groundwell Farm), but none at Watkins Farm. At Rollright in the Cotswolds an enclosed settlement superseded an open one (Lambrick 1988). This too had a ditch only m wide and   m deep. The interior was surveyed using a magnetometer, but only a small part of the interior was excavated.

Banjo enclosures are also found in the lower Windrush valley, one at Stanton Harcourt known from cropmarks, another at Standlake surviving as a banked earthwork, though neither has been excavated. On the slopes of the Cotswolds and on the Berkshire Downs there are numerous examples known as cropmarks, though very few have been investigated. Fieldwalking of one of these at Kiddington produced Middle Iron Age pottery (Hingley ????).

Enclosures of the later Middle and late Iron Age have been excavated at Old Shifford Farm, Standlake (Hey 1995) and at Bicester Fields Farm (Cromarty et al. 1999). At Old Shifford

Farm the site began as a D-shaped enclosure only 22 x 28 m with an attached annexe to the north and a small ring-gully and second enclosure to the south. The main enclosure ditch was shallow (up to 0.7 m deep), with a group of postholes in the entrance possibly forming a building. One pit was found within the excavated part of the southern enclosure. The ring-gully on the south was less than 5 m across, and was interpreted as surrounding a haystack.

The D-shaped enclosure was added to by a rectangular enclosure on the west, 33m E-W x 22 m, with an entrance in the west part of the south side. The interior was divided by lengths of ditch into three, and the concentrations of domestic debris in the SW corner of the main enclosure suggests that this was the domestic focus. The northern 2/3 of the interior was divided into two smaller enclosures with a 5 m penannular gully or stack ring in between. This rectangular enclosure was either extended or added to on the north by a second rectangular enclosure, also 33 m E-W and 18 m N-S. The east boundary of the enclosure also extended to the south, and there was possibly a third enclosure on the south-east, just over 20 m square. with another stack ring in one corner.

At some point in the Early Roman period the western and south-eastern enclosures were incorporated into one larger rectangular enclosure some 60 m E-W by 40 m N-S. The NE corner was extended , the bulge enclosing a sub-rectangular small enclosure 18 x 14 m, facing west into the main enclosure. The northern rectangular enclosure of the previous phase was reduced in width on the west, becoming an enclosure c. 18 m square. A curving ditch ran eastwards from the NE corner, mirroring the bulging arc of the NE corner of the main enclosure. Concentrations of finds suggest that both the sub-rectangular enclosure and the small square enclosure may have been for domestic use.

A possibly enclosed settlement was found on high ground at Barton near Oxford (Moore 2005). An entrance between two ditches running approximately north-south was found with large multiple postholes some 2 m to the east, interpreted as gate postholes, and implying that there was an upcast bank on this side of the ditch. Some 20 m further east a group of circular pits was found, two containing inhumation burials, and most producing either Early-Middle or Middle Iron Age pottery. The site was heavily truncated, most of the pits being 1-2 m in diameter but surviving between 0.15 m and 0.42 m deep. The ditches were V-profiled, and only survived 0.6 m and 0.86 m deep, but originally are likely to have been at least half a metre deeper, while the gate postholes were mostly approaching a metre across. The ditches and gate-postholes contained Middle and Middle to Late Iron Age pottery. This site is unusual in Oxfordshire in having had relatively deep ditches and massive gate postholes; such heavily protected enclosures are however characteristic of later Middle Iron Age and Late Iron Age Northamptonshire. It is alternatively possible that the ditches belong to a linear boundary, and form part of a ridge dyke of the type found in the Chilterns to the north-east, eg at St. Albans.

Excavations at Foxley Farm, Finmere, by Cotswold Archaeology (Hancocks et al. 2003) revealed an unenclosed or open Middle Iron Age settlement later succeeded by a rectangular enclosure with an entrance slightly off-centre in the north-east side. The enclosure was some 30 m wide and at least 45 m long, but was not fully excavated. There was one roundhouse gully 15 m from the entrance and aligned with it just off-centre within the enclosure, a four-post structure in the north corner, and a small cluster of pits, probably contemporary in the east corner just inside the entrance, though both these last feature groups could have belonged to the preceding open settlement.

Warfare, defences and military installations

Hillforts and other defensible enclosures, and linear `defensive' boundaries

The earliest sites are Later Bronze Age hilltop enclosures at Rams Hill and Castle Hill, Little Wittenham, both within Early Iron Age hillforts. Both sites are small (c. 1 ha. in area) and

sub-rectangular, although Rams Hill has an adjacent palisade behind the ditch, and much more internal occupation than the enclosure at Castle Hill (Bradley and Ellison 1972) . Reconsideration of the radiocarbon evidence suggests that Rams Hill originated in the last quarter of the 2nd millennium cal. BC, with Phase 2 between 1070 and 890 cal BC, whereas the dating from Castle Hill lies between 1050 and 900 cal. BC (Needham and Ambers 1994; Allen and Lamdin-Whymark 2005). The enclosure at Castle Hill has contemporary settlement 200 m away on the plateau below the hill, and associated metalwork from the Thames and Thame below the hill to the north. A further possible example from the Upper Thames basin comes from the site at Camp Gardens, Stow-on-the-Wold. Here, a section of ditch more than 1.7 m deep has been excavated, the overall extent of which is uncertain, although it is suspected to form part of a hilltop enclosure preceding the Iron Age hillfort on the site. Two radiocarbon dates, of 1400-990 cal BC and 1390-1005 cal BC, have been obtained from the ditch (Parry 1999).

A Late Bronze Age date has also been suggested for the early palisade at Blewburton Hill (Harding 196), but is not proven. Much of the pottery from Chastleton appears to belong to the latest Bronze Age or earliest Iron Age. The White Horse at Uffington is dated to the Late Bronze Age, though the earliest phase of the Uffington hillfort is earliest Iron Age. A bronze hoard and associated settlement was found at Tower Hill less than 1 km from the hill figure (Miles et al. 2003).

Another possible Late Bronze Age enclosure, suggested by a right-angled large ditch, has been found at Eynsham (Barclay et al. 2001), though an earlier prehistoric origin has also been mooted.

The greatest concentration of Iron Age hillforts in Oxfordshire is to be found along the Ridgeway and the Berkshire Downs, with one fort at Bozedown east of the Thames. A scatter of sites is also known across the Cotswolds, a few on the Cotswold dipslope and on the Corallian ridge and chalk outliers within the valley south of the Thames. There are also valley forts at Burroway Brook and Cherbury Camp, as well as the late Iron Age enclosed oppida at Cassington Big Ring, Abingdon and Dyke Hills, Dorchester-on-Thames.

There has been some investigation of most of these sites, albeit on a limited scale. Concerted campaigns of investigation were carried out on North Oxfordshire hillforts by the Oxford University Archaeological Society (Fowler 1960, 3-48 at Madmarston; Bayne 1957 at Lyneham Camp, Leeds at Chastleton, and Avery, Sutton and Banks 1967 at Rainsborough just over the border in Northants). In the 1990s another series of campaigns, this time following geophysical surveys of the interior, was carried out on the hillforts of Uffington, Segsbury and Alfred's Castle on the Berkshire Downs by the Institute of Archaeology (C Gosden, G Lock, D Miles and S Palmer 2004; Lock et al. 2005; Gosden and Lock 1999, 2000 and 2001). Considerable work has carried out at Blewburton Hill in two separate campaigns (Collins 1946, 1947, 1953; Harding 1976).

Limited recording of a section cut by forestry was undertaken at Bladon Round Castle (Ainslie 1998), revealing a burnt rampart, and a timber corduroy and burnt rampart with internal occupation preserved below alluvium was found in very small trial pits at Burroway Brook on an island in the Thames (Sutton 1966; Lambrick and Robinson ??). Investigations were carried out at Cherbury Camp (Bradford 1940, 13-20), and in 2003 trenches were dug across the defences of Castle Hill, sitting on a chalk ridge at Little Wittenham (Allen and Lamdin-Whymark 2005). A single cutting across the ditch was made at Bozedown Camp (Wood 1954, 8-14).

Most of these hillforts have proven to be Early Iron Age. Blewburton, Castle Hill and Segsbury clearly continued in use into the Middle Iron Age, and Cherbury and Madmarston may only have been created in the Middle Iron Age. Salmonsbury Camp on the Windrush,

just across the border in Gloucestershire, had houses and other features of Middle Iron Age date, although the defences may be Late Iron Age (Dunning 1976).

Most of the Oxfordshire sites are of comparable size, around 6 ha., but Bosedown Camp, Segsbury Camp and Cherbury Camp are much larger, c. 10 ha. It has been suggested that Segsbury was created later in the Early Iron Age than the adjacent hillforts on the Ridgeway, and may have been connected with larger communities than the more numerous but smaller early sites (Lock et al. 2005, 140-141). Alfred's Castle is unusually small, only c. 1.6 ha., but appears to have been accompanied by an outer enclosure with a slight ditch that was perhaps another 4 ha. in size (Gosden and Lock 2000, 83 Fig. 15; Gosden and Lock 2001, 86-7).

Timber-framed or revetted box-ramparts are known from Uffington Castle, Segsbury and Blewburton on the Berkshire Downs, and at Burroway Brook in the valley. Fowler claimed that lines of clay below the rampart at Madmarston represented decayed timbers of a corduroy, similar to that now known at Burroway, but these may instead have been ploughmarks. Stone faced ramparts occur at Rainsborough, at Bladon Castle, at Uffington in Phase   and at Cherbury, while a sarsen revetment of the rear of the rampart was found at Segsbury. A dump rampart following a timber-framed rampart is known at Blewburton (Avery 1993, 25), and a simple dump rampart is known from Madmarston. The form of the rampart was not established for certain at Castle Hill, although there appeared to have been a vertical timber revetment at the back of the rampart, while those at Bozedown, Rams Hill and Chastleton have largely been levelled. The same is now true of Madmarston. Entrances have been investigated at Rainsborough with its guard chambers, at Cherbury and at Blewburton Hill. Multivallate defences are known only at Cherbury Camp in Oxfordshire, and at Rainsborough just across the border. Rainsborough is unusual in that the multivallation is claimed to have occurred during the Early Iron Age, whereas that at Cherbury falls into the more normal pattern, belonging to the later Middle Iron Age.

Geophysical surveys have been carried out upon a range of hillforts along the Ridgeway, at Castle Hill, Little Wittenham, at Cherbury and at Rainsborough. These and aerial photography suggest that most of the `Oxfordshire' hillforts did not contain very dense internal activity, although Segsbury has a fair concentration of pits towards the centre of the interior, together with a spread of penannular ditched enclosures, and there is an even spread of pits at Rainsborough (see Avery at al, 1967, Appendix 1) and at Madmarston. Cropmarks and geophysics rarely show the full picture, however, and the scale of internal excavation in all cases is small. Limited excavation at Alfred's Castle has suggested fairly intensive occupation of this small hillfort (Gosden and Lock 2001), but nevertheless the very dense pit clusters and lines of four-post structures of sites like Danebury do not appear to be matched in Oxfordshire. It is unlikely that all Oxfordshire hillforts were used in the same ways, but `developed hillforts' acting as redistributive centres such as Danebury and some other Wessex hillforts have not yet been identified. Ring gullies probably surrounding roundhouses have been identified at Segsbury, Alfred's Castle, Cherbury and Rainsborough, and pit groups at Segsbury, Madmarston, Alfred's Castle and Castle Hill. At sites such as Uffington Castle the evidence for internal activity is very sparse.

At Castle Hill there is extensive settlement just outside the hillfort, while inside a very large Early Iron Age pit was found containing a large assemblage of pottery and animal bones, including a large number of lambs and piglets and a predominance of cups and large cooking vessels. This suggests feasting, and the pit also contained a range of more exotic finds such as fish bones, a raven and a rare decorated lid. After the hilltop enclosure had largely silted up the hollow was used for the deposition of Early Iron Age material in quantity, possibly deliberately marking the former enclosure and commemorating the activities carried out.

An association with burial is also very evident. The late Bronze Age hilltop enclosure ditch had human bone at the very bottom, and of the 13 Middle Iron Age pits excavated 6 contained

either human skeletons or bones, suggesting a strong association with burial. One of these pits contained a formal burial of a man with a burnt offering overlain by the semi-articulated part skeleton of a woman with cut marks on some of her joints, and this was overlain again by an infant burial. To emphasise the point, the ramparts, the interior and the immediate surroundings of the hillfort remained a place of burial in the Roman period. The association of hillforts with burials is also evident at Blewburton, where the burial of a man with a horse was found within the hillfort ditch, and other possibly Iron Age burials in the entrance, and at Segsbury, where another partly articulated burial was found in a pit (Lock et al 2005). Four of the eight pits excavated within the possible defensive enclosure at Barton (Moore 2005) also contained human burials or disarticulated bones.

Both Castle Hill and Madmarston are accompanied by cropmark extramural settlements, though only that at Castle Hill has been investigated by excavation. The external settlement at this site, at 700 m long and 200-300 m wide, is one of the largest such settlement known in Oxfordshire, and probably owes its size to its position adjacent to the hillfort. In the Middle Iron Age a curving boundary ditch ran through or around this settlement, but later occupation spread well beyond it, and this was really an unenclosed or open settlement. A large unenclosed settlement a few hundred metres outside Cherbury Camp may represent another such association, although fieldwalking has suggested that the extramural settlement may be largely Late Iron Age.

The association of settlement and hillfort at Castle Hill appears to have resulted in some unique features. The proximity of the settlement may explain the maintenance of the hillfort ditch by scouring until the very end of the Iron Age, the dumped spoil creating a massive counterscarp bank at least 2.2 m high and 10 m wide. The ditch at Segsbury apparently only accumulated just over 1 m of fill before the Roman period, perhaps indicating that here too the ditch was maintained for the duration of the use of the site, currently believed to be 600 - 300 to 200 BC.

Castle Hill, Little Wittenham also has an external midden at least 50 m across and up to 0.4 m deep, with a chalk and pebble platform, clay spreads and postholes forming an horizon within it (Rhodes 1948; Wessex Archaeology 2004; Allen et al. Forthcoming). The rich Iron Age site at Woodeaton is likely to be a similar sort of site, as excavation has shown that there is an Iron Age occupation layer some 0.25 m deep at least 20 m in diameter below the Roman levels, with a horizon of stone spreads and other activity within it (Harding 1987; I am grateful to George Lambrick for pointing the similarity out to me). These accumulations are not considered to result simply from the fortuitous preservation of a buried occupation soil, as they are very rich in finds, and at Little Wittenham these deposits seal a buried Early Iron Age soil. These two Oxfordshire sites seem to have some links to the group of much larger midden sites in the Vale of Pewsey (All Cannings Cross, Potterne, Chisenbury and others). At Castle Hill the midden begins to accumulate in the Late Bronze Age, but most of the material dates to the Early Iron Age, and deposition appears to have ceased by the Middle Iron Age, whereas at Woodeaton deposition clearly continues throughout the Iron Age.

The Woodeaton midden sits on the top of a hill, as do the majority of the sites in the Vale of Pewsey. Although on an elevated plateau, the midden at Little Wittenham lies below the chalk hills, and its location adjacent to a hilltop enclosure and later hillfort is also unique within this class of sites. In Wiltshire such sites are interpreted as the outcome of repeated gatherings, and some (eg Potterne) were in use for considerably longer, and reached much greater size (Lawson 2004). Castle Hill appears to have combined aspects of the depositional practices of the Wiltshire gatherings with use of the hillfort interior for communal celebration.

A number of hillforts in Oxfordshire have been burnt. These include Bladon Castle, where the rampart was highly reddened, Burroway Brook and Rainsborough, as well as Crickley Hill Phase 2 in neighbouring Gloucestershire. There are now a significant number of hillforts in

the south where wholesale burning appears to have taken place, another in the wider region being Taplow, Buckinghamshire.

Valley forts

These appear to begin early with Burroway, and continuing with Cherbury in the Middle Iron Age. Valley locations become a key element of defensible sites in the Late Iron Age, when there are three known at the junctions of rivers and their tributaries: Cassington Big Rings, Abingdon Vineyard and Dyke Hills, Dorchester-on-Thames. These share common characteristics such as location at or close to the junction of a major tributary with the Thames, large size (10 ha, c. 25 ha and 33 ha respectively (Allen in Henig and Booth 2000). A fourth site lies at Salmonsbury on the Windrush just over the Gloucestershire border (Dunning 1976). There are significant differences, however. Cassington has one ditch and bank, Abingdon Vineyard two or possibly three, and Dyke Hills a massive ditch with large banks either side. This last ditch would certainly have held water, as did both of the ditches at Abingdon Vineyard, and could also have acted as a canal linking the Thame to the Thames. The dating of the defences at Cassington is LIA or very early Roman (Case 1982), at Abingdon is later MIA to early Roman (Allen 1993) and at Dyke Hills is still uncertain.

All four have evidence for internal occupation on a large scale; at Salmondsbury and at Abingdon the defences surrounded existing Iron Age settlements (Dunning 1976; Allen 1990), and the pattern of cropmarks make it very likely that this also occurred at Dyke Hills. Occupation continued on an increased scale into the early Roman period at Abingdon, at Salmondsbury and to some extent at Cassington. The position at Dyke Hills is unknown.

Crafts trade and industries

Crafts

There is certainly evidence of the production of specialised forms of vessel during later prehistory in Oxfordshire, and there are some fabrics which must have derived from geologically limited sources. In some phases of later prehistory specific types of temper were favoured; this is particularly true of quartzite-temper in the Late Bronze Age. The best evidence of specialised vessels however comes from the Early Iron Age, when the red-coated bowls were manufactured in fine sandy fabrics and then coated with a haematite-rich slip, and when at places like Little Wittenham even some types of cooking vessels, those with wide bowl-shaped profiles and T-shaped rims, were manufactured exclusively in coarse shelly fabrics. Such vessels were remarked by Rhodes at Little Wittenham in 1947, and more recent work there (Edwards in Allen et al. forthcoming) and at Faringdon has confirmed his observations.

Lambrick drew attention to the apparent grouping of pottery decorative designs across the region (Lambrick 1984), suggesting the presence of localised production of vessels with common designs. Considerably more material is now available, and his tentative groupings need to be tested against this larger dataset . Work on this is currently in progress, but no results are yet available. This work also needs to be supplemented by comparative fabric analysis of these decorated vessels, to see if this bears out the picture suggested by the decorative designs. It is however clear that in the Middle Iron Age there is considerable variability in fabrics, suggesting that a wide variety of clays was considered suitable, and were exploited on a fairly opportunistic basis.

Evidence for pottery production remains largely elusive until the very end of the Late Iron Age, when the first small temporary kilns appear at Long Hanborough and at Yarnton (Hey and Timby forthcoming). The ability to control firing temperatures is shown by fineware vessels of both the Early and Middle Iron Age, suggesting that something more sophisticated than bonfire firings was used.

Recently a sunken-floored sub-rectangular building some 3 m long and 2 m wide, with a ramp leading down into it at one end, supported on four posts and with stone-walled cells at the opposite end, has been excavated (Booth and Allen pers. comm.). The building survived some 0.3 m deep, with another 0.3 m of ploughsoil above it. The floor of the stone-walled cells was heavily burnt, as were the inner faces of the limestone slabs of the cells themselves. The base of the whole structure was covered with a layer of charcoal, and the interior (except for the cells) was filled with layers of burnt clay and charcoal-rich soil. The edges of the feature were vertical, with no sign of weathering, and a dark band along the vertical edges of the feature suggests that the building was lined below ground. Highly fired clay lumps were concentrated along the edges of the interior, suggesting that a clay superstructure had collapsed into it when it fell out of use. A significant quantity of pottery, comprising groups of large sherds from perhaps 10-12 vessels, was found within the stone cells and immediately outside, and the quartizte temper and angular forms, although the only decoration is finger-nail and finger-tipping, suggest a Late Bronze Age or earliest Iron Age date.

This unusual building is interpreted as some form of craft or industrial building, either used as a series of ovens or possibly as a kiln of some sort.

Pieces of shale from Bourton-on-the-Water have been found in the form of roughout bracelets, suggesting that the raw material was imported from the south coast in this form, and was worked into bracelets and finished locally. Similar chalk roughouts were found at Gravelly Guy, Stanton Harcourt, suggesting a local tradition of such craftsmanship.

Industries

Late Iron Age Gravelly Guy - concentration of bronze smithing suggesting manufacture or repair of items at one end of the site (Allen in Lambrick and Allen 2004). Concentrations of iron slag found on Cumnor Hill together with Iron Age pottery (Ainslie pers. comm.), but uncertain whether the two are contemporary. A concentration of slag at Yarnton is likely to indicate smithing in a possible workshop (Hey and Timby forthcoming), but there is no confirmed evidence for iron smelting from Oxfordshire in prehistory.

Raw material acquisition - quarrying, sources

There is no certain evidence of later prehistoric quarrying in Oxfordshire, although quarries for the Culham greensand used for querns must have existed. Roughout spindle whorls at Little Wittenham made from slabs of the local malmstone suggest local procurement, but this may simply be the opportunistic use of fragments found This is an area where further fieldwork is urgently needed.

Sites or areas of production and consumption

Occupation deposits or `middens' below Castle Hill at Little Wittenham, and at Woodeaton, where there was conspicuous deposition of La Tene and later metalwork (Harding 1987). Rivers (disposal of weaponry, whole pots), eyot at Wallingford in Late Bronze Age. Some

possible link between areas of deposition and important sites, eg below Castle Hill in the Thames at Little Wittenham. Feasting at Castle Hill (EIA pit contents).

Markets and exchange

Trade is evident from querns, briquetage, occasionally pottery, and metalwork.

Role as centre of exchange played by hillforts - possibly Blewburton, where there is a wide range of pottery evident. The evidence from other hillforts is insufficient to support this view. A function as centres of exchange is clearer later with riverside sites such as Abingdon Vineyard, surrounded at some point in the later Middle Iron Age or Late Iron Age by defensive ditches, becoming an enclosed oppidum. Here numbers of Lodsworth querns found, Hampshire briquetage (also at Little Wittenham below Castle Hill).

Role of late Iron Age coinage unclear. Some coins have been recovered from Dyke Hills and Abingdon (enclosed oppida), but many finds are unrelated to settlement, such as gold staters found south of Little Wittenham and north-east of Dorchester. Such coins may have been deposited deliberately on boundaries between the territory of different settlements.

Animal bones are worked into a variety of items such as combs, toggles, rings etc. These items are generally found in very small numbers on sites in Oxfordshire; there is no evidence of standardisation of any of these types of item, and this is therefore likely to have been a craft practised on a domestic scale.

Transport and communications

Transport networks

For later prehistory there is some evidence of the animals and their harness that were probably used to transport people and goods, but very little direct evidence of vehicles such as boats or wagons. Although log boats were sometimes found in the distant past, without modern methods of impregnation to preserve them few examples survive. One prehistoric log boat is on display at the Henley Rowing Museum.

No wheels or other parts of wagons are known from later prehistoric Oxfordshire, although late Bronze Age examples are known in Britain, for instance at Flag Fen. Wheel ruts were found on a metalled track leading to Cherbury valley fort, suggesting vehicles with wheels just under 5' apart (Bradford 1940). Tentative evidence for wheel ruts has also been found on a trackway at Yarnton (Hey and Timby forthcoming).

Indirect evidence for trade is provided by the sites chosen for some important later prehistoric settlements. The Late Bronze Age settlement on the eyot in the Thames at Wallingford is described as a possible entrepot for boats coming up the Thames, although the evidence of imported materials is only slightly greater than for a number of land-locked settlements. In the Early Iron Age the construction of a valley fort at Burroway may have been intended to take advantage of river traffic, but too little is known of this site to substantiate this. Castle Hill at Little Wittenham overlooks the Thames, and this may have been one of the key factors in siting the hilltop enclosure and later hillfort there. Cherbury also lies close to the Thames, and unsubstantiated recent observations have suggested that a defensive earthwork may lie within Wytham Wood north-west of Oxford, again close to the Thames (Blair pers. Comm.)

In the later Middle or Late Iron Age a number of very large riverside defended sites were created, at Dyke Hills, Dorchester-on-Thames, at Abingdon, at the Big Rings, Cassington and

at Salmondsbury. All of these sites are notable for the large size of the area enclosed, and the first three lie either at or very close to the junction of the Thames with a major tributary, respectively the Thame, the Ock and the Evenlode (Allen 2000). Salmondsbury also lay at the junction of the Windrush and one of its tributaries, and Cherbury, also in the valley, was the largest earlier fort in Oxfordshire, and may have played a similar role in relation to the junction between the Thames and the Windrush. All of these sites occupy key positions for river trade between communities on the tributaries and along the Thames, and where there has been substantial excavation, as at Salmondsbury and Abingdon, show evidence of wide contacts in the range of goods present.

The man-made defences of Dyke Hills, which is surrounded on two sides by the Thames, and on a third by the Thame, consist of a very wide ditch flanked by a high bank on both sides. The large outer bank is very unusual and defensively very weak, and, given its proximity to the river, the ditch is likely to have carried water all year round. It is possible that the wide ditch was intended not just as a moat and a symbolic boundary, ensuring that the site was completely surrounded by water, but as a canal, taking boats up the Thame and avoiding the river below Castle Hill. If so, this is both the earliest such watercourse in Britain, and a clear statement of political and economic intent.

A causeway across a minor channel is known from Yarnton (Hey and Bell 1999) and two from Thrupp west of Abingdon (Ainslie 1999; Ainslie 2002). These were constructed using limestone and a mixture of limestone and quartzite pebbles respectively. The Yarnton example overlay a Bronze Age spearhead and an awl, but dated from the middle Iron Age (Hey pers. comm.). The Thrupp trackways also dated to the Middle Iron Age. A late Iron Age example was also found at Mingies Ditch, Hardwick-with-Yelford (Allen 1980), but these seem only to serve very local needs; no roads or routes linking such crossings have yet been identified. Short gravel-surfaced tracks or paths are known from Farmoor and Mingies Ditch, but do not extend any distance beyond the settlements themselves.

The Ridgeway was clearly an important routeway throughout later prehistory, as is shown by the cluster of defensive enclosures along it, and the opposed western and eastern entrances of many of these sites, suggesting that the routeway actually passed through them .

Both horses and oxen are presumed to have carried people and loads. Evidence from a waterhole at Appleford Sidings shows that horses were present in the Middle Bronze Age in Oxfordshire (Booth and Mudd forthcoming), and horsegear in the form of cheek-pieces and harness from Runnymede in the Middle Thames shows that horses were ridden and were probably also used as pack animals (Needham   ). Horses are not common in the Bronze Age archaeological record in Oxfordshire, but bones also appear in the Late Bronze Age at Whitecross Farm, Wallingford (Cromarty et al. 2003). They become common on a wide range of settlements from the Early Iron Age onwards, when the first horsegear from Oxfordshire, a cheek-piece from Yarnton (Hey and Timby forthcoming), is known. Evidence for oxen as a means of transport is much more equivocal; evidence of traction has been noted on cattle limb bones from Castle Hill, Little Wittenham from the Late Bronze Age onwards, although it is also possible that these animals suffered these stresses from pulling wagons (Worley in Allen et al. Forthcoming).

The clearest evidence for transportation of goods comes from the distribution of materials whose sources are not local. Large quantities of limestone were transported to Iron Age settlements in the valley from the Cotswolds; burnt limestone is ubiquitous on sites in the Stanton Harcourt area, around Cassington and Yarnton and at Lechlade, all 5-10 km from the nearest source of such stone. It seems likely that materials of this kind were transported by raft down rivers such as the Leach, the Windrush and the Evenlode. Large slabs of limestone

were used in a kiln or oven at Ewe Farm between Brightwell Salome and Warborough, and were probably quarried from outcrops some 3 km from this site.

Quernstones show a wide variety of sources. May Hill sandstone from Newent west of the Severn was found even in Neolithic tombs. Querns of this type were still being imported during the Iron Age, and Droitwich briquetage is likely to have travelled into Oxfordshire along the same trade routes, possibly down the Windrush valley. During the later Bronze Age sarsens from the southern edge of Oxfordshire were the most common type, and continued as a source of querns in the Early Iron Age. From the same direction, though from further afield, came haematite-coated pottery from Wiltshire, Kimmeridge shale from Dorset (Gravelly Guy) and occasionally even Hampshire briquetage (Abingdon Vineyard and Little Wittenham in the late Middle Iron Age). During the Bronze Age querns of Old Red Sandstone from the Forest of Dean are found at Tower Hill, and in the Iron Age at Gravelly Guy, and some of the Iron Age beads found on sites such as Mingies Ditch, Abingdon Spring Road may have been manufactured in the Somersetshire marshes at sites such as Meare or Glastonbury. An unusually far-flung contact is indicated by a fragment of syenite from an Early Iron Age deposit within Castle Hill, Little Wittenham, similar to Late Bronze Age fragments from moulds at Aldermaston and Runnymede (Roe in Allen et al. forthcoming).

Greensand querns from Lodsworth in East Sussex appear in the Early Iron Age at Gravelly Guy, Stanton Harcourt, Faringdon and Groundwell Farm, Wilts, although they become more common in the Middle and Late Iron Age, becoming the most common type of rotary quern at Abingdon Vineyard in the later Middle Iron Age (Allen pers. comm.). Links with the east down the Thames are also shown by the Bronze Age metalwork of continental origin found in the river, particularly around Wallingford and Dorchester-Little Wittenham, and by the Late Bronze Age vessel within the ditch of the hilltop enclosure at Castle Hill, whose form is most closely paralleled in high status enclosures in Essex and as far up the east coast as the Humber (Barclay pers. comm.). Pottery links between Oxfordshire and the Middle Thames are beginning to appear, a Frilford-style swag-decorated globular bowl appearing at Thames Valley Park. Reading (Mepham in Barnes et al. 1995, Fig. 38 no 36), and geometric decoration of Middle Thames type also appearing at Blewburton and at Hill Farm, Little Wittenham (Harding 1972; Edwards in Allen et al. forthcoming).

Within Oxfordshire itself Culham greensand is a very common source for querns, particularly at nearby sites such as Hill Farm, Little Wittenham, and the greensand is also found in finely made Middle Iron Age globular bowls and late Iron Age necked bowls across the Thames as far as the Stanton Harcourt area.

Shale from Kimmeridge is found on a variety of sites, and is used for decorative items such as bracelets and spindle whorls. Occasional jet beads have also been found, including a very small example from a waterhole at Appleford (Booth and Mudd forthcoming).

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