

6. Stone Age : Stone Tools

6.1 Types and forms of tools according to the type of task

6.2 Stone Age tools

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If we saw a shiny object buried in the ground, what would we do to take it out? Perhaps, we would scrape it out with our fingers. If that did not work, we might try to dig it out with a twig or stick. If that too did not work, we would have to look for a pointed stone. That should do the job. But, if it still doesn't, then we would have to get an iron rod to dig that shining object out. This shows that we need to choose the tool according to the demand of the task.

The following four factors determine our choice of tools :

1. Availability of resources.
2. Minimal use of time and energy.
3. Maximum efficiency.
4. Skill of handling tools which is acquired through practice.

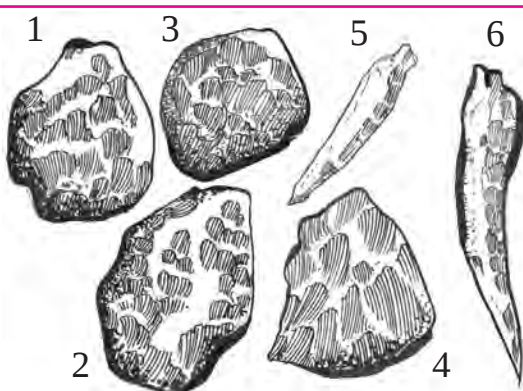
Apes like the chimpanzee also use

stones to break seeds and nuts. They use sticks to stir the ants out from ant-hills to catch them. Humans, too, have always been using tools such as bones, stones, dried twigs and sticks as tools.

With continuous and minute observation, experimentation and their inborn imagination, humans learnt that they could sharpen rods, bones, sticks and stones into tools to carry out their tasks more efficiently. They also learnt that they could give these objects any shape they desired.

In the previous lesson, we saw that stone tools were found with the remains of *Homo habilis*. We can say that he made them because they were found near his remains. But, did he make only stone tools? The answer to this question is 'No'! Because he made tools from other materials as well.

However, of the tools made by humans thousands of years ago, only the stone tools can be found today. Tools made from bone are rarely found. But since twigs and sticks decompose easily, we do not find any tools made from them.



Tools made from stones and bones –

1. A chopper made from a pebble
2. A scraper
3. A circular hammerstone
4. A chopper made from a flake of stone
5. A borer made from a bone
6. An antler used as a pick

6.2 Stone Age tools

The period from which mainly stone tools are found is called the Stone Age. The Stone Age is divided into three periods on the basis of the shape and the type of tools found.

1. Old Stone Age or Palaeolithic Age ('Palaeo' means 'old' and 'lithos' means 'stone'.)
2. Middle Stone Age or Mesolithic Age ('Meso' means 'middle'.)
3. New Stone Age or Neolithic Age ('Neo' means 'new'.)

Old Stone Age (Palaeolithic Age):

Homo habilis and *Homo erectus*, who belong to the Old Stone Age, both made their tools using the 'percussion technique'. This technique involves beating or striking one large pebble against another to obtain stone flakes.

The first tools made in the Old Stone Age with this technique were crude. Only one side of those tools had a sharp edge. Such tools are known as choppers. They

could only be used for breaking nuts or bones. The tools made by *Homo habilis* were of this kind. They indicate that *Homo habilis* had not yet learnt to hunt. Flakes of stone would be produced while shaping his tools. He used the flakes for scraping meat from hide, for chopping meat and other foodstuffs, for sharpening wooden sticks, etc.

Tools like the hand-axe and cleaver made by *Homo erectus* are more proportionate and symmetrical than the choppers made by *Homo habilis*. A proportionate and symmetrical tool has to be mentally visualized first. Only then it is possible to make it. *Homo erectus* could mentally visualize his tools even before he actually shaped them. To obtain stone flakes, he used things like antlers as hammers. He further sharpened the edges of those flakes by scraping off smaller pieces to make scrapers with very sharp edges. It means that *Homo erectus* was using different tools for different tasks according to the demand of the task.



Removing minute flakes from bigger flakes



A stone hammer

An antler used as a hammer



Removing minute flakes from smaller flakes



A chopper



A hand-axe

With his improved tools, *Homo erectus* could have a greater variety of food because he could now hunt a variety of big and small animals. These included mainly the deer, bison, rabbit, etc.

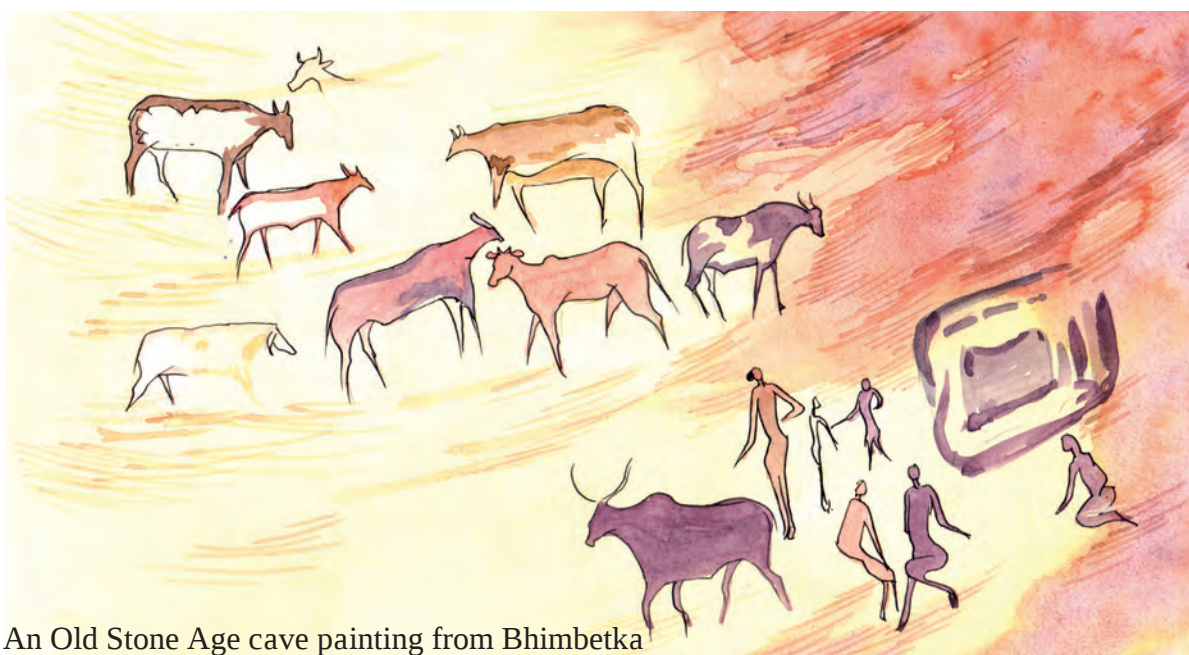
The Neanderthal Man made further progress in tool-making techniques. He began to make smaller tools.

Homo sapiens brought about a revolution in the technique of making tools. He devised a technique of obtaining long and narrow blades of stone. He made various implements like the knife, scraper, borer, chisel, etc. from these long blades. He also began to use ivory and rare stones of the quartz variety for making tools and other articles.

Homo sapiens had made significant progress in gaining knowledge of his environment and in the techniques of making tools and obtaining food. This enabled him to stay in one place for a longer period of time. Groups of *Homo sapiens* had begun to build huts and

live in them. They had also started celebrating social festivals. Many artistic objects and cave paintings created by *Homo sapiens* were possibly meant for these festivals. *Homo sapiens* had started using ornaments to adorn themselves. Beads from the time of *Homo sapiens*, made of shells, bones and animal teeth have been found. Thus, the beginnings of human culture go back to the Old Stone Age.

Remains of tools from the Old Stone Age have been found in India at various places, from Kashmir to Tamil Nadu. However, not many human fossils from the Old Stone Age have been found in India. Fossils of a human skull and the collar bone of an Old Stone Age woman were found on the banks of the Narmada in the vicinity of Hathnora, a village near Hoshangabad in Madhya Pradesh. Besides that, the fossilized skull of a child from the Stone Age was found at a village near Puducherry. Some remains of Old Stone Age humans



An Old Stone Age cave painting from Bhimbetka

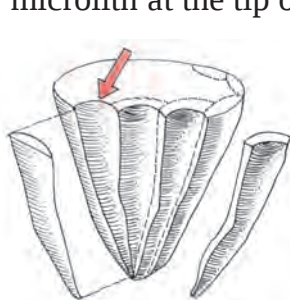
have also been found in Afghanistan and Sri Lanka. Gangapur near Nashik and Chirki-Nevasa near Nevasa are among the well-known Old Stone Age sites in Maharashtra. Gangapur is on the banks of the Godavari river and Chirki-Nevasa is in the Pravara basin.

Middle Stone Age (Mesolithic Age) : *Homo sapiens* in the Middle Stone Age continued to make progress in many different ways. They domesticated the dog. Due to changes in the climate and the environment in the Middle Stone Age, the way of life of humans had begun to change. Besides hunting, *Homo sapiens* had started to harvest foodgrains that grew in the wild and to domesticate animals. Their diet now included various plant foods. They also

began to settle in one place for a part of the year. Domestication of sheep and goats also goes back to this period. Taking all this into account, it appears that *Homo sapiens* now needed several different types of tools that were light in weight and durable for a variety of tasks such as hunting, fishing, harvesting, cutting of trees, etc. He used to make implements like the knife and the sickle by firmly fixing a row of blades as small as fingernails into a groove in a bone or a piece of wood.

Many sites of the Middle Stone Age have been found in India. Among them Bagor in Rajasthan, Bhimbetka in Madhya Pradesh, Langhnaj in Gujarat and Patane in Jalgaon district in Maharashtra are the well-known ones.

In Middle Stone Age, the stone blades used to make implements were removed from the stone by the 'fluted core' technique. Flute means a long, parallel sided depression on the stone, and core means the original stone from which the blades are removed. After the blades were removed from the stone from all sides, the remaining core had such flutes on all sides. Blades removed with this technique are very minute – the size of a nail or slightly bigger. Hence, they are called as 'microliths'. 'Micro' means very small and 'lithos' means stone. In the Middle Stone Age, arrows were made by fixing a microlith at the tip of a stick.



A fluted core



Microliths – Middle Stone Age



Arrows with
Microliths as tips –
Middle Stone Age



A knife with an edge like a saw made by
fixing microliths – Middle Stone Age



Fish-hooks of bones – Middle Stone Age

New Stone Age (Neolithic Age) : In this period, stone tools that were polished to give a smooth, shiny finish were made for the first time. As this was a new type of tool-making technique, this period was named the 'New Stone Age'.

By the time of the New Stone Age, agriculture and domestication of animals

or animal husbandry had become a routine way of life. Hunting was no more the major means of obtaining food. It became secondary to agriculture and animal husbandry.

There are many sites of New Stone Age culture in India, especially along the Ganga river and in South India.

Exercises

1. Fill in the blanks.

- (a) That period, of which the tools that we find are mainly made from stone, is called the
(Copper Age, Iron Age, Stone Age)
- (b) near Nashik is a well-known Old Stone Age site in Maharashtra.
(Gangapur, Sinnar, Chandwad)

2. Find out the odd pair from the following.

- (a) Rajasthan – Bagor
- (b) Madhya Pradesh – Bhimbetka
- (c) Gujarat – Langhnaj
- (d) Maharashtra – Bijapur

3. Answer the following questions in brief.

- (a) How did man use the percussion technique?
- (b) What revolution was brought about by *Homo sapiens* in the tool-making technique?

4. Compare the tools from all the three periods of the Stone Age.

5. Which of the following modern machines has stone grinders?

- (a) Mixer
- (b) Flour mill
- (c) Juicer

6. Show the following places on the map of India.

- (a) A site of the Old Stone Age in Maharashtra.
- (b) A river basin with New Stone Age sites.
- (c) A site of the Middle Stone Age in Madhya Pradesh.

Activity

Visit various industries in your locality and collect information about the tools used there. Make a chart by classifying those tools.



A polished stone axe – New Stone Age

