UNIT 3 PALAEOLITHIC AND MESOLITHIC CULTURES*

Structure

3.1 OBJECTIVES

This Unit looks at the **Palaeolithic** and **Mesolithic** cultures in the world context.

After going through this Unit, you would be able to:

- Explain the meaning of the term Palaeolithic and Mesolithic;
- Identify the tool technology associated with these cultures;
- Provide illustrations from the sites associated with these cultures;
- Outline the cultural features of these cultures; and
- Describe the Palaeolithic and Mesolithic cultures as a process of evolution.

3.2 INTRODUCTION

The beginning of the story of humans is connected with cultural evolution. As Ian Hodder (2016), the British archaeologist opines, human association with tool making and other material culture contributes to evolutionary changes, both biological and cognitive. In a similar vein, William Andrefsky Jr. (2009) has stated that the lithic technologies and how they are designed, produced, recycled and discarded, tell us about the adaptive strategies of the foragers. Often, the only artefact that survived the vagaries of time and could provide a peep into the lives of the prehistoric humans are the stone tools. To

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understand importance of such early artefacts, this Unit discusses the various forms of cultural patterns, from tool culture to art forms, that had emerged in the world, with a focus on Europe and West Asia.

Story of early humans began when they started making changes to their surroundings and started to interact with their environment. The ability to survive and make tools led to the beginning of cultural transformations. As you would have learned from Unit 2 of this course, the genus Homo had appeared around 2.5 million years ago (MYA) and along with them appeared the stone tools. Tool has been described as a human-made object used to perform manual work. Tools provide the best evidence for cultural changes. With the technique of flaking (peeling out small pieces of stone from a larger one) tools were turned into distinct shapes and could be put to different functions. The distinctions in shaping and functioning of the tools emerged as a significant marker of distinction between various cultures. Besides, the adaptive quality was an important survival technique, which ensured proliferation and development of the early humans. The story of humans starts from making simple tools for hunting-gathering and then making innumerable changes, which modified the living conditions of humans.

Historians, anthropologists, archaeologists and physicists have proposed various theories to understand and explain the human cultural development (*History of Humanity,* Vol. I, 1996). C.J. Thomsen for instance, proposed the following three-fold classification of prehistoric cultures:

a) The early Palaeolithic as representing the food-gathering stage,

b) Later Palaeolithic as the stage of organized hunting and selective collection,

c) Neolithic as the food producing stage.

S. Nilson, on the other hand, formulated four stages of evolution in terms of savage, huntsmen or nomads, agriculturists and civilization stages. According to Edward Taylor, human beings had common sense and rational behaviour which led to cultural development. He mentions three stages of human cultural development as: savagery, barbarianism, and civilization. American anthropologist, Lewis H. Morgan (in *History of Humanity*, Vol. I, 1996) holds social evolution as a result of human societies adapting to the stress of their environment and classified them into seven stages of development, starting from lower stage of savagery going through a stage of simple food gathering and culminating into the stage of civilization when the society developed writing.

3.3 PALAEOLITHIC CULTURE

The term '***Palaeolithic***' is made up of two Greek words: *palaios* meaning 'old' and *lithos* meaning 'stone' and is used to indicate 'old stone age'. The term was coined by archaeologist John Lubbock in 1865 and is used for the period of prehistory from around 2.5 million years ago when humans began to make stone tools.

Evolution of humans from *Homo habilis* to *Homo sapien sapien* is a long-drawn process, about which you learnt in Unit 2 in relation to the biological changes. The changes that led to evolution were not just biological but cultural as well. The cultural changes had a major role in the development of the early humans. In this context, when we mention cultural changes, we are not only referring to manufactured stone tools and how they evolved over a period of time, but also changes in the environment and accessibility to resources. The latter includes the hunting strategies, methods of communication, ability to control fire, making and modifying tools, subsistence patterns, burials, paintings and so on.

Closely linked to the tools produced is the question about the use of these tools. This is invariably linked to the subsistence strategy of the period. Howfar was hunting the basis of the economy has been an issue of debate among scholars. Can we designate the early humans as hunters or as hunter-gatherers or as scavengers? And even on the basis of the evidence found in terms of tools as well as fossil records, can we talk about a gendered division of labour?

3.3.1 Perspectives on Gender Division of Labour in Palaeolithic Society

For a very long time the 'Hunting hypothesis' was the most accepted theory which talked about hunting as a way of life and was understood as a male activity. Hunting was portrayed as the central economic pursuit and it was assumed that men controlled food provisioning and sharing. It was believed that men were the leaders and 'in-charge' of and also dominant over women and children. It was held that women, owing to their reproductive capabilities, were limited to function as mothers and caretakers which also restricted their movement beyond the base area. On the other hand, men took upon the responsibility of hunting, and bringing food to the base –Richard B. Lee and I. Devore (1968) began with the concept of Man the Hunter, in a symposium, and later book of the same title. These theories that are based on gender polarization have been strongly criticized by a set of scholars such as Nancy Tanner, A. Zihlmann (1978) and others who refute the notion of a gendered division of labour in prehistoric societies. These scholars understand hunting as opportunistic in nature. According to them, the crude tools and their functions suggest that hunting was not the main economic activity of the early humans rather they were scavengers. These scholars question the assumption that all women were mothers and argue that the notion of child-bearing as basis of labourdivision is misleading. Many ethnographic studies show that women worked as tool-makers in early times. For example, Joan Gero (in Kathryn W. Arthur, 2010), a pioneer in feminist archaeology, argues that women in prehistory must have been tool-makers for they would have required **flakes** to carry out a number of tasks. Ethnographic studies show that women contributed a large share in food production processes in most foraging societies. Further, in many societies, women went for hunting, alone and along with men. In a way, foraging challenges the notion of gendered division of labour in prehistoric societies.

Furthering the arguments of these scholars is the Gathering hypothesis according to which women played a central role as opposed to men in prehistoric period. This theory suggests that women used tools to gather and process plant food. They argue that gathering was an equally important activity and should not be qualified as less productive 'women's work'or equated as being less productive. This hypothesis, however, accepts the presence of gendered division of labour in the early societies. Scholars such as A. Zihlman (1978), supposes that the human way of life was not based on sexual division of labour but on a system where male as well as female collect and engage in predatory behavioural flexibility which was a major contributing factor to early hominid survival. In a way both contributed equally in the early society which was pertinent for their survival.

3.3.2 Lower Palaeolithic Cultures

The palaeolithic culture may be divided into three periods based on the type of tools, social and economic changes, nature of habitation and a few other criteria. It begins with the Lower Palaeolithic Culture as we will be discussing in this Sub-section.

Brian Fagan (2014) points out that four criteria have been commonly used to define a 'human'. First, the brain size that should be more than 600 cubic centimeters. Secondly,

possession of language, which can be identified from the patterns found inside the brain case. Third, having a human-like precision grip and opposable thumb. And lastly, the ability to manufacture tools.

Who were the first tool makers or the first 'humans' has been an enigma in prehistory. The human species named *Australopithecus garhi*, dated to 2.5 million years ago is an interesting find in this context. The specie's brain size was one-third of that of the early humans and features were ape-like. But bones of deer and antelope, found nearby the fossils of *Australopithecus garhi*, had cut marks from stone tools. Although no tools have been found yet such evidence makes the identity of the first tool-makers difficult to ascertain. Moreover, evidence suggests that these early human species were meat eaters and used some sort of stone tools.

The tools made by the *Homo habilis* were simple and crude tools which were first found are believed to have existed around 2.5 million years ago. The technology associated with them is called the Oldowan tool technology, named after Olduvai Gorge in Tanzania, the place where these tools were first discovered. Chopper-chopping tools are considered theearliest tools. These were generally made by percussion method (i.e. striking one object to another), usually hitting a lava cobble with another. The flakes (small, thin piece of scraped stone), thus produced were long and sharp which were used to make scrapers and cutting tools to cut or scrape wood, plants, skin and also meat.

Nicholas Toth (*History of Humanity*, 1996) has argued that the first tool-makers had a clear understanding of the potential of the tool, as well as the mechanics of the tool technology. Tool-making required good hand-eye coordination, ability to recognize acute angles in stone and mental processing for shaping a tool. The shapes and edges in a stone thus make it possible to identify if it was prepared as a tool by the early humans. D. Strout (2011) has shown that even the simple artefact such as the Oldowan tools, involved a complex method which consisted of careful selection of the raw material, followed by flake production and then flake detachment. Following this, working on the percussion method, tools could be produced.

Figure 3.1: Oldowan Stone Chopper

Credit: José-Manuel Benito Álvarez, 2007

Source: https://upload.wikimedia.org/wikipedia/commons/a/a7/Oldowan_tradition_chopper.jpg

The Oldowan technology was the only form of tool technology in use for more than a million years. The term **'knapping'** has been used to describe removal of flakes from the core and the term 'debitage' is referred to indicate the waste material. The earliest core was simple unipolar (single) core from which one or two flakes were removed. Later, early humans moved to more complex Levallois technique where flakes of pre-determined size and shape could be removed. The earliest cores were generally called the pebble-tools.

The recent research on tool usage shows that the Oldowan tools were not hunting tools and were useful in chopping or scraping plants and animals. They were mostly used to process carcasses, for skinning, opening joints and meat and breaking to open bones. Both at Olduvai Gorge and Koobi Fora (near Lake Turkana in Northern Kenya) large number of animal bones along with tools concentrated over a small area have been found. With the presence of other predators, absence of the discovery of fire or domestication of animals at this stage, the early hominids were mostly dependent on opportunistic foraging for meat along with gathering plants for their diet which explains the presence of animal bones along with tools at these sites.

Steven Mithen (1995) believes that the cognitive or learning and understanding ability of the early humans was important as it was a method of understanding their surroundings. Social intelligence might have also evolved with these changes that could be seen in terms of subsistence pattern, tool making etc. Anthropologist Robin Dunbar (in Fagan, 2014) has argued that *Homo habilis* must have lived in groups, as it was an essential survival strategy. G. Clarke (in Fagan, 2014) suggests that they probably made some kind of shelter with branches supported by stone structure. Another development associated with this period is communication skills. They must have been using grunts and gestures to communicate. The ability to interact with others would have paved way for other complex social interactions, which would have further contributed to the increase in their cognitive abilities.

The coming of the *Homo Erectus* has been associated with not only biological changes but also significant changes in the tool technology. These early humans were associated with the Acheulian tool technology, named after the site named Saint Acheul in France. This technology involved bifacial tools i.e. flaking was done on both sides and these tools were thus sharper and better. They were multipurpose tools, which were used for wood-working, scraping skin as well as butchering animals. Tools such as hand-axes and the cleavers come into picture for the first time and proved to be very useful as they could be sharpened multiple times. Evidence of butchery and big-game hunting have been found at sites such as Boxgrove (West Sussex, England), and Ambrona and Torralba (Central Spain). At Ambrona and Torralba, crude hand-axes, cleavers, scrappers and cutting tools have also been found. Evidence indicates that big animals such as elephants, rhinoceros, bison, deer etc. were dismembered in these sites. Many scholars believe that these sites represent sophisticated hunting with farsightedness and planning.

FLAKES

- Flakes are categorized into two groups: by-products and intentional flaking.
- Flakes can be produced as a result of tool working and are part of flake debris.
- Intentional flakes could be produced by methods such as the Clactonian, the Levallois and the Mousterian, details of which are highlighted further in this Section.

Figure 3.2 : Different sides of an AcheuleanHandaxe. Found at Haute-Garonne France, dated 500 000 and 300 000 BP

Credit: Didier Descouens,2010

Source:https://upload.wikimedia.org/wikipedia/commons/8/87/Biface_Cintegabelle_MHNT_PRE_2009.0.201.1_V2.jpg

The most characteristic tool of the Acheulean technology was the hand-axe, a tear-drop shaped tool. Based on the innovations in tool technology,the Acheulian technology can be divided into early and late phase. Production of large flakes called blanks, suitable for shaping into a hand-axe was a key innovation of early Acheulean technology though in this phase the hand-axes were small and symmetrical tools. The *Homo Erectus* were better hunters and could use such hand-axes as projectiles. Thus, the hand-axe could be used both as a tool as well as a weapon. Another important tool was the cleaver, which was a large flake with a straight cutting edge at one end and shows no signs of retouch. These tools could be reused, re-sharpened and recycled as a flake tool. Wood, antler, and bones besides stones were used as material for producing these tools. Inclusion of meat in their diet led to other kinds of social changes, such as group formation and a distinct tool kit. The tools such as scrapers, cleavers, side-scrapers, bola stones and others were simple, efficient tools which were produced at this time.

Figure 3.3 : Clactonian hand axe, dated to about 350,000 years BCE and excavated from Rickson's Farm Pit, in the United Kingdom.

Credit: Bellroth, 2010

Source: https://upload.wikimedia.org/wikipedia/commons/6/6e/Hand-axe-Clactonian.JPG

By the later phase of Acheulian technology, tools were produced using prepared core technique i.e. first, the core was knapped and then flakes were produced to make the desired tool. A distinct lithic assemblage associated with Lower Palaeolithic technology is the Clactonian technique, named after the site Clacton-on-Sea, Essex, England. As per Henry Breuil's (in M.Y. Ohel, 1978) characterization of these tools, they were

large, wide and thick flakes, produced by block-on-block method. These were considered distinct from the Acheulian tools. However, many recent scholars such as Ohel and others do not see Clactonian technique as a distinct tool technology but instead, as constituting part of the flaking process. This method is sometimes understood as Lower Palaeolithictool culture without the hand axe. Many scholars hold this method as a precursor to the Levallois technique.

Homo Erectus were the first group to move out of Africa which again reflected their adaptive quality. They could adapt to harsher climates from the Savanna in East Africa to Java, Northern Africa, Europe, Asia, etc. They were also associated with the ability to control fire. Earliest evidence of hearth-like arrangements has been discovered from Wonderwerk Cave, South Africa, dated 1.8 million years ago. Other sites such as Swartkrans (South Africa) and Chesowanya (Rift Valley, Kenya) have also shown frequent use of controlled fire along with ash and bone fragments. Similarly, at Gesher Benot-Ya'agov in Israel, dated to 790,000 years, charred wood and seeds have been discovered. In Zhoukoudian Caves in Beijing, China dated to 400,000 years, evidence of charcoal, burned bone fragments and ash accumulation in hearth indicates that the hominids used fire. They made flakes from quartz. They also made chopper, scrapers, awls, crude points and other artefacts.

The subsistence pattern of the Lower Palaeolithic period was based on hunting, scavenging as well as gathering plant food. They probably by now had better understanding of the seasons. They lived in large bands and sometimes when there was abundant plantfood, they lived in smaller bands. This would reflect considerable social intelligence and flexibility. They had a well developed Broca's area (region in the frontal lobe of the dominant hemisphere, usually the left side of the hominid brain with functions linked to speech production) associated with speech. Therefore, on the basis of this evidence it is inferred that the hominids might have had the potential for articulate speech. Development of language gave stimulus to development of brain besides being a means of communication in addition to gestures and grunts.

The Lower Palaeolithic culture reflects the evolutionary processes from making simple Oldowan tools to more complex Acheulian tools. Along with the biological changes which marked the foundation of a human society, transformations could be seen in terms of the subsistence pattern, control of fire, group formation and language.

Check Your Progress Exercise-1

1) Discuss the subsistence strategies during the Lower Palaeolithic period.

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2) Write a short note on the Oldowan tool technology.

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3) What are the cultural changes associated with the *Homo Erectus*?

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3.3.3 Middle Palaeolithic Cultures

The Middle Palaeolithic period (*c.* 78,000 to 128,000 Years Ago) was based on a new tool technology, newer forms of subsistence strategy as well as another specie of the hominids, the Neanderthals. The Neanderthals were associated with a distinct tool kit i.e. the Mousterian tools. The Mousterian tools were made with two prominent methods: the Levallois method and the Disk core technique. In these techniques, the core is prepared and then flakes of pre-determined shape and size are removed. Thus, the tools are much sharper as well as smaller in size. The core gradually becomes smaller and the flat disk can be used for points and scrapers.

The Levallois technique is understood as a method of reduction i.e. knapping to produce large flakes, generally oval in shape, and with acute-angled, sharp, usable edges. Most importantly, this method was used to predetermine the shape of the end-product before their removal from the core. This method was used to produce a variety of flakes, such as sub-circular flakes, blades, blade-like flakes, etc.

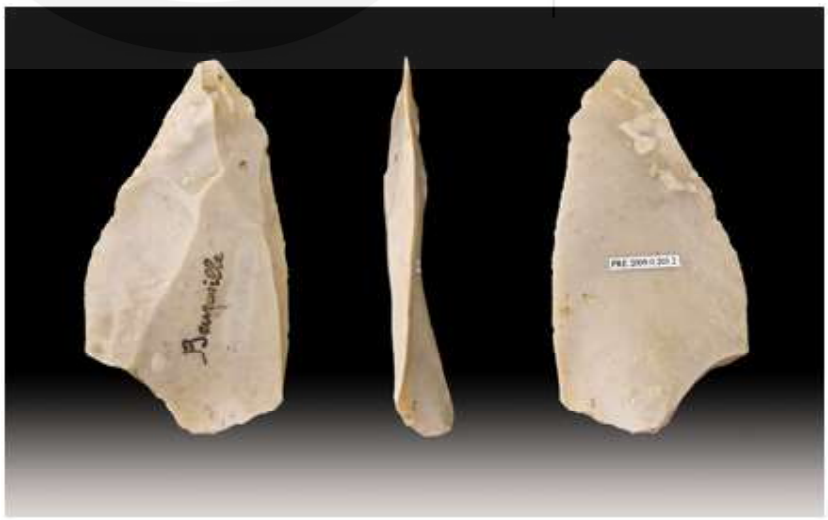

Figure 3.4 : Levallois point found from Beuzeville in France

Credit: Didier Descouens, 2010

Source:https://upload.wikimedia.org/wikipedia/commons/c/cf/Pointe_levallois_Beuzeville_MHNT_PRE.2009.0.203.2.fond.jpg

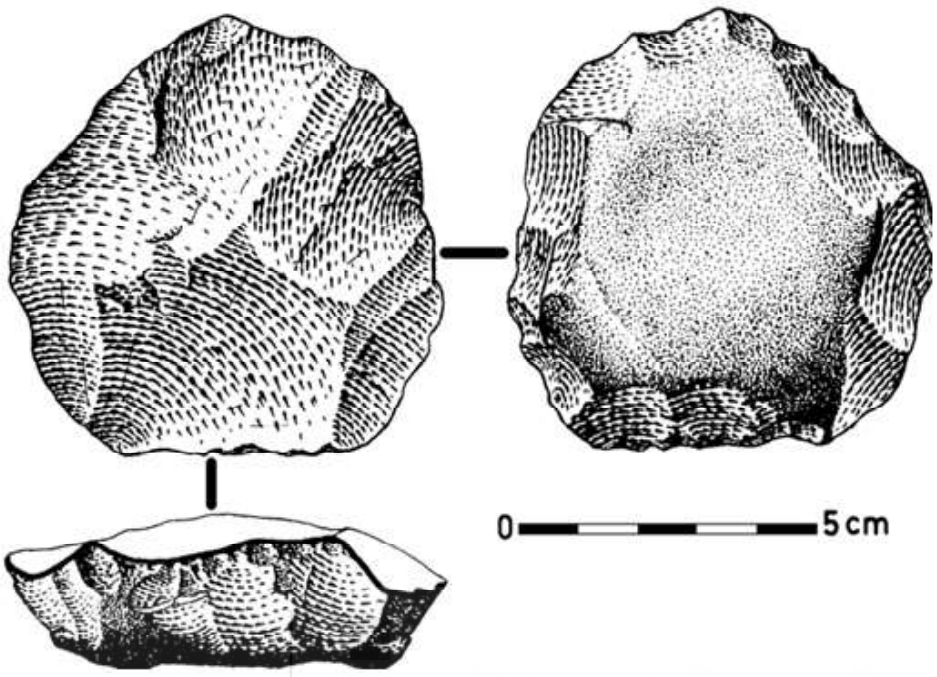

Figure 3.5 : Levallois Technique

Credit: Jose-Manuel Benito Alvarez

Source: https://commons.wikimedia.org/wiki/File:Levallois-Nucleo_reiterativo.png

By this period composite tools were being produced. Cultural variability is reflected in the Mousterian tool, named after the site Le Moustier, southwest France. These were mostly flake tools, of which most common were scraping tools, burins and spear points, besides hand-axes, notched flakes which were used for stripping meat, etc. For example, a spear was produced by combining a point and shaft held together with a binding material. This assisted Neanderthals to hunt better. There is great variability in Mousterian technique which has been a matter of debate among scholars. According to P. Bordes (1961), the variability reflected different time-periods, and variable climate or seasons. Lewis and Sally Binford (1966) hold that the tool variability represents different tasks done by the Neanderthals although these tasks remain unclear. The artefacts such as stone spear points were not multipurpose and they were used for specific purposes.

Neanderthals occupied large territories on a seasonal round i.e. they came back to same location year after year. They knew their local environment well and planned their migrations accordingly. They lived in bands in caves and rock shelters. They were good hunters and hunted large animals such as mammoths (an extinct species of elephants), reindeers, wild horses besides birds and fishes.

Another very important complexity associated with the Neanderthals was their religious beliefs. Many scholars believe that the Neanderthals buried their dead. Burials have been discovered from rock shelters and caves as well as in open air sites. Single burials were more common and contained flints tools and food/charred meat. Such burials have been found in Shanidar Caves in Zagros mountains, Iraq. Another site is La Chapelle-aux Saints in France which has provided evidence of a burial with bison leg on the chest, bone tools and other debris. Many scholars believe that these are circumstantial and not intentional burials. La Ferrassie, a rock shelter in Les Eyzies in France has yielded remains of two adults, and four children buried close together in a camp site. However, Fagan (2014) says that although the Neanderthals buried their dead but to associate it with afterlife can be questioned.

The Middle Palaeolithic period saw changes not only in terms of better tools and complex hunting strategies but also in terms of social and environmental adaptive strategies. Besides we have evidence of some rituals in terms of burial practices which makes early humans different from other animals.

Check Your Progress Exercise-2

1) How would you differentiate between the Lower and Middle Palaeolithic period?

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2) Discuss the Neanderthals and their culture.

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3.3.4 Upper Palaeolithic Cultures

The first fully evolved human specie is known as the Cro-Magnons, named after a rock shelter in Les Eyzies in southwestern France. They settled in southeastern and central Europe around 40,000 years ago and had entered southwestern France by 35,000-40,000 years ago. The tool technology of the Upper Palaeolithic period was called the Blade technology. The Cro-Magnons made sharp long parallel side blanks which could be used to produce a wide spectrum of artefacts for a range of activities from hunting, butchering, processing skin, woodwork or cloth manufacturing, among others. The blade tools were effective tools such as the scrapers, awls, knives, eyed-needles burins, etc. The tools were made of bones, stones as well as ivory. Flint, chert or obsidian were also commonly used for the production of tools. They refined the burin, which was an engraving tool and contributed in efficient antler and bone working. The technique used for bone and antlers was called the groove and splinter technique.

The economy of the period was based on gathering and hunting which included fishing. The Cro-Magnons of western and central Europe developed more elaborate and sophisticated hunting cultures. These cultures not only differed in terms of tools but also in terms of social and religious life. The Cro-Magnons of these regions migrated towards the river valleys. They not only hunted big animals but also smaller animals such as rabbits, wolves, birds etc. besides gathering plant food. As Fagan has pointed out, they mostly lived in small groups subsisting on range of games and stored food and would have come together in larger groups during spring, summer and early fall when reindeer were abundant. In winters they would diverge into smaller groups again.

Some Upper Palaeolithic Cultures

One of the prominent cultures of the Upper Palaeolithic period is the Chatelperronian

culture which was dominant in Western Europe and is dated to around 35,000-30,000 BP. This culture was known for making blades. Most common tools were side-scrapers, denticulate implements (stone tools containing one or more edges), points, besides burins, knives, chisels etc. The characteristic tool of this culture was the Chatelperronian knives made from a blade with one cutting end while the opposite edge was curved or blunted. People of this culture also made bone tools. They had well organized dwelling structures. Mostly, there were circular dwellings with calcerous blocks (i.e. soil with more calcium carbonate) around hearth with postholes or mammoth tusks stuck into the ground.

Another important culture of this period is the Leaf-shaped Point Culture. This culture was found around the same time as the earlier culture in some sites in Britain and Russia. Like the Chatelperronians, people of this culture also made knives but they were formed in the shape of a leaf, from which the culture derives its name. One of the important sites of this culture was Les Cottés, France. This culture was considered important as it is held to have led to the formation of Gravettian complexes (the last of the Upper Palaeolithic archaeological industry) in central Europe.

However, preceding Gravettian Culture was the Aurignacian Culture which can be dated to around 40,000 BP in West Asia. It is believed to be the culture of the Cro-Magnon man. The tool culture is represented by beaked burins, keeled scrapers, end scrapers besides many varieties of bone tools. The culture also provides evidence of ornaments such as pendants, ivory beads, drop-shaped pendants and rings besides perforated teeth. Moreover, ivory figures have been found in caves of Swabian Jura, Germany, which generally depict animal forms in round. Rock shelters at other sites have also been found with engravings representing animals and humans. At Les Eyzies, Dordogne, France a group burial was found in a Cro-Magnon shelter.

The Gravettian Culture, dated from 27,000-22,000 BP, is known for thin blades which are called the Gravettian points. People also used barbs and flat leaf-shaped darts. Other tools such as scoops, picks, pickaxe were used for making dwelling structures. They used both bones and antlers as raw material. Round dwellings were found with tombs and open areas for making figurines. This shows that these would have been permanent dwelling places, which included both natural shelters and open-air spaces.

The Gravettians were particularly known for the 'Venus figurines'. These were female figurines with broad hips, pendulant breasts and prominent posteriors. The limbs were mostly broken, and these figurines had no facial features. In DolníVstonice, Moravia, Czech Republic, the figurines were made of soft stones, ivory or terracotta. In Moravia as well as Ukraine, besides female figurines, figurines of animals such as rhino and mammoth were also found. These figurines are presumed to have been used for cultic or religious practices.

The Solutrian Culture dated to around 20,000-15,000 BP found mostly in France and Spain, may have come from the earlier Gravettain Culture. This culture produced various kinds of points, barbs, needles and eyed-needles from bones. They had sub-circular dwelling structures and provide evidence of cave paintings and engravings. The bas-relief carved on the blocksat Solutrian sites represent potbellied, short-limbed animals. This culture declined soon and gave way to the Magdalenian Culture in Western Europe.

The Magdalenian Culture dated from around 18,000-8,000 BP. The culture is known for building complex settlements. People of this culture also made composite tools such as the **microlith** projectiles, bows, harpoons and bladelets. This culture is also known for its artistic accomplishment especially the Cave art, which is discussed in the next Sub-section.

But before we move onto that, it is important to recall that the Upper Palaeolithic period was represented by regional variations in terms of tools used, dwelling structures, hunting strategies, etc. The development of the Upper Palaeolithic cultures was further marked by their artistic activities to which we now turn.

3.3.5 Artistic Expressions

By 48,000 years ago, Europeans started making ornaments such as beads, pendants, perforated teeth etc. besides making figures on cave walls. There are two major varieties of pre-historic art:mobilier and parietal. Decorations or art work executed on a movable object or one that can be moved from one place to another is called art mobilier or home art. Ones that are found in cave walls and ceilings is called cave art or parietal art. Moreover, prehistoric art comes in various forms such as engravings, paintings, bas-relief etc. and all these forms of art can be witnessed as early as the Upper Palaeolithic times. Another important form of artistic expression was flutting, which were zig-zag marks made on the cave walls. Scholars believed that these were made by children but supported by adults as these have been found at considerable height on the walls. It is assumed that these were assigned to children based on the mere simplicity of such art forms. Although scholars also believe that such art forms must have held some ritual purposes as well.

The paintings show the cognitive ability and greater emotional power of the prehistoric humans thus were understood as a way of communication. It was believed that they represent symbolic meanings which is difficult to comprehend. It represents a deeper understanding of their social, spiritual and natural worlds into a single continuum (Fagan, 2014).

Palaeolithic art was executed on stone, bone, antlers, wood, clay and ivory. The art includes depiction of Venus figurines, ornaments such as pendants and beads and musical instruments such as flute, found in Germany. The Magdalenians also decorated harpoons, spears and other artefacts with naturalistic engravings. Stephen Mithen (1995) holds that as a result of higher cognitive ability there have been two major consequences, first complex social relationships and second development of visual symbolism, i.e. development of art as a means of communication and expression.

Rock Art

Most famous Upper Palaeolithiccave art is found in sites such as Lascoux (south west France), Les Cambarelles (Les Eyzies de Tayac, Dordogne, France), Altamira (Cantabria, Spain) and Grotte de Chauvet, France. The cave art from these sites usually depict animal motifs, human figures andanthromorphic (such as human-animal forms) figures. They also represent abstract and non-naturalistic signs, generally called tectiforms. Such art was made on murals or painted over the natural shape of the rock wall. The engravings and the bas-relief were also repeated in clay and stone slabs found near and around the cave sites. The painting was done with pigments prepared by grinding naturally occurringochres, mineral oxides etc. with fat and blood of animals and other materials such as urine, water etc. Black, red and occasionally yellow pigments were mixed or used separately to draw outlines. In Grotte de Chauvet, France, dated to around 30,000 BCE, more than three hundred paintings have been found. The paintings give an effect of movement which was achieved by depicting over lapping heads of animals in motion.

The Magdalenian site of Lascaux in South West France dated to around 16,000 BCE in its painting depicts wild horses, bulls, reindeer, and other animals. The colours used

for these paintings were derived from the minerals and most common was hematite i.e. red. Besides this, manganese, natural earth and charcoal, both natural and burnt mixed in blood or animal marrow or fat were also used as colouring agents. Early humans used feathers, twigs and hair as brush, besides using their fingers. They mostly made paintings on the natural surface of the rock. They generally preferred plain and smooth surface but again that was not the sole criteria in choosing a surface as they also made figures at a height, on ceilings and deep inside the caves. The bodies of the animals were generally left blank and the pictures range in sizes from small to very large ones.

Figure 3.6 : Altamira Cave Painting

Credit: Museo de Altamira y D. Rodriguez, 2010

Source:https://upload.wikimedia.org/wikipedia/commons/8/8b/9_Bisonte_Magdaleniense_polícromo.jpg

Scholars do not have a unanimous opinion for the existence of these art forms. Some scholars believe that these art forms represent ritualistic belief. Others argue that they were made for aesthetic purpose. While a few scholars associate the Palaeolithic cave art with magic or sorcery. Scholars such as Gordon Childe have argued that these were not amateurish work rather they were well made and that these early societies must have specialists who made such paintings. This brings us to the question as to why a society based on subsistence economy spent time and energy in making these paintings in difficult to reach caves. H. Breuil (in Fagan, 2014) has stated that the hunter-gatherers performed rituals in these caves and such practices were to ensure success of hunt. In fact, some experts like Lewis-Williams and Dowson (in E. Palacio-Perez, 2013) argue that cave art was involved with shamanistic rituals and the animal figures were images of spirit creatures or life force for the shamans. In contrast to these ideas, many scholars believe that the cave arts simply represented the world of the early humans. They were also explained as sympathetic magic oftotemism by Ucko and Rosenfeld (in E. Palacio-Perez, 2013). Thus, interpretations of Palaeolithic art vary from pure aesthetics to a functional view.

Check Your Progress Exercise-3

1) Write a note on the Upper Palaeolithic cultures in Europe.

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2) Evaluate the Rock art and how does that represent the complexity of the Upper Palaeolithic period.

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3.4 MESOLITHIC CULTURES

The term Mesolithic means Middle Stone Age. It is generally understood as a prelude to Neolithic. This period is recognized in terms of marked reduction in tool size and striking climatic changes. It witnessed the end of the Ice age and beginning of a warmer period and then again a colder phase later. The warmer period led to increase in sea levels. Coasts, estuaries and lakes became highly productive and aquatic resources therefore were well utilized (Fagan, 2014). These changes had an impact on vegetation as well as the animals found, for example woolly mammoths disappeared and deer became more common. Plant food such as nuts became more prevalent. Increase in food would have contributed to an increase in population.

3.4.1 Environmental Changes

Major changes were seen with the Holocene epoch, a geological division which started from around 13,700 BP. The climatic fluctuations and changes could be noticed in terms of the end of Palaeolitic phases and beginning of new small tools, called microliths, changing hunting strategies with introduction of bows and arrows besides intensive gathering (as will be discussed in this Sub-section). The climate was becoming dry and arid and along with it there were changes in the flora and fauna in this region. Population had also increased and led to two kinds of changes. Firstly, change in the use of tools and secondly a change in the utilization of the available food resources.

Mesolithic gained recognition as a distinct cultural phase with the discovery of Mas d'Azil, a cave site near France. In this site, the Mesolithic tools were found over the Magdaenian tools of the Upper Palaeolithic period and with this discovery, a separate phase was identified in Europe. The Mesolithic period has been often defined as the culture between Palaeolithic and Neolithic.

D. Price (1991) holds that Mesolithic is not exclusively associated either with utilization of microlithic tool or with the exploitation of forest or coasts nor with the domestication of dog. It can be defined as a post-glacial period prior to the introduction of agriculture. Clark also holds that the Mesolithic period was essentially a prelude to the fundamental changes in the development of culture rather than in being the dead end.

3.4.2 Microlith Tools

The tools that are associated with this period are called the microlith tools. These were small in size, sharp and very useful. This period also saw development in terms of better composite tools and weapons. The Microliths were generally made in geometric forms, such as triangular and trapezoidal but they were also made in non-geometric forms such as the lunates and others. The blade technology of the earlier period was further modified in this period and various backed-bladelets have been found. The period is also associated with the use of bows and arrows which must have made the Mesolithic humans better hunters. The period is moreover marked by increasing localization of artefacts and the formation of new cultures as will be discussed in the next Sub-section.

Figure 3.7 : Microlith Tools
Credit: York Museums Trust, Ellie Cox, 2018
Source: https://upload.wikimedia.org/wikipedia/commons/d/d0/Microlith_%2C_Mesolithic_%28FindID_628327%29.jpg

Fishing was commonly practiced during this period as can be seen from the tool kit which now included barbs, harpoons, spears etc. which were specialized tools used for fishing. Tools were made of stone, bone and wood. Other tools such as knives, axes, spearheads, blades, chisels, wooden arrowheads etc. have also been found from this period. The bladelets were made with pressure flaking technique and thus the tools were more regular in design with parallel edges. By this period, humans could produce well-shaped projectile points in some parts of Europe.

3.4.3 Subsistence Pattern and Social Complexity

The Mesolithic economy was based on hunting, gathering and fishing. The Mesolithic humans lived in groups in semi-permanent or permanent settlements near river banks. Star Carr in England is an important Mesolithic site dated to around 9500 BP. There is evidence that, by this period, humans had domesticated or befriended dog. Though the Mesolithic economy does not show any marked change from the preceding Upper Palaeolithic economy.

Fagan (2014: 292) mentions that the Mesolithic was a period of broad variation in

economic and social life with intensification of food gathering strategies in uncertain climatic conditions. The ability to adapt to newer circumstances was seen from the Upper Palaeolithic period. It became more relevant during the Mesolithic period. These strategies involved new tools which were useful in hunting aquatic resources such as sea mammals and fishes. According to Binford (in Fagan, 2014), during the Mesolithic period, humans settled around the river valley due to the availability of fishes. The availability of water resources allowed the societies to become sedentary and capable to handle the increase in population. C. Gamble (in Fagan, 2014) on the other hand, holds that the shift to river valleys was the result of an increase in population that led to shortage of food and thus aquatic resources was the last resort. Fishing was labour intensive and not as nutritious as food resources on land. David Yesner (in Fagan, 2014) takes a different perspective and argues that with changing environment, population pressure, and food shortage shifting to aquatic resources was the 'optimal strategy' for early humans.

3.4.4 Mesolithic Cultures in Europe

The Mesolithic in Europe is represented by different cultures as result of variation in climatic changes and newer food collection and hunting strategies as well as different tool cultures. The Azilian, Sauveterrian, early Tardenoisean, Asturian and Larnian were most prominent in western Europe while the Maglemosian, Kitchen-Midden, and Campignianwere prominent in northern Europe. In the Mesolithic culture of Western Europe importance of shellfish can be noticed. Trapezoidal microlith was found in large numbers in many of the sites (Gabel, 1958).

The northern European cultures from around 10,000 BP are characterized by the tool technology of bows and arrows, domestication of dog, use of canoes (a narrow water-rowing vessel), and other sea going crafts besides a range of fishing tools such as nets, hooks, traps etc. (Price, 1991). Tools such as axes, celts (long and thin tools made of stone), projectiles (made of bone, wood, antler and stone) also appeared in the northern Europe towards the end of Mesolithic period around 6000 BP. Europe, especially northern Europe, witnessed changing sea levels as a result of melting of glacial ice. This led to an increase in aquatic resources which were well utilized during this period.

3.4.5 Mesolithic Cultures in Scandinavia and Britain

The Mesolithic period in Scandinavia and Britain is characterized by well-marked population pressure and permanent settlement. The coastal villages have revealed mixed economy based on the exploitation of marine as well as forest resources. By the later period, after around 4000 BP, they had begun pottery making. The Mesolithic culture here has three sub-divisions, Maglemose, Kongemose, and Ertebolle periods.

The Maglemosean culture (*c*. 9500-7700 BP) is characterized by river valley settlements with hunting and foraging economy. Most of the sites were summer lakeshore settlements. Evidence suggests dependence on marine resources as lot of fish bones have been found. The people of this culture mostly lived in small huts which occasionally had prepared floors. For example, Ulkestrup in Denmark where huts have been found with bark and wood floors (Fagan, 2014).

Like the Maglemosean, the Kongemoseculture (*c*.7700-6600 BP) also developed near river banks. Segebro, near north-west Swedish coast, is a prominent site of this culture. This site is characterized by rhombic arrowheads. Hunting was the mainstay of the economy. The Kongemose culture was succeeded by the Ertebolle culture.

The Ertebolle culture (*c*. 6600-5300 BP) had an elaborate tool technology with bone,

antler and wood tools. The economy was based on hunting. Fishing was also an important activity as fish was an integral part of their diet. They buried their dead in cemeteries and placed the body in various positions. Sometimes dog was buried with the human corpse. The burials show some kind of social differentiation. Cemeteries found in Zealand (Denmark's largest island) and Scania (southernmost province of Sweden) show increase in social and ritual complexity. Excavations of the cemeteries in Skateholm, south Scania has 40 graves with variable body placements and several interments (burials) of dog.

The tools from Ertebolle culture include axes, trapezes, scrapers, perforated antlers etc. Some cooking pots were also found. The sites also revealed evidence of year round occupation of coastal and inland sites. They had diverse subsistence base with evidence of shell middens and faunal remains.

3.4.6 Mesolithic Cultures in Southwest Asia

Southwest Asia has been a fascinating area specially for the growth of domestication of plants and animals. It is the region which became the cradle of food production. The beginning can be traced from the Mesolithic period with the emergence of the Mushabian and the Kebaran culture which was followed by the Natufian culture. The Mushabian culture emerged around *c.*14,000-12,800 BP in eastern Mediterranean region. This culture is characterized by small geometric microliths. The Kebaran culture (*c.*13,500-11,500 BP) is marked by removing of bladelets from the core. The bladelets were microliths ranging from 4-7 milimetre which were variedly shaped. The economy was based on the practice of hunting and gathering. By *c.*13,000 BP, southwest Asia saw environmental and vegetational changes. Ground stone tools (one of the feature of Neolithic culture) such as pestles and mortars and other implements were found.

The Natufian culture, *c.*12,500-10,200 BP in Levant, has revealed evidence for the beginning of agriculture. It is therefore seen as the period of transition between the Mesolithic and Neolithic phases. This culture was marked by a sedentary lifestyle with village settlements. The culture was defined by microliths, burins, borers, scrapers, blades, knives and picks. Later arrowheads were found. Along with that, querns, pestles, pounders and other ground stone tools and stone vessels were also found. Evidence of fish-hooks, and nets reflects the importance of fish in the human diet of this culture. However, the people of this culture were still hunters and gathers and evidence reveals that they hunted animals such as gazelles, deer, wild goat etc.

Based on their explorations, archaeologists, Anna Belfer-Cohen andOferBar-Yosef (1989) argue that sedentarism can be observed by the early Natufian culture with many sites found throughout Levant. According to them, it was a culturally complex hunter-gatherer society with dwellings, underground storage, graves, flint artefacts, stone and bone artefacts. The evidences show a distinction between 'base camps' and 'seasonal camps' (Belfer-Cohen, 1989:473-74). The change in settlement pattern ranging from sedentary and semi-sedentary base brought change in Levant (Belfer-Cohen, 1989: 474).

Check Your Progress Exercise-4

1) What are the important features of the Mesolithic Culture?

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2) What is the tool technology associated with the Mesolithic period?

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3) Discuss the Mesolithic Cultures found in Europe.

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4) Discuss the importance of the Natufian culture in Southwest Asia as a period of transition.

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3.5 SUMMARY

The Palaeolithic and the Mesolithic period were periods of major transformations and provided the foundation for evolution of the human society. Alongside biological changes, the early humans were making great cultural modifications. From making simple Oldowan tools they reached the stage where they began to produce fine blades. From scavenging they evolved as expert hunters as well as gatherers. From adapting to environmental changes, to adjusting to newer circumstances, early humans paved their way for transformation from a simple hunting-gathering-scavenging society to food producing economies. The changes that we observe in this period in terms of tool technology, society, economy, religion as well as culture paved the way for development of humans to the next stage.

3.6 KEY WORDS

Flakes : small and thin pieces of scraped stone used for making tools.

Knapping : the process of removal of flakes from the core of a stone.

Mesolithic : literally meaning the middle stone age, it refers to

the period of human prehistory between Palaeolithic and the Neolithic periods.

Microlith : small stone tools.

Palaeolithic : period of prehistory marked by the development of stone tools and therefore called the Old Stone Age.

3.7 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise-1

1) Mention hunting-gathering and scavenging economies. Also mention tools used and their functions. See Sub-section 3.3.2

2) Mention simple tools such as chopperchopping tools and how useful they were as hunting tools. See Sub-section 3.3.2

3) Changes associated with *Homo Erectus* pertaining to tools, control of fire, language etc. See Sub-section 3.3.2

Check Your Progress Exercise-2

1) Differentiate in terms of tools, their age, their types, useand function, economic activity, societal changes as well as burials. See Sub-sections 3.3.2 and 3.3.3

2) Mention the Mousterian tool technology, hunting strategies, various sites, and burials. See Sub-sections 3.3.2 and 3.3.3

Check Your Progress Exercise-3

1) Mention the cultures found in Europe along with details about their tools and subsistence strategies. See Sub-section 3.3.4

2) Mention details of the rock paintings: their subject matter, colour, choice of stone, themes etc. Also discuss various interpretations to these activities. See Sub-section 3.3.5

Check Your Progress Exercise-4

1) Mention features in terms of food procurement, changes in tools, subsistence economy etc. See Section 3.4. and Sub-sections 3.4.1, 3.4.2 and 3.4.3

2) Refer to microlith tools: their variety and use. See Sub-section 3.4.2

3) Mention both the central European and north European cultures. See Sub-section 3.4.4

4) Mention importance of Natufian as period of transition along with the feature of the culture. See Sub-section 3.4.6

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PDF:

https://www.jstor.org/stable/pdf/2949307.pdf?refreqid=search%3Af915cb64622b05eda2bd630f15cf13ea

https://www.jstor.org/stable/pdf/41492314.pdf?refreqid=search%3Af9d917af0f4d7cdaf506748db9444eed

3.9 INSTRUCTIONAL VIDEO RECOMMENDATIONS

History Documentary - Stories from the Stone Age: The Human Adventure
https://in.video.search.yahoo.com/search/video?fr=spigot-nt-gcmac&p=prehistoric+tool+bbc+documentary#id=2&vid=9ce7c690f5fdd1c32adb23b72f71a334&action=click

Why Prehistoric Women Had Super-Strong Bones
https://video.nationalgeographic.com/video/171129-strong-prehistoric-women-vin-spd

Mystery of Life in the Paleolithic Age
https://www.youtube.com/watch?v=Tx9cuROQWlM