RESEARCH AGENDA

Palaeolithic & Mesolithic West Yorkshire

by Penny Spikins

This document is one of a series designed to enable our stakeholders and all those affected by our advice and recommendations to understand the basis on which we have taken a particular view in specific cases. It is also a means by which others can check that our recommendations are justifiable in terms of the current understanding of West Yorkshire’s Historic Environment, and are being consistently applied.

As the document is based upon current information, it is anticipated that future discoveries and reassessments will lead to modifications. If any readers wish to comment on the content, the Advisory Service will be glad to take their views into account when developing further versions. Please contact:

The West Yorkshire Archaeology Advisory Service
Registry of Deeds
Newstead Road  tel: 01924 306797
Wakefield, WF1 2DE  email: wyher@wyjs.org.uk

Issue 1, May 2010

© West Yorkshire Archaeology Advisory Service and Penny Spikins, 2010
Executive Summary

- West Yorkshire plays a key role within the study of the Mesolithic in many respects – boasting the highest integrity of recorded artefact distributions (best preserved in terms of artefact movement) in the world, one of the key sites at the Mesolithic-Neolithic transition, and the earliest known upland early Mesolithic site. The clusters of sites in the Central Pennine uplands also show the highest density of known upland Mesolithic sites in the world (Preston forthcoming).

- There is considerable potential for internationally significant sites to be recovered. At March Hill the resolution of the site excavated in only a few metres square allowed interpretations to be made about activities of specific people, re-use of particular locations and use of fires for warmth, cooking and symbolic uses. Research and developer funded archaeology of Mesolithic sites is increasingly revealing significant hearths and structural features. There is also potential for sites with a range of preservation conditions to be recovered in wetland edge and riverine locations in the lowlands.

- There are several hundred records of early prehistoric sites in West Yorkshire. Almost all of these records are of artefacts which are taken out of context, most of which have been recovered from eroding peat in the uplands. There are only limited questions which can be addressed with this record (much like only limited questions can be asked of, for example, Roman artefacts in museum collections compared to the evidence from excavated sites).

- Peat erosion and collection may be focused at the same points in the landscape as those where human activity concentrated in the past and it is unclear how much of our resource remains undisturbed.

- Existing assemblages could be recorded and analysed in detail and would yield important evidence for chronology, settlement patterns and social territories. Projects similar to the North East Yorkshire Mesolithic Project could involve the public in recording existing sites and could highlight particular locations for detailed survey and interpretation.

- A proactive research agenda recognises the need to address wider questions such as those of social changes in the period, as well as the urgent questions of chronology, settlement pattern and use of chipped stone technology and of preservation of sites and appreciates the recent role of developer funded work in generating detailed records of interpretable activities.
Background

Introduction

The early prehistoric period is an exciting and dynamic area, within which West Yorkshire plays a key role. The region boasts the highest density of Mesolithic ‘sites’ in England and Wales (Spikins 1999), the earliest upland Mesolithic sites (at Lominot, dated to around 9,500bp, Smith 1992: 135), the latest upland Mesolithic site in England (contemporary with early Neolithic at around 4000cal bc, Spikins 2002), amongst the smallest dimensional flint assemblage yet recorded world wide (at March Hill, Spikins 2002) and the highest resolution site yet recorded in Palaeolithic /Mesolithic sites worldwide (Spikins et al 2002). Historically sites excavated by the pioneering work of Francis Buckley, who lived at Marsden, have also been influential in interpretations of the period. As public interest increasingly turns towards such early periods and more ‘natural’ ways of life, as evidenced by the popularity of programmes such as Ray Mears and the increasing appearance of discussions of Mesolithic peoples on documentaries, the Palaeolithic and Mesolithic periods become increasingly a focus for attention.

Nonetheless early prehistoric sites present a particularly challenging area for management and research. The societies which we deal with may seem particularly unfamiliar since early prehistoric peoples were constantly mobile, living in small groups, with day to day lives which seem to be different in fundamental ways from our own. There is also a lack of familiar objects to which we can relate a common understanding such as clearly ‘valuable’ objects. Indeed in this period people appear to have used few material possessions, most of which were not durable, and in turn left behind few easily identifiable remains. Such remains can be small in scale (even if highly significant). Moreover due to the great time depths involved (over five thousand years) only certain materials, notably stone and occasionally bone or wood, are normally preserved. Added to which early prehistoric societies left no large monuments or built structures, so that with no clear sign of Mesolithic sites at the surface it can seem that even the most basic questions of the period, such as where most of our evidence is situated are difficult to answer. Moreover, the public perception of early prehistoric societies, perhaps influenced by the concentration of evidence on the moorlands in the region, can sometimes be one of peoples who lacked ‘culture’ and were wild, primitive and disorganised, and even archaeological perceptions can be that sites belonging to the period will be disturbed and difficult to interpret.
Key Challenges

Management and research into Palaeolithic and Mesolithic sites in the region face several key challenges.

1) A research dependence on large collections of decontextualised artefacts.

Almost all of our present record comes from assemblages of decontextualised artefacts (largely recovered from surface collection or excavation of sites eroding as a result of sheep grazing and industrial pollutants from early to mid last century). The vast majority of evidence never even reaches the HER record and ‘flinting’ for artefacts remains a key issue (Manby 2003). As a result the questions that can be addressed using this record have been limited to those of basic chronology, settlement patterns and broad issues in the production of chipped stone assemblages. This may give the false impression that the archaeological resource is only appropriate for addressing such questions.

2) Artefacts dating to this period are often too small to be identified with current prospection methods.

The typical size of Mesolithic artefacts, particularly those dating to the late Mesolithic period often precludes recovery by existing commercial methods. The average size of late Mesolithic artefacts at March Hill recorded through detailed excavation was 1.25cm (Spikins 2002) and most artefacts are brown or grey. Finds of this nature are not recovered by watching briefs, or rapid trial trenching (and are easily missed by fieldwalking). Indeed finds from this period are typically largely only recovered within later features where the nature of excavation methods allows a careful consideration of small pieces (see for example the A1 (M) link (Brown et al 2007)). The key diagnostic tools from the Late Mesolithic, brown/black microliths of an average length of 1.2cm (see figure 1) would be very unlikely to be recovered by traditional development control mechanisms. Birch (unpublished) notes that ‘it is possible that we are systematically misinterpreting, and therefore mismanaging, these landscapes as a result of the application of inappropriate methodologies, or an insufficient range of recovery methods’.

![Typical (complete) microliths from March Hill, approximate actual size](image)

Figure 1: artefact sizes at March Hill
1) The potential integrity of deposits is often not appreciated.

Evidence for early prehistoric sites has typically been seen as ephemeral and disturbed, typified by the term ‘lithic scatters’. This may partly be due to the nature of the present record which is dominated by assemblages of material which are out of context. The dominance of large assemblages of unstratified finds in the record can easily create a ‘self-fulfilling prophesy’ - research questions can become limited to those drawn from such assemblages and it can create an impression that the only questions one might address in the period relate to large scale chronology, large scale settlement patterns or technical characteristics of chipped stone.

In sharp contrast to expectations the high integrity of deposits recorded at Mesolithic sites at March Hill near Marsden illustrates that these sites may in contrast benefit from unique preservation conditions (as slow forming peat may limits common biological agents of disturbance) coupled with a lack of later occupation disturbance. Indeed at March Hill around 70% of the artefact had moved less than 3.5cm (Spikins et al 2002), making the site a veritable ‘Pompeii’ within early prehistory. At this site it was possible to interpret distinct ‘snapshots in time’ with people sitting around hearths repairing and making arrows over six and a half thousand years ago (Spikins 2002). Such high integrity sites provide the potential to consider issues such as social relationships, styles of learning, personal interactions and precise activities. The potential evidence from such high integrity sites is lost if they are approached with an expectation of being disturbed and excavated or sampled in bulk.

![Figure 2. Trench A, March Hill, distribution of flint artefacts and features, and refitting patterns](image-url)
3) Significant ephemeral features may not be identified in fieldwork and on excavated sites.

Key structural or settlement features dating to the Palaeolithic or Mesolithic are likely to exist but may not have been identified or recognised as such. Hearths and locations of fires may be particularly significant as for many mobile societies a great significance is placed on hearths/fires as a sign of ‘home’ and differences in their structure can be particularly meaningful, relating to very different activities such as cooking different foodstuffs, keeping warm, warming pitch to use for arrows, prewarming flint prior to knapping or even in a purely symbolic context (Manzi and Spikins 2008, Spikins, Kelly and Manzi in prep). One ‘hearth’ at March Hill was used to preheat flint for knapping, and another served what appears to have been a symbolic or communicative function (Spikins 2002). Careful excavation can identify hearths even where they are not immediately obvious (Sergant, Crombé and Perdaen 2006), and techniques such as block sampling (Hadley et al in press), charcoal identification and dating and micromorphology are invaluable in interpreting different ways in which fire was used. Hearths may be difficult to isolate with prospection methods, however magnetometry methods in peat can in some cases be very successful in identifying hearths as at Irontongue in the Western Pennines (Andy Myers pers. comm.) or structural features as at Howick in Northumberland (Waddington 2008).

An awareness of the ephemeral nature of some this evidence for standing structures is also particularly key to its identification. Standing structures may leave little archaeological traces and so very sensitive methods are needed to identify them. Indeed over the past ten years the evidence for structures in the British Mesolithic has undergone what might almost be termed a revolution as new methods and increased sensitivity to the period have identified structural evidence such as a
Howick (figure 4), or other sites (figure 5) such as Leeming Bar (unpublished) or East Barns (Gooder and Hatherley 2003) recovered in a commercial context. Mesolithic structures recovered at Fife Ness by Headland Archaeology (Whickham Jones and Dalland 1998) and in the Isle of Man (by Oxford Archaeology unpublished) in commercial work add to the pattern of the recent, often unanticipated, recovery of structures dating to this period, and fits with some of the type of structures known ethnographically (figure 6). Given the lack of above ground evidence Mesolithic sites with structural features present a key challenge for managing their appropriate excavation. An awareness of the potential for the recovery of a ‘large’ (in Mesolithic terms) structure is important.
Figure 5. Examples of structural remains in the British Mesolithic (courtesy of Clive Waddington).
4) The unpredictable nature of early prehistoric material

One of the key challenges of the period is that a combination of the lack of above ground evidence and the unpredictable nature of early prehistoric remains means that highly significant and unique sites may well remain to be discovered (and may be discovered unexpectedly). Examples of significant sites recovered in commercial work include those at Leeming Bar (unpublished), East Barns (Goodey and Hatherley 2003) as well as Howick (Waddington) and Star Carr (Milner in prep.) in research contexts. Such a highly variable character to the Palaeolithic and Mesolithic is mirrored in the rest of Europe. Sites in Germany are similar in character to those in northern England, yet significant ‘oddities’ to an otherwise sparse record include for example the Bad Durremberg ‘shaman’ burial (Porr and Alt 2006) and the ‘skull nest’ at Ofnet Cave in which the remains of 38 individuals were recovered from two pits (Frayer 1997, Orschiedt 1998, Hofmann 2005). Barton and Roberts (2004: 251) for example note the unexpected recovery of cemetery and burial evidence in Germany and its likely future recovery in Britain. Examples of such unexpected discoveries include a human femur, as well as cut marked animal bone dating to the Mesolithic which was found during commercial prospection surveys in advance of construction work at Staythorpe power station in Derbyshire (Davies 2001, Myers 2003). Conneller (2006) argues that the disposal of disarticulated skeletons and fragments of bone may have been the typical practice during the Mesolithic, though recovery of such remains may often have been overlooked, especially since Mesolithic pits are typically amorphous (Birch unpublished). A case should clearly be made for radiocarbon dating human bone fragments found in pits associated with, or near to, finds of Mesolithic artefacts.
Potentials

There is considerable potential for the recovery of new and significant evidence in this period. There is potential to identify subsurface remains as survey methods become of a finer resolution, more widely available and reasonably priced. Equally amendments to prospection and excavation methods are likely to lead to higher recovery of Palaeolithic and Mesolithic material. There is a high potential for other high integrity sites, perhaps with structural remains, to be recovered. These may be particularly likely in the uplands (especially plateau edges on south facing slopes) where tree cover would have been less dense in the period (Spikins 1999), as well as river and particularly lake edges (such as for example would have existed in the Horbury – Pugneys area, see Keighley, 1981 p.36) where research suggests a concentration of Mesolithic sites in the lowlands (Barton and Roberts 2004: 350, Barton et al 1995, Reynier 1998), the latter being a possible location for a fuller range of recovered material (eg worked wood or plant remains). The limited and threatened nature of the remaining archaeological resource is however also a key issue (discussed below).

There is also considerable potential for analysis of existing sources. Lithic assemblages might yield information on site activities, regional patterns or style zones and changes through time in settlement or adaptations. Indeed Barton and Roberts identify further research into chronology through radio-carbon dating and assemblage analysis as a key research focus (2004). An increasing recognition of the social or symbolic importance of artefacts is also leading to a reassessment of some sites and many sites in West Yorkshire might be re-assessed and reinterpreted with new methodological and theoretical perspectives (Milner and Woodman 2006, McCarten et al 2009).

Background Summary

Early prehistoric sites are distinctive in ways that can be challenging

- There are no surface features or simple ways to identify their existence.
- The finds may be very small, the edges of ‘sites’ may be hard to define, structural remains and hearths may be difficult to identify, and there is a high potential for unusual and unexpected discoveries.
- Current prospection methods appear to be ‘missing’ sites due to the small size of artefacts, particularly in late Mesolithic contexts, and to the ephemeral nature of key features.
However there is considerable potential for management and research of these sites in West Yorkshire

- Sites quickly covered by a layer of slow forming peat may have unique preservation conditions leading to remarkably low levels of disturbance and may be internationally significant.

- Wetland sites with preservation of a range of material, eg faunal evidence, may remain to be recovered in certain locations (eg the Horbury – Pugneys area). Cave and rock shelter sites may also be significant.

- West Yorkshire plays a key role in many respects – boasting the highest density of recorded Mesolithic findspots in England and Wales, the highest integrity of recorded artefact distributions (best preserved in terms of artefact movement) in the world, one of the key sites at the Mesolithic-Neolithic transition, and the earliest upland known early Mesolithic site. The clusters of sites in the Central Pennine uplands also show the highest density of upland Mesolithic sites in the world (Preston forthcoming).

- There is considerable potential for analysis of existing material.

- The potential for new significant finds.

- Public interest in the period is high.
The Archaeological Resource

Figure 6. Palaeolithic sites in West Yorkshire (HER record)

Figure 7. Mesolithic sites in West Yorkshire (HER record)
Geology and Land Use

Geologically West Yorkshire divides into the central Pennine plateau formed largely of millstone grit covering the western part of the county, extending eastwards at Rombalds Moor and the lowlands formed of alternate strata of sandstone and shale with Magnesian Limestone in the far east of the county. The geology also influences its archaeological significance in terms of being a relatively unusual area where no local flint or chert resources exist – thus all flint must have been imported (a contributory factor to the extremely small size of assemblages). These deposits are covered by glacial deposits particularly in the Pennines with much of the glaciated area covered by boulder clay and deposits of alluvium on the valley floor. Peat deposits cover much of the upland from about 300m. There is good evidence for glacial lakes in the Aire and the Wharfe valleys and an extensive lake may have existed in the Calder valley.

Land use in the region is predominantly urban in the major lowland cities – Leeds, Bradford, Halifax, Huddersfield and Wakefield – with largely arable agricultural land in the rest of the county aside from the uplands of the Pennines where gently sloping hills are covered by peat moorland.

Archaeological Evidence

(see figures 6 and 7)

Early published work includes that by Petch (1924) and Raistrick (1964). More recent summaries of archaeological material in West Yorkshire can be found in Keighley (1981), Barnes (1982), Stonehouse (2001) and Manby et al (2003).

The existing record of Early Prehistoric sites in West Yorkshire documents a seemingly vast wealth of data. Several hundred records translate however into disturbingly little real evidence for activities or lifestyles in the period since almost all artefacts are out of context. Historiographic research can be used within a landscape context to develop important models of mobility (Preston 2008a). However notwithstanding that reliable records of artefacts recovered from erosion are essential and records given to the HER important, artefacts out of context are no more useful in terms of interpreting activities in the past in the Mesolithic than such artefacts are in later periods. Most worryingly it is not clear to what extent such a wealth of ‘finds’ relates to an abundant record or to one which is (or has been) highly localised and largely disappeared. Common misconceptions that Mesolithic sites are ‘disturbed’ perhaps minimises concern over their preservation, whilst excavations of selected sites have revealed an extraordinary integrity (see previous section).
Palaeolithic Sites

Typical character:

- collections of lithics with relatively large and often unretouched blades, associated debitage

Potentially:

- Cave and rockshelter sites may yield important information (attention to such locations has been very significant in neighbouring regions, with Palaeolithic art at Creswell Crags only recognised relatively recently for example). In north Yorkshire Victoria Cave near Settle and Kinsey Cave, Gigglewick have yielded important human remains. Caves in Wharfedale north of Boston Spa, such as at Jackdaw Crag might potentially warrant evaluation.

- In situ upland Upper Palaeolithic sites may have a high integrity and spatial information relevant to questions of learning, social relationships, use of fires or structures.

- Material from earlier Palaeolithic occupations in previous interglacials may exist yet remain to be identified

There are very few Palaeolithic sites in the HER record. This is not unusual in comparison with neighbouring counties and reflects the fact that the region was at the edge of, or under, glacial ice for much of the Palaeolithic. Nonetheless West Yorkshire was potentially suitable for occupation in earlier warm interglacials and occupation by previous species of human cannot be entirely discounted (e.g. Neanderthal remains from such warmer periods have been recovered at Pontnewydd in North Wales, Aldhouse Green). It is also likely that superficially similar upper Palaeolithic industries with relatively large blades have been grouped in the ‘Mesolithic category’ and those from the site at Milner Wood might be a particularly good example.

Probable Palaeolithic finds in West Yorkshire are recorded from Washburn Foot, Farnley, Midgeley Moor and Windy Hill near Blackstone Edge (Keighley 1981), although there must be some doubt in this attribution as Preston’s (forthcoming) analysis suggests that all the Windy Hill finds are actually Mesolithic. These uncertainties illustrate the difficulties in relying on relatively simplistic attributions of sites to period (indeed records in national site databases frequently show erroneous classifications in Palaeolithic/Mesolithic periods, Birch unpublished). A Late Upper Palaeolithic ‘bruised blade’ was recovered from a Romano-British ditch in the A1-M1 link project from East of Fairburn which provides important evidence for occupation around 10,000BP i.e. at the end of the Younger Dryas cold phase. The location of
this find at what would have been the edge of a wetland environment may be significant (Brown et al 2007), and palaeoenvironmental sampling and test pitting confirm concentrations on sites in this type of situation at Seamer Carr (Schadla-Hall ref).

**Early Mesolithic Sites (10,000-8,500BP)**

Character:

- Generally collections of ‘large’ non geometric microliths (eg 3cm), associated with long and narrow flakes, and other find types (blades, scrapers, cores). Isolated finds of tranchet axes have been attributed largely to a lowland context (eg at Washburn Foot, Lower Hopton and Netherton, Keighley 1981) however Preston’s recent research (Preston forthcoming) indicates a wider distribution with examples including several at Ringstone Reservoir. Artefacts may also be associated with ochre (termed ‘red ruddle’).

- Specific ‘Deepcar’ type sites - slender obliquely blunted points (isosceles triangles and trapezoids rare), eg. Warcock Hill North, Lominot, Windy Hill (Radley and Mellars 1964, Barton and Roberts 2004)

- Specific ‘Star Carr’ type sites – with broad obliquely blunted points not blunted all along one edge, isosceles triangles and trapezes (eg Warcock Hill South Site (Radley and Mellars 1964) (Barton and Roberts 2004).

A traditional link between ‘Star Carr types’ and ‘white wolds flint’ and Deepcar types on brown drift flint has been called into question recently (Preston 2009), with flint additionally being re-used which complicates the issue. There is also some indication of a different use of different microlith types as projectile points with leading edge retouch, or hide working without such retouch (Preston pers comm.).

Though potentially indicating different social groups there is some indication that Star Carr type sites are earlier than Deepcar type sites (Reynier 1998, Barton and Roberts 2004).

- Upland sites tend to be concentrated in locations with a wide view, though potentially at a slightly lower elevation (by potentially c. 50m) than those in the Late Mesolithic relating to different upland forest cover (Spikins 1999). Early Mesolithic sites are known in a range of size but are often larger than those in the Late Mesolithic, (though rarely fully excavated they may extend over tens of metres). There are also some indications of structural features (eg a posthole at Lominot). A Deepcar type site at Waystone Edge extended over the whole length of a deep gully (Preston forthcoming).
Notable concentrations of Early Mesolithic material have been recovered through collections by Francis Buckley (housed at the Tolson Museum) and Pat Stonehouse (2001) at Marsden Moor, as well as at Green Crag Slack (Otley), and Nab Water (Oxenhope Moor) (Keighley 1981) as well as other sites around Keighley and Oxenhope Moor (Feather collection) and Waystone Edge. The concentrations of finds from Marsden and the Aire-Wharfe are potentially significant and under researched (Manby 2003).

An early Mesolithic site, near to that excavated by Francis Buckley, was excavated by the West Yorkshire Mesolithic Project in 1993-6, revealing a posthole and associate ‘Deepcar’ type industry with an overlying Late Mesolithic scatter (Spikins 2002).

Unstratified Early Mesolithic material, or material redepsoited in later features, was also recovered during the A1/M1 link road development including a tranchet axe-sharpening flake at Ferry Fryston (Brown et al 2007).

**Potential:**

- Potential for minimally disturbed upland Early Mesolithic sites with structural evidence (eg at Lominot)
- There is potential for lowland Early Mesolithic sites to be recovered
- Structural evidence, hearths or even burials (or disarticulated remains) could potentially be recovered

**Late Mesolithic Sites (8,500-5500BP)**

**Character**

- Sites consisting of small (1-2cm) geometrically shaped microliths, shorter and more squat flakes and blades. May also be associated with ochre (termed ‘red ruddle’).

- sites in the uplands more widely distributed and of a smaller size with a higher percentage of microliths than in the early Mesolithic (eg sites can be comprised of 90-95 microliths, typical 1-cm long).

**Types of sites**

- They be intermediate assemblages, but these may also be a result of accumulated collections and remain to be documented properly.
• Scalene triangle microlith dominated assemblages eg March Hill (Spikins 2000)

• Rod microlith dominated assemblages eg Cupwith Hill, March Hill Top (Spikins 2000)

• Other microlith dominated assemblages (eg pear or crescent dominated sites have been suggested by Stonehouse 2001). Microliths may make up 90% of microlith dominated sites and it is not clear if this relates to hunting activity or to other uses of these artefacts (eg scraping plant materials).

• Microlith ‘caches’ have been recovered at Pule Bents, 99 rod microliths (Stonehouse 2001), and White Hassocks (46 scalene triangle microliths, Stonehouse 2001). These have been interpreted as deliberate caches for later use (Preston 2009) or as ritual depositions (Conneller 2005).

• Other types of sites eg the ‘Anvil site’ (March Hill), a complete refitting sequence around an anvil stone, in the Tolson Museum, Huddersfield.

• More ‘balanced’ assemblages (i.e. with a higher proportion of scrapers and other tool categories) often in the lowlands (Mellars 1976, confirmed by Preston forthcoming).

Late Mesolithic sites appear to be very varied, yet much of this period is poorly understood and the explanations for such variation remain enigmatic. Keighley (1981) identifies key locations of Late Mesolithic sites in the Wharfe Valley and Rombalds Moor (such as the western end of the Chevin, Otley including Green Crag Slack) coming from collections by Samuel Crowther, Edgar Slater and John Turner, Baildon Moor (coming from surface collections by early collectors), Keighley Moor, and Oxenhope Moor (such as at Nab Water excavations by John Gilks), Hambleton Top and at Cupwith Hill, Flint Hill, March Hill and White Hill (From Francis Buckley and others). The distribution of such collections may relate to a genuine focus of activity in Mesolithic times. Caution should be used in interpretations however due to the potential influence of past erosion to the artefact level combined with footpaths, access routes and a particular attention and recording by certain individuals.

Mesolithic material has also been recovered in the lowlands at Thorpe Stapleton, Pugneys nr Wakefield, and Sandal Castle. A particularly important lowland site was found in fieldwalking at Milner Wood (Thorner Archaeological Society). Assemblages of several hundred pieces of Mesolithic/Neolithic dates were also recovered from Methley and Skelton, with Mesolithic sites also known at Ferry Fryston and Holywell Wood, Glasshoughton.

Excavations at March Hill (Spikins 2002) recovered a very well preserved site consisting of knapping debris (dominated by scalene triangle microliths) with refit
patterns centring around four hearths (each apparently distinct with a different function) at March Hill Carr and a hearth which had been re-used on several occasions on March Hill Top (associated with a rod microlith dominated assemblage). The latter hearth was in a very exposed situation and would have given off little heat. Given the wide views from the hill its function seems to have been largely symbolic rather than practical.

Potential:

• Potential for minimally disturbed upland Late Mesolithic sites with discrete records of specific activities

• There is potential for lowland Late Mesolithic sites to be recovered

• Structural evidence, hearths or even burials (or disarticulated remains) could potentially be recovered

Mesolithic-Neolithic Transition (6000bp approx.)

Character

• Finds of leaf shaped arrowheads, associated debitage, occasional polished stone axes (eg near Walton).

• Tend to occur in similar situations (or mixed with) Mesolithic material as at Green Crag Slack, Otley, Baildon Moor or Thorpe Stapleton however this may be an artefact of similar patterns of erosion and attention and recording.

Potential:

• Upland sites with a chronological overlap between Mesolithic and Neolithic may exist (rod microlith dominated sites may fit this profile) and contribute to key issues at the transition

• Lowland settlement sites may exist (and several are known on the west side of the Pennines, Preston pers. comm.), there is also a potential for burial monuments or pottery

Chronological definitions are complicated by the tendency to identify any upland flint assemblage as ‘Mesolithic’ if no diagnostic artefacts are present, and the (ironic) modern divisions between Late Palaeolithic and Early Mesolithic (despite potentially similar technology and landscape use) and Late Mesolithic and Neolithic (with similar affinities) and the failure to divide the Early and Late Mesolithic (which demonstrate significant differences). Both the definition and the meaning of chronological differences accompanied by analysis of the collections themselves is a key area for research.
Biases in distribution and character and key threats

The finds of Palaeolithic material are too scarce for much comment on their distribution. However the significant numbers of Mesolithic sites show a clear distribution concentrating particularly in the uplands, and mirrored by the relatively fewer numbers of early Neolithic sites.

Concentrations of ‘findspots’ due to effects of societies and collectors are evident in the distribution pattern such as those, largely in the uplands (Rombalds Moor, and Marsden) and in the lowlands at Milner Wood by Thomer Archaeology Society (Faull and Moorhouse 1981, Roberts, Burgess and Berg 2001). Myers (undated) notes that where detailed survey aimed at recovering Mesolithic sites was carried out in ‘blank’ lowland locations in Derbyshire abundant Mesolithic material was recovered. Detailed research by Preston (2008) approximately doubled the numbers of known sites at the location of a proposed wind farm on Shore Moor (Greater Manchester)
with only a more detailed study of existing records than that housed in the HER. Petts and Gerrard also note the same effect for PPG16 funded development work in ‘blank areas’ of the North East (such as South-East Northumberland, the Cheviots and East Durham plateau) which revealed Mesolithic material (Petts and Gerrard 2006: 121). It may be worth noting nonetheless that chronological or typological differences within the known distributions of sites may hold some interesting information – with as noted previously Early Mesolithic sites being at lower elevations, and the Late ‘rod microlith dominated’ sites being at the highest elevation within the broad pattern of known Mesolithic sites.

Perhaps the most worrying issue is that it is unclear to what extent peat erosion threatens early prehistoric sites. Whilst it is possible that many sites remain to be discovered in deeper peat, it seems more likely that the concentration of sites at plateau edges (where erosion is most severe) reflects a genuine concentration of activity in Mesolithic times (Myers undated, Preston forthcoming). As a result increasing erosion (potentially exacerbated by global warming) is a serious and genuine threat to the very limited resource. Whilst erosion on the main peat plateau appears severe it does not typically reach the finds level. However small scale Mesolithic ‘sites’ can be completely destroyed by the less obvious marginal peat erosion scars (Spikins 1999) – see figures 9 and 10 (March Hill nr Marsden in 1996 and Ilkley Moor in 2010). This is a particularly critical issue given that Mesolithic occupation may well coincide with sunny spots on the plateau edge, in similar locations to those used by ethnographically documented populations (figure 11).

Figure 9. Marginal peat face erosion at March Hill Top
Figure 10. Marginal peat face erosion at Ilkley Moor (courtesy Jodie Ward)

Figure 11. The importance of plateau edge locations in ethnographically recorded societies – hunting using bows and arrows by the Selk’nam of Tierra del Fuego.

Certainly peat erosion patterns ‘map onto’ known sites and it is unwise to place much emphasis on distributions of sites (Spikins 1999 and figure 10).

Figure 12. Modelled marginal face peat erosion and the distribution of Mesolithic sites in the central and southern Pennines (after Spikins 1999)

The concentration of Mesolithic sites, erosion and modern collection is not likely to be a mere coincidence. There is good reason to suppose that plateau edge locations
on south facing slopes were particularly attractive in the Mesolithic (as they are sunny with a good view). This attraction also draws sheep to form ‘sheep scars’ (Spikins 1999) as well as being a focus for modern footpaths. Shared preferences for landscape settings and a combined concentration of animal and human activity across millennia is like to have already resulted not only in kilos of uncontextualised artefacts in museums or attics but also in the substantial loss of the archaeological resource for this period.

- The apparent wealth of evidence belies a record which is restricted in its potential compared to artefacts with a secure in situ context. Nonetheless detailed recording and analysis of existing assemblages would yield very valuable evidence for use of technology, settlement patterns, social territories and changes through the period. Historiographic research can add valuable context to records in the HER.
- Much of the archaeological resource of Mesolithic sites (potentially of a high resolution) is most likely to have been destroyed by a coincidence of marginal peat face erosion and flint collections at preferred location in the Mesolithic, though remaining in situ material has a very high potential to be significant.
- Peat erosion may be an increasingly urgent issue with climate change
- Changing land use practices in the uplands may also have an influence on the remaining resource – such as changing use of grouse moors, and increasing need for wind farms with approaching power crises.
- Lowland sites may be threatened by urban developments and in other regions early prehistoric sites have been recovered in very unpromising situations during developer funded work (e.g. in the North East, Petts and Gerrard 2006). Particular care should be taken in wetland, wetland edge or riverine environments.

**Prospection and Excavation Methodologies**

**Prospection**

**Upland Sites**

- ‘Watching briefs’ are not appropriate for identifying early prehistoric sites.
- Prospection should involve geophysical survey methods where it is possible that these may successfully identify hearths or other features.
- In locations where early prehistoric sites are known locally or are likely sampling should be intensive in order to generate a reasonable probability of
encountering sites (the highly significant rod microlith site at March Hill Top is encompassed in an area of only 2m by 2m with little beyond this to indicate its presence). Sampling should include wet sieving for very tiny pieces of flint (microdebitage) as successfully used with large bore auger surveys to define the limits of sites at March Hill (Spikins 2002). A 10% sample is usually recommended. It may be recommendable to take large scale samples and wet sieve industrially over large areas in order to define potential sites. Plateau centre locations may be less likely to be a focus of Mesolithic activity but this remains to be proven. Large bore auguring at 1m x 1m intervals and wet sieving using a 3mm sieve would be recommended (Birch unpublished). It is recommended that large scale samples are taken over large areas and wet sieved on an industrial scale in order to define potential sites. Artefacts are typically concentrated in section at the base of peat (to a maximum of 10cm either side). Allowing sieved samples to dry before sorting improves the recovery of small artefacts (Birch unpublished).

• Likely locations for Mesolithic sites may be defined in more detail (Preston forthcoming) but general agreement exists on high probabilities on south facing slopes, on the plateau edge at 380-430m elevation, particularly near the sources of streams and unique landscape features, with the proviso that other areas (such as plateau centres) have not been explored.

Excavation

• Given the possibility of very high integrity assemblages all finds should be piece plotted and a covering tent is necessary to ensure recovery of highly significant small finds in difficult weather conditions (Spikins 2002).

• Only if a low integrity of deposits is proven, finds can be plotted according to 50cm squares, otherwise piece plotting is the most appropriate method, coupled with stratigraphic recording (Spikins et al 2002).

• Particular attention should be paid to burnt finds and their location and to any ephemeral traces of burning and its plotting (Sergant, Crombê and Perdaen 2006.). All of these elements should be plotted.

• For all hearths or burnt features charcoal samples should be taken and dated (ams may be particularly useful) with a sequence of dates. Micromorphology and charcoal identification should be carried out and particular care should be taken with recording phases of use. Block sampling of hearths for excavation in laboratory conditions may be considered useful (Hadley et al in press). Charcoal samples should also be taken from within layers containing diagnostic lithics as this technique has proven effective for dating sites in
other contexts (Reynier 1998). Typological, metrical and raw material analyses are essential (see Myers 2003).

- Particular attention should be paid to the possibility of structural features and to the recording of stake and post holes.

- Microwear analysis is recommended where this is likely to yield useful results i.e. where suitably large areas of cutting edge can be analysed on artefacts, and soil processes have not overly affected wear patterns (see Waddington 2007, Briz y Godino et al 2009). Although the traditional approach may be to select certain ‘tools’ for microwear analysis, a fuller selection can be particularly useful. Lithics should be analysed in detail and tested for refit patterns.

- Environmental evidence found in association with artefactual material should be collected and dated.

Lowland sites

- Particular attention should be paid to the potential for early prehistoric material in what would have been wetland edge environments (for example around the edges of the prehistoric Lake Humber). Here detailed prospection should be carried out for early prehistoric material. There is a potential for faunal recovery.

In ploughzone situations

- Fieldwalking may be successful in defining early prehistoric sites. Fieldwalking lines at 5m spacing may be more appropriate given the small size of prehistoric lithic scatters.

- Great care should be taken to record all the assemblage in detail in test pitting as the entire assemblage may be in the ploughzone with no subsurface features. As a result this assemblage will thus need accurate recovery and recording. It is difficult to define the concentrations of finds which might be dubbed ‘significant’ in fieldwalking given an unknown distribution between the surface and subsurface finds distribution, though anything in the broad region of twenty finds might indicate a significant sites below the ploughed surface. Birch (unpublished) discusses the use of fieldwalking and testpitting for identifying Mesolithic sites and Mithen (2000) illustrates different test pitting strategies based on both fieldwalking and random sampling of unploughed regions.

Publication should include full lithics analysis (including accurate attribution to period and within the phases of the Mesolithic) and illustration (particularly
examples of suspected Palaeolithic artefacts even where these are found in later features or other contexts).

Predictive models

There is, without doubt, a high degree of predictability in the type of landscape locations which would have been attractive to past hunter-gatherers. Whilst temporary attractive features such as streams or particular trees may no longer exist many of those features attracting a focused or repeated use of certain locations would have been part of the physical landscape and therefore amenable to modelling today. South facing slopes offer more warmth than north facing slopes and ‘living things’ from plants, animals and hunter-gatherers would be more attracted to them. Wide views are also generally attractive where defence is not a consideration, or where such views are not in overly exposed situations. Noticeable landscape features such as conical hills or rock outcrops are also attractive sites (Preston pers comm., forthcoming). Mesolithic occupation at March Hill Trench A for example is unsurprisingly focused on a warm south facing slope of this distinctive hill, with a good view, yet a sheltered position.

Producing a ‘predictive model’ for early prehistoric sites is however not as straightforward as it might seem. Of course there are limitations in the extent to which our modern landscape can be used as a model for the past, with changes in river networks, vegetation and ground cover (particularly in the formation of peat). A further issue is that sites outside of expected areas may have unique functions, and therefore be particularly valuable, yet using a predictive model may prejudice their protection. The key issue however is that our knowledge of site locations is severely biased to eroded or ploughed areas (as listed above) and therefore too limited to be used responsibly to model wide scale landscape preference.

However where there are locally particularly dense concentrations of sites a predictive model might be used to define areas which we can confident we should have good reasons to protect (yet clearly cannot be used to exclude other areas). Spikins (1995) model which using logistical regression statistics defines high probability zones around 380-430m, at plateau edges with high visibility, on south facing slope, could be usefully extended in this sense to Marsden - Standedge and Blackstone Edge regions to define a particular zone of high recorded and potential site density. To this model research by Preston (2008b, 2009, forthcoming) shows that there are significant site clusters around conical hills, the heads of rivers and streams and millstone grit tors. A word of caution is worthwhile here nonetheless – this model cannot be held to be ‘perfect’.

Present day processes of erosion and sheep activities add biasing factors. Also for example many sites are predicted along the A640 north of March Hill (south facing, 400m, good view) yet no such sites have been found. A familiarity with the landscape illustrates that in this zone (contrary to the example of March Hill Carr) there is ‘nowhere particular to sit’. Often a more
human understanding of landscape can be a more useful predictor than any created on a computer.

Early prehistoric sites in a commercial context

Early Prehistoric sites are gaining an increasing recognition in commercial and developer funded work. The numbers of significant structures which are being recovered in commercial contexts are increasing rapidly with increasing awareness of the potential for such sites. Lithic scatter sites are being scheduled as of significant national importance (Blinkhorn pers. comm.). Highly significant sites are also being dealt with in responsible (and sometimes costly) ways such as at the completed fieldwork and on-going post-ex on >250000 flints (predominately Later Mesolithic) from the Carlisle by-pass excavation by Oxford Archaeology North (Myers pers. comm.). As doubt remains over whether many significant sites remain in the Pennines after decades of peat erosion and destructive collection, the importance of local interest and local government awareness in their preservation cannot be overstated.

New government legislation may provide protection for significant Palaeolithic and Mesolithic sites under Planning Policy Statement 5 (PPS5)"Planning for the Historic Environment".

Policy HE9.6 says:

"There are many heritage assets with archaeological interest that are not currently designated as scheduled monuments, but which are demonstrably of equivalent significance. These include heritage assets:

- that have yet to be formally assessed for designation
- that have been assessed as being designatable, but which the Secretary of State has decided not to designate; or
- that are incapable of being designated by virtue of being outside the scope of the Ancient Monuments and Archaeological Areas Act 1979.

The absence of designation for such heritage assets does not indicate lower significance and they should be considered subject to the policies in HE9.1 to HE9.4 and HE10."

HE9.4 says inter alia "Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments......should be wholly exceptional."

Significant flint scatters would fall under the remit of these descriptions.
Resource Summary

- Detailed excavations have revealed the potential for high resolution material which can be used to address questions of interpersonal behaviour, learning, social change through time and the detailed reconstruction of activities. Recent work in other regions has revealed significant sites, often unexpectedly, with different types of features.

- There is significant potential for the recovery of important well stratified sites, and for sites with a range of preservation conditions.

- Palaeolithic site are very rare, but they may also be have been classed as ‘Mesolithic’

- Mesolithic and Neolithic finds have largely been recovered from the uplands where eroding peat has revealed artefacts. Some sites have also been recovered from the lowlands.

- Most of our record consists of large assemblages of artefacts which are out of context, this has limited the questions that can be addressed in a research context, although the resource itself is of a much higher quality. The distribution of artefacts is very biased and only of a certain use in addressing research questions, however detailed research may reveal important evidence from existing assemblages.

- The archaeological resource may be very focused on particular locations and much has already destroyed by erosion and ‘flinting’.

Existing Research Context

Environment and Subsistence
The way in which people found food and other resources defines to a great extent much of what made early prehistoric societies distinctive from those of later periods. Living by hunting and gathering largely means a mobile way of life, with frequent moves to exploit seasonally available resources and this certainly seems to be true of Palaeolithic and Mesolithic foragers in West Yorkshire.

Our knowledge of subsistence practices and food resources in early prehistory comes from the relatively few excavated sites in the British Isles which include preserved food remains (such as horse or deer bones, remains of birds or fish or
preserved plants), augmented by our knowledge of contemporary environments in association with ethnographic parallels from recent similar societies.

A range of different resources seem to have exploited. Archaeological evidence directly attests to the exploitation of a range of plant foods (such as wild apple and berries, Spikins 1999), with large hazelnut roasting pits recovered at Stoasnaig on Colonsay (Mithen 2000). Though all of the Mesolithic coast has been submerged by rising seas, evidence from local emerged coastlines in Scotland also points to the exploitation of seals, and of sea fish, as well as shellfish such as mussels and limpets and implies the efficient use of sea going craft (Hardy and Wickham-Jones 2002, Warren 2005). In terms of river resources little is known about the importance of salmon, since fish bones are rarely recovered in excavations, however West Yorkshire historically boasted important salmon rivers and we might assume that salmon may have been important. Perhaps the most well known food resources however are large game animals such as horse or deer (remains of which have been recovered at Star Carr in North Yorkshire for example) which would have been hunted in the open landscape or forested environments. Large faunal remains are nonetheless the most easily preserved evidence for food resources, and arrow tips are particularly resilient tool. Even though large game may have played a key role in subsistence Finlay nonetheless warns of falling into the trap of constructing ‘boys and arrows narratives’ for the period (Finlay 2000).

The nature of exploited resources would inevitably change with changing environments at the end of and after the last ice age, with human populations effected by a combination of gradual changes and marked significant events with potentially severe impacts. During the Upper Palaeolithic exploited resources would be likely to focus on large herd game such as reindeer and horse in open landscapes. Rapid drops in temperature at the Younger Dryas event approximately 12,800 to 10,500 bp (with average winter temperatures of about -17°C, Atkinson et al 1987) may however have had severe effects on resources and population. The rapid warming after the Younger Dryas cold event rising to temperatures similar to today in 20-50 years (Alley et al 1993) would have been equally significant, with vegetation and animal species slowly adapting and moving northwards from Mediterranean refugia. Following these events Britain would have seen a progression from open birch woodland and associated aurochs and horse to more closed oak woodland with higher numbers of red deer and boar in the later period (for more details see Spikins 1999).
Significant changes appear to have occurred at the Early to Late Mesolithic transition, with rising sea levels flooding ‘Doggerland’ (the landbridge connecting Britain to the continent) and isolating Britain from continental communities as well as reducing the land area to the west. Barton and Roberts (2004: 346) suggest that around 7300BP rapid cooling with a 6° ±2°C fall in average annual temperatures for 200-300 years may have played a role in the contemporary rise in minute geometric industries. Deliberate burning of upland woodland appears to have been employed, particularly in the Late Mesolithic, probably to increase fodder for game (Simmons 1996). Perhaps the most severe environmental impact would however have come from the Storegga tsunami at about 8,300 bp which may have caused the final flooding of this landbridge with perhaps 700-3000 people killed by major event (Weniger et al 2008).

Marked changes may also have characterised the onset of the Neolithic, albeit prompted by human action. Whilst the appearance of monuments marks a rapid start to the period around 4000bc however the rapidity of subsistence changes at the Mesolithic-Neolithic transition has been the source of intense debate. Widespread assumptions of a gradual uptake of domesticates have been challenged by isotopic evidence for a radical change in diet in coastal populations away from coastal and towards domesticated resources (Shulting and Richards 2000). However these interpretations have been criticised and do not entirely fit the archaeological evidence for a much more gradual change (Milner et al 2004). Equally genetic evidence for colonisation doesn’t entirely fit the more gradual changes attested in archaeological evidence. Thomas (2007) paints a picture of early Neolithic societies as fundamentally similar to those in the Mesolithic, aside from leaf shaped arrowheads replacing microliths as hunting weapons and the addition of mobile herds of cattle. Certainly the location of upland Neolithic sites seems broadly congruous with those of the Mesolithic. However other authors (Sheridan 2004)
would propose a wholesale adoption of a new ‘Neolithic package’ including pottery, domesticates and a new way of life. Attention has moved away from subsistence to a focus on social relationships and ideology in the Neolithic though the explanations for such changes remain difficult to define.

Subsistence resources undoubtedly influenced population numbers in each period. However precise population numbers have been a focus of debate which is potentially largely irresolvable. Smith claims that a reasonable population figure for the Mesolithic may be around 0.01/km² (Smith 1992) based on ethnographic sources, however such sources vary widely depending on the way in which resources are exploited. Global models suggest a widespread increase in birth rates and population at the start of the Neolithic (Bocquet-Appel 2002) though the timing and uniformity of such a change remains to be defined.

Critical debates include:

- The relative focus of subsistence on large game or ‘smaller package’ resources such as nuts
- The relative role of land and sea in subsistence practices
- The impact of changing sea levels on populations
- The extent to which Mesolithic exploitation pattern show an intensification of use of resources (such as burning to increase forage in upland woodland).
- The nature of subsistence changes through the Mesolithic, and the timing and abruptness of changes at the Neolithic

Settlement, Mobility and Technology

Upper Palaeolithic settlement is likely to have consisted of large scale mobility patterns potentially ‘mapping onto’ resources over large areas and there remain insufficient assemblages to build up a reliable picture in precise terms.

Settlement patterns in the Mesolithic have formed the focus of a heated debate for several years. Clark’s original model of settlement suggested that Mesolithic populations would have been east-west summer to winter following red deer migration patterns (Clark 1972). The migration of red deer has now been largely discounted however raw material movement - with ‘Wolds’ flint from Lincolnshire and Yorkshire found at moorland sites some 80km away, where it continues to form the predominant raw material -, continues to support a broad east-west pattern of movement (Spikins 1999, Preston 2009).

Specific models exist, although Spikins, referring to the variability of ethnographically documented settlement and the lack of a very marked topographic difference in the
region, suggests that these should be treated with caution (Spikins 2000). Mellars, developing the pattern suggested by Jacobi (1978) uses the characteristics of artefact assemblages to suggest lowland base camps and upland specialist activity camps (Mellars 1976). Simmons (1996) for example models a coastal inland pattern of base camps and hunting camps whilst Donaghue and Lovis (2006) model a solely inland pattern of settlement. Preston (2009) argues on the basis of detailed recent assemblage and raw material studies that movement in the early Mesolithic occurred across all of northern England and included mobility across the Pennines to the west as well as well as to the East. Coring at Seamer Carr suggests that sites tend to lie close to ancient lake edges (e.g. often within 50m). Lake edges are clearly a substantial ‘pull’ as demonstrated in Ireland (e.g. Fredengren 2009; Mitchell 1972) and in Scandinavia (Welinder 1978), though the precise distribution of Mesolithic activity would require detailed evaluation (Milner pers comm.).

For later periods raw material sources on the moors become predominantly local, with the further movement attesting by the presence of black ‘pinhole’ chert from Derbyshire (Spikins 1999, Preston 2009). Whilst it seems clear that movement was smaller in scale in the late Mesolithic with raw materials being more local any more specific conclusions on a pattern of settlement seem premature (if a single pattern of settlement did exist which ethnographic evidence suggests is unlikely (Jochim 1991)). Of course ethnographic records always offer an extreme cautionary tale and some hunter-gatherer groups are known to obtain their flint entirely by exchange, defying any simple attribution of material movement to the edges of territories (Chapman 1982).

Smith (2009) argues that the organisation of settlement in the period changed through time, with increasingly logistical patterns of settlement (i.e. more organised forays from central base camps) in the Late Mesolithic, but the evidence has equally been taken to imply a less organised settlement system more ‘mapped onto’ key resources through time (Myers 1987, Spikins 1999). Barton and Roberts (2004) argue for sustained high levels of mobility throughout the period, despite Waddington’s proposal of localised sedentary communities at the coast (Waddington 2007). Beyond a reduced scale to mobility patterns in the late Mesolithic there is little common agreement.

In terms of social territories of different groups, the evidence is suggestive but nonetheless enigmatic. Clearly different styles of microliths in the Early Mesolithic in the region divided between ‘Star Carr’ type assemblages (with broad oblique blunted points, isosceles triangles and trapezoids) and ‘Deepcar’ assemblages (with slender oblique blunted points and fewer isosceles triangles and trapezes, Radley and Mellars 1964) have been seen as evidence of two different groups. However Barton and Roberts (2004) suggest that the differences may reflect a chronological change. Indeed it remains possible that almost all of northern England was actually one large
An Archaeological Research Agenda for West Yorkshire

The Palaeolithic & Mesolithic Periods

territory with substantially mobile populations (Preston 2009) and movements of raw materials from the North East to the southern Pennines support this idea (Young 1987).

Late Mesolithic sites are of a distinctively different character to those of the early period which seems to signal a rather different use of the landscape. Such sites tend to be smaller, for example, only a few metres rather than potentially tens of metres across (Myers 1987). They also divide into certain ‘types’ on the basis of the geometric microlithics, most notably the most common ‘scalene triangle’ dominated assemblages and ‘rod microlith’ dominated assemblages. Jacobi (1978) suggests that scalene dominated sites form one ‘social territory’ in this period. Once again chronology may play a role with the latter sites (subject of a Leverhulme funded project by Prof J. Innes at Durham) apparently very late in the period, with higher levels of Derbyshire chert, and apparently prominent positions (Jacobi 1976). Unique oddities also include apparently rare ‘pear’ microlith dominated sites found only on Dean Clough to the west of the Pennines (Jacobi 1976). The meaning of the differences in assemblages’ type in this period remains unclear.

Clearly more research into microlith types, chronology and location is needed before any conclusions can be drawn. Indeed research is plagued by a necessary focus on a few well recorded assemblages as HER evidence rarely divides the Mesolithic by period (despite relatively clear differences in technology). It is equally likely to conflate Palaeolithic and Neolithic material with Mesolithic material using ‘Mesolithic’ as a term to generally refer to what is perhaps more rightly ‘early chipped stone assemblages’. A better understanding of chronology, mobility and social groups clearly depends on both further research on private and museum collections (such as that conducted by Preston 2009) and careful focused excavation of selected sites.

Critical Debates

Critical debates include

- The nature of Upper Palaeolithic settlement (whether ephemeral or more sustained)
- The significance of differences in assemblage types
- The nature of settlement patterns (whether include winter-summer seasonal round)
- Social territories and meaning of stylistic differences in both early and late Mesolithic microlith zones
The Palaeolithic & Mesolithic Periods

- The possibly presence of more sedentary coastal populations, the significance of the coast and the potential interactions between coast and inland regions
- The environmental impact of Mesolithic communities
- The relationship between functional and symbolic worlds and the identification of ‘meaning’ associated with artefacts, features and structures
- The extent to which the Neolithic represents an entirely new system of settlement or a continuation of previous patterns

Social Organisation

Whilst evidence for hierarchically organised Mesolithic societies exists in a few localised areas of Europe, with potential evidence for ‘status’ in grave goods in the Ertebolle of Denmark for example, the early prehistoric period as a whole is characterised by mobile, largely egalitarian societies. Aside from a few exceptions, signs of emerging status in both the Palaeolithic and Mesolithic have been argued, on the basis of ethnographic parallels, to be incipient illustrations of temporary dominance with a later return to hard won egalitarian principles (Spikins 2008).

Evidence of sustained warfare or widespread violence is also remarkably rare (and limited to a few cases such as Offnet Cave in Germany, Orschiedt, 1998 or sites in the Iron Gates, Roksandic 2004)

Though not hierarchical or ‘complex’ Mesolithic societies cannot be defined as necessarily ‘simple’. From settlement structures to burial rites there is a huge variability across Europe. There appear to be no standard types of ‘ritual’ sites or set ceremonies, with burial including rites as varied as human hand bones interred in association with a seal flipper in a shell midden in Oronsay, Scotland, isolated disarticulated human remains in pits, shaft graves in Russia or burials within boats in Denmark (Schulting 1998, Brinch Petersen and Meiklejohn 2003, Bailey and Spikins 2009). Indeed, the lack of predictability of such Societies is probably a reflection of egalitarian ethos and tolerance of difference and creativity (Spikins 2008).

The jury is as yet ‘out’ on whether there is any possibility of more complex coastal occupation. Waddington has argued that the large hut structure at Howick represents permanent settlement which would be particularly significant in terms of social groups, making coastal Mesolithic societies perhaps analogous complex societies such as the Kwakiiutl found on the northwest coast of America. However this interpretation is not necessarily supported by all researchers in the field. Barton and
Roberts (2004) and Preston (2009) place more emphasis on a very mobile adaptation throughout the period. With no clear evidence for the type of storage facilities which would have been necessary to support more sedentary groups, the interpretation of high degree of mobility seems the most plausible. Of course few sites have been excavated with enough detail to reveal features such as storage pits, which may also be attributed to later periods if not associated with Mesolithic artefacts.

Notions of a progression in ‘complexity’ across the Mesolithic have become less popular in recent years. It is clear that hunting and gathering groups change in level of organisation rapidly, and ‘go back’ to simpler patterns (Rowley-Conwy 2001). Though social changes were occurring, interpretations of directional changes towards the Neolithic may be a product of our own perceptions of progressive social changes.

Major questions exist about the social significance of observable changes taking place in the period. Though the Palaeolithic is broadly similar to Early Mesolithic in terms of artefacts and economies, marked changes characterise the systems of mobility and technology from early to the late Mesolithic with reductions in mobility, changes in use of the landscape and the nature of technology. These changes undoubtedly signalled social changes of some kind. Questions about the nature of the Mesolithic-Neolithic transition are also paramount, with the social nature of changes being unclear. The location and nature of upland sites are widely held to be very similar between the late Mesolithic and early Neolithic (aside from the use of leaf shaped arrowheads rather than geometric microliths) with the contention that groups behaved in similar ways but for the incorporation of cattle and monuments into their lifestyles, but this ‘received wisdom’ remains to be demonstrated.

**Ideology**

The ideology (or world view, beliefs, ways of looking at the world) of prehistoric peoples has been seen by some as the ‘last rung’ in a ladder of inference and the most difficult element to address in any interpretation. Equally however ‘worldview’ can also be seen as permeating every realm of hunter-gatherer lives and thus approachable from subsistence or technology rather than being limited to more clearly symbolic realms such as art or burial.

Certainly there is scant direct evidence for symbolism or belief from Palaeolithic or Mesolithic periods in West Yorkshire. However this reflects not a ‘mental dark age’ but the nature of the existing record. Records collected under the assumption that there is no non functional use of material culture, that sites are disturbed and material ex situ, and that the key questions are limited to chronology and settlement will naturally lead to a record reflecting these beliefs.

Evidence from symbolism and belief is similarly scanty nonetheless for most of the
British Isles. The only early prehistoric ‘cemetery’ in Britain is that of the Upper Palaeolithic site of Aveline’s Hole (Conneller 2006) and appears to be a unique phenomenon, excavated in 1860 and thus remaining unclear as to the number of individuals buried or their exact situations. Cemeteries are particularly associated with rare, potentially more sedentary Mesolithic societies such as in Denmark at Skateholm (Larson 1985) or in Northern Russia (O’Shea and Zvelebil 1984) or in Serbia-Romania at Lepenski Vir (Roksandic 2004, Roksandic et al 2006) (Bailey and Spikins 2009) and are in any case exceptionally. Single inhumations exist in some contexts (though have yet to be recovered in Britain) and may indeed be recovered surprisingly isolated from other evidence. The Bad Durremberg ‘shaman’ (Porr and Alt 2006) is a single isolated burial recovered in Germany with amongst the richest grave goods in Mesolithic Europe. The woman was interred with 120 fragments of mussels, 65 fragments of tortoise shells, a container made from a long bone of a crane, and 50 pendant made from animal teeth. She was apparently epileptic and perhaps therefore accorded special powers.

However the most common means of burial practice appears to be the disarticulation of remains and deposition of various elements of which interesting examples include human handbones interred with seal flippers at Oronsay midden. Such disarticulation and dissemination of human remains may relate to an ideology of ‘distributed personhood’ (Conneller 2006), a concept of shared identity and ideology of sharing pervasive in ethnographically similar societies (Bird-David 1990) and perhaps explains the rarity of burial evidence.

There was apparently an extraordinarily rapid adoption of unified Neolithic burial practice around 4000bc (Bayliss and Whittle 2007) however the extent to what such a rapid change in practice implies an equally rapid change in ideology remains in contention.

Attention has also recently been drawn to the symbolic importance of apparently mundane areas of archaeological evidence. A re-interpretation of March Hill Top (Manzi and Spikins 2008) for example suggests that at this site we see the symbolic use of fire to denote human presence. The uppermost hearth is small, burns only cool burning wood types, and is in a particularly exposed position (with a wide area of view). Even such apparently functional structures as hearths can be interpreted in a symbolic light or more meaningful light with a wider understanding of their use in ethnographic contexts.

**Research Priorities**

The early prehistoric period in the north of England has received little attention or focus. This is however more a reflection of the nature of the present record than of the resource itself. Key questions remain unclear, for example the use of the
An Archaeological Research Agenda for West Yorkshire

The Palaeolithic & Mesolithic Periods

uplands, the relationships between uplands and lowland, the meaning behind changes from the early to late Mesolithic and the significance of similarities between Mesolithic and Neolithic occupation (as well as evidence for differences). Sites with features and structured high resolution evidence for occupation and for specific activities doubtless exist, and it is also likely that lowland sites at wetland edges will also be present in some locations with a range of preserved materials.

Several foci for proactive research (see also English Heritage Research Framework for Palaeolithic/Mesolithic sites) therefore exist

• Research into prospection methods for early prehistoric sites (eg magnetometry) will be essential to site recovery. There is potential for collaborative PhDs (eg AHRC collaborative awards specify a costs of £1000 pa or negotiably less for non academic partner).

• Research into the nature of and potential locations of highly significant sites – i.e. high resolution sites (eg in the uplands) and sites with a range of preservation conditions (eg wetlands in the lowlands and cave sites) would be important, perhaps using a model from the North East Mesolithic Project (funded by English Heritage). A systematic survey and trial excavations of potentially significant sites would be invaluable.

• Very little is known about the archaeological resource beyond the limited ‘windows’ of erosion/collection/development. There is a need for research into the surviving resource and its potential, i.e. upland sites and their distribution and the potential for a broad range of preservation conditions in certain lowland situations. Paleoenvironmental work is also limited to certain locations and accurately dated pollen cores, particularly in association with archaeological sites, are needed to build up our understanding of Mesolithic landscapes.

• Focused dating programmes for existing sites and detailed assemblage studies would be invaluable. Relevant grey literature might also be made more accessible to the public domain.

• Raw material studies are urgently needed to inform discussions of mobility patterns.

• Detailed environmental reconstruction, limits of glaciations, periods of potential habitation are needed to allow a link between key changes in cultural features and environments, as well as to inform discussions of human impacts on environments. There is also an urgent need for detailed predictions of potential peat erosion patterns (eg with climate change) and their impact on sites.
• Detailed analysis of Mesolithic-Neolithic transition sites (eg on Rombalds Moor and Marsden Moor) is needed to inform us of the regional impact of the Neolithic

• There is an urgent need for detailed excavations to characterise activities and move away from ‘assemblage only’ focused research, as well as contributing to discussions of the use of the upland and the nature of occupation/settlement.

• There is a need to identify issues of recognition of the potential symbolic/non functional nature of deposits (eg March Hill Top hearth, or microlith ‘caches’, Stonehouse 2001).

• Public liaison and involvement is vital in encouraging local amateurs to report finds of Mesolithic material.

Acknowledgements

Many thanks are due to Ian Sanderson, Stuart Wrathmell, Steve Roskams, Peter Murray, Ed Blinkhorn, Jason Dodds, Andy Myers and Nicky Milner for comments, and Caroline Whickam-Jones, Jeff Sanders, Paul Preston and Rob Young and for comments and input on drafts of the report. All errors are the author’s own.
References


Bailey, G. 2004. The wider significance of submerged archaeological sites and their relevance to world prehistory, in N. C. Flemming (ed.) *Submarine Prehistoric Archaeology of the North Sea*, Council for British Archaeology Research Report 141: 3-10


Birch, unpubl, The challenge of Fieldwork (Palaeolithic and Mesolithic sites), draft report to Scottish Archaeological Research Forum Palaeolithic and Mesolithic panel


Bradley, R. 1998. The significance of Monuments: on the shaping of human experience in Neolithic and Bronze Age Europe, chapter referring to the contrast between Mesolithic and Neolithic graves


Buckley, F. 1939 'An account of the excavation of a table stone (or anvil) for the fabrication of flint and chert tools', *Saddleworth History Society Bulletin* 18, 59-60


Finlay, N. 2009. Introduction: Understanding the Social Context, in McCartan S,


Preston, P. 2008a. An additional archaeological assessment of Mesolithic sites within the Poproosed wind farm development at Crook Hill, nr Littleborough, unpublished.


final flooding of Doggerland by the Storegga Slide tsunami, Documenta Praehistorica XXXV, 1-24


