The Tom Hassall Lecture for 2012

Prehistoric Oxford

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SUMMARY

There is growing though still limited evidence of Palaeolithic and Mesolithic hunter gatherers in the Oxford area. During the Neolithic and early Bronze Age a major ceremonial and funerary complex developed at the confluence of the Thames and the Cherwell. It included an early Neolithic square enclosure, a major Beaker period henge monument and a Bronze-Age linear barrow cemetery aligned on the Neolithic enclosure. Communities probably practised mobile pastoralism until later prehistory when more permanent farms were established in a pattern of settlement that respected the pre-existing ceremonial complex. A possible hillfort at Wytham and a major Iron-Age midden and later temple complex at Woodeaton lie outside Oxford, but there is growing evidence of late-prehistoric activity on other hills within and west of the city as well as on the valley floor. At Port Meadow, middle Iron-Age settlements survive as earthworks set within the living legacy of the grazed grassland in which they were established. This part of the Thames valley was politically pivotal in the later Iron Age, but unlike the oppida and subsequent Roman towns at Dorchester and Abingdon, Oxford remained a relative backwater.

Oxford is well known for its medieval urban archaeology through the work of Tom Hassall and others, and for the Roman period the extensive pottery industry is likewise familiar, but the city's significance in prehistory is not sufficiently recognised.[1] As an urban district, Oxford is fortunate in having significant areas of open space and countryside – its 'green lungs' – where prehistoric remains are known from air photography and some fieldwork.[2] As early as the seventeenth century, the Oxford antiquary Robert Plot identified grass rings '30, 40, and 50 yards Diameter' including several 'in New [University] Parks near the City of Oxford where there is always plenty of them.' He recorded that 'in the field between St Giles' church near Oxon and the Garden called Jericho,' such rings occurred 'not only in a single, but sometimes a double and treble circle one within another' and that 'they are also rarely seen of a quadrangular forme encompassed with another larger of the circular kind, in the same St Giles's fields.'[3] This was in an area described as 'the croft of the three barrows' in 1160 and 'Buricroft' in the *Hundred Rolls* (1279).[4] Plot's account of the musty smell of the soil when he tested one these features in the Parks suggests it was a fungus ring (he attributed them to lightning strikes); but we now know that he had also been describing real prehistoric monuments (see below).

Within the urban area, most prehistoric sites and antiquities have been found by chance in the course of construction work or archaeological investigations primarily concerned with later periods. Usually they have been small areas disturbed by subsequent activity, but in the last few

[1] This article derives from a lecture presented to the Society on 21st February 2012.

[2] This paper mainly focuses on the area inside the modern city boundary, but also refers to some areas beyond it, especially the hills west and north of Oxford.

[3] R. Plot, *The Natural History of Staffordshire* (1686), pp. 15–16, table, figs. 6–10; S. Piggott, 'Dr. Plot, Ring Ditches and the Fairies', *Antiquity*, 59 (1984), pp. 206–9.

[4] *VCH Oxon.* 4, p. 275.

years various excavations have revealed more substantial remains, which together with many smaller finds and antiquarian material support a more coherent account of Oxford's prehistory. This can now be set within the context of recent regional reviews, notably the *Thames through Time* volumes,[5] and online archaeological research frameworks, both for the Solent-Thames area,[6] and Oxford itself.[7]

OXFORD'S TOPOGRAPHICAL LOCATION AND PLEISTOCENE GEOMORPHOLOGY

Oxford is located at the confluence of the Thames and the Cherwell, its largest tributary, upstream of where the Thames cuts through the ridge of Corallian sand and limestone known locally as the 'Oxford Heights'.[8] Over the last 2.5 million years the river has shaped the area's topography through geomorphological changes caused by major climatic cooling and warming cycles.[9] These swings in climate altered the discharge rate and sediment load of the river, strongly influencing the rate of erosion of bedrock and old riverine deposits and their re-deposition lower down the valley. In addition, tilting and uplift of the land following the retreat of successive ice sheets recurrently altered the gradient of the river, assisting down-cutting to a lower floodplain before the next phase of gravel deposition. The resultant step-wise lowering of the valley floor left behind subtle terraces of uneroded gravel either side of the floodplain and more fragmentary older terraces further up the sides of the valley. Even on the top of Boars Hill – marked by radio masts when seen from Oxford – there are 'Northern Drift' deposits laid down by the early Thames, following a north-north-west to south-south-east course west of Oxford (Fig. 1). The resultant topography, soils and hydrology of the area strongly influenced how people later exploited its natural resources.

At Oxford this depositional succession has resulted in four topographical zones: the present floodplain and low gravel eminences within it, which are the eroded remains of the most recent ('first') gravel terrace; the uneroded 'first' or Northmoor terrace; the 'second' or Summertown-Radley terrace; and the highest and oldest 'third' or Wolvercote terrace. The difference in height between each of these zones is about 6 to 6.5 metres. This puts into context the Northern Drift deposits on top of Boars Hill which are about 116 metres higher than the present floodplain and might date from over 1.5 million years ago.[10] In the decalcified drift on Boars Hill, quartzite pebbles originating from a source somewhere in the west Midlands or Wales and degraded flint are the commonest components, indicating a different, more extensive catchment than the present upper Thames valley.[11]

The more recent Pleistocene terraces in the Oxford region have been investigated using a range of scientific methods, including Optically Stimulated Luminescence (OSL) dating of a

[5] T. Morigi et al. (Part 1), G. Hey et al. (Part 2), *The Thames through Time...Early Prehistory to 1500 BC*, Thames Valley Landscapes Monograph, 32 (2011), hereafter referred to as *TTT1a* for Part 1 and *TTT1b* for Part 2; G. Lambrick with M. Robinson, *The Thames through Time...The Thames Valley in Late Prehistory 1500 BC–50 AD,* Thames Valley Landscapes Monograph, 29 (2009), hereafter referred to as *TTT2*.

[6] Solent Thames Archaeological Research Framework: http://thehumanjourney.net/index.php?option=com_content&task=view&id=553&Itemid=277.

[7] R. Beckley with D. Radford, 'Oxford Archaeological Resource Assessment and Agenda', Oxford City Council (2011): http://consultation.oxford.gov.uk/consult.ti/OARAAC/consultationHome, hereafter referred to as *OARAA*.

[8] The name 'Thames' is probably of prehistoric origin: R. Coates, 'A New Explanation of the Name of London', *Transactions of the Philological Society*, 96:2 (1998), pp. 203–29.

[9] *TTT1a*, pp. 1–20 and associated maps and diagrams provide a more detailed explanation of these processes.

[10] Dating these Northern Drift deposits and correlating them with other areas is uncertain: *TTT1a*, figs. 1.1, 1.2; *OARAA*, Palaeolithic to Mesolithic Resource Assessment, pp. 5–6.

[11] *TTT1a*, pp. 19–20 and references to the detailed geomorphology literature.

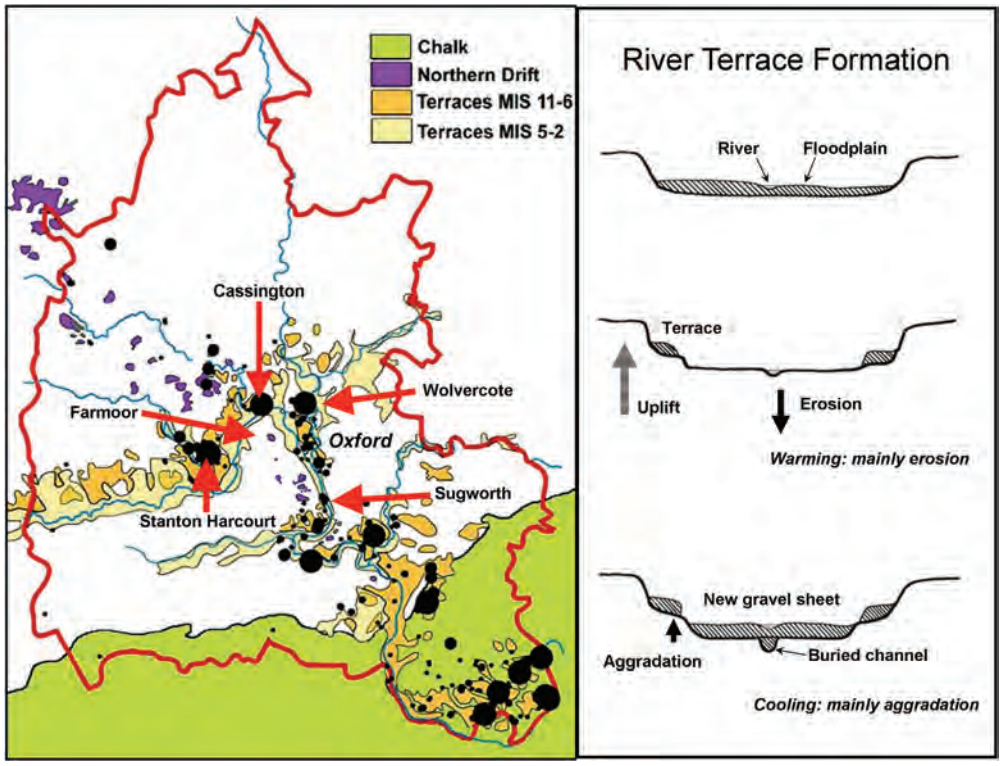


Fig. 1. Pleistocene Oxfordshire. Left: the main gravel terraces, sources of flint (chalk) and quartzite (Northern Drift); the location of investigated channel deposits; the distribution of Palaeoloithic artefacts. Right: simplified diagram of river terrace formation.

sequence of fine sedimentary deposits within the Summertown-Radley terrace at the Radcliffe Infirmary site. The results, ranging from *c.*110,000 to 70,000 years ago, reflect complex depositional changes (also noted elsewhere) in the upper strata of this terrace.[12] The present day floodplain was formed only in the last 12,000 years and most of its alluvium has accumulated since the late Iron Age, which is of value not only as evidence for past human impact on the environment, but also in helping to preserve material predating the first millennium AD.[13]

PALAEOLITHIC OXFORD

Evidence of the activity of hominid species predating modern humans is provided by flaked stone tools. These seldom represent in situ evidence of activity, most being unstratified surface finds or naturally redeposited within the gravels in a battered and rolled condition. Much more rarely, fresher more or less in situ material is found, usually in the context of channel deposits

[12] T. Braybrooke, 'Oxford University: Radcliffe Observatory Quarter, Radcliffe Infirmary Site, Oxford, Post-Excavation Assessment', unpublished MOLA report (2011), p. 79; see also *TTT1a*, pp. 87–8.

[13] G. Lambrick, 'Alluvial Archaeology of the Holocene in the Upper Thames Valley 1971–1991: A Review', in S. Needham and M.G. Macklin (eds.), *Alluvial Archaeology in Britain*, Oxbow Monograph, 27 (1992), pp. 209–26.

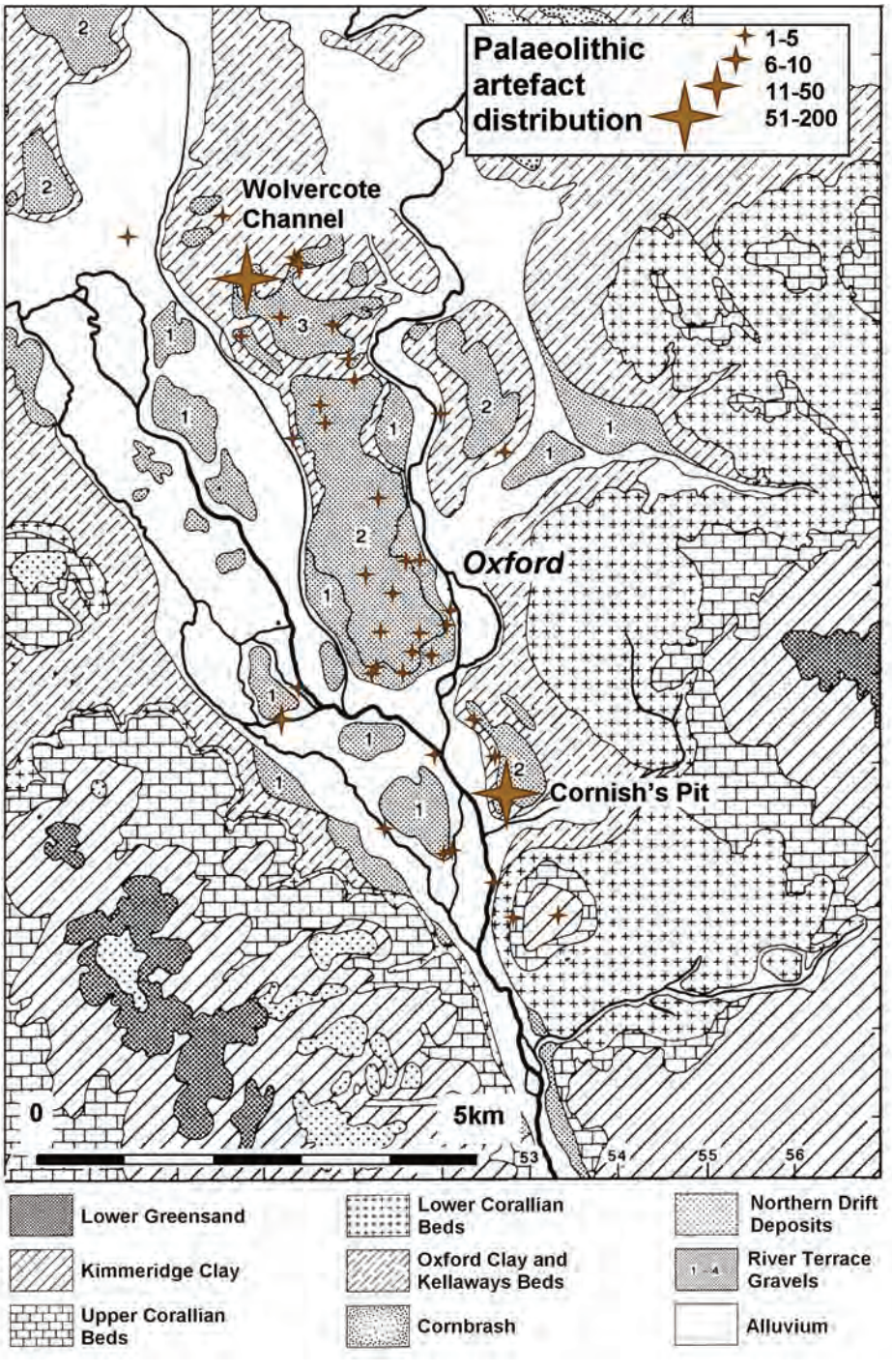


Fig. 2. Geology of the Oxford area and distribution of Palaeolithic artefacts.

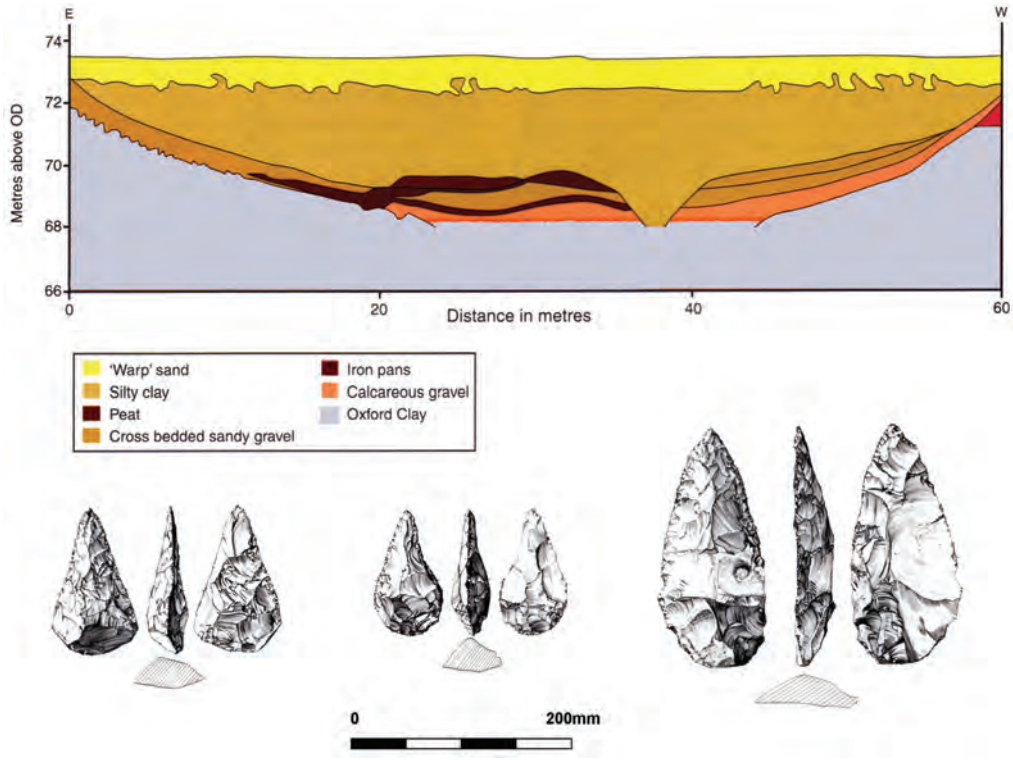


Fig. 3. Cross-section of the Wolvercote channel and examples of its distinctive hand axes.

where their association with biological remains reflecting the contemporary environment is especially informative.

Taking the different geological zones in chronological order (Fig. 2), there are very few unstratified surface finds from the hills and valley sides round Oxford. No definite examples are so far known from the Northern Drift on Boars Hill. There are significantly more surface finds from the Wolvercote (third) terrace and some rolled artefacts from within the gravel. Most significant is the large much-studied assemblage from a channel sealed beneath the gravel at Wolvercote that was recovered in the nineteenth and early twentieth centuries.[14]

The channel was *c.*4.5 metres deep, cut into Oxford Clay with sandy gravel at its base overlain by peat and iron pan deposits and eventually filled by silty clays (Fig. 3). Faunal remains included elephant, bear, rhinoceros, deer, aurochs and possibly bison. Beetles and plant remains from the sequence indicate a progression from silts deposited in warm, then temperate conditions overlaid by peat and deposits indicative of a colder climate.[15] Over 150 artefacts were recovered from the base of the channel, mostly in fresh condition, including manufacturing flakes as well as 50 flint and 10 quartzite handaxes. Some handaxes exhibit a distinctive 'plano-convex' or 'slipper' form that has been much debated (Fig. 3 left, right). Typological comparison with continental finds suggest they might be associated with a later

[14] *TTT1a*, pp. 70–2 and figs. 3.8–3.9; K.S. Sandford, 'The River-Gravels of the Oxford District', *Quarterly Journal of the Geological Society*, 80 (1924), pp. 113–70.

[15] Sandford, 'River-Gravels of the Oxford District'; S.L. Duidan and K.S. Sandford, 'Interglacial Plant Remains from the Wolvercote Channel, Oxford', *Quarterly Journal of the Geological Society*, 112 (1956), pp. 363–72.

interglacial (Marine Oxygen Isotope Stage 5 or 7, *c.*245,000 to 100,000 years ago) than the geomorphological evidence (Stage 9, *c.*340,000 to 300,000 years ago), which, as Derek Roe ruefully noted in the first Tom Hassall lecture,[16] has come to be more widely accepted. The reasons for the shape of such handaxes continue to be discussed – perhaps they reflect the character of the raw flint nodules from which they were made, or a deliberate way of making relatively light tools.[17] Although the Wolvercote channel was found in a quarry in the vicinity of 'Lakeside' (named after the lake that formed after extraction stopped), several attempts to rediscover it in the 1980s were unsuccessful. It remains a priority for re-investigation.

The Summertown-Radley (second) terrace has also produced some surface finds, but no underlying channel.[18] No objects were found at the Radcliffe Infirmary site, but a large 1880s collection of material from Cornish's Pit, a small quarry at Fairacres Road near Donnington Bridge, has recently been re-examined.[19] At the time, the gravel in which they were found was described as a 'hodgepodge of all the debris that ever rolled into the Thames valley.' The finds were mixed and worn, predominantly of 'local' flint (small rolled nodules) with occasional quartzite pieces. The handaxes are mostly short (average length 8.52 cm) and produced from cores, along with other core tools, choppers (one of quartzite), flake tools (for example scrapers) and debitage.

The Northmoor (first) terrace (including the modern floodplain) has again produced some Palaeolithic surface finds, but nothing of comparable significance to the earlier terraces. Modern humans enter the story in the last 35,000–40,000 years, and a few Upper Palaeolithic objects from Oxford have recently been identified in old collections: an early unifacial blade point dredged up from a backwater at North Hinksey in 1904; two late Upper Palaeolithic blade end-scrapers (one from New Hinksey waterworks, the other from Bardwell Road), which are *c.*12,000–11,000 years old; and a '*lame mâchurée*' blade of latest Upper Paleolithic or earliest Mesolithic date (*c.*10,000 years ago) from Headington allotments.[20]

A few other places in the upper Thames valley have produced small numbers of artefacts of this period, such as Mingies Ditch and Drayton, but the most informative site is at Goring. Here a significant range of flints was found in a soil that formed in the top of a palaeochannel together with pollen indicative of open tundra at the end of the last Ice Age. This was a kill/butchery site in a classic location where large herbivores would be funnelled into the head of the Goring Gap.[21] In theory, a similar preferential hunting location might exist where the Thames cuts through the Corallian Ridge, and while the topography is less marked than Goring, the few Upper Palaeolithic flints recently identified from Oxford may hint at this potential.

THE HOLOCENE ENVIRONMENT

A notable feature of the gap in the Corallian Ridge at Oxford are the small, often deeply incised valleys and flushes where streams spring from the junction between the lower Corallian sand and the Oxford Clay, resulting in the formation of peat beds (and occasionally basal tufa deposits). Some of these deposits have been investigated and the longest sequences of pollen

[16] D.A. Roe, 'The Palaeolithic Archaeology of the Oxford Region', *Oxoniensia*, 59 (1994), p. 11.

[17] J.A. Tyldesley, *The Wolvercote Channel Handaxe Assemblage: A Comparative Study*, BAR BS, 153; *TTT1a*, pp. 70–2 and fig. 3.9.

[18] But see *TTT1a*, pp. 94–8 and figs. 4.10–4.12 for a summary of the Stanton Harcourt warm stage channel.

[19] M. Nicholas, 'Alexander Montgomerie Bell's Collections from Iffley' (http://england.prm.ox.ac.uk/englishness-Iffley-Bell.html).

[20] G. Hey and A. Roberts, 'Oxfordshire in the Mesolithic and Upper Palaeolithic', Solent Thames Archaeological Resource Assessment: http://thehumanjourney.net/pdf_store/sthames/phase3/County/Upper%20Palaeolithic%20&%20Mesolithic/Upper%20Palaeolithic%20&%20Mesolithic%20Oxfordshire.pdf.

[21] T. Allen, *Lithics and Landscape: Archaeological Discoveries on the Thames Water Pipeline at Gatehampton Farm, Goring, Oxfordshire 1985–92*, Thames Valley Landscapes Monograph, 7 (1995), pp. 13–14, 54–64, 117–18 and figs. 8, 9, 41–50.

and other biological remains give a full late- and post-glacial vegetational history of the Oxford neighbourhood.[22]

The best dated sequence, at Sidlings Copse, Beckley, shows late glacial tundra giving way to a standard succession of birch and pine, with the climate warming to create a temperate deciduous forest of lime, oak and ash.[23] Possible human interference became increasingly evident from short-lived peaks of microscopic charcoal, which suggest temporary clearings, and from the much-debated elm and lime declines before the main period of forest clearance at *c.*2200 cal BC (late Neolithic or early Bronze Age).[24] Thereafter full forest cover did not return. High levels of bracken spores together with grass and herbs but little cereal pollen suggest rough grazing in the vicinity until a more fully agricultural landscape with higher levels of cereal and grassland pollen developed from some time in the Roman period (*c.*48–396 cal AD).

Results from other long peat sequences near Oxford, at Littlemore and Minchery Farm to the south-east and particularly Marley Wood, Wytham to the west, suggest similar patterns of development, with climax woodland of lime and subsequent clearance, but in the absence of scientific dating detailed comparison is difficult.[25] At Littlemore, two beaver dams were found, one formed round an alder tree felled across the stream. Pieces of wood are reported to be late Bronze Age or Iron Age, but no detailed dating evidence was presented.

MESOLITHIC OXFORD

The period from the end of the last Ice Age (*c.*10000 BC) until the climax of forest growth (*c.*6000 BC) more or less corresponds to the early Mesolithic. A radiocarbon date of 7530–6700 cal BC from sediments deep below Grandpont at Folly Bridge is indicative of an active channel,[26] but so far there is no evidence of human activity of this period in Oxford: although there are a few concentrations of charcoal specks in some pollen sequences, these might be from natural fires caused by lightning strikes. Overall, there is rather little evidence of early Mesolithic activity in the upper Thames compared with the Kennet valley,[27] but significant sites have been found at Gatehampton Farm, Goring, Great Western Park, Didcot and on the Corallian Ridge at Tubney.[28]

In the late Mesolithic, there was more activity at Oxford, reflected in several small scatters of flint found in excavations of much later sites (for example recently in St Clement's and at Oxford Castle).[29] Although such discoveries are haphazard, the locations by the river along the eastern edge of the Thames floodplain and near its confluence with the Cherwell are perhaps suggestive of a broad north–south routeway (Fig. 4). Rather more has been found on the surrounding hills. In 1894 an assemblage of 122 pieces was found in a hole 2 feet deep in Lower Greensand on

[22] A.G. Parker, 'Biotic Response to Late Quaternary Global Change – the Pollen Record: A Case Study from the Upper Thames Valley, England', in S.J. Culver and P. Rawson (eds.), *Biotic Response to Global Change: The Last 145 Million Years* (2000), pp. 265–87.

[23] S.P. Day, 'Post-Glacial Vegetational History of the Oxford Region', *New Phytologist*, 119 (1991), pp. 445–70.

[24] In this paper radiocarbon dates are given as 1 sigma ranges.

[25] A.G. Parker, 'Pollen', in J. Moore, 'Excavations at Oxford Science Park, Littlemore, Oxford', *Oxoniensia*, 66 (2001), pp. 213–16; A.G. Parker and D.E. Anderson, 'A Note on the Peat Deposits at Minchery Farm, Littlemore, Oxford, and their Implications for Palaeoenvironmental Reconstruction', *Proceedings of the Cotteswold Naturalists' Field Club*, 61:1 (1996), pp. 129–38; R. Hone et al., 'Holocene Vegetation Change at Wytham Woods, Oxfordshire', *Quaternary Newsletter*, 94 (2001), pp. 1–15.

[26] D.P.R. Wilkinson, 'A Prehistoric Ford at Oxford?', in A. Dodd (ed.), *Oxford Before the University: The Late Saxon and Norman Archaeology of the Thames Crossing, the Defences and the Town*, Thames Valley Landscapes Monograph, 17 (2003), p. 10 and fig. 3.32.

[27] *TTT1b,* pp. 193–220.

[28] Allen, *Lithics and Landscape*, pp. 67–81 and 117–18; OA, http://oxfordarchaeology.com/news-archive/164-archaeological-findings-trace-didcots-history-back-9000-years; P. Bradley and G. Hey, 'A Mesolithic Site at New Plantation, Fyfield and Tubney, Oxfordshire', *Oxoniensia*, 58 (1993), pp. 1–27; A. Simmonds and H. Anderson-Whymark, 'Excavations at Tubney Wood Quarry, 2001–9', *Oxoniensia*, 76 (2011), pp. 105–72.

[29] *OARAA,* Palaeolithic to Mesolithic Resource Assessment (2011), pp. 11–13.

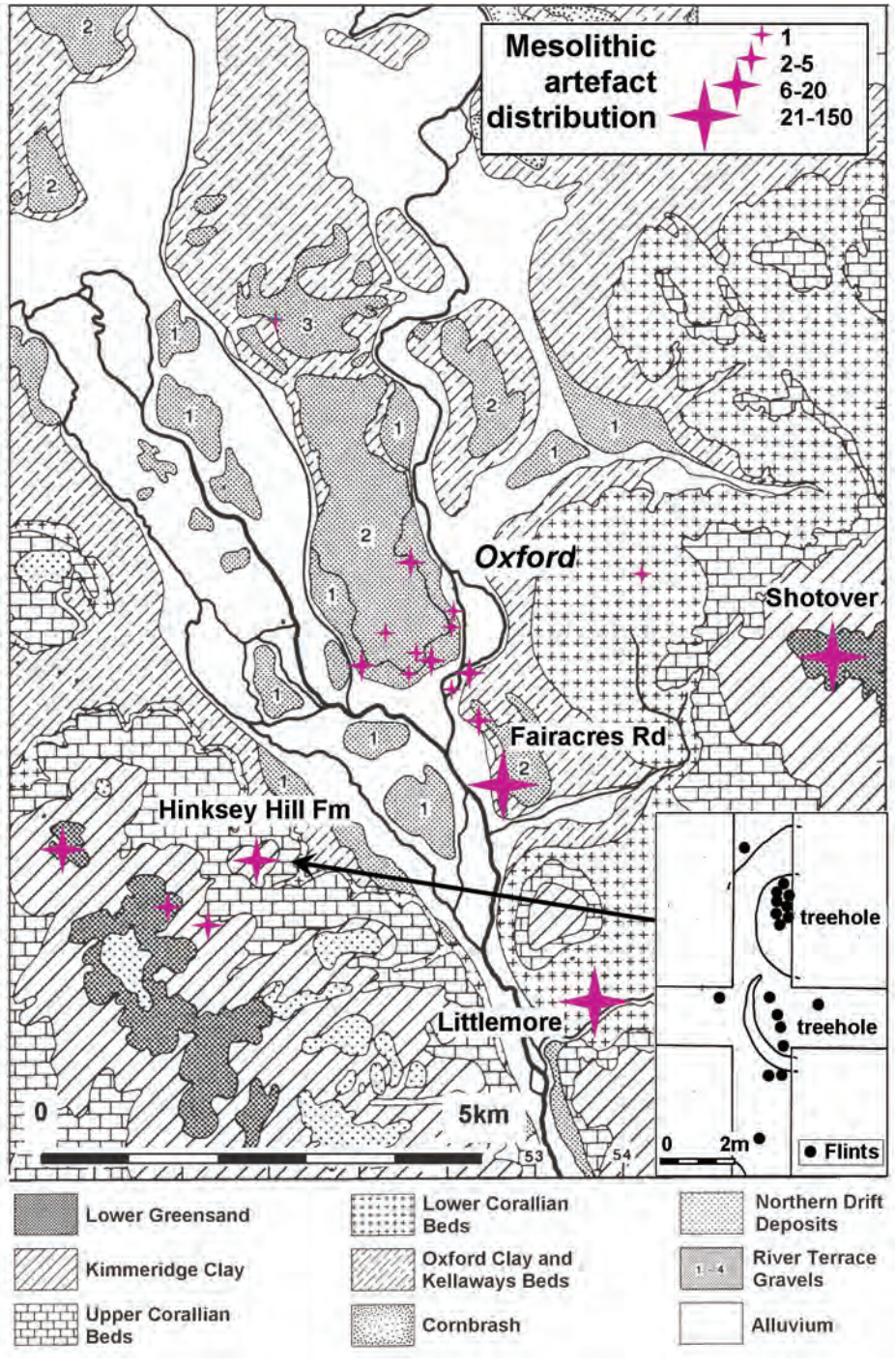


Fig. 4. Distribution of Mesolithic artefacts. Inset: cluster associated with tree-throw hole at Hinksey Hill Farm.

Shotover.[30] On the Corallian Ridge at Littlemore, twenty-six flints redeposited in later contexts reflect activity in a typical location on a sandy substrate close to a stream overlooking the valley floor. Pollen from the bottom of a peat deposit close to the stream revealed a high level of charcoal in an environment dominated by lime, oak and hazel woodland, which may reflect this activity but is undated.[31] On the western side of the valley, a number of scatters have been found in similar locations on the Corallian sand in the Chilswell area. In an evaluation of the golf course at Hinksey Hill Farm, a scatter of about twenty flint bladelets and flakes was found in association with a tree-throw hole, perhaps indicating use of the up-ended root plate as a convenient shelter.[32] Higher up the sides of the valley, other scatters come from the Lower Greensand in the vicinity of Youlbury on Boars Hill and on the south-east slopes of Cumnor Hurst.[33]

In several of these cases, but not all of them, Neolithic activity coincides with such clusters, but it is uncertain whether this reflects deliberate reuse of areas with signs of previous activity. Like many others, these sites shed little light on the ill-understood transition from Mesolithic hunting and gathering to Neolithic ways of living in which domestic animals and crops became the main sources of food.

OXFORD IN THE NEOLITHIC AND EARLIEST BRONZE AGE

The evidence of Neolithic Oxford comprises various ceremonial and/or funerary monuments on the gravel spur between the Thames and Cherwell floodplains, a few scattered pits and Beaker burials, scattered surface finds, artefacts redeposited in much later contexts, and a small number of river finds (Fig. 5). Although tantalisingly incomplete, these glimpses are the beginning of a more continuous thread of evidence showing how people related to each other and their surroundings, including how their early activity and traditions helped to shape later developments.

Radcliffe Infirmary Early Neolithic Square Enclosure

Investigations at the Radcliffe Infirmary site have revealed the eastern part of a small rectilinear enclosure formed by a 'V'-shaped ditch 1.5 metres wide and 1.2 metres deep, which was probably more like a trench before the sides slumped (Fig. 6).[34] Charcoal and bone from the base of the ditch has been radiocarbon dated to 3530–3360 cal BC and 3520–3360 cal BC, but there were no other artefacts, nor any human remains. Snails suggest that the immediate surroundings were unwooded. It was surrounded by a large 60-metre diameter Bronze-Age ring ditch dated to 1960–1860 cal BC, suggesting that it had survived as a visible earthwork for many centuries after it was built. It is almost certainly the parch mark of 'quadrangular forme encompassed with another larger of the circular kind' that Dr Plot observed – and illustrated – in the seventeenth century.[35] The enclosure would have been *c.*17.5 metres square if the barrow was centred on it as Plot shows (Fig. 6).

This compares with the 10 metre by 17 metre rectangular first phase enclosure at Barrow Hills, Radley, later enlarged by 'U'-shaped ditch radiocarbon dated to 3370–3030 cal BC

[30] H. Case, 'Mesolithic Finds in the Oxford Area', *Oxoniensia*, 17–18 (1952), p. 13 recorded fourteen cores (two non-microlithic), nine core-trimming flakes, forty-two long flakes, forty-eight other flakes, one microlith, one graver and seven end scrapers.

[31] Moore, 'Excavations at Oxford Science Park', pp. 167, 177–8, 213–16.

[32] T. Allen, 'Hinksey Hill Farm, South Hinksey Archaeological Evaluation Phase 1', unpublished OA evaluation report; HER, PRN 9077.

[33] Case, 'Mesolithic Finds'; R. Holgate, 'Mesolithic, Neolithic and Earlier Bronze Age Settlement Patterns South-West of Oxford (Aerial Survey and Fieldwork)', *Oxoniensia*, 51 (1986), pp. 1–14; R. Ainslie, 'Fieldwork at Hurst Hill, Cumnor', *Oxoniensia*, forthcoming.

[34] Braybrooke, 'Radcliffe Infirmary Site', p. 14.

[35] Plot, *Natural History of Staffordshire*, pp. 15–16, fig. 1, no. 7.

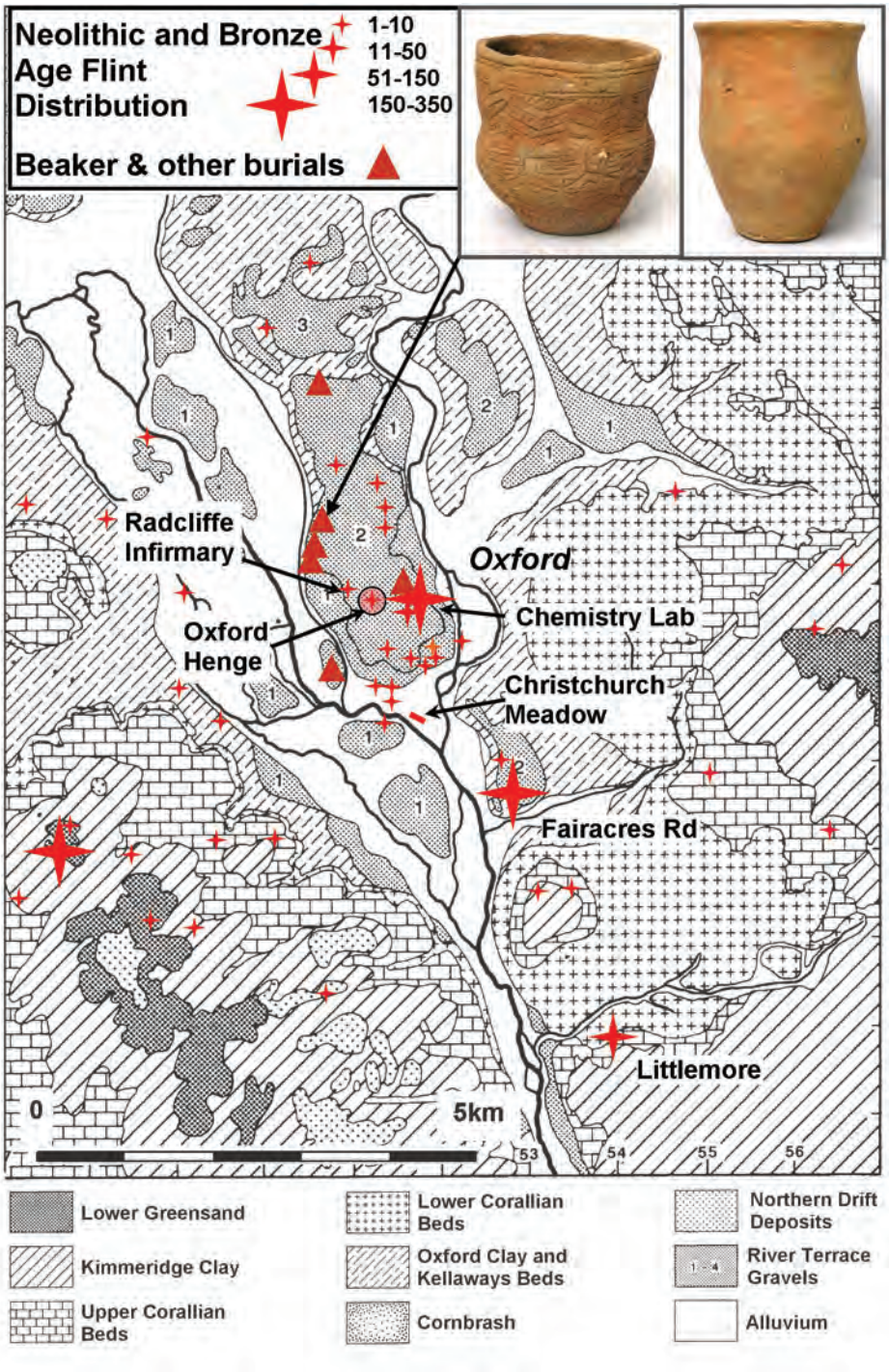


Fig. 5. Distribution of Neolithic and Beaker pottery and flint artefacts. Insets (© Ashmolean Museum, University of Oxford): beakers from burials in North Oxford.

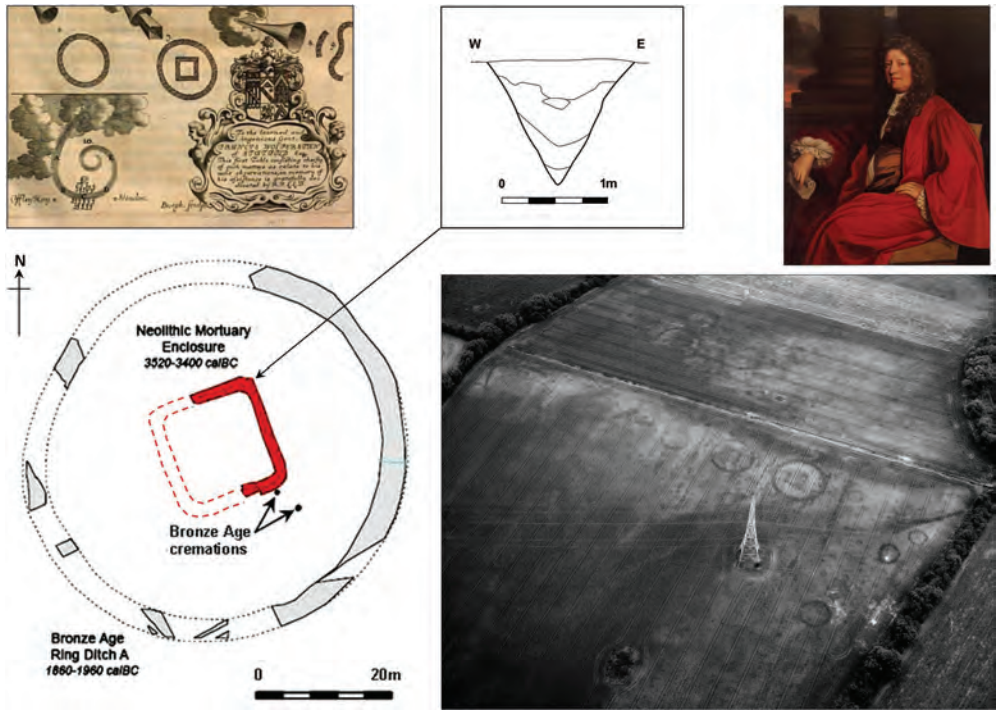


Fig. 6. Plan and section of the Neolithic enclosure surrounded by a Bronze-Age ring ditch on the site of the former Radcliffe Infirmary. Top right: Dr Robert Plot (© Ashmolean Museum, University of Oxford). Top left: Plot's illustration of the Radcliffe Infirmary monument. Bottom right (© Crown copyright, EH NMR SP3400/38): comparable ring ditches with square enclosures at Cote.

(Fig. 7).[36] As at the Oxford site, there were no human remains in the first phase ditch at Radley, though there were some flints and antler picks. Other broadly comparable early to middle Neolithic enclosures that have been excavated in the Thames valley include Dorchester Site I first phase (30 metres square), Site 1 (53 metres by 135 metres) and Site VIII (22 metres by 60 metres);[37] the 'U'-shaped enclosure at North Stoke (17 metres by over 20 metres);[38] and Yarnton (27 metres by over 50 metres).[39] All were similarly devoid of human bones and produced very few if any finds, but in each case human burials or bones were found nearby.

[36] R. Bradley, 'The Excavation of an Oval Barrow beside the Abingdon Causewayed Enclosure, Oxfordshire', *Proceedings of the Prehistoric Society*, 58 (1992), pp. 127–42; A. Barclay and C. Halpin, *Excavations at Barrow Hills, Radley, Oxfordshire. I: The Neolithic and Bronze Age Monument Complex*, Thames Valley Landscapes Monograph, 11 (1999), pp. 19–34.

[37] A. Whittle et al., 'Excavations in the Neolithic and Bronze Age Complex at Dorchester-on-Thames, Oxfordshire, 1947–1952 and 1981', *Proceedings of the Prehistoric Society*, 58 (1992), pp. 143–201; J. Blair, 'Anglo-Saxon Pagan Shrines and their Prototypes', *Anglo-Saxon Studies in Archaeology and History*, 8 (1995), pp. 14–15 has suggested the Site I square enclosure might be an Anglo-Saxon shrine but the scraps of Abingdon ware he presumes to be redeposited are the only dating evidence.

[38] H.J. Case, 'The Linear Ditches and Southern Enclosure, North Stoke', in H.J. Case and A.W.R. Whittle (eds.), *Settlement Patterns in the Oxford Region: Excavations at the Abingdon Causewayed Enclosure and Other Sites*, CBA Research Report, 44 (1982), pp. 60–75, fig. 34.

[39] G. Hey, 'The Social Lives of the Small Neolithic Monuments of the Upper Thames Valley', in A. Meirion Jones et al. (eds.), *Image, Memory and Monumentality: Archaeological Engagements with the Material World*, Prehistoric Society Research Paper, 5 (2012), pp. 52–63.

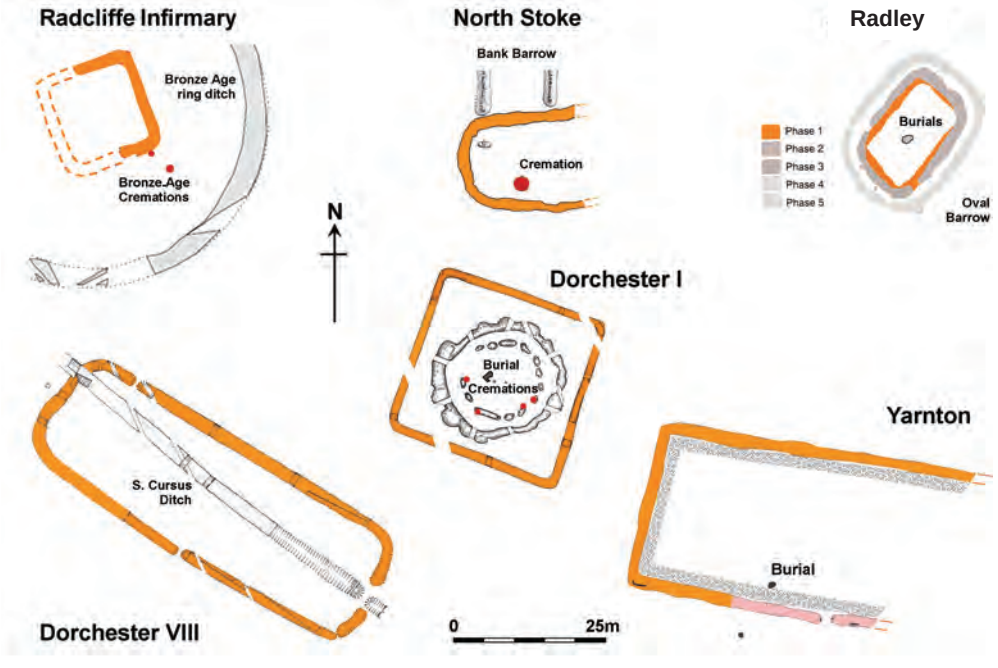


Fig. 7. Excavated Neolithic enclosures and similar monuments in the upper Thames valley.

A disarticulated burial dated to 3950–3300 cal BC post-dated Dorchester Site 1. Within 200 metres of the enclosure at Radley there was a cluster of three individual burials (dated to 3800–3100, 3650–3100 and 3380–3100 cal BC) and a linear pit with two burials, one disarticulated (dated to 3650–3090 and 3360–3020 cal BC); the enclosure itself later became an oval barrow with a pair of burials. The North Stoke and Yarnton enclosures also attracted later Neolithic or Bronze-Age burials. Some of these enclosures were adapted into other monuments for funerary or other purposes (Fig. 7). Radley developed into an oval barrow with two articulated burials with significant grave goods. At Dorchester, Site I became a later Neolithic segmented ring ditch with cremations, Site 1 was incorporated into the south-east terminal of the later cursus, and Site VIII was bisected by its southern ditch. The North Stoke 'U'-shaped enclosure became the terminal of a bank barrow (possibly with another at its other end suggested by cropmarks which also reveal a sub-rectangular/square feature within an oval ditch).[40]

Although the later enclosure of the Oxford monument within an early Bronze-Age barrow is unusual, the nature of the adaptation is comparable with these other examples and extends the timeframe for such reuse and remodelling to about 1,500 years. Cropmarks suggest two very similar examples amongst a barrow cemetery just west of the Aston/Cote causewayed enclosure (Fig. 6) and others at Pangbourne and Long Hanborough.[41]

Compared with contemporary causewayed enclosures, which must have been communally built monuments, the more modest scale of early to middle Neolithic ritual enclosures and oval barrows suggests that they were the work of smaller, family-sized, groups.[42]

[40] Case, 'The Linear Ditches and Southern Enclosure, North Stoke', fig. 33.

[41] Pangbourne SU648761, NMR film 4636/29; Hanborough SP433133, NMR film 4371/31-2; Cf. Blair, 'Anglo-Saxon Pagan Shrines', pp. 13–15, where it is suggested that the square features might be pagan Anglo-Saxon shrines reusing prehistoric monuments.

[42] Hey, 'The Social Lives of the Small Neolithic Monuments', pp. 57–60.

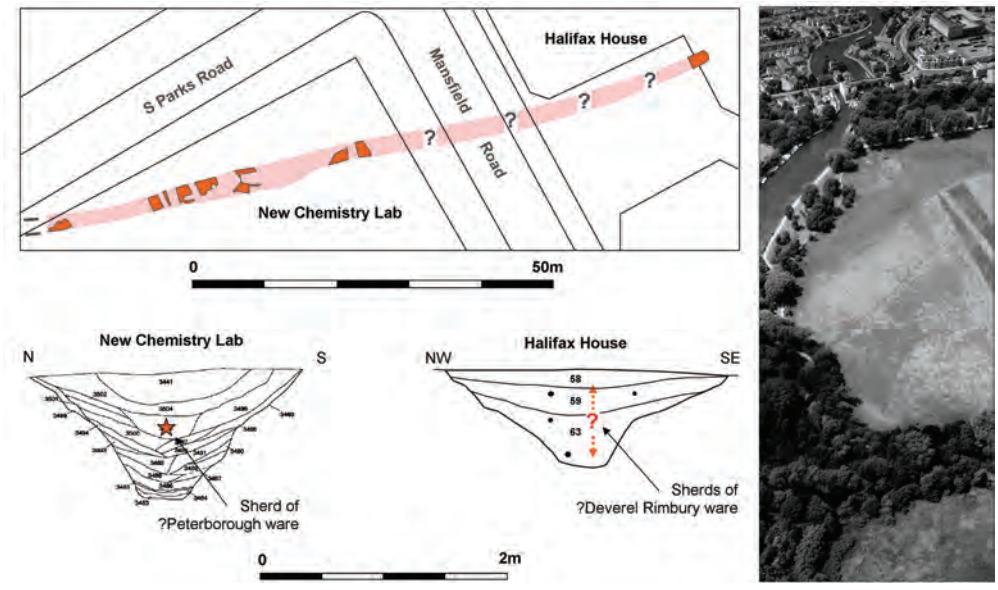


Fig. 8. Possible Neolithic long enclosures. Left: the Neolithic or Bronze-Age ditch at the new Chemistry Laboratory, South Parks Road and its possible extension to a ditch terminal at the former Halifax House. Right (© Crown copyright, EH NMR SP5105/11): Christ Church Meadow parch marks from the south-east (Folly Bridge is in the background top centre).

Other Possible Early to Middle Neolithic Monuments

Two other sites, the new Chemistry Laboratory in South Parks Road and Logic Lane at University College, have revealed lengths of straight ditches of similar size and fills that might also be of early to middle Neolithic date.

The ditch at the Chemistry Laboratory ran almost parallel to South Parks Road and was traced 48 metres west of the junction with Mansfield Road.[43] Fifty metres to the east, on the site of Halifax House, the terminal of a similar ditch was found on this west-south-west to east-north-east alignment (Fig. 8).[44] Dating evidence is very sparse. The middle fill of the Chemistry Laboratory ditch (its earliest stable horizon after initial slumping) produced two coarse flint- and grog-tempered sherds with a stepped shoulder tentatively attributed to Peterborough ware, which is broadly middle Neolithic (*c*.3500–2800 BC) and potentially not much after the Radcliffe Infirmary site, though most Peterborough ware is rather later. The form and size of the ditches are similar, and the Chemistry Laboratory ditch could represent another 'mortuary' or long enclosure.

The Halifax House ditch terminal was similar in shape and dimensions, but the five sherds of pottery – again with coarse flint-temper – included a rim tentatively thought to be from a Middle Bronze bucket urn, potentially 1,500 or even 2,000 years later. Unfortunately, their position in the ditch fills was not reported and the attribution was somewhat tentative, but in any case the terminal might have been disturbed. The coincidence of a ditch terminal of very

[43] P. Bradley et al., 'Prehistoric and Roman Activity and a Civil War Ditch: Excavations at the New Chemistry Research Laboratory, 2–3 South Parks Road, Oxford', *Oxoniensia*, 70 (2005), pp. 141–202.

[44] S. Anthony, 'Prehistoric and Early Roman Field Systems at Halifax House, South Parks Road, Oxford', *Oxoniensia*, 70 (2005), pp. 129–39.

similar character being in line with the Chemistry Laboratory ditch is at least suggestive – although the original excavators doubted its being the same feature. If the two sightings do represent one ditch, it would be a minimum of about 100 metres long overall.

While it could represent a Bronze-Age boundary, as the excavators noted, it is not inconsistent with being a Neolithic long enclosure or even part of a cursus (though cursus ditches often have more rounded profiles). Such enclosures and cursuses often have breaks along their sides, and both can be open-ended, so a terminal like that at Halifax House could either mark the end of the monument or just a gap in the ditch. Cursuses often cross areas of dry ground between watercourses, and if this was a cursus it could have extended right across the gravel spur at Oxford.[45] As nothing is known of the width of the monument (assuming it is not just a single ditch), another possibility is that it is one side of a bank barrow as at North Stoke.[46] The alignment of the ditch (roughly west-by-south to east-by-north) is also potentially significant, since it is the same as that of a linear barrow cemetery just to the north (see below).[47]

At Logic Lane, 'Ditch 2' was similar in dimensions and fill and appeared to be straight but was traced for only about 5 metres. It intersected a smaller curving ditch only 0.8 metres wide and 0.6 metres deep, but their relationship was not discernible. A single sherd of prehistoric pottery that might either be Peterborough ware or from a collared urn provides only vague dating evidence,[48] and the character of the monuments represented by these ditches remains uncertain.

In Christ Church Meadow, pasture marks suggest another possible long enclosure (*c.*100 metres by 20 metres) aligned parallel to the Thames along a gravel 'island' (Fig. 8).[49] But it has not been tested by geophysics or excavation and a ditch running from one corner appears to link it into later drainage features. If it is real, this enclosure could have been aligned on midwinter sunrise, like the Dorchester Cursus[50] and probably the cursus at Buscot Wick, whereas the Buscot long enclosure appears to be aligned on midsummer sunrise.

The Oxford Henge Monument

More than a millennium after the Radcliffe Infirmary enclosure was constructed, a large ceremonial henge monument was created just south of what is now Keble Road (Fig. 9). It was discovered during development for St John's College when a segment of the ditch representing its south-west side was located.[51] The ditch was irregular, 6–9 metres wide at the top, 1.5–1.8 metres wide at the base and 2.8 metres deep (Fig. 10). The scalloped form of the ditch sides suggests that it was dug by small gangs of workers. Henges are characterised by having outer banks, which in this case did not survive, but may be indicated by the asymmetrical slumping of ditch fills. There is no evidence of where any entrances were located, nor whether it had an internal stone circle like the Devil's Quoits at Stanton Harcourt.[52] The curve of the ditch was

[45] For a review of cursus monuments in the upper Thames valley see A. Barclay et al., *Lines in the Landscape, Cursus Monuments in the Upper Thames Valley*, Thames Valley Landscapes Monograph, 15 (2003), pp. 216–44.

[46] Case and Whittle (eds.), *Settlement Patterns in the Oxford Region*, pp. 60–75.

[47] R. Loveday, 'The Greater Stonehenge Cursus – the Long View', *Proceedings of the Prehistoric Society*, 78 (2012), pp. 341–50.

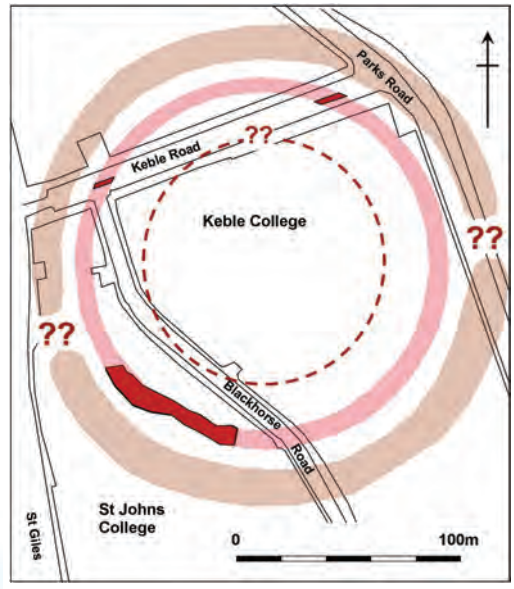
[48] F. Radcliffe, 'Excavations at Logic Lane, Oxford. The Prehistoric and Early Medieval Finds', *Oxoniensia*, 26/27 (1961/2), pp. 39–43, figs. 2 and 4A. Alistair Barclay (personal communication) has suggested that the Peterborough ware attribution may be more likely, but he did not find the sherd itself for re-examination, and the level at which it was found was not recorded.

[49] Cf. Barclay et al., *Lines in the Landscape*, pp. 8–9 and figs. 2.2, 2.3 (Drayton) and p. 225 and fig. 10.2 (Buscot Wick) for long enclosures of similar size in comparable locations parallel to watercourses.

[50] R. Bradley and R. Chambers, 'A New Study of the Cursus Complex at Dorchester-on-Thames', *Oxford Journal of Archaeology*, 7 (1988), pp. 271–89.

[51] The description that follows is based on S. Wallis, 'Former Queen Elizabeth House (Kendrew Quadrangle), St John's College, Blackhall Road, Oxford. A Post-Excavation Assessment', unpublished TVAS report (2011), pp. 9–30.

[52] A. Barclay et al., *Excavations at the Devil's Quoits, Stanton Harcourt, Oxfordshire, 1972–3 and 1988*, Thames Valley Landscapes Monograph, 3 (1995), pp. 11–47.



RIGHT: Fig. 9. Plan of the Oxford henge monument discovered at St John's College and its projected form based on sightings in Keble Road. The outer bank and the number and position of any entrances are speculative, as is the possibility of an inner ring of stones or posts.

BELOW: Fig. 10. View of the henge ditch looking towards Keble College (D. Radford).

fairly irregular, but two further probable sightings of it during utility works in Keble Road suggest the henge was roughly circular and *c.*155 metres in diameter. Given the dimensions of the ditch, the labour needed to build the monument is estimated at about seventeen person-years.

Finds from the henge were very sparse. A few discarded antler picks were found on the base of the ditch and animal bone from a charcoally deposit 0.3 metres above was dated to 2289–2129 cal BC. Two clusters of Grooved Ware pottery (one representing at least two vessels, the other a single pot) occurred 0.5 metres above the bottom of the ditch. Charcoal from an area of burning associated with a cluster of Beaker pottery (representing one vessel) 0.7 metres above the basal fill was dated to 2136–1948 cal BC. Together these indicate construction around 2200 cal BC, roughly the end of Grooved Ware production and well within that of Beakers.[53] There were a few other sherds, three flints and twenty-one animal bones. The association of Grooved Ware with the Oxford henge slightly redresses a tendency for it to not to be associated with major monuments in the upper Thames valley.[54]

The Oxford henge is very comparable with the more completely excavated example at the Devil's Quoits, Stanton Harcourt including its general size, irregular ditch, hearth-like features in the lower fills and overall paucity of finds.[55] Whether it also shared the same orientation, or any internal ring of stones or a post setting such as those at the Devil's Quoits, is unknown. The Stanton Harcourt monument was probably earlier, with radiocarbon determinations on material from the lower ditch fills ranging from *c.*2800 to 2300 cal BC. Topographically, the Oxford henge is sited on the long broad spur of second terrace gravel, more or less midway between the Thames and Cherwell floodplains (Fig. 12), a position broadly comparable with the Devil's Quoits and the Big Rings at Dorchester.[56]

Some henge monuments and stone circles were clearly intended, through their design and/or their location in relation to particular features of the landscape, to mark the rising or setting of the sun at particular times of year, and this may apply to the Oxford henge. Not enough is known of any entrance(s) or the interior of the henge to tell whether any self-referential markers were designed into the monument, but its site may have been chosen to achieve solar alignments using distinctive parts of the visible horizon. By plotting height transects using Ordnance Survey maps and Google Earth (which allows distances and elevation profiles to be measured to within a metre or so) horizon profiles can be plotted and correlated with azimuth and elevation figures for the path of the rising or setting sun for the appropriate day of the year.[57] To allow for the horizon being forested, 30 metres was added to the ground profiles and similar calculations were made to assess the extent of clearance needed in the immediate vicinity of the monument for the horizon to be visible.[58] Direct evidence of the extent of clearance is ambiguous: the henge was broadly contemporary with a barrow cemetery which was probably set in open grassland (see below), but snails and phytoliths from the ditch itself suggest an initially open environment that became partially wooded – though it is perhaps possible that the shady conditions were confined to the ditch. It is at least plausible that clearance could have extended about 1–1.5 km from the monument – a bit beyond the edge of the gravel terrace – to ensure that the closer hills would be visible in the relevant directions. Three potentially significant alignments emerge from this analysis (Fig. 11):

[53] P. Garwood, 'Grooved Ware in Southern Britain', in M. Cleal and A. McSween (eds.), *Grooved Ware in Britain and Ireland*, Neolithic Studies Group Seminar Paper, 3 (1999), pp. 164–76.

[54] S.J. Botfield, 'Grooved Ware Pottery in the Upper Thames Valley: Context and Design', University of Birmingham M.Phil. thesis (2012), http://etheses.bham.ac.uk/3900/1/Botfield_12_MPhil.pdf, pp. 126–7.

[55] Barclay et al., *Excavations at the Devil's Quoits*, pp. 11–23.

[56] *TTT1b*, pp. 300–5.

[57] Based on an online solar alignment calculator (http://pveducation.org/pvcdrom/properties-of-sunlight/sun-position-high-accuracy) set to generate figures for 2200 BC.

[58] P.S. Savill et al., *Wytham Woods. Oxford's Ecological Laboratory* (2010), p. 15.

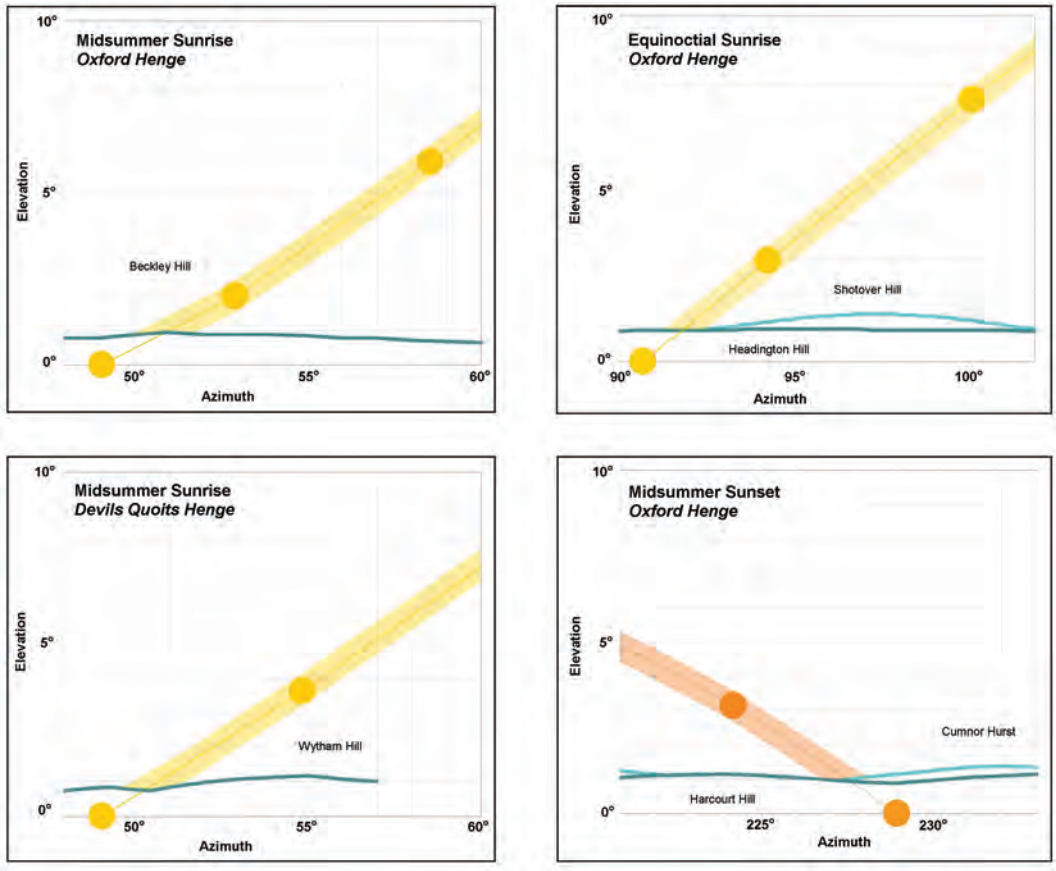


Fig. 11. Plots of the estimated horizon and path of the sun as seen from the Oxford henge (at midsummer sunrise, equinoctial sunrise and midwinter sunset) and the Devil's Quoits (midsummer sunrise).

Midsummer sunrise: the sun would have risen roughly in line with the north-west slope of Elsfield and Beckley Hill. Pollen evidence from Sidlings Copse suggests forest clearance nearby on this hill at about the time the henge was being built.
Equinoctial sunrise: if the top of Headington Hill was cleared of trees and the more distant Shotover was not, the sun would have appeared to rise out of an apparent 'notch' created between the near and distant horizons.
Midwinter sunset: the sun would have seemed to sink into an apparent 'notch' formed by the nearer horizon of the northern slope of Harcourt Hill in front of the far horizon of the southern slope of Cumnor Hurst.

These are not prominent horizon features (though the human eye naturally exaggerates verticals), but *if* the people who built the Oxford henge were concerned with marking communally important times of year, they may have chosen a location where the two most significant calendrical events – midsummer sunrise and midwinter sunset – would both be marked by distinctive features of the local horizon. An equinoctial sunrise alignment may also have been achieved. The other principal alignments (midwinter sunrise, equinoctial sunsets

and midsummer sunset) are unconvincing, the horizon being too distant and not visible without extremely extensive clearance, or too featureless to be useful.

Astronomical alignments such as these tend to be less common for lowland henges and stone circles than for upland examples where the topography is more marked, but this may partly be due to lack of analysis. At the Devil's Quoits, midsummer sunrise is plausibly aligned with a dip in the horizon formed by a saddle at the western end of Wytham Hill (Fig. 11); it also appears that the stones marking the northern side of the west entrance of the stone circle and the southern side of its east entrance may have been placed to align with equinoctial sunrises and sunsets.[59]

Seen in the context of other large henges and stone circles in the upper Thames basin, Oxford and the Devil's Quoits, together with the roughly contemporary Big Rings at Dorchester, can be seen as a valley floor group, each being located close to a confluence of the Thames with a major tributary (the Windrush, Cherwell and Thame). Arguably, there is also a 'headwaters and ridges' group of monuments, consisting of the henges at Cutsdean, Westwell, Condicote and Kings Sutton and the stone circle at Rollright, which together may reflect the importance of the upstream parts of the Windrush, Evenlode and Cherwell catchments, perhaps on various routeways (Fig. 17).[60] The main orientation of the Devil's Quoits, Westwell and Cutsdean henges share a common west-by-south to east-by-north axis,[61] while the Big Rings at Dorchester is aligned at right-angles to this, as are the outlier of the stone circle at the Devil's Quoits and perhaps the adjacent linear barrow cemetery.

These henges were ceremonial and social gathering places, and while not directly used for burials (at least in the case of the fully excavated Devils Quoits), the valley floor group in particular was associated with long-lived funerary complexes (see below).

Later Neolitihic and Bronze-Age 'Flat' Graves

Some of the early finds of prehistoric material in Oxford were more or less complete Beaker or Bronze-Age pots. Some, like the Beakers found in Southmoor and Polstead Roads, were associated with human bones; others, such as an early Bronze-Age food vessel from Park Town or a middle Bronze-Age bucket urn from near Donnington Bridge, are tentatively attributable to burials only as being the normal context in which relatively complete vessels are found.[62] Such discoveries continue to occur, such as the Beaker burials described below, and an early Bronze-Age inhumation at 61–62 Banbury Road found during building work for Kellogg College.[63]

Investigations prior to construction of the Gene Function building off South Parks Road revealed the burial of a woman over forty years old, buried with a flint tool kit and a late style Beaker.[64] She was about 1.56 metres tall, with poor teeth, joint problems and possibly malnutrition. Most remarkably, a blow to the head, possibly with a stone axe, had penetrated her skull, but evidence of healing of the bone shows that she had survived. Her bones were radiocarbon dated to 2460–2040 cal BC. At a later date, two other women and a child were buried close by. The whole group was enclosed within a small ring ditch (see below).

A Beaker burial at the Hamel was of a child only two to four years old with no evidence of disease or injury, buried in a small pit with a variety of what seemed like domestic rubbish.[65] Incomplete fragments of at least eight pots included late style beakers and a storage vessel.

[59] Barclay et al., *Excavations at the Devil's Quoits*, fig. 7.
[60] *TTT1b*, pp. 302–5.
[61] Loveday, 'The Greater Stonehenge Cursus', pp. 341–50.
[62] *VCH Oxon*. 1, pp. 241–51 and plate VIId.
[63] C. Cuenca, 'An Archaeological Watching Brief during Soil Investigations for the Norham Manor Project 62–64 Banbury Road and 7–11 Bradmore Road, Oxford', unpublished JMHS report (2005).
[64] C. Boston et al., 'Excavation of a Bronze Age Barrow at the Proposed Centre for Gene Function, South Parks Road Oxford', *Oxoniensia*, 68 (2002), pp. 179–200.
[65] N. Palmer, 'A Beaker Burial and Medieval Tenements in the Hamel, Oxford', *Oxoniensia*, 45 (1980), pp. 124–5.

There were a flint scraper, knife and knapping spalls, four bones of cattle and three of sheep (or goat). Small flecks of charcoal were the only carbonised remains. The decoration on the pottery and the presence of flint tools and spalls but not flakes suggest some degree of selection rather than purely random rubbish. The burial was dated to 1981–1607 cal BC. It is comparable to a child burial with domestic debris near the Neolithic enclosure and three other adult Beaker burials at Yarnton, and they were probably formal burials with somewhat informal collections of grave goods rather than casual burials in domestic rubbish pits. The Hamel is also notable for the find of a decorative gold strip, possibly from an early Bronze-Age dagger sheath, and other bits of beaker and flint from plough marks in the subsoil into which the burial had been dug, beneath later alluvium.

OXFORD'S BRONZE-AGE BARROW CEMETERIES

The broad pattern of late Neolithic and Beaker activity at Oxford continued into the early to middle Bronze Age (Fig. 12). Many Beaker and Bronze-Age burial monuments marked by sub-surface ring ditches of varying sizes, and less commonly visible barrows, have been discovered since the 1930s (mainly by air photography), including clusters in and around Oxford:

– A closely spaced row of ring ditches stretching from the University Parks to the former Radcliffe Infirmary plus outliers,
– An ill-defined scatter of ring ditches known from chance discoveries beneath the medieval and later city south of the Parks,
– A small amorphous linear scatter of ring ditches on Port Meadow,
– A similar amorphous linear scatter of ring ditches at Binsey,
– A small but distinct row of ring ditches at South Hinksey,
– Other small groups and single barrows and ring ditches (for example at Wytham and Water Eaton).

The University Parks and Radcliffe Infirmary Linear Cemetery and adjacent Barrows (Figs. 13, 16)

A recent geophysical survey in the University Parks has located another ring ditch in this linear barrow cemetery between two of those previously known (Fig. 14),[66] and excavations at the Radcliffe Infirmary site 250 metres to the west have revealed three more ring ditches on the same alignment with another offset to the south. Two more barrows south of the main alignment have been investigated in the Science Area. In the Parks, parch marks indicate two small unexcavated ring ditches offset to the north.

The Radcliffe Infirmary ring ditches varied considerably in size.[67] The westernmost (Ring Ditch A) was the largest, a single ditch 60 metres in diameter enclosing the early Neolithic enclosure described above, first seen by Plot.[68] There were two cremations within the ring ditch, one with good preservation of human bone, but neither accompanied by grave goods. Finds were almost absent. Charred tubers of onion couch grass found with one of the cremations may reflect the use of dry grass as tinder for a funeral pyre.[69] One of the cremations was dated

[66] I am grateful to David Radford for showing me the preliminary results of the magnetometer survey carried out by the university which covered the south-west corner of the Parks. It is understood that publication will follow completion of the survey of other parts of the Parks.

[67] Braybrooke, 'Radcliffe Infirmary Site', pp. 14–17.

[68] Plot, *Natural History of Staffordshire*, pp. 15–16, fig. 1, nos. 6–7.

[69] M. Robinson, 'The Significance of Tubers of *Arrhenatherum elatius* (L.) from Site 4 Excavation 15/11', in G. Lambrick, *The Rollright Stones: Megaliths, Monuments and Settlement in the Prehistoric Landscape*, English Heritage Archaeological Report, 6 (1988), p. 102.

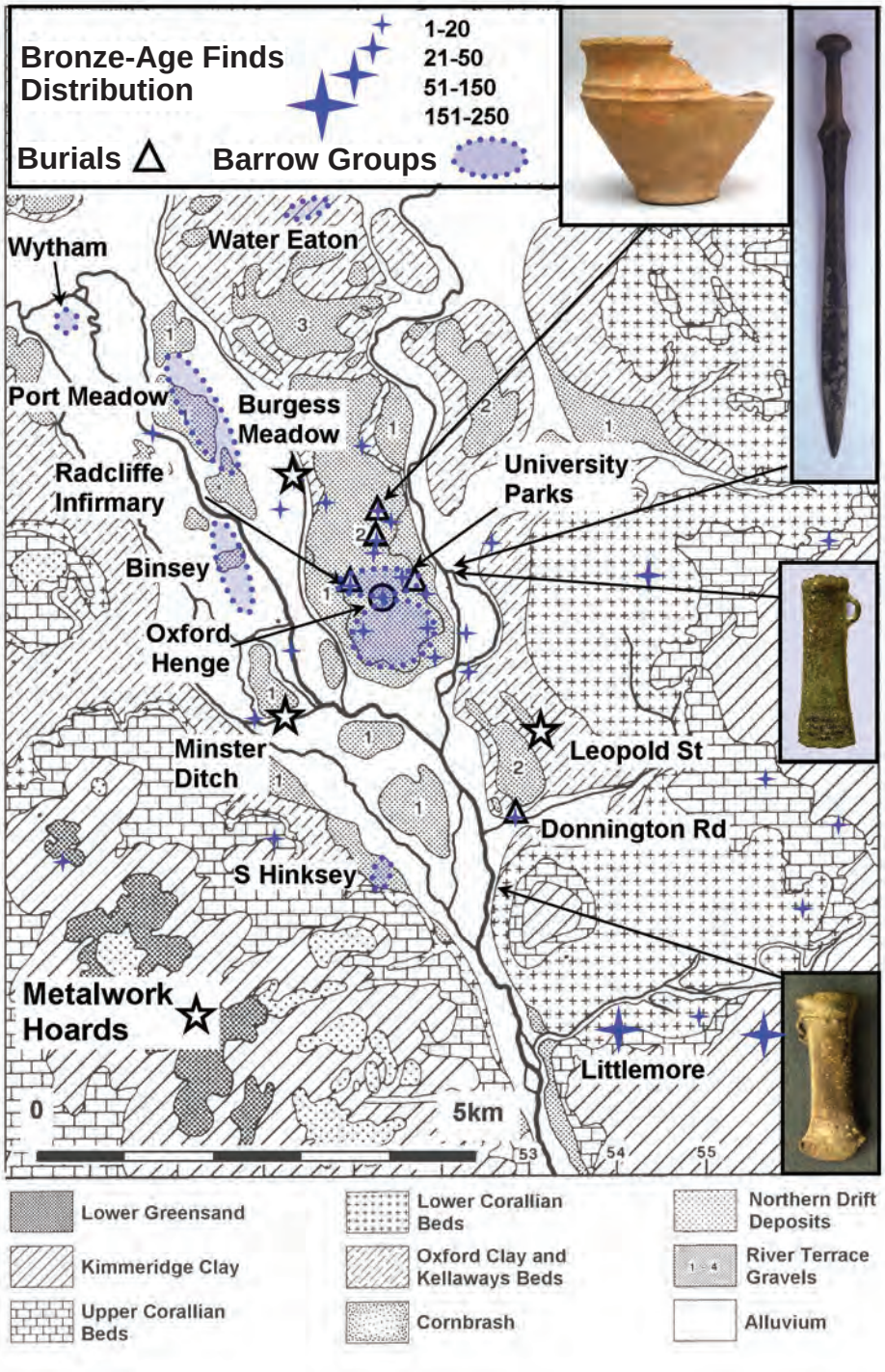


Fig 12. The distribution of Bronze-Age barrow cemeteries and finds in and around Oxford. Insets (© Ashmolean Museum, University of Oxford – not to scale): a food vessel from Park Crescent; a sword and miniature socketed axe from the Cherwell; a socketed axe from Iffley.

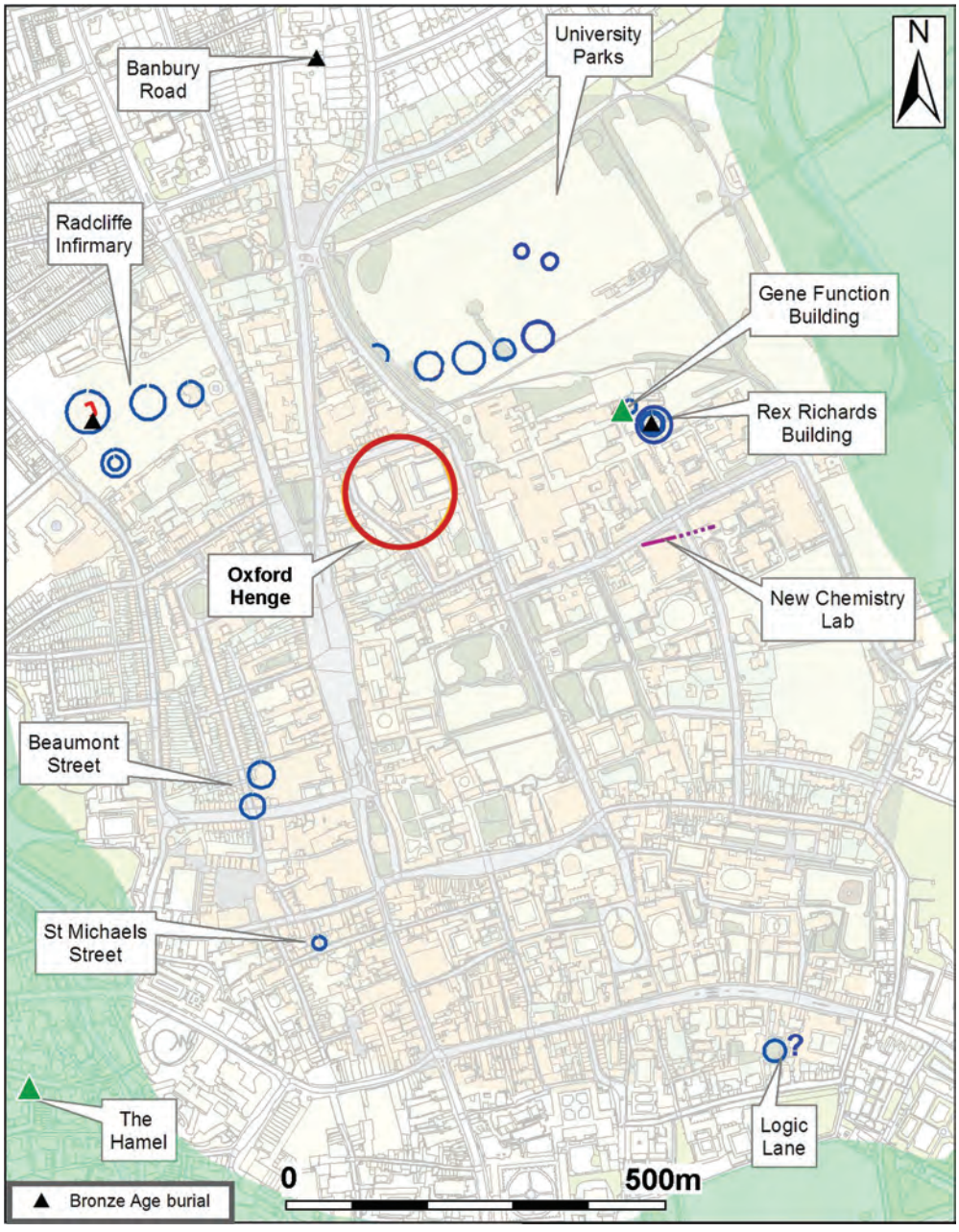


Fig 13. The location of Bronze-Age ring ditches, Beaker and Bronze-Age burials and the Oxford Henge. Areas of floodplain are at the top right and bottom left and right corners.

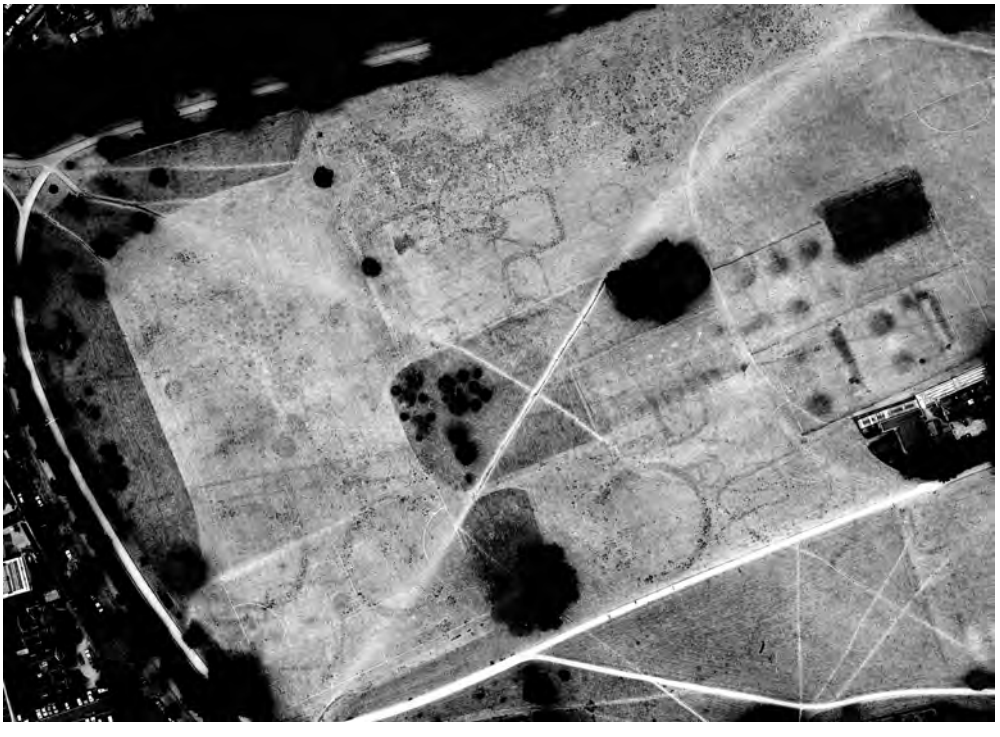


Fig. 14. Parch marks of the Bronze-Age ring ditches and Iron-Age to Roman settlements and paddocks in the University Parks (© Crown copyright, EH NMR SP5107/4/198).

to 2030–1870 cal BC and bone from the base of the ring ditch to 1960–1860 cal BC. Ring Ditch C, the next one to the east, was 48 metres in diameter but produced no burials or finds (Fig. 15). To the east again, most of Ring Ditch D underlies the listed Infirmary building. It is probably only about 20 metres across, and no finds came from the small sections of ditch investigated. The fourth ring ditch, again only partly revealed (Ring Ditch B), was a double ring offset about 80 metres to the south of the main linear group. Its outer ditch was 45 metres across, the inner one 20 metres. Once again, no burials were located, nor any finds. Snails suggest that the barrows were set in open grassland.[70]

In the Science Area two further ring ditches have been found south of the main linear group, in this case offset by *c.*120–150 metres. As noted above, a small ring ditch at the Gene Function site is thought to have been added to a pre-existing Beaker burial, perhaps at the same time as three further burials.[71] These were of a woman of over forty, 1.58 metres tall, dated to 2200–1820 cal BC; another woman of over fifty, 1.64 metres tall, dated to 2120–1750 cal BC; and a child of five to six, dated to 2110–1740 cal BC. These burials had no grave goods and none of them revealed any unusual disease or trauma. Just to the south-east a large double ring ditch (outer diameter 44 metres, inner 35 metres) had a central cremation of a man.[72] The burial pit was scorched and may have been the pyre site, with the cremated bones in a tight cluster – possibly originally in a bag – amongst charcoal and other burnt material. There were no grave

[70] Braybrooke, 'Radcliffe Infirmary Site', p. 78.
[71] Boston et al., 'A Bronze Age Barrow at the Proposed Centre for Gene Function', pp. 182–5.
[72] A. Parkinson et al., 'The Excavation of Two Bronze Age Barrows in Oxford', *Oxoniensia*, 67 (1997), pp. 43–51, 62–4.

Fig. 15. Ring Ditch C (visible as the dark ring extending the full width of the picture) at the Radcliffe Infirmary site looking towards the Tower of the Winds at Green Templeton College (D. Radford).

goods or other dating evidence, and only a few flints and cattle bones came from the few ditch sections excavated, but the style of burial is typically early Bronze Age, perhaps slightly later than the Gene Function group.

Although only parts of the linear cemetery and its outliers have been defined, it is unlikely to have been an avenue of barrows like Barrow Hills or Lambourn:[73] a full southern row would intersect with the Henge and no barrows have so far been located between the two double ditched outliers. These two barrows may mark the western and eastern ends of the cemetery – both are close to the edge of the second terrace and to the east where there have been more opportunities of discovery, no further barrows are known.[74] While the Lambourn linear cemetery was aligned on midsummer sunset, the Oxford cemetery shares its west-by-south to east-by-north alignment with the Chemistry Laboratory ditch and the various henges noted above, reinforcing the potential importance and longevity of this orientation.[75]

A ring ditch is known from air photography at St Edward's School, and other barrows on the main gravel spur have been found by chance in excavations concerned with Anglo-Saxon and medieval Oxford. Two ring ditches 35 metres and 29 metres across were found 10 metres apart at the Sackler Library in St John's Street[76] and a small ring ditch, about 22 metres diameter

[73] Barclay and Halpin, *Excavations at Barrow Hills*, pp. 298–311; H. Case, 'Lambourn Seven Barrows', *Berkshire Archaeological Journal*, 55 (1956), pp. 15–31.

[74] No barrows were found in excavations for the water attenuation tanks in the Parks, nor in front of the University Museum, nor at the William Dunn School of Pathology. Alluvial deposits have been recorded at Linacre College at the east end of South Parks Road.

[75] Loveday, 'The Greater Stonehenge Cursus', pp. 341–50.

[76] D. Poore and D. Wilkinson, *Beaumont Palace and the White Friars. Excavations at the Sackler Library, Beaumont St., Oxford*, Oxford Archaeological Unit Occasional Paper, 9 (2001), pp. 15–17.

was found in St Michael's Street.[77] The small curving ditch at Logic Lane and/or the larger ditch it intersects might be another, but as noted above, too little was revealed to tell what these ditches were.[78] There are no burials from these excavations, and few finds or other dating evidence, but snails from the Sackler ring ditches suggest they were set in open grassland.

Any mounds or external banks for the barrows beneath Oxford have long since been truncated, though the evidence of asymmetrical ditch fills sometimes suggests their form. Burials may also have been destroyed. Their absence is not unusual and some ring ditches in the upper Thames reveal only token cremation deposits; but others reflect sequences of reuse, including other examples of flat graves being enclosed in later barrows.[79] The multiple ditches first noted by Plot are common elsewhere, some reflecting enlargement for subsequent burials. The reservation of particular burial places for women and children, as at the Gene Function site, is comparable with the inhumations surrounding an early Bronze-Age pond barrow at Radley and a group of middle Bronze-Age cremations and inhumations within the ring ditch at Mount Farm.[80]

Other Barrow Cemeteries and Groups

North of the modern city, a group of three barrows occupy a low ridge extending *c.*400 metres east-north-east from a low knoll within the North Oxford golf course across the Banbury Road where the two easternmost barrows have been ploughed over.[81] They have never been excavated, but two of them may be the 'þam tþwam lytlan beorgan' (two little barrows) recorded in an Anglo-Saxon charter as marking the boundary of Water Eaton.[82] There are further ring ditches closer to the Cherwell.

A cluster of three round barrows with low extant mounds occupy a small gravel eminence in the Thames floodplain north of Wytham, with another two ring ditches further south. A trench dug across one of the mounds did not locate any burials, but revealed a turf-revetted bell barrow (reduced by medieval and later ploughing) like one at Cassington. Peterborough ware and late Beaker pottery came from a buried soil beneath it that had not been subject to flooding. A few middle Bronze-Age sherds were found in the upper fill of the ditch.[83]

On Port Meadow, there is a dispersed linear group of ring ditches (Fig. 24), with a cluster of five towards its southern end, including the 'Round Hill' explored by Sheriff Hunt in 1842 when it was still a low barrow.[84] He found evidence of the centre having been explored before. Human bones were recovered from the mound, but 'only the extremities,' no complete bodies, nor burial cists or pots. The current small 'hill' is Hunt's spoil heap partly overlying the large 30-metre ring ditch that surrounded the barrow. Another ring ditch in this cluster and one at the north end of Port Meadow were sectioned in 1981 as part of the Upper Thames Floodplain Survey.[85] No finds were recovered, but the absence of waterlogged deposits compared with Iron-Age ditches is evidence that the Bronze-Age water table was relatively low (see below).

Across the river at Binsey there is a larger dispersed group of ring ditches known from air photography, some paired, and about six forming a linear cemetery south of Medley (Fig. 24),

77 Parkinson et al., 'Two Bronze Age Barrows', pp. 57–64.

78 Radcliffe, 'Logic Lane', pp. 38–43.

79 Barclay and Halpin, *Excavations at Barrow Hills*, pp. 133–9, flat grave 206.

80 Ibid. pp. 115–28, 286–8, figs. 4.60–4.65; G. Lambrick, *Neolithic to Saxon Social and Environmental Change at Mount Farm, Dorchester-on-Thames, Oxfordshire*, Oxford Archaeology Occasional Paper, 19 (2011), pp. 29–32, fig. 18, plate 2.

81 HER, PRNs 1324, 1354.

82 See http://www.langscape.org.uk/descriptions/editorial/L_402_000.html.

83 D. Bowler and M. Robinson, 'Three Barrows at King's Weir, Wytham, Oxon.', *Oxoniensia*, 45 (1980), pp. 1–8.

84 S. Penney, 'A 19th-Century Excavation on Port Meadow, Oxford', *Oxoniensia*, 50 (1985), pp. 285–7.

85 G. Lambrick and A. McDonald, 'The Archaeology and Ecology of Port Meadow and Wolvercote Common, Oxford', in G. Lambrick (ed.), *Archaeology and Nature Conservation*, Oxford University Department of External Studies (1985), pp. 95–109.

but none of them has been excavated.[86] Two ring ditches at North Hinksey and a small linear group of four or five at South Hinksey are likewise only known from air photographs.[87] In addition to these groups, there are several other isolated barrows and ring ditches recorded from antiquarian observations or air photography, including a possible barrow on Shotover and another suspected at Headington Quarry.

The Context and Role of the Oxford Late Neolithic and Bronze-Age Monument Complex

The multi-period monument complex at Oxford (Fig. 16), incorporating at least one Neolithic enclosure, a large henge monument and a linear barrow cemetery with further scatters of barrows on the second gravel terrace and on lower-lying ground nearby is comparable with other major prehistoric ceremonial and funerary complexes on the Thames gravels. The form of barrows, their varied dates and burial rites are all typical of such cemeteries. It is likely that other Neolithic monuments (conceivably a cursus) and almost certainly more ring ditches remain to be discovered.

Fig. 16. Impression of the Neolithic and Bronze-Age ceremonial and funerary complex at Oxford viewed from the west (author).

Such complexes are characterised as much by the diversity of monument associations and sequences as any recurrent layout of major monument types. Nonetheless, the inclusion of early Neolithic enclosures in alignments of other monuments is apparent at several of the Thames valley complexes. At Oxford itself, the linear barrow cemetery was not only aligned on the Neolithic square enclosure, but physically incorporated it into a much later barrow, and it would

[86] P.P. Rhodes, 'New Archaeological Sites at Binsey and Port Meadow, Oxford', *Oxoniensia*, 14 (1949), pp. 81–4, and subsequent discoveries.

[87] D. Miles, 'Aerial Reconnaissance in Oxfordshire', *CBA Group* 9 *Newsletter*, 7 (1977), p. 60.

not be surprising if further Neolithic elements emerge in the alignment. Just west of the causewayed enclosure at Aston/Cote a barrow cemetery known from cropmarks (but not excavation) has an alignment of at least five monuments including a small hengiform enclosure and two ring ditches encompassing square enclosures (Fig. 6). At Dorchester, two Neolithic enclosures had various small henges and barrows aligned on them before being joined up by the cursus on a slightly different alignment.[88] Among the major cemetery of over sixty barrows at Stanton Harcourt, a line of six small ring ditches and oval features north-east of the Devil's Quoits included a middle Neolithic sub-circular segmented ring ditch similar to Site II in the Dorchester alignment.[89] At Buscot Wick, cropmarks suggest alignments involving a small rectilinear or oval enclosure with a cursus, long enclosure and possible henges or ring ditches.[90] Off the gravels, the main linear barrow cemetery at Lambourn is aligned on the early Neolithic long barrow and is part of an avenue of barrows set within a much larger cluster of over forty others.[91]

Barrow Hills at Radley is an exception to these patterns: neither of the Neolithic oval barrows was incorporated either into the initial alignment of Beaker burials, or the main avenue of barrows that developed in the early to middle Bronze Age, though they may have been accessed from an open space at the end of the avenue.[92]

In the Thames valley such complexes are often seen as being particularly associated with river confluences. These extensive areas of well-drained fertile soil may have offered communication advantages, being at the end of interfluve ridges where the main gravel terraces tend to converge either side of tributaries. Of the key monuments that characterise such complexes, the proportion situated near confluences appears to have increased over time from very low numbers to around half or more.[93] But some of the main confluences do not have major monument complexes (for example the Ock, where neither the Drayton Cursus complex nor Barrow Hills is very close), and other major complexes occur away from confluences (for example North Stoke).

The way linear barrow cemeteries were aligned on Neolithic sacred enclosures and oval or long barrows suggests that ancestral lineage from small family groups underpinned their development. As the population grew between the mid fourth and the mid second millennium BC, additional monuments were built by successive generations recurrently converging on ancestral complexes like Oxford. The major henges and other ceremonial monuments built alongside the barrows at Oxford, Stanton Harcourt and Dorchester indicate both the spiritual importance of such shared attachment and the power of wider social cohesion that sprang from it.

Oxford is in the middle of a section of the upper Thames valley from Standlake to Dorchester that incorporated most of the major monuments and largest barrow cemeteries on the Thames gravels (Fig. 17). They represent a chronologically cumulative, self-reinforcing magnet of social and spiritual attraction. This part of the upper Thames may have functioned in a similar way to Avebury and Stonehenge, its multiple foci perhaps reflecting a looser social organisation than the communities who built the massive Wessex monuments. Other important groupings of monuments, such as Lambourn on the Berkshire Downs, Buscot Wick and Lechlade (Glos.) closer to the headwaters of the Thames, and North Stoke further downstream, were other locations of communal significance in the movement of people within and across the Thames valley.

[88] Whittle et al., 'Dorchester-on-Thames', pp. 143–201.
[89] Barclay et al., *Excavations at the Devil's Quoits*, pp. 47–9, 101–3 and 107, figs. 29, 39.
[90] Barclay et al., *Lines in the Landscape*, p. 225 and fig. 10.3.
[91] *TTT1b*, p. 367, fig. 14.27; Case, 'Lambourn Seven Barrows'.
[92] Barclay and Halpin, *Excavations at Barrow Hills*, pp. 298–304, figs. 9.5–9.10.
[93] *TTT1b*, figs. 12.2, 14.9, and 14.10 provide useful distribution maps. These indicate that one out of ten causewayed enclosures is close to a main confluence; ten out of about twenty-seven mortuary enclosures and oval or long barrows in the valley; six out of ten cursuses and bank barrows; three out of six major henges; five out of seven major (twenty-plus) barrow cemeteries; and ten out of twenty smaller (ten- to twenty-) barrow cemeteries.

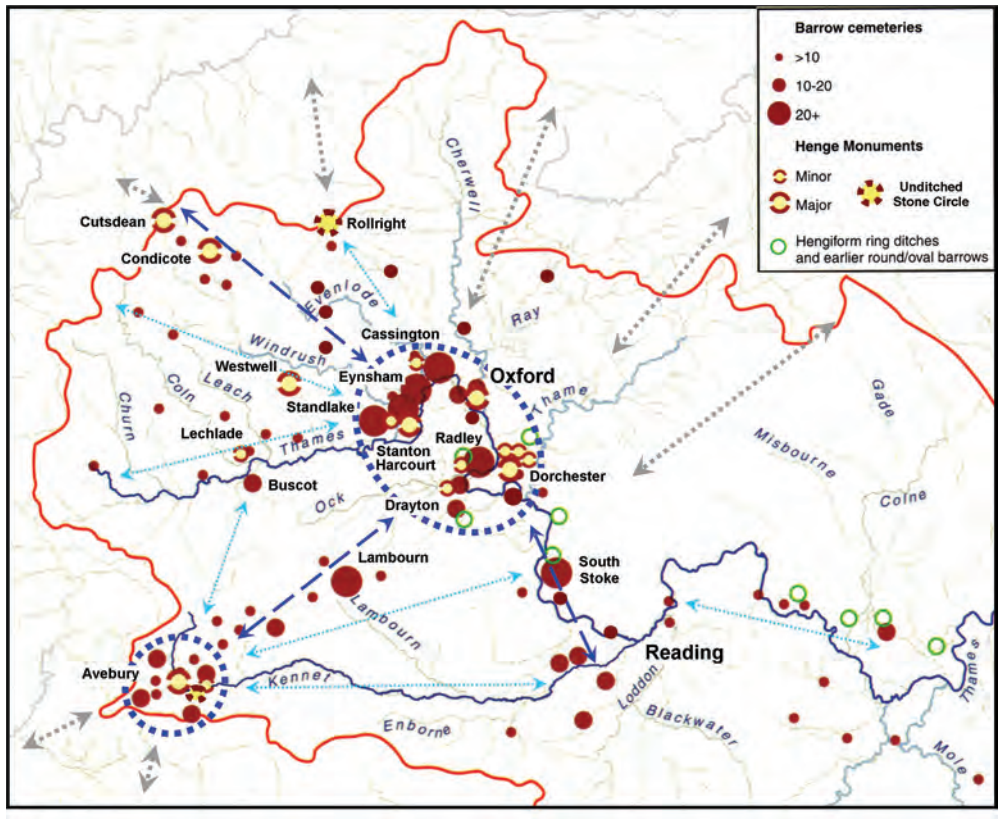


Fig. 17. Distribution map of major Neolithic and Bronze-Age ceremonial and funerary complexes in the Thames catchment with suggested broad directions of communication.

LATE NEOLITIHIC AND BRONZE-AGE DOMESTIC AND OTHER ACTIVITY

Pits and Other Features

Compared with the growing evidence of funerary and ceremonial monuments, in situ evidence of Neolithic, Beaker and early to middle Bronze-Age domestic activity in Oxford is more elusive, largely relying on chance finds of small pits. For example, four pits have been discovered close to the linear barrow cemetery, three at Mansfield College and the new Chemistry Laboratory site in South Parks Road,[94] one in the University Parks.[95] None of them produced any pottery, but some had varying amounts of flint, including serrated flakes, scrapers, arrowheads, flakes and chips, in one case much of the material representing a single knapping episode. Where present, charred plant remains were dominated by the usual hazelnut shells with occasional

[94] P. Booth and C. Hayden, 'A Roman Settlement at Mansfield College, Oxford', *Oxoniensia*, 65 (2000), pp. 293, 318, 322, 328–9, figs. 3, 8; Bradley et al., 'New Chemistry Research Laboratory', pp. 145, 151–5, 175–8, 185–6, figs. 3, 4.

[95] C. Heisterman and A. Norton, 'Oxford, University Parks, Electricity Substation and Cable Trenching', *SMidlA*, 42 (2012), p. 58.

apple pips, the odd wheat grain and other seeds. Animal bones were also sparse, including cattle, pig and sheep, but not wild animals. A possible middle Bronze-Age pit was found at Halifax House next to the ditch terminal discussed above.[96] Another pit with a few flints probably of Neolithic date was found at Littlegate, St Ebbe's.[97]

In addition to the evidence of Beaker domestic activity and early Bronze-Age cultivation under alluvium at the Hamel, an ill-defined area of early Bronze-Age activity on the floodplain at Osney is indicated by small gullies and pits, one of which produced part of an inverted collared urn, again sealed by alluvium.[98] Such vessels are usually associated with funerary activity (even if previously used domestically), and its occurrence close to where Bronze-Age and later objects were deposited in the adjacent Minster Ditch might further indicate its being a special location (see below).

On the surrounding hills, two small intercutting pits (one with a small assemblage of rather undiagnostic flint) have been found at the Oxford Academy (formerly Peers School) in Littlemore.[99] Further east at the Oxford Science Park a small pit produced a serrated flint flake and core rejuvenation flake, a few animal bones and sherds from at least seven Beakers, representing a mixture of fine and coarse wares typical of 'domestic' assemblages.[100] Later contexts at this site also produced a significant amount of other redeposited material, including flintwork spanning the Mesolithic to Bronze Age and further sherds of mid to late Neolithic, Beaker, early Bronze-Age and middle to late Bronze-Age pottery, clearly indicating a very much longer period of sporadic activity than indicated by the single pit. Unstratified flints, including a fine barbed and tanged arrowhead, have been found nearby at Minchery Farm.[101]

Similar small pits of mid to late Bronze-Age date with sparse finds have been found at a number of sites on the Corallian hills in East Oxford. For example, a scatter of small pits was found prior to construction of Grenoble Road at Blackbird Leys.[102] One produced two middle Bronze-Age sherds, a decorated cylindrical spindle whorl, some burnt stone and oak charcoal; a small sterile pit was cut by another with thirty-eight sherds of late Bronze-Age pottery, some worked flint and a few grains of charred wheat and barley; and a fourth pit produced ten sherds of late Bronze-Age pottery and some burnt stone. Twelve other similar pits nearby produced no finds, but a few sherds of later Bronze-Age pottery were found in later features. At the BMW plant at Cowley, a more substantial assemblage of late Bronze-Age domestic debris was found, consisting of 72 sherds and 396 animal bones (including cattle, sheep, pigs and dog) in an irregular hollow with a snail fauna that suggested ungrazed grassland, scrub and woodland.[103] Otherwise, a few pits, post holes or gullies have been found at other sites,[104] but more substantial settlement evidence is so far absent. Overall, the evidence is so sparse that dating is often tenuous and virtually nothing can be said of farming or domestic activity – but this in itself suggests that such remains do not reflect long-term sedentary farming settlements.[105]

[96] Anthony, 'Halifax House', pp. 134, 137, figs. 3, 4.
[97] T.G. Hassall, 'Excavations at Oxford 1971, Fourth Interim Report', *Oxoniensia*, 38 (1973), p. 141, fig. 4.
[98] S. Hammond, 'Press Hall Extension, Newsquest, Osney Mead, Oxford: An Archaeological Evaluation', unpublished TVAS report (2002), pp. 4–6.
[99] A. Mudd et al., 'Anglo-Saxon and Prehistoric Remains at Oxford Academy, Littlemore, Oxford: Excavations in 2009', below.
[100] Moore, 'Excavations at Oxford Science Park', pp. 167, 178–84, 199.
[101] The East Oxford Archaeology and History Project, press release, 12 November 2012.
[102] P. Booth and G. Edgeley-Long, 'Prehistoric Settlement and Roman Pottery Production at Blackbird Leys, Oxford', *Oxoniensia*, 68 (2003), pp. 208–19.
[103] G.D. Keevil and T. Durden, 'Archaeological Work at the Rover Plant Site, Cowley, Oxford', *Oxoniensia*, 62 (1997), pp. 87–99.
[104] 'Oxford United Football Club Stadium', unpublished RPS Consultants evaluation report, vols. 1–3 (1996) and assessment report (2001); Mudd et al., 'Oxford Academy', below.
[105] *TTT2,* pp. 91–4, 386–7.

Unstratified Finds

Just off the Iffley Road in the vicinity of Fairacres House, a large group of *c.*470 Neolithic flints was collected by Alexander Montgomerie Bell between 1897 and 1910.[106] Some of this material has only recently come to light, but in the 1980s Robin Holgate identified 185 flakes, 5 cores, 5 core rejuvenation flakes, 61 scrapers, a knife, 3 leaf-shaped arrowheads, 8 transverse arrowheads, a barbed-and-tanged arrowhead, 4 ground flint axe fragments, and a miscellaneous retouched piece.[107] He interpreted these as representing 'possible later Neolithic domestic activity and earlier Neolithic task-specific activity.'

An assemblage of thirty-three flints from the Manor Road Ground, Headington, including a chisel arrowhead and several scrapers, may represent a more concentrated activity area.[108] Other unstratified assemblages of Neolithic and early Bronze-Age material include several flint scatters on the hills west of Oxford.[109] Finds from excavations are mostly very sparse, mainly consisting of flint flakes and occasional redeposited sherds, such as at Oxford Castle where fifty flints were recovered from thirty-four later contexts scattered across the site.[110] Numerous older records of finds from central Oxford include arrowheads, part of a flint adze and several polished flint and greenstone axes (mostly single finds, though three are from Chester Street off the Iffley Road).[111]

Overall Pattern of Activity

The unstratified material fills out the picture provided by the sparse scatter of pits, indicating a pattern of low-level activity across the whole of Oxford and its surrounding hills with only a few places where a persistent or more intensive presence is indicated (Figs. 5, 12). The small pits with varying amounts of cultural debris are similar to examples at Gravelly Guy, Yarnton and other sites where a more complete picture has been obtained (both from within major monument complexes and elsewhere).[112] A general feature of Oxford's earlier prehistory is the relative ubiquity of finds, but almost invariably in only very small quantities – including at the major monuments (even where relatively complete excavations have been possible, as at the Radcliffe Infirmary).[113] This is again quite typical of the Neolithic and early Bronze Age elsewhere in the upper Thames valley, as at Stanton Harcourt, but the tendency seems more marked. The overall impression for the Neolithic and Bronze Age is that people living in the Thames valley did not have permanent farms but were transhumant pastoralists largely reliant on domesticated animals, growing crops only at a horticultural scale commensurate with a fairly mobile lifestyle, and that this lasted well beyond the main period of ceremonial and funerary monument building.[114]

HOARDS AND RIVER DEPOSITION

There are two middle Bronze-Age hoards from Oxford (Fig. 18).[115] One, found at Burgess's Meadow in 1830, contained a palstave, two loop-socketed spearheads, a socketed chisel, part of

[106] Nicholas, 'Alexander Montgomerie Bell's Collections from Iffley'.
[107] R. Holgate, *Neolithic Settlement of the Thames Basin*, BAR BS, 194 (1988), pp. 248, 253.
[108] D. Hart, 'An Archaeological Excavation at the Manor Ground, London Road, Headington, Oxford', unpublished JMHS report (2003).
[109] Holgate, 'Settlement Patterns South-West of Oxford'.
[110] A. Norton, 'Oxford Castle Post-Excavation Assessment and Research Design', unpublished OA report (2006).
[111] *VCH Oxon.* 1, pp. 238–41; *OARAA*, Neolithic to Bronze Age Resource Assessment, pp. 22–3.
[112] G. Lambrick and T. Allen, *Gravelly Guy, Stanton Harcourt, Oxfordshire. The Development of a Prehistoric and Romano British Community*, Thames Valley Landscapes Monograph, 21 (2004), pp. 35–45; *TTT1b*, pp. 227–60, 315–25.
[113] *OARAA*, Neolithic to Bronze Age Resource Assessment, pp. 34–5.
[114] *TTT2*, pp. 380–7.
[115] E.T. Leeds, 'Two Bronze Age Hoards from Oxford', *Proceedings of the Society of Antiquaries*, 2nd series, 28 (1915–16), pp. 147–53.

Fig. 18. Major groups of prehistoric metalwork from Oxford (author © Ashmolean Museum, University of Oxford). Top: the Leopold Street hoard. Bottom left: the Burgess Meadow hoard. Bottom right: prehistoric objects from the Minster Ditch.

a knife, a socketed hammer, and a hammered rod or ingot. The other, discovered in 1881 in Leopold Street, contained a loop-socketed axe and ten palstaves, seven from the same mould, which was also used to make the Burgess's Meadow palstave (and another found in Kent). The occurrence of axes from the same mould in these hoards is intriguing – were both hoards deposited by the smith who made the axes, or was it a more indirect coincidence? Both hoards are from wetland locations, perhaps indicating they were votive deposits, Burgesss Meadow close to old channels at the edge of Port Meadow, and Leopold Street close to (or even in) a spring at the edge of Cowley Marsh.[116]

Fig. 19. Detail of the very fine punched decoration of the Minster Ditch La Tène dagger sheath. (Author © Ashmolean Museum, University of Oxford).

Several prehistoric objects found in the Thames and other river channels around Oxford reflect a very widespread pattern of river deposition that is evident from the Mesolithic onwards which peaked in the middle to late Bronze Age, in some cases clearly associated with river crossings.[117] A perforated, faceted greenstone axe-hammer is recorded from near Folly Bridge. Finds from the Minster Ditch on the south-west edge of the Osney trading estate included an axe and spearhead (both loop-socketed), a socketed chisel and a bronze ingot, all late Bronze Age, and a fine early La Tène (middle Iron-Age) decorated bronze dagger sheath (Figs. 18, 19),[118] as well as Anglo-Saxon spearheads and a gaming piece. There are also records of a palstave from 'Pot's Stream' and an iron spearhead from the Thames 'opposite North Hinksey.' A miniature loop-socketed axe and a complete late Bronze-Age sword were recovered from the Cherwell at Parsons Pleasure. Another bronze sword, two rapiers and a spearhead were found at Sandford Lock.

Topography, archaeology and/or place-names indicate that several of these locations are near ancient river crossings, though there is no archaeological proof that they have prehistoric origins. However, a layer of worn cobbles found in river silts deep below the Norman Grandpont at the northern end of Folly Bridge could be a prehistoric causeway or ford.[119] Middle Iron-Age gravel and stone fords and causeways are well-attested in the upper Thames valley, a notably substantial

[116] For discussion of the socio-economic and ritualistic meaning of hoards: S. Needham, *The Petters Field Late Bronze Age Metalwork: An Analytical Study of the Thames Valley Metalworking in its Settlement Context*, British Museum Occasional Paper, 70 (1990), pp. 130–8; R. Bradley, *The Passage of Arms: An Archaeological Analysis of Prehistoric Hoards and Votive Deposits*, 2nd edn (1998), pp. xviii–xxi, 4–42.

[117] *TTT1b*, pp. 377–81; cf. Holgate, *Neolithic Settlement*, maps 20, 23, 25, 27, 29 and 31; J. York, 'The Life Cycle of Bronze Age Metalwork from the Thames', *Oxford Journal of Archaeology*, 21:1 (2002), pp. 80–1, figs. 3, 5; T. Allen et al., *Bridging the River, Dividing the Land. The Archaeology of a Middle Thames Landscape, Vol. 2: Middle Bronze Age to Roman*, Thames Valley Landscapes Monograph, OA, in preparation.

[118] C.H. Read, 'On a Late-Celtic Dagger Sheath Found in Oxfordshire', *Archaeologia*, 54 (1895), pp. 497–8, figs. 1, 2.

[119] Wilkinson, 'A Prehistoric Ford at Oxford?', p. 10.

example at Yarnton incorporating votive deposits.[120] However, the Grandpont deposit was not directly datable: it was sandwiched between silts radiocarbon dated to 7530–6700 cal BC and cal 560–890 AD, indicating a stable flowing channel that remained open for several millennia.

TRANSITION TO LATER PREHISTORY AND THE CHANGING ENVIRONMENT

The transition from a predominantly mobile pastoralist way of life in the Neolithic and early Bronze Age to fully settled farming by the middle to late Iron Age (Fig. 20) had profound consequences both in terms of social interaction and environmental impact, but when it took place seems to have varied significantly in the Thames valley.[121] It was also a gradual transition, evident in some aspects of social interaction before others. In the middle Bronze Age people mostly stopped building communal monuments and barrows, and their burial places became less overtly conspicuous, reusing old barrows or creating new 'flat' cemeteries not marked by substantial earthworks. Disposal of human remains away from formal burial places grew commoner. Preoccupations with social status and relationships became more focussed on mobile possessions – probably cattle and metalwork – expressed through social exchange and ritualistic deposition, and in due course the control of land.

The Legacy of Neolithic and Early Bronze-Age Ceremonial and Funerary Complexes

In some parts of the upper Thames valley such as the lower Windrush valley, old ceremonial monuments and burial grounds continued to be respected in the later Bronze Age and Iron Age, perhaps due to ongoing rights or traditions of land use. At Stanton Harcourt the main barrow cemetery surrounding the Devil's Quoits probably remained a large area of common grazing while early to later Iron-Age settlements grew up round the edge of it with their arable land on its periphery, thereby not physically disturbing what may still have been regarded as sacred space. This entrenched pattern of land use continued well into the Roman period.[122] At Oxford a similar pattern may be evident.

The ditches of Neolithic and early Bronze-Age monuments display the usual sequence of infilling, reflecting initial post-construction erosion, then a long period of stability, followed by final levelling through later cultivation. The ditch of the Oxford henge remained a substantial stable hollow during the Iron Age, gradually accumulating *c.*0.6 metres of fine sediments dated by early Iron-Age pottery.[123] A hearth-like feature dated by early Roman pottery was found at the interface between this deposit and subsequent plough-soils, which produced more Roman sherds. The excavated ring ditches on the gravel terrace display similar sequences of infill, but only a few have produced any dating evidence – and none as clear as the henge. At the Radcliffe Infirmary, comparable secondary fills of fine stone-free soils in three of the barrow ditches were OSL dated to 1180–560 BC, 790–270 BC and 730 BC–AD 70, consistent with their having accumulated during the late Bronze Age and Iron Age.[124] A sherd of early to middle Iron-Age pottery was found in the stable secondary fill of the double ring ditch at the Rex Richards Building, but the tertiary (plough-soil) fill was cut by a gully with middle Iron-Age pottery and an overlying plough-soil was cut by a late Iron-Age gully.[125] This may indicate middle Iron-Age disturbance of the barrow, as occurred at Mount Farm,[126] unless the middle Iron-Age pottery was redeposited.

[120] *TTT2*, pp. 233–5; G. Hey et al., *Yarnton: Iron Age and Romano-British Settlement and Landscape: Results of Excavations 1990–98*, Thames Valley Landscapes Monograph, 35 (2011), pp. 283–303.
[121] *TTT2*, pp. 379–80.
[122] Lambrick and Allen, *Gravelly Guy*, pp. 479–83.
[123] Wallis, 'Former Queen Elizabeth House...Post-Excavation Assessment', p. 11.
[124] Braybrooke, 'Radcliffe Infirmary Site', pp. 14–17.
[125] Parkinson et al., 'Two Bronze Age Barrows', pp. 47–9, figs. 2–3.
[126] Lambrick, *Mount Farm*, pp. 54–6, figs. 6, 41, plate 5.

Areas of late-prehistoric settlement were located north of the linear cemetery and close to its eastern end (see below), but taking a wider view, it is noticeable that while there are many redeposited Neolithic and early Bronze-Age finds and occasionally other features in addition to the ring ditches on the gravel spur south of the linear barrow cemetery, later Bronze-Age and early to middle Iron-Age pottery is virtually absent (Figs. 5, 12, 27). Considering the number, extent and size of archaeological interventions in Oxford's historic centre coupled with how common features containing significant amounts of domestic debris are in Iron-Age settlements, the absence of redeposited finds of this date is significant: it suggests that as at Stanton Harcourt the main ceremonial and funerary complex was deliberately avoided. A similar pattern is perhaps discernible on the lower terraces and floodplain: at Port Meadow and Binsey the Iron-Age settlements likewise avoided the earlier barrows (Fig. 24).

The Emergence of Settled Farming

The emergence of a more settled form of farming is indicated by the increasingly densely occupied and organised settlements evident from roundhouses, pits, waterholes and other features with more animal and crop remains, and in some cases, division of land into fields (probably as much to manage grazing as to grow crops). Extensive field systems were established in the middle to late Bronze Age around Reading and upstream to Didcot, Dorchester and Abingdon, but there is no evidence yet of definite pre-Iron-Age field systems north of the Corallian Ridge.[127] The first signs of more intensive (though not necessarily permanent) settlement only began to emerge in the late Bronze Age, as especially well illustrated at Yarnton and Cassington.[128]

As populations grew and more land came into productive use with more settled lifestyles, hydrological and sedimentary changes became apparent on the Thames floodplain, which provide a useful natural generalisation of developments in the upstream catchment. The climate was probably significantly warmer in the middle Bronze Age, becoming cooler and probably wetter in the Iron Age,[129] but it is likely that the observable changes in hydrology and sedimentation of the upper Thames at this time were mainly the result of human interference in the landscape.[130]

Bronze-Age barrow ditches at King's Weir and on Port Meadow exhibit no waterlogging and little gleying, and the buried soil at King's Weir was non-alluvial with snails of dry grassland. Late Neolithic and early Bronze-Age features beneath alluvium at Osney, The Hamel and Holywell Mill similarly had no evidence of waterlogging and were cut into ungleyed non-alluvial soils. At Yarnton increased waterlogging in a sequence of features cut into the base of a formerly dry palaeochannel indicate that permanent groundwater levels rose on the floodplain in the middle Bronze Age, and by the late Bronze Age the channel was wet enough to preserve a brushwood platform and wooden stakes.[131] Several excavations in St Ebbe's and St Aldate's have provided glimpses of river channels and the late-prehistoric floodplain, revealing how a wet marsh developed in the late Bronze Age and Iron Age, the base of the deposit radiocarbon dated to 1010–400 cal BC.[132] On Port Meadow, middle Iron-Age ditches cut to the same level as non-waterlogged Bronze-Age ones contain excellent organic preservation. By the middle Iron Age flowing water aquatic snails were reaching isolated features cut into the floodplain at

[127] *TTT2*, pp. 77–80; cf. Mudd et al., 'Oxford Academy', below. Three sections of gully with two sherds of later Bronze-Age pottery were traced for *c.*12 metres, but were not demonstrably part of a coherent pattern of fields.

[128] *TTT2*, pp. 94–101; G. Hey et al., *Yarnton: Neolithic and Bronze Age Settlement and Landscape*, Thames Valley Landscapes Monograph, OA, in preparation.

[129] *TTT2*, p. 37.

[130] M. Robinson and G. Lambrick, 'Holocene Alluviation and Hydrology in the Upper Thames Basin', *Nature*, 308, no. 5962 (1984), pp. 809–14; *TTT2*, pp. 29–34; Lambrick, 'Alluvial Archaeology', pp. 221–3.

[131] *TTT2*, p. 29.

[132] Dodd (ed.), *Oxford Before the University*, p. 77.

Yarnton and Farmoor, indicating over-bank flooding.[133] This pattern is consistent at several places in the upper Thames valley and indicates increased run-off from the surrounding hills, probably attributable to clearance and increased grazing.

At Yarnton sediment was being deposited in the tops of features in a low-lying part of the floodplain by 440–170 cal BC,[134] but general overbank alluviation did not begin until the late Iron Age and Roman period, when more extensive arable agriculture and use of heavier clay soils would have released more sediment into streams and rivers. By the Anglo-Saxon period, a substantial thickness of clayey alluvium had accumulated over the former marsh in St Ebbe's and St Aldate's, and Oxford's western and southern medieval suburbs and friaries were built on alluvial deposits.[135]

LATER PREHISTORIC COMMUNAL FOCI (Fig. 20)

Possible Defensive Sites

Part of the transition to a society based on sedentary farming settlements in later prehistory is the re-emergence of major communal foci, especially large fortified enclosures, commonly on naturally defensible hill tops and steep-sided spurs, but also in valley locations. No such monuments have yet been discovered within the city boundary, but at Tilbury Farm, on the south-east side of Wytham Hill, fieldwalking in the 1980s located an early Iron-Age pottery scatter where excavation revealed two pits or post holes, and a large recut feature over 4 metres wide and 2 metres deep.[136] The finds included bone, ironwork and shell-tempered early Iron-Age pottery. The deep feature was big enough to be the ditch terminal of a hillfort occupying the spur overlooking the Thames floodplain, but its form, extent and alignment have not been confirmed.

There is evidence of late-prehistoric activity on other relatively prominent hills round Oxford, such as Headington and Rose Hill (see below), and aerial photographs suggest an unconfirmed hillfort between Horspath and Wheatley. But another suggestive '-bury' place-name, 'Youlbury' on the crest of Boars Hill, lacks any obvious earthworks or other traces of a prehistoric fort.

A prehistoric origin has been mooted for the low-lying defensive enclosure at Thornbury on a gravel eminence in the floodplain next to Binsey church. But small scale excavations in 1987 produced early Anglo-Saxon grass-tempered pottery on the base of perhaps the earliest ditch cut and amongst stone revetment material. Although possible, there is no clear evidence that it is a reused Iron-Age fort, whereas other finds and radiocarbon dates confirm Anglo-Saxon activity.[137]

Other Communal Sites

Other forms of communal site in later prehistory include large late Bronze-Age to early Iron-Age midden deposits and middle to late Iron-Age shrines and temples. Partial excavation and surveys of the well-known Romano-Celtic temple complex at Woodeaton, 6.5 km north-north-east of Oxford, have revealed that it was a highly significant communal focus from the end of the Bronze Age to the Roman period. The thick, stratified soil deposits here have produced exceptional quantities of fine ware pottery, latest Bronze-Age and early Iron-Age swan-neck and ring-headed pins, and middle to late Iron-Age brooches,[138] and the site is now recognised

[133] *TTT2*, p. 31.
[134] Ibid.
[135] Dodd (ed.), *Oxford Before the University*, pp. 67–79.
[136] H.C. Mytum, 'An Early Iron Age Site at Wytham Hill, near Cumnor, Oxon.', *Oxoniensia*, 51 (1986), pp. 15–24.
[137] J. Blair, 'Thornbury, Binsey: A Probable Defensive Enclosure associated with Saint Frideswide', *Oxoniensia*, 53 (1988), pp. 12–20.
[138] D.W. Harding, *The Iron Age in the Upper Thames Valley* (1972), pp. 64–6, 158, 170–1, plates 55, 73–4; idem, *Excavations in Oxfordshire, 1964–66*, University of Edinburgh Department of Archaeology Occasional Paper, 15 (1987), pp. 35–41.

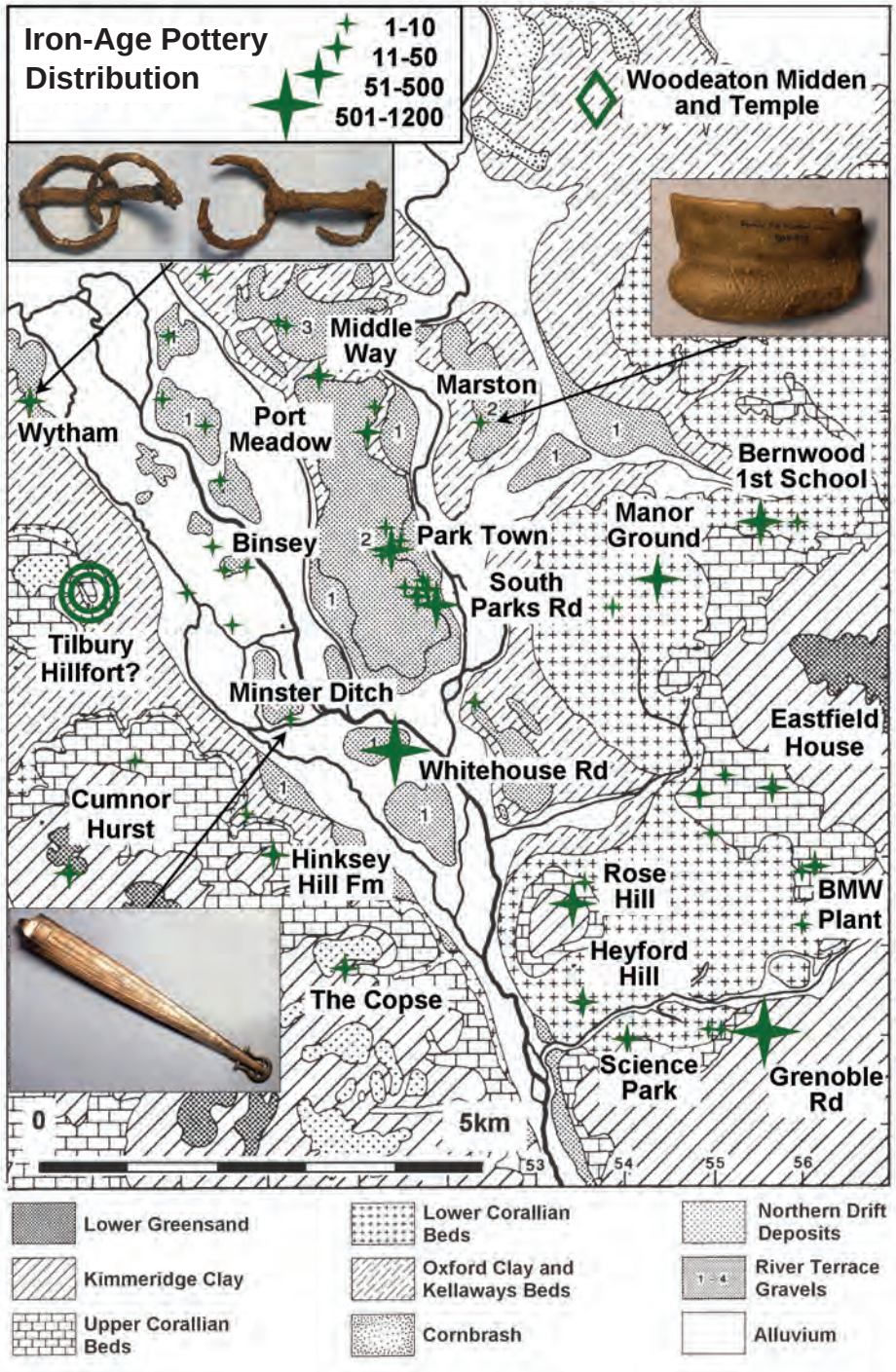


Fig. 20. The location of the Iron-Age midden at Woodeaton, the putative hillfort at Tilbury Farm, Wytham, other sites and the distribution of late Bronze-Age and Iron-Age pottery and other objects. Insets (© Ashmolean Museum, University of Oxford): top left, pair of iron horse bits from Wytham; top right early Iron-Age pottery from Old Marston; bottom left, the Minster Ditch dagger sheath.

as a large communal midden comparable with those at Runnymede or Chisenbury, and more locally at Whitecross Farm, Wallingford and Castle Hill, Long Wittenham.[139] Where excavated, the Woodeaton midden was *c*.0.15 metres to 0.4 metres deep. Although it thinned out significantly away from the later Romano-Celtic temple (possibly being less well protected from ploughing), a similar deposit and concentration of small pits and post holes were found in trial trenching about 120 metres to the south-east. Fieldwalking has revealed an extensive area of Iron-Age activity and an unpublished geophysical survey has located several circular or pennanular enclosures and some linear ditches,[140] one of which roughly corresponds with the edge of the Iron-Age pottery scatter.

There were two periods of accumulation, in the seventh to fifth and the third to second or early first centuries BC, but probably little deposition between: late Bronze-Age to early Iron-Age finds came from the bottom half of the midden deposit, with the middle to late Iron-Age material in the upper levels above an intervening layer of cobbling. Few discrete features were seen in the dark midden material, though some, including a small pit with metalworking debris, had been dug through the stony layer. Other pits and post holes were seen at the level of the yellow subsoil, some of which suggested a rectangular structure.[141]

The site has also produced late Iron-Age metalwork and coins, but these were mostly unstratified or from Roman contexts, suggesting they may have been curated objects brought to the Romano-Celtic shrine as votive offerings. However, the circular masonry buildings and penannular structures revealed by recent air photography and geophysics may yet turn out to include an Iron-Age predecessor of the shrine. But even if not, Woodeaton was clearly an exceptional place in the earlier Iron Age, and this may well have influenced the siting of the Roman temple.

LATE-PREHISTORIC SETTLEMENT PATTERN (Fig. 20)

The Corallian Hills

On the hills both east and west of the historic city several sites have produced some indication of late Bronze-Age and early Iron-Age activity, evident mainly from sparse pottery finds, and more rarely gullies, small pits and the odd post hole. As yet, no substantive settlements of this period have been found, but there are hints that they might exist, such as early Iron-Age pottery at Annesley Road, Rose Hill.

On the eastern boundary of the modern city at North Way, Barton, part of an early to middle Iron-Age enclosure has been found at Bernwood First School (Fig. 21).[142] The site had been truncated but the west side of the enclosure was defined by a ditch surviving up to 1.8 metres deep and 3.0 metres wide traced 5 metres south and 9 metres north of a 5-metre wide entrance. The other sides of the enclosure were not located within the trenches investigated so it must have been over 35 metres across. Just inside the west-facing entrance where the ends of the bank would have been, a pair of post holes 2 metres apart marked the position of a timber gateway. They had been recut at least twice, indicating successive replacements. Much of the interior inside the entrance was devoid of features deep enough to have survived truncation, but about 25 metres into the enclosure there was a linear cluster of nine pits, four of which

[139] *TTT2*, pp. 339–41; A.M. Cromarty et al., *Late Bronze Age Ritual and Habitation on a Thames Eyot at Whitecross Farm, Wallingford: The Archaeology of the Wallingford Bypass, 1986–92*, Thames Valley Landscapes Monograph, 22 (2006), pp. 10–155; T. Allen et al., *Castle Hill and its Landscape; Archaeological Investigations at the Wittenhams, Oxfordshire*, Oxford Archaeology Monograph (2010), pp. 111–17.

[140] HER, PRN 2379; A.E. Johnson, 'Woodeaton Romano-Celtic Temple, Oxfordshire, Topsoil Magnetic Susceptibility and Magnetometer (Gradiometer) Survey, Oxford Archaeotechnics Survey 2190600/WOO/JBS', unpublished survey carried out for Mrs J. Bagnall Smith (2000).

[141] Harding, *Excavations in Oxfordshire, 1964–66*, pp. 31–3, figs. 10–11.

[142] D. Gilbert and J. Moore, 'An Archaeological Excavation at Bernwood First School, North Way, Barton, Oxford', unpublished JMHS report (2005).

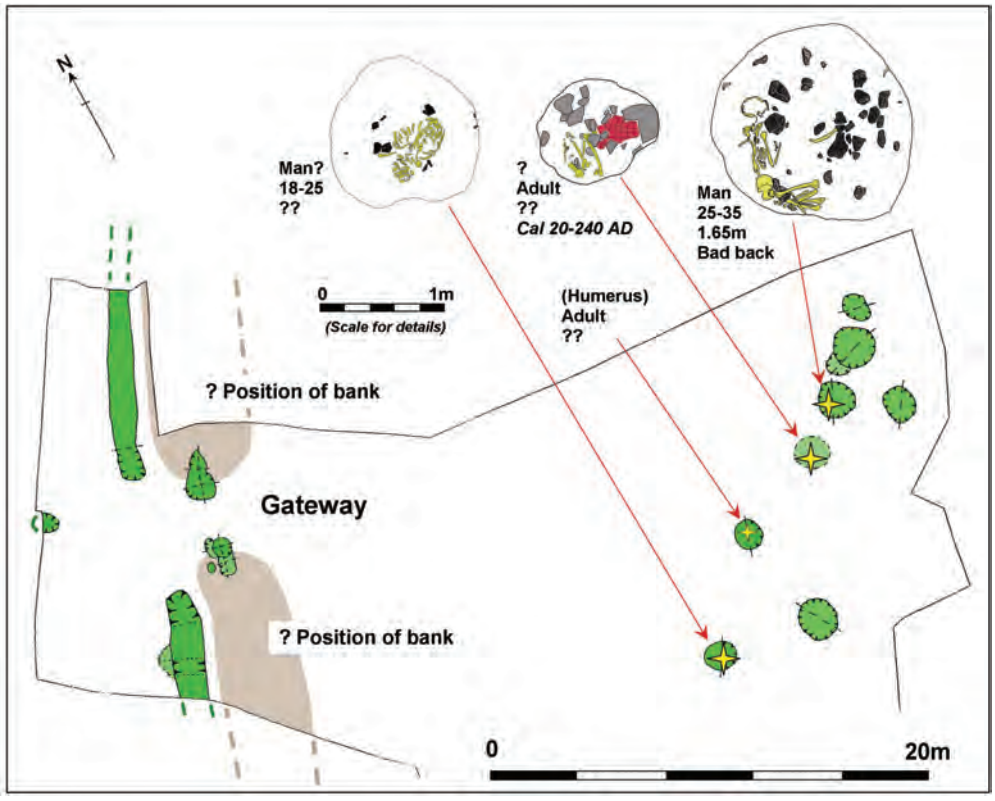


Fig. 21. Iron-Age enclosed settlement at Bernwood First School, Barton with details of human burials in pits.

contained human remains, including three crouched burials. One was a man of 25–35, 1.65 metres tall who had a bad back; another was a young man of 18 to 25; and the third was a poorly preserved adult of uncertain age radiocarbon dated to cal 20–240 AD. The fourth deposit was a single adult humerus.

Such pit burials are quite a common feature of Iron-Age domestic settlements, though seldom in such a high proportion of pits as here. They are unlikely to represent the normative burial rite of the period and they may be people who were in some sense social outcasts.[143] Examples elsewhere, such as Gravelly Guy, also show that this form of burial continued into the Roman period.[144]

The pottery from the site as a whole was mainly middle Iron Age but with a few sherds suggesting some earlier elements, and a few late Iron-Age sherds from the enclosure ditch. Roman pottery was generally absent except for a single sherd found with the radiocarbon-dated burial, suggesting that this burial probably post-dated the domestic habitation, perhaps representing the deliberate reuse of a site known to have been used for burials that was still visible as earthworks.

Another middle Iron-Age enclosed settlement was found during redevelopment at the King of Prussia public house at Rose Hill, but even less is known of its extent and form. A curving length of five intercutting ditches of modest size produced middle Iron-Age pottery, and a four-

[143] *TTT2*, pp. 319–25.
[144] Lambrick and Allen, *Gravelly Guy,* pp. 169, 171, 249, 254–5, plate 6.2, fig. 6.3.

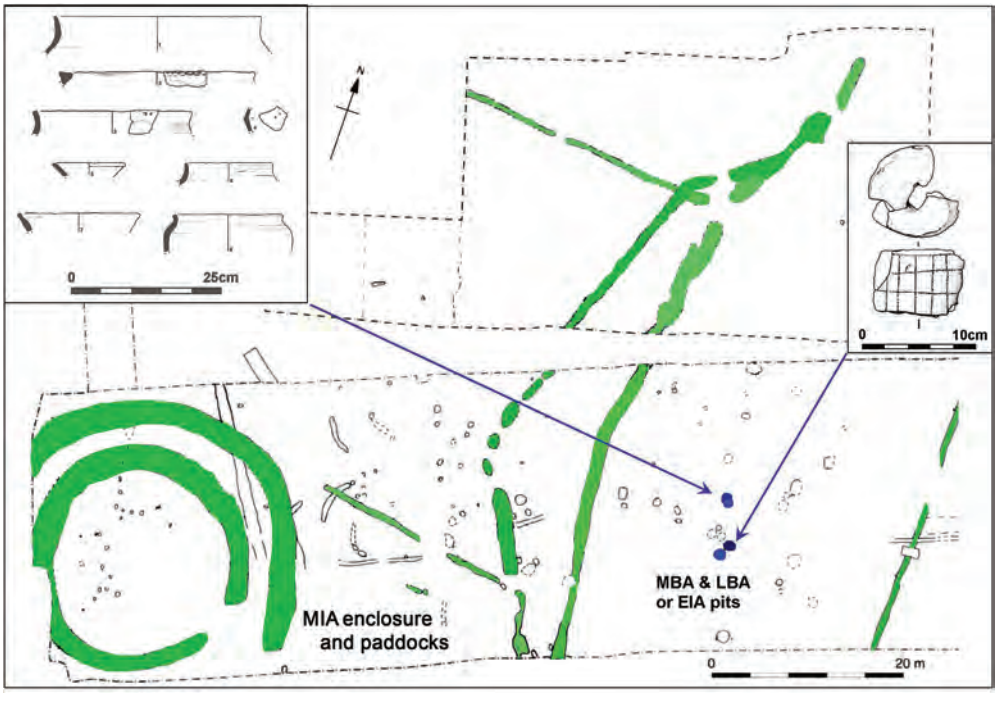


Fig. 22. Middle to late Bronze-Age pits and Iron-Age penannular enclosure and paddocks at Grenoble Road. Insets: right, middle Bronze-Age cylindrical loomweight; left, late Bronze-Age pottery.

post structure was also noted. By the second century AD pits were being dug in the former ditch.[145] Further south, a middle to late Iron-Age banjo enclosure has recently been discovered by geophysics and trial trenching on the south-east facing slopes of Heyford Hill overlooking a small valley west of Littlemore.[146]

On the Kimmeridge Clay at Grenoble Road, Blackbird Leys, the ephemeral traces of middle to late Bronze-Age settlement noted above were succeeded much later by a middle Iron-Age settlement with gullies defining associated paddocks, initially of rather irregular form but later more rectilinear (Fig. 22).[147] The main feature was a pennanular ditch 19 metres in diameter and originally over a metre deep, with an outer concentric ditch abutting the paddocks. The form of the pennanular enclosure, its orientation to the south-east and finds of pottery and bone from the few sections excavated suggest a domestic use; but its diameter is unusually large for a house, and while the interior contained a few small post holes, there were no tell-tale large post holes of a doorway or other structural indications of a building. The limited extent of excavation, particularly of the concentric penannular ditches, provided only sparse information about the subsistence basis of the settlement: half of the few identifiable bones were cattle, a third sheep (or goat), the rest pig and horse; charred plant remains were scarce and included

[145] 'An Archaeological Evaluation at King of Prussia, Rose Hill, Oxford', unpublished JMHS report (2008); D. Gilbert, 'Rose Hill', *SMidlA*, 42 (2012), pp. 41–2.

[146] S. Ford, 'Land Adjacent to Littlemore Hospital, Littlemore, Oxford, an Archaeological Desk-Based Assessment', unpublished TVAS report (2012); idem, 'Land Adjacent to Littlemore Hospital, Littlemore, Oxford. An Archaeological Evaluation', unpublished TVAS report (2013).

[147] Booth and Edgeley-Long, 'Prehistoric Settlement and Roman Pottery Production', pp. 206–19.

very little crop debris. The presence of the paddocks tends to suggest pastoralist lifestyle, though in the absence of more definitive evidence this remains speculative.

Other occasional gullies, post holes and small groups of pottery are regularly found on the Corallian hills in East Oxford, suggesting that the area may have been quite well settled and farmed by the middle Iron Age and into the late Iron Age, though coherent settlement remains are still rare. One of the more intriguing records of middle to late Iron-Age activity on these hills is a possible area of quarrying at Barracks Lane on the scarp of the Corallian Ridge. Two areas of quarry pits were found, a pair of linear hollows containing Iron-Age pottery, and a group of more pit-like hollows with medieval sherds.[148] While the Iron-Age material might have been disturbed from an adjacent settlement, none was found in other trenches nearby. Although difficult to prove definitively, the occurrence of shallow quarrying in the Iron Age is not surprising given the significant quantity of limestone used as pot boilers on most Iron-Age settlements in the region, and the use of limestone for floodplain causeways.

To the west of Oxford, fieldwalking by the Oxford University Archaeological Society recovered early Iron-Age pottery suggesting a settlement close to the spring line a couple of hundred metres below the possible defended site on the south-eastern spur of Wytham Hill.[149] On the southern slope of Cumnor Hurst an early to middle Iron-Age settlement with penannular gullies, pits and evidence of metalworking is known from fieldwalking and geophysical survey.[150] During evaluation of the golf course at Hinksey Hill Farm, settlement ditches and pits, some containing middle Iron-Age pottery, were found on the edge of the hilltop overlooking the valley.[151] At the top of Hinksey Hill, in the garden of 'The Copse,' an occupation layer with pottery from the early Iron Age was found by J.N.L. Myres beneath part of a rough cobble pavement with a possible wall foundation and large quantities of Roman pottery suggesting occupation up to the beginning of the second century AD.[152]

Late-Prehistoric Settlement on the First Gravel Terrace and Floodplain

On the floor of the valley, later Bronze-Age and early Iron-Age remains are scarce, but include pottery from the second gravel terrace at Dennis's Pit, Old Marston and Northfield Farm, Wytham (Fig. 20). The Wytham site, like Farmoor, continued into the middle Iron Age and included a pit that produced a pair of horse bits indicative of wheeled transport, but little else is known.[153] Low, relatively dry eminences within the floodplain were commonly chosen for small farming settlements in the middle Iron Age, often associated with paddocks and small fields. While some on drier ground were based on mixed farming, lower-lying ones were probably pastoralist, making best use of grazing land to help feed a growing population before the advent of hay-making in the late Iron Age and Roman period.[154]

The most complete excavation of such a farmstead in Oxford is Whitehouse Road on the site of the former City football ground just off the Abingdon Road. Air photography had revealed parch marks of a dense concentration of paddock boundaries, pit clusters and enclosures, including one penannular enclosure with six phases of large recut ditches (Fig. 23), similar to examples at Gravelly Guy.[155] Finds included an unexceptional range of middle Iron-Age pottery, a loom weight, an awl made form an animal tooth and an example of the common but still mysterious

[148] R. Tannahill and V. Diez, 'Iron Age and Medieval Quarrying at Barracks Lane, Cowley, Oxford', *Oxoniensia*, 73 (2008), pp. 195–6.

[149] Tim Allen, personal communication.

[150] Ainslie, 'Fieldwork at Hurst Hill'.

[151] Allen, *Hinksey Hill Farm,* pp. 3–6.

[152] J.N.L. Myres, 'A Prehistoric Settlement on Hinksey Hill, near Oxford', *Journal of the British Archaeological Association*, 35 (1930), pp. 300–6.

[153] J.S.P. Bradford, 'An Early Iron Age Site at Allen's Pit, Dorchester', *Oxoniensia*, 7 (1942), pp. 36–60; Harding, *Iron Age in the Upper Thames Valley*, pp. 41, 160, 172, plates 58 A, 76 A, B.

[154] *TTT2*, pp. 377–80.

[155] Lambrick and Allen, *Gravelly Guy*, pp. 119–23, figs. 3.6, 3.7.

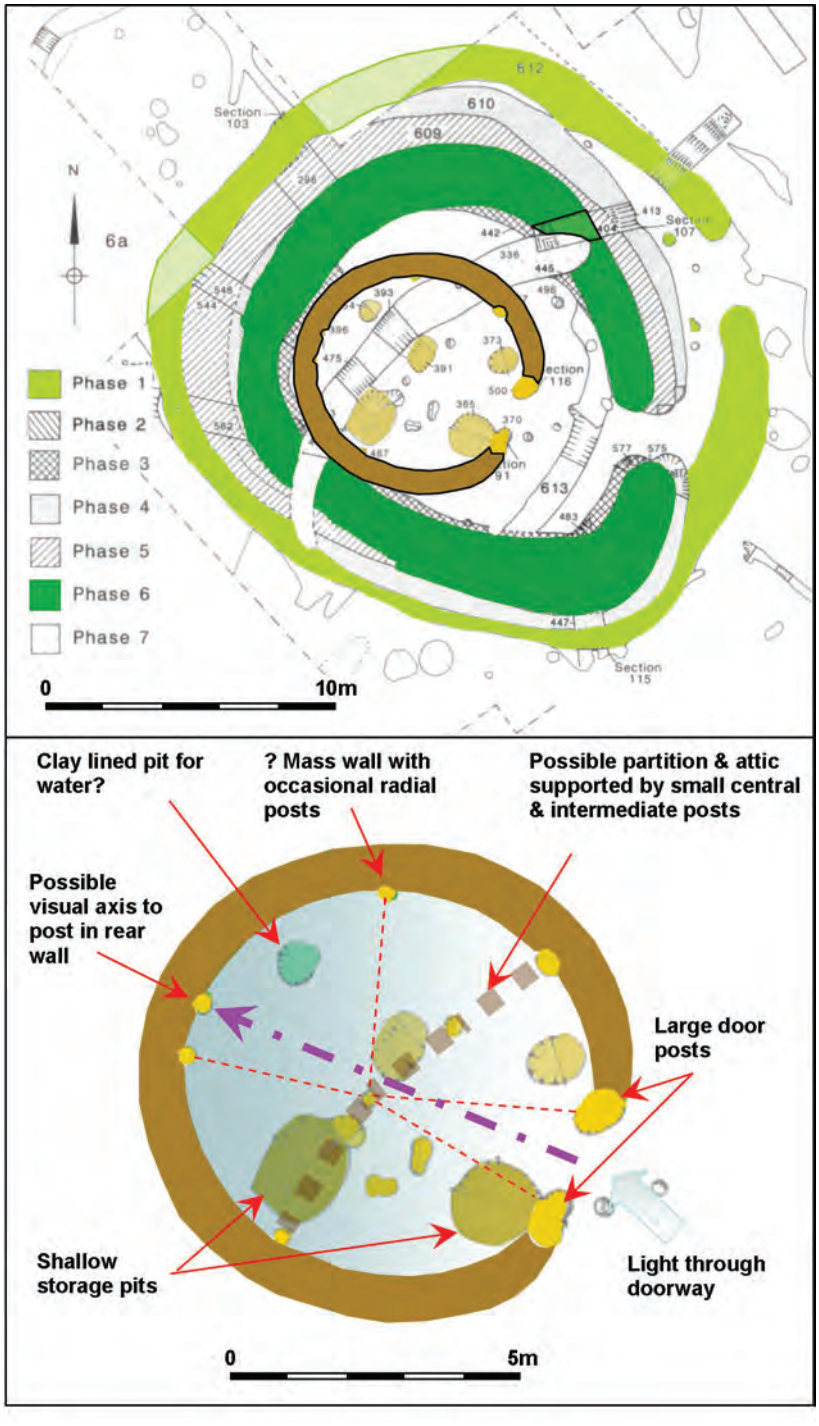


Fig. 23. Middle Iron-Age multi-phase enclosure and house at Whitehouse Road with interpretation of the evidence for the house.

polished and grooved sheep metapodials. The settlement was located on a gravel rise in the floodplain and the deeper ditches were not waterlogged. Snails indicated open dryish conditions above flood level. The inhabitants engaged in mixed farming, the main livestock being cattle (46 per cent of identifiable bones), sheep (30 per cent), horses (16 per cent) and pigs (8 per cent). The emphasis on horses rather than pigs is noticeable and comparable to Iron-Age settlements in the lower Windrush valley which may have been involved in horse rearing.[156] Crops included spelt wheat, an unusually early occurrence of free threshing wheat and beans. The range of arable weed seeds indicates cultivation of dryish ground with possible problems of low fertility.

The substantial recut penannular ditch enclosed a typical middle Iron-Age roundhouse defined by a group of post holes and small pits (Fig. 23) which can now be interpreted more fully in the light of other sites.[157] The inner edge of the wall – probably built of wattle-and-daub, rammed earth, or turf – was marked by some irregularly spaced post holes with two larger recut post holes defining a doorway facing south-east inside the entrance to the enclosure. Like many other roundhouses in the region, there was a post in the wall-line opposite the door, which may have been decorated or used as a focal point for internal division of space. Also typical was a small central post hole. The roof would not have needed support, and like other examples the post hole was too small to have taken a post of the requisite height; more likely, it was part of a partition formed with two posts either side of it that could have supported an attic or mezzanine floor at the back of the building. A small clay-lined pit, probably for water, and a few other very shallow pits which could have been covered with boards to allow underfloor storage, were located within the area of the house. Unfortunately, the location of finds does not indicate anything about where crafts, cooking or other activity took place.

In terms of preservation, some of the most impressive survivals of Iron-Age settlement in the Thames valley – and indeed much of lowland Britain – are on Port Meadow (Figs. 24, 25). The sites occupy dry gravel eminences and are clearly visible in dry summers, when the thin turf parches and the ditches remain green. On the ground many of these features survive as low earthworks with some ditches and hollows occasionally picked out by floodwater (Fig. 26).[158] Across the river at Binsey, cropmarks have revealed another rather more complex area of coherent Iron-Age settlement, again occupying a relatively high area of gravel within the floodplain (Fig. 24).[159]

The clearest parts of the Port Meadow Iron-Age settlements are three separate clusters of small penannular house sites or pens with adjoining rectilinear and irregular enclosures (and even a large four-post structure in the northernmost farmstead). In each case these appear to be spatially related to a network of gullies that define larger fields and paddocks, and taken together these features occupy most of the western side of Port Meadow next to the present day Thames. The rather irregular paddocks have some coherence relative to each farmstead, but in places they seem incomplete, suggesting that some boundaries were formed only by fences.[160] Each settlement group occupies a gravel 'island' within the floodplain separated by palaeochannels that may have defined the boundaries of each farmstead.

Richard Atkinson trial excavated the middle settlement where two small circular ditches overlapped (Sites 5 and 6).[161] The earlier one was filled with clean gravel and dated to the later Bronze Age on the strength of two pottery sherds, but this has not been verified by modern examination. The fill could be consistent with a Bronze-Age barrow, but it was quite small (20.6 metres in diameter, *c.*0.65 metres deep). The later penannular enclosure is *c.*16.6 metres

156 *TTT2*, p. 242.
157 Ibid. pp. 133–51.
158 R.J.C. Atkinson, 'Archaeological Sites on Port Meadow, Oxford', *Oxoniensia*, 7 (1942), pp. 24–36; Rhodes, 'Binsey and Port Meadow', pp. 83–4, fig. 13; Lambrick and McDonald, 'The Archaeology and Ecology of Port Meadow', pp. 98–100, fig. 2.
159 Rhodes, 'Binsey and Port Meadow', p. 83, fig. 13.
160 Cf. Lambrick, *Mount Farm*, pp. 56–7, 70, fig. 43.
161 Atkinson, 'Archaeological Sites on Port Meadow', pp. 30–5.

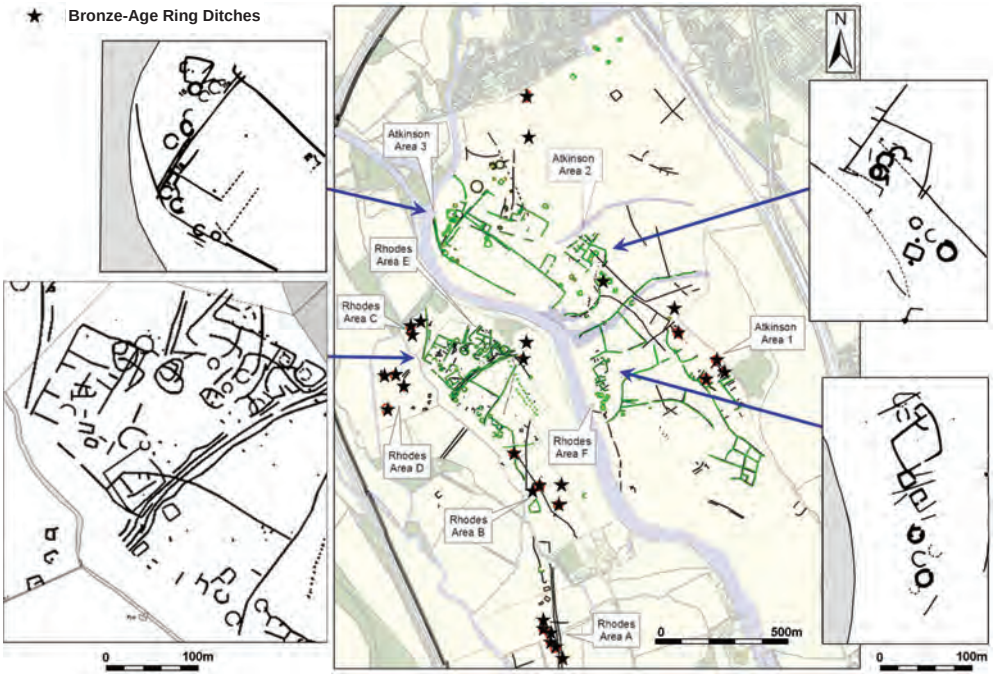


Fig. 24. Plot of cropmarks and parch marks of Bronze-Age ring ditches and Iron-Age settlements and paddocks at Binsey and Port Meadow. Insets show the Iron-Age settlement areas in more detail.

across with deeper waterlogged ditches that produced middle Iron-Age pottery. Atkinson subsequently excavated Site 7, a penannular enclosure in the same complex with a raised interior and a successively recut ditch. 'An irregular paved way' led from its south-facing entrance to the centre where there were shallow depressions and two patches of cobble stones.[162] While pottery and animal bones suggested Iron-Age habitation, no distinct evidence of a permanent structure was identified, though we now know that such evidence can be very slight.[163]

On the ground it is evident that the interiors of some of the penannular ditches in the northernmost group have been lowered. This may indicate stripping of turf to expose a gravelly floor, simultaneously providing material for the walls of a house (together with spoil from the ditch).[164] Sampling of the waterlogged ditches of penannular enclosures in each of the Iron-Age settlements in the 1980s showed that the contemporary environment was heavily grazed grassland indicated by a range of species that closely match the present day habitat except for a greater presence of disturbed ground species, as might be expected from the presence of occupied farmsteads.[165] Thistles were quite common, possibly indicating a problem of overgrazing then – as now.

[162] R.J.C. Atkinson and A. McKenzie, 'Archaeological Notes', *Oxoniensia*, 11–12 (1946–7), p. 163.

[163] Cf. T.G. Allen and M.A. Robinson, *The Prehistoric Landscape and Iron Age Enclosed Settlement at Mingies Ditch, Hardwick-with-Yelford, Oxon*, Thames Valley Landscapes Monograph, 2 (1993), pp. 36–59, figs. 17–28, plates 14–19.

[164] Lambrick and McDonald, 'The Archaeology and Ecology of Port Meadow', p. 99; Cf. Allen and Robinson, *Mingies Ditch*, pp. 43–50, figs. 19, 20, plates 14, 15; G. Lambrick and M. Robinson, *Iron Age and Roman Riverside Settlements at Farmoor, Oxfordshire*, CBA Research Report, 32 (1979), p. 25, fig. 15.

[165] G. Lambrick and M. Robinson, 'The Development of Floodplain Grassland in the Upper Thames Valley', in M. Jones (ed.), *Archaeology and the Flora of the British Isles* (1988), pp. 65–71.

Fig. 25. Air photograph of the central part of Port Meadow showing the southernmost Iron-Age farmstead (foreground close to the river), another farmstead in the middle distance (left) and Bronze-Age ring ditch middle distance (right). Note the palaeochannels revealed by broad sinuous darker areas. (© Crown copyright, EH NMR SP4907/1/149).

Fig. 26. Floodwater picking out the slight earthworks of one of the penannular house sites on Port Meadow. Note the entrance causeway and the palaeochannel in the background (author).

Very comparable middle Iron-Age pastoral settlements have been investigated elsewhere in the upper Thames valley,[166] notably at Claydon Pike, near Lechlade where similar clusters of houses and paddocks occupied dry 'islands' within a low-lying area of first gravel terrace. There was clear evidence of houses, some of them paired.[167] Finds included a fairly standard range of pottery and other objects, but were seldom abundant. Environmental evidence, consistently suggests that terrace edge and floodplain settlements of this kind were small pastoral farmsteads.

Port Meadow and most comparable small middle Iron-Age settlements on the floodplain appear to have been relatively permanent and may have been occupied year-round. In this they differ from an otherwise similar group of farmsteads at Farmoor, where the presence of annual but not perennial weeds suggested that they may have been used for only a very few years, and the occurrence of snails requiring flowing water in features not linked to the river showed they were subject to flooding at the time of occupation.[168]

The Binsey complex has not been excavated, but exhibits a distinct clustering of elements, again suggesting different family foci. The cropmarks also include two pit alignments, one of at least forty-five pits.[169] These are a distinctive form of later prehistoric land division, with several examples in the Thames valley dating from the late Bronze Age to middle and late Iron Age. Such boundaries consisted of single or sometimes multiple rows of pits, which very seldom contain objects nor any trace of posts. They probably formed visible but permeable boundaries, perhaps functioning like the intercommoning rights between Port Meadow and Wolvercote Common across the Shire Lake ditch.[170]

Late-Prehistoric Settlement on the Second Gravel Terrace

As noted above, continuing respect for the area occupied by the Neolithic and early Bronze-Age ceremonial and funerary complex seems to have inhibited the establishment Iron-Age farming settlements. But north of the linear barrow cemetery, parch marks in the Parks reveal a complex of further paddocks and many small pit-like features typical of Iron-Age and Roman settlements (Fig. 14). Another 200 metres to 300 metres north, parts of one or more Iron-Age settlements have been identified. At 1 Park Town, eleven pits have recently been excavated, five with middle Iron-Age pottery and the usual range of domestic animal bones and cereals, with snails suggesting well-drained open conditions.[171] Earlier discoveries include a large collection of Iron-Age pottery from 56 Banbury Road *c.*30–50 metres to the west, and a pit with antlers on its base at 6 Crick Road *c.*200 metres to the east.[172]

Just east of the linear barrow cemetery, recent excavations in the University Parks for water attenuation tanks revealed successive ditches, mostly dating to the late Iron Age and Roman period though the earliest were middle Iron Age.[173] Some ill-defined lengths of gully and other small features associated with early to middle Iron-Age pottery have been found in excavations at the Rex Richards and Rodney Porter Buildings and Halifax House.[174]

[166] *TTT2,* pp. 109–15.

[167] D. Miles et al., *Iron Age and Roman Settlement in the Upper Thames Valley: Excavations at Claydon Pike and other Sites within the Cotswold Water Park*, Thames Valley Landscapes Monograph, 26 (2007), pp. 59–65, figs. 3.10, 3.11.

[168] Lambrick and Robinson, *Farmoor*, pp. 111–26.

[169] Miles, 'Aerial Reconnaissance', *CBA* 9 *Newsletter*, 7 (1977), p. 60.

[170] *TTT2*, pp. 60–1.

[171] G. Williams, 'An Archaeological Excavation at 1 Park Town, Oxford, Oxfordshire', unpublished JMHS report (2013).

[172] Anon., 'Notes and News', *Oxoniensia*, 3 (1938), p. 164, fig. 18; Bradford, 'Allen's Pit', p. 60, fig. 13, nos. 59–60.

[173] 'Rainwater Attenuation Scheme, Oxford University Parks, Oxford: Post-Excavation Assessment', unpublished Wessex Archaeology report (2011).

[174] Parkinson et al., 'Two Bronze Age Barrows', pp. 51–4, 57, fig. 4; Anthony, 'Halifax House', pp. 131, 135, 137, figs. 3, 4.

OXFORD'S PLACE IN LATE IRON-AGE SOCIETY

Late Iron-Age Settlement

Late Iron-Age or early Roman pits and gullies indicative of occupation are also known from the sites in South Parks Road and the Clarendon Laboratory,[175] but not the New Chemistry Laboratory or Mansfield College. Here later first-century gullies were succeeded by a more regular rectilinear pattern of fields defined by larger ditches, probably including one at the University Museum and perhaps undated features in the Parks and the Radcliffe Infirmary site (Figs. 14, 27).[176] Between the first century BC and the second or third century AD paddocks and fields thus expanded over much of the earlier prehistoric complex, but still with only peripheral signs of domestic activity.

Elsewhere, new settlements were established in the late Iron Age to early Roman period. At Middle Way, Summertown a possible ditch, a gully, an area of hard standing and a post structure (perhaps a granary) of this period were part of a farmstead that lasted until the second or third century AD.[177] At the Wolvercote viaduct on the A34 the corner of what may be a late Iron-Age enclosure together with three possible post holes and two pits were parts of another farm that was refurbished in the first century AD and continued into the second century.[178] Headington School is another possible area of Roman settlement with traces of late Iron-Age activity but not earlier occupation.

Another aspect of late Iron-Age change is the apparent abandonment of middle Iron-Age settlements, such as those at Whitehouse Road, Port Meadow and Blackbird Leys. This may also apply to the enclosures at Barton and Rose Hill, which also seem to lack late Iron-Age occupation phases, though their ditches may have been recut.

The social and economic basis of these settlements is tantalisingly vague, but they may fit a wider pattern of settlement disruption in the late Iron Age, as at Stanton Harcourt where the late Iron-Age and early Roman settlements shifted across the boundary of earlier Iron-Age occupation, encroaching into the old prehistoric ceremonial and funerary complex, with further reorganisation in the second to third century AD.[179] However, on the hills round Oxford some rather ill-defined sites seem to straddle the middle Iron-Age to Roman periods, as at Eastfield House, the enigmatic sites at Annesley and Egerton Roads, Rose Hill (which produced local early Iron-Age pottery and a sherd of Glastonbury ware), Oxford Science Park, and 'The Copse' on Hinksey Hill. The same may apply to the Heyford Hill banjo enclosure.

Oxford's Place in Pre-Roman Geo-Politics

This continuity of later prehistoric farming coupled with a disruption or shift in settlement locations in the late Iron Age can be viewed within the context of larger-scale political and social change at the end of the Iron Age when the broad extent of rival tribal areas and self-styled kingdoms was reflected in partially overlapping coin distributions. Oxford seems to have been at the heart of an area where territories met, with the Dobunni to the west of the Cherwell

[175] H. Case, 'Notes and News', *Oxoniensia*, 21 (1956), p. 82.

[176] Bradley et al., 'New Chemistry Research Laboratory', pp. 145–9, fig. 2; Booth and Hayden, 'Mansfield College', pp. 328–9, fig. 8; T.G. Hassall, 'Roman Finds from the Radcliffe Science Library Extension 1970–71', *Oxoniensia*, 38 (1972), pp. 38–50, fig. 1.

[177] G. Williams, 'An Archaeological Intervention at Walled Garden, Middle Way, Oxford', unpublished JMHS report (2007).

[178] D. King, 'A34 Wolvercote Viaduct Replacement, Oxford', unpublished Foundations Archaeology report (2008).

[179] G. Lambrick, 'The Development of Late Prehistoric and Roman Farming on the Thames Gravels', in M. Fulford and E. Nichols (eds.), *Developing Landscapes of Lowland Britain. The Archaeology of the British Gravels: A Review*, Society of Antiquaries Occasional Paper, 14 (1992), pp. 78–105; Lambrick and Allen, *Gravelly Guy*, pp. 479–83.

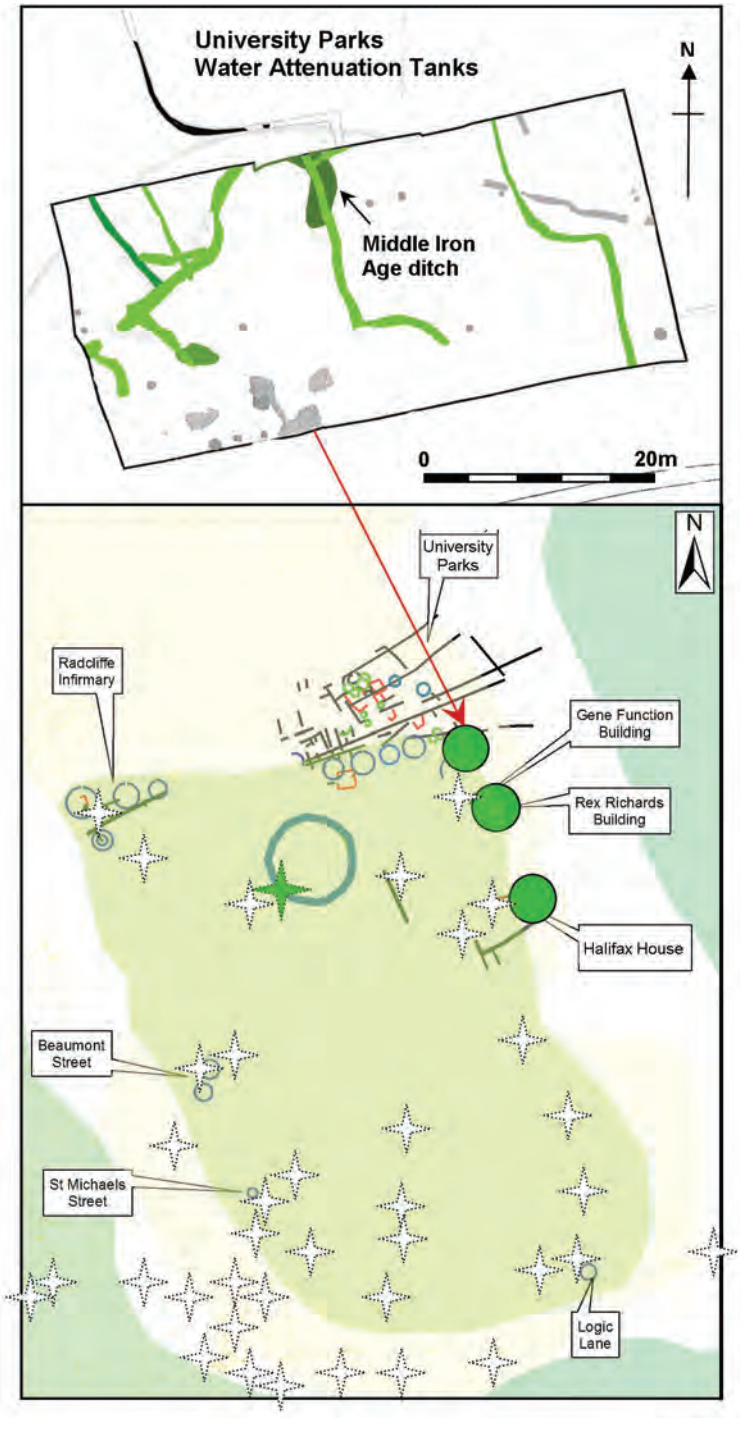


Fig. 27. Central Oxford in the Iron Age. Top: part of a middle to late Iron-Age settlement or paddocks in the University Parks. Bottom: the possible extent of the earlier prehistoric ceremonial complex (shaded) with filled circles and star indicate early to middle Iron-Age features and pottery; blank stars indicate excavations where such material has not been found; other possible Iron-Age and Roman settlements and fields are indicated based on excavated ditches or parch marks.

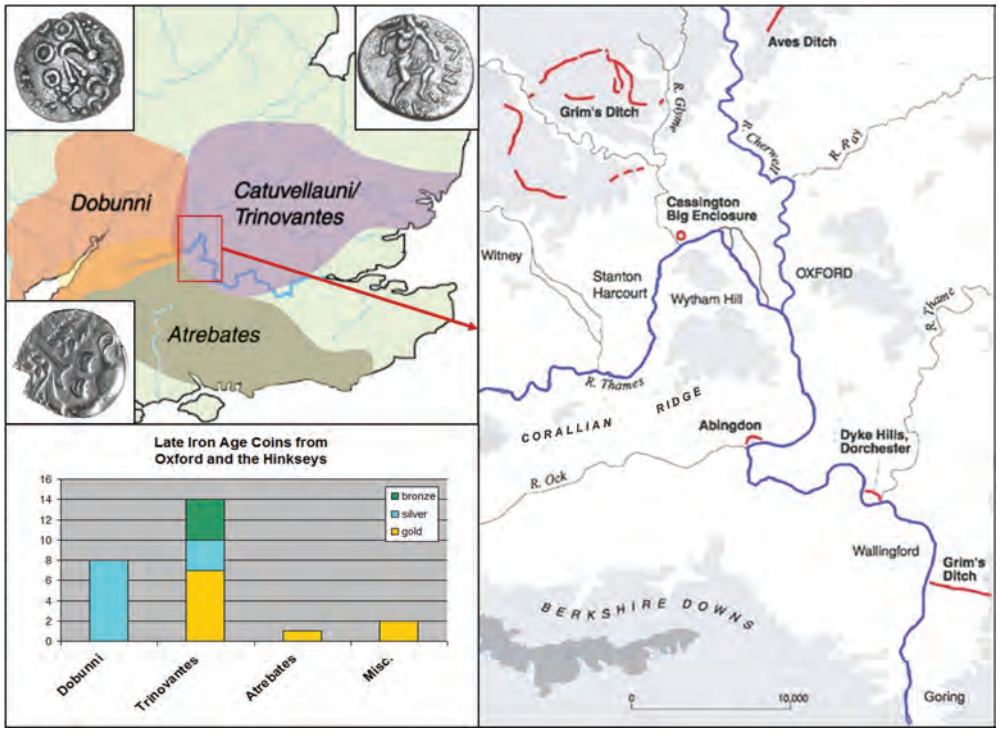


Fig. 28. The late Iron-Age political landscape of Oxford. Top left: tribal areas based on coin distributions and examples of coins from each of the main tribes. Bottom left: histogram of coin finds from Oxford and the Hinkseys. Right: map of the major late Iron-Age communal earthworks upstream and downstream of Oxford.

and north of the Thames (or perhaps the Ock); the Catuvellauni east of the Cherwell and east and north of the Thames; and the Atrebates south and west of the Thames (or perhaps the Ock). The political importance of this three-way boundary zone is reflected in the resources lavished on constructing a series of major earthworks, some of them apparently unfinished expressions of territorial ambition or control.[180] From north to south, these consist of the Aves Ditch linear dyke; the north Oxfordshire Grim's Ditch, an enormous 'territorial oppidum' (with two circuits, possibly two phases but never completed); Cassington Big Rings enclosed oppidum (also two phases and not completed); the Abingdon oppidum defined by a triple moat; Dyke Hills at Dorchester, another enclosed oppidum defined by an artificial river channel; and the south Oxfordshire Grim's Ditch, a linear dyke extending from the river near Wallingford across the end of the Chilterns, probably to Henley.

There has been some speculation about whether attempts were made to create an enclosed oppidum at Oxford. Of two possible candidates Thornbury is too small and probably Anglo-Saxon (see above), while a suspicious oval formation of channels and ditches straddling the line of a possible Roman road crossing the floodplain at Osney is too big, and there are no late Iron-Age finds from the area. Trial excavation at the Newsquest site produced no sign of major earthworks.[181]

[180] *TTT2*, pp. 361–75 for fuller discussion and references.
[181] Hammond, 'Press Hall Extension, Newsquest, Osney Mead', pp. 4–6.

If anything, late Iron-Age Oxford is best seen as an unremarkable backwater between the major foci of political and social activity in this part of the Thames valley: it was at Abingdon and Dorchester, where there is much better evidence of late Iron-Age settlement, that small Roman towns developed, Abingdon within the pre-existing oppidum, Dorchester outside with its own walls.

FUTURE PROSPECTS

Recovering stratified evidence of the earliest hunter gatherers tends to be a matter of chance, but is not immune to well-targeted research. Oxford is surrounded by an exceptional number of well-preserved peat sequences with great potential for further investigation and dating to show how the Holocene environment changed in response to natural and human pressures. There is now firm evidence of the Neolithic and early Bronze-Age ceremonial and funerary complex at the confluence of the Thames and the Cherwell, which puts Oxford on a par with other complexes of great significance in the valley – and despite later urban development, it offers more opportunity for further discovery than better known examples now largely destroyed by gravel extraction.

For later prehistory, the character of known and potential communal sites needs clarification. While Port Meadow represents a unique survival of middle Iron-Age settlement earthworks set within the living legacy of the grazing habitat in which they were established, most excavated settlement evidence is patchy. More coherent plans and good artefactual and environmental evidence are needed from multiple sites to elucidate the transition to settled farming and also the disruption and/or continuity of settlement in this pivotal part of the Thames valley in the later Iron Age.

Overall, there is still much future work to be done to clarify Oxford's prehistory and its wider context. With ongoing development-led investigations, academic interest and public engagement through initiatives such as the East Oxford Archaeology Project, there is more opportunity than ever to explore this intriguing aspect of Oxford's past.

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