PREHISTORIC PEOPLE OF THE PENNINES:

RECONSTRUCTING THE LIFESTYLES OF MESOLITHIC HUNTER-GATHERERS ON MARSDEN MOOR

Penny Spikins

2003

Author's own version (Open Access) of volume published by

West Yorkshire Archaeology Service, English Heritage and The National Trust

Preface

The Mesolithic – the 'unknown' period

Of all the archaeological periods, the Mesolithic is perhaps the least well-known. Most people are familiar with peoples such as the Romans or the Vikings and how they lived, and even have a reasonable knowledge of people as far back as the Neolithic (and Neolithic monuments such as Stonehenge). However many probably haven't even heard of the Mesolithic.

Why should this be? Perhaps for one thing, the types of finds encountered on Mesolithic sites are often seen as uninspiring. The commonest artefacts which survive from the period are small flint pieces, the most distinctive being microliths – tiny and apparently very fragile tools. It is also very rare to find evidence for any structures, such as huts for example. Since, most of our evidence consists of little more than flint pieces and records of excavations, it can be difficult to reconstruct or even imagine how the people of the period lived.

It is not only the kind of the evidence we find which has made the Mesolithic period seem 'dull'. For many decades the lives of hunter-gatherers, the type of people who occupied Britain in the Mesolithic, were seen as very basic and uninteresting. Hunter-gatherers lived by hunting and gathering plant and animal foods, and for some time many people thought of this existence as a very difficult one, with people barely scraping a living from scarce resources, and having little 'culture'. Slowly, our ideas about hunter-gatherers have changed, especially as we begin to realise how rich the lives of recent hunter-gatherers populations were – people who in fact had much free time and complex social and cultural lives. Understanding modern hunter-gatherers has helped us to appreciate the kind of lifestyles which Mesolithic people would have had.

Mesolithic hunter-gatherers first occupied the British Isles about ten thousand years ago, after the ice from the last glacial period melted, and were probably the first people to occupy most of northern England. In the following chapters we will be describing the results of a series of excavations at a unique Mesolithic site in the Central Pennines. We also hope that we can use what we learnt from the excavations set within the context of what we know of period and what the lives of hunter-gatherers are like to bring Mesolithic people, the first occupants of the moors, 'to life'.

I would like to acknowledge the financial and organisational support of English Heritage, the National Trust and West Yorkshire Archaeology Service (West Yorkshire Metropolitan District Council) and the management of the latter (particularly Dave Berg). I would also like to thank four seasons of volunteers, who gave up their summer holidays to work at March Hill - without their enthusiasm, none of this would have been possible. Luis Borrero and Liliana Manzi provided much help with references about the Selk'nam and writing this chapter was made possible through the support of the Leverhulme Trust (grant SAS/30212). I would also like to thank everyone who looked after Matthew so I could finish – aunts, uncles and grandparents – especially Mirta, Lore, Neli , Ernesto, Celina and of course his dad Horacio.

Although the editor of this volume is the Project Director, Penny Spikins, the results are only available thanks to the field supervision and post-excavation research of Chantal Conneller and Brett Scaife, (especially Chantal, who carried out the lithics analysis) and to the other specialists, Barbara Brayshay who carried out the pollen analysis and Charlie French the micromorphological analysis. Joint academic publications by these authors are published or in preparation.

I would like to thank Brett Scaife (for permission to use photographs on pages xxx), Mirta Migliaro (for permission to use photographs of the guanaco and of Tierra del Fuego), the Tolson Memorial Museum (for permission to use illustrations from Buckley's notebooks), the Royal Geographical Society (for permission to use the photography by W.S.Barclay c.1901-3)…All other photographs and illustrations are the author's own.

CHAPTER ONE

The 'grey sand flint men' and the 'non-geometric folk'

Changing ideas about Mesolithic hunter-gatherers

Who made Mesolithic flint tools? When flint tools left by people in the past were first found, no-one knew. A popular explanation for finding arrow shaped pieces of stone were that they were fossilised thunderbolts, alternatively others thought they were made by pixies. Gradually however people began to realise that these stones were made by humans, particularly as news spread of recent hunter-gatherers in newly discovered continents and of how they used flint tools. A lot of soil had often accumulated above the levels in which flint tools were found, and after the principles of geology began to be understood it became clear that these tools must in many cases be very old. Obviously there had been people living in Britain in the past, who like the 'primitives' found on other continents made and used flint tools. However the age in which these ancient peoples lived in Britain, how they lived or even how ago they existed, was shrouded in mystery.

Mesolithic flint tools eroding of peat in the Pennines were first recognised in the middle of last century. They were commonly called 'pygmy tools'- microliths were so small that people assumed that they must have been made by pygmies. In those days, there were no 'archaeologists', but rather antiquarians who collected artefacts, and much of the research into stone tools was more the domain of geologists. In 1882[1] for example an article was published about the finding of flint tools on March Hill. The authors found many thousands of pieces eroding from the surface, and so dug holes in several places on the top of the hill to find out where the flints came from. They satisfied themselves that the flints came from a level of grey sand *beneath* the peat and were therefore very old. The tools they found weren't much mentioned – it was where they came from that seemed to be important. Since the tiny flint tools came from levels underneath the peat, the occupation by the people who made them must have dated to before the peat itself formed.

It would many years before a more precise date would be found. In fact, one of the main aims of early research was the search for a chronology to place the flints found on the moors to a certain time period, and put them in relation to earlier and later periods. Until the use of radio-carbon dating different authors had different ideas about chronology. One way to 'date' the finds was to look at the heights of different finds within the soil. Graham Clark[2] for example demonstrated that the 'microlithic' period (the Mesolithic) must have been earlier than the Bronze Age, as Bronze Age finds were in the lower levels of peat, whereas 'microlithic' tools were *beneath* the peat. However this method only told people if finds were older or younger than others, and sometimes where soil had moved and slumped for example, or where it was hard to tell which finds were highest or lowest people even got the relative ages wrong. James Petch[3], who published a book about 'Early Man in the District of Huddersfield' for example thought that 'Narrow Blade'(Late) sites were earlier than 'Broad Blade' (Early) sites as he thought they were lower in the soil.

---

[1] **LAW, R. & HORSFALL, J. 1882.** On the discovery of flint implements on the hills between Todmorden and Marsden. *Proceedings of the Yorkshire Geological Society* 8: 70-76.
[2] **CLARK, J. G. D. 1932.** *The Mesolithic Age in Britain*. Cambridge University Press: Cambridge .
[3] **PETCH, J. A. 1924.** *Early Man in the District of Huddersfield.* Tolson Memorial Museum. Huddersfield.

A better way of dating the tools was to compare them to tools from other areas. Francis Buckley for example was interested in comparing Early Mesolithic ('Broad Blade') sites with similar sites in Belgium. Of course this method is also problematic as similarities in tools do not necessary mean either a cultural connection or a similar date, plus early this century industries were often compared on the basis of a few illustrations rather than seeing the actual pieces. Buckley for example claims that a hearth found on March Hill is 'Azilian' though this Late Mesolithic hearth has little in common with actual Azilian sites from the French Upper Palaeolithic.

Francis Buckley's sketch of where flints were found at March Hill

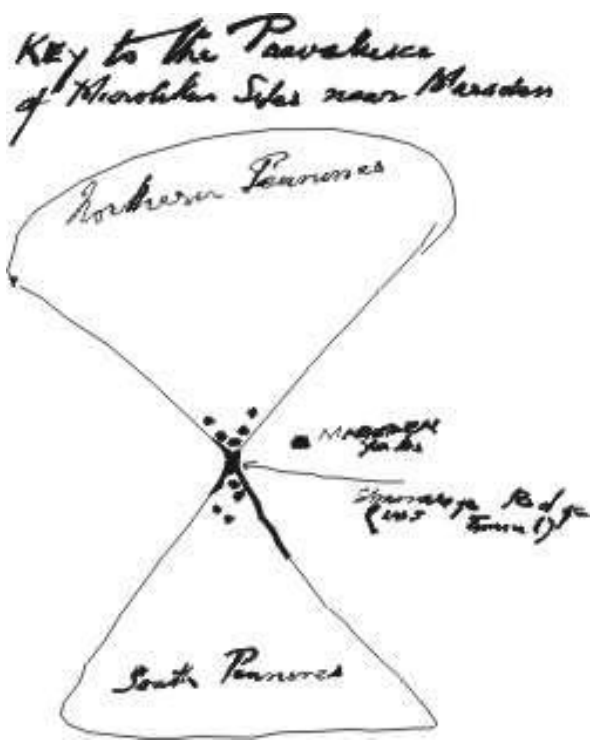
The way people named the stages of the Mesolithic tells us a lot about what they thought the important characteristics were. The first thing people ´noticed´ for example was where the tools were in the soil – what told them that the tools were 'old'. So the 'grey sand flint men' was a term coined by Buckley (1924) to describe the people who deposited tools within the grey sand level on the moors. As people became more interested in the tools themselves other names arose, the 'non-geometric folk' was how Clark (1932) described them, and Buckley later talked about 'Broad Blade' and 'Narrow Blade' sites. Now we divide the Mesolithic in northern England into two main periods – the Early and the Late Mesolithic, (Buckley's Broad Blade and Narrow Blade and Clark's Geometric and non-Geometric industries respectively). However, within these periods there are many different types of sites, of which some also appear to be chronologically distinct. The main phases are now well understood, but the precise chronology, despite the use of radio-carbon dating, has still to resolved.

Although there are relationships between British sites and those on the continent, the search for similarities between sites in the Pennines and ones far afield in Europe was typical of a time when people thought that people in the past must have belonged to different cultures or 'races' which were constantly on the move, invading or migrating to new areas. People had probably got their ideas about races and migrations from the large scale migrations which happened historically in Europe. Buckley[4] for example first explained the two different types of industries found on the Pennines (now known to be Early and Late Mesolithic sites) as likely to be 'the remains of … more or less simultaneous invasions of the Pennine chain from two widely different sources'. Petch also explained the presence of people in times of migrations or invasions noting that 'Huddersfield and District provided temporary camping-grounds, occupied possibly for long intervals of time, for tribes or parties of men who made up the great tidal flow of people towards the north and west from the south and east'.

These 'primitive' people were felt by some to have been likely to have been in conflict, with flint tools being seen by some as 'weapons' and the locations of sites typically chosen for defence. Petch notes that several of the sites 'are naturally protected by steep and precipitous slopes which would render them free from surprise attacks'.

[4] **BUCKLEY, F. 1924.** *A Microlithic Industry of the Pennine Chain,* privately printed.

Mesolithic sites were often thought to have been on the migration routes of people in the Mesolithic. Petch thus suggested that people used the high ground of the Pennines as a 'highway to the north'. Francis Buckley further suggested that the concentration of Mesolithic sites at March Hill was because people moving north or south along the Pennines would be funnelled together here at the narrowest point of the Pennine chain. In a similar vein, Edward Cowling[5] also explained the concentration of Mesolithic finds on Rombald's Moor as the result of people passing from the West to the East of the Pennines and using the moor as the lowest passing place.



Buckley's explanation for the concentration of Mesolithic sites near Marsden (notebooks, Tolson Memorial Museum). Text reads: Key to the Prevalence of Microlithic sites near Marsden. Northern Pennines. Marsden Yorks. Standedge Ridge (LMS Tunnel). South Pennines

Our ideas about movements of people, how they related and what caused the distribution of sites are different today. In fact, the evidence suggests to us now that people often returned many times to the same places, and though mobile probably stayed largely within the same region, which they would have known intimately. Although the large scale distribution of sites may hold some clues to what happened in the past, these days we would be most likely to explain concentrations of known sites in terms of how easy it is for people today to look for flints. March Hill for example used to be where one of the busiest roads crossed the Pennines. Even if we had other explanations we probably wouldn't talk in terms of 'races' or 'migrations'. Differences between the types of tools found on different sites are often difficult to understand, but apart from chronological distinctions, mostly seem to relate to the different functions of different sites – some where people simply sat and repaired their hunting equipment, others where people stopped to quickly process animals that had been killed, yet others where people may have camped, at least overnight, and built fires to keep warm.

People in the last century also had many preconceptions about what life would have been like for the 'primitive' people in the past. Many people, seeing the bleakness of the moors today, used to imagine that the people occupying the moors eked out a fairly miserable existence and were forced to be constantly on the move. Croft (1886)[6] refers to the 'occupation by the ancient Britons of the bleak moorland' and Buckley (1924)[7] refers to sites on 'rainy stormswept hills' even on the 'most exposed and inhospitable part'.

We now know that the moors were very different in Mesolithic times. Rather than peat hags they were uplands covered by woodland and scrubland – pine and birch woodlands in the early part of the period, oak, and later with lime in the lowlands in the later. These moors would have been full of food – with many different species of plants and animals, although because the acid peat prevents bone remains from being preserved we have little or no evidence of people using them. From other Mesolithic sites we know that people hunted and ate animals such as boar

[5] **COWLING, E. T. 1946.** Rombalds Way, a Prehistory of Mid-Wharfedale. Otley.
[6] **CROFT, W. R. 1886.** Discovery of Stone and Flint Weapons and other implements near Huddersfield, Yorkshire Archaeological Journal 9, 225-6.
[7] **BUCKLEY, F. 1924.** *'A Microlithic Industry of the Pennine Chain',* privately printed.

and deer, and at some nearby Pennine sites we have found evidence of roast hazelnuts. Mesolithic people must also have lived off many other foodstuffs from which nothing survives – hundreds of plant species are edible or can be used for medicinal purposes and many animals, including smaller animals such as hares, birds such as ducks and geese as well as fish were also undoubtedly important foods.

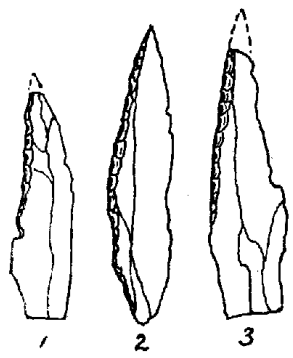
Rather than seeing Mesolithic people as struggling to survive, examples of recent hunter-gatherers have taught us that such 'living off the land' is normally much less hard work than growing crops or keeping animals. People in the Mesolithic probably ate well, only rarely 'going without' and almost certainly had much free time.

One element of the lifestyles of Mesolithic peoples is perhaps as shrouded in mystery today as it was over a century ago. There is still very little known about the ritual or religious lives of the ancient occupants of the moors. Only a few tiny clues remain. Early writers for example felt that the finds of 'red ruddle' (iron oxide) on the moors demonstrated a fascination on the part of these 'ancient peoples' for this red colouring – perhaps a symbol of blood used in funeral or other ritual activities. Perhaps they were right – although it may also have been used simply as a dye for clothes for example. Petch (1924) suggested that burnt flint found on the moors may have been symbolically destroyed – this may have been the case, although flint often easily gets burnt when it falls onto a fire.

Little remains of the ritual life of Mesolithic peoples. Nonetheless, what we do know from recent hunter-gatherers (as shown in chapter five), is that myths and rituals would have been very important to them.

We know a lot more about the Mesolithic in the Pennines than we did over a century ago – but there are still some huge gaps in our knowledge. We know much more about dating, how flint tools were made and used, the types of environments people lived in and what they ate, but we still know relatively little about their social or ritual life. The gaps in our knowledge, where we might go to find the answers, and the threats that are today posed to the remaining evidence are described in the next chapter.

Flint Technology



Francis Buckley's drawing of Early Mesolithic microliths

From early this century people became interested in the technological side of the artefacts found on the moors. These 'tools' were clearly made for a specific purpose, many being intricately and carefully designed and produced - microliths (termed 'pygmy tools') in particular.

The 'toolkit' of Mesolithic people clearly consisted of a number of different 'tools' associated by the biproducts of manufacture (tiny flakes of what is now termed 'debitage').

When people work or 'knap' flint to make tools, the way they break pieces of flint from a nodule is not random but follows certain techniques. Perhaps the most common of these is the technique of taking 'blades' (long thin pieces useful for cutting) from a 'core'. First most of the outer cortex is taken off a natural nodule of flint, then a 'platform' is made from which blades are taken. Often a skilled knapper takes several blades from one platform, then makes creates another platform, perhaps at the other end of the core, from which they can take more blades.

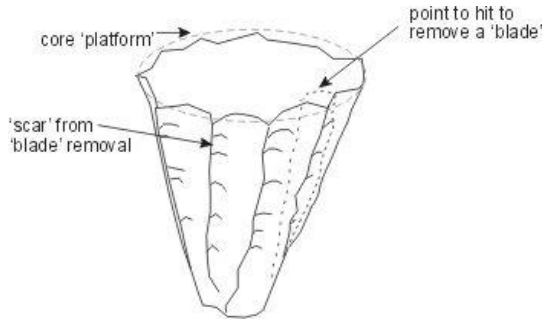


Diagram to show how blades are produced from a core

By 're-touching' (chipping the edges) of blades and flakes other tools could be made – such as microliths.

Typical artefacts found on Pennine sites include simple flakes, blades (often retouched or used), scrapers, 'gravers' (now call burins), with 'cores' (the centre of a nodule left after pieces have been removed) and hammerstones (used to knap flint) as well as tiny pieces of 'debitage' (waste flakes).

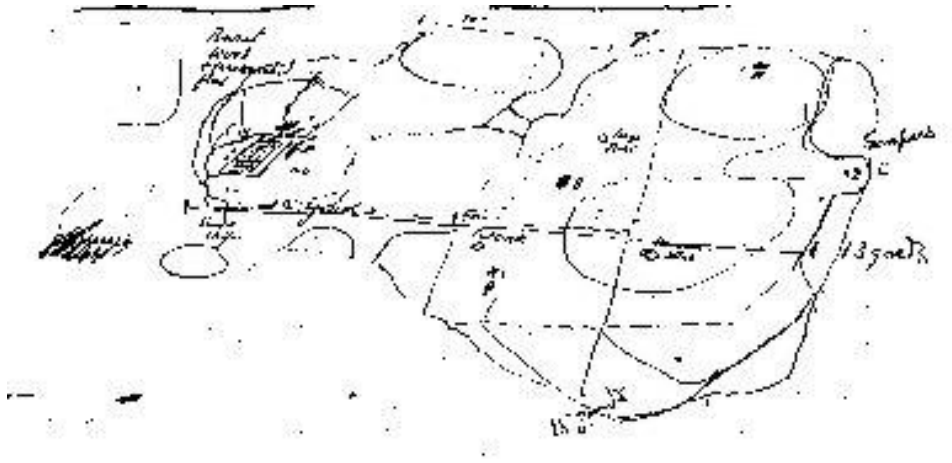
Our knowledge of how Mesolithic technology was used has improved significantly since early this century. Many early authors (Buckley for example) thought that microliths may have been used as 'fish throttles' . We now know that, as well as other possible uses, microliths formed the barbs of arrows (singly or a few in the early part of the period, with many on each shaft in the late).

We also know that 'microburins', which were called 'micrograverers', were not really made as tiny engraving tools, but are instead a waste product from making microliths.

Examples of cores found on March Hill

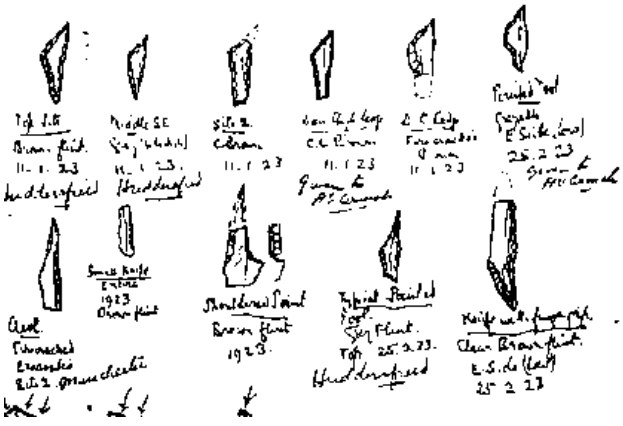
Francis Buckley

Francis Buckley is perhaps the most important historical figure in the history of studies of Mesolithic sites on the Pennine moors. He excavated many sites in the 1920s, and spent all his spare time roaming the moors, even in terrible weather conditions collecting flints from erosion patches. Not only were his notebooks and collections a major source of evidence for much academic research on the nature of Pennine Mesolithic industries but charcoal from his collections formed the basis for the first scientific dating of the period.



Buckley's plan of Warcock Hill North site

Buckley was a leading figure in his time. However excavation methods have changed radically since the 1920s and we can easily appreciate the amount of 'extra' information which modern excavations can yield (see box, page x). In Buckley's era for example, the main emphasis in any excavation was on the artefacts themselves, and many collections weren't accompanied by even the most rudimentary plans. Buckley was fairly unique in taking an great interest in the distribution of artefacts and the presence of possible features, but his drawings (see figure) were largely sketch plans from which it is difficult to analyse what his possible structures represented or to compare them to others. His collections are our main resource for excavations of this period, but his habit of sending samples of different tool types to different museums means that the integrity of these collections is often under question.



Buckley's drawings of finds from March Hill

Today we are no longer interested in the artefacts for their own sake, but in how they are used together and how we can use artefacts to piece back a record of what happened in the past. Excavations are slow and meticulous, with even the locations of the tiniest pieces recorded, and we expect to have detailed records of the distribution of artefacts and features even in three dimensions.

CHAPTER TWO

Problems and Perspectives

What we need to take into account when we try to understand the Mesolithic

From flint tools to real people

It is often difficult to even imagine that collections of flint tools were ever part of the lives of people who lived five to ten thousand years ago. Of all their possessions, barely a tiny fraction remain, and the evidence left to us from which to piece together their lives is at best very biased. Archaeologists use ´detective work´ to try to piece together what happened in the Mesolithic but it is a difficult challenge. We need to know about many different things - from how things may have been used, to where materials such as wood or flint might have been found, to how things like soil erosion or processes of decay affect what people left behind in the past.

The chain of events which affect evidence for Mesolithic activities can be complicated. From the day that Mesolithic people abandoned their resting place or campsite many different processes have changed what they left behind, very often destroying it completely.

First, only in certain places where soil has built up over what people left behind will any traces remain of their activities. Even then, most things they left will have perished, all the wooden things, pegs, poles, arrowshafts and bows, or perhaps other things, such as baskets or hides will all have decayed. Even the bones left after a meal are only rarely preserved. In the Pennines we are left with only stone tools, and if we are very lucky perhaps some remains of a pigment (iron oxide), marks in the soil giving us some clues as to where there were hearths or postholes, and maybe even burnt wood or extremely rarely nut shells. Even in the best of situations, the precise locations of stone artefacts will also have been affected by things happening in the soil such as the movement of earthworms, rabbits, and creep of soil downslope.

Although they seem very distant from the lives of past hunter-gatherers, Mesolithic flints preserved beneath the Pennine peat often provide us with our only evidence of what happened here in the Mesolithic. Nonetheless, by carefully piecing together all the evidence, from tiny pieces of waste left from making tools to tiny fragments of charcoal, we can learn a lot about the lifestyles of Mesolithic peoples.

Before discussing how the results of recent fieldwork can be used to ‘bring to life’ the Mesolithic however, we first need to look at what the legacy of fieldwork since the end of last century can tell us about Mesolithic people in the Pennines and what key questions remain.

The information from past research

For over a century people have been collecting flints and even digging sites on the moors. Unfortunately much of this information has been lost, but some is housed in local museums or published in local journals and gives us a starting place for piecing together the past.

View of March Hill from the North

Recorded local sites take many different forms – from small scatters of flint eroding from a peat face to larger sites where people have recorded many hundreds of artefacts, as well as sometimes hearths or even evidence of structures.

The rarest, although apparently largest, types of sites belong to the early phase of the Mesolithic. Sites belonging to this early phase typically include relatively 'large' microliths made from white or grey flint, and also other distinctive tool forms. Some of these early sites appear to show evidence for structures which may have been some kind of shelters – such as noted by Francis Buckley at Warcock Hill North (illustrated in chapter one), or suggested by Radley and Mellars[1] for the site of Deepcar in the southern Pennines. Whether these were huts designed for occupation over several weeks, or little more than temporary, quickly set-up and removed tents is unclear.

Other interesting observations have also been made about these sites. Some differences between the types of tools found on these sites appear to relate to different activities – with some evidence for lowland sites having rather more burins or scrapers (perhaps used for curing hides or woodworking) in relation to microliths. Aside from these kind of differences however studies have also shown that these early sites appear to belong to one of two groups, each using slightly different raw materials and with slightly different technologies, though both apparently from getting flint raw materials from a long distance away - the East coast and Yorkshire and the Lincolnshire Wolds. The explanation for the difference remains enigmatic.

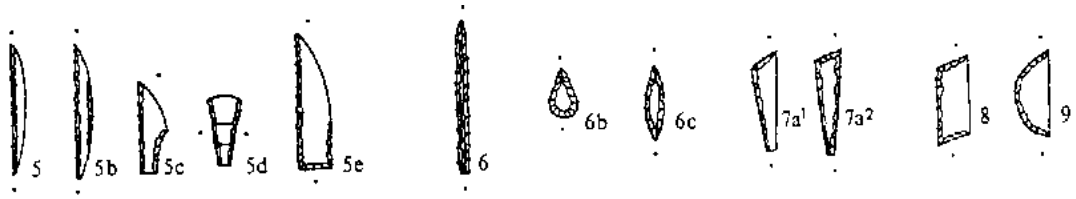


Diagram showing different 'styles' of Late Mesolithic microliths

Late sites appear to be rather more common – but not surprisingly as the 'late' period lasts almost twice as long as the early. Sometimes late sites can be very small, Francis Buckley found a site containing no more than a group 35 triangle microliths together on White Hill for example, and other similar collections of microliths with few other tools have also been found at several other sites. These collections may be the remains of discarded arrows (with many microliths per arrow shaft), perhaps where an animal was killed, or they may even have been left behind to be used again at a later date. Distinctive differences between sites are again apparent which are difficult to explain – particularly with some sites containing mostly one particular 'style' of microlith (as noted by Stonehouse[2] on Saddleworth-Marsden moor). The

[1] **Radley, J & Mellars, P. 1964.** A Mesolithic structure at Deepcar. Yorkshire. England and the affinities of its associated flint industries. *Proceedings of the Prehistoric Society* 30: 1-22.
[2] **Stonehouse, W. P. B. 1987.** Mesolithic sites on the Pennine watershed, *The Greater Manchester Archaeological Journal* vol. 3: 5-17.

microliths[3] might relate to different types of activities – or perhaps on the other hand to different traditions or groups with slightly different ways of making the same tools. Of course, with the Late Mesolithic lasting around three thousand years, we can't ignore the possibility that different types of sites were used in different periods.

Unfortunately, although thousands of flints are today in museums and private collections, and large areas of sites have been excavated, with a few notable exceptions the records left of collections or excavations are so scanty that we still know relatively little about the lifestyles of Mesolithic people. It is often unclear exactly where finds have come from, and what are probably many different overlapping phases of use (represented only in incomplete form) are mixed together as a single collection.

Though the types of interpretations we can make about Mesolithic societies on a national or international scale has changed enormously through the use of scientific methods and new ways of looking at hunter-gatherer societies the limitations of the records left to us make it difficult to 'make sense' of the local Mesolithic record in terms of real people or activities. We are still left with some 'big' questions to answer.

The Challenges

Clearly we need to find out more about the Pennine Mesolithic while we still have a chance. Some key questions seem the most urgent to address.

Perhaps one of the most obvious and simplest question about Mesolithic sites, though one which is surprisingly difficult to answer is that of *where* sites are. Of course, we are not only interested in where the sites that have already been dug were, but where the 'rest' of the evidence for Mesolithic occupation might be found. We have begun to appreciate more and more that where people sites find 'sites' is largely a result of where flints have been exposed by erosion. The more we can uncover about where Mesolithic sites really are, the better clues we have as to how much of the evidence is left – and from the point of view of what happened in the past – how people used their landscape and where their favourite places were.

'Where' might however be one of the most difficult questions to answer. Flint tools and even hearths don't show up on the 'below ground' equipment often used in archaeology – finding sites across many miles of moorland and under many metres of peat is an almost impossible task.

Of course, we are not just interested in mapping sites. We might also hope to look in more detail at what the evidence can tell us about the lifestyles of Mesolithic people – to address some of the major gaps in our knowledge – most obviously to ask what people were doing on the moors. Perhaps one of the most obvious gaps in our knowledge of the Mesolithic is that we still don't know how the Pennines 'fitted in' with the rest of their system of settlement – what people were doing in the uplands. Many authors have seen the uplands as a marginal environment – used perhaps by transitory hunting groups looking for deer in the summer. However there are a number of problems with this. We are increasingly beginning to appreciate that microliths are not necessarily a sign of hunting, and that we need to look at other tools and consider other activities, collecting plant foods, preparing hides or wood for example. We will probably never find much in the way of bones or plant remains to tell us what people were eating, or the 'rest' of tools such as arrowshafts, bows or wooden or basketry items but by careful analysis of precisely excavated flint artefacts we might gain some more clues.

What people were doing in the Pennines may of course have depended on seasons or particular places and almost certainly varied over the five thousand years that people visited the area. We might want to collect information which will tell us what differences between sites might mean and what kind of changes took place.

[3] **JACOBI, R. M. 1976.** *Aspects of the Postglacial Archaeology of England and Wales*. unpublished PhD Thesis. Cambridge.

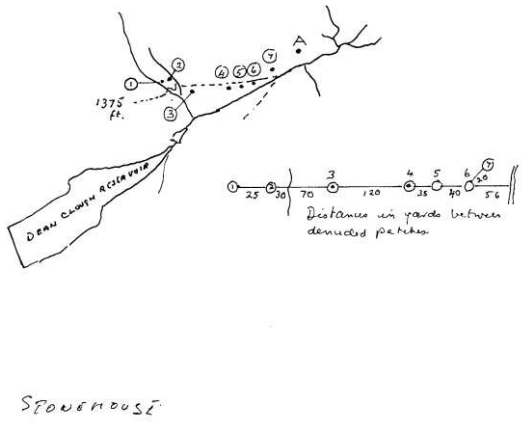
Perhaps some of the most interesting questions relate not to what people did, but why? Why people carried out the activities they did, of course relates to several different scales of time and space. On a large scale of time and space we are interested in why people visited the Pennines, and why the things they did there changed with time. On a smaller scale, we want to know why they chose to camp or stop at a particular hillside, why they made hearths in one way or another, why they chose to make certain tools and not others.

Some of the interpretations we were once confident in perhaps need a re-assessment. The way we went about trying to address at least some of these questions is described in the next chapter.

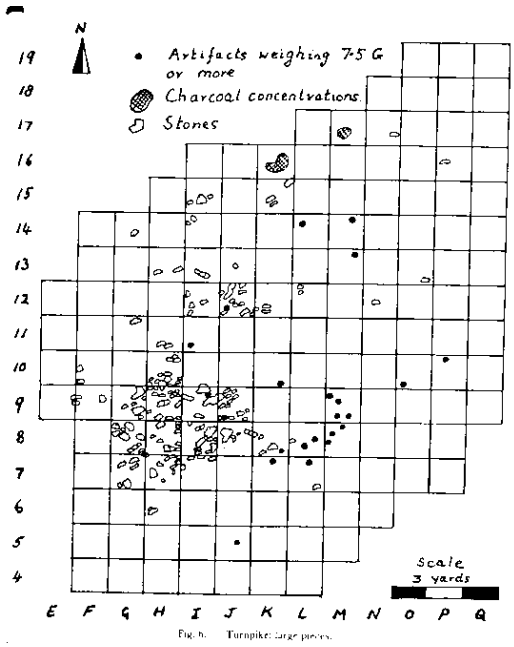
23 years of fieldwork – Dr P. Stonehouse

Much as local interest is a vital cornerstone of archaeological work, a local tradition of collecting and even digging for flints on the moors without leaving records, or publishing results has meant that the evidence for what happened in many places has been 'lost'.

Fortunately some people have tried to leave as good a record of what they find as possible. Pat Stonehouse, a medical docter, first became inspired by archaeology after a holiday in Egypt. He was surprised to find that the moors near his home were also full of evidence from the past – a past far removed from the pyramids of Egypt of course but no less interesting. Alongside his wife Margaret, he started recording flints found on the moors and reading publications. In contrast to many unscrupulous flint collectors, Dr 'Pat' Stonehouse's work was careful and meticulous.



An example of one of Pat Stonehouse's plans of where he found artefacts



Plan of Pat Stonehouse's finds at Pule Hill Base

During Pat's 23 years of fieldwork he succeeded in bringing together information from many different sources, including word of mouth, about the nature and distribution of Mesolithic sites on the Saddleworth-Marsden moors. Thanks to Pat Stonehouse's work much of the evidence from collections and excavations on the moors which would otherwise have been lost has been made available to the public. He became very knowledgeable about recent research on the period and through his local publications brought this knowledge to the wider local public. Dr Stonehouse spent much of his spare time collecting flints from erosion patches, and meticulously recording their locations on plans. He carried out some excavations (with permission of the land owners) as painstakingly as possible, many of sites threatened by destruction (such as his Pule Hill sites, exposed by moorland fires in 1976) and more importantly recognised the need to publish his results. His publications have provided us with important information about both a number of key sites and distribution of findspots and material on a broader scale.

The project was much indebted to Pat for his help and enthusiasm.

Pennine flint scatters – a vanishing picture

Part of a flint scatter recently dug out on March Hill Top

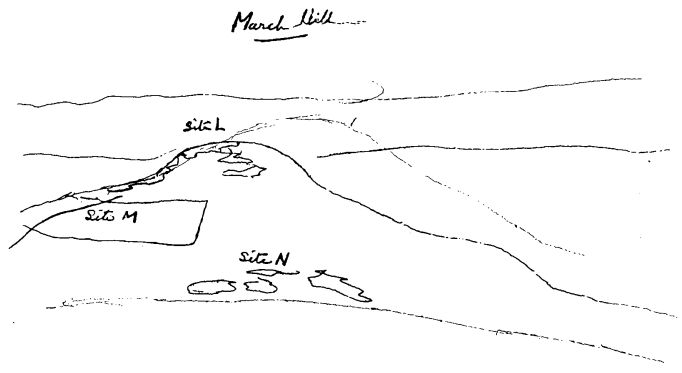
The need to address some of the gaps in our knowledge of the Mesolithic has been getting more and more urgent as fewer and fewer Mesolithic sites on the moors remain to be studied.

Before the last century most of the Mesolithic sites which had been preserved until then were relatively safe. The first threat to these sites came from extensive peat erosion. Higher and higher numbers of sheep were farmed on the moors in the last century to feed the growing numbers of people in the nearby industrial towns. In too great a numbers sheep can easily cause extensive erosion as they not only eat grasses down to their stumps but also have sharp hooves which damage sensitive plants. Moorland vegetation in the last century was in any case more sensitive because of atmospheric pollutants – soot and smoke from local factories.

Moorland erosion near Dean Clough

Local people began to notice flints eroding from peat faces at the middle to end of last century and by early this century many hills were reported as being bare of peat. Flint collecting and digging for flints became a local tradition.

John Turner in 1964[4] noted for example '*March Hill, the mecca of all true flint addicts…this place is in absolute turmoil being slashed, hacked and torn to pieces in a most sacreligious way. Ammon Wrigley would surely turn in his grave could he but see, the terrible way in what March Hill has been cut to pieces'*.

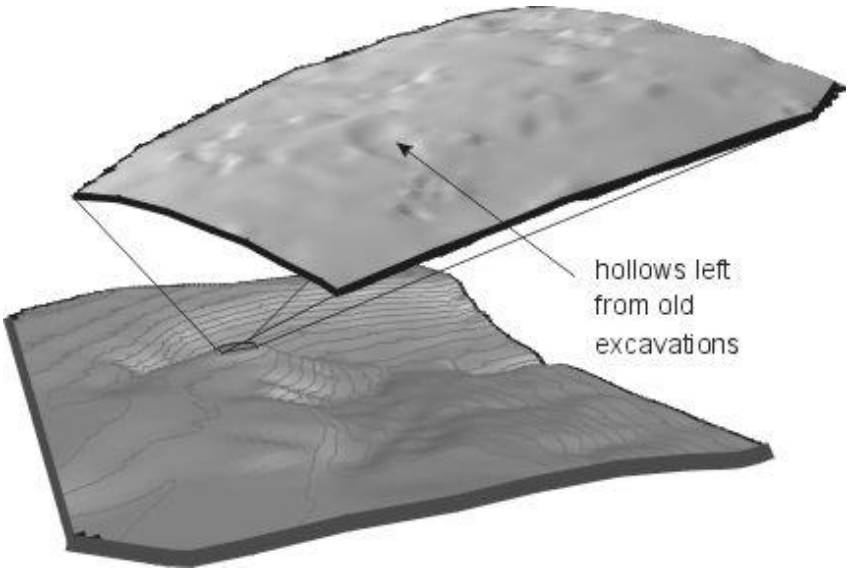


Francis Buckley's plan of his March Hill sites

Sadly few records of what was collected have found their way to museums. Even where records were kept, many are not detailed enough to address most of our questions.

We know that Mesolithic sites are concentrated in certain places and sadly that the history of what happened at certain key sites has probably already lost. At Pule Hill for example a moorland fire in 1976 destroyed all peat and soil cover, and of course Mesolithic sites. Likewise, very little 'intact' surface remains on March Hill Top, renowned since early this century as one of the most prolific and important Mesolithic sites. In fact, nearly all the soil which has not been eroded has been dug out.

[4] **TURNER, J. L. 1964.** Notebooks, Tolson Memorial Museum.



Contour survey of March Hill Top showing the locations of old excavations

Buckley's sketch plan of his sites on March Hill show the extent of erosion and diggings here in the 1920s. We still don't know what he found in these places and the collections are numbered differently. The size of old diggings also show up in our surface surveys. The top of the hill appears to have been important for some reason – though we may never know why.

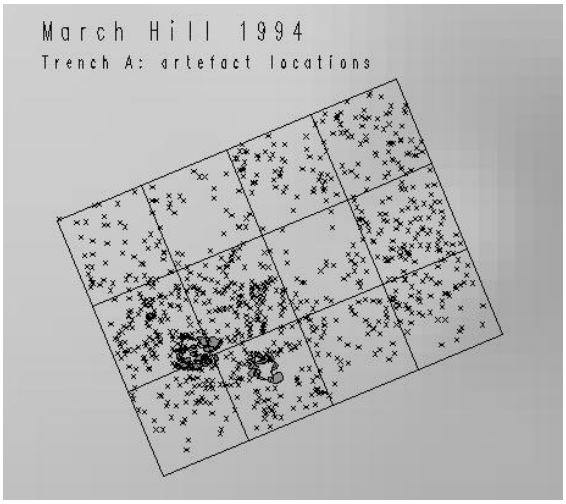
Unravelling the record for the Mesolithic past – new methods and techniques

Using laser based survey equipment at March Hill

Over the last 50 years scientific methods have revolutionised the type of interpretations we can make about sites. Thanks to precision recording equipment giving us accuracies of mm, we can record exactly where artefacts are found and how they relate to each other - all of which information which can be directly transferred to a computer (see box page *). We can also find out much more from carefully excavated artefacts. Analysis of deposits on stone tools for example can tell us about types of resins used in hafting, analysis of wear patterns can tell us how certain tools were used.

We have begun to be able to look more and more closely at the distributions of artefacts on sites and at the artefacts themselves, and to extract more and more useful results from smaller and smaller areas. When excavating Mesolithic sites, today much information can be gained from even a few metres square. At March Hill Top, as part of the Mesolithic Project a small hearth was even taken up and analysed in the lab – it took along time but gave us important information about how the hearth was used.

Not only methods of recording sites but also the precision to which sites can be dated has also improved immensely. Charcoal dated in the 1960s could give us a 'margin of error ' (within which we expect the real date probably lay) of 100 or maybe 200 year, now this same margin can be as little as 15 years.



Computer plot of the locations of finds at 'Trench A'

A microexcavation sample before being taken from the site

Hearth being excavated in the lab.

Of course, whilst scientific methods have ask entirely new questions about the past, the study of the Mesolithic has equally been changed by the development of new ways of looking at 'hunter-gatherer' societies. Research throughout Britain and within Europe has also given us a much better understanding of how Mesolithic populations lived – how they used their environment, hunted, gathered and the types of camps and settlement they occupied. Looking at ethnographic societies, as well as changes in the way

archaeologists view the past, have also made us ask different questions about the past and to realise how important social and ritual life was for hunter-gatherers (see chapter five).

SECTION THREE

The West Yorkshire Mesolithic Project

Designing a fieldwork Project to find out more about the Mesolithic sites

We saw from the previous chapter that although Mesolithic sites are fast being lost to erosion and destructive collection we are still a long way from understanding the lifestyles of Mesolithic people in the Pennines.

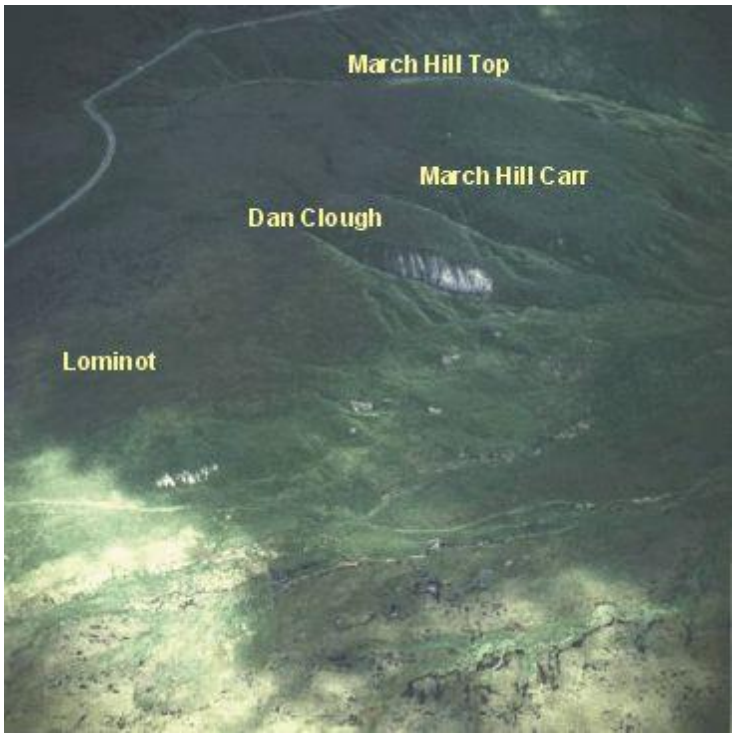
Research to help fill in the gaps in our knowledge could have concentrated in any of several areas. However, March Hill was an obvious choice because of many recent diggings for which there were no known records (in one case an area of over 40m^2 had been dug out). As we have already seen March Hill is one of the most famous Mesolithic spots in Britain, and from accounts by local collectors appeared to have one of the highest densities of Mesolithic sites. We also saw however there is little left from which to understand why March Hill should have been so important. The need to protect such a valuable site could be tied in with trying to build up our knowledge of the local Mesolithic.

After many months of background research, West Yorkshire Mesolithic Project was set up in 1993 when the first year of work on the moor was largely concentrated on trying to work out how much damage has been done to the site. This first year was followed by three more years of fieldwork. The project was based at West Yorkshire Archaeology Service, and thanks to funding by English Heritage and also the National Trust a group of professional archaeologists and volunteers (largely students with help from interested local people) were able to spend a month or so of their summer holidays carrying out fieldwork from 1993-1996. The challenge which the project faced was to recover the most information possible from the sites whilst doing the least damage, and to go some way to filling in the 'gaps' in our knowledge. It was a difficult challenge, but thanks to the hard work of all the people involved in the project the end results gave us important insights into what had happened on the moors in the Mesolithic.

When dealing with such a large area of moorland we realised that to start to answer the questions we described in chapter two (the 'where', 'what' and 'why' things happened in the past) we needed to design methods appropriate to the different questions at different scales. The largest scale we dubbed 'the landscape', moving to a medium scale of 'particular places' (a clearly defined valley or promontory for example) and a yet smaller scale of 'sites' (that of a few metres). At each of these scales, using a number of different methods, we collected evidence about threats to the sites and about what might have happened there in the past. Often interpreting this evidence in terms of real people in the past was far from straightforward, demanding not only in-depth analysis but also an understanding of lifestyles of hunter-gatherers (such as the Selk'nam as illustrated in chapter five).

The landscape

The largest scale we dealt with was dubbed the 'landscape'. We mean an area, perhaps a whole hill or valley system or series of small hills together, which might have had some meaning to people in the past. In this case the 'landscape' we are studying is made up of a hill and plateau – March Hill and Lominot – which sit slightly apart on the East of the Pennine watershed.



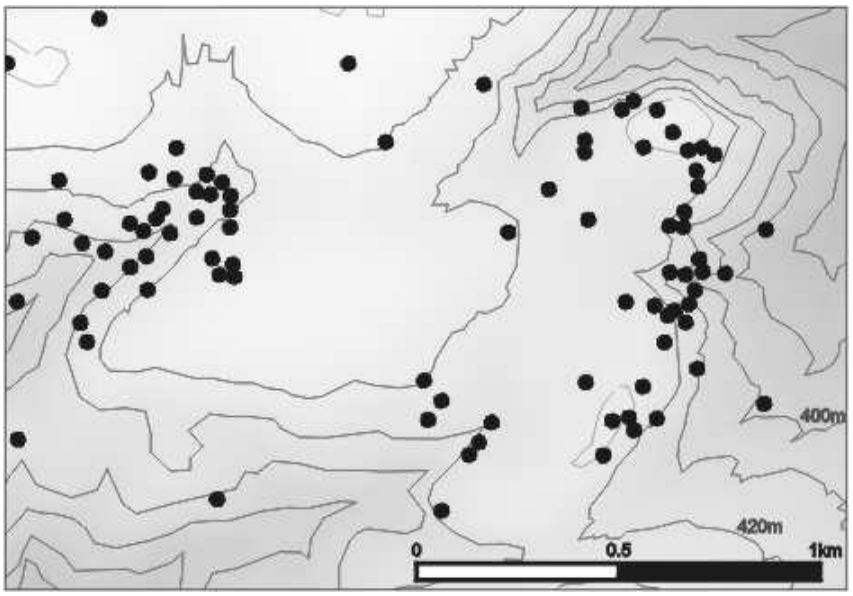
The 'landscape' studied by West Yorkshire Mesolithic Project

The first thing we wanted to know was simply where the sites were. Not only did we need to focus our own research but also to understand the nature of the threat to the sites – which sites might be at particular risk from erosion or quite simply *how much* evidence remained and *where*. Where the sites were might also clue us some clues about what people were doing here in the past.

This question proved the most difficult to answer. Since there is only very rarely any evidence for structures (and even then only perhaps tiny postholes) Mesolithic sites cannot normally be found using the typical archaeological equipment for detecting evidence below ground (especially on the moor where a thick iron pan would also confuse results). This means that the only way to discover a site is to dig down to find it... a tall order where peat depths can reach several metres. It is almost impossible to carry out surveys by digging down to find out where sites are on a scale as large as 'the landscape' (and in any case this method would in effect 'damage' sites) so our best source of evidence for Mesolithic activities comes from old records of surface finds or excavations. This type of evidence is very vague. Sadly few people kept a good record of where things were found, and even Francis Buckley's maps are very imprecise. Nonetheless, over a hundred sites had been recorded in this landscape and the adjacent valley and these known 'sites' were our best hope of trying to understand what happened over this whole landscape in the Mesolithic.

The distribution of known sites appears to show a lot of patterning – sites tend to be recorded at a certain elevation, especially on south-facing slopes and valley heads. We thought that perhaps we could draw some conclusions from the types of places where people tended to find artefacts. A preference for high locations with a good view for example might imply that people preferred to choose places where they could sit and watch for game in the valley below, especially in more sheltered, south-facing spots. We were optimistic about the possibilities for building up a kind of general model of where Mesolithic sites might be found, based on the locations of known sites, which might also tell us where to look for other sites.

However before basing any conclusions on the locations of flint scatters which had been discovered historically we had to see if there was any bias in this distribution of known sites. Perhaps in the past it was easier to find sites in certain particular locations for example, making our map of known sites biased towards these places.



Distribution of sites at the Pennine watershed near March Hill – showing how sites appear to cluster in certain types of locations.

To investigate the influences on how easy it was to find sites, and also to build up our knowledge of patterns of erosion, and where places might be at risk from erosion, we carried out a detailed survey of vegetation and soil cover at the narrow valley to the west of March Hill called Dean Clough.

Our hopes about using the historical patterning of sites were sadly thwarted, as this detailed survey revealed that indeed it *was* easier to find sites in certain places. We found that at a very particular elevation, on the edge of the peat plateau where different types of moorland vegetation meet, peat tends to erode particularly easily and flint artefacts under the surface are easily exposed. Sheep also take advantage of the breaks in vegetation and erosion hollows to rest and often scratch out even bigger holes (called 'sheep scars') particularly on the warmer southern slopes. These locations – where peat tended to erode and flint tools become exposed - were exactly those where flint sites had been recorded in the past. In sum, though Mesolithic people might have preferred certain places (and indeed a large scale test-pitting survey from our first year *suggested* that at least south-facing slopes were preferred) the evidence was too biased to make any conclusions and the scale too large to hope to carry out meaningful archaeological surveys.

A 'sheep scar' on the south facing slope of Dean Clough

What appeared to be the simplest question was thus almost impossible to answer. Although we might have our own ideas as to where evidence for Mesolithic activity might be concentrated on a landscape scale (it would certainly make sense for people to have preferred south-facing slopes, or places with a good view), sadly we found that there was little real evidence to guide us. Answering the question of where exactly flint scatters are on the large scale of entire landscape is something that we will have to leave to future archaeologists.

Nonetheless, though we couldn't place much trust on precisely where sites were found, historically recorded scatters of finds did give us some important clues to the types of things that

were going on. Certain types of sites appear to be found in some areas, whilst others are more common elsewhere. The most obvious pattern is the difference between Early and Late sites. Early Mesolithic sites on Marsden moor for example tend to be concentrated on the flat plateau called 'Lominot' and at lower elevations to the south-east of March Hill, whilst most of the sites on the top of the hill, at March Hill Carr, and to the East at Dean Clough are Late Mesolithic sites. Perhaps something in particular made certain places more favourable in different periods. Possibly as climates got warmer and as different types of trees and shrubs grew the popularity of different places would change. Often it is difficult to work out what might have 'drawn' people to a certain spot - something like a small copse of trees may have given some shelter or the preferred type of firewood and meant people tended to stop in the same place for many years although no evidence of these trees would survive today.

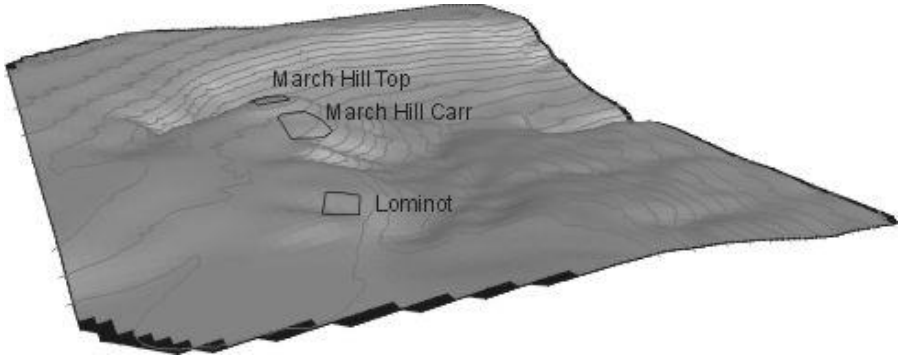
Another thing which we notice from historical records is that in some places huge numbers of finds have been found, whereas in other apparently similar places there were only a few pieces. It is always difficult to know what these sort of concentrations mean. Dense concentrations of finds may represent a large group of people who stopped once, or a small group who came many times. In any case, it is difficult to judge from historical records how potentially 'important' an area might have been. We can't draw many conclusions from how many recorded 'sites' are present, as whereas some people would say that just a few finds are a 'site', others would say only say a hundred finds is enough to be called a 'site'. Nonetheless, where we know that there were many thousands of finds – such as at March Hill Top for example - these probably built up over many occupations in the past. It seems that people chose to return many times to almost exactly the same spot, which may have particularly popular for practical reasons such as shelter from the wind, or because of a good view, or alternatively might just have become a place it was 'traditional' to use.

There are other contrasts which we notice between sites spread out over a 'landscape'. Sites in the lowlands often seem to have more 'scrapers' (often associated with scraping fat off skins to prepare them) then those at higher locations. Possibly the lowland more sheltered sites were where people preferred to stop for longer periods and had time to set about making things like clothes and tents. However, it is often difficult to know how to interpret these differences. In our excavations for example the area we excavated on March Hill Top (dominated by rod shaped microliths and exclusively consisting of brown/grey flint material) was very different from that on March Hill Carr (dominated by triangle shaped microliths, with pieces made if both flint and a black chert). Of course, we don't know if what we found was really a good example of the types of things that happened in those places, or if people were doing something quite different from the 'norm' in those parts we excavated. To understand what happened in the past we also need to know more than just the types of finds at any place – we need to know how the finds were distributed, and what marks in the soil might tell us about things in the past – things that only detailed excavations can tell us.

Particular places

The question of how the evidence for Mesolithic activities is distributed is somewhat easier to approach at the medium scale, that is when we are dealing with particular places – a hillside or hill top for example. At this scale we could feasibly carry out our own surveys to address the key questions.

The project looked at three places on Marsden moor in detail at this scale – March Hill Top, March Hill Carr, and Lominot.



Three dimensional model showing the locations of different 'places' studied by the Project.

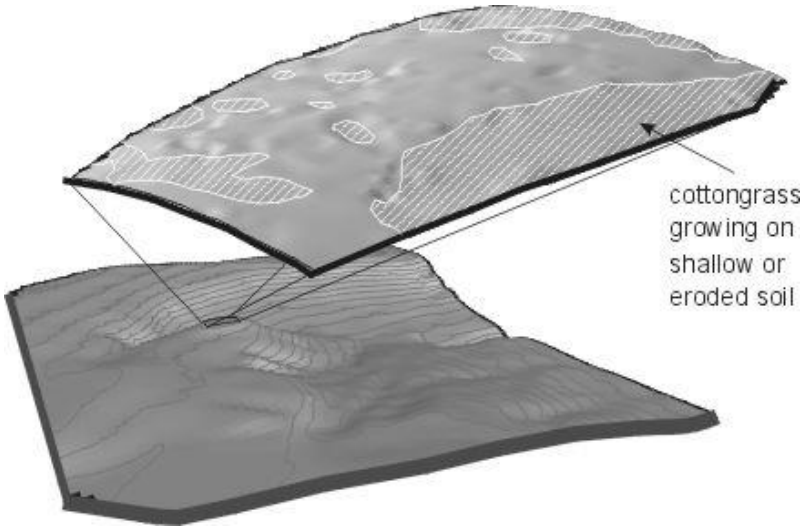
We aimed to gather the most information possible from different sources about each of the areas – the nature of the present land surface and possible evidence for past excavations, types of vegetation, types of erosion, and whatever evidence there might be in museums or other records before carrying out any other work. As well as concentrating on these three areas, at Dan Clough some further investigations (vegetation, present surface, but not including small scale archaeological work) were carried out and at Dean Clough to the west of the Pennine watershed detailed vegetation surveys and records of damage were taken.

Aerial photograph showing the areas mentioned in the text

For each of the three main locations, a contour survey was carried out using laser based survey equipment and by transferring this to computer we could get a good picture of the layout of each area. At March Hill Top (as shown in the last chapter) for example the contour survey clearly shows the locations of large 'craters' – the holes left by previous excavations.

Often some areas were still actively eroding, or had been recently dug – the location and extent of these areas were carefully recorded. A survey of the different types of vegetation at each area also gave us important clues as to the depths of soil, and in many cases also highlighted where old excavations might have been, areas where now vegetation preferring disturbed soil prospers. At March Hill Top for example, the distribution of cottongrass growing on shallow soil gave us a further good clue to where the hill had eroded in the past, and where old diggings had been carried out.

It was sometimes possible to work out what might have been removed from the old excavations, either by talking to local amateur archaeologists or by looking at museum records, although it is often difficult to be sure which apparent 'hole' corresponded to which recorded 'site'. We also tried to stop holes being damaged any further by erosion by making the edges sloped to encourage re-growth of vegetation, and the finds carefully recorded from this process also gave us some clues about the possible types of sites.



Part of the vegetation survey on the top of March Hill, showing areas of past erosion or old diggings.

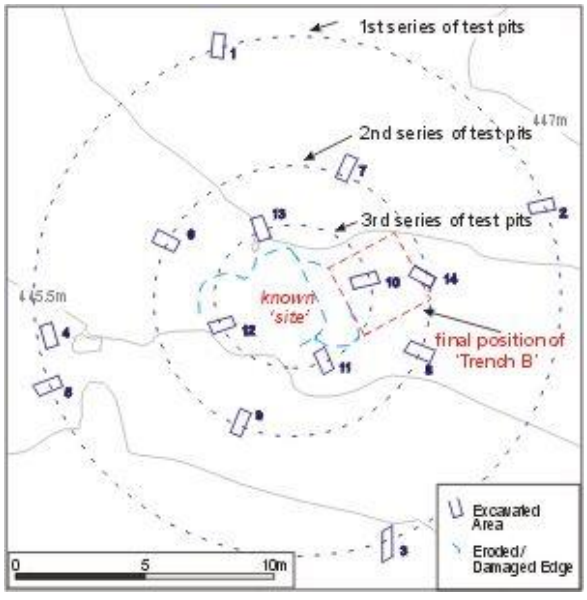
Two different types of surveys were carried out to help us find out about what finds were left under the surface, and give us some clues as to how the whole place was used in the past. One was an auger bore survey. Using a specially designed auger samples of soil of only 15cm diameter were removed, spaced regularly in a series of lines. By carefully sieving the soil from these samples we could recover any very tiny fragments of flint, only mm in size, which are left behind from flint knapping. Of course, these tiny fragments can be blown by the wind, but nonetheless the distribution of these pieces and any larger pieces of flint gave us some clues as to the locations of buried flint scatters.

Using the soil auger to look for tiny fragments of flint waste beneath the surface.

define the limits of any other evidence for activities was that of carefully digging small rectangular pits (0.5m by 1m in size) . These pits were dug around the area we were interested using different strategies aimed at defining an area in which to carry out detailed work. The locations of all finds were carefully recorded and catalogued (see figure x).

Most 'sites' excavated in the past, actually appeared to have been part of a large area, within which many different occupations appeared to have taken place. Although in the past people excavated sites until appearing to find an 'edge' with only a low density of finds, actually most of these 'sites' were part of a complex series of overlapping occupations within a particular place. At March Hill Carr for example, these overlapping series of occupations appear to extend over an area of

Another technique, used where knew of the existence in the past of a 'site' and wanted to



Series of test-pits excavated at March Hill Top, allowing us to decide where to put 'Trench B'

more than 50 by 50m. At March Hill Top, the area was probably much larger.

Excavating a test-pit

As noted above, many of these repeated occupations appear to belong to the same phase of the Mesolithic – whether they were areas which were visited repeatedly for a few hundred years out of a kind of tradition, or whether simply the advantages of the view or shelter there meant that over many thousands of years occupations unrelated to each other built up at the same site is difficult to tell.

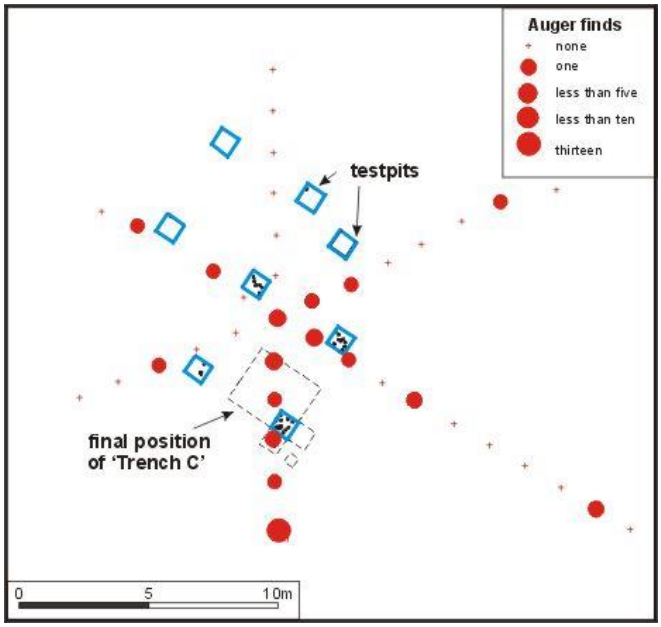
Because only a tiny part of any flint scatter is sampled using these techniques we can build up a good knowledge of distributions, but have too small a sample of finds to understand what really happened in the past – for this we needed to excavate several metres – a ‘site’.

A 'site'

Archaeologists use the term 'site' to mean many different things – from a big area with some evidence of activities, to an specific point where something happened in the past (where we have evidence of people sitting around a fire for example), to things that are defined by the present, such as where people have found many finds, or finds that are in some way similar. A site can also refer to an area that has been excavated. Some might call the whole of March Hill a 'site' whereas for others a few pieces of flint found eroding out of peat would be a 'site'. Although we would like to talk about the place where something specific happened, we almost never know where the edges of that was, so here we use a 'site' to mean our own few metres of excavations – a small 'window' onto past activities.

We carried out careful and painstaking excavations in three different areas of the moor – March Hill Top, March Hill Carr, and Lominot . The location of these were chosen on the basis of test-pitting, auger surveys and our knowledge of where many finds had been found in the past. At March Hill Carr and March Hill Top we chose to excavate near to an area which had already been dug out - something which might also give us a clue as to the type of material which had been taken away. On Lominot however we chose a place not far from where we suspected that one of Francis Buckley's excavations might have been, but choosing the precise spot on the basis of the results of the auger survey and test-pitting survey.

When we excavate, we take off the top layers of soil which have accumulated since the Mesolithic to get down to the soil which formed in Mesolithic times. We can think of it as a series of past land surfaces where people once trod. The earliest people walked and left finds on the lowest 'surfaces' which in time were covered by soil, so that many years later other people left finds 'above' the earlier ones. If wasn't for things like earthworms, rabbits, water percolating through the soil, and erosion, the finds would be in exactly the places they were left. The amount by which finds have moved is different for different sites. Sometimes erosion can even be so severe that soil 'slumps' and earlier finds end up on top of later ones. Normally however we find the most recent finds (in the case from the Late Mesolithic) first , and the older ones afterwards as we dig down. Where people dig a hole (to put a post, or build a hearth), this hole often fills with different coloured soil, leaving a distinctive mark, so that if we excavate carefully we can 'empty out' the hole again. We call these different marks in the soil 'features'.



Finds of Early Mesolithic material from test-pits and auger survey on Lominot

Because we don't know how much finds might have been moved since Mesolithic people left them, an all of our excavation we used a careful and painstaking method for excavating and recording the locations of finds. A specially designed plastic tent was built to house the area, as high winds and torrential rain on the moors can make trying to find and record finds as small as microliths almost impossible. In good weather we could also use it to shield us from the sun, making it easier to see subtle soil changes which might tell us about what in the past.

Even only a few ms of area can tell us a great deal about what happened in the past when careful and slow methods are used.

We found different types of artefacts and 'features' at each of the three main places we excavated, telling us about different things which happened in the past. Our interpretations of what happened in each of these places are described in the following chapter.

Excavation Methods

A specially designed plastic tent was used to cover the excavations, shielding them from rain and wind, and in the unusual case of hot weather protecting the sediments from drying out. As described above, test-pits and auger surveys helped us to decide on a good place to carry out a detailed excavation, and the locations of these, as well as the excavations, were recorded very precisely using specialist surveying equipment.

At each of the 'sites' we excavated, the area was divided into metres, and each metre into four 'quarters'. Each person was responsible for one metre, excavating each quarter metre separately.

Setting up the survey points using a Satellite Positioning System.

Excavating at 'Trench A'

People excavated using a small (4") trowel, and a builder's leaf where there were many finds or if there were features. Every find more than 4mm long was given its own number (which included the number of the square it was in) and put in its' own plastic bag. The exact co-ordinates of the finds were recorded on a plan by measuring the distance of the finds from the x and y axis using a tape measure. More importantly though the precise co-ordinates of each find was also recorded using special particularly accurate surveying equipment – which gave us a record of the coordinates of each find in three-dimensions which we could transfer directly to the computer.

The very small finds – tiny pieces of waste from flint knapping, were put together in a bag from each quarter square. The soil from one of the quarters from each square was bagged up and taken to the lab, where it was 'wet-sieved' (sieved using running water and through different sizes of mesh) to check what very tiny pieces we might have been missing.

Excavating at 'Trench C' in bad weather

Photos and plans were taken all the way through the excavation and samples were taken for different types of specialist analyses. Lithics analysis which would tell us how the flint finds were made and used in the past and how the finds compared with other similar sites, pollen analysis which would tell us about the environment when the sites were occupied, soil micromorphology which would tell us how soils were formed or how soils in the hearths were affected by the heat and analysis of the wood charcoal from the hearths which would tell us the type of wood selected and used. The results of surveys and excavations were analysed using special computer programs called Geographical Information Systems.

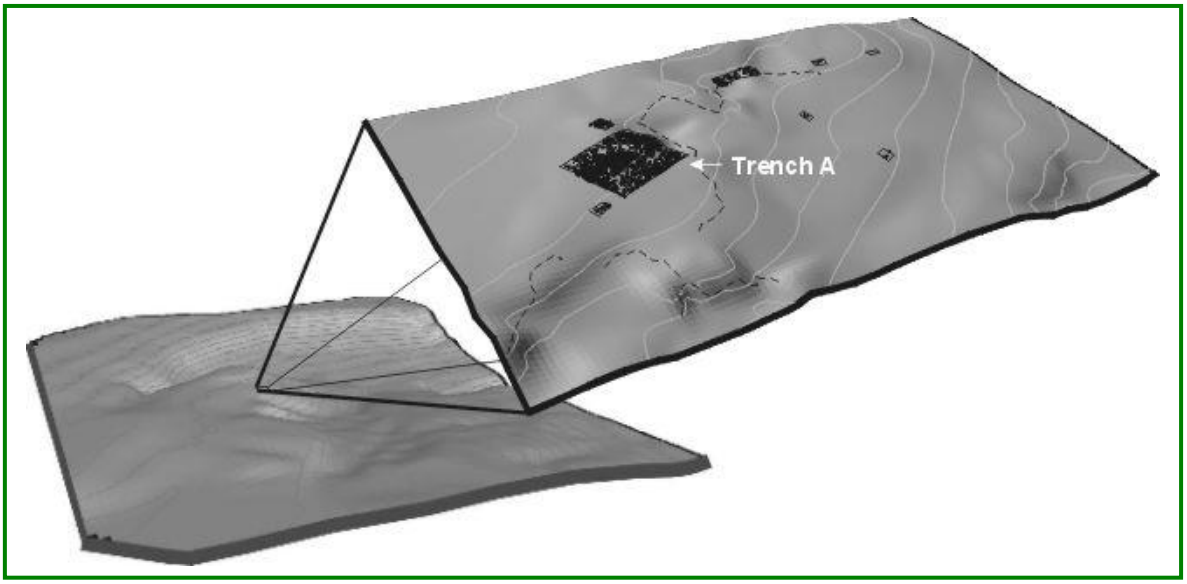
CHAPTER FOUR

Windows onto the past

Reconstructing what happened in the Mesolithic

In this chapter we try to reconstruct what appears to have been happening at the three different 'places' we studied, focusing in on the evidence for 'snapshots in time' at the detailed excavations within each of these places.

March Hill Carr



At March Hill Carr, a broad sheltered ledge overlooking the Colne valley with a wide view to the East of the Pennines, old excavations particularly what is probably Francis Buckley's 'March Hill Carr Site 2', erosion and recent damage had created 'holes' in the evidence for what happened here in the Mesolithic. However our series of test-pits and small excavations provided 'windows' onto what remained of past activities and provided us with some evidence for the different things that had happened there in the past.

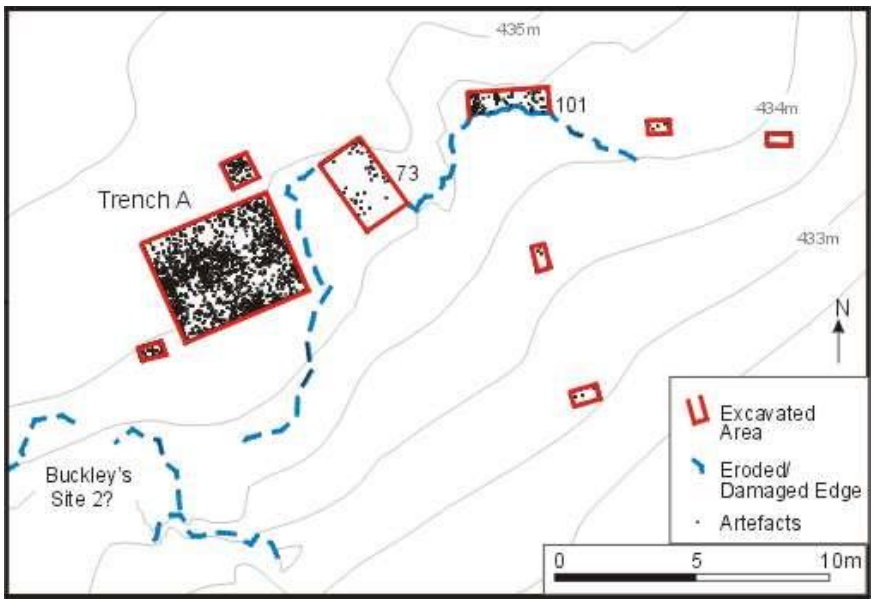
This 'place', was obviously somewhere where people had stopped on many different occasions. The earliest signs of occupation come from sample pit 101, where less than 3m of excavated area gave us a window onto an occupation which took place in the Early Mesolithic. Here at this time, more than 5,000 years ago, some people had stopped to knap flint, leaving behind characteristic tiny debris (debitage). They had brought with them flint nodules from the Yorkshire and Lincolnshire Wolds which had already been 'prepared' (the outer, normally rather useless 'rind' of the nodule must have been removed). It is difficult to get much of a picture of what happened from such a tiny area but they were clearly using pieces of flint for a number of different tasks and left behind number of characteristic flakes and a 'scraper' a tool often associated with use to scrape fat from hides.

We don't know how many people were here, or how often they returned during the Early Mesolithic, but a few metres to the West, at test pit 73, a few more blades made of the same flint also belong to this period, and it is not impossible that these finds belong to the same occupation.

Most of the evidence which we found however dates to a later period - the Late Mesolithic. Isolated finds in test pits may be at the edges of where people stopped for some time or may what is left of stray tools dropped by people who did little more than pass by. So the best evidence for what happened here in the Late Mesolithic comes from our excavations and in particular 'Trench A' where over 2000 pieces, apparently clustered around four hearths

(discussed in more detail below) were recovered from only 20m^2. So many finds might have come from many different occupations over as long a span as several millennia. However the way the finds cluster near to the old land surface and the dates on the hearths themselves suggest that most of finds were left behind when people stayed there either once, or coming back within a short time - within the space of living memory or at most a few generations.

The commonest tools found at Trench A were microliths – of the type called 'scalene triangles' many of which were broken. Since there were few of the characteristic 'microburins' left from making microliths it seems that people were probably taking out broken microliths from arrows and replacing them (something we call 're-tooling'). 'Re-tooling' appears to have taken place near to the hearths, where people also knapped flint and made and used tools for cutting or chopping (perhaps cutting up meat before cooking it on a hearth). Other things seem to have been going on in the north-east of this area we excavated where the flint tools left behind suggest that people were making and using burins – tools often associated with woodworking etc. To the East of Trench A (at test pit 73) artefact analysis revealed that people came and made microliths themselves, appearing to prefer to make them out of a clear brown flint (the material of which most discarded microliths at Trench A were made) although other less high quality 'cherts' were used for other tools. Perhaps this brown flint was preferred because it was easier to work and gave better results, or perhaps because they liked this flint better or attached some significance to it, perhaps thinking it gave them luck with a hunt. Possibly the microliths made here were those used by the people sitting around the hearths to the West.



Plan of our 'window' onto what happened in the Mesolithic at March Hill Carr

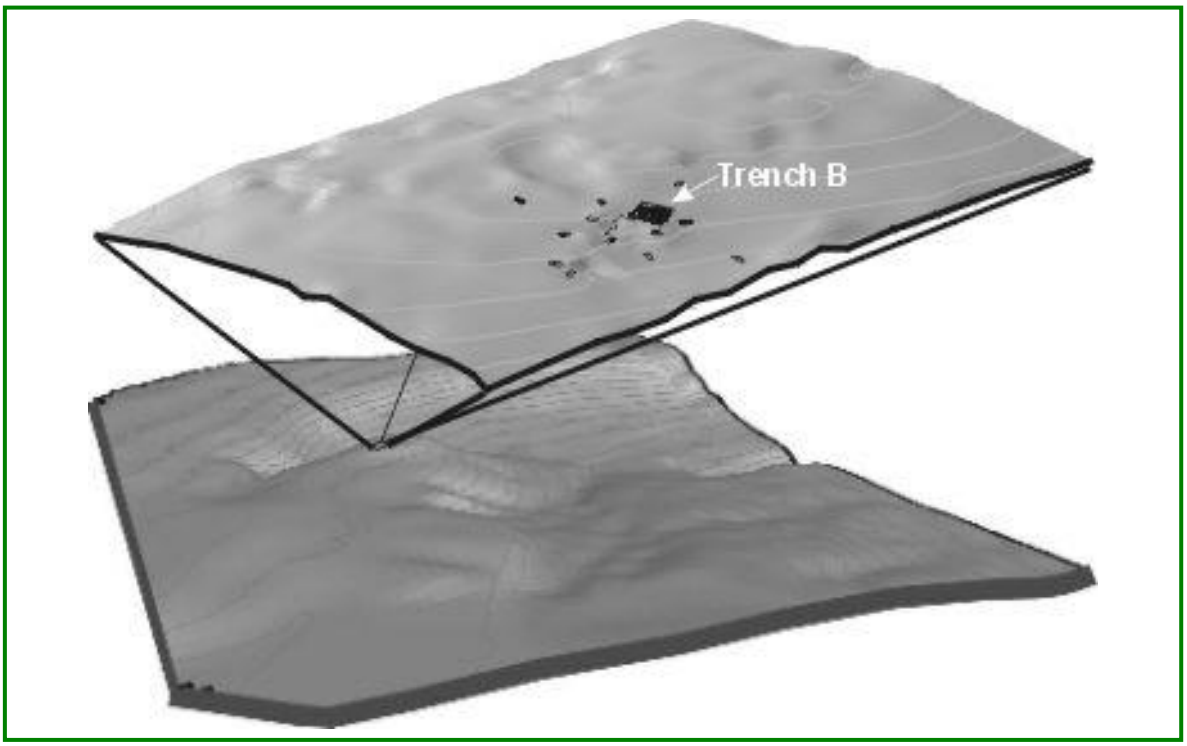
Auger surveys around March Hill Carr showed told us that people had, at one time or another, occupied almost every part of this sheltered ledge. To the south-west of the area we studied, there is a 'hole' which is probably one of Francis Buckley's excavations (we suspect what he called 'site 2'). It seems that the finds he excavated were also largely made up of scalene triangles microliths and he also found a the hearth which looks from his notebooks to be a lot like two of the hearths we found in our excavations. It is possible that similar things were going on here as those we found evidence for at Trench A. The dates for this site, taken from burnt wood from Buckley's excavations (housed in the Tolson Museum) are also similar to those from our excavations (our dates were all close to 5,800 'bp' and those from Buckley´s sites, 6,021±220bp and 5,850±80bp, though less accurate, overlapped with those from Trench A (see page x for an explanation of the dates from March Hill and what ' ± ' means)).

People obviously came to March Hill Carr often, not necessarily carrying out the same activities. They commonly made fires, for different reasons – cooking, keeping warm, or even warming flint to make it easier to work (see below). Perhaps it was popular because of the shelter, or the

stunning views to the East making it a good spot to spot and watch for game, prepare hunting tools or to camp, or stop and cook food. On the other hand it may have been important for things for which we have no evidence – perhaps because of some particular plants that grew there – used for medicine or valued for their taste or because, being at a major watershed which often become boundaries between groups it may have been a place where groups could meet and trade.

We tend to normally think of upland Mesolithic sites as places where only a very few people stayed for a short time. However it is not impossible that a larger group of people occupied most of the 'ledge' of March Hill Carr around 5,800 years ago – perhaps arranging to meet or trade with other groups to the west or equally that a small group of people stayed there for several days or even weeks.

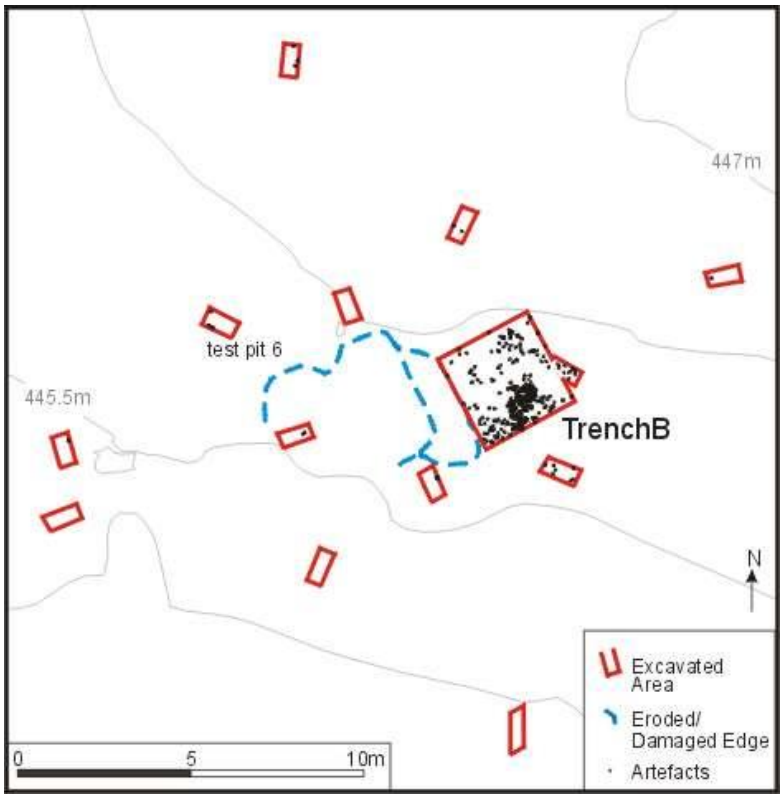
March Hill Top



The top of March Hill is 'pock-marked' with holes from old excavations. However test-pits laid around an area which had been dug out recently showed that some evidence for past activities still survived – and a 3m by 3m excavation revealed a hearth and many finds.

Only a few of the fourteen test pits around 'Trench B' had any finds, despite the apparent density of finds recovered in the past – many different sources report easily finding several thousand pieces from erosion patches (Law and Horsfel found over two thousand pieces in 1882[1], Buckley in the 1920s also found over two thousand[2], and in the early 1920s over six thousand finds from March Hill had already been given to the Tolson Memorial Museum[3]). This may be because erosion and heavy rainfall particularly at the beginning of this century swept many finds away. However since much of the area we studied only showed signs of erosion in the upper levels (we chose to study an area which had suffered least from erosion in the past) it is perhaps more likely that 'flint sites ' here are concentrated in certain spots, especially since the area we studied was a little 'set-back' from where most of the other 'sites' appear to have been found (without the good views that can be had from the top of the hill). The density of finds in the excavated area was also less than that at Trench A. The only interesting finds from the test-pits came from test-pit 6, where a scraper, a retouched blade and a core preparation flake which has been used as a scraper were found – there was no evidence for any flint knapping taking place so these may have been tools which people carried with them and threw away after they were 'worn out'.

[1] **Law, R. & Horsfall, J. 1882.** On the discovery of flint implements on the hills between Todmorden and Marsden. *Proceedings of the Yorkshire Geological Society* 8, p71
[2] **Buckley, F. 1924.** 'A Microlithic Industry of the Pennine Chain', privately printed, p9
[3] **Petch, J. A. 1924.** *Early Man in the District of Huddersfield.* Tolson Memorial Museum. Huddersfield, p26



Our ´windows´onto activities at March Hill Top

Almost all the evidence which it is possible to interpret comes from Trench B itself. Here however the artefacts tell a story of quite distinctive and very different activities from any others we found in the area. Analysis of the finds from in and around trench B revealed evidence for two different patterns of activities. People appeared to have been knapping flint, taking prepared nodules and making microliths, burins and common cutting type tools in the north-east part, whereas to the south a tiny hearth had been made and used several times. Most of the finds in this area were heavily burnt. Although from what we know of finds found on the rest of March Hill most of what was found in the past seem generally similar to those of March Hill Carr, our excavations in contrast revealed artefacts belonging to a distinctive industry. Only clear brown, black or speckled grey flint was used, with the two types of black chert used at March Hill Carr being noticeably absent. The microliths left behind at the site were also distinctive – dominantly what are called 'rod microliths' rather than the 'scalene triangles' which were commonest at Trench A. Similar sites have also been found in the past, such as one two miles to the North-East of March Hill at Cupwith Hill – another hill promontory. Another ´rod site´was found near Pule Hill by Pat Stonehouse – the finds from this site were almost all microliths (99 rod microliths out of a total of 103 finds). It is difficult to think of an explanation for so many similar microliths to be found together. Perhaps they were a 'cache'– a small store of microliths left by someone who thought they would come back to use them later.

It has been suggested that 'rod microlith sites' such as Trench B were left by people who lived very late in the Late Mesolithic, and dates on the hearth confirm this idea. Why they made and used more of the 'rod' type microliths we don't know – perhaps a change in the most common microliths had something to do with changes in hunting practices (though microliths are so tiny it difficult to see how slight changes in form might have had any such effect), alternatively it may simply be a change in style or preferences. The subtle tendency for these sites to be at slightly higher, more promontory type locations may be to do with the view or perhaps because peat forming at lower plateau edges made stopping there to knap flint difficult.

Not far from here, on the Northeast part of the hill, Francis Buckley found what has been called the 'Anvil Site' – a stone which appeared to have been used as an 'anvil' for making flint, around which were left over fifty pieces of flint, including several cores and flakes which apparently fit together. This site perhaps gives us a 'snapshot in time' - a unique record of when someone apparently stopped to knap flint using a convenient rock as an anvil and leaving the unwanted pieces behind. Many of the flakes seem potentially useful and it seems odd that they were left, but it is possible that the maker took away the tools he or she needed at the time and deliberately left a pile of useful pieces near the near the anvil to be used at a later date.

We only have a vague idea of what the other 'sites' on March Hill were like. However everything points to them having been generally quite like those we found lower down at March Hill Carr,

especially at 'Trench A'. Croft (1886) for example remarks on their being 'quite a harvest' of 'mostly single winged arrow points' (meaning scalene triangle microliths). The sites excavated by Francis Buckley or by other local collectors and housed in the Tolson Museum are also by far dominated by scalene triangle microliths[4]. Like Trench A Buckley's sites also had many broken microliths, many burins and few 'microburins' (the debris left after microlith production)[5]. Although many other activities may have been carried out which don't leave any distinctive tools, we can reasonably conclude that at least at some point, like at Trench A, the top of March Hill also appears to have been a popular place for 're-tooling' and for some type of bone or wood-working.

Places like March Hill, where we find lots of microliths and few other tools are traditionally seen as hunting camps – places where people stopped to cook or to stay when they were on a hunting trip, and where they remade arrows. It would be easy to make the same interpretation of the evidence we found, however there are a number of reasons for suspecting that people were doing much more than just making hunting weapons. Firstly we have recently begun to realise that microliths can have many other uses aside from for arrows – for making holes such as in wood or skins for example. Secondly, we have started to realise how biased we are by seeing or not seeing certain known 'types' of tools, which we expect were used for something. In Early Mesolithic and Neolithic sites we often find 'scrapers' – round flakes which have been worked to make the edges steep and strong. These pieces are often associated with larger sites, where people stopped for some time, so-called 'domestic' sites, and scrapers appear to have been used to scrape fat off hides when making them into clothes or to use for tents etc. Very few scrapers are found on Late Mesolithic upland Pennine sites, and this has led people to believe that 'domestic' activities were carried out elsewhere - and that upland sites were just short stay hunting camps. However a close look at the tools we found both at March Hill Top and March Hill Carr showed that aside from making and using microliths and burins, people were using a lot of other pieces of flint for other things – cutting chopping and scraping using pieces of blades, flakes or cores, often modified to be used. Francis Buckley also noted that things often classed as 'waste' has been re-used as scrapers at March Hill[6] and other authors have noticed many different pieces being re-used on other Pennine sites [7]. A shortage of flint may have meant that instead of making and using something we would call a 'scraper' people used the nearest handy piece of flint (how many times do we use a knife to open a tin?). We would be wrong to think that just because people didn't make or use many 'scrapers' that they couldn't have been doing the same things as at other sites where lots of scrapers are found.

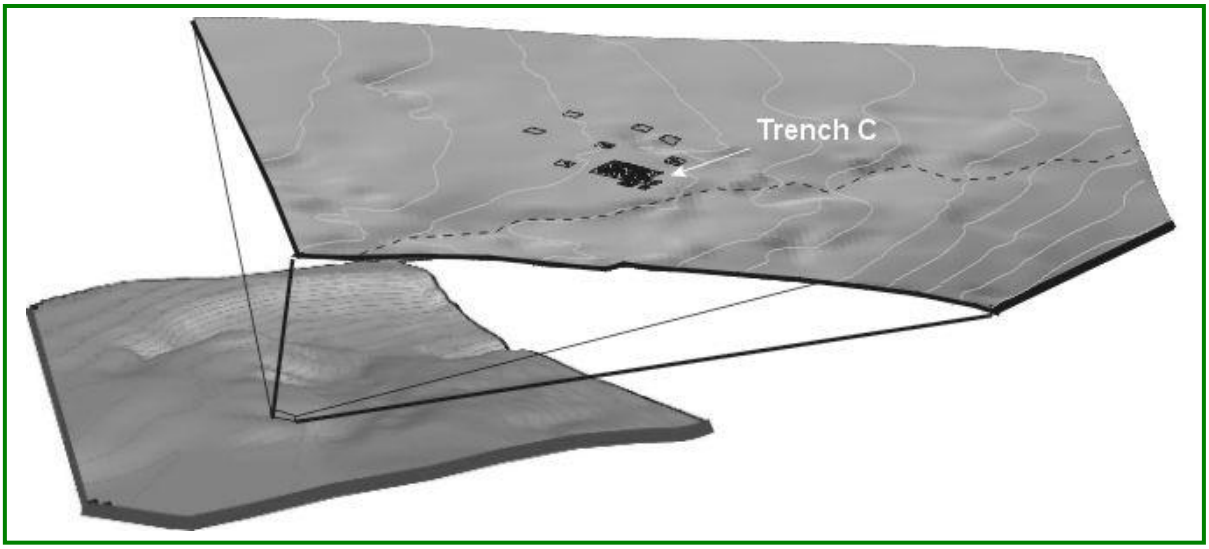
[4] **JACOBI, R. M. 1976.** *Aspects of the Postglacial Archaeology of England and Wales*. unpublished PhD Thesis. Cambridge.

[5] **BUCKLEY, F. 1924.** 'A Microlithic Industry of the Pennine Chain', privately printed, and notebooks, unpublished.

[6] **BUCKLEY, F. 1924.** 'A Microlithic Industry of the Pennine Chain', privately printed, p9

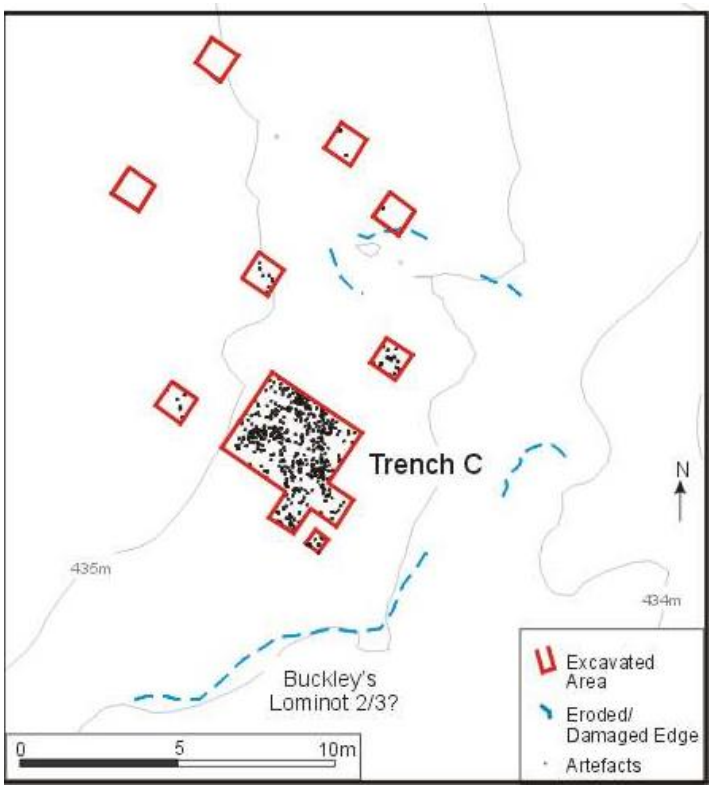
[7] **RADLEY, J AND MELLARS, P. 1964.** A Mesolithic Structure at Deepcar, Yorkshire and the affinities of its associated industries, Proceedings of the Prehistoric Society 30, 1-24.

Lominot



At Lominot, rather than extending a test-pit strategy from an area recently dug out, we extended a line of auger holes from a test-pit in which early mesolithic finds had been found. We found an area where the auger survey showed up many early mesolithic finds. A series of test-pits allowed us to pinpoint the distribution further, and we excavated an extended 3m by 3m area called 'Trench C'.

Lominot, especially the southern part where Trench C was, has typically been a place where mostly only Early Mesolithic sites have been found. However although the artefacts we found mostly belonged to the Early period there were also quite a lot of Late Mesolithic artefacts. At least some people used Lominot in the Late Mesolithic.



Our ´windows´onto activities at Lominot

Early mesolithic sites are often described as being larger, and with finds more dispersed than Late sites. Because of this we suspected that it might be difficult to reveal an understandable set of activities with such a small area of excavation – and this indeed proved to be the case as our findings gave us more tantalising glimpses of what might have been going on than easily interpretable evidence.

The type of raw material and the 'style' of microliths at Trench C belonged to what has been termed 'Deepcar type' industries – sites with flint tools apparently similar to those found at Deepcar in the southern Pennines. At these types of sites we found artefacts based on white flint brought over something like 50 miles

distance (from the Yorkshire or Lincolnshire Wolds), with most of the microliths having a characteristic form – being 'obliquely blunted' at a certain angle. These types of sites are often very large, though since most were excavated early this century we don´t have any detailed plans or locations of finds to work out if a large site means a place occupied by a large group or by people who consistently came back to exactly the same place. It is none the less obvious that our trench only picked up a part of what must have been happening over a much larger area in the past.

Francis Buckley excavated two 'Deepcar' type Early Mesolithic sites on Lominot (called Lominot 2 and Lominot 3). We think that his sites may have been close to where we excavated, as an auger hole at the edge of the large depression to the south of the site (which was probably an old excavation) picked up a large number of tiny pieces of debitage – possibly tiny pieces discarded at the edge of excavations in the 'spoil'.

Obliquely blunted point from Trench C

It is very difficult to compare the sites we have excavated with museum collections from old excavations. Firstly these old collections have no detailed three dimensional information or plans - which means we can´t compare the distributions of finds or the type of features. Secondly, many differences which we see between our finds and those in museums may not have much to do with with differences in the past, the museum collections normally lack the tiny finds we recovered and worse, many finds are often missing – sent by Buckley as 'type examples' to other musuems. Nonetheless, we suspect that Buckley's sites were probably quite similar – they were also a 'Deepcar type', with white wolds flint, and 'obliquely blunted point' microliths. Like at Trench C there is evidence that people were making microliths and repairing arrows (or other tools which used microliths), and also making burins. However at Buckley's sites, as well as the types of finds we recovered, there were also scrapers, and cores as well as 'truncated pieces'. This may not mean that entirely 'different' things were going on. As well as the differences to do with the way the sites were excavated, the area which Francis Buckley's excavated on Lominot (sites 2 & 3) were much bigger than the area we excavated – so with a larger area of activities we would expect there to be many more different types of finds and for those 'rarer' artefacts that we wouldn't expect to see in small collections to perhaps be present.

Yet more different are the sites belonging to the 'Star Carr' type, where grey flint was used and where microliths are subtly different. At Warcock Hill North, Buckley found what he thought may have been evidence for four structures (see illustration, chapter one). It is possible that these 'Star Carr' type sites belong to an Earlier phase of the Early Mesolithic[8] although may be other explanations – such as that they were occupied in a different season or by a different group of people.

At trench C we found tantalising evidence for what might have been a 'structure' of some kind - a single post-hole, which appeared to be associated with the Early Mesolithic finds. It is possible that, as is typical of excavations, the 'exciting part' – the rest of any structure – was in fact outside the area we studied. However it is still very difficult to make any interpretation of the use of a single post.

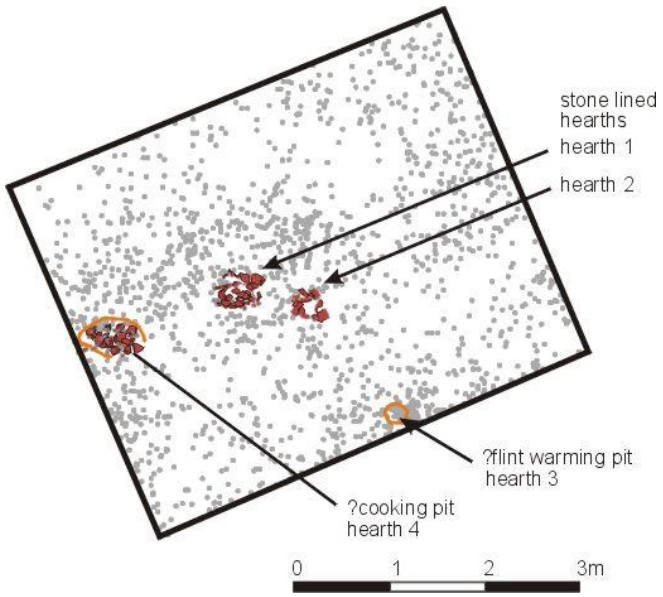
[8] **REYNIER, M. J. 1998.** Early Mesolithic settlement in England and Wales: Some preliminary observations. In N. Ashton, F. Healy and P Petittt (eds) *Stone Age Archaeology: Essays in honour of John Wymer*, Oxbow Monograph 102, Lithic Studies Society occasional paper, Oxford, pp.174-184.

Snapshots in time

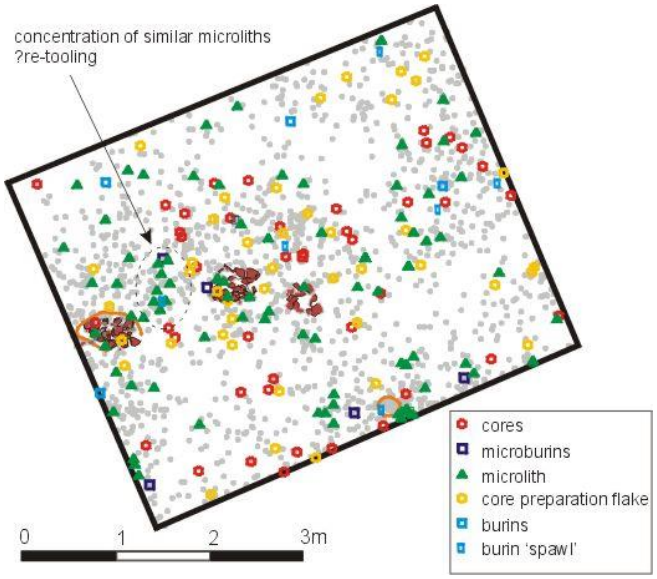
At each of the places described above, we concentrated on recording in detail a few metres – a site. As we 'home in' on these few small m of excavations, we begin to get impression of real people and what they did – 'snapshots in time'.

Trench A at March Hill Carr

Of the sites we excavated, Trench A gave us perhaps the most exciting glimpse of real people in the past. The series of four 'hearths' were each distinctively different and probably with different functions. Furthermore detailed analysis of the finds by looking at where different types of finds were concentrated and by refitting pieces back together helped piece together what might have happened around these hearths and what different people might have been doing.



Trench A finds and features

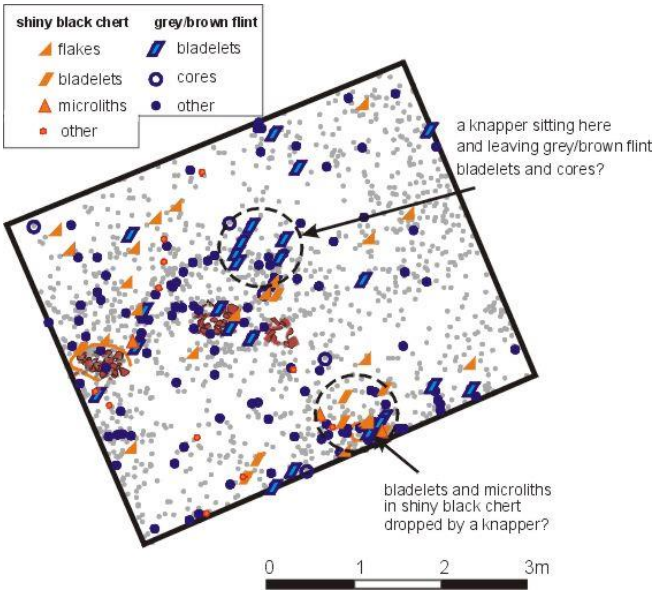


Selected finds types at Trench A

People appear to have been sitting around the hearths knapping flint – making and using cutting and chopping tools and also burins and probably 're-tooling' their arrows. Tell-take discarded cores and core preparation flakes clustered around the two central hearths have been left after these episodes of knapping. To the north-west of the central hearths a cluster of similar microliths, mostly broken, may well even be where someone threw away their damaged points to replace them with others. Most of these microliths are of a similar size and pattern and all are damaged in a way typical of having been used as part of an arrow.

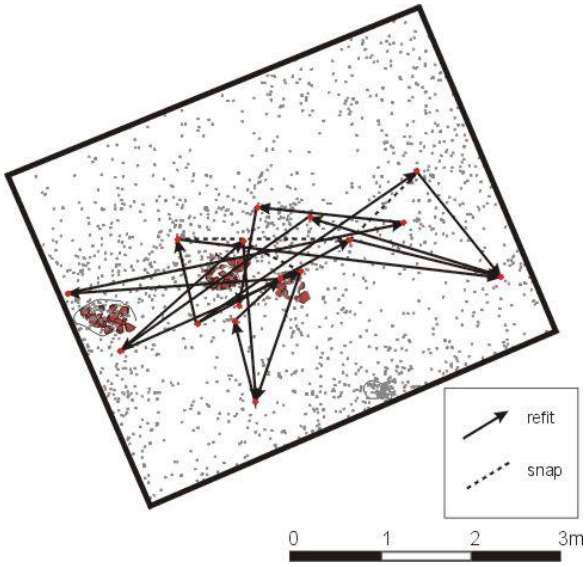
The hearths at Trench A

The distribution of different raw materials also holds clues about what might have been happening. Near to the southernmost hearth, many finds of similar bladelets in a shiny fine black chert might be part of the same sequence of knapping – perhaps discarded from a knapper's apron or trousers. North of the central hearths there is also a collection of bladelets and cores in the same material (a translucent grey/brown flint) which may also be where someone else, sitting to the north of hearths may have been sitting knapping.



Finds made of black shiny chert and of grey/brown translucent flint

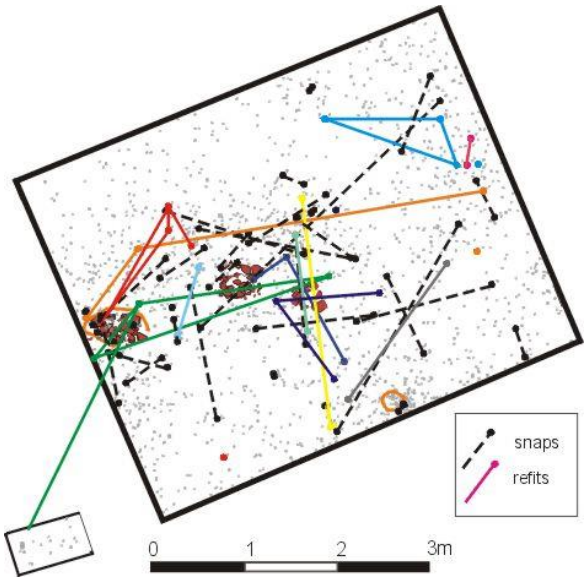
Probably the most exciting analysis is a sequence of re-fitting flint pieces from a black chert core which seem to have been left by someone sitting knapping by the fire, even apparently leaving a 'hole' in the distribution of flint where they might have been sitting. This person was obviously a skilled knapper. He or she sat down to knap a piece of black chert, probably from RIbblesdale to the West. This chert is often difficult to knap and whoever did the knapping had some difficulties, with some pieces breaking off too short, and often needing to change the 'platform' he was working. Nevertheless they managed to make some useful long thin pieces – blades and bladelets – that might have been used for cutting or in the case of the smaller pieces as a base for microliths. A large blade, which broke into three pieces and several smaller bladelets were left nearby (perhaps they had been used and discarded), but other pieces were either taken away or left beyond the area we excavated.



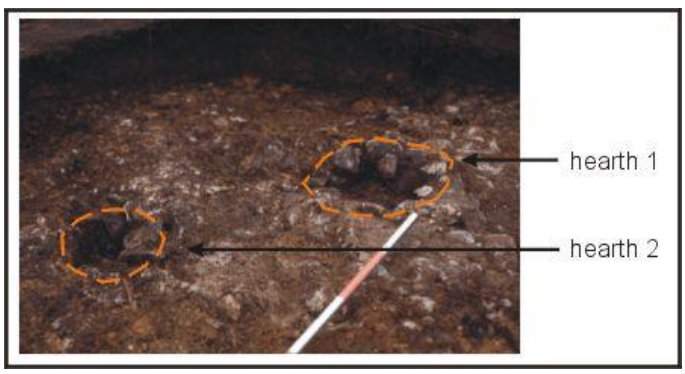
Black chert core refit sequence

Photos of the black chert core in sequence.

Other refitted pieces also told stories of individual people knapping flint. A sequence of four flakes (shown in green) for example included a pieces from a nearby test-pit, confirming that whatever was going on reached beyond the trench. Refitting is a valuable way of telling us not only where people were knapping, but also about how people worked flint – the techniques they used, the kind of decisions they made and the problems they encountered.



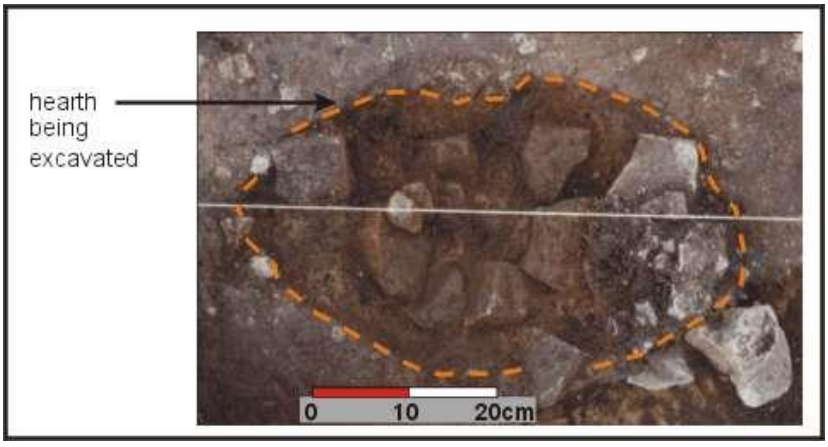
Other refitted pieces



The two central hearths at Trench A

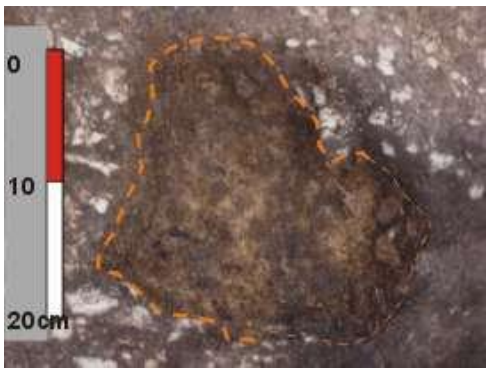
The hearths themselves also tell their own stories. A small, hole, filled with burning wood appears a simple thing to make, however outside fires are not always easy to light, especially if wood is damp and Mesolithic people must have been experts, constructing different types of 'hearths' for different reasons. The type of wood used would also have been important. The hearths here were made up of hazel and oak wood, with traces of other species such as blackthorn, hawthorn, apple, pear and rowan (or whitebeam/service). Traces of either blackthorn or hawthorn were found in all except the easternmost of the central hearths (hearth 2), and are reputed to be useful as kindling.

The westernmost hearth is built somewhat differently from the others – for one thing it is much larger. A hole about 50cm wide and about 20cm deep was dug out of the ground, and this hole filled with charcoal with stones placed on top. This may well be a 'cooking pit' where meat or other food was put and covered up to cook slowly (and more efficiently than trying to cook over an open fire).



Possible cooking pit at Trench A

The southernmost ‘hearth’ may not have been constructed for either keeping warm or cooking. This tiny feature is little more than a shallow hole, with many tiny burnt fragments of flint inside. We think that this may be where the flint knappers ‘pre-heated’ flint to make it easier to work. A sandy layer within the charcoal of this ‘hole’ would stop flint from overheating although the many burnt pieces left inside may be those pieces which someone accidentally forgot.



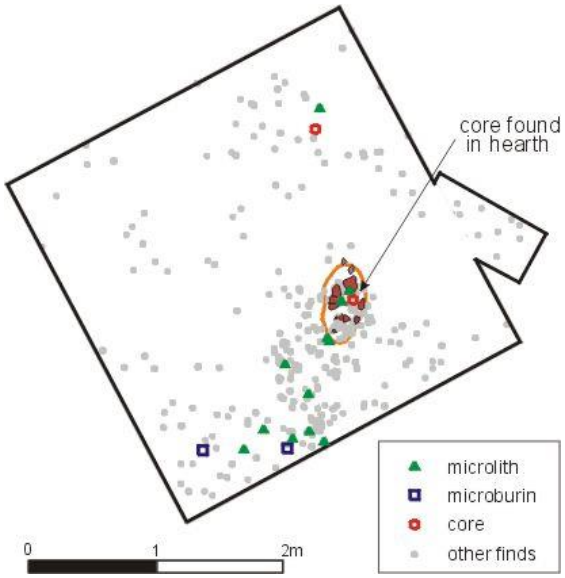
Possible flint heating place at Trench A

Where the hearths in any way related to each other? Although the dates on the hearths are similar we can’t tell if they were used at the same time or if nay of the ‘snapshots in time’ we identified were related. It is difficult to know if the activities we identified occurred within a short space of time, with several people sitting together or perhaps moving around the hearths and knapping different pieces as the wind direction, or whether different events occurred at different times – perhaps over a day or so or several years. Each of the people whose actions we can reconstruct may have known each other, or may have been relatives, or alternatively may have separated by many many years without even being aware the others’ existence.

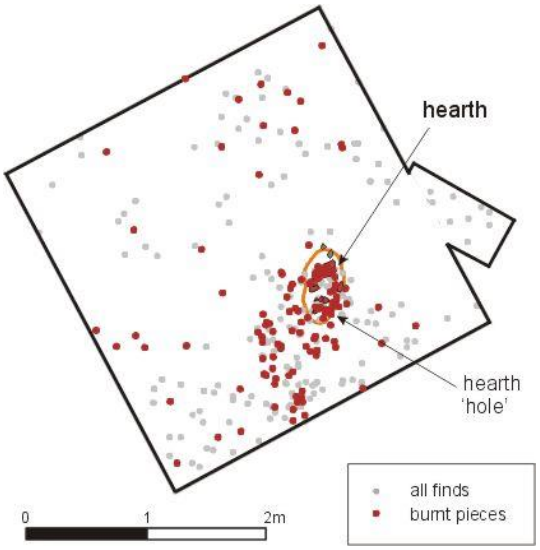
Trench B at March Hill Top

The types of things going on within the area we considered in detail at March Hill Top appear to have been very different from those at March Hill Carr.

For a start the finds were subtly different. As we saw above, all the microliths we found were of one type – so called 'rods', small straight little blades worked on one or both sides. These microliths (14 counting broken or unfinished ones) were by far the main type of tool – although it is of course possible that all of them came from one single 'emptied' arrow. More significantly though, the distribution of finds was very different. Almost all the finds were concentrated in only about one square metre to the side of the hearth, and a large number were clearly 'burnt' (often to such an extent that it was difficult to identify them). It was difficult to think of an explanation for such a concentration of finds compared to the scant evidence in the rest of the area excavated.

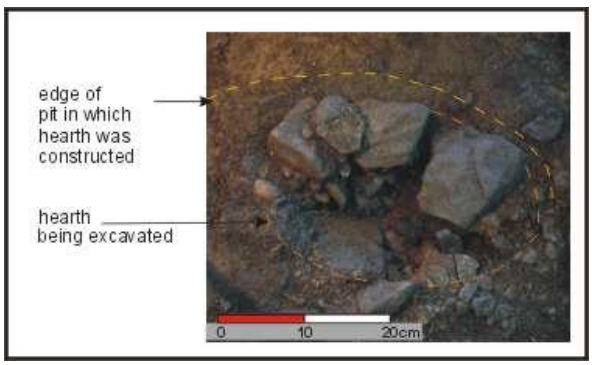


Distribution of certain finds types at Trench B



Distribution of burnt finds at Trench B

We took the tiny hearth found on the site away in a specially designed box, to be excavated in the lab. Here archaeological 'detective work' revealed a possible explanation for the concentration of finds. By carefully excavating the hearth we could identify different 'contexts' – different soil colours and textures which related to different periods of use. We found out that the hearth had really been a 'hole' dug into the ground, within which wood was placed and burnt, covered with stones – a structure which people probabaly knew worked well in the exposed position, battered by wind, and probably also by rain. It appeared that the hearth has been re-used several times (at least twice and most probably three times) – each time the 'hole' within which it had been placed had been re-dug. To confirm our interpretation we found within the hearth was a core, burnt on only one side – the side at the edge of where a later hole had been dug. The core must have been left (unburnt) in the remains of the hearth hole, and when a second hole was dug, just touching one surface of the core, this surface was burnt by the fire.



The hearth at Trench B

Almost all the debris from flint knapping had at some time ended up on the fire, and was then dumped to the side the next time the hearth was used (when the hole was re-dug). We suspect

that what had happened was that after having knapped flint around a fire, people had probably thrown the waste pieces onto the fire – either emptying a knapper's apron or the mat or hide on which they were sitting or by kicking the soil from around the fire onto it (perhaps to put it out). These pieces would get burnt in the fire, and the second time the little hearth was used, a new 'hole' was dug in the same place, and in digging this hole the burnt finds were dumped to the side.

Although the hearth here was small, several different types of wood were used – hazel, willow and oak. Willow would probably have grown lower down in the valley and was perhaps selected on route to the hill because of its slow burning qualities. Soil micromorphological analysis also showed that the fire had not burnt at a high temperature. It is also possible that people may even have carried wrapped up embers of wood to use to light fires, and the willow may have been what remained of this 'firelighter kit'.

It is difficult to tell whether the hearth was used within the space of a few hours, or days or even years. It appeared that some soil had built up on the abandoned hearth between the uses, arguing for at least a space of time of more than a few days. Perhaps people re-used the same hearth because they remembered that in that very position it had been possible to get a fire alight easily – or keep a fire going, just out of the wind.

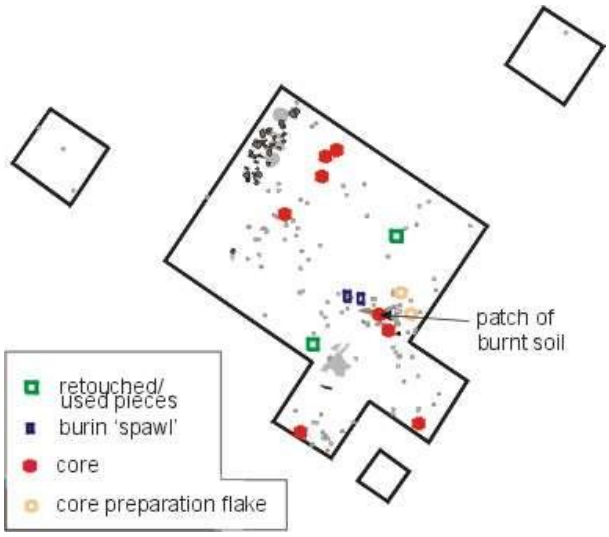
Since we suspect that the finds have been 're-deposited' – that is moved since people first dropped them – there is little that we can tell from the precise distribution of different tools. However looking at the type of tools left behind, as well as discarding microliths they were also making them (leaving behind microburins) and also doing other things - using at least one burin which they also left behind. The last time the hearth was used, and the then burnt pieces dumped, people may have been doing other things which left behind little or no flint tools as there are few finds around the hearth which don't appear to have been 'redeposited' in this last period of use.

Not only the use of the hearth but also the dates on the charcoal within it presented intriguing questions. A sequence of dates confidently place the use of the hearth around 5,250 years ago however by this time we also have evidence for 'Neolithic' sites not to far away, where Neolithic monuments were constructed and 'Neolithic type' flint working practised. At March Hill Top however there is no indication of any relationship to the Neolithic (and in fact on the whole moor, although covered by Mesolithic site, stray Neolithic finds are very rare). Perhaps the people who used the hearth were from a group who chose not to take up 'Neolithic' practices – perhaps trading with these people but otherwise living more traditional lives. If this were true it is interesting that unlike the people who used March Hill Carr, those who made the 'rod microlith sites' didn't appear to have access to the black cherts common on earlier sites – perhaps networks of exchanges or the limits of territories had changed. The position of these sites is also interesting – the view from high promontory locations have been important – pehaps at this late stage of the Mesolithic people became more aware of their territory limits and liked to be able to see what was going on. Alternatively perhaps although high points would not necessarily be picked for defensive reasons, they may have felt differently and camped in different placed in a landscape shared with other ways of living. Equally, the same people who appeared to be 'Neolithic' in the lowlands might have made tools in more 'Mesolithic' ways when in the Pennines and 'left behind' the lowland way of life when on perhaps a hunting trip.

Lominot

At Lominot it was difficult find a satisfactory explanation for what had happened there in the past. The situation was complicated in any case as we knew for certain that the finds came from at least two different occupations – being a mix of 'Early' and 'Late' type tools.

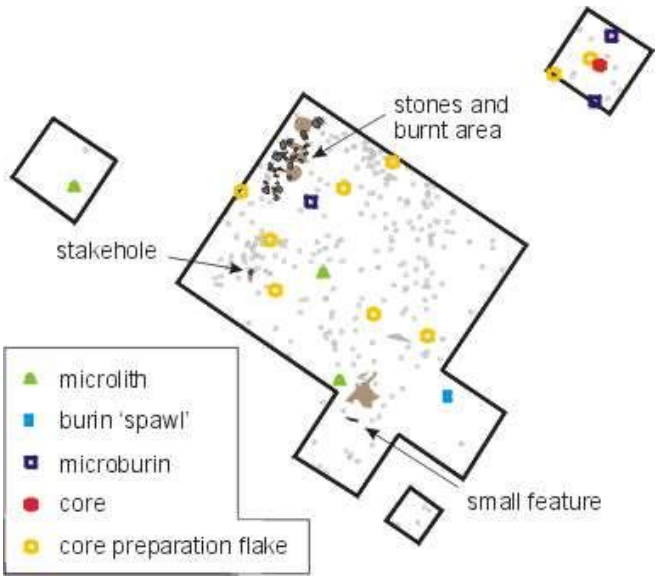
As described (box page *) we managed the finds into two main phases - the Early and the Late – on the basis of the difference in height of the finds, and the material with which they were made. This isn't a hard and fast division however, for example one 'Early' microlith was made on characteristically 'late' raw material. None the less if gives us a reasonable basis to discuss the two phases separately (remembering that each of these phases could be the result of several occupations that we *can't* separate).



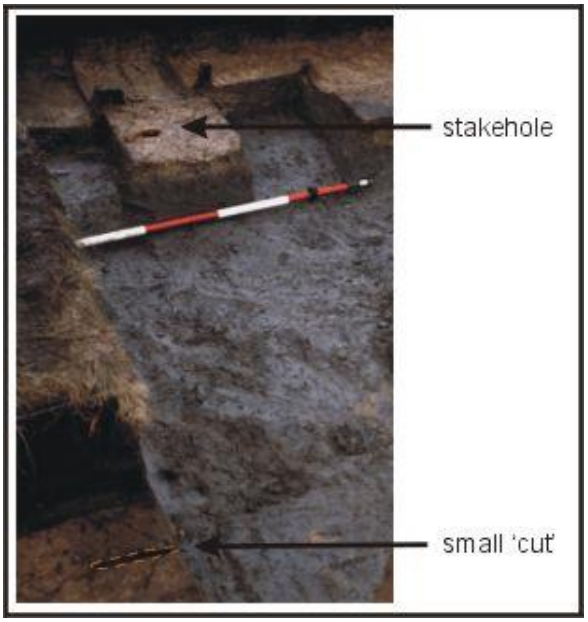
Certain Late Mesolithic finds types at Trench C

There is only a small scatter of material belonging to the Late Mesolithic period. Most of the finds appear mostly to relate to a small patch of burnt soil – perhaps the remains of a small fire. Many cores were left behind and it seems that people were concentrating on the last stages of knapping including making burins, and on using the tools that they made. The most interesting aspect of what happened however is that that people who stopped here in the Late Mesolithic used a different technique for knapping flint than that which we found elsewhere at March Hill Carr, March Hill Top, or that known from collections at Dan Clough. Here at Lominot, people used what is called the 'bipolar technique' – 'supporting the core on an 'anvil' and using a kind of punch to push off flakes and blades from the tiny cores. It may be that something about the material or particular nodules they used meant that this technique worked better, or it could have been part of a tradition of a different group or people living at a different time.

The Early Mesolithic occupation, though there were more finds, was no easier to interpret. In the Early Mesolithic, people were clearly knapping flint, at times from the early stages. They were taking nodules of flint from which by the useless outer pieces had already have been removed (probably where the flint had been collected from) and producing flakes and blades and also microliths. Two of the three microburins found are so similar and made so distinctively that they are both probably made by the same person – someone who would have been sitting making microliths in the far north-east where our test-pit just caught some of this activity. Core preparation flakes, left from altering the cores to prepare for taking off blades and flakes, and discarded 'used up' cores tell us about these type of activities. A burin 'spawl' was also left from making burins.

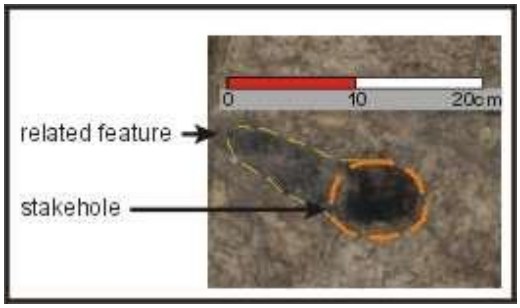


Certain Early Mesolithic finds types at Lominot



Features at Trench C

People may also may have been re-tooling arrows – two broken microliths, may have been discarded doing when doing this, or alternatively may have been brought to the site in a recent kill. We don't expect to find so many microliths on early sites as on late, as arrows seem to have had a single or a small number of larger microliths – retooling or bringing a kill to the site would not leave behind the many microliths we often find on late sites.



Stakehole at Trench C

Unlike at March Hill Carr or March Hill Top, it is difficult to reconstruct the likely 'story' of what happened at Lominot. Whatever was going on probably happened over a larger area that that we have excavated. The most tantalising evidence was the small 'stakehole' and perhaps associated with it a small 'cut' feature. Of course there is little we can deduce from one stakehole. It may be part of a larger structure. However such small features can be misleading as tree roots and burrowing animals can easily make natural holes that appear to have meaning. The distribution of the types of artefacts was equally frustrating - the only core found for example (in the test pit), refits with a small blade in the main excavation with most of what may be evidence for what was going on here lying unexcavated between the two. We would need to excavate a larger area to get some better idea of what might have been going on.

Through detailed survey and excavation at March Hill Carr, March Hill Top and Lominot we have begun to 'fill in' some of the gaps in our knowledge about the Mesolithic. Of course, some 'big questions' remain – we still don't know at what season people were using the moors for example. But nonetheless, our surveys and only a few metre squares of excavated area have provided us with some important insights into what was going on in different periods on the moor and at different scales.

At the three 'places' we studied we have built up a picture of the spread of material using different survey techniques. In each place we seem to be seeing many overlapping phases of occupation – in fact at Trench C we could even identify two of these phases. We have a much better idea of what was happening in these places. In excavations we found evidence ranging from from stakeholes, cooking pits, fires, flint heating hearths, to evidence from the finds for knapping flint and using it to cut, chop, remake arrows, and wood or bone working. The things we have evidence for are surely only a tiny fraction of the activities that took place and perhaps the best answer to what people were doing is that they were doing many different things.

The 'whys' are perhaps the hardest. In simple terms people came to this area to find food. But not everything can be explained in practical terms. The hearth on March Hill Top for example is in a poor position for lighting a fire, but perhaps a good one to be seen if that were important for the people at the time.

Perhaps more importantly than the questions we started with, all the 'places' and 'sites' we have studied have given us fascinating, and sometimes tantalising glimpses of the lives of part hunter-gatherers in the Mesolithic. At each 'site' we see 'snatches' of time in their lives – building a hearth, knapping a core, making microliths, cooking meat, keeping warm by the fire.

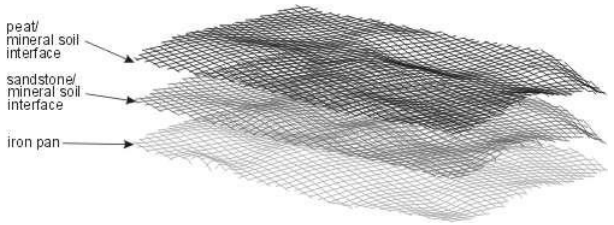
What we seen however is a small glimpse of what went on for a few minutes, in a few metres of the lives of people who ranged over large areas of northern England for many millennia. To make sense of what we have seen, to 'bring it to life' we need to understand how these type of people - hunter-gatherers - live. Our past way of getting a picture of this is by looking at ethnographic records, and in the next chapter we will be looking at the way of life of the Selk'nam – people who lived in an environment in many ways similar to that of Mesolithic Britain, however on the other side of the world in Tierra del Fuego.

How do we know how much the finds have moved?

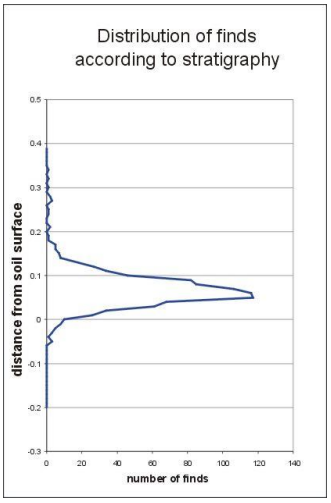
It is easy to get excited when we see clusters of finds which appear to 'mean' something – to tell us about something particular that happened in the past. However archaeologists always have to be careful not to jump to conclusions. As we noted in chapter two, things like tree roots, burrowing animals and any movements of soil can make the locations of finds change.

One way to check how much finds had moved is to look at how 'spread' the finds are 'in the section' (vertically) . Finds were once left on an old land surface that has since been 'buried' and will have moved up or down away from that surface – the further away they have moved the more 'disturbed' the site must be.

We developed a way of judging how much finds had moved from their original positions by making a model of the shape of how the soil changed with depth, (which told us about the old land surfaces) and measuring how far finds were away from it.



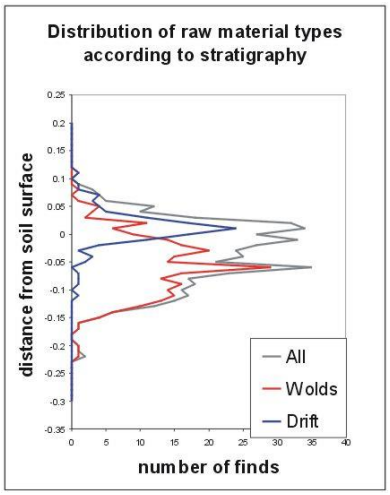
A model of the soil changes at Trench A



Distribution of finds from soil surfaces at Trench A

At Trench A, we discovered that the finds had moved very little – most finds were clustered within a few cm of the old land surface. This allowed us to confidently make interpretations about what the distributions of different types of finds might mean, since we knew that most finds had probably not moved very far from where they were left in the Mesolithic.

At Trench C, finds appeared to have moved more, but more interestingly we discovered that typically Early Mesolithic finds were clearly lower down that typically Late Mesolithic finds. This meant we could be confident in separating the finds from the two periods and discussing what had happened in each period separately.



Distribution of finds from soil surfaces at Trench C

Analysing Flint Tools

Stone is the most durable of the materials used by people in the past and, because of this, flint tools are the main finds that are left to us from the Mesolithic. Other materials such as leather, or plant fibres rapidly decay, and even bones are only sometimes preserved and almost never in the acid peats of the Pennines.

The study of flint tools has become more and more wide-ranging and specialised over the years. Now we can study tools under the microscope to look for tiny scratches that might tell us how they were used and consider the type of flint tools are made of and what that might mean about where people found the raw materials. We expect to know the locations of every piece of flint from excavations down to the tiniest pieces and carry out detailed studies not only of the end products - the tools themselves – but also *how* people made the tools.

By carefully studying the material left from flint knapping – all the flint finds on the sites - we can begin to look at how tools were made. An important technique used at Trench A by the finds specialist Chantal Conneller is that of 're-fitting' – piecing finds back together from the original core. By doing this we can see how flint was knapped, and also what people were doing where. At Trench A, Chantal pieced together eighteen finds from the same core, and when we look at the pattern made by where these finds were discarded it appears that whoever left them behind was sitting 'knapping' flint to the north of the central hearths (there is are even 'holes' in the distribution of finds which may be where someone was sitting). Refitting also gives us an insight into how people thought as we see each of the decisions they made when working flint – the mistakes they made and how they decided to remedy them… and when they decided to give up.

Flint tools can also tell us many other things about what happened in the past. Often certain tools are used for a certain function. The tools which we call 'scrapers' for example have often been used for scraping the fat off hides to prepare them for use. 'Scrapers' are used in this way by known hunter-gatherers and microscopic traces of this use are often found on archaeological scrapers. Other examples of tools that appear to have been made for a certain function are burins, which from studies of wear traces and from ethnographic examples appear to have been used for working wood or bone. However we can sometimes be wrong about what tools were used for. People have always assumed that microliths were always used as points on arrows, however wear studies on microliths have shown that they are often used for other things – such as piercing or boring. Sometimes one 'tool' can be used for different things during its 'lifetime', we found for example that people at March Hill sometimes used 'cores' (the waste central piece left after knapping flint) as 'scrapers'. We also found that many of the pieces which had been used didn't fit into any particular category but were just simple blades or flakes.

Dating the Mesolithic
The sequence of dates from March Hill Top and March Hill Carr

Fifty years ago archaeologists used to date sites by looking at the types of finds and comparing them to an accepted ´sequence´. For the Mesolithic in the Pennines, this meant that the best we could do was to say that a site was probably 'Early' or 'Late' (we now know that the Early Mesolithic spanned roughly from 10,000 to 8,500 years ago and the Late from then to 5,500 years ago). Radiocarbon dating however revolutionised the way in which sites could be dated.

Radiocarbon dating of burnt wood from Mesolithic sites involves measuring the amounts of different isotopes of carbon (different types of carbon molecules) in a sample of the wood. When the tree dies, the relative amounts of the different types of carbon in the wood will be the same as that in the air (since the tree will have taken the carbon it uses to grow from the air). However, since one type of carbon (carbon 14) degrades (changes) slowly with time, the relative amounts of carbon in the wood start to change as soon as the tree dies. By looking at how much of each type of carbon is in the wood (how much of the carbon 14 is 'left') we can get a good idea of how long ago the tree died. Getting a 'date' is however slightly more complicated as the relative amounts of different types of carbon in the air has been changing all the time in the past so the date needs to be altered to take account of this.

When archaeologists talk about radiocarbon dates, they always use a figure after the date, for example rather than saying 5,100 years ago, (before present or ´bp´) they say 5,100 years ± 50bp. We talk about dates in this way as we are never sure of exactly what the date is – we can't just say that something is 5,100 years old, as it could very easily be 5,110 years old, although is less likely to be 5,200 years old. The ± figure gives us an idea of how sure we are about the date – so the smaller this figure, the more sure we are. In fact we can put a figure on how sure we are – the ± figure really means that we are pretty sure (68% sure) that the date really was to within fifty years either side of 5,100 years ago.

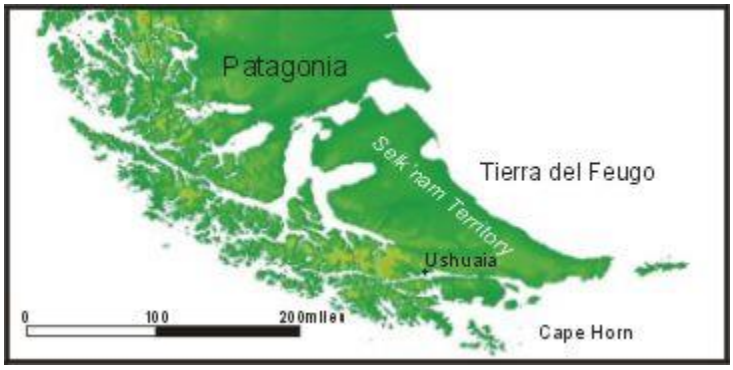
At March Hill samples of wood were used to get several dates. Two dates were taken (using different methods) from each of the four hearths we found at March Hill Carr, and seven dates in total from the hearth at the top of March Hill. If we look at the dates from March Hill, we can see that the ± figures are very small, this means that we are fairly confident of all the dates. If we look at a graph of the dates, taking the range of dates within which we are 95% confident that the real date lies we can see that all four of the hearths at March Hill Carr were also certainly used around 5,800 years ago, and the hearth at March Hill Top, around 5,100 years ago.

CHAPTER FIVE

The Selk'nam of Tierra del Fuego

An example of recent hunter-gatherers

Every human society is different, and so of course no society exists which we can use as a model for the Mesolithic. However, if we look at how recent hunter-gatherers in similar environments lived we can begin to imagine what life *might* have been like for people in the Mesolithic. We can start to appreciate how much is 'missing' from the archaeological record – not only things like the physical evidence for belongings and homes but also almost all the evidence for the social and religious side of life. Even peoples, like those in the Mesolithic, who left little permanent traces – just a few stone or bone tools and perhaps evidence of hearths or structures – clearly lived rich, complex and very social lives.



Map of southernmost South America

The 'Land of Fire'

Tierra del Fuego is a triangular shaped island (or more rightly series of islands) about the size of England. It is the southernmost part of South America – somewhere once dubbed the 'Uttermost Part of the Earth' (Bridges 1948[1]). It's latitude (53 to 55 degrees south) is approximately the same as that of northern England although the climate is colder as Britain benefits from the warming effects of a warm current flowing from the equator – the 'North Atlantic Drift' . Nonetheless the densely forested environment of much of Isla Grande (the large island) of Tierra del Fuego means that the hunter-gatherers who lived here – the Selk'nam (Ona) and their neighbours the Haush and the Yamana (Yahgan) – lived in what is perhaps the nearest we can hope to get to the types of environments in Mesolithic Britain.

Tierra del Fuego Landscape

[1] **BRIDGES, L. E. 1948.** *Uttermost Part of the Earth*. Hodder and Stoughton: London.

Tierra del Fuego was first 'discovered' by Europeans in 1520 by Ferdinand Magellan's expedition. Although Magellan didn't see any of the inhabitants, he named the island 'Tierra del Fuego', (´Land of Fire´), because of the numbers of fires they saw burning across the island. These fires would have been lit by the indigenous populations on seeing the strange floating vessels at sea - Selk'nam groups traditionally light fires to warn others of possible danger.

The story of the european interaction with the Selk'nam which followed this first contact is not a pleasant one. The first europeans to come face-to-face with the indigenous populations were Spanish explorers led by Pedro Sarmiento de Gamboa – although the indians were friendly (laying their bows and arrows on the ground to show their peaceful intentions) the Spanish took one of their member captive. Later encounters often followed a similar pattern. Early explorers were often violent, sometimes taking captives to 'show' in Europe. Nonetheless, in those early years of contact the practical effects of Europeans on the Selk'nam were largely limited to their trading furs and meat for materials such as glass and iron to make tools, or salvaging these materials from coastal shipwrecks – rounding the tip of Tierra del Fuego was notoriously difficult and dangerous.

The real impact of contact with europeans came at the end of the last century, from 1880 onwards. Firstly, gold miners set up permanent camps on the north of the island (in a largely fruitless search for quantities of gold). Although many violent encounters took place, the most serious impact took the form of european diseases, such as measles, which were fatal for the the Selk'nam who had little resistance. Serious competition for land and the most notable effects on the Selk´nam however came with the setting up of estancias – sheep ranches. The owners of these ranches saw the local indians as a threat as they hunted the sheep (which the Selk’nam saw as public property). These ranch owners even hired trained mercenaries to kill indians or to ship them to the missions (where they were forced to remain, and largely died of disease). By 1980, of an estimated three and a half to four thousand Selk´nam in 1880, only two direct descendants remained.

One ranch owner was different, Lucas Bridges, the British son of a missionary, was one of the few people to make friends and be accepted by Selk'nam society. His book, alongside the detailed ethnographic work of an Austrian, Martin Gusinde, an Austrian, Carlos Gallardo, an Argentinian and a French anthropologist, Anne Chapman, who recorded the memoirs of the last surviving Selk'nam, have provided us with some fairly detailed knowledge about Selk'nam society.

The way of life of the Selk'nam

The Selk'nam were generally tall, well built people, known as the ´giants´or the ´tall people´ by the early explorers (who were themselves often stunted by undernourishment). They were well protected against the inhospitable climate, wearing big cloaks made of skins to protect them against the cold, fur lined shoes, and sometimes also a fur hat. The men would normally be seen carrying their hunting weapons, bows and quivers of arrows, and the women carrying baskets and leather bags, and perhaps pointed spears. When on the move

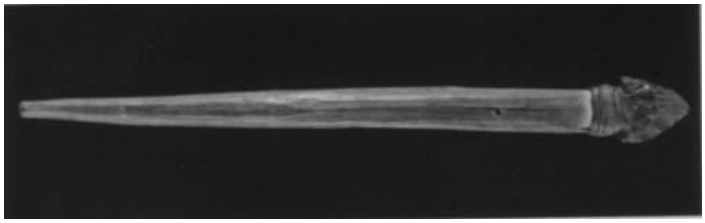
A Selk’nam family

the women would be loaded down with the hides and poles used for their tents. The whole group was normally be accompanied by their dogs.

The main food of the Selk'nam came from guanacos, an animal related to the llama, which the men hunted with bows and arrows. Guanaco meat was often eaten roasted over a fire, and was such a staple that the word for guanaco meat - ´jepr´ - was the same as the word for food. Almost every part of a guanaco was put to some use. Blood was made into black pudding and even the bone marrow was a delicacy. The hide was used to make windbreaks and tent covers as well as cloaks and other clothes, and leather bags to carry water. Bladders were used to make bags, nerves and tendons for cords and left over fat was used for making body paints. Even old skins were put to use, being made into footballs for games.

A guanaco

As well as guanacos, Selk´nam families would eat small rodents called 'tucutucu', which both men and women would hunt. They would also occasionally take advantage of foods found at the coast, particularly in winter, such as birds such as cormorants, sea lions, shellfish and even fish caught in rockpools. Plant foods, such as roots, fruits, berries and mushrooms mostly provided a compliment to the meat rich diet. Very little food was ever stored – sometimes meat or fish was dried, or occasionally meat or fat from whales or sea lions were left frozen in icy pools. A favorite with the children however was a type of seed which when ground, roasted and mixed with fat was said to be much like chocolate.



Selk'nam arrow

A particular, though unpredictable, delicacy was the meat and fat of stranded whales which died on the beach. A beached whale would feed many families for up to several months, and when whales were found fires were let and messengers sent out to alert other groups of the feast. Whale meat and blubber was particularly welcome in late Winter and early Spring, when our food was scarce and game animals such as guanaco were very lean. Lucas Bridges once saw a gathering of about a hundred and fifty people around a beached whale carcass and he said that the smell alone brought people running from many miles away. Any abundance of food, a whale being perhaps the best example, was not just a economic bonus for the Selk'nam but people also looked forward to the chance to meet people and organise social events, ceremonies and games.

The Selk´nam used a simple technology. The most specialised equipment were the bows and arrows used by the men – the bows were made of a particularly strong and supple wood, and the arrow shafts of particularly straight branches. Flint for the arrowheads was collected from particular sources, sometimes these could be visited on route to other places, sometimes specific trips were planned, and sometimes other goods were traded for finished arrowheads made by people living nearest to the good flint sources. Young boys gradually learnt the difficult techniques for understanding, tracking and hunting game and how to make the bows, arrowshafts and arrowheads which tipped the arrows. Other flint tools included blades used in cutting meat, scrapers for scraping the fat from hides in order to preserve them, and awls and burins for working wood and making

Making arrows

holes in hides. Finely woven baskets used for collecting shellfish and plants were made by the women, who passed on these techniques to their daughters, as well as those for making leather bags for collecting water.

Less commonly used equipment included stone axes sometimes needed to fell trees or branches for firewood or to make poles for the tents and bone harpoons sometimes used for catching fish. Traps were used for catching certain animals (particularly birds), and nets were sometimes used to catch sea lions or fish at river mouths. Many of the commonly used tools were however made very simply – such as the sharp spears or sticks used to kill animals such as the tucutucu or fish or to dislodge plants or shellfish and wooden clubs used to kill young guanacos, birds or sea lions.

Often successful hunting depended on skill and cunning techniques. Lucas Bridges for example describes several different ways in which cormorants nesting on sea cliffs were caught. One of the indians, Talimeoat, was particularly famous for his ability to catch nesting seabirds. During the day, friends would lower him down the side of precipitous sea cliffs on 'ropes' made of seal skin. He would check out the routes down and where the birds were nesting. Then, picking a dark rainy night to ensure that the birds slept with their heads under their wings, he would be lowered down again, being careful to make as little noise as possible. He would strangle the sleeping birds by biting the back of their necks, and rarely came back empty–handed. People who visited him said that they were always sure of receiving a present of a nice plump bird.

Another method involved many people. Working together at night at low tide, the whole group would be at the coast with 'torches' (brands of twigs which would catch light easily). The older people and the children would be higher up on the cliffs, and the others at the beach. When the signal was given everyone would light their torches and make as much noise as possible. The sleeping cormorants startled, would try to fly away but too sleepy to fly far would land on the beach where they could be killed with

Making a basket

Hunting using bows and arrows

clubs before they took off again. In this way a lot of birds, enough to last for several days, caught be caught at once.

Catching cormorants, hunting guanaco, knowing where to find small rodents and plants, and how to navigate through forests and plains and track game were all skills learnt over a lifetime. The indians ability to 'disappear' into the landscape was legendary, and after the first violent encounters most explorers saw little of the indigenous population who opted to avoid contact, unless they wanted to trade.

Since the animal and plant foods in any one place were quickly used up, and as guanacos themselves moved over large areas, the Selk'nam needed to be constantly on the move. Except when food was more abundant and many families could get together, they normally lived and moved around in family groups often not staying in one place for more than a few days. The women carried the babies and children on their backs, either wrapped in their cloaks, or carried in especially designed 'cradles', which could be stuck into the ground when they arrived at a camp to keep young babies out of harms' way.

Family ties were a key determinant of the relationships between people. Several related families made up a band which jointly 'owned' a certain territory (called a 'haruwen') within which they hunted game and gathered plant foods. The edges of these territories were marked by natural boundaries – such as hills, streams or watersheds - and the territories were jealously guarded. Nonetheless, other neighbouring people were often allowed to hunt in another territory when it was difficult for them to find food, but would typically be accompanied on their hunt or be expected to leave some of the meat for the owners. They would also be expected to ask politely to enter a territory – by sending a messenger or lighting a fire to send a signal beforehand. At the time of the estancias violent feuds often broke out between different bands, especially where people had trespassed on others' territories, although it seems likely that much of this violence may have had its roots in the stresses imposed by colonisation, including shortages of food as sheep displaced the traditional guanacos. By this time, the normal territories had been 'compressed' with groups living in only part (mostly the south) of the island.

A Selk'nam group 'on the move'

Although jealously guarding the family territory, the indians were always generous and shared almost all

their goods and possessions. Food, especially meat, was always shared and after being cooked was carefully distributed by the women, who made sure everyone had their share. Even people's personal tools – such as bows and arrows or baskets - were often leant to friends and relatives without expecting any favour in return.

Although the Selk'nam had several specific ceremonies and celebrations, marriage was a simple affair. In order to get ´married´, a man would offer his potential bride a minature bow, if she accepted his offer, she would accept the bow and give him a woven fibre bracelet. The 'wedding´' would be celebrate by feasting and the husband would give presents, such as meat and skins, to his new mother-in-law.

Social and ritual life was important to the Selk'nam. People from different bands got together whenever resources would allow to trade, participate in games, elect shamans, or for ceremonies. One type of meeting was called ´kaushketin´, where there were many different types of competitions. Shamans would compete with their ´magic skills´ - they would go into a trance after many hours singing, and the intensity, length and the words they recited would be used to compare the ´best´ shaman. There would also be archery contests, races, fights and ball games.
Whoever hosted the Kaushketin would send messengers (´oshen´) to many groups, which would all take part. People would give and receive presents, often things they wanted or needed which they couldn´t find in their own ´haruwen´- flint, good wood for arrows or bows, pigments to make paints etc. Pairs of families often had a special relationship whereby they could ask for presents, and give something back in return as much as a year later.

Anne Chapman describes a Kaushketin, which one of her informants (Federico Echeuline) described. This kaushketin took place in Bahia San Sebastian, in the north-east of the island. A whale was beached in the bay, and the owners of the bay invited many groups to celebrations. People from the central eastern coast of the island brought bows and quivers, from Lake Fagnano they brought arrowheads. Those from the north, famous for the special stone used to straighten arrows, brought theses stones. Others brought fox furs. Those who lived nearby brought enough cooked rodents for everyone. Two famous fighting champions came to fight. One, named Kuaka, came from a nearby haruwen, the other, Alhila, was a haush from the south-east of the island, four days walk away. Alhila won the fight.

As well as social events, the Selk'nam had a complex ritual life with ceremonies as complex as any we imagine for Stonehonge, although like any such ceremonies in the Mesolithic they left nearly no traces. Their beliefs were passed down the generations through stories and ceremonies. They believed that everyone came from one of four 'skies' – the cardinal points of North, South, East and West - and that we would all return to our respective skies when they passed away. They also believed in a series of spirits, related to real animals, who could influence what was happening amongst 'mortals'.

The most important ceremony was called the 'Hain' and it was during this ceremony that young boys could pass a series of tests and be acknowledged as 'men'. A Hain took place when an abundance of food resources (such as a beached

On the move – notice the babies carried on their mothers' backs

whale) allowed, and may not occur for several years, but the ceremony itself was a long process often taking many months. Only certain places were suitable for holding a Hain – which requires a large area of plain to act as a 'stage', beyond which would be forest within which the sacred tent, the 'choza' of the Hain would be built. The 'choza' had to be built to a very specific design, with large supporting post orientated to the directions of the 'skies'. In fact, the choza was the most 'permanent' structure which the Selk’nam made and was the one we would have the most chance of finding archaeologically. Here the men would gather to perform rites which were secret from the women, and to prepare themselves to imitate the spirits in a drama acted out before the women on the 'stage'.

Although both men and women often painted their faces and sometimes their bodies – generally a symbol of how they were feeling or the family to which they belonged, at the time of the Hain the designs they used were very specific, telling people to which of the ‘skies’ they belonged. Much as we interpret many things about people from their clothes – a suite or jeans carry different ‘meanings’ – body painting carried many meanings for the Selk’nam.

Selk’nam society – its rituals, beliefs, ways of finding food and relationships between people - evolved over many millennia. The Selk’nam knew every hillside and valley of their territory intimately and were finely adapted to live off their land using materials to hand. However well adapted they were though, they could not compete with european colonists who brought diseases and believed in ‘property’. In less than a hundred years the Selk’nam had died out completely.

What do the Selk´nam leave behind?

Of all the complex economic, social and religious life of the Selk'nam, very little is left behind in the archaeological record.

The most durable items are those made of stone. Thus we might find arrowheads, scrapers used for scraping hides, blades used in cutting meat or other materials, burins, awls and stone axes and waste from tool manufacture. Particular stones used to knap flint, and to straighten out arrows might also be identifiable from their patterns of wear. The waste we would find where tools were made, but most other tools where they were discarded as their edges wore out or they broke, although arrowheads might also have been lost when hunting. As archaeologists, using this evidence, without knowing anything about the Selk'nam, we might begin to get an idea of how and where flint tools were made, where people killed and cut up animals or carried out other activities such as preparing hides.

Bones would be preserved in certain conditions so we might find bone harpoons discarded near the coast, bone ´retouchers´ used in making stone tools, and certainly the remains of meals in many locations. We might begin to understand from these bones how animals were hunted, and how they were cut up and brought back to the main camps. In terms of which resources were important, we would surely recognise that guanaco were eaten, and also sea lions. Piles of shells at the coast would also tell us that they ate shellfish. The bones of birds such as cormorants and small animals such as rodents are much smaller and less likely to survive, although may in certain situations. However we would be very unlikely to find remains of fish and even less likely to find any signs of plant foods.

Ceremonial hut – the most 'solid' structure built

If sites were preserved and excavated carefully, we might be able to identify where fires were lit, from the remains of charcoal and burnt stones. We might be lucky enough to find a site with little disturbance, and if so, be able to piece back from the distribution of artefacts, some of the activities to do with flint knapping and if bones were preserved eating and disposal of rubbish. Of the tents themselves we might possibly find marks where posts marked the position of tents – but only if they were dug deeply enough into the ground and mostly no evidence would have been left. The 'postholes' left by the ceremonial 'choza' would be the most likely to survive, and we would very likely imagine that this ceremonial hut was the 'normal' living place of the Selk'nam.

Many activities would leave little if any traces. We would have be very lucky to find anything made of perishable materials – woven baskets, leather bags, wooden spears, sticks, traps and nets or any clothing such as cloaks etc. Only in very unusual circumstances are these type of items found, normally preserved in permanently waterlogged conditions. Of all the 'art' – masks used in the ceremonies, body painting and it's complex symbolism, we would probably find nothing. In fact, many of the things which the Selk'nam themselves would probably have considered the most important about their society – the traditions, myths, ceremonies, social life - would leave no traces.

What can the example of the Selk´nam tell us?

There are many different ways of 'making a living' by being hunter-gatherers, and no two hunter-gatherer groups are alike even if the environment in which they lived in was similar. So the Selk'nam are only an example of one of many different types of society. What is more, as an example they are far from a perfect one - when their lifestyles were recorded they were no longer in their 'natural state' but already influenced by contact with europeans.

However, considering hunter-gatherers like the Selk'nam lived is important for several reasons.

First, looking at many similar societies can help us to understand practical things – what influences how flint tools were made or thrown away, how animals might be caught or how shelters were constructed. In this way, we can come up with models to help us understand what we find archaeologically.

Secondly, real hunter-gatherers show us how complex life would have been in the past, and how much evidence we are missing. If we only find stone tools or bone remains we can easily forget that people must have had many other types of tools and belongings and done other things than knap flint, make weapons or butcher meat.

Lastly and perhaps most importantly we often tend to view almost everything we find as having a practical function immediately connected to survival. Hunter-gatherer societies teach us to open up our perspectives and recognise how important social and ritual life is likely to have been. A good example might be the use of hearths. We almost always imagine that Mesolithic hearths were made as things that directly affected survival – to keep warm or cook food. However the Selk'nam not only used fires to keep warm and cook on, but also used to alert others of danger, ask permission to enter a territory, or to notify of the presence of a whale and a social gathering. Even if there is little evidence of these types of uses, we should be aware of how important the 'social' use of things was.

Lucas Bridges

Edward Lucas Bridges was the son of the first 'successful' missionary to make a home in Tierra del Fuego – Thomas Bridges, and his wife Polly, went from England to Tierra del Fuego in 1871. Lucas, born in Tierra del Fuego in 1874, spent most of his youth living amongst the indigenous people – the Yamana who lived at the coast, and the Selk'nam of the interior.

Edward Lucas Bridges

Lucas' father, Thomas, always said to treat the indigenous people as Lucas would want them to treat his own family. Lucas developed perhaps the best understanding of the Selk'nam of any 'white' person. He learnt the Selk'nam language and made many good friends amongst them, going hunting with them and being accepted into their secret ceremonies. Unlike even the most well meaning of europeans who sought to put the indians in missions and teach them to be like europeans (wearing european clothes, and learning tasks such as spinning and weaving) Lucas realised that they needed to be free to live their traditional lives. He defended the indigenous people both against poor public perceptions in Britain and against starvation and ranch owners set on their destruction on the island. In fact, the ranch owned by the Bridges family was a haven for the Selk'nam – somewhere they would be safe and could hunt. Lucas even set up a ranch in the north of the island after the Selk'nam pleaded with him to set up a safe place for them there.

Once, when out hunting with Selk'nam friends he read an article in the *Liverpool Weekly News*, which had been wrapped around his sandwiches. The article noted that the Selk'nam were cannibals, eating their old and 'useless' women. Although his hunting friends laughed, they were hurt that people who they had never met let alone themselves said anything bad about would write such lies about them. Lucas wrote to the paper describing the 'real' Selk'nam.

Lucas was seen by the Selk'nam as a 'brother' - they said that though 'white' he had *'the heart of an Selk'nam'*.

How did the Selk'nam feel about their land?

Lucas Bridges described the feelings of one of the indians - Talimeoat

Talimeoat was an indian who I grew to very fond of and I spent many hours with him. One quiet autumn night, a little before my business matters took me to Buenos Aires, we were walking near to Lake Kami. We were just above the highest level of the trees, and before going down to the valley, we took a rest on a green hill. The air was cold, as the days were getting shorter, and the atmosphere so clear and quiet that it was obvious that there would be a sharp frost before dawn. A few clouds like feathers broke the monotony of a light green sky, and the forest that reached to the very edges of the lake had not yet lost its brilliant autumn colour. The twilight gave the far mountain chains a purple tint that it is impossible to describe or paint.

In silence Talimeoat and I contemplated the seventy-five kilometres of hillsides covered in forest that stretched the length of Lake Kami, for a long time, shrouded in a magnificent twilight light. I knew that he was looking in the distance for any sign of smoke from camps of friends or enemies. Then he sat at my side forgetting both his search and my presence. I, feeling the afternoon chill, was just at the point of suggesting that we left when he gave out a huge sigh and said in a soft voice, with the accent that only an Ona can give to words:

Tierra del Fuego lakeside

Yak haruin! (My land)

The sigh that preceeded these soft words, so unusual in an Ona – was it motivated by a vision of the future, not so far away, when the indian hunter would no longer experience the solitude of the forest, the light column of smoke from their camps replaced by smoke from the chimneys of sawmills and the powerful machines and the noisy sirens breaking for ever the silence?

If these were his thoughts, I sympathised with him. Unable to stop the inevitable invasion of civilisation I decided to do all that was in my power to soften the blow. I would go to Buenos Aires, but would return, not to Ushuaia or Harberton, or Cambaceres but to Najminsk, in the heart of Ona territory, where I could help the primitive owners of the land, whom I could proudly call my friends.

(need to check English original – this is my translation from Spanish, end of chapter 35)