1 DISCOVERING PREHISTORIC MAN

Looking for sites

Practically all the information we have about our remote past comes from the remains prehistoric man left behind. Some archaeological sites have been discovered as the result of careful research and others by chance. Many sites have been discovered by field survey — systematically walking over a chosen area looking for artefacts like pottery and tools, and features like banks, ditches and stone walls. Field survey is best carried out after ploughing. The sites discovered are photographed and plotted on maps. Any artefacts found are placed in labelled bags, and those from different areas are kept separate. The find-spots of the artefacts are written down in a notebook and on record cards, and the results stored for future use and study in a sites and monuments record. This archive also records all previously discovered sites.

Other sites are found by aerial photography, which reveals them in three different ways. Banks and mounds, invisible at ground level, can often be seen in low relief from the air. Where agriculture has levelled sites they may still be visible from the air as soil marks, e.g. the white soils of a mound and the dark soils of surrounding ditches. Finally there are crop marks. Crops grow better in the deeper, richer soils of silted up ditches or pits, while buried banks and walls impede growth. These differences can be recognised as light and dark marks on aerial photographs. In the right conditions, aerial photographs record the shape, size and location of sites more easily than field survey, and large areas can be searched more quickly.

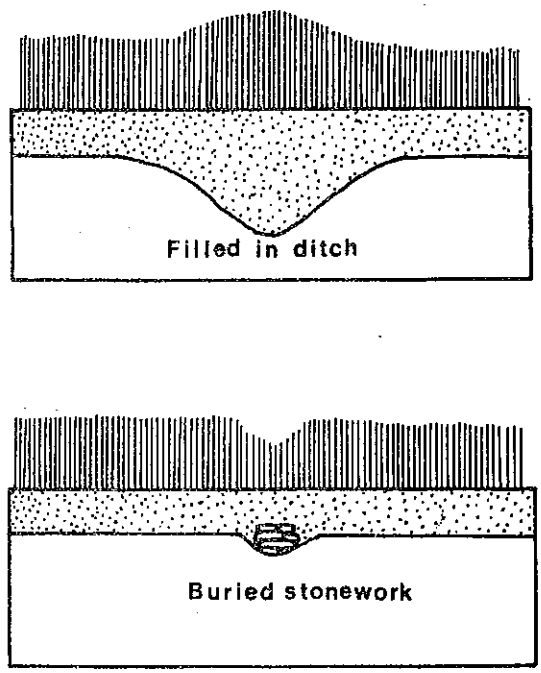


Fig.1.1 Sections showing the effect on crop growth of a buried wall and a silted-up ditch

Prehistory in the making

By far the most important way in which artefacts have been incorporated into the archaeological record is by accident. In the past many man-made objects, which were so badly broken that they could not be re-used, would have been discarded on the spot. Other artefacts would have been lost in the course of daily life. Over the centuries the natural accumulation and deposition of soil lead to the burial of these artefacts.

Some of the most spectacular finds made by archaeologists involve goods which were deliberately buried in prehistory. These include items, known as grave goods, which were deposited with human burials. Thus in graves of all periods archaeologists have discovered every day items such as pottery and tools and, more rarely, precious personal possessions such as jewellery, weapons, and even the remains of chariots. A similar array of objects have been found near rivers and lakes, and it is commonly assumed that these are ritual or sacrificial offerings. Some of the finest examples of bronze and iron swords come from such deposits.

The people who deposited grave goods and ritual offerings had no intention of recovering them. This is in contrast to most hoards, which were buried for safe-keeping and were probably recovered later. For various reasons, which the archaeologist can only imagine, some hoards were never collected by their owners, and remain for the archaeologist to discover.

What survives to be discovered also depends on the soil conditions in which artefacts are buried and on the material of which the objects are made.

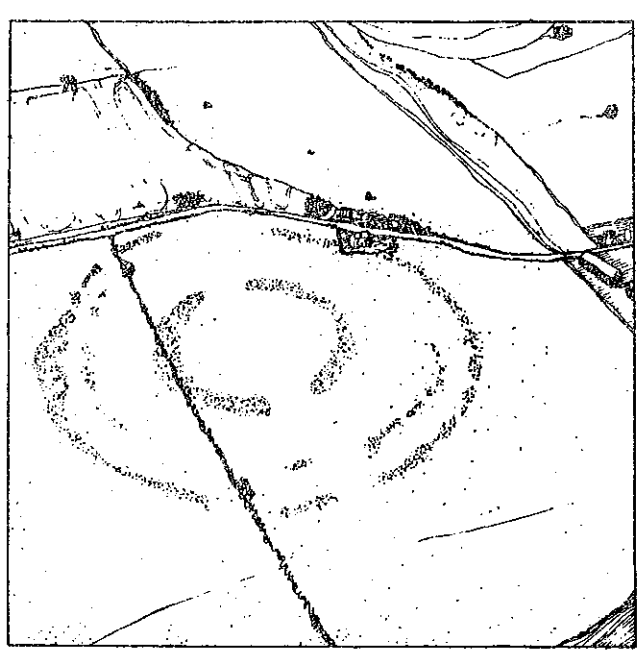


Fig.1.2 The cropmark of a henge monument as seen from the air. The darker (richer) vegetation grows over the silted-up ditches through which the entrance can be clearly seen

Layers of time

The colour and texture of each layer or stratum in an archaeological deposit depends to a great extent on the material involved and the way it was deposited. Thus a fine silty soil laid down by slow moving water differs markedly from a coarse sandy soil which was the result of wind erosion. The study of these deposits is called stratigraphy. The basic rule of stratigraphy is that a deposit is earlier than any deposit which covers it or is banked against it, and later than any deposit which it overlies or cuts through.

The sequence of levels or layers is complicated by factors both human and natural. Layers or parts of layers can be removed by wind or water erosion, or by human activity such as digging pits or building banks. As well as this these layers are not always laid down horizontally and they can dip and bend in all directions according to local conditions.

Layer 1, in the diagram alongside, represents soil laid down before human occupation. The first occupants dug a ditch and built a wall, (2). Evenually the ditch gradually silted up and the wall collapsed. A soil of different colour and texture was deposited on top, (3). Then postholes were cut, (4), perhaps for a fence. The area was abandoned by humans and was covered by a further layer, (5), again of a different colour and texture. On top of this is modern grassland. This is a very simple sequence. Things are generally much more complicated.

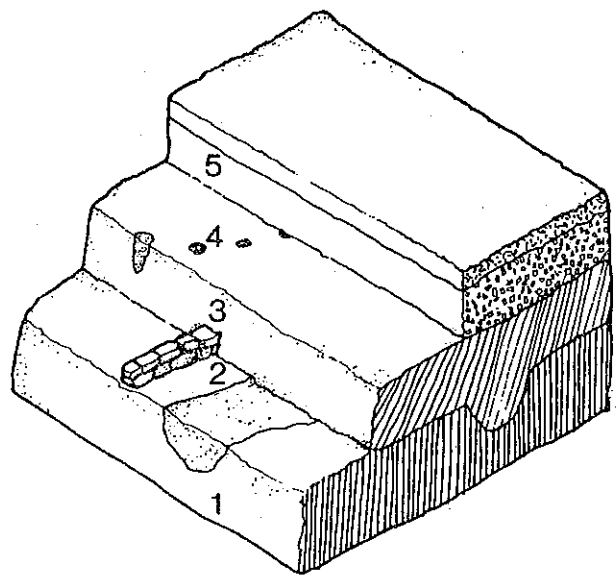


Fig.1.3 A block section through archaeological deposits, showing a number of features — a wall, a ditch and post-holes, and their relationship to each other and the various levels of soil

Digging up the past

All modern excavations are preceded by a great deal of preparation, as the director obtains permission from the local landowner, grants to pay for the costs of the work, and recruits his staff, which will often include not only skilled diggers to supervise the excavations, but also a surveyor, photographer, finds assistant, and perhaps other specialists.

Although some types of sites will require special methods of excavation, (linear earthworks such as a neolithic cursus or hillfort defences will need to be sampled by sections for example), most occupation and burial sites of the prehistoric period are now explored by open-area excavation. This method does not employ a series of small trenches or a neat grid of square ones, but has the whole of the area stripped horizintally layer by layer. It requires close control and observation, and much skill from the excavators, but the clarity with which the horizontal relationships of buildings, pits, ditches and other features can be seen while they are being excavated is worth the trouble.

Within the excavated area, each level will be numbered and each 'feature' numbered, sectioned, drawn and recorded. The finds from each feature and level are similarly dealt with and kept separate from each other. eventually the detailed study of the finds will enable approximate dates to be given to many features, and a study of the vertical relationships between features and levels will also help the archaeologist to sort out the history of the site, phase by phase. The final part of the process is the longest. This involves a great deal of study and analysis of all the evidence, the writing of specialist reports, and, eventually, the writing of an overall report on the excavations — what was found and what it all means.

The prehistoric landscape

The environment will determine to a great extent what animal and plant foods are available to human groups in an area. In a forested environment, for example, humans were likely to have eaten various wild plants and berries, and large animals like red deer, roe deer, and wild cattle, (aurochs), who inhabited the forest. Even when man cleared the forests and grew crops he was still greatly restricted by the environment as the climate and soils of the region would have affected what could be grown and how well it would grow.

Buried materials, such as bones, seeds, pollen, insects and snails, help us to reconstruct the surroundings and environment in which prehistoric man lived. Special techniques are required to remove seeds, pollen and insect remains from the soil as they are extremely small. Pollen, for example, can only be clearly studied under a microscope. Here it can easily be seen that the pollen from one species of plant is different from that of any other species. As a result we can tell, from studying prehistoric pollen, what kind of trees, shrubs and flowers were around at that time. In turn, the plants of an area affect what kind of animals would be present. Sheep, for example, do not like densely forested areas, while these are just the kind of conditions favoured by pigs. Both plants and animals are affected by climate so that pollen analysis also helps us to work out what the climate must have been like.

Learning from artefacts

An artefact is any object made by man. Typical artefacts from prehistoric sites include bone and stone tools, pottery, metal tools and weapons, and jewellery. Traditionally artefacts were used to construct typologies. In a typology the archaeologist arranges the artefacts, concerned in a scheme which shows their gradual change in form through time. Such changes resulted from the need to improve the efficiency of the artefact and from the influence of fashion. The fact that artefacts can be arranged in order has led to their use for dating purposes. For example iron fibulae, (brooches), of about 500-0 B.C. have been used in this way. Thus if examples of fibula 3, (alongside), are found on two different sites, these sites might be assumed to be roughly the same age.

Today, however, a great deal more can be learned from artefacts by scientific methods of study. For example flint tools have been examined under a microscope to study the tiny scratches left on the artefact from it's use in rehistoric times. Archaeologists can tell from the 'Micro-Wear' study in what way the tools were used. In the case of metal work microscopic study can show us how the metal was made and worked. Similar examination of thin slices taken from stone axes can identify the area from which the stone originally came. These methods can also be applied to the study of prehistoric pottery.

Even more can be learnt when these studies are combined with attempts to reproduce the artefacts today using the same methods as were used in prehistory. By copying flint axes and tools, for example, we can see how much debris accumulates from this work and compare it with the debris found on ancient flint-working sites. This helps us to estimate how many tools were produced there, and how many hours of work the debris might represent.

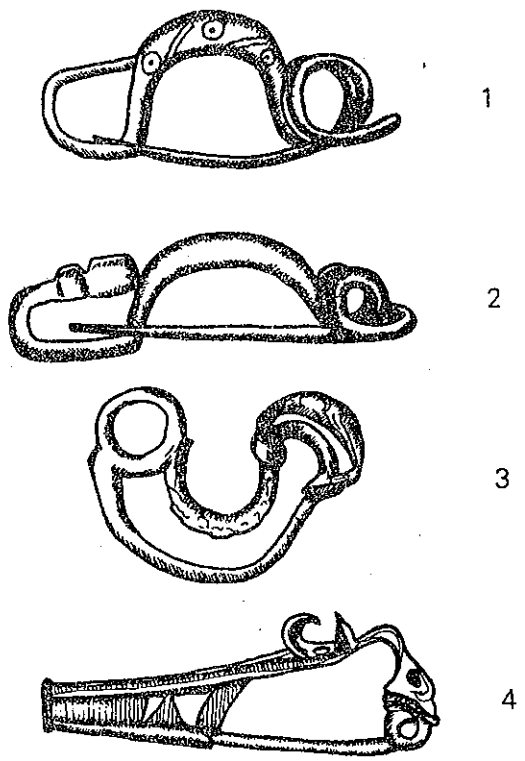


Fig.1.4 Typology is one way of placing objects in a chronological order. British Iron Age brooches like these can be used to place the sites which produce them in a relative time scale. The brooches seen here are dated approximately as follows: 1) 450-400 B.C., 2) 400-300 B.C., 3) 200-100 B.C., and 4) 50 B.C.- A.D.50

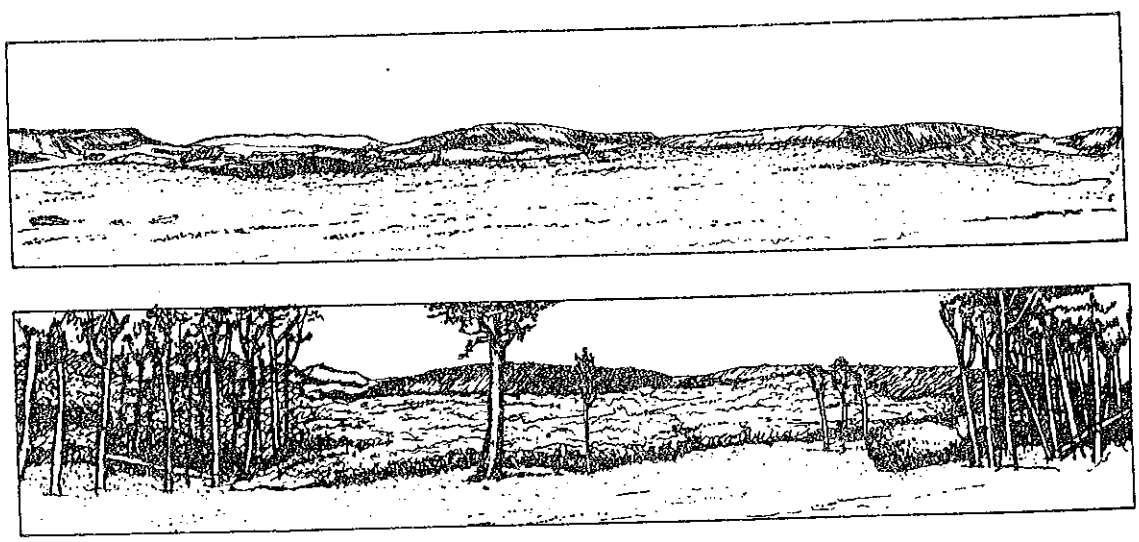


Fig.1.5 Modern and prehistoric landscapes. The present day barrenness of the North York moors is shown above and contrasts with the Neolithic landscape of the same area c.3,000 B.C., reconstructed on the evidence of pollen found beneath a long barrow at Great Ayton

Dating the past

For many years archaeologists dated British prehistory by trying to establish links with historically dated civilisations like those of Egypt, but these links, however, are uncertain and indirect. Once again science has provided archaeology with the best answer to the problem.

All living things contain carbon, some of which is a form known as carbon 14, (C14). This is radioactive and decays at a steady rate; half of the original amount of C14 will have disappeared in 5,730 years. If we measure the amount of C14 left in a piece of wood or bone we are able to work out how much has decayed, and therefore how long ago the tree or animal died. This absolute dating method can only be used on material less than 50,000 years old, since older material will not have enough C14 left to be measured accurately.

The dates provided by C14 dating have been checked by a process known as dendrochronology. Every year a tree is growing it produces a new ring in its wood. By counting these rings we can therefore see exactly how long the tree lived. The rings vary in width, however trees living in the same area at the same time will produce the same pattern of rings as they live in the same environmental conditions. We can compare the pattern of rings in a very old living tree with the pattern from a piece of wood from an archaeological site. If the ring patterns can be matched, then by counting the rings on the living tree we can work out the age of the ancient piece of wood. Since wood can also yield a C14 date, the accuracy of C14 dating can be checked by dendrochronology.

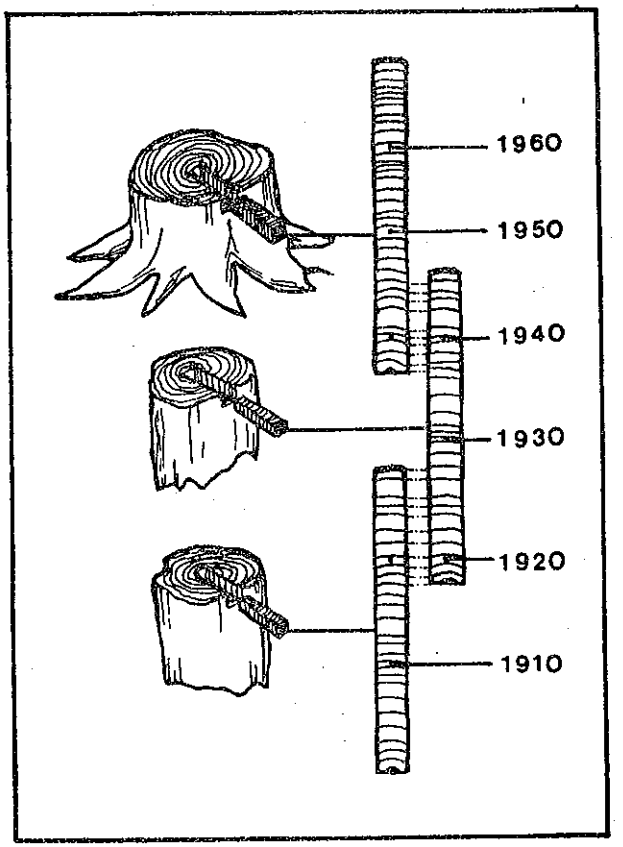


Fig.1.6 Dendrochronology (tree-ring dating) depends on matching tree-rings from progressively older samples of wood, as shown here. The sequence here extends over decades but in America tree-ring dates now extend back to beyond 6,000 B.C. Apart from correcting C.14 dates, tree-ring dating is useful for dating early timber buildings in Britain

The past at work

Some archaeologists try to reconstruct, (from fragments found on digs), the actual tools, weapons and buildings used by prehistoric man. Some of the earliest examples in this field of experimental archaeology involved clearing woodland ready for farming. In 1957 it was decided to try and use flint axes, like those found on stone age sites, to chop down 0.2 hectares, (½ an acre), of oak forest. The handles on the axes were like those on surviving prehistoric examples. It took twelve men four hours to clear this area, and so it can be calculated that one man, working alone, would be able to clear it in a week.

Storage pits are found on many prehistoric sites. Some archaeologists thought they were for storing grain, but others said that they could not be used to store grain as dampness and pests would damage it. Experiments have shown that as long as the lids over the pits were securely sealed with clay then the grain would not be damaged at all.

In the reconstruction of prehistoric buildings it is important to use only materials, tools and techniques that would have been available in prehistoric times. Working from the ground plan made up of post- and stake-holes, and from other scraps of material evidence, the Iron Age hut found at Pimperne Down, (in Dorest), has been reconstructed inside an experimental Iron Age farm at Butser Hill, (in Hants). The reconstruction of this house is shown in the diagram. The finished building has walls of wattle and daub and the roof was thatched.

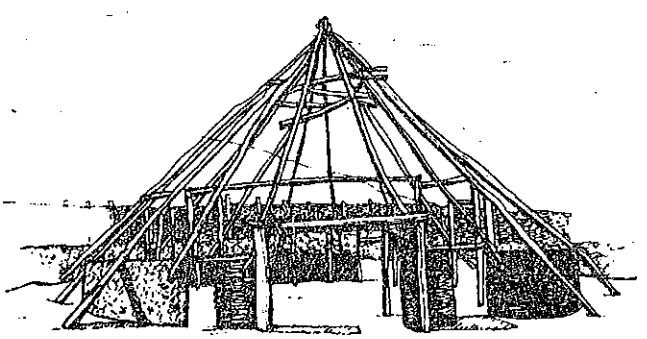


Fig.1.7 The reconstructed Iron Age house at Butser (Hants), seen in the final stage before the thatched roof was put in place. At Butser attempts are made to reconstruct not only buildings but also the actual methods of prehistoric farming

4 THE FIRST FARMERS

Pioneer Farmers

We have already seen that hunters in early postglacial Britain had started to exert a measure of control over the habits of some animals, and it is possible that the process towards domestication would have continued. However, around 4,000 B.C. Britain was settled by immigrant groups from the continent, bringing with them new species of domestic animals and plants, such as cattle, sheep, goats, wheat and barley. By selective breeding, man had been able to induce small but significant changes in plants and animals which were useful to him. Eventually these species became markedly different from the wild species from which they originally descended. The archaeologist can see this difference in the seeds and bones recovered from sites.

The immigrant groups who arrived in Britain from the Continent would have faced severe difficulties when trying to farm. Practically the whole country was covered in dense, closed forest which had to be cleared prior to farming. The forest clearings made for agriculture are likely to have differed little in size from those produced in the earlier period to encourage grazing animals. The first farmers in Britain could not have relied solely on the products of their farming as the areas available for growing crops and raising animals were extremely limited. It is therefore likely that they relied greatly on hunting, fishing and gathering wild foods, just as Mesolithic man did. The indigenous hunters and the immigrant farmers, therefore, probably led lives which at first were not so very different one from the other.

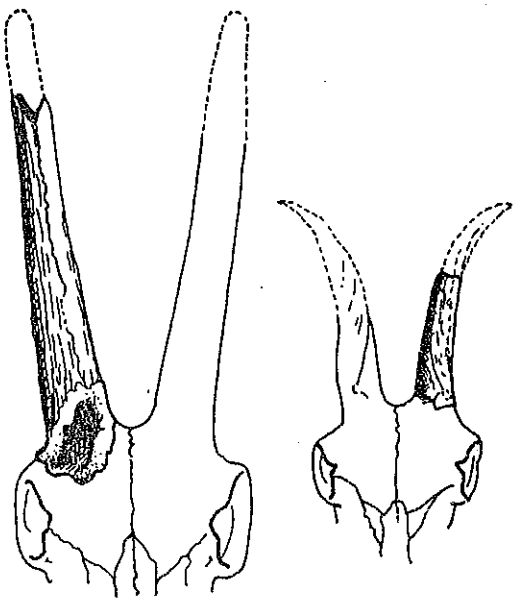


Fig.4.1 Diagram showing the difference in size and shape of the horns of wild (left) and domestic (right) goats. Such differences are important to the archaeologist, helping him to differentiate between hunting and farming activities and communities

Farming and the environment

Britain's separation from the Continent by the English Channel was the first problem the new farmers had to overcome. We know nothing of the boats which brought them here, but they must have been small and able to carry only a few animals and a limited amount of cereal. The animals' legs were probably tied together to prevent them from struggling during the crossing, and journeys could only have been made in calm conditions, probably in the summer.

Next, the farmers had to find open land for growing crops and grazing animals. The only areas of open ground in Britain at this time were along the coast and on mountain-sides, neither of which are good locations for farming. Parts of the forest, therefore, had to be cleared. The first small clearances gradually became larger, and eventually whole areas of open country were created. However, there were further problems to be faced. Some soils were unsuitable for farming; for example, very heavy soils could not have been cultivated with the simple tools available, and some crops would not thrive on such soils. The farmers also had to protect crops and animals from the wild creatures in the remaining forests.

Eventually these difficulties were overcome, but farming began to create new problems itself. Tree and shrub clearance meant that in some places heavy rains began to wash away the exposed soil; some farmers used the same area for too long, weakening the soil until it lost its fertility. These processes were to have serious consequences later.

Fig.4.2 The early farmers used only fire and stone axes hafted on long wooden handles to clear the woodland. Trees were cut down and their stumps and roots, and surrounding undergrowths, cleared by fire

Farmhouses and villages

The first farming settlements in Britain were isolated and small, many having but a single hut. A house found at Ballynagilly (Co. Tyrone) was built of thin split planks of oak and was only about 6m square, similar in size to another house discovered at Fengate, near Peterborough. Larger, oblong farmhouses have been found at Haldon (Devon) and Ballyglass (Co. Mayo), the one 8 x 5m, the other 12 x 5m. Both had a hearth inside, a door at one end and walls probably made of panels of wattle and daub supported on upright posts. Their roofs were thatched. The many finds of flint tools outside these small huts suggest that many daily activities took place in the open air.

Apart from farmsteads, there were also hamlets and villages such as Hurst Fen (Suffolk) where several families lived together. At Carn Brea (Cornwall) an even larger village sat on top of a hill, on which the farmers cleared about a dozen terraces for their huts. Up to a hundred people may have lived here, eventually enclosing their village with a crude wall of boulders. Our only vivid picture of an early farming village, however, comes from the much later village of Skara Brae (Orkney) dating to about 2,000 B.C. Built in stone, the seven or eight houses have survived to the present day. Each had one main room in which there was a central fireplace with stone beds, originally covered with heather, along the wall. Other stone furniture included seats, tables and dressing-tables. The roofs of these huts may have been of skins or turf supported on rafters made from whalebones, since timber was scarce in Orkney. Ceilings were probably low, for the doorways are usually little more than a metre high, indicating that the occupants were probably of short stature. Small rooms or cells opening off the main room may have been toilets in some cases.

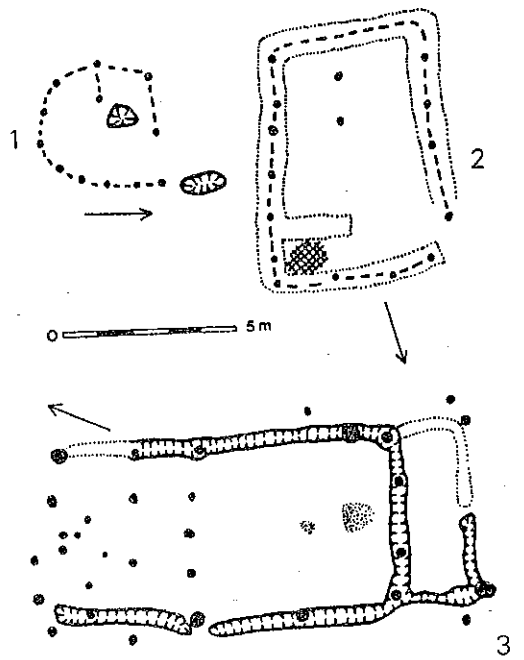


Fig.4.3 Houses of the early farmers at 1. Henbury (Devon) 2. Haldon (Devon), and 3. Ballyglass (Co Mayo). All three utilise timber posts sunk into the ground, the spaces between which were filled by wattle panels or planking. In all three houses there are traces of subdivisions of the living space, whilst at Haldon and Ballynagilly there are hearths inside the huts

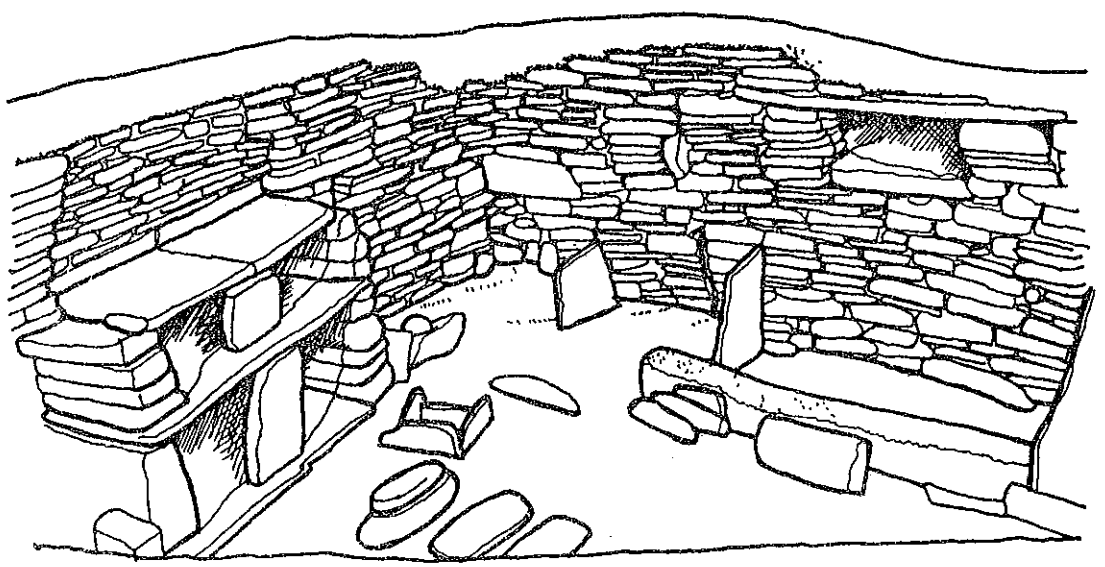


Fig.4.4 One of the best preserved prehistoric settlements in Britain is Skara Brae (Orkney Mainland), c.2,000 B.C., where walls, doorways and even furniture were built not in wood but in stone and therefore survive to the present day

Crops

It has long been accepted that cereal-growing was particularly important in the lowlands of southern England, while livestock were more important in the uplands of the north. We must realise, however, that most early farmers in Britain, whether in north or south, raised both crops and animals.

The main crops grown by the first British farmers were wheat and barley. The evidence comes from preserved (charred) grain and from the impressions of cereals accidentally incorporated in clay pots. From such evidence archaeologists have tried to work out the relative importance of wheat and barley. The importance of a particular crop depended mainly on the conditions in the area of cultivation. Wheat grows best on low ground with medium soils and does not like wet clay or loose sandy soils. Barley is not so fussy and will grow on most soils, although not so well on sand. It can also be grown on higher ground than wheat. Although there may have been some change in the preferred crop over time, most variations are due to different climatic and soil conditions. Wheat was probably more important on the good lowland soils of southern Britain, and barley in the uplands of the north. Wheat is a very demanding crop in that it takes a great deal of the goodness out of the soil very quickly, leaving a poorer soil on which barley could still be grown. Some of the change through time between wheat and barley could be explained in this way.

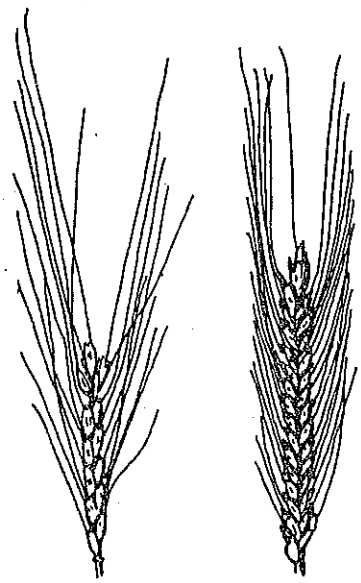


Fig.4.5 The differences in form between wild (left) and domestic (right) einkorn are the result of selective breeding of the plant by man. Again, such differences help to distinguish between genuine farmers and those who only gathered wild corn

How the farmers worked

When forest had been cleared it was not possible to plant cereals immediately. First the tree roots would have to be removed, perhaps by burning, and the area cleared of stones. Then the ground would have to be broken up. In the very earliest clearings, the farmer might just have made holes in the ground and dropped seeds into each one. Later there is evidence that the cleared areas were ploughed. Sealed beneath the long barrow at South Street (Wilts) were the marks left by the tip of a plough, about 3,000 B.C. The ground had been ploughed in two directions (cross-ploughing), and because the plough marks are up to 12m long, we think oxen must have been used to pull the plough. There were also traces of a wooden fence that might have separated fields, but in western Ireland many fields of about 3,000 B.C. have been found surrounded by stone walls. These barriers were necessary to keep animals off the crops.

When the crop was ripe, it was harvested. Some grain may have been pulled off the stalk by hand, but some was probably cut off, using a sickle made of flints stuck in a wooden handle. Flint blades with a gloss on them like that produced by cutting cereals have been found on several sites. Once harvested, the crop was stored in jars or pits. Later the grain could be ground between two stones (querns) to make flour. Querns are common finds on early farming sites.

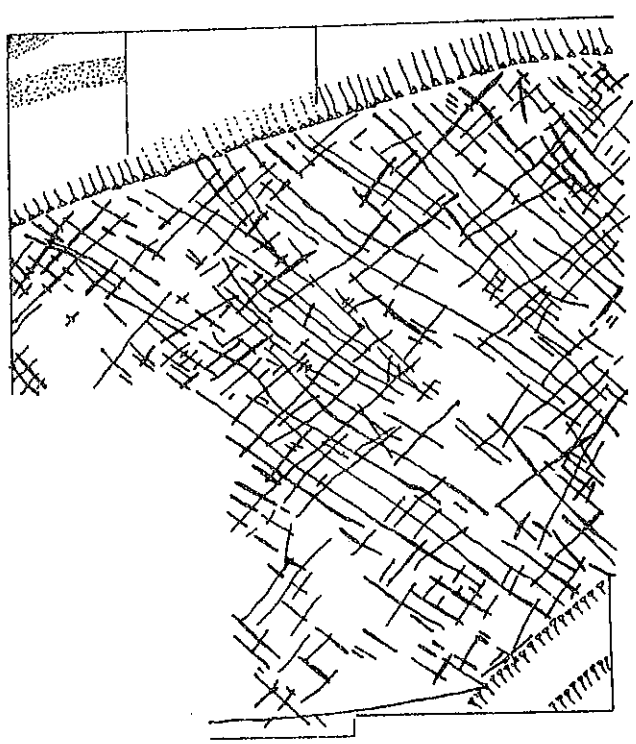


Fig.4.6 At South Street (Wilts) the early farmers broke up the soil by cross-ploughing. Later a barrow was built on the site, thus preserving the 5,000 year old marks of the plough

Livestock

Just as the crops which the farmers grew depended to a great extent on the soils and climate of an area, so the kind of animals which were important in a region also depended greatly on the environment. Sheep are more suited to upland areas; they do not like damp, low lying ground, nor do they like woodland. The opposite is true of pigs which naturally prefer woodland, but do not like the cold and are therefore not very common on the uplands. Cattle need a lot of water to drink and therefore prefer areas with high rainfall and warm temperatures. The sites which have been excavated for the early farming period show that cattle were probably the most important food animal. At Windmill Hill in Wiltshire they made up almost two-thirds of all the animals consumed. The cattle had long horns and were descended from the wild aurochs.

At the start of the early farming period (the Neolithic), sheep and pigs may have been of equal importance. Through time, however, the number of pigs decreased while the number of sheep increased, probably because woodland (preferred by pigs) was being rapidly cleared. The sheep at this time had horns, long tails and coarse wool. Pigs are relatively undemanding and could be left to fend for themselves, rooting around the woodland, eating acorns etc. All the animals, however, had to be provided with some form of winter food (hay, leaves, grain) if they were to be kept to maturity.

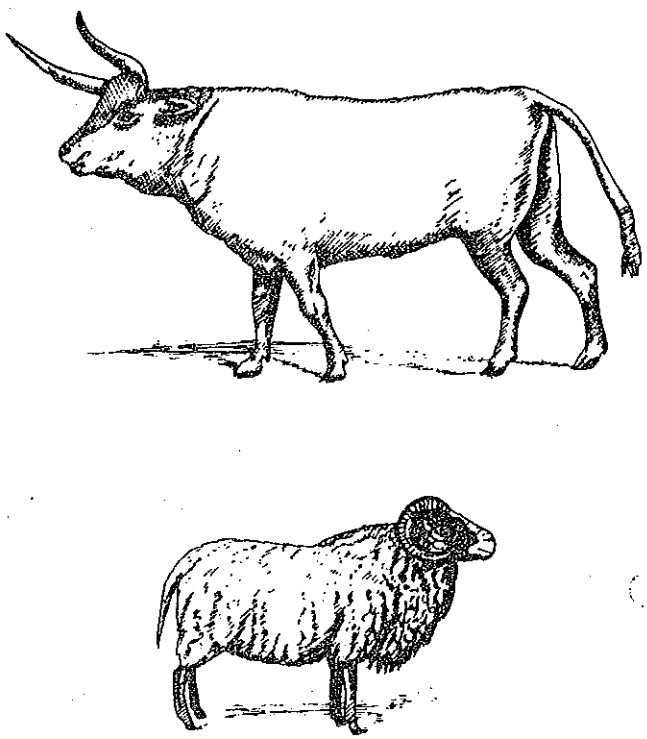


Fig.4.7 Impressions of the cattle and sheep reared by the early farmers. The sheep is based on the modern Soay sheep, the nearest of the modern breeds to that used in prehistory

Wild resources

The fact that man now lived in more or less settled communities and looked after crops and animals did not mean, however, that he no longer used wild foods. There were still large areas of woodland around the man-made clearings where wild fruits could be gathered and animals hunted. Red deer bones were found at Maumbury Rings (Dorset) and at the Devil's Quoits in the Upper Thames area, and bones of wild pig are numerous on some other sites. It is probable that shellfish and seaweed were still gathered, and that the fish in the rivers and sea were still caught. Hunting and gathering, however, were not really important to the settled farming peoples in the early Neolithic.

Pollen analyses show, however, that all over Britain, around 2,500 B.C., many of the early clearings were abandoned and the forest grew back. While these clearings were reverting back to woodland, few new ones were being opened up. At about the same time, the people appear to have stopped building large funerary and ceremonial monuments (sheet 6). This all points to a population decline. How could this have occurred? It has been suggested that the early farmers grew in numbers too rapidly, and overworked the soil until it could no longer support the crops and animals needed by the growing population. For a while, people appear to have died or moved away, and those who remained made greater use of the wild resources found in the uplands and on the coasts. Then, gradually, man re-asserted his control of the landscape.

Places to visit, things to do

Skara Brae (Mainland Orkney) — see this superbly preserved neolithic village of stone built houses with walls standing up to eight feet high.

Carn Brea (Cornwall) — visit the site of this neolithic village. On the same hill is an Iron Age hillfort.

Riber Castle (Matlock, Derbys) — see Soay sheep, (similar to neolithic ones), and wild boar in the wildlife zoo.

1. Try to dig land as the first farmers did. They did not have spades, so used stout sticks to dig with instead. See how difficult it is to dig even a small area, using just a digging stick. Then plant some corn seed in this area, (see a local farmer or seed merchant for the seed). When it is ripe harvest it by pulling the ears of corn off the stalks; or if you live in an area where flint is available try cutting the corn, just below the ears, with flint flakes, and gathering the ears this way. Try grinding the corn by crushing and rubbing the grains between two flat stones.
2. Many of the houses of the early farmers had walls made of wattle and daub. Make a panel of wattle and daub. Weave together long, thin 'wands' of hazel or willow and then cover the surface of this with clay. Set this out in the sun to dry. As it dries cracks will appear in the clay. Fill these cracks with more clay until you have a solid panel of wattle and daub.

6 MONUMENTS

Megalithic Origins

Some of the most prominent features of our landscape are the long barrows built during the early farming period. It used to be thought that neolithic man had neither the skills nor the organisation to build such structures; they were assumed to have been built by "missionaries" from the Mediterranean, where there were similar "megalithic" structures. The term megalithic means 'very large stones' (from the Greek *mega* — large, and *lithos* — stone). People were thought to have carried the idea of the circular megalithic tombs from the Aegean to Spain and Portugal. It was suggested that these people worshipped 'the Great Mother Goddess', representations of which were found on pots, idols and tomb walls. The same people spread the faith of the Mother Goddess to far-flung regions such as England, Northern France and Ireland. The Aegean tombs, built about 2,700 B.C., must obviously, therefore, be earlier than the British ones.

These ideas were shattered with the invention of C14 dating in 1949. The British tombs proved to be earlier than the tombs they were supposed to copy. Tombs in Britain have been dated to well before 3,000 B.C. The 'megalithic missionaries' proved to be a myth, and it is now generally accepted that these impressive monuments were designed and built by the earliest British farmers. The British megalithic tombs fall into several regional groups, each with their own peculiar features. The main groups are in South Wales/Cotswolds, south-west Scotland/northern Ireland, Boyne Valley, north-east Scotland, and Orkney.

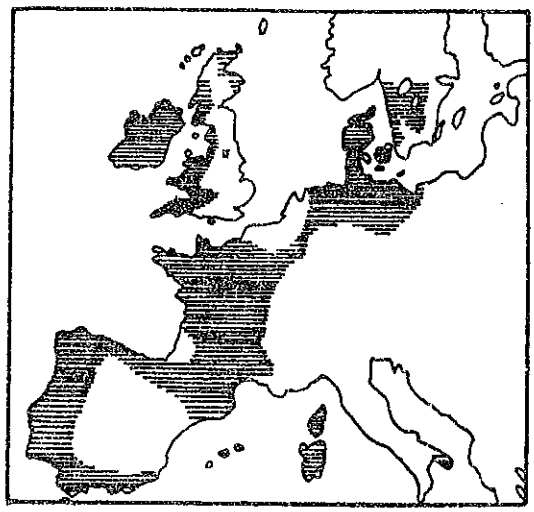


Fig.6.1 The distribution of megalithic chambered tombs in western Europe. In many of these regions such monuments may have developed independently and there are considerable differences in form and in constructional details from one region to another

The Long Barrows

The custom of burying the dead reached new levels of complexity with the appearance of the first farmers. Around 3,500 B.C. we get the appearance of non-megalithic earthen long barrows, probably built not by the pioneering farmers but by their immediate descendants.

Long barrows consist of mounds of chalk rubble and earth. Along either side of the mound are ditches from which the material for the mound was excavated. The mounds themselves are generally between 30m and 120m long and trapezoidal in shape. The eastern end is generally the broader. They are found all over England and Scotland, but the major concentrations are in eastern England and Wessex. Many of the barrows have traces of structures beneath the mound itself. These were thought to have been made of turf and timber, and they were supposed to have been mortuary enclosures and houses in which the dead were placed before the tomb was actually built. Mortuary houses are known from several sites, including Fussells Lodge (Wilts) and Waylands Smithy (Berks). There is evidence from the site of Nutbane (Hants) that the mortuary house was burned down immediately before the building of the long barrow. The number of skeletons found in the long barrows is small, with an average of six in each. This suggests that only a select part of the population were buried there. Nevertheless, they represent communal effort, for it would have taken ten men, working ten hours a day, about two months to complete a moderate-sized barrow.

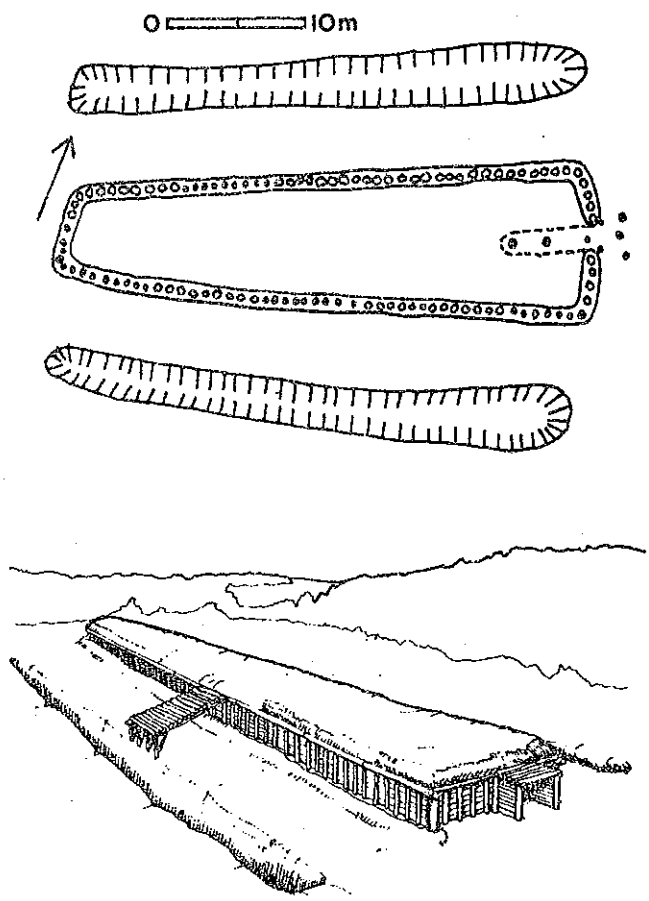


Fig.6.2 The figure above shows the excavated plan, and that below a reconstruction of the Fussells Lodge earthen long barrow in Wiltshire as it would have appeared at the time of its completion, c.3,500 B.C.

Megalithic Tombs

The megalithic tombs in Britain are divided into two basic groups — those under long barrows and those under round ones. The megalithic long tombs are similar to the earthen long barrows and it has been suggested that they developed from them. At Waylands Smithy the earthen long barrow was overlain by a longer mound containing three megalithic chambers, dating to c.3,000 B.C. The front of the tomb is really impressive, consisting of alternating megaliths and panels of dry-stone wall. This type of tomb is known as the Severn-Cotswolds type, and often has a small courtyard in front of the entrance. An excellent example is seen at West Kennet, (Wilts).

Similar types of tomb are known in parts of Ireland and Scotland. The idea of a courtyard seems to have appealed to the Irish, and at places like Creevykeel there are very large courtyards almost completely enclosed by the tomb itself. These are known as "lobster claw" cairns. As with the English tombs, there are megaliths and dry-stone walling to give the tomb an imposing front, behind which are stone-built chambers. The chambers are usually in a straight row of two to four rectangular compartments separated by slabs projecting from the walls and/or the floor. In Scotland, at least, it has been suggested that these tombs developed locally from much simpler forms, known as proto-megaliths. At Mid-Gleniron in Wigtownshire, for example, two barrows each with a simple megalithic chamber were built near each other and then covered by a long barrow with a courtyard. A very similar sequence was found in west Wales at Dyffryn Ardudwy, where two small burial chambers were built, one behind the other, and then enclosed in a trapezoidal cairn

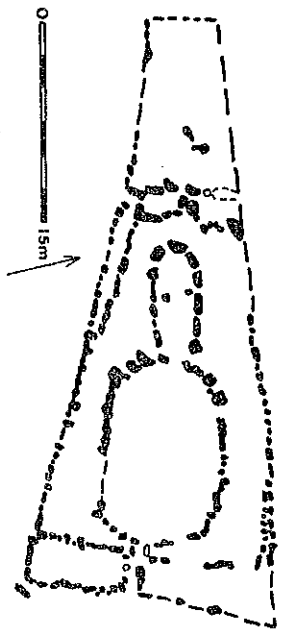


Fig.6.3 The chambered tomb of Creevykeel, Co. Sligo, with an almost totally enclosed courtyard in which funerary and post-funerary ritual took place. Note that the largest (and most impressive) stones are used for the tomb chamber and for the semi-circular facade which fronts it. Burials in the chamber were cremations, accompanied by various personal possessions of the dead

Passage Graves

The simple megalithic tomb within a round cairn, like those at Gleniron, was probably ancestral to the great tombs of the Boyne Valley and the Orkney Islands. These great round cairns with central megalithic chambers are often called 'passage graves'. The tombs at Knowth and New Grange are perhaps the best of their kind in Europe. Knowth is a mound between 80m and 90m diameter. Excavation revealed that many of the megaliths which made up the passage and the chamber were covered in decoration, as was the massive sill-stone at the entrance to the chamber and another at the back of it. The designs on these stones included circles, meanders, spirals, horse-shoe shapes and areas shaded by pecking. The New Grange mound is 12m high and 85m across, and is surrounded by megalithic kerbstones. As at Knowth, many of these kerbstones, as well as stones in the passage and chamber, are decorated.

The Maes Howe tomb in Orkney may have been based on the Irish examples; it is certainly later in date. The mound here covers a central chamber with three side chambers for burials. The chambers are made with great slabs of local rock expertly fitted together, and the roof is in the shape of a beehive vault.

It would have taken long months, or even years, of labour to produce these fine passage graves, and the care taken in their construction suggests that they were built for the important people in society.

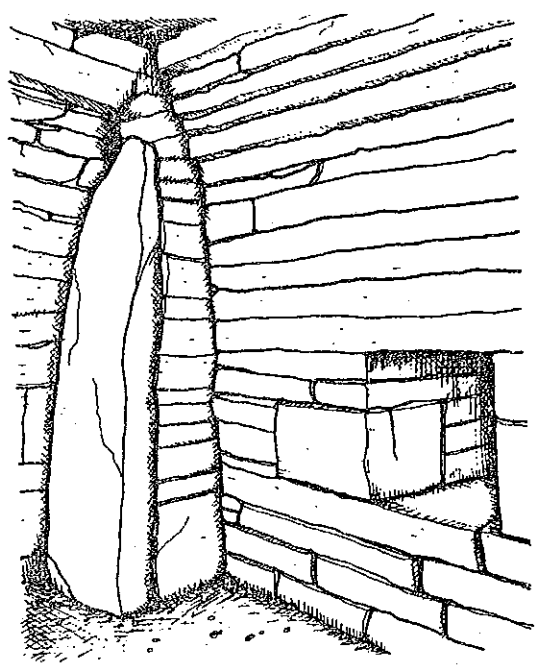


Fig.6.4 Interior of the Maes Howe tomb on Orkney Mainland, showing the quality of its dry-stone construction

Funerary Rites and Beliefs

The mortuary enclosures and houses that have been found beneath some long barrows suggest that before the bodies were covered by the mound they were exposed until all the flesh had rotted. This meant that the bones of the skeleton could be disturbed and moved by animals or men. The skeleton is then said to be disarticulated. Such skeletons have been found in long barrows at Nutbane and Waylands Smithy.

The courtyards which occur in front of tombs such as West Kennet and Creevykeel (Sligo) sometimes contain hearths, indicating that fires were lit in these areas. At Cairnholy in Galloway there were six hearths which matched exactly the number of burials in the tomb. It is likely that these fires were lit during the rituals that probably accompanied the burials and the feasting which may have taken place afterwards. At the same time, personal belongings of the dead person, such as flint knives and arrows, stone axes and necklaces, were placed in the tomb with their remains.

All the indications are that the dead were both respected and feared. At several Irish tombs, stone axes were placed at the entrance to burial chambers, as if to protect the dead buried there. Many tombs had their entrances deliberately and carefully blocked when they were used for the last time, but this could have been as much to stop the spirits escaping as to stop tomb robbers getting in. Even after a tomb had been ritually closed, however, it may have remained as an important social focus for the tribe or family which had built it. It stood as a symbol to their prestige and a reminder of the antiquity of their status

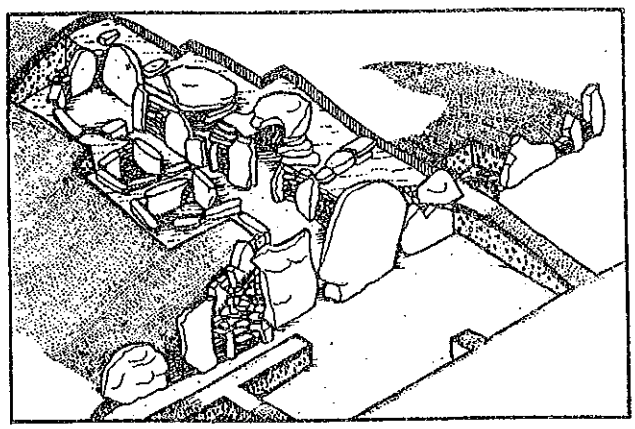


Fig.6.5 A cut-away diagram of West Kennet long barrow (Wilts), showing the burial chambers and the large stones used to block the chambers when the tomb was finally closed

Causewayed Camps

Causewayed camps are known in southern England, the Midlands and the Trent Valley. Generally, causewayed camps consist of a series of banks and ditches broken by numerous unexcavated causeways, enclosing roughly circular areas. The ditches are normally flat-bottomed with vertical sides, and the banks shallow; there may be one, two or even three rings of banks and ditches within one another.

Archaeologists have long wondered what the function of these causewayed camps was. It is now generally accepted that these structures were ritual rather than living sites. In many cases the ditches appear to be symbolic more than anything else. Sometimes the banks and ditches do not completely surround the site, appearing to peter out for no good reason, which suggests that the camp had an open side. This would have been no good for keeping people out or cattle in. Also, many of the ditches were simply allowed to fill up with silt as soon as they were dug, and would have been useless defensively. The banks and ditches, therefore, seem to have simply delineated an area which could have been used for tribal meetings, possibly in autumn or spring. The excavation of these sites has shown some of the activities that might have taken place. Animal bones and hearths may indicate feasting, and the presence of stone axes and sometimes pottery from far afield suggest trading. Sacrifice of animals and humans may also have taken place. Where there are traces of occupation, they usually suggest temporary rather than permanent settlement.

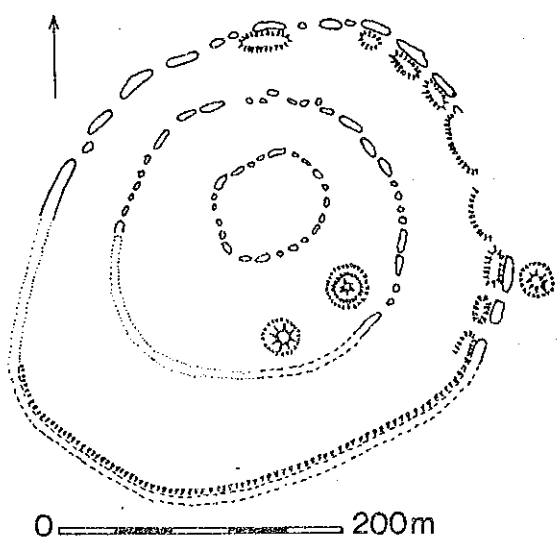


Fig.6.6 Plan of the causewayed camp on Windmill Hill in Wiltshire

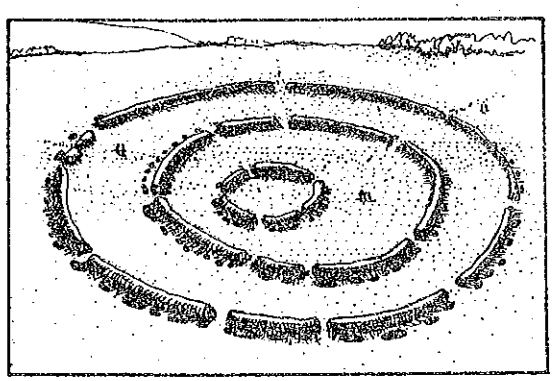


Fig.6.7 A reconstruction of a causewayed camp, showing the interrupted ditches and banks characteristic of this type of site

Henges

In the late Neolithic a new form of enclosure is found in England. These are known as henges and consist of a large circular area, enclosed by a ditch and external bank. The henge bank and ditch are usually continuous with one or two breaks allowing entrance to the central area. Henges are generally later in date than the causewayed camps, and it is thought that whatever activities took place at the camps were continued in the henges in the years after c.2,500 B.C. An indicator that these sites had some religious function is the fact that the henges often contain cemeteries of cremation burials. The earlier henges are not particularly big, though later massive examples were built. The earliest phase at Stonehenge was a simple bank and ditch henge, dated by C14 to c.2,300 B.C. Nevertheless, the size of these henges suggests that the people who caused them to be built either controlled, or could call on, large numbers of people. For example, it would have taken 200 men about 800 days of continuous work to construct the henge at Avebury.

Henges are also known in Ireland and suggest links between Britain and Ireland, fostered perhaps by the trade in Antrim axes. We might even regard the massive mound at Silbury Hill (Wilts) as inspired by the burial mounds at New Grange and Knowth. It would have taken 18,000,000 man hours to build Silbury; the person who controlled this amount of labour was surely a powerful chieftain.

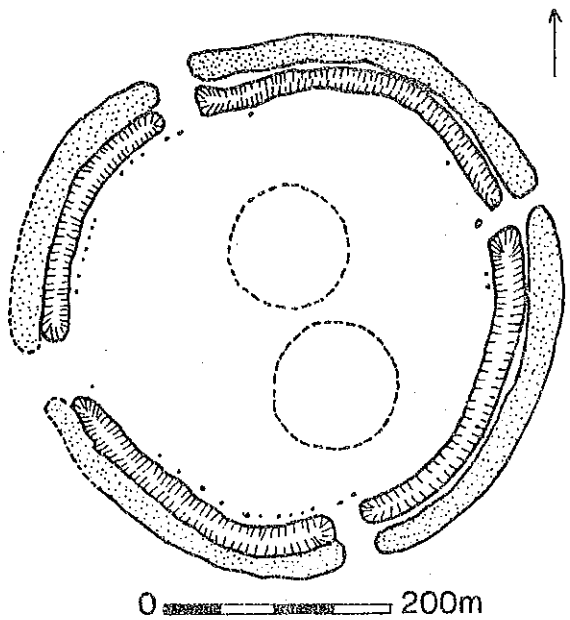


Fig.6.8 Plan of the henge at Avebury (Wilts). Note the ditch with the external bank and the two stone circles within the henge, as well as the main circle immediately inside the ditch

Chieftains?

The task of building the long barrows and megalithic tombs was probably organised by a small group of higher status individuals known as an elite. Maybe the tombs were for the burial of members of the group. This is suggested by the fact that only a few people were buried in each tomb, about six in each long barrow. Studies on the Island of Arran in Scotland suggest that there were eighteen territories, each with one tomb. Similar territories have been suggested for another Scottish island, Rousay, and it is possible that long barrows and other tombs were territorial markers in the rest of Britain too.

The evidence for the existence of an elite is greater later on, when the magnificent tombs of the Boyne Valley and Maes Howe were built. The amount of labour involved in the construction of these tombs and their splendour suggest they were built for some important person, maybe a chieftain or a king. At Knowth the main passage grave is surrounded by many smaller ones which could have been the tombs of the leader's servants.

There were five groups of Wessex long barrows possibly representing five tribal groups. Each group is associated with a causewayed camp. Colin Renfrew has suggested that these 'camps' might be 'central places' for the tombs. These sites would have formed the hub of Neolithic society, and may well have been organised by the group of elders rather than by a single chief, as was suggested for the Boyne Valley area.

Places to Visit

There are many surviving long barrows; here are some of the best preserved in different parts of Britain:

Kits Koty House (Kent), only the chamber remains.
West Kennet (Wilts), very well preserved, with a fine facade.
Waylands Smithy (Berks), well preserved dry-stone walls.
Belas Knap (Glos), note the false entrance here.
Hetty Peglers Tump (Glos).
Stoney Littleton (Avon), the 100ft long barrow can be entered
Zennor Quoit (near St Ives, Cornwall).
Tinkinswood (near Cardiff), well preserved foundations.
Dyffryn Ardudwy (south of Harlech, Gwynedd).
Cairnholy (Kirkcudbright), note the forecourt.
Creevykeel (Co. Sligo), with 'lobster-claw' horns.

Passage Graves:

Bryn Celli Ddu (Anglesey), well preserved with a henge.
Clava (near Inverness), interesting group of tombs.
New Grange (Boyne Valley), with fine carvings on kerbstones.
Maes Howe (Mainland Orkney), a brilliant piece of architecture.

Earthen Long Barrows:

Royston (Herts), well preserved, with ten round barrows.
Giants Hill (Skendlebury, Lincs), two long barrows.
Hambledon Hill (Dorset), long barrow 200ft. in length, plus a causewayed camp.

Another causewayed camp is *The Trundle, (Sussex).*
Silbury Hill is near the famous henge monument of *Avebury, (Wilts).*

Bronze-working

The knowledge of copper-working was soon followed by the knowledge of how to mix copper with tin to produce a harder, more durable metal — bronze. Copper could also be mixed with arsenic, but arsenical bronze was never widely adopted in Britain, partly because its poisonous fumes made it dangerous to make, partly because the arsenical ores may not have been readily available.

Many of the first copper and bronze objects were made by casting simple shapes in moulds carved into the face of a block of stone, followed by much hammering to force the metal into the final, required shape. Some of the stone mould blocks that have been found, particularly in Scotland, have moulds (matrices) for more than a dozen items carved onto the several faces of a single block. It was not long, however, before two-part moulds were introduced. Each part contained the mould for one half of an object, so that, bound together, they could be used to cast an object 'in the round' rather than with at least one flat surface such as the early 'open' moulds produced.

Objects produced in two-part moulds generally needed less hammering to finish them, but bronze tools were often hammered cold to increase the hardness of their cutting edges. Repeated hammering of bars and strips produced sheet bronze from which armlets, beads and pins could be produced, and the hammer was also needed to tap the small punches and gravers which added decoration to the finished articles.

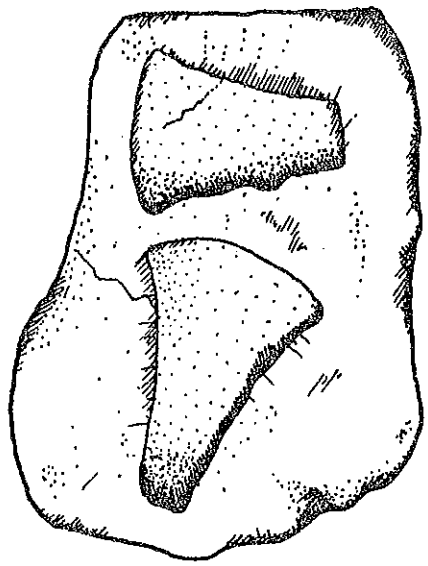


Fig.8.1 A block containing two 'open' moulds for casting copper axe-heads, from Ballyglisheen, Co. Carlow, Ireland

Bronzesmiths and their products

The men who made much of the bronzework used in Britain between 2,000 and 1,000 B.C. seem to have been itinerant workers who travelled around, carrying their moulds, ingots of metal, and tools with them. The excavated settlements produce no evidence for smiths' workshops, and the many stone moulds and smaller numbers of hoards of tools and ingots that have been found have all been found as isolated finds in the countryside. Tools, weapons and jewellery were presumably made on the spot and bartered for food and other supplies by smiths who worked within a given region.

These skilled craftsmen produced a wide range of products. Jewellery included tubular beads, earrings, bangles, rings and fine armlets with delicately made decoration. The most common tools were axes, but they also produced more securely hafted forms known as palstaves and a range of smaller tools such as chisels and awls. Most impressive, however, were the new weapons made by the bronzesmiths. Early daggers were often short and poorly hafted. The new weapons initially included flat straight-edged daggers with a row of rivets across their base, but also stronger blades with incurved sides, three or four thick rivets set into the heel of the dagger, and a thickened rib to make the blade less likely to bend or snap. Soon the blades were to be lengthened to make the first short rapiers, and a series of spearheads, some with sockets and others tangs to fit them to their shafts, were to give warriors a new medium-range weapon. There were marked regional variations in both the type of products made and the detailed form of some products common to most areas. In particular the Irish metalworkers produced distinctive and attractive axes with elaborate decoration on them, and large quantities of halberds — like a dagger blade but mounted horizontally on a shaft — which were scarcely used elsewhere in Britain.

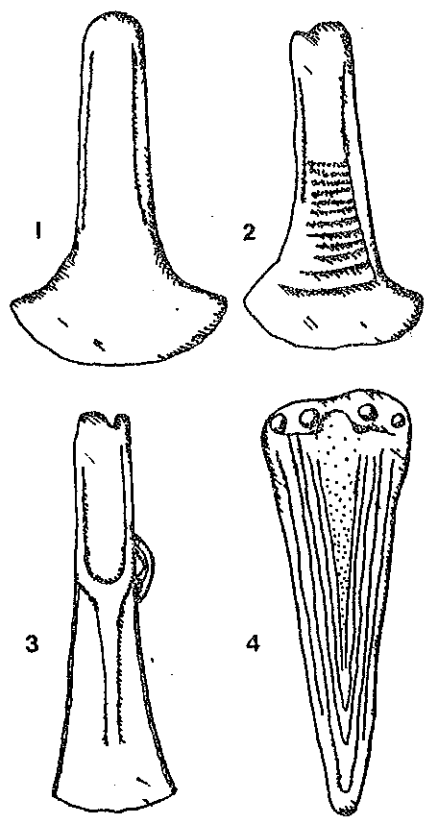


Fig.8.2 Bronze tools and weapons of the second millenium B.C. 1 & 2: flanged axes, (one decorated), from Bristol. 3: a looped palstave from Wiltshire. 4: a grooved dagger from Wiltshire

Metal Resources

The Britons soon mastered the many techniques involved in metallurgy but they were particularly fortunate in that all the metal ores they needed were available in Britain. The major ores used in Bronze Age Britain were copper, tin and gold, and these are generally found in the highlands in the west and north. The copper sources used in prehistory were probably Cornwall and Devon, Anglesey, southwest Ireland and Alderley Edge in Cheshire. The best known Irish copper mine is probably Mount Gabriel in County Cork, dated by C14 to about 1,800 B.C. They are unusual in being the only known mines of this period; elsewhere workings probably took the form of shallow pits. The Irish mines were a major source of copper in the Early Bronze Age, and Irish copper was used in the production of many British copper and bronze artefacts.

The tin for these tools and weapons could also have come from Ireland, but more likely was obtained from Cornwall. Here it was probably found by digging in the sands and boulders of river gravels. The materials recovered would have been sieved, and the small pieces of tinstone removed.

In prehistoric times, the major gold source was probably the Wicklow and Sperrin mountains in Ireland. The precious metal was obtained by taking handfuls of river gravels and washing and sieving them to see whether they contained small grains of gold. Gold sources are also known in Wales, but there is no evidence they were used in prehistoric times.

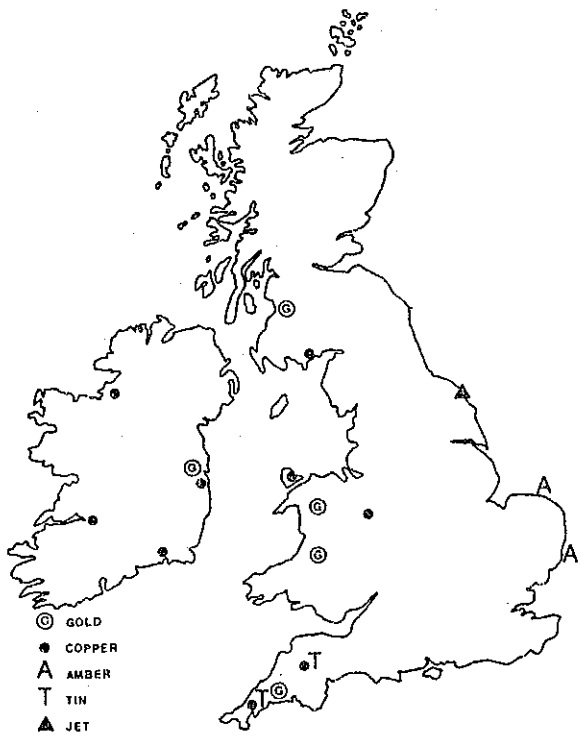


Fig.8.3 The ore sources available to craftsmen in prehistoric Britain

Goldsmiths

Bronze was not the only metal worked and produced in the early second millennium B.C., and some of the more spectacular and beautiful prestige items of this period are golden. Perhaps the richest of the Wessex round barrows, in terms of grave-goods, is the Bush Barrow in Wiltshire. Among the contents of the grave was a copper dagger with a pommel decorated in a chevron pattern with thousands of tiny pins of gold wire. The work on this and a similar dagger from Hammeldon in Devon is so detailed that the goldsmith may have worked with a lens of rock crystal. A high standard of craftsmanship is also revealed by other objects found in the grave, which included a lozenge-shaped piece of sheet gold which was decorated with finely traced designs, and a belt hook similarly decorated. All these pieces were of thin sheet gold and it is thought that the gold was probably mounted on either wood or leather, which has since rotted away.

Gold work of equal quality comes from a few other Wessex barrows and a detailed study of this suggests that most of the gold work was produced by only one or two craftsmen in a single workshop. Daggers with gold pommel mounts have also been found in Scotalnd and, together with some gold lunulae, show the existence of Scottish goldsmiths, while a superb gold cup was found at Rillaton in Cornwall. The impression that emerges is that there were a very few highly skilled goldsmiths who worked for a social elite. Detailed study of some of the Wessex goldwork has confirmed this, and it is thought that much of the gold finery here was made by just one or two master craftsmen working over a relatively short period of time.

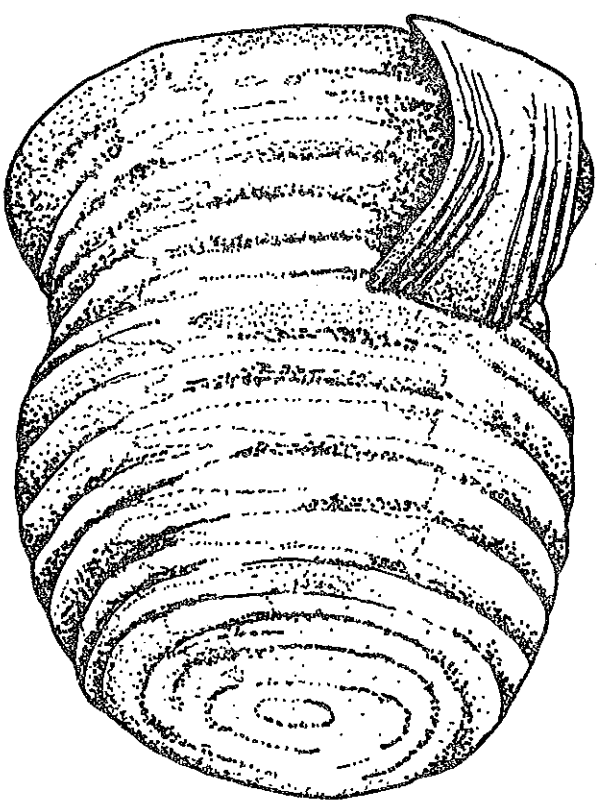


Fig.8.4 The gold cup from Rillaton, Cornwall; a fine example of the goldsmith's craft. The shape may imitate a pottery beaker

Jet, Amber and Faience

Other craftsmen of this period worked in jet and amber. Both these materials were used to make crescentic necklaces like those from Poltallock (jet) and Upton Lovell (amber). These necklaces, probably inspired by the Irish gold lunulae, consisted of tubular beads separated by rectangular 'spacer' plates. Many other pieces of amber and jet jewellery have been found, and amber is sometimes combined with gold as in gold-bound amber discs. From Wilsford there is a pendant with a blade of bronze and a haft of amber bound with gold.

An important new material to appear in Britain at this time was faience. This is a substance composed of baked sand and clay with a fused surface in which copper powder produces a bluish-green colour. It was used to produce necklace beads. In the Wessex area long segmented beads were most common, but in northern England and Scotland disc and star-shaped beads are commoner. Often only single beads were found, but at Upton Lovell (Wilts) ten segmented beads which formed part of a necklace of faience, shale and amber were found in a group. Objects such as this, and the gold and amber discs and pendants, suggest that craftsmen were capable of working in several different materials.

Whether the faience beads were made in Britain or brought here from the Mediterranean, where segmented faience beads are very common, is arguable. It may be that a handful of imported beads provided the originals which resourceful British craftsmen then copied.

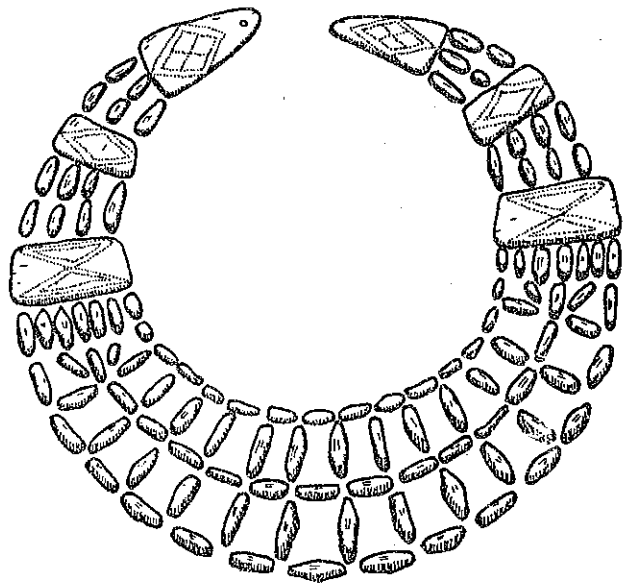


Fig.8.5 A decorated jet necklace from Poltallock, (Argyll), possibly inspired by the gold lunulae of Ireland, and itself imitated perhaps by amber necklaces found in graves in Wessex

The stone-workers

Jet, shale and amber were used to make jewellery, but shale and amber were also used to make drinking cups and dagger pommels. Flint was still widely worked and used in this period for many basic tools and for arrowheads, while polished stone was now used for mace-heads and 'battle axes'.

On a different scale, the use of stone to produce impressive monuments reached its peak with the building of the last, trilithon, structures at Stonehenge in the years around 1,500 B.C. Stone carvings were also prolific at this time, the commonest form being cup-shaped depressions cut in rock surfaces. They are often found on the stones and slabs covering graves and this has led to speculation that they had some ritual function connected with sacrifice or offerings. The rocks covering graves in Scotland also bear other forms of decoration. Carvings of axes, feet, hands and daggers are known. The fact that most of this art is in the north is only to be expected, since only in this area are the working surfaces for rock art widespread. There are some carvings in the south, however. A slab over a stone grave at Poole Farm in Somerset was decorated with feet and cup-marks, as well as a curious horned object. Carvings of axes and daggers are also known at Stonehenge and at Badbury in Dorset. Although we cannot understand the meaning of these various carvings, we can perhaps see them as continuing the tradition which began on the kerbstones at the Irish passage graves. Although metal tools were now available, there is little doubt that the stones were worked and 'carved' using techniques developed before the coming of bronze. These included 'pecking' the face with a hard stone point, and using square-edged flint tools to chip away pieces of stone.

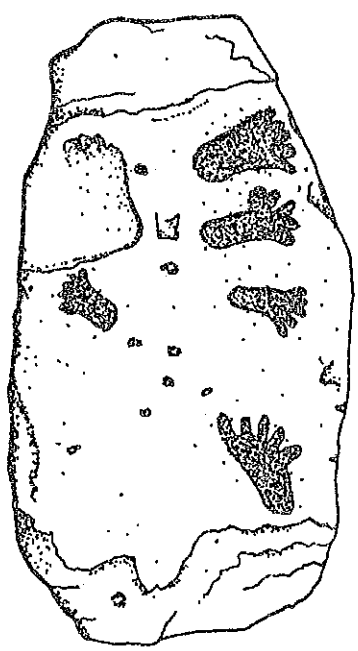


Fig.8.6 A decorated slab which formed the side of a burial cist beneath a round barrow at Poole Farm (Soms), dated c.2,000-1,500 B.C. The circular depressions, (known as cup-marks), are common on Bronze Age carvings, but the feet and curious 'horned' object are unique in Britain

Pottery

The fine drinking vessels we call 'beakers', which appeared in the centuries before 2,000 B.C., continued in use alongside other distinctive vessels and pottery styles which were developed shortly after. A variety of small storage jars and bowls are collectively called 'Food Vessels'. They were developed from local 'Neolithic' traditions such as Peterborough Ware, although in Ireland they were influenced by Beaker pottery too. Larger jars are known as urns, because they are normally preserved in their entirety only in cemeteries, where they were used as containers for cremated bones. Many of these vessels, however, would have been used for storage in the home and there is no reason to think they were all made exclusively for burial use.

One group of pots which do seem to have been specially fashioned as grave-goods, however, were miniature vessels known as pygmy and incense cups. The finest beakers, food vessels and pygmy cups may well have been manufactured by part-time specialists, for they each required several hours of patient work to complete. Some of these vessels are found in particularly rich burial groups too, which suggests that they were regarded as prestige items. Most of the pottery, however, was still made as part of the normal chores of a family, and many of the 'urns' and 'food vessels' are characterless and undistinguished. This may partly explain why archaeologists find it difficult to identify some of the pottery in use in the centuries after 1,500 B.C.

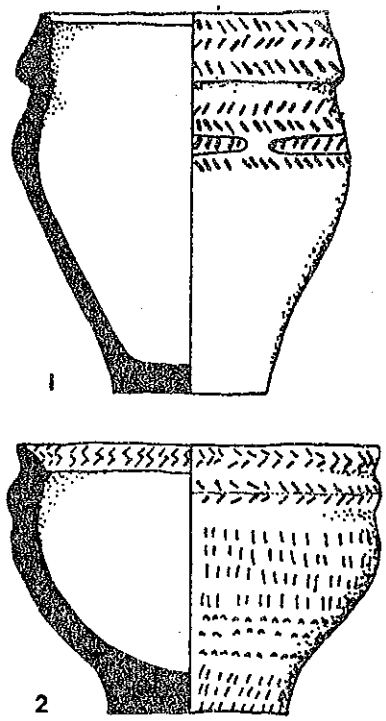


Fig.8.7 Bronze Age pottery like this Urn (1) and Food Vessel (2) was developed from earlier 'neolithic' pottery types. These particular forms were generally used in the period after 2,000 B.C.

Trade

The various crafts practised in the second millennium B.C. depended heavily on trade for their raw materials. Gold and copper were obtained mainly from Ireland and Cornwall, although copper could be found elsewhere in upland Britain. But for a little extracted from Irish gold, tin was probably available only from Cornwall. Most goldsmiths and bronze-workers, therefore, obtained their raw materials from sources hundreds of miles from the regions where they worked.

Similarly, jet comes from north Yorkshire and shale mainly from southern England, yet both were widely used. The rocks used for polished mace-heads and 'battle-axes' also came from sources in the upland zone, and these items must have been prized imports into lowland Britain. As for amber, small pieces could be picked up on the east coast, but large lumps like that used for a cup found at Hove must have been brought from Scandinavia. Apart from raw materials, some finished products were traded. Irish axes and Scottish lunulae appear in England and on the continent. A gold-bound amber disc like those found in Wessex even turned up in Crete. Items coming the other way included European bronze pins and French palstaves and swords. The sites of two shipwrecks of around 1,200 B.C. have been found at Dover (Kent) and Salcombe (Devon) carrying some of these French bronzes, but whether more exotic items found in Britain such as Aegean bronze double-axes and short-swords came in such boats is widely disputed.

Places to visit, things to do

British Museum — fine examples of craftsmanship of the period, especially the Bush Barrow gold work.

Devizes Museum — more fine works by British craftsmen, c.2,000-1,000 B.C., including some fine beakers.

Your local museum will probably have some bronzework of this period for you to see.

Bristol City Museum — the Poole Farm slab with carved feet.

Edinburgh National Museum — more carved stones from burial sites.

Dod Law and Roughting Linn (Northumberland) — mysterious carvings on exposed rock faces.

Kilmartin (Argyll) — decorated stone slabs in graves.

There are many more carvings to be seen, especially in Co. Kerry, Ireland.

1. You can imitate the work of the bronzesmith by making simple moulds of clay and then pouring plaster into them. Start with a simple, open or flat mould, then try to make a two-part mould (remembering to leave a hole in one end for pouring in the plaster).
2. Make a lunula like the Irish gold ones. Cut card to the required crescentic shape and cover it with gold 'metallic' paper. Then use a light hammer and a punch or fine-bladed chisel and lightly 'trace' decoration onto it.

9 PEASANTS AND CHIEFTAINS

Barrow cemeteries

Although burials in round barrows began in the mid third millennium B.C., they are characteristic of the period 2,000-1,200 B.C. These barrows are found in large groups forming cemeteries, sometimes strung out in long lines. The greatest concentration of such cemeteries is found in the area around Stonehenge. The barrow cemeteries were in some cases tribal or clan burial grounds. The earliest burial, presumably that of the group founder, was at the centre of the cemetery with the rest of the barrows grouped round it or in a line on either side.

The four thousand or more round barrows in the British Isles take a wide variety of forms. There is the *bowl* form which consists of a simple mound surrounded by a ditch; the *bell* barrow is a large mound set on a platform with a ditch and external bank around the platform, while the *disc* barrow is similar but with a much smaller mound. There are also *saucer* barrows and *pond* barrows. It has been suggested that bell barrows tend to cover male graves and disc barrows female graves. If the skeleton has not survived, the sex of the person buried may still be suggested by the associated grave goods. Pins, jewellery and miniature pots known as 'grape cups' are believed to belong to female graves, with tools, weapons and rich gold work coming from male graves. However, this is not always true and there can be considerable overlap in the contents of male and female graves, and burials of either sex may be inhumations or cremations.

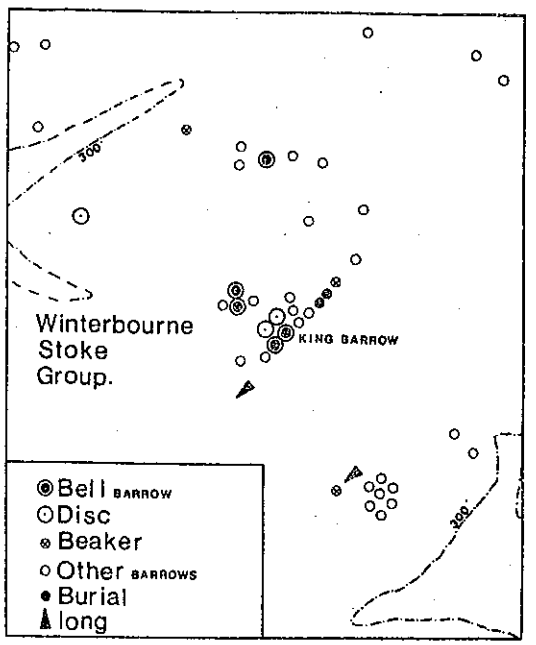


Fig.9.1 Winterbourne Stoke barrow cemetery, (near Stonehenge). Note the line of round barrows aligned on the earlier long barrow, at one end, and the 'Founder's barrow', (a Beaker burial), at the other end

The Wessex Culture

The barrow cemeteries in the Wessex area, besides being the most numerous, are also the richest in terms of grave goods. The graves containing a combination of bronze weapons, shale, jet and amber jewellery, and fine gold work have been used to identify a 'Wessex Culture'.

Perhaps the best known of these rich barrows is the Bush Barrow (Wilts). The man buried here was accompanied by three daggers. The smaller of the two surviving daggers was of copper and had a handle elaborately decorated with many pieces of gold wire, while the larger was 32 cms long. There was also a bronze axe-head in the grave. Two finely decorated lozenges and a scabbard hook of thin sheet gold were once mounted on leather to be worn as objects of great value and prestige. The symbol of this man's rank may well have been his macehead mounted on a wooden shaft with elaborately carved bone inlays.

It is not surprising that the Wessex Culture identified with a warlike, aristocratic group, possibly of immigrants from Brittany. They were thought to dominate the existing metal-using peoples and to have amassed great wealth by controlling the trade in metals from Ireland and Cornwall. However, the wealth of the 'Wessex' people and the high social standing it represents, can best be explained as a development of the social processes which started earlier. The man in Bush Barrow was probably a British chieftain whose wealth lay in the control of flocks and herds rather than trade.

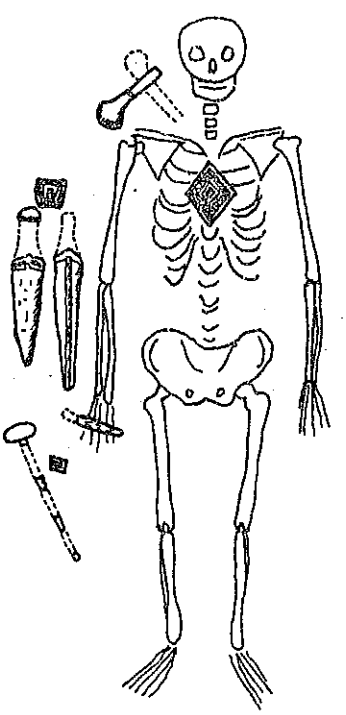


Fig.9.2 To the east of Winterbourne Stoke is the Normanton cemetery. One of the barrows here is the famous Bush Barrow. The grave goods included an axe, two daggers, a gold belt hook, two lozenge shaped gold pieces, (the larger one in place on the chest), and a polished stone mace with bone mounts from its shaft

Stonehenge

The ceremonial focus of Wessex was undoubtedly Stonehenge. Stonehenge is the end product of several phases of work. In phase 1 there was a ditch and bank enclosing a circular area nearly 100m in diameter, approached by a causeway to an entrance on the northeastern side. Initially, then, Stonehenge was similar to many other henges in Britain. There were, however, three stones on the line of the causeway, including the famous Heel Stone, the position of which relates to the Midsummer's sunrise.

In phase 2 a double circle of holes was dug to take about 80 uprights of bluestone, which came from the Prescelly mountains in Pembrokeshire. Beaker pottery has dated this phase to c.1,000 B.C. This double circle of stones, however, was never completed. It was now, in phase 3, that a circle of 30 massive stones, joined by lintels, was erected with five stone trilithons in an arc at the centre. This phase of construction has been dated to around 1,700-1,500 B.C. The stones used for phase 3 are sarsens from the Marlborough Downs. The biggest of them weighed 50 tons and must have taken both skill and many men to transport and erect. The same is true of the bluestones from Wales, which must have been brought at least part of the way by raft. The organisation of such a large labour force suggests the emergence of a strong central leadership, with power over a large area. Some of the constructional details of Stonehenge suggest that although we know of no other monument like it, its builders must have had some experience of erecting similar structures. Its lintels are joined by tongue-and-groove. The lintels stones are carefully carved to fit the curve of the circle, whilst their sides are tapered from top to bottom. It may be that some of these techniques had first been used in wooden structures.

Villages and Homes

Many farmers in the second millennium B.C. lived in isolated farms with just one or two circular huts of timber or stone, like those at Chalton (Hants) or Trevisker (Cornwall), but there were far more village communities than are known from earlier periods.

In Wessex some settlements, like Itford Hill, consist of a group of three or four family compounds, each containing a few circular timber huts. Some huts no doubt served as stores and workplaces, so that the total number of occupants of such a village might number no more than twenty. Other villages, like Thorny Down, had the huts clustered within a single enclosure, but were probably communities of similar size.

The clearest impression of such settlements comes from the south-west where stone built huts and enclosures stand to this day. Villages such as Grimspound and Riders Rings again represent communities of perhaps 20-30 people. Larger communities may have been found on uplands in northern England and in Ireland. At Danby Rings (N Yorks) fifty acres of hill-top were defended by a double wall, while in Sligo settlements of up to fifty huts are known

The huts in which the occupants of these various farms and villages lived were between 5 and 13m in diameter, sometimes with a porch to protect from wind and rain, and a hearth where a fire could keep the building warm. Daubed walls, thatched roof, and skin- and matting-covered floors insulated the occupants from the worst of the weather. Close by the huts in these upland villages in the south-west and north were rectangular and oval areas which might be confused with other hut foundations, but were actually small walled enclosures for animal pens, crop growing and other activities.

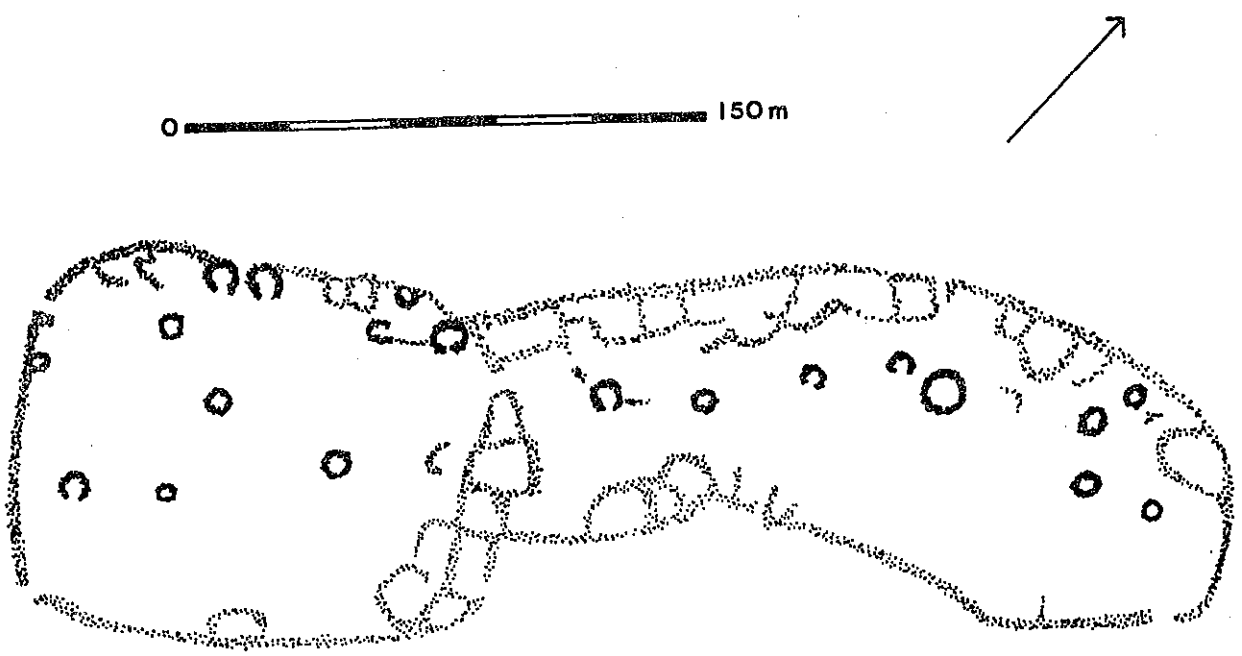


Fig.9.3 The village of Rider's Rings on Dartmoor which has been dated to around 1,400 B.C. The darker circles show the positions of buildings, and the lighter irregular lines show cultivation plots and enclosures

Fields and Farming

The population of farms and villages alike was fed by a mixture of animal husbandry and crop growing. Small squarish fields separated by low banks of earth and stone survive over much of Wiltshire and Dorset. We now know that some were used long before 1,000 B.C., but many were laid out later and the earlier ones were also re-used. For this reason it is difficult to re-create a 'Bronze Age' landscape in this area.

On Dartmoor, where a peat blanket developed around 1,000 B.C. and covered existing fields and settlements, we can more easily date the Bronze Age remains. Here we can see that much of the moor was divided into territories or estates by long stone walls known as reaves. Within these boundaries there was rough summer pasture and cattle enclosures near the valley bottoms, alongside the settlements. This method of land division ensured that each community had its share of good, moderate and poor farming land.

Cattle were probably the most important animal kept on farms at this time; the evidence of animal bones, cattle pens and implements for working skins all point to this conclusion. The arable fields produced both barley and wheat and were ploughed in both directions (cross-ploughed) by an ox-pulled wooden 'ard' (simple plough). At Gwithian in Cornwall, freak conditions showed that the edges of the fields were dug with spades.

Most of these Bronze Age fields were only about an acre in size, and in the south-west peninsular in particular, they were often much smaller. The potential waste of land around the headlands (where the oxen turned) was therefore large — hence the need to dig it by spade.

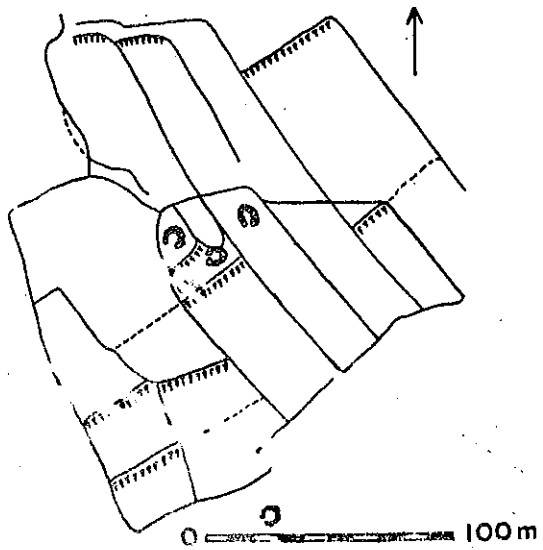


Fig.9.4 The arable fields around the small hamlet of Horridge Common on Dartmoor, c.1,400 B.C. From just north-east of the settlement area came a contemporary palstave, found in one of the ancient fields

Warfare

Towards 1,000 B.C. the warm, dry climate began to give way to cooler and wetter conditions. In upland areas the spread of peat led to the abandonment of marginal land like that on Dartmoor; in the lowlands, crop yields may have dropped. These changing conditions, coming after a period of population growth and the rise of chieftains, may explain the increasing evidence for warfare in the years approaching 1,000 B.C.

Defended hilltop settlements multiply in this period. Mam Tor in Derbyshire was occupied by a settlement of circular huts which yielded pottery and metalwork of this period and carbon dates of around 1,200 B.C. The contemporary settlement at Rams Hill (Berks) was defended by a ditch and palisade, whilst at Norton Fitzwarren (Soms) a ditch and banks were constructed perhaps a century or two earlier around a hilltop settlement. Most remarkable of all, dating to perhaps around 1,000 B.C., is the 'fort' at Thwing (Yorks) which is only a 100m in diameter, but has a double ditch, a rampart and two defended gateways. At its centre stood one large circular timber building.

The increasing appearance of rapiers and spearheads, and by 1,000 B.C. of true swords, is another sign of the growth of hostilities in this period. A vivid picture of the times is provided by the skeletons of two young men discovered at Tormarton (Glos). The marks of the wounds which had felled them are still clearly visible, and one man still has the tip of a spearhead stuck in his backbone.

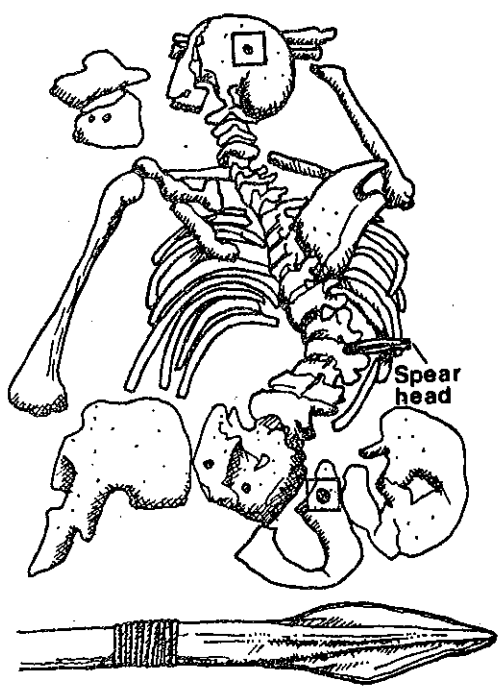


Fig.9.5 The skeleton from Tormarton (Glos), of a young man killed by spears. The spears would have been like the one shown at the bottom of the picture

A Dark Age?

For many years the 'Late Bronze Age' was easily identified by a distinctive bronzework, by the widespread appearance of urnfields containing cremations and by settlements such as Itford Hill and Thorny Down, using similar pottery to the cremation urns. We now know that the urnfields of 'Deverel-Rimbury' urns began in the middle of the second millennium B.C., and that many associated settlements must therefore belong well before 1,000 B.C. What then is left to fill 'the dark age' between 1,000 B.C. and the first settlements to use iron around 750 B.C?

Part of the answer remains the bronzework, the date of which is securely fixed by continental parallels. Fortunately we can identify some contemporary pottery because it has been found associated with the bronzes. It falls into two main groups. One is of fairly coarse but thin-walled pots, mainly bowls and jars, with little surface decoration. The other comprises varieties of finer wares, sometimes burnished and sometimes with combed or incised patterns, and found mainly as cups and smaller bowls and jars.

The bronzework in use alongside this pottery includes three distinctive items — the leaf-shaped sword, the socketed axe and the pegged spearhead. Analysis shows that many of these items were now made of bronze with a small but deliberate lead content. Many of the bronze tools and weapons of the period are found in hoards — some of which were offerings to gods made in rivers or bogs, but others were the tools and stock-in-trade of metalsmiths.

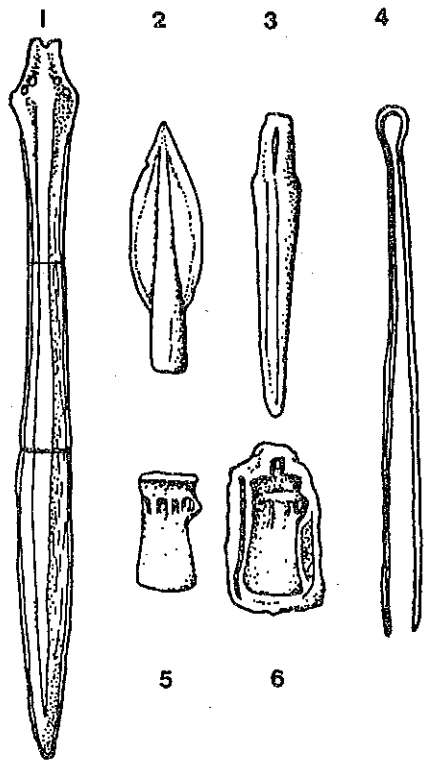


Fig.9.6 Part of the hoard from Heathery Burn (Co. Durham). 1. a bronze sword, 2. a spearhead, 3. a dagger, 4. bronzeworkers tongs, 5. a looped axehead and 6. a mould for casting such an axe

Settlements of the 'Dark Age'

We can now identify some of the settlements in which people lived c.1,000-750 B.C. Some are very similar to those of the preceding period and may have been first occupied then. One such is Plumpton Plain (Sussex), where three or four enclosures each house two or three circular huts. At Heathrow (Middlesex), apart from a dozen huts, the ditch-enclosed settlement includes a rectangular temple with inner shrine and timber porch.

The settlement of this period recently found at Runnymeade (Surrey) is particularly informative. The huts were timber-framed with wattle and daub walls. Their occupants were materially well-off, owning a variety of bronze pins, knives and toilet implements such as razors and tweezers. Finds of spindle whorls and loomweights suggest that their wealth may have been partly based on sheep-farming, but they also built a timber wharf alongside the Thames and may have traded from here, for other finds include shale bangles and amber beads which must have been brought from elsewhere.

The settlement also boasted its own bronzesmith, for fragments of a clay mould for razors, a stone one for socketed axes and a smith's bronze hammer have been found. Other resident smiths may have lived in contemporary settlements in Minnis Bay (Kent) and far-off Jarlshof (Shetland). It is possible that bronzework of this period found inside hillforts at the Breiddin (Powys) and South Cadbury (Soms) indicate not only occupation but also smiths at work on hilltop sites before 750 B.C.

Places to visit, things to do

Lambourn (Berks) — A fine example of a barrow cemeter with over 40 round barrows of various types.

Oakley Down (Wilts) — another cemetery with about two dozen round barrows.

Winterbourne Stoke and Normanton (Wilts) — these t cemeteries are near to Stonehenge. The Normanton group includes the famous Bush Barrow, whilst the Winterbourne cemetery is aligned along a neolithic long barrow at one end.

Stonehenge — the visible remains are dominated by the phase 3 stone circle and trilithons.

Dartmoor — remains of villages and isolated huts of the period are scattered widely over Dartmoor. A particularly impressive site is Grimspound village.

Wherever you live in Britain you will probably have some barrows, cairns or stone circles of the period 2,000-1,000 B.C. quite near you. Try to visit them if you can, and see there may be any special reason why they are built where they are (such as on prominent landmarks).

1. Try to find out, or work out for yourself, how the great stones at Stonehenge were moved, placed uprig and capped with lintel stones.
2. Visit your nearest museum and see if you can spot any bronze swords or socketed axes in the show cases. Many socketed axes have loops on them; what do yo think the loops were for?

10 THE COMING OF IRON

The Spread of Ironworking

In the Near East, the first rare iron objects appeared before 3,000 B.C., but they were made of meteoric iron which needed no smelting. By 2,000 B.C., however, the first iron objects made of smelted metal were in use in Turkey. Many documents of about 1,500 B.C. belonging to the Hittite empire, centred in Turkey, refer to iron. Apart from these documents, archaeological finds also reveal that, as well as rings and knives, weapons such as arrow-heads, daggers and swords were already occasionally made of iron. Following the widespread collapse of Near-Eastern civilisations around 1,200 B.C., the secrets of ironworking spread rapidly, first to Cyprus and Greece, and then to the rest of Europe.

Iron was not used in any quantity in Britain until the fifth century B.C. but it was occasionally used as early as the seventh century. An iron sickle imitating a well known bronze type was found at Llyn Fawr (Glam) in a hoard of bronzework dating to the middle of the seventh century. Other seventh century ironwork has been found at Sompting (Sussex), Colchester (Essex) and Staple Howe (Yorks). There can be little doubt that the British learnt the technology of ironworking from the continental smiths belonging to the 'Halstatt culture'. The appearance of a 'Halstatt' bronze sword and razor types, and at Runnymeade of horse pieces and horse bones, in the 9th-8th centuries, documents contact with the 'Halstatt' peoples in the century before the first appearance of iron in Britain.

The Impact of Iron

In two important respects, iron was a better material than bronze. Firstly, carbonized iron is a much harder and more durable metal than bronze, and is able to retain a sharp edge for much longer. Secondly, whilst copper and tin ores are found in only a very few places, iron ores are widely distributed in Britain. This meant that iron production was less dependent on the maintenance of long-distance trade and was cheaper, since ironworkers did not have to barter for their raw materials.

The impact of iron on many aspects of everyday life was therefore considerable. Many craftsmen benefited from the availability of iron tools, and carpenters in particular could use their new tool-kit to produce a wide range of new products. Stoneworkers for the first time had hard-edged tools with fine cutting edges, capable of precision working on all but the hardest stones.

The same qualities of hardness and durability gave the farmer more effective tools for clearing woodland, and iron plough-shares to improve the quality and working life of his ploughs. Since the production of sufficient iron to meet the demands for the new metal would also have required the provision of large amounts of wood to fire the furnaces, the needs of the metalworker and the farmer may have been complimentary. In any event, the increasingly widespread adoption of iron coincides with evidence from northern England, Wales and Exmoor, for further forest clearances in the period around 600-200 B.C.

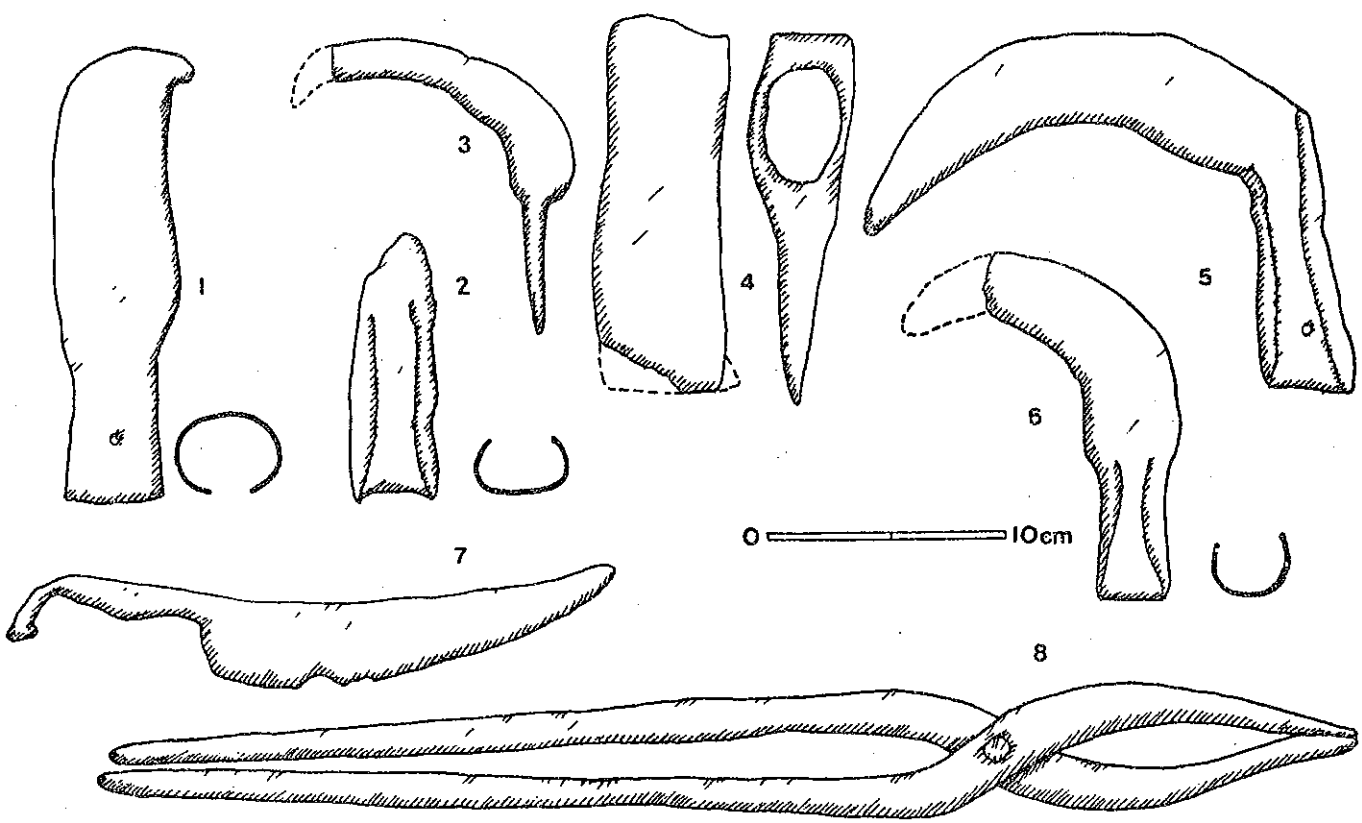


Fig.10.1 Iron tools:— 1. billhook from Caburn, Sussex. 2. ploughshare from Caburn, Sussex. 3,5,6. reaping hooks from Barberry Castle, Wilts. 4. axe-hammer from Bulbury, Dorset. 7. knife from Bulbury, Dorset. 8. tongs from Garton Slack, Yorks.

Making Iron

The delay between the first appearance of iron and its widespread use was probably because the techniques required to produce metallic iron from iron ore are complex.

The temperature needed when producing copper is around 1100° C but slightly higher temperatures are needed to obtain metallic iron, and iron does not actually melt until a temperature of 1635° C is reached. When iron is smelted at 1200-1300° C the metal takes the form of a spongy mass known as a bloom. This is a mixture of iron, slag or waste, and unburned carbon. The slag is removed from the bloom by heating it to between 800-1000° C and hammering it. The result is a mixture of iron and carbon, which is much harder than pure iron.

Once an iron/carbon mixture was produced, it could be shaped into the tools and weapons needed by repeated and skilled hammering on an anvil. It was soon realised, however, that by heating the object in a fire for prolonged periods (carburization) and by plunging the heated piece into cold water (quenching) the metal could be made much harder.

The smelting and working of iron was doubtless done on a wide scale in Iron Age Britain although remains of workshops are still rare. Simple bowl-shaped furnaces have been found on settlement sites such as Kestor (Devon), Wakerley (Northants) and West Brandon (Durham), and a workshop was also identified in the homestead at Draughton (Northants).

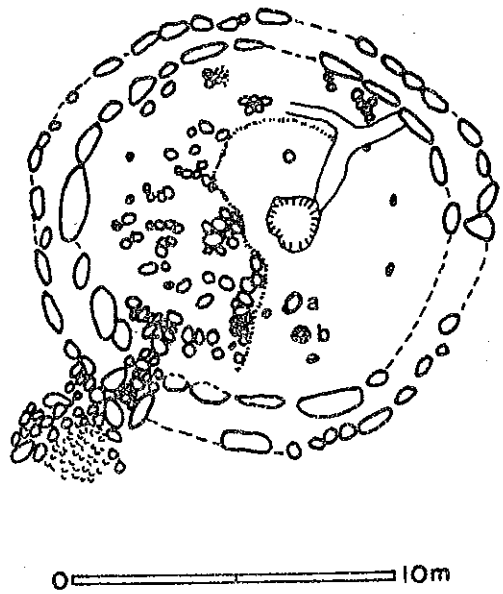


Fig.10.2 The iron-smith's workshop at Kestor, Devon, showing various internal features, notably the furnace (a) and forge (b) used in the production of iron, and an adjacent pit

Bronzesmiths

Bronzeworking had been widespread in the 2nd and early 1st millenium B.C. With the coming of iron after 500 B.C. bronze was mainly used for jewellery and horse gear, and seems, like iron, to have fallen into the hands of specialist craftsmen. The most dramatic evidence for this centralised bronze production comes from Gussage All Saints (Dorset) where slag, crucibles, tuyères, a small copper ingot, bone modelling tools and 8,000 fragments of clay moulds for casting bronze chariot pieces were found in a pit dated to the first century B.C., giving us clear evidence for an important workshop. The moulds are of particular importance, for since they had been part of the lost-wax method of casting, each mould could have been used only once, thus allowing us to judge the total number of objects manufactured — in fact chariot equipment for about fifty chariots!

Another bronze workshop was found near the centre of the hillfort of South Cadbury (Soms). This site was in use from the first century B.C. through to the early part of the first century A.D. The finds included scrap bronze ready to be melted down for re-use, (including half of a superb bronze shield boss). There were also working hearths, several whetstones, (for sharpening metal tools), and six metal tools used by the smiths.

Direct evidence for metalworking is uncommon in Iron Age Britain; however, in addition to the two sites mentioned above evidence of workshops has come from Glastonbury and Meare (Soms), Bredon Hill (Glos), Hod Hill (Dorset) and Llanmelin (Gwent).

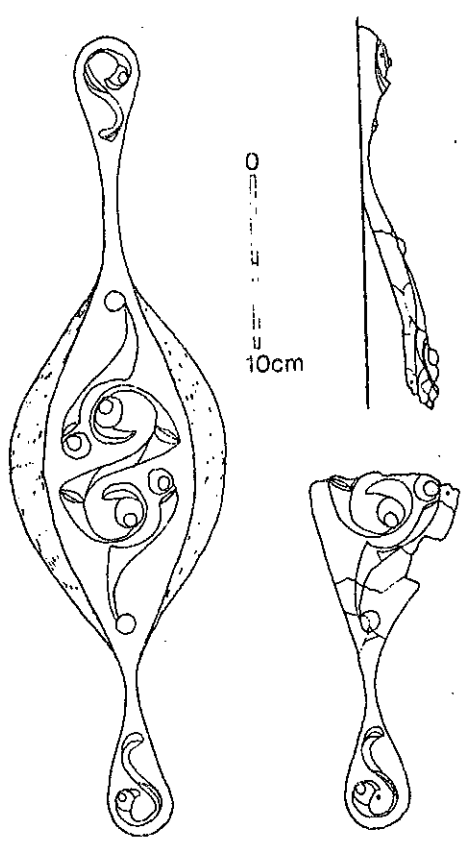


Fig.10.3 A reconstruction of a bronze shield boss, (left), based on the find, (right), from South Cadbury. This boss would have been at the centre of a wooden or leather shield

Other Crafts

One of the most widely practised crafts in Iron Age society was the manufacture of woollen fabrics and clothing, but of no less importance to the community must have been leather-working. However, this process leaves relatively little certain evidence for the archaeologist, and some leather-working equipment such as iron knives and wooden or bone points, could have been used for many other activities. There are, however, sharpened rib-knives for scraping skins, which are frequently found on occupation sites, and oak galls, which, as Pliny mentions, were used for tanning, and have been found in a 2nd century B.C. pit at Chalton (Hants). Other home crafts, such as basketry, leave even less trace.

In contrast there is good evidence for skilled carpentry. Carpenters' tools, such as saws, axes and chisels are fairly common, and the remains of wooden buildings show that these were complex structures. In particular the well-preserved wood from Glastonbury gives us a good idea of the wide range of domestic objects manufactured from wood.

In Dorset the black or dark brown oily shale, (known as Kimmeridge Shale), was quarried from the sea cliffs and used to manufacture bracelets, armlets, anklets and occasionally pendants. In northern Britain Yorkshire jet was still used for jewellery as it had been in the Bronze Age and would be in the Roman period.

Salt-making

Salt was an important commodity in prehistory, especially important for preserving meat. In Britain salt production seems to have taken place in two different stages. The first involved the collection of sea water in large clay tanks built on the beach at high-tide level. The water would be left to allow the sun to evaporate it away. When most of the water had been evaporated, brine (salt with a little water) would be left in the collecting tanks. The second stage in salt production involved the evaporation by boiling off the last of the water. The salt-rich brine was boiled in large clay pans supported over fires. It has been suggested that the damp salt was then packed into clay moulds and heated to 60-70°C to complete the drying operation; the end result was 'cakes' of salt. These processes produced large quantities of burnt material and in Essex numerous 'red hills' made up of the salt-making debris are known.

Salt-making was probably a summer activity since this would have been the best time to dry out the salt water by the heat of the sun. Summer was also the slack period in the farming year, and the period when the salt marshes of coastal Britain would have been at their best for cattle grazing. Farmers could thus have made salt-making a useful seasonal addition to their activities, although some Belgic saltworks may have been almost full-time industries.

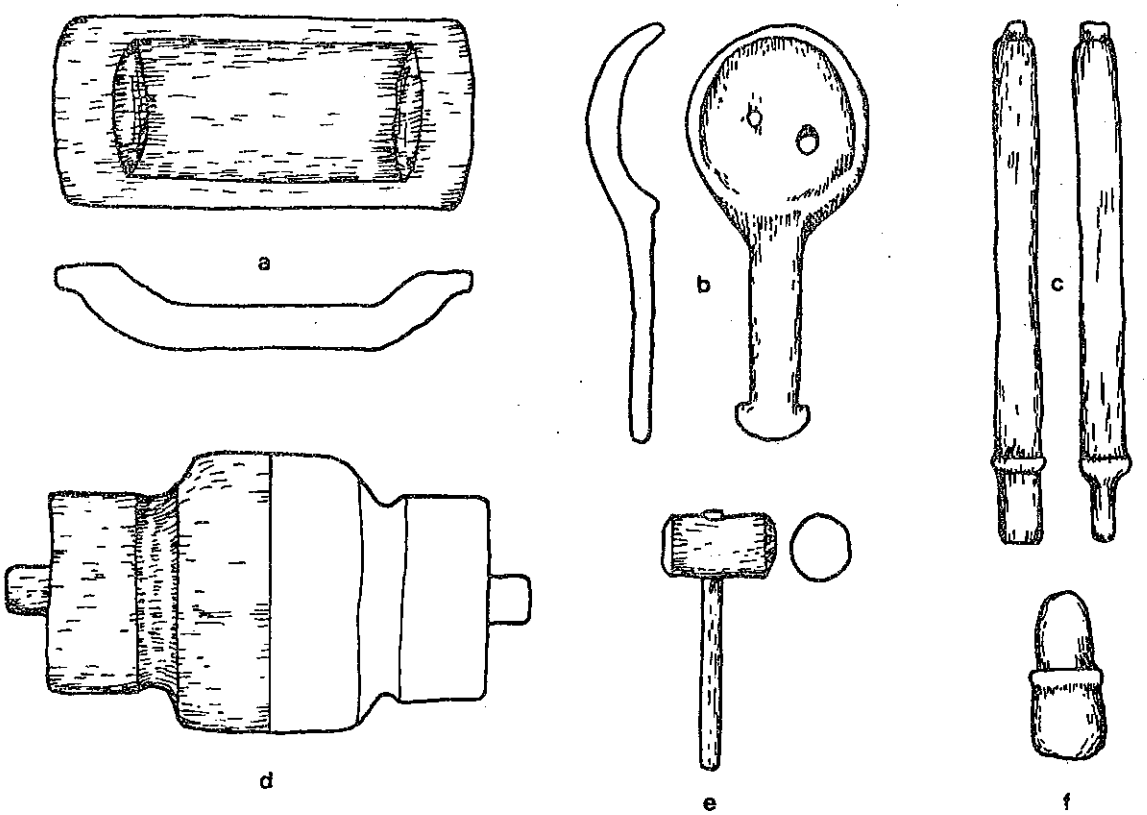


Fig.10.4 Wooden artefacts preserved in damp conditions at Glastonbury, Somerset:— a. dish; b. spoon or ladle; c. wheel spoke; d. wheel hub; e. mallet; f. bung or stopper

Trade

We can see clearly that there were many trading links throughout Britain to satisfy the demand for goods such as salt, pottery and jet and shale jewellery. In addition to this internal trade Britain, between the 8th and 4th centuries B.C. maintained vigorous trading contacts with the continent. This long-distance trade involved two main routes. The first was the route across the Channel and North Sea linking Britain with northern Europe. Also important, however, was the old Atlantic route, around the coast of the Iberian peninsula to the Mediterranean. Both these trading routes are well represented in the archaeological record of the early part of this period by imported swords, horse trappings, razors, and pieces of jewellery, including Italian brooches.

In the 5th and 4th centuries B.C. imported daggers were more common than swords, and bracelets and brooches were generally obtained from the nearer areas of western Europe. However, the Atlantic trade route to the Mediterranean became perhaps even more important than it had been before as traders journeyed to Britain for Cornish tin. The Roman writer, Diodorus, tells us of the production of tin — " the people who live in Belerium, (i.e. Cornwall) . . . prepare tin, skilfully working the ground which produces it . . . they hammer the metal into ingots shaped like knucklebones". A tin ingot of just this shape was found in the River Fal and Greek coins and occasional finds of Iberian bronzework in south west Britain illustrate the other half of this lucrative trade.

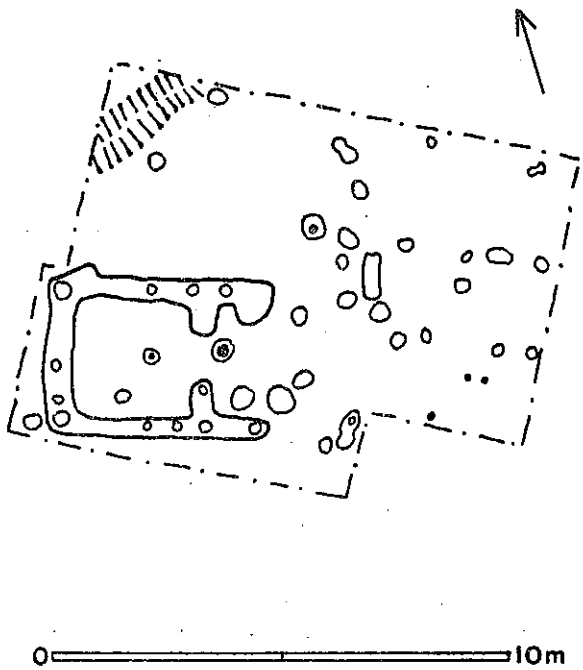


Fig.10.5 This rectangular building at South Cadbury, Somerset, has been interpreted as a religious shrine. The various pits in front of the shrine contained animal burials probably sacrificial victims

Celtic Religion

The scarcity of Iron Age burials is surprising. Although small numbers of inhumations are known, most bodies must have been 'exposed' — a practice followed by some American Indians in recent times. The occurrence of various human bones in settlement pits supports this suggestion. It is possible that people were cremated too, as they were in the preceding period, but that the ashes were now thrown into sacred rivers or lakes rather than buried in urns. Certainly cremation became common again amongst the Belgic people of south-east England in the first century B.C.

Celtic shrines are known in the hillforts at Maiden Castle and Pilsden Pen (Dorset), the latter a circular hut set inside a very large rectangular enclosure of a unique kind. Further west at South Cadbury (Soms) a rectangular shrine with a porch stood near the centre of the hillfort; in front of it was a line of animal burials — cattle, sheep and pig, possibly sacrifice victims. Elsewhere sacred groves of trees were used for ceremonies; place names suggest that groves existed at Buxton (Derbys) and Willoughby (Notts), whilst the Roman writer, Suetonius, refers to further groves in Anglesey.

These groves were particularly associated with the Druids, who were notorious for human sacrifices which accompanied some of their rituals. The names of their gods are preserved on Roman inscriptions — Camulos, Cocidius, Toutatis, and many more, most of them warrior gods, though some, such as the goddesses Deva and Coventina, were associated with sacred waters and perhaps possessed healing powers.

Places to visit, things to do

See the preserved wooden artefacts found in the water-logged deposits of Glastonbury and Meare in the museum at Glastonbury and Taunton Castle.

1. Copies of many artefacts can be made in modelling clay. Try making copies of Iron Age tools. Some of the easiest to make are the tools used in producing cloth, such as weaving combs, spindle whorls and loom weights.
2. If you live near the sea try to make salt from seawater as prehistoric people did. Put some sea water in a pan and leave it outside in the sunshine to evaporate most of the water away. Then heat what is left to boil off the remaining water. Eventually you will be left with thin layer of salt around the pan.
3. Several books, which may be found in local libraries, have been written on the meanings of place-names. Find out if there are any modern or Roman place-names in your area that preserve Celtic elements.
4. In many coastal areas of south and east Britain there are dunes and hills with red soils. These red soils are the result of salt production. Why has this process turned the soils red in these areas?

Farming in the Lowlands

In lowland areas, farming relied heavily on cereal production, but also involved the keeping of livestock. New forms of cereals, hulled barley and spelt wheat, were introduced. Both were probably sown in autumn/winter rather than, as usual, in spring. They thus allowed the work of ploughing and harvesting to be spread over a longer period, and provided a fresh supply of grain when stores were normally running low.

The crops were grown in small, squarish fields like those of the Bronze Age, which were still cross-ploughed. But the ploughs now had iron shares, and crops were harvested with iron reaping hooks. The crops were then dried on upright racks supported on two or three posts, and may have been dried further in ovens before threshing and storage. Processed grain was stored in either cylindrical pits with wooden covers, or in granaries with raised floors. Four-post structures at Gussage and elsewhere have been identified as granaries, but not all four-post huts were used for grain storage.

Cattle seem to have been the most important animal on the farm, but sheep were important too; both animals were kept not only for meat, but also for manure and milk. The common discovery of bone 'wool-combs', loom-weights, and spindle-whorls suggest that wool, in particular, was a significant product. Pigs added further food to the diet, but there is little evidence that wild animals were hunted as a major source of food.

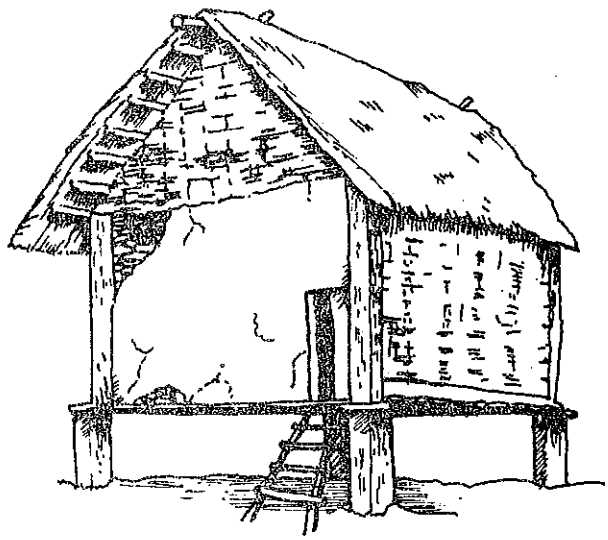


Fig.11.1 A reconstruction of a four-post building from the lake village at Glastonbury, Somerset. Many Iron Age four-posters are thought to be granaries, but the size of these structures at Glastonbury, and the finds associated with them, suggest they may have been dwellings

Farming in the Uplands

In contrast to the south and east, much of northern and western Britain is dominated by areas of upland. Here the rainfall is greater, the temperatures are lower, the wind-speed is higher and the soils are generally thinner and less fertile. All this makes these areas less suitable for crop growing than the lowlands. Archaeological evidence of pastoral farming, however, is hard to find since animal bones do not generally survive in the acidic soils of these regions. Where they are found they show that sheep were more important than cattle in the highest areas. This was the case at Dinorben (Clwyd), while at Staple Howe (Yorks) and Grimthorpe (Yorks) cattle were the dominant animal. Finds of spindle whorls at various sites, such as Kestor (Devon), Dinorben (Clwyd), and St David's Head (Dyfed), the absence of field systems and the presence of animal pounds around many upland sites has been taken as further evidence of the dominance of pastoralism.

This doesn't mean, however, that crop growing did not take place in the north and west. Finds of querns for grinding corn (Dinorben, Castell Odo etc), granaries for storing it (at Staple Howe and perhaps Grimthorpe, Yorks) and arable field systems around sites in Yorkshire, Wales and south west England all show that cereals contributed something to the diet of later prehistoric Britons. It is likely that although pastoralism was more important in the uplands, cereals formed part of a mixed farming economy in most areas, its importance depending on the environment of the area, particularly the altitude and climate.

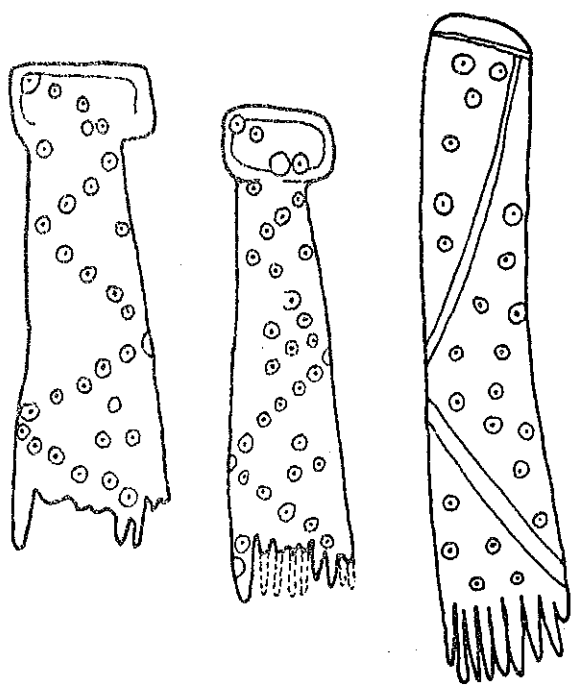


Fig.11.2 Bone weaving combs, like those above, are widely found on farming sites, suggesting that the production of woollen cloth was an important activity there

Enclosed Villages

The settlements within the Iron Age landscape were more varied than we once imagined. Apart from hillforts, and later the Belgic oppida, which may have housed hundreds or even thousands of people, there were large numbers of isolated farmsteads, often standing in enclosures formed by palisades or banks and ditches. Little Woodbury (Wilts) and Gussage All Saints (Dorset) are classic examples of these. But in between these extremes, there were also many small villages, found throughout England and Wales.

Since they were often occupied for centuries and huts were demolished and replaced, it is difficult to be sure how many buildings were occupied at any one time. At Colsterworth (Lincs), there may have been six or seven huts in use at one time, whilst at Hardwick (Oxon) it can have been no more than three or four. A settlement surrounded by a bank and ditch at Walesland Rath (Dyfed) consisted in the 3rd-2nd centuries B.C. of only three circular huts, but it also had extensive rectangular timber ranges built inside the bank. In the south-west, villages like Bodrifty (Cornwall), enclosed by a wall, may have had nine or ten circular stone huts in use at one time, but the far more numerous 'rounds' — roughly oval areas within a bank — contained smaller numbers of irregularly shaped huts built against the bank. Since not all the huts in any settlement were used for living in, but some served as stores and working sheds, many of these 'villages' may have housed only three or four families.

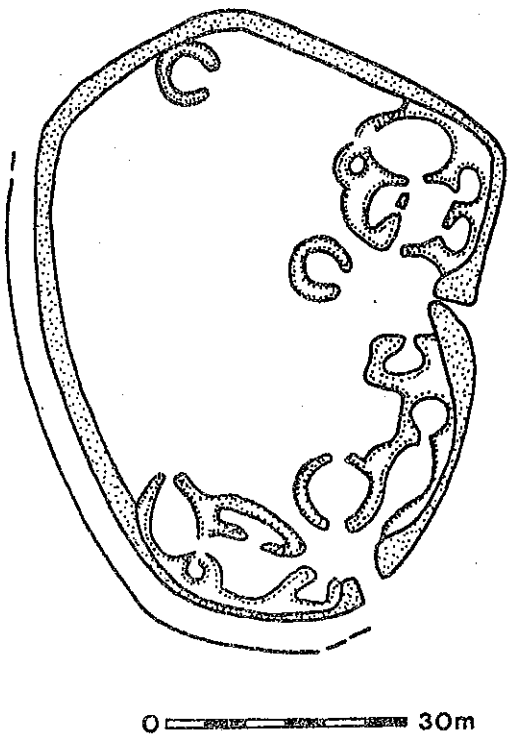


Fig.11.3 This defended settlement, (Porthmeor, Cornwall), with its houses sticking close to the enclosing wall, is typical of the rounds found in Cornwall

Fortified Strongholds

Defended settlements are known from the Bronze Age, and the first hillforts probably developed from these around 1,200 B.C., but they only became common in the Iron Age. Hillforts are most numerous in southern Britain.

The earliest form of hillfort defence appears to have been a simple palisade around the site, as at Hembury (Devon) and Moel y Gaer (Flints). They have been dated to around the eighth century B.C. as have 'box ramparts' which consisted of soil from a ditch being held between 2 rows of timber posts set about 2.5 metres apart. The front row was probably connected to the back by horizontal timbers, so forming a 'box'. This early type is known at Dinorben (Clwyd). Later a sloping bank of earth was added to the inside of the defences, providing more support for the structure. All these defences involved wood, which rotted easily, leading to the collapse of the rampart and a need for constant repairs. This problem was overcome by adopting the 'glacis' type of defence. Here a deep ditch was dug and the soil used to build a rampart on its inside edge forming a continuous slope from the ditch bottom to the crest of the bank. The ditch had to be occasionally re-cut after it silted up. The soil from these re-cuts was thrown on the outside of the ditch to form another bank and another ditch may have been dug outside this creating a multivallate defence system, the best example of which is at Maiden Castle in Dorset. With the increased number of ramparts and ditches came also increasing complexity in the earthworks which defended the gateways of the forts. Early forts often had guard-houses by the gates, and a long entrance passage, but later overlapping ramparts were used to obscure the path to the gates.

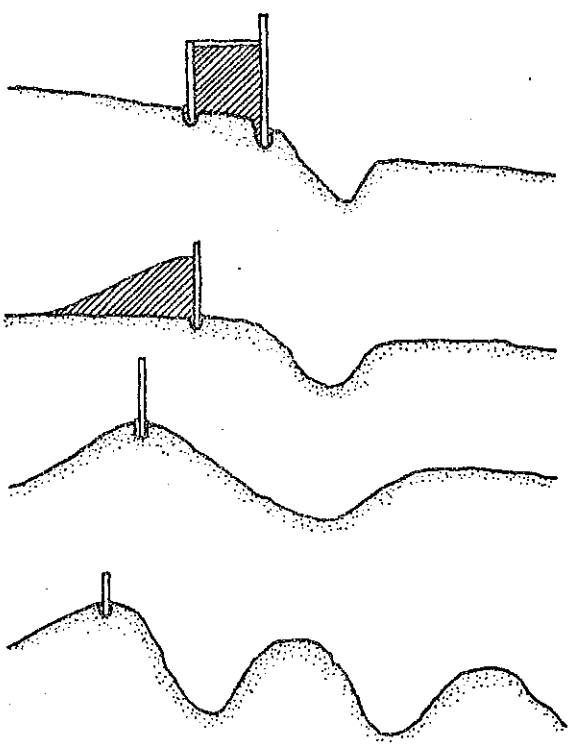


Fig.11.4 Hillfort defences changed in form from the simple rampart and ditch (top), suitable for sword and spear warfare, through various types to the multivallate defence systems (below), needed to protect against attack by long range weapons such as slings

The Role of Hillforts

Hillforts may have first been built as temporary refuges from which people returned to their farms when the threat was over. On some occasions, however, not all the people might leave. Whilst people living far from the fort returned home, those with land nearby may have decided to farm it from the safety of the fort. Alternatively only the craftsmen may have stayed or perhaps the local chieftain decided to occupy the fort. In other words, hillforts may have fulfilled a variety of roles — as defended settlements, craft production centres, seats of goverment or defended storage and refuge areas.

It is interesting to study the hillforts on the South Downs, an area divided into several distinct blocks by the rivers dissecting the chalk. Several hillforts with regularly laid out buildings and storage space are found in each block, dating to the fifth century B.C. On one block are Danebury, Bury Hill, Figsbury and Quanby Hill. We can draw possible territories for each fort, each with about the same amount of land useful for sheep and cattle and arable farming. By the second century B.C. these forts were all abandoned apart from Danebury. It apparently controlled that area, acting as a centre for the surrounding population. People brought goods here to exchange for the pottery, jewellery etc. which were made on the site, or salt and other imports from further away. It was also apparently a religious centre. Its many functions were probably organised by a social elite who spent most of the time in lowland settlements.

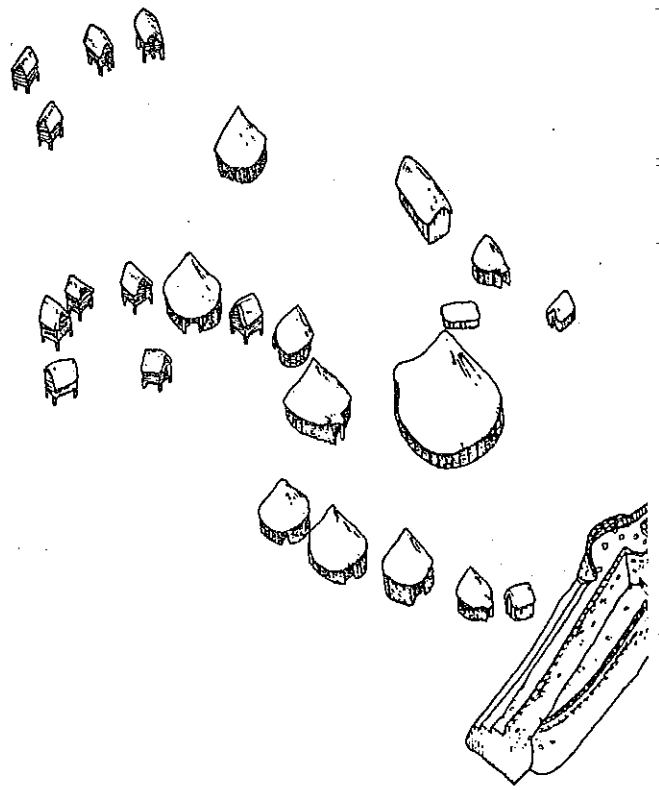


Fig.11.5 One of the many roles of hillforts was for occupation. A reconstruction of Crickley Hill shows both large and small dwellings, and four-post granaries

The Warriors

The increasing numbers of defended settlements, especially hillforts, reveal growing unrest and hostilities in the first millennium B.C. This may have been due to climatic deterioration and the loss of marginal land; in any event it seems to have led to the emergence of a warrior elite.

The burials of some of these men have been found. At Grimthorpe (Yorks) the warrior was buried with his iron spear, sword and scabbard, and his wooden shield with bronze fittings. At Owlesbury (Hants) he was accompanied by his sword and spear and a shield with an impressive bronze boss. As well as eight or nine such burials, the much commoner finds of isolated weapons and shields suggest that such warriors were to be found throughout the country. The skilled craftsmanship which went into the making of highly decorated sword and dagger scabbards suggests that they were meant to enhance the prestige of their wearers. Similarly, bronze shields from the River Witham (Lincs) and the River Thames were ineffective against contemporary swords, and so we believe they were ceremonial items. The many finds of bronze horse-trappings suggest that the horse now played an important part in warfare. In east Yorkshire several 'chariot burials' are known. At Arras one was accompanied by two horses, whilst at Garton Slack the charioteer lay between the wheels. Such chariots carried the warrior to the battlefield, where to the sound of war trumpets, like that from Tattershall Bridge (Lincs), the Celtic warriors joined in battle.

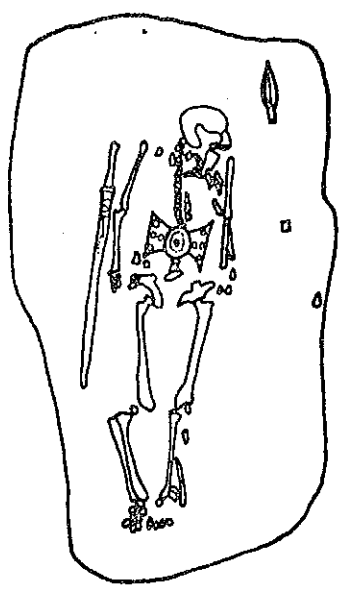


Fig.11.6 This burial of an Iron Age warrior at Owslebu (Hants), contained a long sword (left), a spearhead (tc right), and the boss of a shield (centre)

Defence in the North

In northern England and southern Scotland, palisaded settlements, ranging from single-house farmsteads such as West Brandon (Durham) to villages of about a dozen huts, like Hayhope (Roxburgh), are widespread. The common occurrence of double palisades, as well as ditches, suggest that they were meant for defence as well as enclosure. So too were the 'crannógs' of south-west Scotland, artificial platforms of earth and brushwood covered with timber, built on the edge of lakes where they could only be approached by a narrow causeway or by boat. The excavated crannog at Milton Loch (Kirkcudbright) had but a single large timber hut.

An alternative form of defended settlement in these areas was the 'dun', defended by a strong stone wall up to 3m high, with ranges of timber buildings against its inside face. It may have been from duns that the impressive 'brochs' were developed. The broch was a circular tower between 9 and 16m high. It was constructed by building two thick concentric walls about a metre apart and joining them at vertical intervals by slabs of stone. These slabs formed floored galleries within the wall, reached by staircases. Ledges on the inside of the tower wall also suggest that timber galleries were built above the central living area. The only entrance was through a small door at the base, and once this was shut and barred, then the brochs must have been almost impregnable. The best preserved broch in Britain is at Mousa, Shetland.

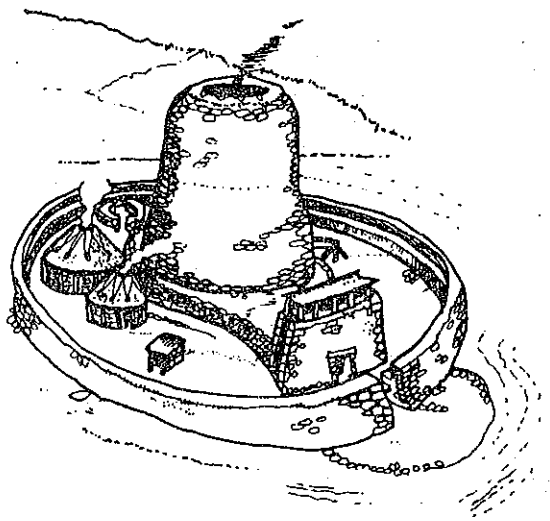


Fig.11.7 An artist's impression of what the broch at Clickhimin might have looked like — an almost impregnable tower standing inside a defended enclosure

Ireland in the Iron Age

The Romans never invaded Ireland and so the 'Iron Age' here continued until the start of the Early Christian Period around A.D. 400. The tales and laws of Iron Age Ireland were written down at this time by monks and scribes. From these documents we learn that there were many tribes in Ireland, each of which lived in an area called a tuath. Each area was governed by a king or rí. Below him in order of rank were the warrior aristocracy, who seem to have spent much of their time hunting, feasting and fighting. Then there were the various craftsmen, priests and poets, followed by the free farmers and then by the serfs or slaves. The society was apparently dependent on cattle; objects were valued in terms of how many cattle they were worth. This picture of a society dominated by a pastoral warrior elite may well have been similar to that in Britain in the last few centuries B.C. We should remember, however, that the stories could have been partly changed in later times and so might give a somewhat distorted picture of the truth.

Settlements in Iron Age Ireland, like those in mainland Britain, included hillforts and small defended enclosures (called raths). Hillforts are known to have appeared in the late Bronze Age as in mainland Britain. Thus Rathgall (Co Wicklow), Downpatrick (Co Down) and Emain Macha (Co Armagh), were all occupied first in this early period, although occupation on each continued into the Iron Age. Strangely, embanked enclosures like henge monuments also seem to have persisted in use in Ireland into the Iron Age. At Navan and Dun Ailinne the enclosures contained circular timber structures recalling, on a much reduced scale, the timber circles or huts within some of the large henges of southern England.

Places to visit, things to do

There are many hillforts throughout the British Isles. So wherever you live there will almost certainly be a numbe in your area. Here are a few from various parts of Britain that are worth visiting:—

Traprain Law (East Lothian): Eildon Hill North (Roxburgh): Mam Tor (Derbyshire): Old Oswestry (Shropshire): Herefordshire Beacon (Herefordshire): Tre'r Ceiri (Caernarvonshire): Warham Camp (Norfolk): Sout Cadbury (Somerset): Caburn (Sussex): Ladle Hill (H shire) — unusual as it was never finished.

If you live in south-west England, Wales or Ireland then there are also numerous small defended settlements kno as rounds or raths. You should be able to find many of these sites on a map of your area.

Broch of Mousa (Shetland), see the finest preserved of th Scottish brochs. It still stands over 43ft, (14m), high.

Jarlshof (Shetland), another finely preserved stone built settlement. Here several huts can still be seen, each one with internal divisions and stone hearths in the centre.

Visit the reconstructed Iron Age farmstead at *Butser, Hampshire*, where houses, barns, crops and animals like those of late prehistoric farmers can be seen.

If you can visit a hillfort near your home, try to identify how many ditches and ramparts it has, and see if you can understand the way in which its gateways were defended If you had the task of attacking a hillfort, how would yc set about it?

12 KINGS AND CONQUESTS

The Belgae

In describing the people against whom he led his legions in 55 B.C., Julius Caesar says of Britain "the coastal regions are inhabited by invaders from Gallia Belgica (modern Northern France and Belgium) who came originally for the sake of plunder and then . . . remained and began to live by agriculture". We may be able to identify the arrival of these Belgae (i.e. people from Belgica) by the appearance of their coins in south-east England between 150 and 100 B.C., although it is possible that the coins represent no more than trade. But these coins are found in Kent, Essex and Herts which are areas where Belgic settlement is clearly seen later, associated with distinctive pottery, the use of coinage, cremation burials, and a wealth of imported luxuries from the continent.

Initially the number of Belgic immigrants may have been small, and restricted — as Caesar suggests — to warriors who sought plunder but found they could seize good farming land and grow wealthy from its proceeds. Throughout the period between 100 B.C. and Caesar's raids, further Belgic coins found their way into Britain, and were imitated by the Belgae who were already settled here. Caesar's war campaigns in Gaul in the years around 60 B.C. no doubt created refugees who fled to Britain and swelled the ranks of the Belgic population. By the time Caesar set foot in Britain, a number of Belgic kingdoms had already established themselves in the south-east.

Fig.12.1 Some of the earliest coins in Britain, like this gold Gallo-Belgic A type, belonged to the Belgae, who came here from Northern France, but archaeologists are still uncertain whether the earliest coins represent immigrant Belgae or the proceeds of cross-Channel trade

Kings, Nobles and Peasants

Caesar tells us something about Belgic society and much of what he says is confirmed by archaeology. The Belgic tribes were ruled by men whom Caesar calls 'reges' — Kings — and from Caesar's account we learn, for the first time, the names of some prehistoric Britons. Of these, the most powerful was Cassivellaunus, who ruled the country north of the Thames in Herts and Bucks. British coins also carry the names of some kings, and help us to reconstruct their dynasties.

Caesar records that the kings were supported by 'knights' or nobles, and he mentions one of these by name — a Kentish noble called Lugotorix. The burials of such men can be recognised in wealthy Belgic burials found in Herts, Essex and Cambridgeshire. The burials are supplied with an assortment of imported pottery, silverware and wine amphorae and various pieces of iron-work associated with the feasting-hearth, such as spits and fire-dogs.

At Verulamium a Belgic cemetery was divided into plots, in each of which a wealthy burial was surrounded by a large number of much poorer ones. These may have been lesser members of the noble's family or peasant retainers. The peasants made up the bulk of the population, providing the agricultural work-force as well as the craftsmen. Due to the constant warring between the Belgic kingdoms, many of these peasants ended up as slaves, some of whom were sold abroad to pay for the imported luxuries, and slave-chains have been found at Park Street (Herts), Colchester (Essex) and Barton (Cambs).

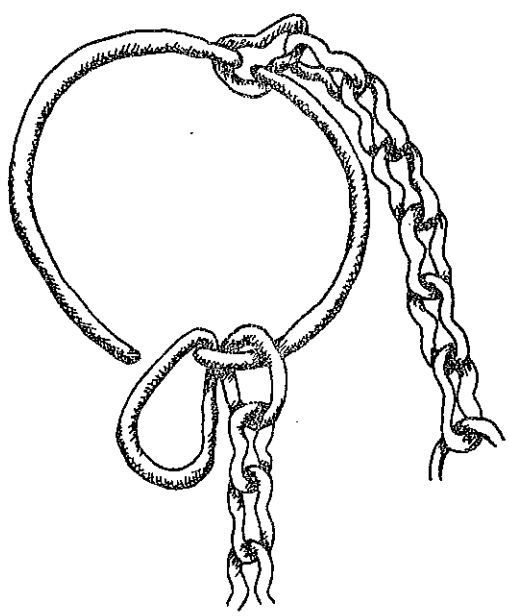


Fig.12.2 Classical authors tell us that one of Britain's main exports in the Iron Age was slaves. Archaeological evidence for this comes in the form of slave chains. This is one from Cerrig Bach, Anglesey

Wealthy Landowners

The Belgic nobles who were buried with their wealth at Welwyn and elsewhere no doubt owed much of it to their farmland and its produce. In Belgic Britain, however, there were no 'villas' and relatively unimposing timber houses like those found at Park Street and Gorhambury near Verulamium were probably the homes of the Belgic nobility. At both sites circular and rectangular houses (up to 8m x 5m) have been discovered with clay or rammed chalk floors, perhaps covered with straw mats, like the remains of one found in a burial at Welwyn. There was also a hearth near the centre of the Park Street house. These farmsteads have yielded Belgic coins suggesting that their owners were not peasant farmers, and at Grubs Barn, Welwyn, traces of such a farmstead have been noted within 150m of a typical wealthy burial.

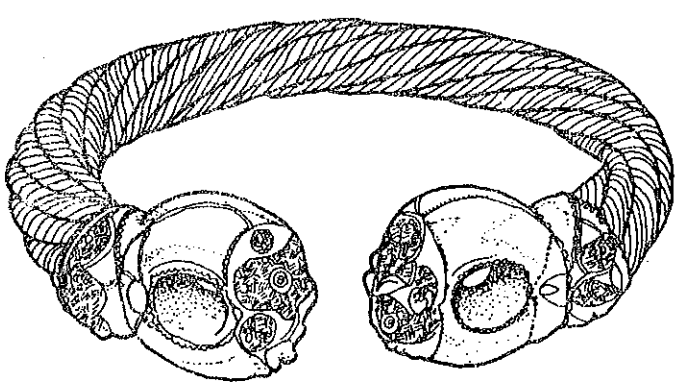
Around the fringes of the Belgic kingdoms, where other coin-using kingdoms emerged, perhaps even ruled by families of Belgic origins, a similar class of wealthy land-owners can be detected. In East Anglia the suberb gold torcs from Snettisham and Ipswich provide the evidence, whilst at Birdlip (Glos) the burial of a woman accompanied by bronze bowls, bronze jewellery, a jet and amber necklace and a beautifully engraved bronze mirror, invites comparison with the best of the burials around Welwyn. Similar mirrors have been found elsewhere, and one was actually found inside a small enclosed farmstead at Holcombe (Devon), probably just inside the territory of the Durotrigan tribe centred in Dorset. Wealthy burials, however, seem far fewer in number in these areas than in the kingdom of the Catuvellauni, and by the time of the Roman invasion the Belgic landowners around Verulamium in particular seem to have acquired estates which occupied all of the rich farming lands of the Chiltern valleys. It was on these sites that the earliest Roman villas were to appear in the region some thirty years later, no doubt built by the self-same land-owning families who rapidly adapted to the changed circumstances which followed the invasion.

Oppida

'Oppidum' is the Latin word for town (oppida is its plural). Caesar used this word to describe the strongholds of the Belgae — "The British describe as an 'oppidum' any position in a thick forest which they have fortified with a rampart and trench and which they use as a place of refuge from invading enemy forces".

Since the 'oppidum' of Cassivellaunus was identified by archaeologists, perhaps wrongly, as a 100 acre low-lying enclosure at Wheathampstead (Herts), the term has come to be applied to this type of settlement, but Caesar may have been describing hillforts as well.

Nevertheless the term 'oppida' is a useful one to use for the great low-lying Belgic centres defended by arrangements of ditches and banks. Several are known, at Silchester, Chichester and St Albans for example. The most impressive of all, however, is at Colchester (then called Camulodunum), the capital of the king Cunobelinus. A massive series of dykes protected it on the west side, and together with rivers, enclosed 10,000 acres, (4,050 hectares). In the north of the oppidum was an industrial area for iron- and bronzeworking, enamelling, pottery and tile manufacture, and possibly salt making. Here too was the king's mint. Further south was a large homestead, perhaps royal property, defended by its own rampart and ditch and surrounded by a system of fields and trackways. Elsewhere inside the defended area were other, much smaller, farmsteads, a sacred enclosure, fields and pastures, and cemeteries — a complete landscape in itself.



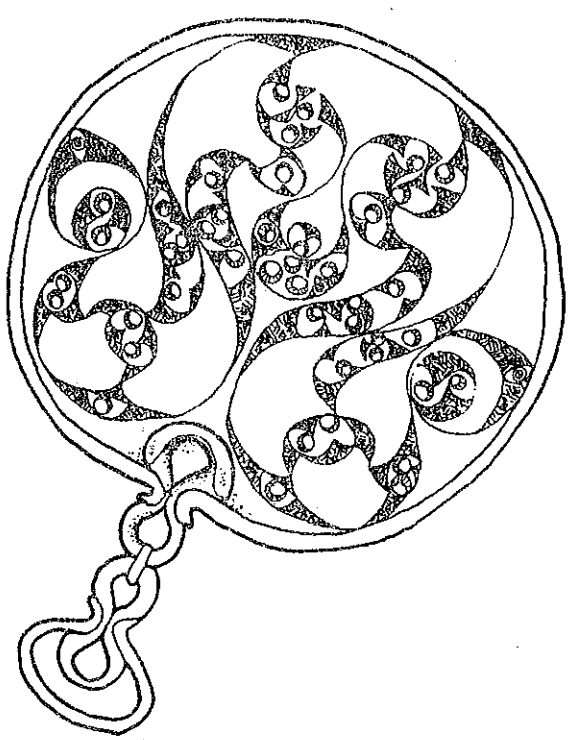


Fig.12.3 The skill of the craftsmen in later Iron Age society surpassed anything seen before. The gold torc from Snettisham (Norfolk) (left), and the mirror from Desborough (Northants) (right), belonged to the rich people who dominated this society. Their wealthy possessions were probably purchased in exchange for the produce from their extensive estates

Making Money – Coinage

The earliest 'money' produced in Britain may have been long bars of iron, often found in hoards, and meeting Caesar's description of British money, "coins of bronze or gold, or iron ingots of a fixed standard weight". These were made during the second and first centuries B.C.

The Belgae, however, preferred to use coinage, and other British tribes came to accept them too. Coins have been found on many sites, usually in small numbers, and coin moulds have been discovered mainly at oppida and other major sites. The coins can be identified by their designs as belonging to a particular tribe, and often carry the name of the king who had them minted. Their distribution therefore gives some idea of the extent of political territories and their historical development.

But it is interesting also to see how the coins were used. The first coins minted here were of gold and were probably used as a means of storing wealth and paying tribute. Later, coins of silver, bronze and potin (an alloy) were produced, and being of lower value may have been used for buying and selling. They are found in particular at oppida and other major settlements which were important markets. Coins found on rural sites are mostly gold, and farm produce and raw materials sent to the oppida by the land-owning nobility were perhaps partly paid for by gold coinage and partly by imported luxuries.

The Balance of Trade

Until Caesar's conquests in Gaul between 60-55 B.C., the continental connections of the Belgae had little impact on the pattern of British trade with Europe. Coins and pottery of the tribes of Brittany are found in southern England rather than the south-east, and no doubt the export of Cornish tin was still important. The most important port at this time was probably at Hengistbury Head (Hants).

With Caesar's conquests came a dramatic change as the focus of trade shifted to south-east England. Camulodunum gradually grew in importance until from about 30 B.C. onwards, it was the port through which a steady flow of luxuries reached the Belgic nobility. Many of the imports were connected with eating and drinking — bronze jugs, wine strainers, bowls and pans, attractive Arretine pottery from north Italy and tableware made in Gaul, as well as silver drinking goblets. There were consumables too, like Italian wine, and Spanish olive oil and fish sauces; the amphorae in which they were transported survive.

In return for these imported goods the British offered various exports. The Greek geographer Strabo, who was born about ten years before Caesar invaded Britain, actually lists British exports in the reign of Augustus: "corn, cattle, gold, silver, iron. All these are exported together with hides, slaves and hunting dogs".

Whilst many of these items were produced in Belgic territory, others such as gold and silver must have been won by trade or by war from the tribes of the south-west.

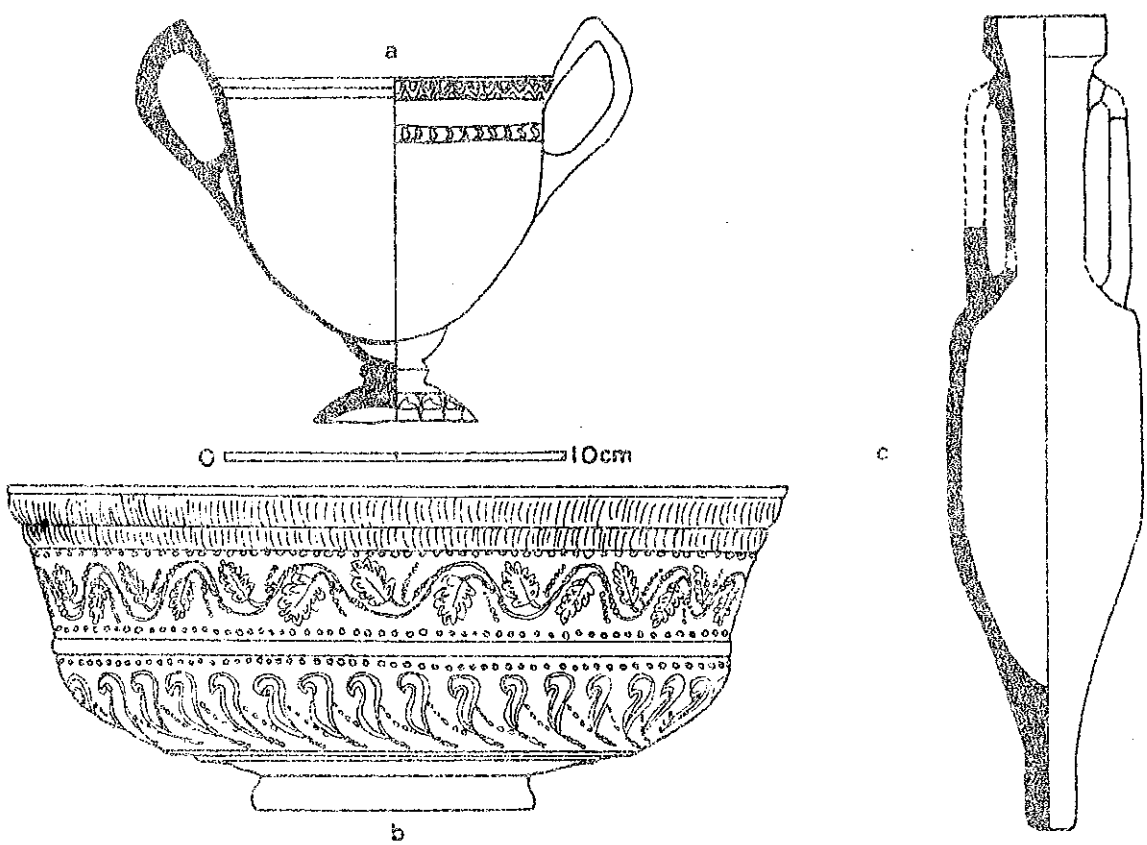


Fig.12.4 In the rich burials of the late Iron Age much of the pottery came from Roman Gaul, like the decorated bowl (b). There were also Italian products like the silver cup (a), and the wine amphora (c), which would have arrived full of the best Italian wine

The Belgic Kingdoms

In Caesar's account of his British expeditions he refers by name to several tribal kingdoms — the Trinovantes, Cenimagni, Segontiaci, Ancalites, Bibroci and Cassi. He also mentions four kings of Kent, and tells us much about the king Cassivellaunus who ruled north of the Thames, some 75 miles from the coast. It seems likely, though some disagree, that Cassivellaunus was king of Catuvellauni. We have here, then, about a dozen kingdoms in south-east England in 55 B.C.

Dynastic struggles within, and tribal wars without, led to constant changes and a trend to fewer and larger kingdoms. By the time of Augustus these eleven or twelve kingdoms were reduced to just three — the Trinovantes, Catuvellauni and Cantiaci. Another important tribe, the Atrebates, had meanwhile established a kingdom probably based in Silchester (then known as Calleva). The founder of this kingdom was none other than Caesar's Gallic friend and ally in 55 B.C., Commius, who later rebelled and fled to Britain.

Although the Roman civil wars followed soon after Caesar's invasion, Rome maintained an interest in British affairs. Augustus may have planned to invade Britain himself, and is thought to have made treaties of some sort with some British tribes. Some tribal coinage carried the Latin title REX, and others may have been minted by Roman-trained coiners. Equally, we have evidence that some British kings visited Rome, possibly as political refugees or exiles, during the reign of Augustus.

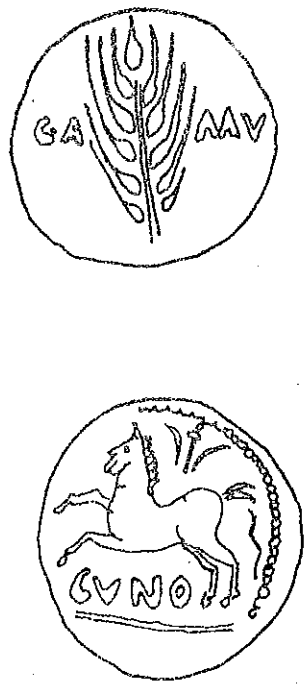


Fig.12.5 This is a coin of the British king Cunobelinus, (CUNO). The coin was minted at Camulodunum, (CAMU) his capital. The head of corn is representative of the whe which was the basis of his kingdom's wealth

Conquests and Invasion

Long before the end of Augustus' reign as Roman emperor. the Catuvellauni had extended their kingdom into Northants, Oxon, and south of the Thames into Surrey and west Kent. When their king Tasciovanus died around A.D.5, his successor, Cunobelinus continued the process.

Cunobelinus was the greatest of the Belgic kings and ruled for about 35 years. By A.D.7 he had probably occupied Trinovantian territory and seized Camulodunum, which gave him control of trade with Europe. Soon after he was minting coins there, and it became his capital. In the years which followed, he drove back the Iceni and Coritani on the north and east, completed the conquest of Kent, and then turned his attention westwards to the Atrebates and Dobunni. In the Silchester region, the Catuvellauni established control under the leadership of Epaticus, who may have been a brother of Cunobelinus. They had conquered the area by around A.D.25.

This left the Atrebates with a much smaller kingdom, in Sussex and Hampshire, with its capital probably at Selsey, south of Chichester. When Cunobelinus died around A.D.40 he had built a kingdom which stretched over most of southern England.

His kingdom was now split between two of his sons, Togodumnus and Caratacus, but the king of the Atrebates, Verica, fled to Rome and asked Claudius to intervene on his behalf. The Romans had probably had treaties with the Atrebates for decades, but in any case, Claudius needed a military victory, and so the Roman conquest of Britain was launched.

Places to visit, things to do

Gosbecks Farm (Colchester, Essex) — see surviving remains of the defences of Belgic Camulodunum.

Lexden (Colchester) — visit the burial mound of a Belgic prince or king, possibly Addedomarus.

Uffington Castle (Oxon) — climb up to the great white horse cut in the chalk hillside near the hillfort — perhaps a symbol of the Atrebates domination of th area.

Verulamium Museum (St Albans) — see the remains of coin moulds and other artefacts from the Catuvellaunian oppidum.

Hod Hill, Maiden Castle, Hambledon Hill (Dorset) — visit three hillforts of the Durotriges which were occupie in the years preceding the Roman invasion of A.D.4 See if you can identify the circular hollows (particularly at Hod and Hambledon) which mark the sites of the British huts.

Richborough (Kent) — in front of the Saxon Shore fort, built by the Romans in the 3rd century, you can see stretches of the ditches which defended the Roman bridgehead camp in A.D.43.

1. Find out which tribe inhabited the area in which you live (see the map in the Atlas broadsheet), and see how much you can find out about them and their way o life. If you live in southern or eastern England you may even be able to compile a tentative 'family tree' o the early rulers of the tribe.