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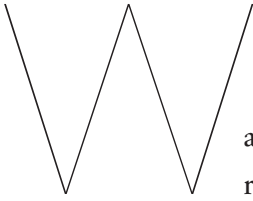
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1

AWAKENING



After the retreat of the last glaciers to cover Britain, herds of reindeer would have been one of the animals that lured hunters onto British soil in the late Upper Palaeolithic.



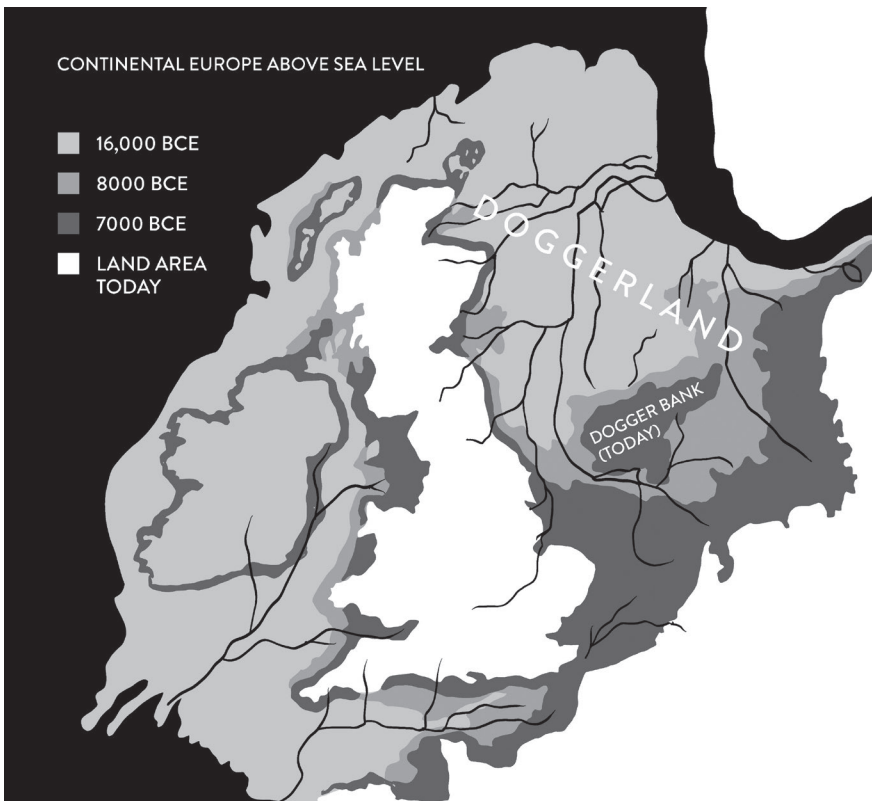
alking in British woodland today, with its diverse range of tree species that reflect the mild and gentle nature of our temperate climate, it is difficult to appreciate that, for the past two and a half million years, Britain has mostly been in the grip of the Quaternary Ice Age, the most recent of a succession of at least five earlier ice ages. During this time, our climate has been dominated by a succession of glaciations: periods of extreme cold which have been interrupted by warmer periods, known as interstadials. It is only during these interstadials that more temperate conditions have prevailed. Even though these episodes may last for thousands of years, they are but brief interludes in the more normal frigid landscape when observed from the much longer perspective of a geological timescale. Even today, were it not for the warmth afforded us by the Gulf Stream, we would be an island of a subarctic nature. One quick glance at a globe and it becomes apparent that London shares its latitude with more frigid locations such as Lake Mistassini, James Bay, Lake Winnipeg, Banff National Park and Lake Baykal.

Geologists have established that the most recent glaciation in Britain, the Devensian, held us in its icy grip for 100,000 years. It is hard to imagine but 22,000 years ago, at the time of the glacial maximum, Scotland, Wales, most of Ireland, Northern England and much of the Midlands was covered by a glacial sheet of ice one kilometre thick. The enormous power of those glaciers carved, sculpted, moulded and eroded the ground, remodelling the landscape into the Britain that we so cherish today.

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It was around 15,000 years ago that the temperature began to rise year on year, gradually releasing Britain from its glacial mantle. Although Britain had been an island separated from Europe in earlier warm periods, at this time, as the land began to blush with returning vegetation, the outline of Britain was unrecognisable, consumed within the vast northwest corner of Europe; land that extended from northern Brittany around the west of Ireland, encompassing the Outer Hebrides and Shetland islands to northern Denmark. Where the North Sea is today was a great expanse of rolling hills, valleys, rivers and marshland that we call Doggerland.



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Black area here represents the sea

BRITISH WOODLAND

Instead of what is now the English Channel, the mighty Channel River flowed west through a broad valley into the Bay of Biscay, fed by many tributary rivers which included the Solent, the Rother, the Thames, the Seine and the Rhine. Connected in this way, so long as they could cope with the climate, animals, plants, trees and people could easily find their way onto British soil, particularly during cold winters when rivers were frozen and could be walked across. We know now that that our climate oscillates from warm to cold under the influence of solar radiation in concord with our Earth's orbit and the tilt of its rotational axis, with warm interglacial periods coinciding with periods of peak solar radiation. It is highly likely that, mocking our recent Brexit, the cold will return in the future to connect us once again to Europe. But don't rush out to purchase an arctic parka just yet, we are only a short way into this warm period. The next cold phase is not predicted for another 50,000 years. It is also not yet known to what degree the effect of reducing solar radiation will be outweighed by our malign influence, which is causing the Earth to warm faster than on any previous occasion.

While geologically cold phases tend to develop slowly and end abruptly, for the plants and animals, including people that experienced the most recent change from an arctic to a temperate climate during the last few thousand years of the ice age, the change was mercurial. Research has revealed that the warming was punctuated by three dramatic returns to a cold climate. It was as if the cold was toying with us, like a snow leopard tormenting its prey, only reluctantly relinquishing its dominance over the land.

We can identify the first significant period of warming, the Windermere Interstadial, around 14,700 BP (before the present time). That's when the climate warmed from the frigid arctic climate to one that is described as 'cold temperate'. In effect the summers were still

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cool and the winters mostly hovered just below freezing. Even before the weather had significantly warmed, sedges, mosses, grasses and sorrels seized the opportunity to colonise the barren ground. Along with the first trees – the diminutive dwarf willow (*Salix herbacea*) and dwarf birch (*Betula nana*) – a juniper (*Juniperus communis*) may have been seen here and there and, in sheltered south-facing valleys, perhaps even the odd weather-beaten downy birch tree grew. But this was a windswept tundra, a moorland landscape mostly devoid of trees, where wood was scarce.

As a wildlife filmmaker, I wish that I could have filmed this landscape. I have often pictured the view from the Chilterns. In the distance, the bulky form of mammoths grazing on grasses and the forest of tiny dwarf willow trees; for safety we stay down wind of them. Perhaps their rumbling murmur of content is audible on the breeze, although their days are numbered as, with warming conditions, they will lose their niche in the ecosystem as woodland replaces grassland. There is a high probability that the calm scene will be interrupted by wild horses, the stark whinnying of two frenzied stallions, teeth bared and mouths foaming, fighting as they compete for dominance over a harem of mares. Dodging the unpredictable stallions, we see in the middle distance some aurochs (the extinct wild ox that is the origin of modern cattle), quietly grazing in the valley among some wispy trees while, there on the moorland above, we catch sight of a herd of reindeer, a reminder of the continuing cold nature of the climate and the harshness of winter. They are alert, the fur on their shoulders ruffling in the chill breeze; all are looking in the same direction, noses to the wind. Just below them we detect the loping trot of a wolf pack, relentlessly searching for an opportunity to circle round downwind of the herd. They – along with the brown bear, the lynx, the red fox and the cheeky arctic fox – are assuming

the mantle of predators from the cave lion and cave hyena that are becoming rarer year by year, if not already extinct.

While we survey the scene we are attracted to a human laugh; two young women wearing well-tailored clothing of skins are passing by. One is carrying an arctic hare; they have been checking snares. These are our direct ancestors, *Homo sapiens*, identical to us. We cannot understand their words, but their mood is cheerful and easy to read. If we were to follow them, we would find them returning to a cave in a limestone gorge that today we know as the Cheddar Gorge. These are a confident people who have walked here from southern Europe. Their culture is centred on hunting wild horses and reindeer. They make distinctive flint tools, blades struck from a core, blunted on one side and with angular truncated ends, rather like a modern Stanley knife blade. The uniqueness of these tools was first recognised by archaeologists excavating a cave in South West France called Abri de la Madeleine; ever since, these people have been called Magdalenian. They are a mysterious people, who live at a time of great cold which to the modern mind suggests struggle, and yet they will be best known for the incredible art they are to leave behind, particularly cave paintings at La Grotte Chauvet and Lascaux in France or at Altamira in Spain. There, using the walls of their caves as dynamic three-dimensional canvases, they graphically depicted the animals of their world. These are not just any rock art; they are true artistic masterpieces. With deft and subtle use of ochre and charcoal, to my mind the equal of the greatest Renaissance artists, they reveal their intimate familiarity with animal anatomy but, more importantly, their feeling, respect and spiritual engagement with the animals of their world. We can only imagine the magic of observing these possibly religious frescoes by the flickering light of a lantern fuelled by fat, when the images would have triggered the heightened awareness

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of these late Palaeolithic hunters, the animals seeming to manifest themselves, to come alive and to leap from the very walls. In Britain, too, rock art has been found in Nottinghamshire at Creswell Crags: and engravings of bison, ibis and other forms have only recently been found on cave walls. It was not just rock art that these people left behind; they also loved to engrave, carve and embellish their tools made from mammoth ivory or antler. At Creswell Crags a beautiful engraving of a horse made on a rib bone highlighted with ochre was found. Surely, they must also have carved wood – if only it had survived what marvels might we observe.

In 1866 at the Montastruc rock shelter, near Montauban in Southern France, the carved tip of a mammoth tusk was found. The carving depicts two reindeer: they have long been described as swimming reindeer, but I believe this interpretation to be incorrect. If you have spent time with reindeer herders in late September, you will immediately recognise that the carving depicts the courtship behaviour of mating reindeer, when the bull in a hormonal frenzy chases the cows, lowering his head to sniff their behinds. The carving not only beautifully depicts this event in the wild calendar, it also captures the primal energy of the moment and conveys its portent: an event that would have symbolised continuation for a people who depended upon reindeer for their food, clothing and tools. Having travelled in the High Arctic wearing Inuit clothing fashioned from caribou fur, I can fully appreciate the sentiment of the artist. In a cold land with few trees, the reindeer with their hollow insulating hairs made it possible to thrive in the coldest weather. To my mind these people were real specialists in cold-weather living.

Here in Britain these Magdalenian hunters left traces of their presence widely across the country. They were clearly confident, able travellers, perhaps exploiting large territories. They used spears

tipped with stone blades. Broken spear points have been found in cave sites, testimony to time spent replacing and repairing their equipment. From the antlers, tusks and bones of their prey they fashioned harpoon points, spear throwers and fine sewing needles. Following fire, the second greatest human innovation was the needle (60,000 BP), enabling warm clothing to be made to allow tropically evolved humans to populate the northernmost reaches of the Earth. Tendons, dried and separated, provided the sewing thread which was strong enough to often outlast the leather garments. Although artists have habitually illustrated these people wearing crudely fashioned clothing, one glance at their carving or artistry is all that is required to suggest that their clothing would also have been well tailored and perhaps even fashionable. All of my friends in indigenous northern communities, be they Inuit, Siberian Evenk or Sami, are inheritors of a long tradition of making fur clothing which is practical, beautifully tailored and artfully designed. Their garments are frequently made from many small pieces of contrastingly coloured fur for artistic effect which often serves to define their cultural identity. In recent years I have seen Inuit seamstresses realising traditional designs in contrasting colours of fleece, the fur of the modern age.

Intriguingly it is believed that these people had begun the process of domesticating wolves, perhaps using them to assist in hunting or as pack animals. A wolf pup bone found in Gough's Cave in the Cheddar Gorge may represent this while, in Europe, bones from domestic dogs have been found from later Magdalenian sites on the shore of Lake Neuchâtel, Switzerland.

From the Magdalenian rubbish heaps, archaeologists have been able to investigate the bones of their prey, the parallel cut marks left by the wavy edge of their stone blades revealing the way in which they skinned the animals, how the tendons were carefully removed

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and how the joints were disarticulated. The bones were cooked, de-fleshed and smashed to extract the tasty and energy-rich marrow which could have been eaten immediately or saved for inclusion with dried meat as pemmican or travelling food. Alarming, at Gough's Cave such marks were also found on human bones along with evidence of the bones being gnawed clean by human teeth. A cranium had been painstakingly converted into a cup and one forearm had been adorned with deliberate geometric zig-zag patterns before being broken and the marrow extracted. Given the seeming abundance of food, it is thought that this cannibalism was ritualistic. But who was eaten and why? Questions that will remain a secret from the end of the age of ice to the end of time.

I have long wondered about these people and their knowledge of trees and plants. Judging by their obvious knowledge of animals, bone and antler, they had a sophisticated understanding of natural resources. They needed wood for spears and many other tools that remain invisible to us, but might they have managed life with very little wood? Although the region was not devoid of trees, it is believed that they lived at a time when wood was scarce. Does their extensive use of caves hint at this? Did they perhaps live a lifestyle akin to that of the traditional Inuit? They certainly had the means to cope with a cold tundra environment. In Europe, Magdalenian tent sites have been identified where they appear to have constructed fires from small-diameter willow and birch brushwood, burning this under a covered hearth of rocks. One explanation for this is that such hearths may have reduced the need for fuel and extended the duration of the fire's warmth as heat continued to radiate from the heated rocks. A clue is perhaps also to be found in their use of fat lamps. In Europe, nearly 300 Magdalenian fat lanterns have been found, some associated with 'art galleries' deep inside caverns, but intriguingly the

majority have been found at open-air sites. While these have usually been regarded as sources of light, were they perhaps also using them as portable stoves for travel in a treeless land? If so, the first tree of significance to humans to grow after the ice age would likely have been the dwarf willow, the world's smallest tree, which only grows to six centimetres in height, today mostly found high on the mountains of northwest Scotland.

In 1996, I was shown by Ham Kadloo, an Inuit elder from Pond Inlet, Baffin Island, how to make a *qulliq* or *kudliq*, the traditional Inuit fat lantern. Historically carved from soapstone, the qulliq is a D-shaped shallow tray, with its deepest point in the crook of its curve. A wick is laid along the length of the straight side; it absorbs the liquified fat and burns brightly. The warmth from the wick gently melts the fat in the tray maintaining a constant supply of liquid fat to the wick. The wick is critical to the device; it is made from a mixture of dried moss (*Maniq*) and seed down from the Arctic willow (*Suputit*). It is the seed component that gives the wick its easy combustibility. While cotton grass down (*Pualunnguut*) can be used as a substitute, the Arctic willow is considered the best wick material. An Inuit lady explained to me that managing a qulliq is a special skill, and that it was essential to always clean the down before use, carefully removing the small seeds that would otherwise impair the efficiency of the wick.

Demonstrating both Inuit practical adaptability and craftsmanship, Ham hammered his qulliq from a piece of waste aluminium. 'Lighter, more compact, does not break. Better for hunting,' he explained, also pointing out that old car hubcaps are perfect for the job. In operation, though, everything else was traditional: seal fat was first pulped with a caribou antler hammer, to liquify the fat and be placed in the qulliq, then a small heap of the wick material was laid along the straight edge of the lantern. This was gently encouraged

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Qulliq

to absorb some of the liquid fat and the stove was ignited with a Zippo lighter. In the past, he explained, the stove was lit with a flint and steel using *suputit* as the tinder. I learned that day that there is a special art to maintaining the wick so that it burns just so, with an even flame of equal height and intensity along its entire length. It was warm enough to keep the fat melting but not so intense that the precious fat was consumed too quickly, and certainly not smoking with unpleasant sooty fumes.

Despite the modern use of Coleman petrol stoves, the qulliq remains close to the Inuit's heart, for it is more than a lantern: it is central to their culture, the traditional source of warmth in an igloo, essential light during the long winter nights to repair and maintain clothing, a stove to melt ice, to boil water and to cook over and, in an emergency, to dry wet clothing on a drying frame, or *itaaq*. In the Inuit household the qulliq was made by the father but was the domain of his wife, who lovingly trimmed the wick with a small, hooked stick, the

taqquiti. The perfectly trimmed flame of the quल्लीq was a visual manifestation of a woman's strength, representing her devotion, love and care for her family, but most importantly the quल्लीq was and still is a symbol of human survival, just as the campfire is in a remote forest.

The dwarf willow and the arctic willow can be used identically. Did the down of dwarf willow serve the same function for those Magdalenian hunting parties? Did they have to gather their winter supply in the summer? Did they eat the leaves of dwarf willow like the arctic willow was eaten by the Inuit, to temper the taste of rancid fat? Did they peel the roots and eat them to cure sore throats? Sadly, we shall never know. But there is a distinct possibility that they employed this same technology. (Incidentally, a significant number of Magdalenian fat lamps seem to have been ritually broken. Does this perhaps represent the passing of the owner?)

However, I think that there was another tree that, even more than the dwarf willow, would have emboldened the hearts of those early people when they considered pursuing horse herds into the vast trackless wilderness of tundra Britain.

The Magdalenian hunters exploited Britain's hunting ground for around 600 years. When travelling between caves and rock overhangs, they must have employed tents. What design were they and how did they transport them? If they had been here longer, perhaps enough of their wooden artefacts might have survived for researchers to study today. But around 14,100 BP the climate took a downturn in temperature that forced them and the game they depended upon further south to warmer climes in Europe. For 200 years, Britain was once again an arctic desert during the period known as the Older Dryas.

At 13,900 BP, the climate once again thawed to a cold temperate ecosystem. Grasses and dwarf willow grew again but on this occasion the pollen record reveals that they declined, while birch and juniper

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proliferated. This change from open grassland to light woodland predominantly comprised of birch, juniper and willow did not favour the mammoth which now disappears from our fossil record and the herds of wild horses also seemed to have dwindled in the more arbo-real landscape. By contrast, woodland-loving red deer, giant deer and aurochs proliferated and were joined by elk. Exploiting these resources came a different human community, today called the Federmesser, after the German word for a penknife, which aptly describes the characteristically shaped flint tool used to identify these people. This tool has a curved, blunted back, like a small penknife blade. The trail of these blades suggests that these were a different people, related to groups living in Northern Europe. To arrive here they would have walked across the vast hunting grounds of Doggerland. They may have camped on the expanse of gravelly hills that are now the rich fishing ground of the North Sea, called Dogger Bank. For centuries, trawlermen fishing the bank have hauled up Federmesser harpoons in their nets, along with other treasures of the past.

The Federmesser did not rely on caves to anything like the same degree as the Magdalenians: most of their sites are found in the open, which makes the detection of their traces challenging for field archaeologists. Many have undoubtedly been swept away by the plough and other agricultural or industrial activities. Most of the sites discovered in Britain are found in the south and the east, perhaps supporting the notion that Britain was the far reach of their territory, although given the sparsity of finds and the age of the period they may well have been travelling anywhere on land we now call British. Today, oil prospecting and aggregate extraction is enabling archaeologists to better understand the significance of Doggerland and even to search likely areas of the seabed for evidence of past ecosystems and people. We shall encounter some of their extraordinary finds later. Intriguingly a bison bone from

the time of the Federmesser was recovered from Doggerland, engraved with a zig-zag pattern very similar to that made on the human bone in Gough's Cave. Does it represent a long-continuing spiritual belief? Many theories have been postulated about the meaning of the engraving; I have often wondered if the pattern represents the northern lights, perhaps the perceived spiritual after-world. While it is fun to speculate, I am conscious that every indigenous community I have had the privilege to work with maintains a tradition of according great respect to the spirits of their departed prey.

Apart from their stone tools, little organic material survives, but we do know that they fashioned characteristic slender antler harpoons with barbs neatly carved along one or both edges. These were used for hunting game and fish. They also travelled with domestic dogs, though whether these were beasts of burden, hunting dogs or a food source is not known. At Rookery Farm, Great Wilbraham in Cambridgeshire, a Federmesser site was found in 2002, located on a slight slope overlooking a flat expanse of land close to two springs. The site suggests a very short period of occupation, possibly a tented encampment or a bivouac. Proximity to water is obviously advantageous, but its location is intriguing. It is often suggested that this slope was beneficial for spying distant game, which could certainly be the case. However, there can be other reasons for choosing such a location. When I bivouac in this type of landscape and climate, I search for a campsite close to water and to firewood, which is slightly elevated, without being unnecessarily exposed. In cold months the elevated ground avoids the chill of low-lying ground which fills with an invisible river of cold, damp air, particularly at night. In summer I also choose slightly elevated ground, but this time to gain a breeze to reduce the unwanted attention of biting insects. I do not imagine that the decision making was any different all those years ago.

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The light footprint of the Federmesser on the land partly results from their use of tents. Living in a period with more trees, they could heat their tents in winter with ample firewood. A well-heated tent is far warmer than a cave. These tents might have resembled any of the nomadic tents from the arctic, but if I were to guess which design they might have used it would be the most employed arctic tent design, the *chum* or *lavvu*, similar to those made by Siberian and Lapland communities. Picture a cone-shaped construction of slender birch poles covered with deer skin hides, possibly with the fur left on in winter and without fur in the summer. In summer it might also have been possible for small hunting parties to simply thatch a temporary shelter with bushy young birch saplings. With wood now more abundant, it is likely that they left the pole frames standing when moving on, taking only the tent covering with them, the poles remaining for future use and visible from a distance indicating the location of the campsite. Although these groups bivouacked in Britain for a thousand years, only scant evidence of their presence has so far been found. They seem to have been true masters of no-trace camping.

At 12,900 BP, Britain was suddenly plunged into polar desert conditions, by an abrupt drop in temperature that occurred in less than 50 years. The Loch Lomond Stadial, or Younger Dryas, would chill Britain to its core for the next thousand years, before ending as abruptly as it began. (The abruptness of the climatic changes of this stadial are today of great interest to climatologists studying the current trends in the global climate.) The Younger Dryas seems to draw a line under the Federmesser culture, the assumption being that the climate became too hostile to support human existence across much of Northern Europe at that time. Perhaps though, as the Younger Dryas began to recede and the climate showed early signs of improving, some adventurous parties of people once again ventured north.

Although scarce, there are some tantalising finds from this period: humanly modified bones and stone tools that are fashioned in a new way, with tanged points and long blades. Necessity being the mother of invention, it seems likely that the cold of the Younger Dryas was the genesis for a raft of technological advancement, of which we glimpse only the most durable manifestations. Did people improve their use of skin clothing, refine their tailoring skills, improve their mobility and navigational knowhow? We can only guess at their new abilities and the many crises which may have inspired them. These people have been described as ‘Ahrensburgian’, as the stone tools they employed are very similar to those discovered at an earlier archaeological site from the Ahrensburg valley, northwest of Hamburg, Germany. The defining characteristic of these tools is very specific: flint blades are modified to form tanged projectile points. Certainly, one of the uses of these points was as arrowheads. Excavations by a German archaeologist, Alfred Rust, in 1935–36 unearthed 100 arrows, shafts or fore-shafts from late-glacial lake sediments at the foot of Stellmoor Hill within the Ahrensburg valley. Among these finds, tanged points were found still attached to their wooden shafts. Associated with the finds were a vast number of faunal remains – 17,000 mammal, bird, and fish bones and more than 5,000 reindeer antler remains. Closer examination of the bone remains revealed distinctive damage caused by arrow injuries including fragments of flint embedded in bone. Currently, Stellmoor provides the earliest, direct evidence for hunting with bows and arrows, arguably the greatest revolution in human hunting strategy, a method that remains in use amongst many societies today. Tragically, the arrows recovered from Ahrensburg were destroyed during an air raid over Kiel on 22 May 1944.

Although labelled as Ahrensburgian, there is no direct proven link between these British hunters and those who were hunting in

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Germany, but they were certainly employing a very similar technology. We can perhaps visualise hunting parties exploring a slowly warming pre-boreal Britain, carrying bows and arrows, tracking and ambushing reindeer in river valleys and along lake edges traversing a topographical landscape that in many places in Britain remains virtually unaltered to this very day.

Around 11,700 BP, the temperature warmed once again to a cold temperate climate, and Britain became an open, treeless grassland. The effect of the long reign of cold was to retard the regeneration of tree species. Reindeer still thrived, but now the warming climate seems to have benefited wild horses which proliferated in the open grassland environment. The warming climate hastened the melting glaciers elevating the sea level year on year; while we remained the western part of Doggerland, the southwest corner of Britain was starting to develop its distinctive outline as the rising sea inundated the low-lying ground, pushing slowly eastwards and subsuming the channel valley.

People once again followed the game in Britain. Were the people who now followed the wild horses and reindeer descendants of the Federmesser, or the Ahrensburgian explorers who probed Britain's resources in the chill twilight of the Younger Dryas, or were they a different people altogether? This is not clear, although like the Federmesser they seem again to have arrived from the east and, once again, the evidence for their presence in Britain is scant. What little we know of these people comes from a handful of remarkable sites. Once again technology had moved on; tools are recognisable by long flint blades which were very skilfully struck from carefully prepared cores. Most of the sites so far discovered have been found in the southeast and east of Britain. It is a fanciful notion but looking at their distribution I cannot help wondering whether these sites

demark two migration routes of reindeer or wild horses that were followed by mobile hunting parties from communities permanently based in Doggerland. If so, one would have led people westward along the south side of the Thames valley, the other northwest through East Anglia. Were they different tribes separated in territory by the Thames, or one tribe, with family groups seasonally exploiting the hunting potential of different territories either side of the Thames, perhaps from a heartland near the confluence of the Rhine, the Thames and other rivers with the Channel River?

The long blades of flint required relatively large, good-quality flint and special stages of preparation. At a site near Herne Bay in Kent, it seems that they persisted in this flint-working method even when the flint was less than optimal, 79 per cent breaking in manufacture, suggesting that these new tools had a very significant purpose or advantage. In many ways the mystery of lithic technologies is that the materials they were shaping with these tools are missing. We have only one piece of the puzzle. Astonishing forensic analysis of the wear patterns on the tools can suggest what materials were being worked and in what manner, but still a gulf of information is missing. The versatile and durable nature of flint and similar materials can create a confusing history of use, particularly as flint tools frequently had many applications. A tool such as a burin, a miniature chisel which has an edge resembling a lathe tool, may show wear from its intended purpose such as scoring a tine of antler, but equally it may have been retouched on its edge to scrape antler wood or skin. Further adding to the confusion, tools used and discarded in one age were sometimes picked up at a much later time and remodelled for yet another purpose. While some long blades clearly show wear patterns associated with butchery, one of the characteristic patterns of wear or damage they exhibit, called bruising, seems to have been commonly

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experienced in their use. While it has been suggested that this results from the shaping of soft stone hammers, given the multiple purposes these stone tools were put to, it is not impossible that this could have been caused by the action of chopping antler and bone or perhaps even the hardworking of wood.

While the changes in flint tool manufacture are often used to differentiate between the peoples of our past, flint tools in museum cases can seem dull and uninspiring. It is important to remember that they probably represent significant advances in technology, just as in my lifetime hand tools have largely been replaced by portable battery-powered devices, making slow tasks faster and inspiring new ways to fashion materials. By experimentation our ancestors were finding novel ways to fashion tools, to work with new materials and to innovate with familiar materials. Allowing for the strange reality that we sometimes adopt tools as a fad rather than for practical advantage, I believe that it is reasonable to suggest that changes in flint tools during these Palaeolithic explorations of Britain reflect changes in our ecosystem along with advances in our knowledge and use of materials, particularly our most abundant resource: trees.

Along with long blades, these late Palaeolithic hunters left behind small points fashioned from small blades, that have been interpreted as arrowheads. If so, they are evidence of bow-making, a woodworking technique that required a new way of working with wood. But, what role did the long blades play in this story? In 2004, while filming a programme about past lives for the BBC, I teamed up with the late Christopher Boyton, a very dear friend and Britain's finest bowyer. Together we reconstructed a prehistoric longbow using flint tools. Interestingly, of all the tools we experimented with, the one that we continuously gravitated towards was a long blade which enabled the heavy shaving work to be accomplished efficiently, rather like using a

blunt draw knife. What I learned from that experience is that should I make another bow with flint tools I would go to great lengths to make a good long blade.

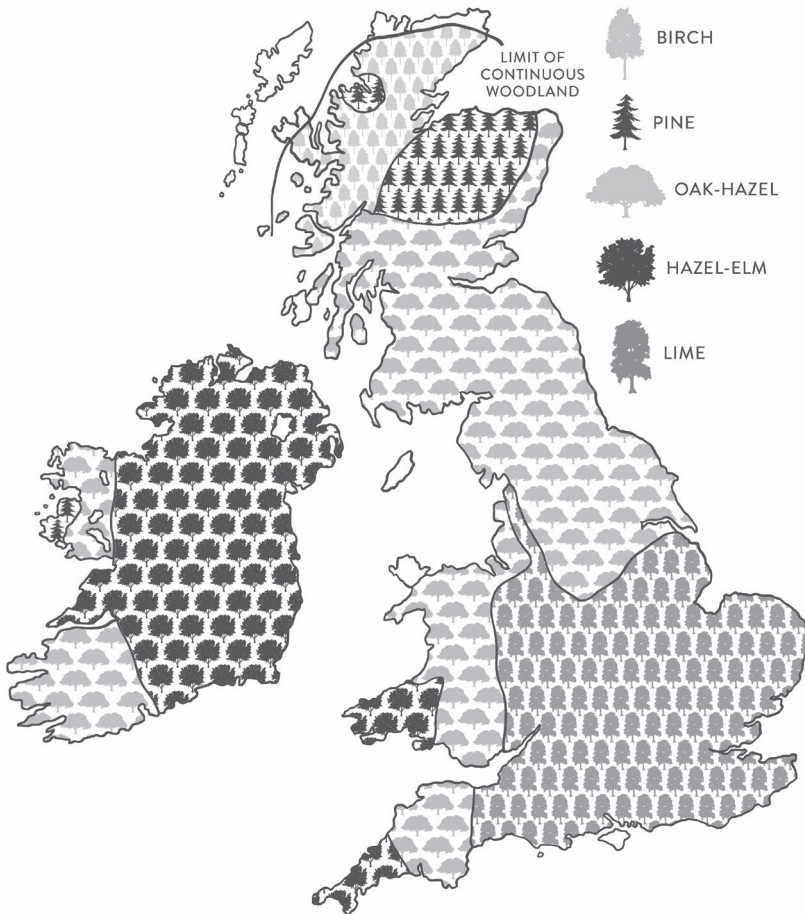
Three Ways Wharf, today lying close to the Grand Union Canal in Uxbridge, West London, between the M40 and Heathrow airport, seems an unlikely site for a Palaeolithic hunting camp. But over 10,000 years ago it was precisely that. Excavations revealed two occasions when hunting parties camped on the bank of the River Colne, which back then would have been a wide impressive wilderness river with gravel bars braiding and flowing into the Thames. Archaeology has revealed that this valley was a popular hunting ground for reindeer and wild horses during the first occasion. Here a small group, perhaps just a few individuals, kindled a fire and cooked two reindeer legs and maintained their equipment.

The Sami in Lapland say that good places to camp are possessed of a special feeling. What fascinates me is that if as time travellers we were to remain camped beside the fire left by that small Long Blade hunting party, late one autumn 500 to 1,000 years later our very long wait would be rewarded by the voices of people once again. They would walk over to the still visible remains of the stone tools and now very aged reindeer bones and feel that this was still a good place to camp. They would pitch a tent and kindle their own fire. Here we would see them bring in red and roe deer that thrived in a landscape that was now significantly more wooded. We would watch as, using flint cobbles exposed by a nearby stream, they fashioned tools to butcher the deer and to process the skins; their flint toolkit is also subtly different. Now we see one of them concentrating, busy shaping a piece of wood by chopping it with a flint adze. As we observe them cook the meat and laugh, two young boys call out as they approach the camp; from the demeanour of the adults,

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we deduce that they have been away for longer than is considered appropriate. Bows in hand, full of mischief, they know they will be forgiven for bringing back the treasure they are holding aloft: a swan and a duck. From now until today, there will be no more cold interruptions to life in Britain.

These new residents, who today we call Mesolithic, are our last hunter-gatherers: their culture will endure for 5,000 years until supplanted by farming. Standing at the spring of our current age,



Map showing the distribution of tree species which typically grow across the British Isles