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NEOLITHIC ARCHAEOLOGY PH 2/A

The term 'Stone Age' is used by archaeologists to designate the vast prehistoric time period during which humans used stone for toolmaking. In 1865 John Lubbock subdivided the Stone Age into the Palaeolithic, Mesolithic and Neolithic Periods. These three periods were further subdivided. In reality, the succession of phases differs enormously from one area of the world to another.

The word palaeolithic is derived from two Greek words, *paleos*, meaning old and *lithos,* meaning stone; in other words 'Old Stone-Age'. It covers a very long period beginning with the introduction of the first stone tools by the predecessors of *Homo sapiens* around 2,000,000 years ago and ending in various places between 40,000 and 10,000 years ago.

This was followed by the Mesolithic Period. The word mesolithic is derived from the Greek word *mesos*, meaning middle, and *lithos*, meaning stone; in other words 'Middle Stone Age'. It began in Britain with the end of the last glacial period over 10,000 years ago. At this date temperatures began to rise and Britain was gradually separated from the continent. Mesolithic peoples lived as hunters-fishers. Some sites from this period are known in Britain, including a famous one at Thatcham, Berkshire, although they would only have been inhabited sporadically. Mesolithic cultures lasted in Britain until about 4,500 BC.

The Neolithic (or New Stone Age) Period is traditionally the last part of the Stone Age. It is thought of as beginning with the start of farming and ending when metal tools became widespread, depending on geographical region. In Great Britain the Neolithic Period extends from about 4,500 BC to 2,000 BC.

Over this enormous time it is possible that many wooden tools were made and used, but none have survived. Stone tools, on the other hand, have been found in huge numbers. Generally speaking as time moves forward these tools show increasingly sophisticated techniques in their production, becoming finer and more carefully designed. More varied kinds of tools were created to be used for specialised tasks.



Part of the huge henge monument at Avebury, Wiltshire, which was constructed in the Neolithic Period.

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Mesolithic Flint Core



Most of the items in this box are believed to be neolithic, but this is thought to be a mesolithic flint core.

Flint is an ideal stone for making tools as when it breaks it produces very sharp edges. It is found only in chalky areas and where there is no flint other kinds of stone may be used to make tools. Naturally occurring flint nodules can be broken by the action of frost, or by inadvertent human activity such as ploughing. However, a piece of flint which has been deliberately struck has characteristic marks that indicate that this is the case.

This is a flint core - that is, it is the remnant of a larger piece of rock which has been repeatedly struck to produce flakes that can be turned into tools. It would have begun life as an ordinary nodule of flint. The toolmaker would then knock off part of one side to create what modern archaeologists call a *striking platform*. The end of this core which formed the striking platform is marked with a red arrow.



The striking platform would then be hit either by a *hard hammer* (a hammerstone, photo 1), or by a *soft hammer* (antler, or bone punches, photo 2) at approximately 90° to create usable flakes. A hard hammer creates prominent ripples - it is less controlled, and creates a more curved squatter flake. Striking a flake further into a striking platform with a hard hammer, creates thicker flakes - suitable for retouching into scrapers. Skilled use of a soft hammer can create flatter and longer flakes with a flat sharp end.

The process of finishing a blade by shearing off tiny flakes from the edge with a stick is referred to by modern archaeologists as *pressure flaking* (photo 3). This pressure was exerted *inwards* - it was not like the action of sharpening a pencil with a knife!

This core is slightly stained and has had its sharp edges rubbed smooth - both of which suggest it has spent some time being tumbled about in water - but ridges which mark where flakes have been removed are clear, as are the ripples which were generated when the core was struck.

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Neolithic Hammerstone



It is thought that this heavy stone, which fits neatly into the hand, was a hammerstone which would have been used to strike flakes from a flint core, as described previously. Some people have also suggested they may have been used to pound up food. It was found at Caversham.

Neolithic Fabricator



This is believed to be from the Neolithic Period, though it could be earlier. It is thought to be a 'fabricator', but how these tools were used is not particularly well understood. Suggestions for their function include 'strike-a-lights' a flint which was struck against another flint to create a spark in order to light a fire or perhaps some kind of leatherworking tool. Another suggestion is that they may have been used as a punch to finish-off the serrated edge of a flint blade.

Two Scrapers



It is generally assumed that such tools were used to remove hair or meat from animal skins or trimming wood. They may have been used for a variety of purposes.

Neolithic Hoe



This tool was found at the site of the famous Neolithic flint mines at Cissbury Ring, Sussex. There is a huge Iron Age hill fort on this site, but in the Neolithic Period the site was home to the most important flint mine in Sussex. The area of mining can be seen today as a series of pits with a diameter between 3 and 36 metres, but in the Neolithic Period these shallow pits were entrances to mine shafts that radiated outwards.

Archaeological excavation has revealed that there are about 200 shafts and they were dug over a period of 900 years, starting in about 2,700 BC. The entrance shafts were up to 12m deep with 7m diameters at the surface. Up to eight galleries extended outwards from the bottoms of the shafts, often interconnecting with one another. The shafts were cut using red deer antlers as picks and shoulder bones as shovels, cutting through the layers of poor quality flint containing iron impurities, to the good quality flint below. The galleries are very small, in some cases almost too small for adults to work in. Three skeletons have been found in the tunnels. Cissbury was an important source of flint in the Neolithic Period and examples of Cissbury flint have been found as far away as Italy.

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The purpose of this rough blade from Cissbury is unclear, but it may have been intended as a hoe blade. If this is the case, it could be interpreted as a sign that the toolmaker was living in a society that was moving towards or which had moved into a settled, agricultural way of life. As a hoe blade it would have been hafted onto a wooden pole and used to break up the soil before planting seeds. A photograph of a modern reproduction flint hoe can be seen on the right. There were no animal-powered ploughs in the earliest phase of the transition into an agricultural society and early clearings would have had to be prepared for crop-growing by hand.



The term 'Neolithic Revolution' is often used to describe the transition from a nomadic hunting-fishing way of life to a more settled society based on agriculture. It is generally accepted that, in Europe, this transition probably first took place in the 'Fertile Crescent' in the Middle East (see map) and then spread into surrounding regions. However, exactly when this process began in different areas and how long it took are debated questions.



Right: Heads of emmer wheat, one of the first crops domesticated in the Middle East.



Far right: After the emmer wheat is threshed - beaten by sticks - it releases these spikelets. The spikelets then have to be pounded to release the grains of edible corn. Only then can the grains be ground into flour. It's a long and complicated process!



Left: A neolithic saddle quern, used for grinding grain into flour.

Two Axes



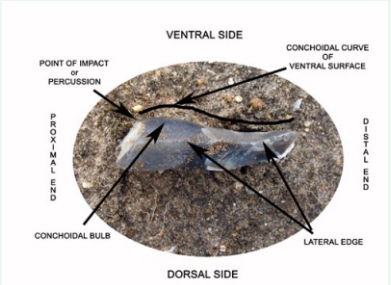
Both of these axes would, originally, have had a wooden haft. They have a polished surface which is characteristic of the Neolithic Period. It is thought that such a surface was created by rubbing the rough axe against another hard stone and using a mixture of sand and water as an abrasive. In one of the chambers of the West Kennet Long Barrow, for example, there are grooves in some of the stones which are thought to have been used for this purpose. It would have taken a very long time to achieve such a fine finish. Such axes are thought to have been highly prized and are known to have been widely traded across western Europe. Some archaeologists also believe that they were better at cutting than the earlier, cruder prototypes. Experiments appear to show that the advantage of ground stone axes over flake axes is that the edge will not fracture so easily and thus provide a longer lasting tool which would require less maintenance.

Neolithic Blade



If you turn a flake on its side you can often see that it has a distinct curve which is obvious in this example. This curve reflects the bulb of percussion caused when the flake is struck by a hammerstone. These curves are more pronounced in flakes that have been struck with a hammerstone rather than with a soft hammer.

The photograph on the right labels some of the features, which can also be seen on this blade. The struck or impacted end of the flake is called the *proximal end*. The far end of the flake away from the point of percussion is termed the *distal end*. The edges of the flake, often still sharp, are called the *lateral edges*.



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Neolithic Arrowhead



This arrowhead was probably used for hunting, although it could also have been used for warfare. The body found in the Alps in 1991, usually referred to as Ötzi the Iceman, was found to have an arrowhead lodged in one shoulder when he died - clearly life was not always peaceful in the prehistoric period! Ötzi died about 3,300 BC, in the Bronze Age. Flint arrows continued to be used in the Bronze Age period - Ötzi seems to have been killed by one - although they tend to have more prominent barbs.



Right: A painting of an aurochs (wild cow) on the walls of the famous caves at Lascaux, France. These images were made between 13,000 and 15,000 BC.



The entrance to West Kennet Long Barrow. It is thought that this long barrow was built and used between about 3650 and 3625 BC.