

A Natural History of the
HEDGEROW

BY THE SAME AUTHOR

Mushrooms

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The Naming of the Shrew

A Curious History of Latin Names

A Natural History of the **HEDGEROW**



and ditches, dykes and dry stone walls

JOHN WRIGHT

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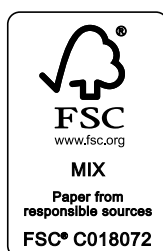
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Chapter I

IN THE BEGINNING

Every year I visit the New Forest in Hampshire to explore its huge number of species of fungi. The best places to find rare and interesting specimens are the old enclosures of pine and birch, beech and oak. These are interspersed with grassy clearings and separated by open areas of grass and heath. The ensemble created appears primal in a way matched by few other places in Britain. The New Forest has by no means been left unaffected by man, but the management it has received has been both practical and, for the most part, considerate; here, the natural world is allowed the upper hand.

Was this the type of countryside encountered by Britain's post-Ice Age immigrants – the Mesolithic settlers – once the tundra had lifted its icy hand? The trees might have been a little different: elm and lime were much more common in lowland England than they are now, though neither would have thrived in the acid soils of the New Forest. And the grazing animals essential for maintaining grassy clearings and more extensive grassland would probably have been aurochs instead of ponies. But did the grassy glades and open grassland that give the New Forest so much of its varied and cheerful character exist in prehistoric Britain? In fact, it has long



Ancient beech in the New Forest.

been suggested, and is part of common perception, that before agriculture took possession of this land, it was carpeted from coast to coast by closed-canopy, primeval forest – a considerably more forbidding prospect than that of the park-like New Forest.

As someone who spends a great deal of time in forests, I can say with some authority that they are not good places to find food. Berries and nuts form on the trees of the wood edge, seldom on canopy trees (the naturalised sweet chestnut being a notable if unreliable exception) and the few edible roots that exist belong to grassland and edge habitats. Edible leaves too are found much more out of the forest than in it. Fungi can be collected in some abundance, but they appear irregularly and make a treacherous dinner for those without a good folk knowledge of what is edible. The main source of food in woodlands is game, but hunting in dense woods is fraught with difficulty.

It is attractive therefore to fancy that park-like conditions prevailed and that post-Ice Age settlers found a welcoming home. This idea has been supported by the Dutch forest ecologist Frans Vera who, in his *Grazing Ecology and Forest History* (2000), makes a strong

case for a semi-open landscape.¹ One of his main arguments is the disinclination of oak, a common tree then as now, to seed successfully in closed-canopy conditions. He argues that oak saplings would require a nursery of bushes in open grassland to establish themselves and form the basis of a new, or at least moving, forest. Vera also persuasively explains away the lack of grass pollen found in the archaeological record. If grassy glades existed to any great extent, then one would be entitled to expect grass pollen. However, he points out that grass extensively grazed by aurochs and wild horses is usually kept short and seldom produces its flowers, so that such grassland is more likely to contain windblown tree pollen than grass pollen. Conservationists wishing to find a model of a primal landscape and ecology have seized upon Vera's conjecture.

Appealing as the idea of a large park may be, plenty of academics have argued against Vera's view, and a dense blanket canopy is still considered the most likely arrangement of the landscape. The tell-tale signs of extensive grassland such as grass pollens, dung beetle remains (indicating grazing animals), sub-fossilised, low-branched trees (as opposed to high-branched, forest canopy trees) are largely absent, whereas evidence for extensive forest exists in abundance. That would not have been the entire picture, of course, and some open upland areas of grass or heath, reedy flood plains, saltmarsh and grassy coastal fringes would have existed. There would also have been some breaks in the wildwood caused by soil conditions, disease, fallen trees and fire.

Thus it seems likely – but no more than that – that the canvas upon which British civilisation was drawn was initially an almost continuous forest. Did the early settlers find it an attractive aspect? It would seem not. The evidence that the wilderness was not entirely to Mesolithic man's liking is suggested by signs – such as charcoal and pollen – that he set fire to large parts of it. While many fires are likely to have been caused by lightning, some archaeologists believe that humans had a considerable and repeated impact on the forest cover.

Countering this idea is the fact that even when trees are felled and left to dry, setting fire to closed-canopy woodland is simply not

possible. There are repeated and extensive fires in dry weather in the New Forest, but these are of bracken, gorse and heather, never of oak and beech. Wartime experiences confirm this, as broad-leaved woodlands steadfastly refused to burn even when inadvertently bombed with incendiary devices. Even cutting a tree down in the first place is all but impossible with stone axes, and primal woodland trees would have been enormous. On the other hand, it could be argued, there was a relative abundance of the much more flammable Scots pine during the Mesolithic period, and Mesolithic settlers tended to favour the less densely wooded upland areas, notably chalk, where the trees are shallow-rooted.

An alternative hypothesis is that natural clearings in the forest, caused by trees blown down during storms, were used.² The fallen trees could then have been cleared by lopping off and burning the branches, with unturned roots burnt in situ and the trunks hauled away. Any new growth could easily have been controlled with stone tools, fire and grazing animals. However they were created, these clearances were piecemeal affairs; the wholesale removal of the wildwood would have to wait for the Neolithic introduction of agriculture and the efforts of their better equipped Bronze Age heirs.

Mesolithic man was a hunter-gatherer and, as suggested above, unbroken woodland is not particularly bountiful for either hunter or gatherer, so they sought to change it into broken woodland. Charcoal is the chief, and obvious, indicator of ancient forest fires, as it forms dateable layers in the soil. But there are other signs such as pollen and fungal spores which show the organisms that existed before and after a fire. One study found a succession of plants replacing the lost trees, which included stinging nettles, meadowsweet, members of the carrot family and hazel, as well as the grasses which may have been the primary goal of those lighting the fires.³ An area cleared in this way would form an oasis of plants edible to humans, complete with an edge habitat in which fruit and nut-bearing trees would become productive. Hazelnut shells are the most commonly found plant remains in middens from the period and this would provide a satisfying explanation for why hazelnuts – which are disinclined to form reliably in canopy conditions – managed to contribute such a

large part of the Mesolithic diet. Hazel trees are also more resistant to fire than the oak, lime and elm trees that might be shading them, and would survive as productive, isolated trees in a newly opened environment.

More important than any newly gained access to hazelnut butter and nettle soup is the attractiveness to grazing deer, pigs and aurochs of a grassy, herb-rich clearing, replete with succulent growth from tree stumps and surrounded by low-growing trees. More important still is that a clearing concentrates the animals in one place, allowing them to be hunted much more easily than in close woodland. A sensible place for such clearings is near water, providing an irresistible magnet to prey. Support for the existence of such animals in newly created clearings is provided by the contemporary increase in the spores of dung-loving fungi, the bones of red deer and Mesolithic microliths (small shards of flint used for preparing carcasses).⁴

These clearings often regenerated quite quickly as grazing animals soon learned that the attractive new diner was also a very dangerous one. Clearings were soon abandoned by prey and predator alike and a new one established elsewhere. Some, however, have lasted a very long time indeed. The heathland of Iping Common in West Sussex is believed to be a Mesolithic clearing that, once heather had become established, was unable to revert to woodland.⁵

It is a moot point whether the Mesolithic 'enhancement' of the natural environment counts as farming or not and so, for the purposes of this book, whether the clearances created, designed in part as a trap, can possibly be counted as enclosures. If you have an enclosure then, by definition, there must be a physical boundary. The boundary in this case will be trees and could, with a pronounced raising of an eyebrow, be called a 'hedge' albeit a hedge with only one side. It would not be stock-proof in the recognised sense of impenetrable to animals, but it would not need to be; the grass is definitely greener on the inside (for a while at least).

Clearing an area of woodland for agricultural purposes is so common a procedure, right up to the present day, that it has acquired a name: *assarting*, from the French *essarter* meaning 'to clear and grub up trees and bushes'. A clearing made in this way is called an



The hedges here embody the tell-tale curving front edge of an assarted landscape.

assart and we will see more of them later. Just how extensive Mesolithic assarts were is not known for certain but they are unlikely to be related to any nearby settlements as Mesolithic people were nomadic, settling for only brief periods in any one place. So if an area were cleared, it would be revisited once grasses and other plants had established themselves and then eventually abandoned as its utility declined.

Chapter 2

THE NEOLITHIC CLEARANCES

It has long been accepted that Neolithic peoples inherited a virgin landscape from their Mesolithic predecessors but, as we have seen, this was not entirely the case. Somewhere between 4300 and 4000 BCE a new way of life, long experienced by inhabitants of the Near East, found its way to Britain. Whether its arrival was sudden or gradual, and whether the existing people and their culture was entirely replaced by another has long been debated. Recent DNA analysis suggests that only 20 per cent of the population at this time were new arrivals, but they brought with them a revolution.¹ This revolution was, of course, agriculture. The new way of life did not just arrive in the form of boatloads of people bringing new ideas; it also came as crops and domesticated animals and as a technology.

Arable farming required that the work of the earlier nomadic peoples be continued and expanded and large areas of forest cleared. Again, the evidence that this took place can be found in the extensive layers of charcoal and occasional dumps of charred logs discovered in archaeological digs, along with the pollen extracted from dateable samples of deposited peat or soil. It seems that Neolithic man preferred the fertile and well-drained chalky areas of southern

Britain to those of clay and sand. As well as being well drained, there was less dense forest cover to clear and soils that were easier to dig or plough.²

The extent to which these peoples expanded and when and where this took place is not known for certain (and there is no academic consensus on the subject), but the new arrivals did not remodel vast areas of the British landscape into field systems, as their successors in the Bronze Age did, rather they cleared small areas for farming. This was done irregularly over the two and a half thousand years of the Neolithic period – a process of clearing, cultivating and allowing arable land to become pasture, and often, eventually, abandoning it to nature. The Neolithic farming enterprise waxed and waned, with a considerable hiatus in arable farming around 3400 BCE when the pollen record consistently demonstrates extensive grassland in some places and a return to woodland elsewhere.³ But even if farming seems to have failed for a while, cereals were grown in Britain for a long period, and would have been enjoyed by animals (wild and domesticated) as well as humans, a fact that early farmers would have quickly discovered. This, then, is the first time that the inhabitants of Britain faced the problem of keeping vegetation and animals apart. Enter the British hedge.

If one were to look for evidence of Neolithic field systems as vague rectangles in aerial photographs or as distinct ridges visible from ground level or, more energetically, from metre-deep excavations into peat bogs, one would look largely in vain and assume that Neolithic man was a hunter-gatherer after all. The evidence that they planted crops and kept domesticated animals comes from digs which have exposed such things as grain (spelt, barley, emmer, einkorn and wheat) impressed into pottery shards, grain storage pits (often put to later use as rubbish pits), quern stones for grinding grain and the bones of cattle and sheep.⁴ As an aside, it is worth noting that barley appears to have been the grain most planted by the late Neolithic period and that barley is used to make ale. Beer may be the very basis of civilisation.

So field systems, or even the odd single field, are almost absent in the Neolithic record, but that doesn't mean that they didn't exist.



A circular stone enclosure of uncertain vintage on Dartmoor.

Below the 5,500-year-old South Street Long Barrow in Wiltshire is an area of cross-hatched chalk. The primitive plough used at that time, the ard, was little more than a pointy stick attached to a beam. This was dragged across the land, scratching a groove into the thin soil and the chalk beneath. Lines of scratched grooves do not make a ploughed field, so the ard was drawn again across the field at right angles to the grooves. Such cross-hatching is found in several sites in Britain, although the marks seem too deep for such a flimsy tool and it has been suggested that a rip ard was used instead. This considerably more robust plough, consisting of a hook designed to rip up the soil, was used in the original preparation of established grassland. It may be that the ground was either being prepared for arable or – less encouragingly for those searching for evidence of agriculture – simply for the building of a barrow.

There are a few hints of very early field systems and even stone boundaries in Britain: circular plots surrounded by the remnants of stone walls exist in Cornwall, Nottinghamshire and Yorkshire, and on Dartmoor and the Shetland Islands, but these are of doubtful provenance. For an unquestionably Neolithic field system one must look

to the Céide Fields and nearby sites in County Mayo, Ireland. These were discovered in the 1930s by schoolteacher Patrick Caulfield, who noticed the regularity of the stones that he uncovered while collecting peat. His son, Seamus, who had studied archaeology, examined this remarkable site further in 1970. Five and a half thousand years old, it had been protected by the ravages of time and the attentions of humans by deep blanket bog. What was revealed was an extensive rectilinear field system enclosing 1,000 hectares with more nearby. The fields are up to 700 metres long and 150–200 metres wide running vaguely north, further divided (but not always) by east-west walls into smaller fields of about 250 metres. Such an arrangement is termed a coaxial system and simply means that the fields are roughly rectangular with the longer walls of each field forming a continuous line, in appearance like a brick wall laid on its side.

The walls which define the Céide Fields are unsophisticated constructions. Slightly triangular in section, they are no more than 80 cm in height and look as though they were just chucked there as long heaps of stones. Pollen evidence suggests that they were used for pasture, but what such a low wall would be for is unclear.⁵ It could well have been just a tidy place to put the stones as the land was cleared (a ‘consumption wall’), or perhaps they were a form of stock-proofing, though this would only have worked if the animals kept inside were hobbled. Alternatively, the wall simply defined areas of ownership or, at least, responsibility. Walls they most certainly are, however, and our first encounter with a hedge, albeit one of stone and in the wrong country.

One might imagine that the Céide Fields form a model for Neolithic farming and that a similar system would be found across the water. But, as already stated, despite raised hopes and the possibility that some Bronze Age field systems might be found to be earlier, no definite British Neolithic field system has been discovered.⁶ It seems likely that Ireland embraced what is sometimes called the ‘Neolithic package’ with more enthusiasm than their British contemporaries. This may have been because Ireland was considerably less abundant in wild game, making cultivation a tempting prospect, or perhaps it was because its north-west coastal location was on a Neolithic trade route.