



**Hunting the  
Hunter-Gatherers  
Mesolithic Teesside**



# Hunting the Hunter-Gatherers

## Mesolithic Teesside

by Peter Rowe

with reconstruction illustrations  
by Nigel Dobbyn



Historic England



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# Hunting the Hunter-Gatherers

The Mesolithic is a fascinating period when hunter-gatherers began to populate what is now the British Isles after the end of the last Ice Age.

The period begins around 9600 BC and finishes around 4000 BC with the introduction of farming.

Although it lasted for almost 6000 years the Mesolithic is difficult to research. The main reason for this is that it is very hard to discover archaeological sites of the period.

Many Mesolithic sites may have been temporary camps where tents or similar shelters were set up for short periods, perhaps only overnight, leaving few physical traces for archaeologists to find.



Our evidence for the Mesolithic is often restricted to flint scatters; these are the remains of stone tools and the waste from making them. A number of Mesolithic flint tools are very distinctive and are ideal for identifying activity of this period.

There are numerous Mesolithic flint scatters across the high North Yorkshire Moors, with lowland sites known on the Upleatham and Eston Hills and on the coast at Crimdon, Seaton Carew and Goldsborough.

## What is the Mesolithic?

The Mesolithic is part of the Stone Age. The term 'Mesolithic' literally means 'Middle Stone Age' as it comes after the 'Palaeolithic' (Old Stone Age) and before the 'Neolithic' (New Stone Age).

The term Mesolithic was introduced in the later 19<sup>th</sup> century but the period was not properly understood for quite some time. Prehistoric research tended to focus on the more visible aspects of the Palaeolithic such as cave paintings and the impressive stone circles and chambered tombs of the Neolithic.

Evidence for human life in the region before the Mesolithic is rare with only a handful of known stray finds. These include a Palaeolithic stone axe, found at South Gare, Redcar, by a local fisherman in 2006. Finds such as these may have washed out from submerged archaeological deposits offshore or been accidentally brought to the region amongst ships' ballast in the 19<sup>th</sup> century.



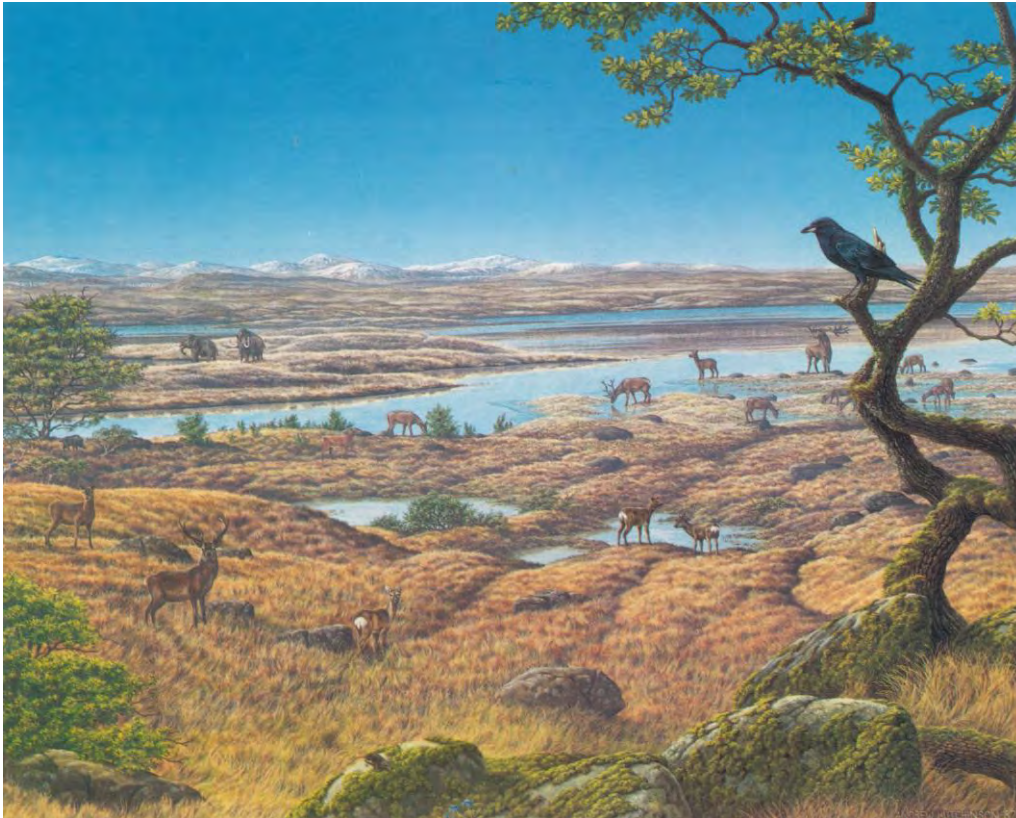
*Fragment of stone axe from Redcar (left) with a museum specimen (right) for comparison.*

The Mesolithic is an exciting archaeological period in Teesside as it produces the earliest evidence for actual human habitation.

Mesolithic people were hunter-gatherers. They had not developed farming, pottery or the use of metals. We know that they would travel to exploit natural plant and animal resources as they became available in the different seasons. People may have been nomadic for some of the year to make the best use of these resources.

## The End of the Ice Age

Prior to the Mesolithic, Britain was in the grip of the Ice Age. The climate was extremely cold with vast ice sheets or glaciers covering much of northern Europe. This period of glaciation was interspersed with warmer phases known as interglacial stages, when the ice sheets would retreat, allowing plant, animal and human life to colonise the landscape.



The Tees Estuary at the end of the last Glaciation (by Andrew Hutchinson)

The last glaciation reached its maximum extent around 20,000 BC after which the ice began to retreat. The climate in Britain was still likely to have been too harsh to attract humans for many millennia, particularly in northern areas such as Teesside. By around 13,000 BC there was a rapid improvement in the climate, with summer temperatures approaching 20°C.

However, the end of the Ice Age was not straightforward. Around 11,000 BC there was another significant cold period. Glaciers began to reform in Scotland and northern England. This final cold period is known as the Younger Dryas. It is not clear whether humans were completely driven out of Britain at this time.



## Sea Level Change

The end of the Palaeolithic and start of the Mesolithic period is marked by massive environmental change. Sea levels gradually rose worldwide as a result of the melting of the ice caps, which at the height of glaciation would have covered most of the British Isles.

At the start of the Mesolithic, Britain was physically connected to Europe by a land bridge, which has been termed Doggerland. This was a low-lying landscape crossed by rivers and was certainly exploited for its rich natural resources in the early Mesolithic period.



As the sea level rose Doggerland became flooded, initially leaving an island at Dogger Bank.

By around 6500 BC this rise in sea level led to the formation of the English Channel and North Sea, and the physical separation of the British Isles from the rest of Europe.

Sea level rise was not always a gradual process and at around 6,200 BC, a tsunami or tidal wave arose in the North Sea as a result of a submarine landslide off the coast of Norway, crashing into Scotland and the eastern coast of England. This must have had a devastating impact on Mesolithic communities in the Teesside area who happened to be in its path.

Much of Scotland and northern England was saved from flooding by the phenomenon known as isostatic or post-glacial rebound. The land in these areas actually rose after it became free of the great weight of ice that had borne down on it for millennia. As a result we see geographic peculiarities such as raised beaches that are higher in altitude than they were originally.

## The Natural Environment

The Mesolithic is traditionally divided into an early and a late period. The early Mesolithic immediately followed the end of the Ice Age. There was a rapid warming at around 9600 BC with summer temperatures rising by as much as 10°C within several decades. Nevertheless the climate was still cold with a tundra-like landscape giving way to an open forest. Many tree species take time to get established so the early forests consisted of rapidly colonising types such as birch and the nut-bearing hazel. The climate may have been drier than it is today but somewhat cooler.

In the later Mesolithic lime and oak trees spread across the lowlands providing a much denser forest canopy. These forests may have been much less productive, as the thick canopy would have allowed less light to reach the forest floor, meaning that there would be fewer grasses for grazing animals and less hunting for Mesolithic people. The poorer soils of the upland areas are likely to have maintained a cover of birch, ash and pine that would be richer in plant and animal resources. The climate became wetter and warmer at this time.

Reconstructing past environments is an important part of the study of any archaeological site. It is particularly relevant for the Mesolithic when people had a very close relationship with their environment.

The study of the Mesolithic environment is made possible by the analysis of ancient pollen, seeds and insect remains. This sort of evidence survives in waterlogged conditions such as in sediments at the bottom of lakes or within peat deposits in marshes or bogs. Samples of this material can be taken by removing a core sample through the entire deposit (often several metres thick).

Rich peat deposits survive in the form of submerged forests off the coast at Hartlepool and Redcar.

By looking at the pollen and other spores present in core samples it is possible to reconstruct a detailed picture of the vegetation that was growing at a particular location, and further afield.

There are a number of well-documented environmental events that can be recognised in pollen records. One of these is the decline in elm that occurred around 4000 BC and another is the increase in alder around 5500 BC. If these episodes can be identified in core samples then it is possible to assign relative dates to the different layers. Sometimes the cores can be directly dated using radiocarbon dating.



## Animal life

The open forests and grasslands of the early Mesolithic would have provided habitats for a variety of animals. These included a number of now extinct species, known as mega-fauna due to their vast size compared to their modern relatives. Aurochs (wild cattle), megaceros (giant deer) and elk are all examples. The well-preserved skeleton of an elk was found in peat deposits in a clay quarry at Neasham near Darlington. The remains date from around 9,000 BC.

Herds of red deer and wild horse would also have been present in these early forests along with smaller animals including pine marten.

The denser oak forests of the later Mesolithic lowlands would have been less favourable to large animals. Smaller species, including roe deer, fox and the acorn-exploiting wild boar began to replace the mega-fauna that may have been hunted to extinction. Animals that are not suited to heavily wooded conditions, such as wild horse, also died out.

Away from the forests, the north-east coastline and its rivers would have provided access to fresh-water and marine fish, shellfish, and a wide variety of birds and marine mammals such as seals, which may have lived in large colonies in places like Teesmouth.



A number of predatory animals were present in the Mesolithic, including bear, lynx and wolf.

We know that dogs were domesticated by this period. Archaeological evidence for them is rare but dog bones have been found at Star Carr, North Yorkshire.

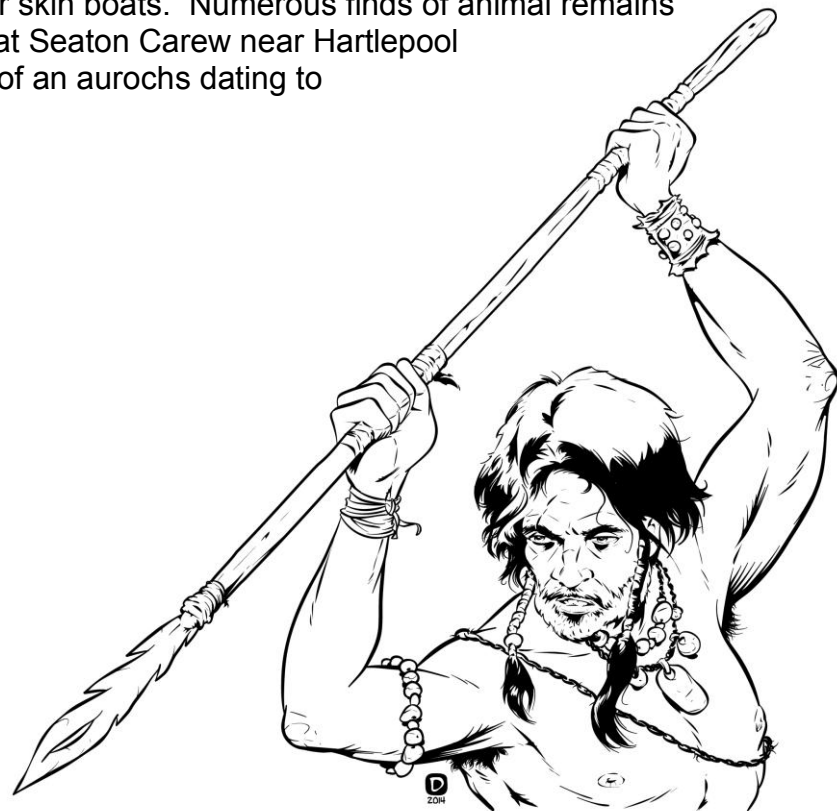
## Hunting and Fishing

Evidence for hunting often survives in the archaeological record. Animal bones are found on a number of Mesolithic sites but more common are the flint and antler tools used to hunt and process the prey.

As well as providing meat, the carcass would be a valuable source of other materials including fur, hide and sinew for clothing, antler and bone for tools, and bladders and stomachs for containers.

Mesolithic hunters must have had an encyclopaedic knowledge of animal behaviour, seasonality and habitats. There is evidence from the palaeoenvironmental record that the hunters managed habitat by selectively burning areas of woodland. This encouraged new growth and attracted grazing animals such as deer.

Fish and other sea creatures would have been an important part of the Mesolithic diet. Winkles, limpets, whelks and crabs would have been available from the local coast. Seal colonies may also have been exploited for their meat, blubber and skins. It is quite possible that hunters took to the sea and rivers in log or skin boats. Numerous finds of animal remains have been found at Seaton Carew near Hartlepool including the foot of an aurochs dating to around 6000 BC.





## The Seaton Carew Fish Trap

In 1994, severe weather led to the exposure of a section of a wattle panel on the beach at Seaton Carew. The panel was at least 3.4m in length and 0.8m high, with 25 surviving sails (uprights), interwoven with very thin rods.

The panel was radiocarbon dated to 3950-3650 BC, i.e. the very end of the Mesolithic or beginning of the Neolithic. The panel was mainly woven in hazel with the sails projecting beyond the weave on one edge only, suggesting that these were embedded in the ground to hold the panel in an upright position.

The panel is thought to relate to fishing activity and would be used to trap fish by funnelling them along a channel and into a basket or net. Slightly earlier fish traps of similar design are known from the Netherlands and Denmark, placing the Seaton example firmly in the Mesolithic tradition.



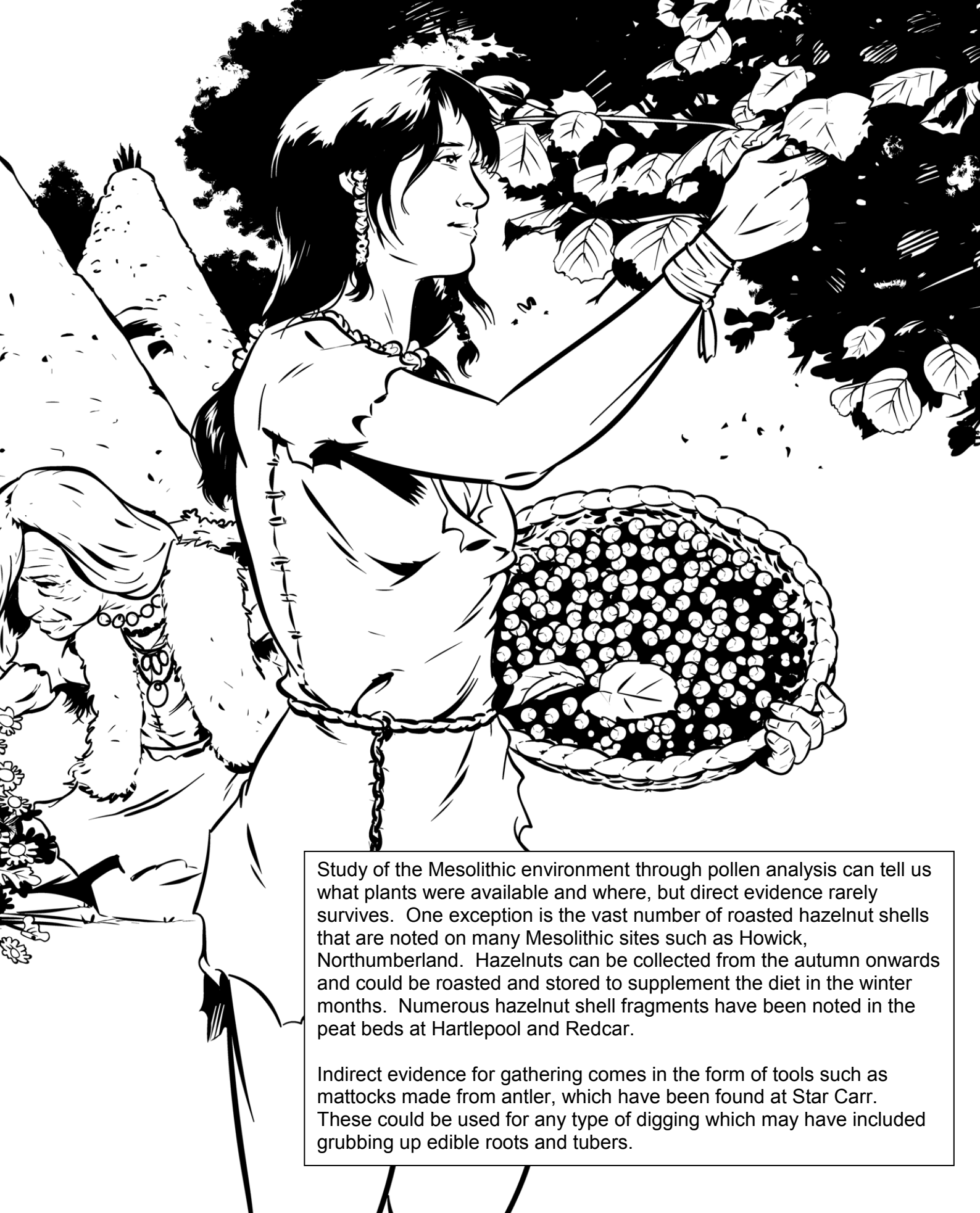


## Gathering

Mesolithic people relied on the natural environment for their everyday requirements including food and shelter. Subsistence was based around gathering wild plants as well as hunting and it is presumed that people had a vast knowledge of plant resources. This would include familiarity with where and when different resources were available.

It is likely that plant foods in the form of nuts, fruits, berries, fungi, leaves and roots would have formed a large portion of the diet, as well as being used for medicines, dyes, poisons and the manufacture of items such as rope, baskets and bedding.





Study of the Mesolithic environment through pollen analysis can tell us what plants were available and where, but direct evidence rarely survives. One exception is the vast number of roasted hazelnut shells that are noted on many Mesolithic sites such as Howick, Northumberland. Hazelnuts can be collected from the autumn onwards and could be roasted and stored to supplement the diet in the winter months. Numerous hazelnut shell fragments have been noted in the peat beds at Hartlepool and Redcar.

Indirect evidence for gathering comes in the form of tools such as mattocks made from antler, which have been found at Star Carr. These could be used for any type of digging which may have included grubbing up edible roots and tubers.

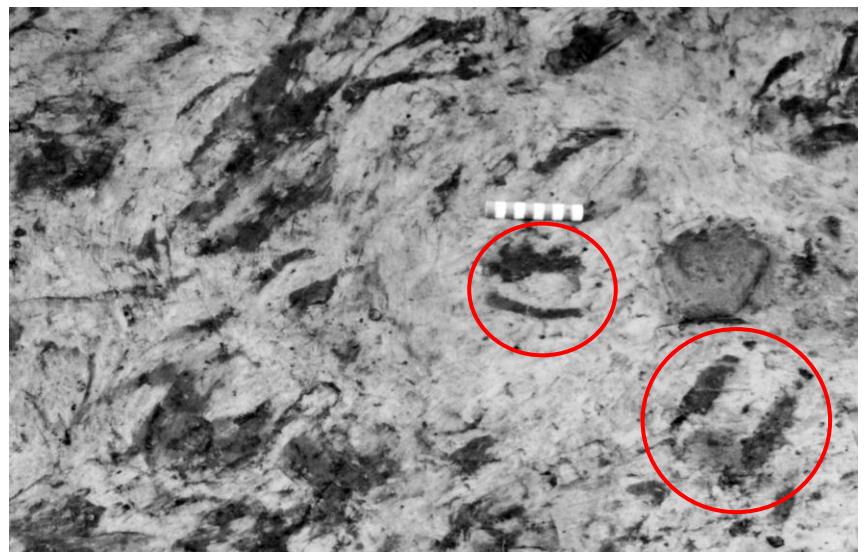


## A submerged landscape at Seaton Carew

Some of the best evidence for Mesolithic activity on Teesside comes from the inter-tidal remains of a submerged forest at Seaton Carew. The former forest now consists of peat beds, often including the remains of entire fallen trees and tree stumps. These are sometimes visible at low tide but are frequently buried by sand.

Many of the best finds from the submerged forest are chance discoveries, often following severe weather; others have been made during archaeological works connected with sea defences.

Some of the earliest discoveries were recorded by C.T. Trechmann in the 1930s and 1940s. These included a flint working area which consisted of about fifty knapped flints with typically Mesolithic characteristics.



In 1995 a series of animal hoof-prints were excavated beneath the peat, pressed into an old land surface. The prints were of cloven hoofed animals and of the correct size for young cattle, elk or red deer. Unfortunately the area was heavily trampled meaning that exact identification was not possible. Two clear hoof-prints are circled in the picture above.

The remains of the animals themselves are often found and the forest has produced a large assemblage of a variety of species including aurochs and red deer.



## Settlement and Seasonality

Mesolithic people were evidently exploiting natural resources for food, clothing, medicines and other everyday needs. Many of these resources are only available at certain times of the year.

The general perception of Mesolithic communities is that they were highly mobile and travelled the landscape seasonally, exploiting resources as they became available.

There is still little doubt that Mesolithic people were prepared to travel but there is also growing evidence that certain places were settled for extended periods. Semi-permanent structures, with evidence of rebuilding over several generations, are now being noted in the archaeological record. If these places were not permanently settled they were at least re-visited often and frequently maintained and repaired. The broad variety of flint tools found at sites like Upleatham perhaps indicates a long-lived settlement.

Likewise it appears that some places were particularly favoured and were often re-visited. Mesolithic camps high on the North Yorkshire Moors are unlikely to have been continuously occupied but there is evidence that hearths were built and re-used, often over extended periods of time.







## Star Carr, near Pickering

Our region boasts one of the earliest and most famous Mesolithic sites in the whole of Europe. Star Carr, in the Vale of Pickering, was buried in a deep layer of peat on the edge of a former lake. The site was first excavated in the late 1940s revealing outstanding preservation of organic remains of the Mesolithic period including animal bones, wood and antler tools, alongside thousands of flints. Of particular note was a platform, constructed of timbers and brushwood at the edge of the lake. These remains date from the earliest part of the Mesolithic, around 9000 BC.

More recent research at Star Carr has identified a building. This consisted of a deliberately dug hollow, surrounded by a series of post-holes. The hollow was incredibly rich in finds. The structure was roughly circular and several metres across. It probably had a timber frame and could have been covered with animal skins or reeds to make it watertight.



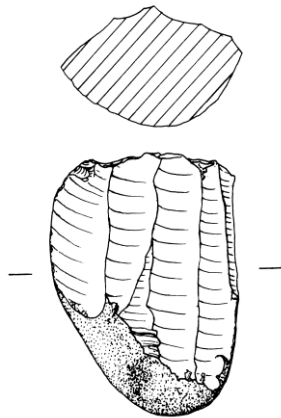
## Mesolithic Technology: Flint knapping

Flint tools are the most common finds of the Mesolithic. The flint industry of the period is very distinctive as it was largely based around the production of parallel-sided blades for the manufacture of particular types of tools.

Flint occurs naturally in the region as small nodules or pebbles that can be found on local beaches or in glacial drift deposits. It can also be won from seams that outcrop on the coast in the chalk sea cliffs at Flamborough.



Flint is a very hard material but it is also brittle. When it is struck it fractures like glass and with practice small flakes or blades with razor sharp edges can be removed for producing tools.

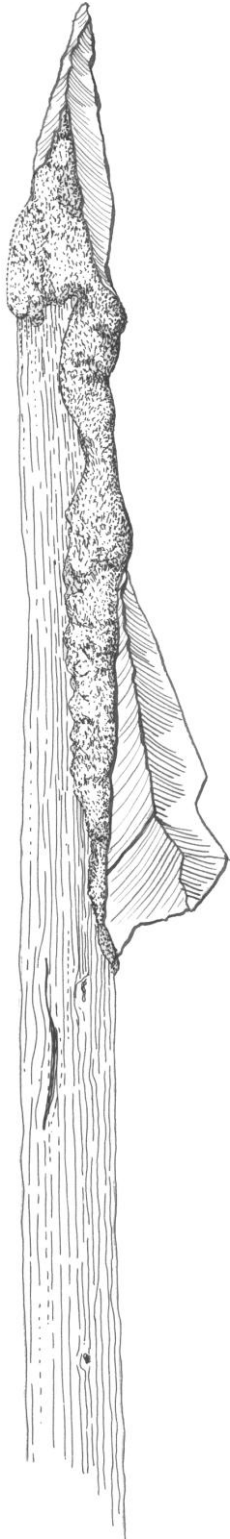


Small pebbles of flint would be selected and tested for their suitability by creating a platform from which to remove flakes or blades. Such pieces are known as cores and bear the distinctive scars of the removals around their perimeter. In the Mesolithic period cores were well looked after and the edges of the platform would be constantly trimmed to avoid crushing and damage during knapping. Mesolithic cores will normally have consistently sized blade removals around their edges and will often have been turned through 180 degrees to create a new platform when the original had been exhausted.

In the Mesolithic period, antlers were used as hammers to remove blades and flakes from cores. These tend to cushion the blow and produced thinner and longer flakes than in later prehistoric periods when stone hammers were used with rather less finesse.



## Microliths

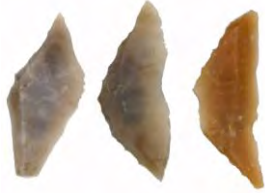


The microlith is the most distinctive type of Mesolithic tool. The term is derived from Greek and simply means 'small stone'. Microliths were called 'Pygmy flints' by Victorian collectors due to their small size. Large collections of microliths are known from moorland sites such as White Gill in Westerdale. They are also noted on moor edge sites such as Highcliff Nab near Guisborough and coastal sites such as Filpoke Beacon near Blackhall.

Microliths are made from sections of blades, shaped by chipping, known as retouch, along one or more of their edges. They take a variety of shapes and sizes – the simplest are blunted at an angle across one end to create a point. Others are shaped into crescents, triangles and trapezes.

Microliths were used to tip arrows and several may have been used together on the same arrow shaft to create barbs. There are surviving examples from Scandinavian bogs that show how they were hafted. Microliths may also have been used to create tools used for fishing and gathering. Microliths disappear at the end of the Mesolithic when new forms of tool such as leaf-shaped arrowheads replace them in the Neolithic.

## Variations in Microliths



Earlier microliths tend to be relatively large and based on broader blades, often between 2 and 4 centimetres in length. These types of microlith have been found on the Eston Hills and at Highcliff Nab, near Guisborough.

Variations in microliths in the early Mesolithic have been noted, falling into groups known as 'Star Carr', 'Deepcar' and 'Horsham' styles. These variations may reflect the different traditions or styles of different groups of people moving into Britain from different areas of Europe during the Mesolithic.



Later microliths are smaller and more geometric in shape. They usually take the form of scalene triangles, trapezoids or straight backed blades.



In the very late Mesolithic a type of microlith called a 'rod' was introduced. These tiny blades are blunted along both edges and are often extremely small.



## Other flint tools



Flints were also used for cutting, chopping, scraping, engraving and piercing.

Any sharp edged flint would suffice for a handy knife. For other tasks flints would be shaped by retouching to suit the purpose.

Scrapers were an everyday item and in the Mesolithic they were normally based on elongated flakes or blades with the retouch focussed at the end. Many of these smaller tools might have been hafted in wood or bone handles.



A type of flint axe called a 'tranchet' was used in the Mesolithic. These are fairly rare in our region but one was found at Seamer Carr, near Stokesley and another is known from the submerged forest at Seaton Carew.





## **A Mesolithic camp at Highcliff Nab, near Guisborough**

Although most of our evidence for the Mesolithic comes from flint scatters very few of them have ever been subject to archaeological excavation.

Highcliff Nab is a rocky outcrop on the edge of the Moors, with excellent views across the Tees Valley and to the coast beyond. The site is very popular with walkers and is on the line of the Cleveland Way. The erosion caused by walkers led to the identification of a Mesolithic site.

Several thousand flints were collected from the summit by Norman and Patricia Harbord of Guisborough who thoroughly documented their finds. They also noted concentrations of burnt stone and charcoal.

In 1995 Tees Archaeology carried out a three week long excavation prior to the laying of a new stone footpath to the Nab. A stone spread, containing a high concentration of flint, was noted close to the summit. The flints included waste cores, blades and microliths.

A significant number of flints had been burnt suggesting that fires had been lit. Tools such as scrapers were absent suggesting that this was a temporary camp, used by hunting parties making use of the commanding views.

## Antler tools

Antler seems to have been a prized material in the Mesolithic.

It was used for the manufacture of harpoons or barbed points. These are usually barbed along one edge and may have been hafted in pairs with the barbs facing inwards as spears for catching fish, as shown on our front cover illustration.

Almost 200 of these items were excavated from Star Carr in the 1940s.

### The Whitburn Harpoon

In 1852 an unusual object was picked up from the beach at Whitburn in County Durham.

This was identified as an antler harpoon and was about 9cm in length. It had three barbs along one edge and two along the other. The base of the harpoon had an oval perforation.

The harpoon had evidently been in the sea for some time and the sharp barbs and signs of tooling had long abraded away.

The harpoon may have washed ashore from submerged deposits and represents activity in a now drowned landscape in the early part of the Mesolithic.

*NB - Image is shown at twice actual size*







## Howick, Northumberland

Recent archaeological work has demonstrated that the excavation of Mesolithic flint scatters can often reveal exciting results.

At Howick on the Northumberland coast, a Mesolithic hut, threatened by coastal erosion, was excavated in 2002. The hut had been rebuilt on three occasions between 7850 BC and 7650 BC. It had a sunken floor, consisting of a pit, approximately 6m in diameter and 0.5m deep. The edge of the pit contained a ring of post-holes that would have held upright timber supports.

Several experiments have taken place to reconstruct the hut based on the excavated plan. The Howick team felt that a tee-pee shaped hut was the best explanation for the posthole arrangement and this was adequate to support a fairly heavy but weather-tight turf covering.

*Image kindly provided by and © Clive Waddington*



## Religious beliefs and ritual

One element of Mesolithic life that we may never be able to fully understand are the beliefs of the people. Archaeological evidence for Mesolithic ritual is extremely scarce.

It is very likely that Mesolithic people had a rich folklore and that this was shared through storytelling or ritual practice.

Excavations at Star Carr produced a number of deer skulls that had been modified and perforated to be worn on the head. These may have been used as a hunting disguise or perhaps during some form of religious ceremony.

Burials are rare from the Mesolithic period in the British Isles. Cave and midden burials are known from elsewhere in the country and there is often evidence that bodies were disarticulated prior to burial.

In 1949, workers excavating a deep pit at North Tees Power Station, found a human skull at a depth of 35 feet (10.6 metres) below current ground level. Other finds included an antler handle and an assemblage of red deer bones. Could this chance discovery be a rare Mesolithic burial?

A number of very early Neolithic burials are known from the coastline around Redcar (3800 BC) and Hartlepool (3600 BC). These were bodies placed in shallow marshes or bogs and it is possible that this tradition had evolved from an earlier period.





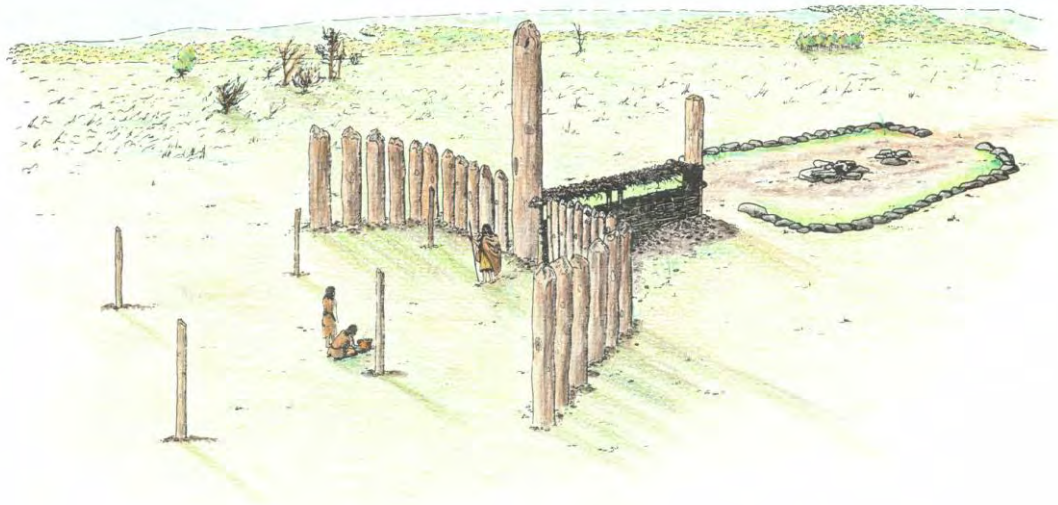


## The End of the Mesolithic

The Mesolithic period ended as farming spread across Europe from the east in the Neolithic (or New Stone Age). Cereal crops such as wheat and barley were introduced and animals such as cattle and sheep were domesticated. Pottery was also introduced to the British Isles in this period.

These new innovations required a more settled way of life although hunting and gathering were probably still important.

The Neolithic saw the introduction of monuments associated with burial and ritual, including stone circles and chambered tombs.



*Reconstruction of a Neolithic burial monument at Loftus (by Louise Hutchinson)*

The Mesolithic to Neolithic transition is still poorly understood. It is not clear whether the Mesolithic ended with an influx of people who replaced the indigenous hunter-gatherers, or with the introduction of new ideas and technologies that were adopted by local populations. It might be that the two ways of life co-existed for many generations. In either case the Mesolithic was one of the most long-lived periods, lasting for almost 6000 years, as long as all the successive periods of prehistory and history put together.



## Reconstructing the Mesolithic

Unless stated otherwise the illustrations in the booklet are by Nigel Dobbyn, a local artist based at Saltburn-by-the-Sea. Nigel was asked to bring the period to life with reconstructions of a Mesolithic family group carrying out their day to day activities.

Many archaeological reconstructions take a landscape approach and depict the Mesolithic as a rather drab and murky period. We asked Nigel to focus on the people, their creativity and social interactions; perhaps people even had fun in the Mesolithic!

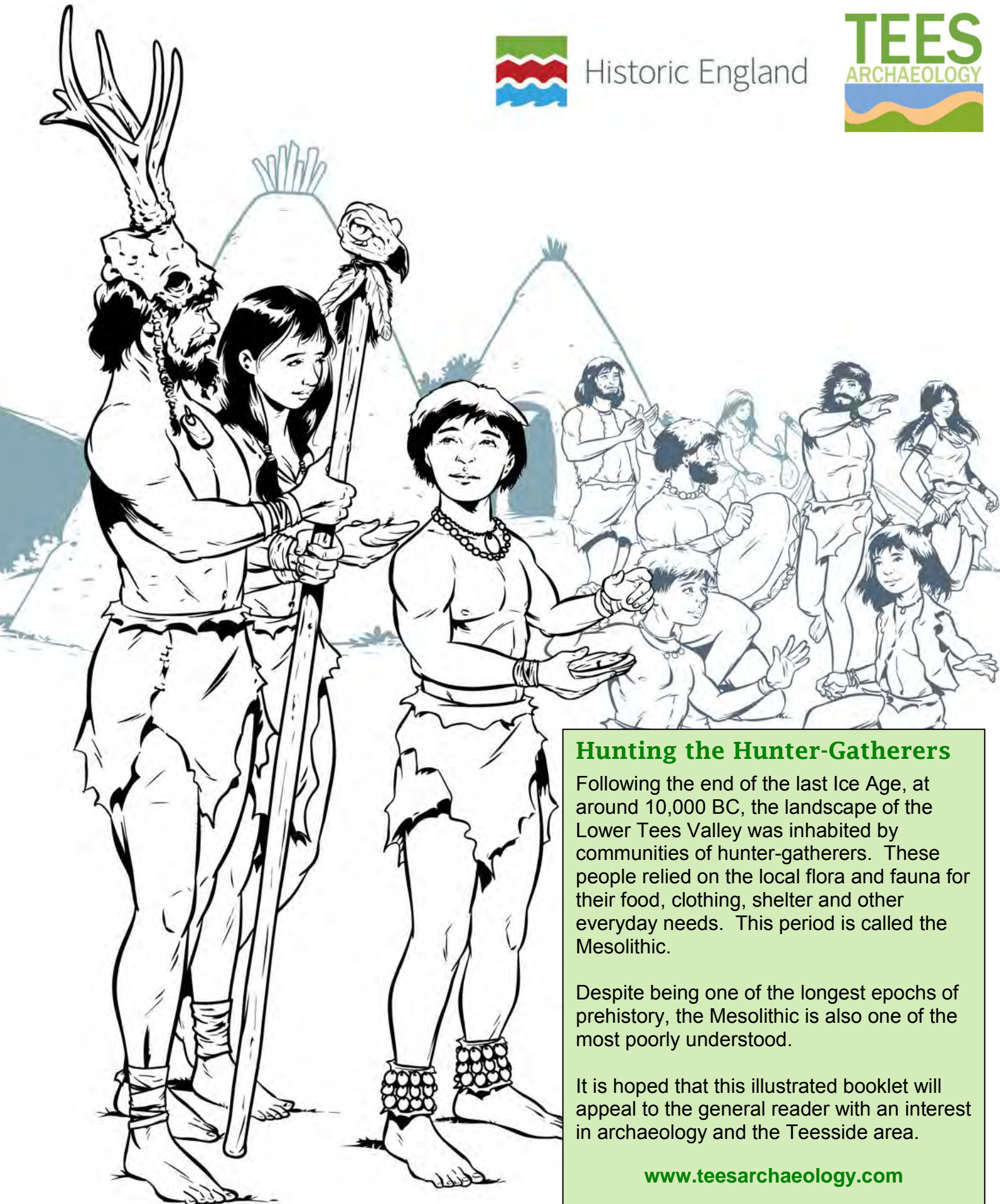
We think he did an excellent job.

[www.nigeldobbyn.co.uk](http://www.nigeldobbyn.co.uk)





Historic England



### **Hunting the Hunter-Gatherers**

Following the end of the last Ice Age, at around 10,000 BC, the landscape of the Lower Tees Valley was inhabited by communities of hunter-gatherers. These people relied on the local flora and fauna for their food, clothing, shelter and other everyday needs. This period is called the Mesolithic.

Despite being one of the longest epochs of prehistory, the Mesolithic is also one of the most poorly understood.

It is hoped that this illustrated booklet will appeal to the general reader with an interest in archaeology and the Teesside area.

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