



OAK- KING OF THE FOREST.

Let us now enter into the Oak Forest and see what it has to teach:

*'There is not a crown to mark the forest King,
For in his leaves shines full the summer's bliss,
As sun, rain and storm to him their tribute bring'*

Anon.

Oak is the tree of Kings, durable, strong and most importantly an unshakeable support for all who take shelter under its boughs. This support extends to all of its realms and is not given with conditions or judgement.

In Celtic lore the oak gives shelter to all who seek it. It is host to more invertebrates than any other tree, it supports a myriad of birds, mammals and plants beneath its boughs.

To fully understand how Woodland ecology plays a key role not just in Britain but throughout the world, we first need to truly understand the importance of plants not only for wildlife but their role in creating the perfect biosphere for the entire globe.

The Importance of plants, photosynthesis and the carbon cycle.

Imagine a world without any leafy plants, insects or animals. When the earth was created the only life forms that could survive were anaerobic, those who cannot exist in the presence of oxygen. The atmosphere once consisted largely of nitrogen and carbon dioxide formed by volcanoes and huge asteroids. Much of the carbon dioxide emissions were absorbed in carbonic rock and dissolved in the sea.

Oxygen is the third most abundant element in the universe but wants to react and form compounds with just about every other element.

The only way to sustain oxygen levels in the biosphere to support aerobic life forms is through plants, without plants we do not exist!

The first plants were blue-green algae called cyanobacteria which obtain their energy through photosynthesis which is when plants use the energy of the sun to combine water and carbon dioxide to create their food and release excess oxygen into the air. It took a billion years for plants to stabilise oxygen levels to the point where they support life on earth! Scientists call this period the boring billion!

Plants began to dominate the land as well as the seas absorbing carbon dioxide and releasing oxygen this enabled new life to perpetuate on the planet. Vast forests now dominate parts of the world such as those in Brazil, Peru, Canada and in East Siberia, Russia and Scandinavia, the Congo Basin, Mexico, Borneo and parts of Europe stretching across many countries consisting of millions of acres. Woodlands also would have dominated the British Isles.

However, what is extremely important to note is the role of our oceanic plants. Plankton is responsible for at least half of the oxygen in the world's atmosphere and creates more oxygen per year than all of the land plants put together. One of the most bio-diverse oxygen producing habitats on the globe is the kelp forests which grow on the Sussex coast. This kelp forest is as important for the planet as the great rain forests. This habitat has been reduced drastically but will regenerate if we fish in sustainable ways. At the time of writing this new bye-laws have been implemented to enable the kelp to regenerate.

To bring the support system full circle once more it is important to know that kelp needs iron to survive and cannot produce its own supply. This means that the kelp takes the iron from the sea which enters by the rivers which is produced by the trees!

Plants are locking up billions of tons of carbon as well as 25% of the carbon dioxide that humans have released. The amount of carbon take-up varies from year to year but in general the world's plants have increased their uptake since 1960.

It is now our task to help rather than hinder the natural world that has supported us up to now, maybe the oak is no longer able to offer its shelter and now it is us that must protect the oak?

Ecology of Oak

Quercus robur (pedunculate oak) *Quercus petraea* (sessile oak) Duir (Ogham name)

Oak is a tree that has survived well since it regenerated in early wildwood times. It was avoided by the first farmers and encouraged by the early carpenters; no other tree in Britain has captured the imagination and attention of mankind more than the oak. Its timber is durable and good to work with, it has many medicinal qualities and useful tannins, it supports countless wildlife and grows to impressive proportions, living for many hundreds of years. Its success is partly due to mankind's love of its timber and its ability to capture the nation's heart.

There are two species of oak which were first recognised in 1586-7 although this was not really taken on board by British botanists until the 1790s.

Quercus rober (Pedunculate oak) is what we think of as the English oak with its wide and rustic appearance. It has a dense canopy and rough un-stalked leaves with stalked acorns.

Quercus petraea (Sessile oak) is often a taller statelier tree with a more open canopy and flat palmate leaves which are stalked and it bears un-stalked acorns. Both these trees can hybridise and cause even more confusion.

Both oaks are known to produce Lammas shoots which are healthy erect shoots that grow strongly in August at a time when other foliage maybe struggling in this sometimes-dry time of year. There is a striking rare variety of Pedunculate oak which produces red Lammas shoots.

Sessile oak is more common in the west and north, most commonly growing in the Scottish Highlands. Pure Oak wood generally grows on the most acid of woodland soils although it is known to grow on calcareous soils in Scotland where it is much more widespread. Hatfield Forest in Essex is an exception as it is an ancient oakwood on calcareous soil outside of Scotland. Oak is generally a first coloniser not growing well in shade. It is not so much birch and hawthorn grow first on oakwood regeneration sites but just quicker thus deceiving the avid naturalist who assumes they came first!

In the Domesday Book woods were assessed by pannage although this practice died out soon after as farmers began to feed pigs in more conventional ways. Beech mast was also used for pannage.

The Anglo- Saxon phrase ac means oak and can be noticed in many place names such as Accrington, Auckland and Acton.

Folklore of Oak

Higher than bushes is Oak.

Highest of bushes and a third.

Kneeling work, bright and shining work.

Craft work.

Book of Ballymote 1391

At one time Oak sprigs were collected for hats and door knockers which may well be a continuation of the Druidic Oak apple day still celebrated in Wiltshire. The Oak Man, Jack in the Green or the May King dance through the streets wreathed in oak and hawthorn to claim the May Queen.

The traditions of oak are numerous; from Christian lore the tree has been used to preach under and a place where angels have appeared. In Celtic lore it is the abode of strong male deities such as the Dagdha, Herne the Hunter, Cernunnos and the archetypal images of the spirit of the trees such as the Green Man or Green George.

It is said to be a channel for the might of the sky gods such as Taranis, Thunor, Esus and Thor as it attracts lightning.

Merlin and Robin Hood, both defenders of the land were said to have been protected under the oak's canopy. St Brigit founded a retreat in Kildare called the Cell of Oak and it is said that the Nuns used acorns as fuel on their fires.

The oak therefore is playing a keen role as a key provider and protector of our sacred land, the deities associated with the oak are chieftains and key figures reflecting its indomitable presence in the landscape.

In Glastonbury at the start of what is known as the old Druidic path that leads up to the Tor there are two oak trees known as Gog and Magog which are said to be the last two giants to have inhabited Britain.

Even today at the head of the Lord Mayor's procession we still have the wicker forms of these giants considered to be our benevolent guardians of the City of London.

The oak represents the Kingship, the high protector of the land and appears in legends as a symbol of Kingship such as when King Cormac arrives in the Otherlands and witnesses the burning of huge oak trees upon the fire. Charles the second hid in an oak after defeat at the battle of Worcester on the 29th May 1651 which is now known as Royal Oak Day.

Traditionally the Oak King Giant fights the Holly King Giant at the Winter Solstice making him the King of the waxing year. The tiny wren is the bird most associated with oak displaying the strength of kingship both in grand and more subtle actions. When the undisputed king of the skies, the eagle challenged the birds to see who could fly the highest it was the tiny drab wren who excelled through stealth.

The oak bears out its role as a King in a practical sense harbouring more species of wildlife from lichen and insects to birds and mammals than any other tree so let's explore our woodland ecology through our wonderful English oak.

Woodland ecology

John Muir mentioned in the hawthorn section, a pioneer of the modern conservation movement caught the essence of 'ecology' in his works before the phrase was coined by the zoologist Haeckel in 1868:

'No (Sierra) landscape that I have seen holds anything truly dead or dull, or any trace of what is called in manufactories is called rubbish or waste; everything is perfectly clean and pure and full of divine lessons. When we try to pick out anything by itself, we find it hitched to everything else in the universe. One fancies a heart like our own must be beating in every crystal and cell, and we like stopping to speak to the plants and animals as friendly mountaineers'

A woodland has many layers and the more light allowed to penetrate its depths the more biodiversity is created. However, that is not to say that the dark impenetrable areas are not of importance. The decaying wood and dense thickets play a key role- so let us start at the ground layer.

I therefore invite you to:

*'Open the door to deep dark depths,
Open the door to warm rotting decay,*

Open the door to cracks of the Earth where secrets are hidden away.

Beetles burying, woodlice scurrying, springtails jumping, slugs slumping, maggots munching, caterpillars crunching, in the soil amongst the rocks, beneath the leaf litter, buried or not, a web of life in the darkness feeding the soil, glad to enrich us, for friend or foe it matters not without the beasts of the earth our own survival stops.'

The Oak is home to so many delights, not only the haunt of many song birds looking to build nests but also to the insects. To some insects are a delight as John Clare remarks in his beautiful poem entitled 'insects':

*'So happily they spend their summer day,
Now in the cornfields, now the new mown hay.
One almost fancies that such happy things
In coloured hoods and richly burnished wings
Are fairy folk in splendid masquerade...'*

For others insects are feared as creepy and unsavoury. It is the insects that are the foundation layer of our ecological web and the start of the food chain. Insects are of such value working tirelessly to keep the earth functioning. They are constantly recycling, cleaning, pollinating and protecting the green world, without them all of life would perish!

John Keats talks about the Grasshopper's voice and the Cricket's song as the poetry of the earth and indeed the health of our soil and the welfare of the planet starts with the care of our smallest of beasts- the invertebrates.

*'The poetry of the earth is never dead
When all the birds are faint with the hot sun,
And hide in cooling trees, a voice will run
From hedge to hedge about the new-mown mead;
That is the Grasshopper's- he takes the lead
In summer luxury, - he has never done
He rests at ease beneath some pleasant weed.'*

John Keats

The most valuable habitats are those which are dead and decaying. Fallen trees hundreds of years old which are part-rotten to the extent their wood is soft enough to crumble in your hands with ease, are of paramount importance to the ecological web.

Two of the best examples of these rare and incredibly important habitats are the New Forest and Windsor Forest which are home to the largest number of old trees in the lowlands of Britain. These unique habitat survivors support a myriad of invertebrates.

One fifth of our invertebrate population are 'saproxylic' depending on dead or decaying wood. The New Forest alone supports between two-thirds and three-fourths of all known saproxylic invertebrates.

These species include several hundred types of beetles and flies, a smaller number of bees, wasps and ants as well as woodlice, millipedes, centipedes, pseudoscorpions, spiders, slugs and snails.

The large click beetle for instance is only found in the New Forest and in Windsor Forest. The original wild woods which have not existed in Britain for at least a thousand years (a possible exception may have been the Forest of Dean which may have retained that status until the thirteenth century), would have been brimming with saproxylic invertebrates. It is estimated that in such a wood 6 tonnes of dead wood may have been produced annually. The rarer and larger beetles depend on this dead wood supply, thriving in a stable unmanaged environment. A stag beetle larva for instance takes five years to reach maturity feeding on the dead wood.

We therefore have lost many species of beetles as our woods become 'tidy' such as the hairy longhorn and the metallic blue stag beetle.

Beetles only fly in warm, still, humid air limiting their ability to colonise new sites meaning that half of Britain's species are in the warmer South although the pine and birch of the Highlands also support species which are not found anywhere else.

Many of these invertebrates have lived in the same site for hundreds, if not thousands of years and when you consider the lifespan of many invertebrates is much less than a year they can be completely eradicated in just one year of bad management.

And yet will there be an outcry when our most important bark-louse, pseudoscorpions or psyllid bugs are no more? Indeed, how many of us are familiar with these 'mini-beasts'?

Are we going to protect the slugs, snails and spiders with as much vehemence as the panda bear? If the logos of our conservation charities were of insects, would they be supported so enthusiastically?

Ecology is all about balance and needs to be maintained for everything is interconnected. In the same way plants have enabled us to access free oxygen they have also enabled us to access the energy of the sun which is essential for all life. Plants and insects have evolved together and are the foundation of the ecological web.

Below is a simple summary of the food chain which illustrates that first we depend on the plants and then the insects until we reach the apex predators which then die and the cycle continues. This brings together the carbon cycle explored through the importance of plants nearer to the start of this section with the food chain illustrating in unequivocal terms the damage that human interference with these natural cycles has and is causing.

Trophic levels

These levels determine the position of a species in a food chain although a species may have several positions depending on what they eat.

1. Primary Producers- The autotrophs which take energy direct from sunlight and the elements using photosynthesis or chemosynthesis in deep seas.
2. Primary Consumers- The heterotrophs that are herbivores (eat plants).
3. Secondary consumers- The heterotrophs that are carnivores- eat meat and Omnivores (eat plants and meat).
4. Tertiary consumers eat Secondary Consumers.
5. Quaternary consumers eat Tertiary Consumers
6. Apex or top producers have little or no natural predators. To complete the cycle when all species die they are then eaten by the detritivores or broken down by the composters.

Our quest as humans is surely to be caretakers of nature for we have a choice as to whether we work in harmony with creation or not in a way which other animals do not. The answer surely therefore is not to despair but to make a choice as in the words of Jane Goodall:

“We have the choice to use the gift of our life to make the world a better place or not to bother”

Nature is vastly impressive, it has created a system that although has toil, strife and pain ultimately is perfected without any waste. I will therefore end with this final contemplation from the great man of the wilderness himself John Muir:

‘Everything is flowing-going somewhere; animals and so-called lifeless rocks, as well as water. Thus, the snow flows fast or slow in grand beauty-making glaciers and avalanches; the air in majestic floods carrying minerals, plant leaves, seeds, spores, with streams of music and fragrance; water streams carrying rocks... in nature’s warm heart’

Connecting to nature creates an indescribable joy within us and the strength of the oak and indeed any of the great forest trees can guide us to the deep knowledge and mysteries in life.

SUMMARIES AND RESOURCES FOR OAK

The key theme to explore in respect to the oak is its ability to support and harbour so much life. It is there for nature and for mankind no matter who they are or what they have done. In some professions this ability to support others no matter what is a key feature, such as in hospital or in a court of law where we strive to give the same rights to everyone. When we no longer respect the rights of individuals and give priority to the few rather than many it is considered a terrible injustice and yet do we adhere to this in our own daily lives?

Here are a few questions to actively explore the themes related to Oak:

Are you able to support anyone in need no matter what they have done in life?

Are you able to be steady in your own self without fear of what people think of you?

Are you able to support those who have different beliefs to you?

Deepening your connection to Oak

The Oak offers shelter to all who wish to rest under its boughs. If there is a tree in your area and you have the opportunity to spend some time with it, why not rest under its canopy. This is an opportunity to see what wildlife appears as you quietly sit. Feel the earth beneath you and the support of the trunk against your back. Breathe gently and relax allowing the tension to unfurl from your body. Soak in the tree's presence and pray for all species of wildlife that suffer in the hands of so-called progress. Sit and meditate taking in any impressions you receive. If you do not have access to a tree or when you are unable to visit, sit or lay in a comfortable position and bring the tree to mind. At home with its memory, you can still soak in its essence and feel its support.

Meditate with the oak whenever you need to be steady, strong or protected from difficult situations. The oak encourages to take stock, slow down and be steadfast in our actions. The recording on the website will guide you into meditation with the oak.

Practical tasks.

If you can reach a branch, you may also wish to prune a small part of it to make a wand to hold when you need to be steadfast; alternatively, you may find a dead branch under its bough you could use. Dead wood is harder to carve but it may well have some beautiful features you can work with. Before pruning a branch check it will not damage or change the look of the tree or harm any wildlife.

Even a dead branch may well be home to wildlife as we have been exploring, so please take care and show respect for the mini beasts.

Collecting galls and oak apples to take home for a nature altar can be a rewarding way to remember your tree if it is done with care. In June you could prune a small branch and carefully remove its bark to dry as a herb. Please use it carefully and check with a herbalist if you are taking medication or have any medical conditions.

Oak bark is used for diarrhoea, piles, inflammations of the throat, chilblains and frost bite. As a powder it is used for nosebleeds and bedsores.

Bruised oak leaves can be applied to wounds to ease inflammations and as a mild antiseptic.