Neolithic to Early Bronze Age Buckinghamshire: a resource assessment

Inheritance
Mobility
Although Neolithic populations are thought to have had continued mobility, more and more evidence for Neolithic settlement has come to light. In Buckinghamshire the most important evidence comes from excavations in advance of the construction of Eton Rowing Course (ERC) and the Maidenhead to Windsor and Eton Flood Alleviation Scheme (MWEFAS), mainly in the parish of Dorney in South Bucks on the Thames. The evidence points to intensive use of the area by people in the Early Neolithic but it is not certain that it represents year-round sedentary occupation rather than seasonal re-use (Allen et al 2004). Other evidence does point to continued mobility, such as the artefact scatters at Scotsgrove Mill, Haddenham (Mitchell 2004) and East Street, Chesham (Collard 1990) for example, reflecting visits over a long period of time.

Persistent places
Mesolithic persistent places continue to have meaning for Early and later Neolithic populations. These persistent places include East Street, Chesham (Collard 1990, 18) and Late Neolithic to Early Bronze Age activity at Chessvale Bowling Club nearby (Halsted 2006, 23-8). Another persistent place seems to have been the lower reaches of the River Colne. Recent excavations at the Sanderson Site, Denham (Halsey 2005) continued the activity from nearby Three Ways Wharf, Uxbridge (Lewis 1991). Other persistent places include the attractive river valley location at Bancroft in Milton Keynes (Williams 1993, 5), and Scotsgrove Mill, Haddenham, where the River Thame meets one of its tributaries (Mitchell 2004, 1). These persistent places may have been the basis of evolving ideas about land tenure. Buckinghamshire seems to have been part of two or three different geographical systems: one focused on the Great Ouse and claylands of the north and associated with neighbouring Bedfordshire and Northamptonshire; one based in the hills of the Chilterns and the last on the Thames, although the Chilterns may have been the hinterland of this area.

Use of river valleys
River valleys continue in importance through the Neolithic and Early Bronze Age, the Thames being the most important with activity identified throughout its course in Buckinghamshire. The Colne is also of great importance and its tributaries the Misbourne and Chess also seem to have been utilised. The Great Ouse is another focus of activity in the far north of the county and the Thame may have been another focus of activity (it is a tributary of the Thames – joining it at Dorchester).

Hunting and gathering
There is some continuity in subsistence strategies from the Mesolithic to the Early Neolithic. There is a little evidence for sedentism and arable agriculture, as outline above, but the majority of the evidence points towards mobile groups of people practicing animal husbandry alongside hunting and gathering.

Nature of evidence base
Investigation of Neolithic and Early Bronze Age Buckinghamshire has neither been systematic nor extensive. Early excavation in the county focused on barrows, such as Cock's excavation of a mound in Chetwode (1896); J.F.Head's Early Man in South Buckinghamshire (1955) examined Palaeolithic to Saxon remains that had come to light in the Chilterns and along the Thames, mainly from quarries, dredging the Thames and casual field-walking and field survey. The excavation of the Neolithic barrow on Whiteleaf Hill by Scott in the 1930s, published by V. Gordon Childe in 1954 was the first systematically excavated site of this period (Childe & Smith 1954, 217). The designation of Milton Keynes as a new town in 1967 was followed by a great deal of archaeological
fieldwork in the 1970s; of particular interest here are the ring-ditches of the Great Ouse (e.g. Field 1974 and Green 1974). There have also been a few papers on stone implements or remains identified in excavation or survey within a wider investigation (e.g. Carstairs 1986; Dalwood 1988; Smith & Wymer 1964; Wise 1991). More recent investigation within the commercial archaeology framework has revealed dense areas of activity in the Dorney area and has refined our knowledge of the Whiteleaf Hill complex (Allen et al 2004; Hey et al, forthcoming).

Bronze Age round barrow numbers may have been overestimated. In Buckinghamshire these include a mound in Chetwode investigated in 1896 (Cocks 1896, 462-4); the Cop round barrow at Bledlow (Head 1938) which was interpreted as an Early Bronze Age round barrow but is probably Saxon, but built over an area of earlier occupation, mainly Middle to Late Bronze Age (Farley 1992, 11-13). More recently, two mounds thought to be Bronze Age round barrows on Whiteleaf Hill near the Neolithic oval barrow have been found in survey and excavation to be a natural tump and a windmill mound (Hey et al, forthcoming).

Targeted field-walking events have uncovered many flint scatters. The Aylesbury Past Project used volunteers to field-walk large swathes of Aylesbury's hinterland. Local archaeological societies have also taken a lead in field-walking, mainly the Chess Valley Archaeological and Historical Society (CVAHS), who are responsible for many of the flint scatters found around Chesham and Amersham (Stainton 1983; Stainton 1995). Geophysical survey has also been employed by J Gover, a member of CVAHS, and has revealed a possible Neolithic to Early Bronze Age monuments at Ivinghoe Beacon and Bulstrode Camp, Gerrards Cross (Gover 2000; Gover 2003). Marlow Archaeology Society identified a ring-ditch cemetery at Low Grounds Farm, Marlow from aerial photograph and geophysical survey (unpub. doc. 2002). Metal-detectorists have found a small number of artefacts of this period.

There is good aerial photographic coverage of the north of the county, but mainly focusing on the medieval landscape. The aerial photographic coverage has captured images of ring-ditches along the Great Ouse in the far north of the county and along the River Thame, and a possible mortuary enclosure or short cursus on Southend Hill, Cheddington.

The River Thames has yielded many artefacts over the years, mainly from dredging operations. These range from stone axe-heads to a possible Bronze Age log boat that was lost by 1880 (Head 1955, 77). No other river has been so extensively dredged and therefore the tributaries of the Thames may still contain artefacts.

There are a number of sites that have yet to be published and could benefit from reappraisal. These include old excavations, such as Lodge Hill, Saunderton, excavated in 1933, and Windmill Hill, Hitcham, excavated in 1884, and more recent ones such as Walton Lodge Lane, dug in 1994 by Buckinghamshire County Museum Archaeology Service and Church Farm, Bierton, excavated in 1996 by Tempus Reparatum.

Material culture consists largely of flint flakes and retouched tools, with pottery being less likely to survive. Ground and polished stone axes are fairly common but other worked stone is not. Worked animal bone and utilised or worked antler is another rare occurrence and unworked bone from butchery and food waste is more common. There are only a handful of metal objects known from this period in Buckinghamshire.

<table>
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<td>Pits</td>
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<td>Burials (inhumations and cremations)</td>
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### Find type Occurrences in SMR

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<td>Metal artefacts</td>
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### Chronology

The conventional period for the Neolithic is c. 4000 – c.2300 BC (recorded as 2350 in the Buckinghamshire SMR) calendar years for the Neolithic and c. 2300 – c.1600 BC for the Early Bronze Age. The Neolithic is either split into two or three periods. Three periods seems appropriate here, with the Early Neolithic dating to c.4000 - c.3300/3200 BC, the Middle Neolithic dating to c.3300/3200 to c.2600 BC, and the Late Neolithic dating from c.2600 – c.2300 BC, though recent excavations and advances in radiocarbon dating, such as Bayesian modeling, may allow a more complex prehistory to reveal itself.

The chronology adopted at the ERC and MWEFAS sites started with early Neolithic (c. 4100-c. 3300 cal BC) which included carinated bowl, plain bowl, decorated bowl and Ebbsfleet Ware. The middle Neolithic (c. 3300 – c. 2900 cal BC) was characterised by Mortlake and Fengate ware. The late Neolithic (c. 2900 – 2200 cal BC) pottery was mainly Carinated bowls; Beaker pottery appeared after c. 2500 BC. Lithic dating could only distinguish between an early Neolithic, middle to late Neolithic and a late Neolithic to Early Bronze Age (Allen et al 2004, 82).

At Whiteleaf barrow human bone from the primary burial was dated to 3760-3640 cal BC; charred residue from pottery found in the primary barrow mound was dated to 3660-3520 cal BC and part of a fed deer antler from the secondary enhancement of the barrow mound was dated to 3370-3100 cal BC (Childe 1954, 217-9; Hey et al forthcoming).

Other sites seem to be divided between Earlier Neolithic and Late Neolithic to Early Bronze Age. For instance, a Neolithic pit uncovered prior to the redevelopment of the site of St John' Hospital, Stone contained Early Neolithic Plain Ware pottery sherds and a large Middle Neolithic rim sherd of flint-tempered Mildenhall style pottery. The pit was dated on the basis of these finds to the Early Neolithic; between 3,200 and 2,600 BC (Carstairs & Lawson 1992, 15-17).
Flint artefacts are particularly in need of a finer chronology. The Treacher collection of Palaeolithic to Neolithic artefacts from Marlow brickyards was examined by Wymer and Smith in the 1960s. The context of the artefacts remains unknown, but it is clear that there was activity in the vicinity in the earlier Neolithic period, twenty sherds of 'Western' plain ware being found (Smith & Wymer 1964, 286-91). The collection also contained earlier Neolithic cores, leaf-shaped arrowheads, a laurel leaf, a sickle, ground flint axes and stone axes. The later Neolithic and Early Bronze Age were also represented by a plano-convex knife, triangular arrowhead, a core and scrapers (Smith & Wymer 1964, 292-5). An assemblage of struck flints was found in an evaluation in advance of a decision on scheduled monument consent to build a number of houses over the road from Desborough Castle. Desborough Castle is thought to have a Neolithic or Early Bronze Age barrow truncated by an Iron Age hillfort which was then built on with a medieval ringwork. The length to breadth ratio of the flints suggests they date from the Late Neolithic or Bronze Age (Collard 1988, 15-16, 25). The Chilterns flint industries from the late Mesolithic to the Late Bronze Age seem to have two traditions. One produces roughly worked squarish flints and the other fine blades and flakes with a white patina. Whether these traditions represent a difference in date or function is difficult to ascertain (unpub. MS notes).

There is some evidence of a long chronology from stratigraphic relationships. The final burial at the top of a double-ditched barrow excavated at Gayhurst Quarry in 1999 was a cremation accompanied by a primary series collared urn decorated with whipped-cord decoration. This followed four burials, starting with a central inhumation, followed by an unurned cremation in the upper fill of the primary burial. Above this was another inhumation burial in a plank-lined grave cut into the barrow mound: two plano-convex flint knives and a red deer antler had been placed on the lid and had slumped into the grave when the wood rotted. Another unaccompanied cremation was placed above this before the collared urn cremation. There was also a cremation beyond the outer barrow ditch in an inverted collared urn (Chapman et al 1999, 17-20).

<table>
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<th>Site (feature)</th>
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<th>Calendar years</th>
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<tr>
<td>Lake End Road West (midden; charred emmer grains)</td>
<td>(4910 +/- 40 BP (OxA-9891) 4925 +/- 40 BP (OxA-9819) 4895 +/- 50 BP (OxA-9859) 4935 +/- 40 BP (OxA-9889)</td>
<td>3900-3500 cal BC</td>
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<td>ERC (midden ?; hazelnut shell)</td>
<td>(4995 +/- 40 BP (OxA-9890)</td>
<td>3940-3660 cal BC</td>
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<td>ERC (midden ?; cattle bone)</td>
<td>4970 +/- 45 BP (OxA-9858)</td>
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<td>Chessvale Bowling Club (lower fill ring-ditch)</td>
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<td>1900-1730 cal BC</td>
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<td>Chessvale Bowling Club (Pit ?)</td>
<td>(3975 +/- 35 BP: SUERC-9149)</td>
<td>2580-2430 cal BC</td>
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<td>Whiteleaf (human bone: primary burial)</td>
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<td>3760-3640 cal BC</td>
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<td>Site (feature)</td>
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<tr>
<td>Whiteleaf (pottery residue: primary mound)</td>
<td>4803 +/- 35 BP: NZA-21036</td>
<td>3660-3520 cal BC</td>
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<tr>
<td>Whiteleaf (red deer antler: secondary mound)</td>
<td>4537 +/- 30 BP: NZA-20964</td>
<td>3370-3100 cal BC</td>
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<td>3270 +/- 90 BP: Beta-82560</td>
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<td>Little Pond Ground (primary Beaker burial)</td>
<td>1720 +/- 80 bc: HAR-340</td>
<td>2289-1876 cal BC</td>
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<td>Stacey Bushes (reworked midden deposit)</td>
<td>1830 +/- 150 bc: HAR-858</td>
<td>2583-1856 cal BC</td>
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<td>Milton Keynes ring-ditch (charcoal layer in ditch)</td>
<td>1280 +/- 90 bc: I-7144</td>
<td>1693-1305 cal BC</td>
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<td>Cotton valley ring-ditch (charcoal layer in ditch)</td>
<td>1340 +/- 160 bc: HAR-471</td>
<td>1977-1208 cal BC</td>
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**Landscape and land use**

Environmental samples taken as part of the investigations at the Sanderson Site in Denham may be able to provide some information about the environment at the Mesolithic-Neolithic transition when they are analysed (Halsey 2006, 91). As seen elsewhere along the Thames and other rivers in the south-east, there seems to have been a particular importance put on river islands, or eyots, and confluences. The causewayed enclosure at Dorney Reach may have been on a river island when it was constructed, as were the early Neolithic middens excavated in advance of the construction of the ERC (Allen *et al* 2004). Cereal grains were found in the middens, which also suggest the use of the islands for early arable farming. It has been suggested that river islands may have seemed safe places for early farmers, protected from the wider world by water (Allen *et al* 2004, 95).

The tree-throws at Coldharbour Farm near Aylesbury were thought to have been deliberately cleared in the Neolithic rather than to be the result of natural death of the trees, based on the find of a flint axe rough-out in one of them, and that they all seem to have been cleared at roughly the same time. Only two of the tree-throws were investigated and both revealed man-made artefacts, the rough-out and some burnt flint (Parkhouse & Bonner 1997, 80, 133).

The charcoal found in the tree-boles at Stacey Bushes in Wolverton was of 'fairly large timbers', suggesting woodland clearance. One occurrence of charcoal of Old Man's Beard reflected some local open ground. Small charcoal fragments included conifer and this argued for a pre-Neolithic date (though it was likely from a mixed context). The land mollusca indicated shaded conditions. Hazelnuts argued for an occupation in early autumn (but storage was also a possibility). The very small fragments of animal bones included cattle, pig and rabbit and it was commented that perhaps they were intrusive. There was a question whether the red soils indicated a relict paleosol or were the result of weathering due to grazing and cultivation (R. Bradley, pers. comm.; Green & Sofranoff 1985, 19). The landscape of the Whittlewood area is said to have been one of broken woodland and open tracts of grassland in the Late Neolithic/Early Bronze Age, though the evidence for this is not
presented in detail (Jones & Page 2006, 40).

At ERC, as well as at Lake End Road West, Marsh Lane West and East and Taplow Mill, there were many tree-throws, but it was not clear whether they were cleared by man or by natural events. They were filled with midden material soon after the trees had fallen (Allen et al 2004, 91). At the time of publication of the interim results of the ERC and MWEFAS the excavators claimed to have the earliest secure scientific dates for cereal cultivation in Britain. Charred emmer grains from the Lake End Road West midden had a date range of between 3900 to 3500 cal BC. The quantity of charred cereal grains was not large, only 93 in a midden containing 670 sherds of Plain Bowl pottery and 870 flints, and there were also many hazelnut shells representing a continuation of a gathering culture alongside perhaps small-scale arable. Animal remains also suggested some domestication, with a predominance of cattle, though other domesticated species included sheep, pig and dog. Pottery fragments had contained milk, it was revealed through lipid analysis, perhaps of cattle or sheep, confirming that dairying was also practiced at this site in the Early Neolithic. The cattle are said in this brief contribution to have been “traditionally woodland browsers” which may suggest the presence of local woodland (Allen et al 2004, 91). However, this was combined with a continuation of hunting and gathering. Along with evidence of mixed agriculture there were also a number of animal bones from wild species suggesting hunting. The species included aurochs, wild boar, red deer, roe deer, badger, beaver and fox. Allen suggested that the last three may have been hunted for their pelts. An extensive Early Neolithic flint scatter was identified at ERC, in an arc around a hearth that had probably been used several times (Allen et al 2004, 94). The people who created the Lake End Road West midden also gathered hazelnuts, another continuity of Mesolithic practice, as well as fished. The only fish species found was pike, suggesting that particular importance was placed on this fish. One of the crouched Middle Neolithic burials found in advance of the construction of ERC had a pike bone in front of the body between the arms and legs, perhaps deliberately placed (Allen et al 2004, 91).

The first pollen analysis on a site in Buckinghamshire was undertaken for the burnt mounds at Little Marlow. Cores were taken of the peat at the edge of the stream tributary of the Thames. After a hiatus in peat growth in the Mesolithic, it started growing again in the Neolithic near a woodland of oak, lime and hazel. In the Late Neolithic/Early Bronze Age the pollen has evidence for the lime decline. It reflects a wider woodland clearance that probably contributed to the accumulation of peat through a higher water table leading to anaerobic conditions. The wood that was used for the fires at the burnt mounds was quite varied, including maple, hazel, oak, ash, beech, alder, holly, blackthorn, hawthorn, willow and pine. There was no preference for species and no evidence of woodland management as the charcoal was poorly preserved. There is evidence of a Late Neolithic/Early Bronze Age mixed agricultural economy; the pollen analysis picked up cereal pollen and that of associated weeds as well as fallow plant pollen, such as grasses, daisies, dandelions, sow thistles and hawk-bits, suggesting both arable and pastoral subsistence strategies (Richmond & Rackham 1999, 33-4; Richmond, Rackham & Scaife 2006, 77-8, 80-1).

Animal bones were found at Whiteleaf during the excavation by Scott between 1934 and 1939, 45 bones from the inner mound were identified and included in descending order of importance: bones of red deer, pig, sheep, ox, roe deer, 1 beaver incisor and two bird bones. However, there is no comment on the bones or indication of a separate report. Plant impressions of club wheat grain, emmer grain and emmer spikelet on two pottery sherds (Childe 1954) attest to the presence of these two different types of cereal crop at that time. The land molluscs from a buried soil below the mound were identified by Kennard (Childe 1954, p. 230) and indicated a wooded environment on poorly drained ground, probably clay with flints. These conditions are pre barrow and may not reflect the Neolithic period itself. All these results are of a very limited nature. Recently, in 2003, a program of retrieval of snail columns and bulk samples has been carried out during the excavations prior to the reinstatement of the Neolithic barrow, an interim report has been produced for the
excavation (Hey et al forthcoming).

There is evidence of animal husbandry from other sites, but little other evidence of cereal cultivation. The double-ditched barrow in Gayhurst Quarry contained a large amount of domesticated cattle bone, 183kg was recovered from a 50% sample (Chapman et al 1999, 20). Domesticated animal bone, including ox, sheep and pig was found at the Bronze Age settlement site at Windmill Hill, Hitcham, associated with Beaker pottery and a fragment of polished stone axe (Head 1955, 158; unpub. MS notes). Domestic animal bones found in the ring-ditch at Warren Farm in Milton Keynes were identified as those of cattle, sheep, fowl and dogs. The excavator suggested that the lack of pig suggested an open environment, which was supported by the molluscan evidence for open grassland with a lack of arable agriculture. Wild animals included horse, red deer, fox and bird, which may have been hunted for meat or, in the case of the fox, for its pelt (Green 1974, 97, 100).

The molluscan evidence from dry valley deposits at Pitstone suggested a mixed deciduous wooded environment from the sixth to fourth millennia BC that was cleared in the early second millennium BC, based on a radiocarbon date on associated charcoal of 1960 +/- 200 BC (Holgate 1995, 3).

Excavations at the Wyeth Laboratories site in Taplow in 1993 uncovered a number of possible Late Neolithic to early Bronze Age gullies and a pit. The gullies were thought to represent rudimentary field boundaries. However, the dating evidence was not good. The flint tools were not diagnostic in terms of date but were hard-hammer struck, which suggests a Late Neolithic or Early Bronze Age date. Not all features contained these flints, either, but were of similar dimensions, orientation and had similar fills and so were assumed to be contemporary (Hardy & Keevill 1993, 3-5). Nearby excavations at Taplow Court revealed a number of intercutting scoops and a short length of ditch under the later Taplow hillfort containing Early Bronze Age pottery sherds (Allen et al 2000, 23). Another gully containing worked flint overlain by a silty layer also containing flint was identified at Danesfield Camp, Medmenham in 1990. The flints were tentatively dated to the Neolithic and the site interpreted as being on the edge of a domestic area with midden material that had been re-deposited here (Keevill & Campbell 1991, 90-97). The ancient land surface and a number of gullies and ditches were identified over several trenches at Chequers Manor Farm, Cadmore End in advance of the construction of a golf course. Unfortunately, again, the flint artefacts were not typical of any one period, with tools dating from the Late Mesolithic to the Late Bronze Age (Hunn & Lawson 1991, 1-15).

A recent excavation at the Chessvale Bowling Club near Stratford Yard, Chesham, has given rise to a program of sampling for environmental information. So far the results have been made available through the evaluation and the post-exavcation reports (Halsted 2006). Twenty five samples were studied. Charred plant remains included barley and bread wheat (term used here *Triticum aestivum-compactum*) and the type of weed seeds usually found with cereal crops. The plants were more abundant in pits where by-products of agricultural processing and wild plants tend to be thrown away. Tables were present in the report but no full quantification of the material was made. Clearly more work needs to be done on these samples before any conclusion can be used. The charcoal was analysed but was very fragmented but included hazel, beech, oak, Pomoideae (hawthorn/apple/pear/rowan). The small range of species indicated more the poor state of the charcoal rather than the distribution of taxa in the landscape. The analysis of the land molluscs came from items from the same bulk samples. The shells were well preserved, all ecological groups were found with woodland/shade loving species and open country species being the most abundant. The shells appeared mixed in the samples of later dates. The samples were very uniform in composition and no further work was recommended in the assessment. It must be noted that snails from bulk samples are not going to give the best evidence as it is recommended to take column samples to obtain meaningful results. One sample was analysed for pollen, but not very surprisingly in this very
chalky environment, the few pollen grains surviving did not yield any information. More surprisingly, the animal bones assemblage was tiny, including eight bones from eight contexts including: deer (4), cattle (2), and one bone each of pig, horse and cat. There was some indication of butchery.

The cop round barrow at Bedlow (Head 1940) on the Icknield way is now destroyed but the area was occupied in the Bronze Age through to the Saxon period. The excavation gave rise to a bone report of a young woman and very fragmented animal bones, perhaps to get at the marrow. The animal bones included in order of importance ox, pig, sheep, roebuck, red deer, horse, dog, badger, hare. The ox was small compared to a small breed in the British Museum collection, the sheep bones indicated small animals as well. There was no trace of working on these bones with tools.

**Social organisation**

Little research has been done on how the evidence from Buckinghamshire reflects social organisation in the Neolithic and Early Bronze Age. It is possible, from the small number of burials, to say that there was a hierarchy in society where only certain people merited burial. Green's analysis of the ring-ditches along the Great Ouse, including Milton Keynes and North Buckinghamshire, suggested that women stayed behind close to the river in the ancestral homelands while the men travelled further to herd animals and/or to hunt (1974, 130). Much more analysis needs to be done in this area.

There is also little analysis of the evidence to reflect households and domestic life. The Early Neolithic and Early Bronze Age flint scatters and hearths excavated at ERC suggested occupation sites next to a river or next to the floodplain with people knapping flint for on-site tasks in an arc downwind of the fire (Allen & Welsh 1996, 26). These were probably groups consisting of more than just a household.

Buckinghamshire of course did not exist in the period under discussion. It is likely that different areas of the modern county were part of wider tenure networks. North Buckinghamshire and Milton Keynes were probably part of the Great Ouse valley community; the lands around the River Thames and its tributaries were probably part of another community. The Chiltern scarp has a string of ritual monuments which may suggest an important role for this area either at the head of the Thames and Colne tributaries or for communities in the Vale of Aylesbury. A few sites excavated in the southern portion of the Vale of Aylesbury, such as at Coldharbour Farm, Aylesbury and St John's Hospital, Stone, suggests the existence of a small population in the area, perhaps along the limestone ridge south of the River Thame, but there is very little evidence for activity in between the Rivers Thame and Great Ouse.

**Settlement**

Neolithic and Early Bronze Age flint scatters have been found in field-walking exercises across the county, and more informally, collections of flints of a similar date from the same general location have been found over a number of years by members of the public. An English Heritage survey of flint scatters identified 333 in Buckinghamshire. 82% of them contained a Neolithic element and 46% had a Bronze Age element. A small percentage of each was determined as being of domestic, industrial of ceremonial character and most, around 90%, had an unknown function (Schofield 2000, 5-6). Not many are very large or closely dated, either.

Of the unpublished flint scatters, Scotsgrove Farm was investigated by fieldwalking in 1979. 510 flakes, 51 blades, 23 cores, 9 round scrapers were found dating from the Mesolithic to the Bronze Age (Mitchell 2004, 1). The County Museum Archaeology Group, made-up of volunteers, identified an Early Bronze Age flint scatter from Brockhurst Farm, Latimer in fieldwalking in 1997. The 81 struck flakes were broad, indicating a late date, though there was also one blade (unpub. MS...
notes).

Several scatters have been found in the Chess and Misbourne valleys by the Chess Valley Archaeology and History Society, for instance at Ley Hill, Copperkins Lane, Hyde Heath, Raans Farm, Sarratt Bottom, Latimer Park Farm, Mount Wood and Little Missenden. Some of the concentrations of burnt flint along the Chess valley were thought to possibly be the remnants of burnt mounds (Stainton 1995, 127-8). Other than this, it is difficult to interpret these flint scatters, which have not been sufficiently analysed or published, as anything other than indicative of Neolithic to Early Bronze Age activity in the Chess and Misbourne valleys.

Two dense flint scatters in Leckhampstead and Lillingstone Lovell in the north of the county were found in fieldwalking during the Whittlewood project. Both lie close to streams but the first is on sand and the second on gravel. They were thought by the investigators to be settlement sites. The concentration at Leckhampstead seems to be related to a group of ring-ditches on the Great Ouse, which fits into Green's correlation of settlements remains and ring-ditches in Milton Keynes (see below; Jones & Page 2006, 40). A collection of flints from an evaluation at Newton Longville dated from the Late Neolithic to the Late Bronze Age and the ratio of tools to waste flakes suggested a domestic function to the site (Bonner et al unpub., 22).

One of the few excavated flint scatters was at Desborough Castle in High Wycombe. 83 struck flints and 24 fire-cracked flints were recovered from the piece of land over the road from the possible hillfort/ringwork. Four of the flakes had deliberate retouch and there was also a spurred piece of flint, a burin, two scrapers and one snapped blade with retouch along the break. The breadth: length ratio of the flints suggested a Late Neolithic to Early Bronze Age date. Many of the flakes had cortex remaining, but this probably reflects the poor quality of the flint rather than a site of primary flaking (Collard 1988, 24-5).

Several other flint scatters have been identified in pipeline watching briefs. One at Fawley Court was found on a British Gas pipeline and the excavator concluded it represented seasonal or short-term settlement from the Late Mesolithic to the Bronze Age (unpub. MS notes). This is similar to the flint scatter recovered from an evaluation at Chequers Manor Farm, where a number of flints were dateable to periods from the Late Mesolithic to the Late Bronze Age (Hunn & Lawson 1991, 15). The scatter of secondary flakes overlying a gully at Danesfield Camp, Medmenham were generally thought to date to the Late Neolithic, being hard-hammered, and was also thought to be peripheral to a nearby centre of activity (Keevill & Campbell 1991, 97). At ERC, Early Neolithic bankside flint scatters and hearths have been distinguished from smaller Early Bronze Age flint clusters at the terrace edge (Allen & Welsh 1996, 26).

Allen et al suggested that the later Neolithic pits excavated as part of the ERC and MWEFAS are an extension of earlier Neolithic and Mesolithic middening in tree-throws. Indeed, the large Early Neolithic middens at the ERC site were sites in the hollows left by silted up palaeochannels (2004, 88-2). Hollows formed 'naturally', by water or by tree fall, seem to have been seen as places made for dumping rubbish. Midden material also seems to have been frequently reworked, so that deliberate filling of tree-throws is done with weathered artefacts that have lain on the surface for some time (Allen et al 2004, 91).

Three Neolithic domestic sites in the Milton Keynes area were thought to be defined by pits at Stacey Bushes, where Grimston style and Grooved Ware pottery were found stratified in the pits, and at Heelands and Secklow. At Stacey Bushes in Wolverton, one of the pits was elongated and curvilinear. The excavator suggested that it was a drip-gully around a round-house. There was a small post-hole within the area encompassed by the arc, which would have made a possible house around 5m in diameter. They are now thought to have been tree-boles (R. Bradley, pers. comm.;
Green & Sofranoff 1985, 15, 19).

At Heelands, eight pits were spread over an area covering 70m along a hill-slope. Three of the pits were crescentic in shape. Two of the pits were excavated and contained pottery sherds, flintdebitage and tools, including scrapers and a projectile point. Similar pottery sherds were found in a hollow under the Saxon Secklow mound (MKSMR). It may be the case that these were tree-throws as well.

In excavations in advance of the construction of a golf course next to Dinton Castle, a Neolithic pit containing a retouched blade was also found. Another pit with no finds may also have been prehistoric (unpub. MS notes). Nearby in Stone a Middle Neolithic pit was excavated before the redevelopment of the St John's Hospital site. It contained waste flakes from core trimming and blade production, a large sherd of Mildenhall pottery and others of Plain Ware and a large piece of burnt ammonite, a common fossil to be found around this area (Carstairs & Lawson 1992, 16-17). Early Bronze Age pits were identified a Walton Lodge Lane in Aylesbury, one containing fragments of collared urn and another Beaker sherds and flints (Bonner 1994, 4). A Neolithic pit was also discovered at Coldharbour Farm just outside Aylesbury in excavations in advance of the construction of a housing estate, but there may have been more from this date that were not investigated (Parkhouse & Bonner 1997). One pit, in this case associated with a hearth, was excavated in 1954 under the Roman villa at The Rye, High Wycombe. Ebbsfleet and Beaker pottery were found close by and in the pit (Hartley 1959). Excavations at the Taplow Mill site also uncovered a number of pits or tree-throws, one of which contained struck flints and a barbed and tanged arrowhead, suggesting a Late Neolithic or Early Bronze Age date (OAU 1997, 32).

Neolithic and Early Bronze Age pits that are found isolated from any other evidence of activity may represent commemorative burial of part of the rubbish generated by that visit, perhaps only a single visit to that location. There is evidence, from the discovery of carbonised hazelnut shells, that the one at Coldharbour Farm may have been the result of seasonal mobility (Parkhouse & Bonner 1997, 80). There is a cluster of isolated pits close to Aylesbury. The Stone pit may be the earliest, dating to the Middle Neolithic (c. 3200-2600 BC), and the complex of pits at Walton Lodge Lane appear to be the latest at Early Bronze Age (Bonner 1994, 4; Carstairs & Lawson 1992, 17). This area seems to have had low level repeat visiting throughout the period under study. The pits extend along the modern A418 corridor, which roughly follows the line of the River Thame and the limestone ridge on the south side of it and if the uncertain features and artefacts at Ashendon (Slatcher & Samuels 2004, 4), Long Crendon (Moore 2006) and Chilton (Ford et al 2004, 1-7) are accepted as possible additions to the group, it gives a possible route through the landscape, but this is probably a biased impression based on where archaeological fieldwork has happened to take place. It would be expected that there would be more development around the Oxford to Aylesbury road than further north in Aylesbury Vale.

Nevertheless, these sites, characterised by pits or hollows filled with worked and burnt flint and sometimes pottery, represent short-lived stopping places in the probably seasonal cycle of mobility in the Neolithic and Early Bronze Age. Some flint scatters may be the churned up contents of further pits and hollows, but some of the excavated flint scatters reflect long-term repeated visits to the same favoured location. The build up of flints is not so great that this visiting is as often as once a year, or for long periods of time. Again, these are short-term occupation sites. They do not tend to have pits containing what appears to be commemorative deposits of rubbish, suggesting that the two systems are mutually exclusive either in function or in terms of the people involved in them.

The three Early Neolithic middens at ERC and MWEFAS reflect either permanent sedentary settlement or repeated use over many years. The two middens excavated as part of the ERC investigations produced a huge amount of material. The midden in area 6 formed in the hollow left
behind by a silted up palaeochannel of the Thames. Less than 20% of the deposit, that was 200m x 25m x 0.2m deep, was excavated in detail and it rendered 32,000 artefacts including 6000 sherds of pottery. In Area 10, 5000 artefacts (1600 pottery sherds) were recovered from a 600 sq m sample of the midden, also in a hollow (Allen et al 2004, 84, 95).

The midden material at Whiteleaf is similar to the midden assemblages from Dorney, despite the difference between the assumed function of both sites. The author, however, suggested it remained from feasting during the construction of the mound or as refuse from a nearby settlement or flint-working site (Childe & Smith 1954, 217). The pristine nature of the finds from the excavation suggests that it did not originate from a midden (Hey et al forthcoming).

There is a striking tradition of domestic remains mingling with funerary or ceremonial on the Great Ouse. A ring-ditch excavated in Milton Keynes, 400m from the River Ouzel, a tributary of the Great Ouse, was the remaining feature of a barrow constructed on an occupation site, identified by a scatter of Mesolithic to Early Bronze Age flints, including a scalene triangle microlith, a burin, a laurel leaf and scrapers and a scaled knife as well as Beaker pottery (Green 1974, 81, 86). The Warren Farm ring-ditch was placed on cleared and grazed land from the molluscan evidence and became the focus for later settlement. Flint implements, including Mesolithic blades and cores, a leaf-shaped and a chisel arrowhead, scrapers, and Fengate pottery was found scattered around the ring-ditch, and Bronze Age pottery and animal bone, reflecting animal husbandry and hunting, was dumped in the ditch (Green 1974, 97-108). It was suggested by the same author that the burials in ring-ditches excavated in the Milton Keynes area, because they were of women and children, reflected a transhumant society in which men travelled with herds of animals and to hunt and women were more sedentary. He felt this would also explain the distribution of ring-ditches in the Great Ouse valley, with clusters near the river and more isolated outliers (Green 1974, 130).

The built environment.
There is little evidence of structures of this date. Dwellings were probably free-standing for the most part. There were a number of post-holes recorded at the latest (Middle Bronze Age) burnt mound at Little Marlow. The post-holes were thought to support an awning, weighted down with large unburnt stones, that covered the edge of a now silted up palaeochannel, into which heated flints would have been thrown to create steam for a sauna (Richmond & Rackham 1999, 10; Richmond, Rackham & Scaife 2006, 95).

Another structure was the mortuary house under Whiteleaf barrow. Scott believed there were four post-holes when he excavated it in the 1930s, but re-excavation and evaluation of his results suggests only two post-holes were genuine. This is thought to have supported a tent-like wooden structure under which the body of the individual later covered by the barrow was lain on death (Childe & Smith 1954, 215-6; Dennis 2004, 17).

The causewayed enclosure at Dorney Reach could be a communal structure of some kind, based on interpretations of other causewayed enclosures, but there is no evidence for it's use or any associated structures as no fieldwork has been done; it is only known as a cropmark from aerial photographs.

Ceremony, ritual and religion.
Oval barrows, like Whiteleaf, have elsewhere been found to date to the later Neolithic (e.g. Thickthorn Down barrow, Dorset: Drew & Piggott 1936) but radiocarbon dates on the human bone from Whiteleaf has rendered a very early date (3760-3640 cal BC). Only parts of the left foot, skull fragments and a tooth from one individual were found within the mortuary house, the rest was found scattered to the east but still under the mound. The individual that was buried was a middle-age man with abscesses in his teeth and arthritis. Either he was excarnated and bits of his skeleton
were collected afterwards for interment or a full inhumation was disturbed after burial (Childe & Smith 1954). As well as a funerary monument, it is likely that before and after the mound was constructed, Whiteleaf barrow was the scene of various ceremonies, perhaps involving feasting, as indicated from the fresh-looking assemblage. There may have been a gap of between 45 to 150 years between the deposition of the corpse and the raising of the burial mound (Hey et al forthcoming). The forecourt that Scott identified was re-found in recent excavations; there seems to have been a wide berm between the ditch on the east of the barrow than on the other sides, and this is where most of the skeletal remains were recovered from, suggesting some kind of ceremonial use of the remains of this individual (Dennis 2004, 18; Childe & Smith 1954, 215).

Long barrows may be at Bulback Barracks at Halton Camp and in Bulstrode Camp hillfort in Gerrards Cross, though both of these are dubious. The Bulback barracks long barrow was investigated in the 1920s. A trench was dug across the barrow. Neither a surrounding ditch nor any human remains were found. Pottery, charcoal and animal bones were, however, recovered from the mound, and an area of burning representing a possible hearth (Reader, 1926). The possible long barrow at Bulstrode Camp was identified in geophysical survey. It is an indistinct structure aligned east-north-east, 60m x 15m (Gover 2003, 5). A long barrow north of Dorney Reach, thought destroyed by the construction of the M40, has recently been investigated and results are eagerly awaited (pers. comm. H. Lamdin-Whymark).

Round barrow cemeteries as seen in aerial photographs seem to follow rivers. There is a concentration of barrows, some of which have been investigated, on the River Great Ouse and its tributaries in Milton Keynes and north Buckinghamshire. Seven ring-ditches were identified in Gayhurst Quarry, four to the south and three to the north of a silted up palaeochannel tributary of the Great Ouse (Chapman et al 1999, 17). This forms part of the group of at least 190 ring-ditches along the Great Ouse in the east Midlands (Field 1974, 60). The distribution of ring-ditches in Aylesbury Vale, roughly follows the line of the River Thame, a tributary of the Thames. Many of the mounds that do not respect this distribution have either been re-interpreted as other features, such as windmill mounds or garden features, or the interpretation is in question. Where genuine, the ring-ditches seem to date to the Early Bronze Age.

A number of ring-ditches were excavated at the ERC site. Five ring-ditches were identified in aerial photography at either side of a palaeochannel, one that contains an Early Neolithic midden. On excavation only four of these were found to exist, the fifth being a Roman burial. (Allen & Welsh 1997, 30).

Another group of ring-ditches have been identified on the Thames floodplain from geophysical survey west of Marlow (Minas Tirith Ltd 2004). Recent excavations nearby have uncovered Early Neolithic settlement evidence, in particular a pit containing pottery, flint and hazelnut shells (Oxford Archaeology 2005, 21). Two double ring-ditches have been recorded in aerial photography in Thorney, Iver. However, relatively few ring-ditches are known from this stretch of the Thames due to the restriction on flying due to the vicinity of Heathrow. As Green noted in his survey of the ring-ditches along the Ouse, life and death seems to have lived in close vicinity along the river valleys (1974, 126). The incidence of ring-ditches in river valleys could be attributed to the responsiveness of the drift geology rather than a real distribution.

If not along the course of a river, barrows are on hills. There are a number of round barrows along the Chiltern scarp, though the ones at Bledlow Cop and on Whiteleaf Hill could be discounted, based on recent reinterpretations. On Lodge Hill, Bledlow, Beacon Hill, Ellesborough, Bacombe Hill, Wendover, Pitstone Hill, Pitstone and Ivinghoe Beacon, Ivinghoe, barrows occur either alone or in small groups or dispersed cemeteries. It is interesting to note that the barrows occur on isolated hills in front of or promontories jutting out from the Chiltern scarp, perhaps the more
striking features in the landscape. One concentration, at Bledlow, is situated at the head of the Wye valley and the group at Ivinghoe are at the head of the Bulbourne valley (Holgate 1995, 14). There are several groups of barrows or ring-ditches deeper into the Chilterns, such as at Saunderton, Bradenham, High Wycombe, Stokenchurch, and Hambleden. These have not been excavated and are only known from aerial photography and field survey.

Of the Milton Keynes ring-ditches, Beaker sherds were found in the ditch which encircled a burial and probable mound 400m to the east of the River Ouzel and a radiocarbon sample taken from the lower fill of the ditch gave a date of 1693-1305 cal BC. The cremated individual had been a youth of 8-16 years (Green 1974, 78). The Warren Farm ring-ditch, also in Milton Keynes, was 800m south-west of the Great Ouse. The grave pit contained a woman, aged between 15 and 20, who had been cremated with a new-born baby or foetus and buried without any grave goods, except two pig teeth, which may have been residual. A secondary crouched inhumation of another young woman, aged between 20 and 25, was placed in the ditch and covered with a small cairn. Another cremation of a neo-natal child was placed 28m to the west of the ring-ditch (Green 1974, 93). The ring-ditch at Little Pond Ground Farm was intervisible with the Warren Farm ring-ditch. The primary burial was a crouched inhumation of an elderly female accompanied by two Beakers and a double-pointed copper or copper alloy awl. The skull of a nine-month old was found in the ditch, which had been disturbed. The central burial was radiocarbon dated to 2289-1876 cal BC. Some artefacts in the grave pit were residual, probably the cattle and sheep bones, Grimston style pottery and a utilized flint flake, possibly from earlier occupation on site (Green 1974, 108-116). The Cotton Valley ring-ditch surrounded two cremations, possibly of the same date. They were both placed in inverted Collared Urns. A hearth or clearance horizon in the lower fill of the ring-ditch was radiocarbon dated to 1977-1208 cal BC (Green 1974, 120).

Ravenstone Farm ring-ditch appears to have dated to the Late Neolithic or Early Bronze Age. This was excavated in advance of gravel extraction in 1978. The ring-ditch was broken by four narrow causeways, suggesting access was needed to the mound after it was constructed, perhaps for memorial ceremonies. Two central burials were found. One was a cenotaph that contained a coffin and part of an antler spatula but no human remains and the other contained a crouched female burial accompanied by a Beaker, awl, flints and a button (MKSMR).

The two ring-ditches south of the palaeochannel in Area 6 of the ERC site were disturbed by later activity but there were scraps of Beaker pottery from the western ring-ditch and later burials in the ditch and outside the eastern barrow, one with a Middle Bronze Age globular vessel. The two north of the palaeochannel were also disturbed, but may conceivably be of Neolithic date as they are similar form to that excavated at Thrupp near Abingdon (Allen & Welsh 1997, 30-1; Allen et al 2004, 97).

The ring-ditch excavated at Chessvale Bowling Club gave a radiocarbon date of the Early Bronze Age from the lower ditch fills but no burial was found as over half of the ring-ditch had been truncated by later activity. The occurrence of partial Beaker and Food Vessel pots in pits around the ring-ditch was interpreted either as re-interments of pottery originally deposited in the ring-ditch interior or burial of heirloom vessels with pieces taken as keepsakes (Halsted 2006, 12, 24-5). The edge of a ring-ditch and a satellite urned cremation were excavated at The Lea, Denham (Coleman et al 2004, 14).

In general, round barrows and ring-ditches, most of which are assumed to be the remains of ploughed out barrows, appear in pairs or larger groups. Some of the major groups in the county are at Ivinghoe Beacon, Gayhurst Quarry, Molins Works, Saunderton and none has received modern excavation. Marlow Archaeological Society has investigated the possible barrow cemetery at Harleyford Manor through geophysical survey, fieldwalking and test-pitting (Kupfermann &
There are at least two round barrows at Lodge Hill, Saunderton, one of which was excavated in 1933. Beaker fragments, flint, animal and possible human bone were found (unpub. MS notes). Two of the barrows that form a small cemetery at Molins Works, also in Saunderton, were opened in 1858, but with no results. They have since been ploughed down and some built on. A single ring-ditch was excavated at Church Farm, Bierton. A complete Beaker was lifted from the primary crouched inhumation, and micro-excavation was done in the lab (Borg 1997; Tempus Reparatum 1996).

There are also some burials that have been found that are not associated with encircling ditches and may never have been. These include two unaccompanied Middle Neolithic flat graves at the ERC in Dorney (Allen et al 2004, 84); a possible Early Bronze Age cist inhumation of an adult male associated with flint tools near Gomm's Wood in High Wycombe found in the 1930s (Head 1955, 54); a Late Neolithic or Early Bronze Age crouched burial with a flint knife but no sign of a ditch around it was excavated in Pitstone quarry 2 in the 1960s (unpub MS notes); a crouched inhumation of an adult male with no grave goods was found at the Taplow mill site 1 in excavation and tentatively dated to the Neolithic (OAU 1997, 48). Burial remains were found in the garden of 28 Crossfield Road, Princes Risborough in 1992 and thought to be prehistoric, possibly from the period under discussion (BSMR). In light of the excavation of these flat graves, some of them unaccompanied by grave goods, future unaccompanied burials should be radiocarbon dated.

It is clear that all those buried, whether under barrows or in flat graves, do not represent the total Neolithic to Early Bronze Age population. A human skull was found next to the River Great Ouse in Newport Pagnell after dredging operations and was thought to be of a Neolithic shape (Wright 1978); though as the author of the piece pointed out, practice of assigning cultural affinity by head-shape is now discredited. Another skull was found in the former channel of the Thames at ERC, along with an Early Neolithic pot and perhaps dating to this period under discussion (Allen & Welsh 1997, 31).

From aerial photograph evidence, the causewayed enclosure at Dorney Reach appears to be made up of three lines of interrupted ditches. Unfortunately the southern part was cut through by a pipeline, but it may be that the enclosure was merely an arc with the Thames used as the southern boundary (Carstairs 1986, 164).

Two possible cursus monuments have been identified: at Southend Hill, Cheddington, on the slopes of the hill on which a later Iron Age hillfort stands, and under Ivinghoe Beacon hillfort. The first is known from aerial photographs, is orientated north-west to south-east and appears as a rectangle open at the northerly end. There is an ovoid cropmark close to the southerly end that may be remains of a mortuary structure. The Southend Hill site could have been ploughed flat, as the hillfort has been, and may actually be the remains of a long barrow. The posited cursus on Ivinghoe Beacon was discovered in a geophysical survey of the hilltop. It is situated in the middle of the Late Bronze Age hillfort and is 140m x 30m and has an entrance on the eastern side. It may have been extended towards the north at some point. There appears to be a ring-ditch within the 'cursus' that was also seen in the geophysical survey. No sign of the monument was found in excavation in the 1960s, however (Cotton & Frere 1968). There is a causewayed enclosure nearby at Maiden Bower just over the county boundary in Bedfordshire which is also overlain by a hillfort (Gover 2000, 8).

Burnt mounds are generally thought to have had two main possible uses: as cooking sites or saunas (Barfield 1991; Ó Drisceoil 1988). If the sites were used for cooking, they are often seen as utilitarian, whereas saunas would have a more ceremonial purpose, using the analogy of Native American sweat-lodges, but there is no basis for such a dichotomy. Ó Drisceoil pointed out that
medieval Irish texts described them being used for both purposes, one after the other (1988, 673). The Late Neolithic and Early Bronze Age burnt mounds at Little Marlow had little animal bone associated with the burnt flint, a few fragments of domestic cattle and pig and two red deer bones, and very little pottery. The excavators tended towards the sauna option, a ritual annual or seasonal 'bath'. The Early to Middle Bronze Age burnt mound seems to have used a palaeochannel as the source of water. This burnt spread was defined by gullies and was associated with a number of postholes. The excavators proposed that these supported an awning set up over the edge of the stream, perhaps used as a 'sweat-lodge'. There were a number of large unburned stones that may have been used to weight down a cover (Richmond & Rackham 1999; Richmond, Rackham & Scaife 2006, 95-8).

Several Neolithic polished stone axes have been found in the Buckinghamshire stretch of the Thames. One polished greenstone 'celt' was found at Taplow Mills in the late nineteenth century; two polished flint and one polished stone axe was found at Marlow in the early twentieth century. Another greenstone polished axe was found in the Colne Brook, a tributary of the River Colne (Grimes 1946). It is likely that a large number of the artefacts found in rivers were deliberately placed there. This deposition continues into the Early Bronze Age when one flat axe-head was found in the Thames at Taplow. The number of artefacts from the river is not great, unlike downstream, and possibly reflects a lesser degree of dredging this far up the Thames, as well as the short stretch of Thames that abuts the southern part of the county. The lack of artefacts from other rivers also reflects a relatively small amount of dredging.

The many pits discussed in detail elsewhere seem to have many examples of votive or placed deposition. A large part of the placing of deposits seems to be redeposited midden material, which is found in pits and tree-holes at ERC (Allen et al 2004, 91-2), Stacey Bushes (Green & Sofranoff 1985, 13), and in the mound of Whiteleaf Barrow (Childe & Smith 1954, 217). A red deer antler was also thought to be deliberately placed in the ditch of the barrow (Dennis 2004, 18). Quartzite pebbles were part of the placed deposit at the Taplow Wyeth laboratory site where three burnt quartzite pebbles were placed with some struck flint into a sub-rectangular feature (Hardy & Keevill 1993, 3-4) and a burnt piece of quartzite rubber or smoother was found in the excavations of the three burnt mounds at Little Marlow (Richmond & Rackham 1999, 18). A piece of burnt ammonite was placed in the pit at St John's Hospital, Stone. This is a common fossil around the area, and may have been chosen as something local (Carstairs & Lawson 1992, 16). It is difficult to say whether the amber bead got into the pit at Coldharbour Farm deliberately or on purpose as it is so small it could have dropped in unnoticed (Parkhouse & Bonner 1997, 120-1).

Material culture.
Meat acquisition and processing tools dominate in the Neolithic to Early Bronze Age, from leaf and barbed-and-tanged arrowheads, to scrapers and awls. In general, polished stone axe-heads are deposited in what is taken to be more 'ritual' contexts, as noted above, while flaked examples are found in more 'domestic' contexts like flint scatters. The absence of leaf and transverse arrowheads as well as ground axes in the Late Neolithic fieldwalking assemblage from Newton Leys was taken as an indication of a domestic assemblage (Bonner et al 1995, 22). A flaked flint axe roughout was found in the Neolithic assemblage at Coldharbour Farm (Parkhouse & Bonner 1997, 120). In Buckinghamshire most finds of polished axe-heads are stray finds not associated with any other material. These include the polished flint and stone axes found in Boarstall now in the British Museum (Roberts 1999); a polished greenstone axe found in the Colne Brook in Iver (Grimes 1946) and two fragments of polished axes from Stone and Hartwell (Dalwood 1988). Some commentators suggest they were lost during tree clearance activities and that their distribution is an accident of archaeological coverage and chance finds (Dalwood 1988, 181-3). However, polished axe fragments were found in the Early Neolithic middens at the ERC site (Allen & Welsh 1997, 31) and a fragment of burnt polished flint axe was found in midden material in one of the tree-boles at

The majority of flint tools are made with local inferior quality flint, perhaps river or surface gravel or pebbles. Many of the assemblages are predominantly flakes and debitage, rather than any retouched implements. Some of the flakes have been utilised, however. The most common retouched tool is a scraper, for instance at Walton Lodge Lane (Bonner 1994, 6) and the six scrapers out of 100 flint flakes and tools at Chequers Manor Farm (Hunn & Lawson 1991, 15) and there are also several awls. Hide processing seems to have been a large part of a Neolithic person's work, possibly women's work, as two copper alloy awls were found with crouched inhumations of two women, one in a ring-ditch excavated at Little Pond Ground Farm and one at Ravenstone Farm, both in the Milton Keynes area (Green 1974, 113; MKSMR).

A certain amount of burnt flint is found on every domestic site and reflects heating of water, probably mainly for cooking. On many occasions an assemblage is made up of only burnt flint, but on this evidence it is difficult to distinguish between a Neolithic and a later site.

Polished and ground flint and stone axes probably found their way to Buckinghamshire through a system of gift exchange. Axes from the Great Langdale factory, from Cornish sources and from the Charnwood Forest area in Leicestershire all made their way to Buckinghamshire (see below for more detail). One axe found in Olney may have been made of obsidian (unpub. MS notes). Many of the stone axes were reworked when broken, suggesting the value of the material to people in the Neolithic. This includes a recitched one found near Kickles Farm in Newport Pagnell, an axe re-used as a burnisher from Bedlam Spinney, Chicheley and a butt end of an axe found in Stone used as a hammer (Adkins & Mynard 1978, 631: Dalwood 1988, 181). Just the fact that many are found broken suggests that they were used as practical tools to work wood.

Some flint axes and larger artefacts such as laurel leaves are thought to have been made with flint from mines. The closest is at Peppard Common in south Oxfordshire, though this is also uncertain (Barber et al 1999, 2), but other sources are, of course, Grimes Graves in Norfolk and Cissbury in Sussex. The lithic objects that Smith evaluated from the Treacher collection from Marlow brickyard included a non-crescentic sickle, a chisel and fragments of two ground flint axes that were of a creamy grey flint, probably mined. After breakage both of the ground flint axes were used as hammers (Smith & Wymer 1964, 293-4). It is likely that artefacts made out of mined flint would, having been received as gifts and being rare artefacts far from the source for a replacement, been treated with care and either curated for long periods and reworked when broken, as many stone axes were, or used for ceremonial purposes, perhaps as votive deposits.

Mildenhall ware, from the early Neolithic, was found in a placed deposit at St John's Hospital, Stone, and in the barrow material on Whitleaf Hill. One sherd from Whitleaf Hill seems to contain the earliest appearance of white inlay in the incisions across the rim (Carstairs & Lawson 1992, 24-5; Childe & Smith 1954, 224). Both assemblages may be the deliberate incorporation of midden material in ceremonial monuments. The re-interpreted Saxon barrow at Bledlow Cop seems to have been built over an area of Early and Middle Bronze Age activity and Beaker sherds were found in one of the hollows excavated outside the barrow in a non-funerary context, perhaps a case of midden material being redeposited in pits (Farley 1992; 13; Head 1938, 327). Early Bronze Age Collared Urn sherds were also found in one of the burnt mounds at Little Marlow (Richmond & Rackham 1999, 16-7; Richmond, Rackham & Scaife 2006, 75). Several Beakers and Collared Urns have also been found in funerary contexts, however. Beakers, for instance were found with a crouched inhumation at Church Farm, Bierton and in excavations at Lodge Hill barrows, Bledlow (Tempus Reparatum 1996; unpub MS notes). The final burial in the double-ditched barrow excavated at Gayhurst Quarry was accompanied by a primary series Collared Urn (Chapman et al 1999, 20).
Buckinghamshire's pottery seems to reflect its position on the edge of several traditions where styles of pottery mingled. This is evident in the assemblage from the isolated Neolithic pit at St John's Hospital, Stone, where Plain Ware and Mildenhall style pottery sherds were found together (Carstairs & Lawson 1992, 24-5). The pottery in the Treacher collection from Marlow was described by Smith when it was re-appraised as being of a Western tradition and similar to assemblages from the north of the Thames (Smith & Wymer 1964, 291). The Beakers found with the burial of an elderly woman from a ploughed-out barrow at Little Pond Ground Farm were thought by the excavator to be different from local types, especially nearby Warren Farm, as the fabric was made with a flint temper rather than the local shell (Green 1974, 117). The two traditions of pottery at Stacey Bushes, Grimston and Grooved Ware, were thought to have been related to two different groups using the same area, or to have had two different functions but refinement of the pottery sequence since this excavation shows that these two traditions are far from contemporary and came to be associated with each other after being mixed in a midden (R. Bradley, pers. comm.; Green & Sofranoff 1985, 29).

Pottery often seen as confined to funerary contexts has been found in more domestic settings in Buckinghamshire, including Beaker and Grimston pottery, as mentioned above. Some local pottery is of poor quality, such as that found during an assessment in advance of the Lavendon bypass in Cold Brayfield where 47 sherds of soft orange fabric were thought to be Neolithic (unpub. rep.). Many other pieces are very friable and are thought to be of local manufacture (see below for more details).

A fragment of ammonite, a common fossil around the Stone area, was found burned in the pit at St John's Hospital (Carstairs & Lawson 1992, 16). An amber bead was found in the excavated pit at Coldharbour Farm near Aylesbury. It was very small and may have originally been one of many on a necklace or for decorating hair (Parkhouse & Bonner 1997, 120-1). Amber from the Baltic Sea would have been found on the east coast of England and Scotland.

The number of Early Bronze Age, verging on Middle Bronze Age, metal objects from Buckinghamshire can almost be counted on one hand. A bronze axe-head with 90% copper content was found in Brickfield, Hazlemere and a similar example from Six Acres bungalow in Ivinghoe Aston; an Arreton type rapier and a dagger were found in the Thames at Bourne End and an axe-head was found in the Thames at Taplow; a knife-dagger was found on Aston Hill in Aston Clinton; a possible Early Bronze Age awl was found by a metal-detectorist on the Shardeloes estate, but may be later in date; another dagger was found in an old chalk pit in Rignall's Wood, Great Missenden; and a flat non-looped axe-head was found in a garden at Shenley Brook End but may have come from material dumped there some years previously. These artefacts were found in dredging, metal-detecting or by chance from disturbed ground, and not from secure, well-dated contexts. The only metalwork from securely dated contexts are the two copper alloy awls found at Little Pond Ground Farm and Ravenstone Farm, mentioned above (Green 1974, 113; MKSMR).

Crafts, trade and industries
Most 'industries' were probably done on a domestic craft scale. There is no evidence of pottery making in Buckinghamshire, but it is difficult to identify and may just have taken the form of a bonfire or clamp kiln, leaving merely a burned patch of earth, like any hearth seen at Neolithic occupation sites. The predominant temper seems to be flint, though there are some shelly wares, too. A lump of what was thought to be potters clay tempered with flint particles was found in a pit at Lavender’s gravel quarry, Iver, in the 1930s. In other nearby pits Peterborough ware was found (Lacaille 1937, 289-91). Two possible clay 'borrow trenches' were identified in excavation at Stacey Bushes in Wolverton. These two slightly curvilinear trenches were interpreted as either getting clay to repair house walls with daub or, as the clay was found to be very similar to the Grimston style
pottery fabric found on site, for pot-making (they may have been tree-boles: R. Bradley, pers. comm.). Indeed, the form of some of the Grimston pottery was very unusual and was thought to be a domestic production rather than by a 'professional potter'. The Grimston style pottery had fossil shell as a temper, whereas the Grooved Ware pottery contained grog (Green & Sofranoff 1985, 15, 25-6). The fabric of the Early Neolithic pottery from the middens at ERC was also from a local clay (Allen et al 2004, 90). The Plain Ware and Mildenhall style pottery from St John's Hospital, Stone was flint-tempered (Carstairs & Lawson 1992, 24-5). Possible Bronze Age (perhaps Middle from the find of Bucket Urn sherds in one pit) limestone quarries were identified in excavation at Church Farm, Bierton (Tempus Reparatum 1996).

A large number of flint-knapping areas were found over the whole area uncovered during the ERC and MWEFAS excavations. Though these sites, including the Early Neolithic bankside settlement with an arc of flints fanning out from a hearth area (in Exc 1) is domestic in character; 'off-site' artefacts were found, including laurel leafs, leaf shaped arrowheads and fragments of polished axe. The flint debitage included 32 rough-outs or misshapen leaf-shaped arrowheads, which was suggested as an indication of the site's use as a hunting camp where the tools of the job were made before being used (Allen et al 2004, 94). It's a similar story for the terrace edge Early Bronze Age flint clusters, which contained barbed-and-tanged arrowheads (Allen & Welsh 1996, 23, 26). The differences between assemblages on domestic and hunting sites is difficult to uphold. Some Early Bronze Age scoops excavated at Taplow Court contained dumped struck flints and fragments of Collared Urn, probably representing knapping sites (Lamdin-Whymark 2004, 17; Allen et al, forthcoming).

Generally, flint nodule gathering and knapping seems to have taken place when tools were needed but some procurement and primary knapping may have been done outside a domestic setting. Much of the flint knapped for tools in Buckinghamshire seems to have been local, mainly river or surface gravel. Sites interpreted as domestic or as hunting camps both have evidence of flaking and further processing of flints. For instance, the pit at St John's Hospital, Stone, had waste flakes from core trimming and blade production as well as scrapers and finished blades (Carstairs & Lawson 1992, 17). The Late Neolithic to Early Bronze Age flint scatter excavated at Desborough Castle in High Wycombe was mainly made up of flakes, many retaining cortex reflecting the small size of poor quality surface nodules being worked. Only 4 out of 83 struck flints were retouched, although there were two scrapers and a blade with retouch as well (Collard 1988, 24).

Fieldwalking done by Marlow Archaeology Society at Harleyford Manor Farm generated an assemblage of waste flakes and tools from the Late Mesolithic to the Iron Age. The Bronze Age assemblage included several notched flakes for woodworking (Kupfermann & Fairclough 2000, 6). The Late Neolithic flint assemblage from Danesfield Camp, Medmenham, is made up completely of secondary flakes and no refitting pieces, leading the excavators to suggest that the area was peripheral to an area of domestic activity and middening. The flint used was hard-hammered from locally available large nodules (Keevill & Campbell 1991, 97). The Chequers Manor Farm assemblage, dating from the Late Mesolithic to the Late Neolithic, included 85 debitage flakes, 36 of which came from blade production, six scrapers, four retouched flakes, a hammerstone and fourteen cores (Hunn & Lawson 1991, 15). The large flint assemblage from the mound of Whiteleaf Barrow was attributed as being either from a domestic midden or from a nearby flint-working site. It included 537 waste flakes, 32 serrated blades, four arrowheads, four scrapers and two core stumps (Childe & Smith 1954, 217-9). The Early Neolithic flints that made up the bulk of the midden assemblages from Eton Rowing Lake had very few refitting pieces, but a high proportion of utilised material, between 50 and 65% (Allen et al 2004, 90).

The Middle Neolithic assemblage from the pit at Coldharbour Farm included eight knives, two scrapers and a flint axe roughout. There were no primary flakes and only a small number of cores,
suggesting that procurement and primary knapping took place off-site. The assemblage was also interpreted as largely domestic, with no arrowheads or ground axes. They were made with local flint. Seven large pounders were made with a very low quality flint with many inclusions, whereas the flaked tools were made with a better quality, semi-translucent flint (Parkhouse & Bonner 1997, 120). (Parkhouse & Bonner 1997, 120). The flint tools excavated at the Wyeth Laboratory site in Taplow were thought to be of local provenance, but good quality, with a thin cortex (Hardy & Keevill 1993, 5). The nodules for the flint industry at Stacey Bushes in Wolverton probably came from nearby Boulder Clay deposits (Green & Sofranof 1985, 23).

In contrast the Early Neolithic assemblage found in a pit on the site of St John's Hospital, Stone in 1992 was of higher quality and was probably from quarried chalk flint nodules from the Chilterns (Carstairs & Lawson 1992, 24). The possible flint mine on London Road, High Wycombe, is said to have been damaged by the construction of the railway and an antler pick was found by the workmen in 1902 (Head 1955, 38), but test-pitting and a watching brief on the posited site at the former Ercol factory site in 2002 by AOC uncovered two undated pits and two undated post-holes but no evidence of quarrying (Palmer 2004, 7). The flint assemblage from Chessvalle Bowling Club was also thought to be chalk flint from the Chilterns and was characterised by a lack of primary flakes (Halsted 2006, 24). Flint tools found on a newly ploughed field in Longwick were black with a thick white cortex, suggesting they were also from mines on the chalk (unpub. MS notes). A similar provenance was suggested for the flint used to make the polished flint axe fragments found at Hartwell and Stone (Dalwood 1988, 181). A small flint axe from Silver Street, Newport Pagnell, as of non-local flint, suggesting a mined provenance as well. The flint for some of the artefacts in the Treacher collection, found in the Marlow brickyard in the 1920s and 1930s, was thought when examined in the 1960s to be chalk flint. A chisel, several ground flint axes and a non-crescentic sickle were thought to have been made from mined flint. One of the ground stone axes was thought to be from Great Langdale (Wymer & Smith 1964, 292-4). Another ground stone axe found in the Colne Brook, Iver was deemed similar to Cornish greenstone found south-east of Marazion while one found in Newport Pagnell seems also to be of Cornish origin (Grimes 1946, 363).

A fragment of polished stone axe found with a fragment of quartzite axe at Walton Court came from the Group XX, Charnwood Forest area in Leicestershire as did a complete axe-head from Hill Farm, Haversham; half a tuff axe-head was found at the End Cottage, Whiteleaf, and is of similar material to Group VI stone from Pike O'Stickle/Great Langdale; as was an axe-head found on the edge of Shire or Chalfont Lane in Chalfont St Peter, an axe fragment found between Kickles Farm and the River Great Ouse in Newport Pagnell and a complete axe-head found at Bedlam Spinney, Sherington (Adkins & Mynard 1978, 631); a granite axe-head found in the grounds of the Pheasant Inn in Amersham was probably from Cornwall; an axe fragment from Stone was of similar material to Great Langdale stone (Group VI) and was reworked after the break (Dalwood 1988, 181). Another axe is thought to have been made from a glacial erratic: the Early Bronze Age perforated mace-head of hornblend schist found in Hulcott Rectory Garden. An axe-hammer fragment found in Loughton was identified as Group XIV from Nuneaton, Warwickshire. Most of the whole and fragmentary stone axe-heads found in Buckinghamshire do not have well-provenanced sources, sometimes due to lack of analysis and at others because the stone is not from a recognised axe factory. However, of those provenanced, by far the best represented axe factory is Great Langdale.

**Transport and communication.**

As Harrison has so ably pointed out in her article for the *Archaeological Journal* (2003), the idea of the Icknield Way as a Neolithic routeway should be jettisoned. Harrison suggested its first mention was in the twelfth century, when the route itself was not securely located. It is, however, mentioned in a presumed 10th century charter of the boundary of East Risborough. This charter mentions “icenhylte”, presumably Icknield (Baines 1981, 88). Later monuments, particularly Iron Age and Saxon dykes, cross the supposed alignments; place-name evidence is only available in east
Oxfordshire and west Buckinghamshire; the theory that prehistoric sites were predominantly based on light chalk soils has now been superseded by the enormous amount of evidence of the use of river valleys; the idea of a capitalist trading system in prehistory has also given way to theories of complex networks of gift exchange to account for movement of artefacts; and finally, recent archaeological excavation in advance of the construction of the Aston Clinton bypass in Buckinghamshire revealed that the traditional route of the Icknield Way slighted an enclosure and trackway in use from the Iron Age to the Saxon period (Harrison 2003, 1-11). The alternative is to suggest that the Icknield was a Saxon way in east Oxfordshire and west Buckinghamshire, around Risborough and Chinnor.

Legacy
There was much later re-use of many of the Neolithic and Early Bronze Age sites mentioned in this paper. Whiteleaf barrow became the focus of later burial and ceremony, in the Middle Bronze Age and Roman period (Dennis 2004, 25-8). The siting of the post-medieval chalk-cut cross may also have been influenced by the presence of the Neolithic barrow. The possible mortuary enclosure and the round barrows at Ivinghoe Beacon may have played a part in the use of the hilltop for a hillfort, and there are suggestions that a funerary function also continued (Brown 2001, 21-2). The Dorney area continues to be important in the centuries following the Early Bronze Age. The Saxon and later periods have been partly published (Foreman et al 2002) and more will be published of earlier periods in the near future.

Burnt mounds become more common in the Later Bronze Age, with several being found at the ERC site as well as at Chalfont St Giles along the River Chess and Little Missenden along the Misbourne (Allen 1995, 31; Smithson 1984). Flat burials also appear in the Late Neolithic and Early Bronze Age, it seems, though in Buckinghamshire, at least, there are not many Middle Bronze Age burials known.

Perhaps there is more continuity than imagined between the Neolithic/Early Bronze Age and the later Bronze Age. The apparent sedentism and mixed agriculture, as well as individual burial, of the later period has many precedents in the earlier, as evidenced above. There is, however, a marked difference in the reliance on wild food sources (S. Kidd, pers. comm.). There is little evidence for central organisation in Buckinghamshire in this period, except perhaps on the Thames. The monument on Whiteleaf Hill would not have taken many people or hours to raise, though some local organisation is likely given the time-frame over which the monument evolved.
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