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NEOLITHIC ARCHAEOLOGY PH 2/D

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 from the introduction of the first stone tools by 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 settlement 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 4,500BC.

The Neolithic (or New Stone Age) 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 extends from about 4,500 BC to 2,000 BC.

Over this enormous period 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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Neolithic Flint Core & Flake



Flint is an ideal stone for making tools as when it breaks it produces very sharp edges. It is only found 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 - the remnant of a larger piece of rock which has been repeatedly hit 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 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 longer flakes with a flat sharp distal end. Using *indirect percussion* (that is, striking flint via a punch), a skilled knapper can create long thin slim flakes with parallel sides termed *blades*.

The process of finishing off a blade by shearing off tiny flakes from the edge with a stick (photo 3) is referred to by modern archaeologists as *pressure flaking*. This pressure was exerted *inwards*.

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 above.

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Neolithic Flint Hoe



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, when exacly this process began in different areas and how long it took are debated questions.



This blade could have been a hand tool, but another theory is that it was the blade of a hoe or pick. Such tools are not necessarily a sign of agricultural activity red deer antler picks, for example, were used in the Grimes Graves flint mines in East Anglia. However, it could be taken 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. It could 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.



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 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, which would have been used to grind the grain into flour.

Aurochs Horn

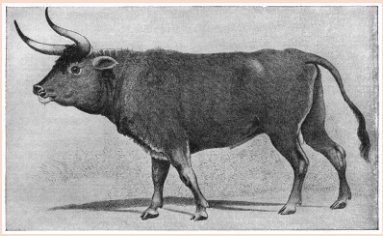


Growing, harvesting and processing food is part of the farmer's craft, the other part is animal husbandry. And just as crops were developed by human beings by gradually breeding suitable plants with a high food content from wild plants, so farm animals were the product of the selective breeding of wild animals to produce manageable and productive animals.



This is the stump of an aurochs horn (*Bos primigenius*). The aurochs was a wild cow and is thought to be the ancestor of the modern domestic cow. It is believed that the aurochs is depicted on the famous wall paintings in the caves at Lascaux, France, which were drawn probably between 13,000 and 15,000 BC (right). Some of these animals survived in Poland until the seventeenth century and the picture shown below was drawn in the sixteenth century. Aurochs were large creatures, with an aurochs bull standing at between 160 and 180 cm and an aurochs cow around 150 cm. They are thought to have preferred living in swampy woodlands in river valleys and river deltas.

Aurochs bulls had aggressive temperaments. They survived in Poland because they were prized for the hunting they provided the aristocracy. Where and when the aggression was bred out of them, making them suitable to be farm animals, is a subject of much debate. Some think that modern European cattle are descended directly from a domestication process that took place in the Middle East and that these domesticated animals were brought to Britain in the Neolithic Period, where they existed alongside the wild aurochs, without there being any interbreeding. However, new archaeological and genetic evidence mean that the issue is still undecided. Whatever the case, the wild aurochs seems to have died out in Britain sometime in the early Bronze Age (about 1,300 BC).



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Neolithic Arrowheads



Arrowheads were designed to kill, either animals or fellow human beings. The tang helps to fix the arrowhead to the arrow shaft. Barbs help to fix the arrow in the victim. These two examples give a good idea of the range of styles of arrowhead produced in the Neolithic Period. The smaller example is from Zombo, in the Congo region of Africa.

No doubt most arrows were used for hunting, but there is also evidence of aggression between human beings. The most famous example of this comes from the Bronze Age. In 1991 the well preserved body of a man was found in the Alps (nicknamed Ötzi, after the Ötzal area where he was found). The man is believed to have lived about 5,300 years ago. Various items were found with the body including a copper axe, a flint knife, a quiver full of flint-headed arrows and an unfinished yew longbow that was taller than he was. A scan of the body revealed an arrowhead lodged in one shoulder when he died, matching a small tear on his coat. The shaft of the arrow had been removed, but the head remained stuck in his flesh. He also had bruises and cuts on his hands, wrists and chest. DNA tests revealed traces of blood from four other people on his gear: one from his knife, two from the same arrowhead, and a fourth from his coat. There has been much speculation about exactly how Ötzi died, but the evidence suggests he did not live in a very peaceful society.

There is also evidence of conflict in the Neolithic Period. For example, two skeletons have been found in Saxony, Germany, dating from about 2,500 BC, which show signs of being killed by arrows. One had a flint arrow lodged in his backbone, while the other may have died from an arrow in the intestines.



Right: X-ray image of Ötzi's shoulder. The yellow circle picks out the arrowhead.

Neolithic Fabricator



This 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.

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Two Scrapers

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



Two Axes

Both these axes would originally have had a wooden haft. The rough surface of the largest one is similar to that found on Mesolithic axes. It is possible that it is a 'roughout' - a piece of rock which has been knocked into shape, but which has not yet been smoothed. On the other hand, axes with a rough surface continued to be used in the Neolithic Period.





The smaller axe head has a polished surface. This kind of axe was not produced in the Mesolithic 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.



Above: The entrance to West Kennet Long Barrow in Berkshire. The construction of this Barrow commenced about 3,600 BC, which is some 400 years before the first stage of Stonehenge and it was in use until around 2,500 BC.