
UNIT 2 INDIAN MESOLITHIC CULTURES

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Learning Objectives



Once you have studied this unit, you should be able to:

- describe the newly adapted culture and environment;
- write about Mesolithic tools and Archaeological sites; and
- discuss about the different sites of Indian Mesolithic.

2.1 INTRODUCTION

Human Past or History is divided into three main periods, namely, 1) Stone Age, 2) Bronze Age, and 3) Iron Age. These are not simply technological stages implying that tools and weapons were made of stone during the Stone Age, of bronze during the Bronze Age, and of iron during the Iron Age. These Ages imply much more than technology. They imply subsistence economy or ways of acquiring food, social organisation, including caring for the weak, sick and old, mode of disposing of the dead, art, and other aspects of life.

Stone Age is divided into three periods, namely, 1) Palaeolithic or Old Stone Age, 2) Mesolithic or Middle Stone Age, and 3) Neolithic or New Stone Age. The word lithic is derived from the Greek lithos, meaning stone. Palaeolithic means Old Stone Age, Mesolithic means Middle Stone Age, and Neolithic means New Stone Age.

2.2 MEANING AND SIGNIFICANCE OF MESOLITHIC

Mesolithic or Middle Stone Age was a much shorter period than Palaeolithic, having lasted from over thirty thousand years in Sri Lanka and parts of Africa to only about ten thousand years in India and West Asia. Mesolithic period has enormous culture-historical importance in Old World prehistory. The technological hall mark of this period are tiny stone tools or 'microliths'. In addition, the Mesolithic people also used non-microlithic tools made of flakes and blades.

Mesolithic people made a number of technological innovations like bow and arrow for hunting; querns, grinders and hammer stones for grinding and

pulverising plant foods like roots, tubers and seeds; and regular use of fire for roasting meat, tubers, etc. They created a large volume of art in the form of several thousand paintings and engravings, which not only tell us about their aesthetic taste but also about their capability for innovating new technological elements, modes of subsistence economy, items of material culture, social organisation and religion.

Meaning and Types of Microlith

The term 'microlith' is strictly to be applied only to tools made on microblades or bladelets (having a maximum length of 50 mm and a width of 12 mm) or occasionally on small flakes, by blunting one or more margins by steep retouch. Microliths comprise non-geometric forms like rectangular blunted back blades and points, and geometric forms like crescents or lunates, triangles and trapezes. Microliths were too small to be used as tools individually; instead, they were used as components of tools and weapons by being hafted in bone, wood or reed handles and shafts. A groove was cut in the handle or shaft, and a number of microliths were arranged serially into it and were glued together by a natural adhesive like gum or resin. Microblades were intentionally blunted on one edge to prevent the cutting of the haft and thereby loosening of the microliths during use of the tool or weapon.

Function of Microliths

Microliths were used as tips and barbs of arrowheads and spearheads, for forming the cutting edge of knives, sickles, daggers and harpoons. Discoveries of hafted microliths from many excavated sites in Europe, the Near East, Africa, Australia and India, as also their depiction in central Indian rockshelters, testifies to the use of microliths in this manner.

Other Tool Types of the Mesolithic Period

In addition to microliths, Mesolithic people used a variety of non-microlithic tools made on flakes, cores and blades. These comprised choppers, scrapers, notched flakes, borers and points, made on cores, flakes and blades.

2.3 DISCOVERY OF MESOLITHIC TOOLS

Work of A.C.L. Carlleyle

The earliest discovery of microliths and other Mesolithic tools was made by A.C.L. Carlleyle, an Assistant to Alexander Cunningham, founder Director General of the Archaeological Survey of India (ASI).

Carlleyle was the first person to discover microliths, rock paintings, pigment pieces with marks of grinding, human skeletons, animal bones, ash, and charcoal pieces in rockshelters in Mirzapur District of the Northwestern Provinces of Agra or Oudh (present Uttar Pradesh). He also discovered paintings depicting scenes of wild animals being hunted with spears, bows and arrows and hatchets, and living floors containing hearths with ash, charred animal bones. This was the first discovery of the paintings portraying the Mesolithic way of life.

J.C.Cockburn, Rivett-Carnac, and Robert Bruce Foote

Subsequently, discoveries of microliths and bone tools were made by J.C. Cockburn and Rivett-Carnac in rockshelters as well as at open-air sites in the

same area. Robert Bruce Foote, Father of Indian prehistory discovered microliths in Kurnool caves and several other sites in South India as well as at sites on the Sabarmati river and away from it in Baroda, Sabarkantha and Mehsana Districts of Gujarat.

Thus Mesolithic sites are found almost all over India, except the northeast but including the Indo-Gangetic plains where stone, the raw material for making tools and weapons is scarce. This shows that Mesolithic hunter-gatherers had colonised the whole country. This had happened for the first time during the entire prehistoric period of two million years.

2.4 NATURE OF ARCHAEOLOGICAL SITES

Archaeological sites are of two types: primary and secondary. Primary sites are those where cultural material is found in its original context and relatively undisturbed condition. In such a context organic material is relatively better preserved. Secondary sites are those where cultural material from spatially, culturally and chronologically unrelated contexts is found buried in geological deposits after being transported by fluvial agency. However, as most Mesolithic sites belong to Holocene or Recent period and are only a few thousand years old, archaeological material on them is found in a primary context either on the surface or buried in open air or cave/rock shelter habitation deposits. At such sites biological and dating materials are better preserved. For the reconstruction of life ways, environment and dating, habitation sites are ideal.

State-wise names of sites excavated in India:

Rajasthan: *Tilwara; Bagor ; Ganeshwar*

Gujarat: *Langhnaj; Akhaj; Valasana; Hirpura; Amrapur; Devnimori; Dhekvadlo; Tarsang*

Maharashtra: *Patne; Pachad; Hatkhamba*

Uttar Pradesh: *Morhana; Lekhahia; Baghai Khor; Sarai Nahar Rai ; Mahadaha; Damdama; Chopani Mando; Baidha Putpurihwa*

Madhya Pradesh: *Pachmarhi; Adamgarh ; Putli Karar; Bhimbetka; Baghor II; Baghor III; Ghagharia*

Bihar: *Paisra*

Orissa: *Kuchai*

West Bengal :. *Birbhanpur*

Andhra Pradesh: *Muchatla Chintamanu Gavi; Gauri Gundam*

Karnataka: *Sangankallu*

Kerala : *Tenmalai*

The above excavated sites have provided us a vast amount of information regarding technology, material remains, burial systems, anatomical remains, customs associated with burial, art, and charcoal for dating of the sites.

The diet of the Mesolithic people consisted of leaves, flowers, fruits, seeds, roots, and tubers, flesh of wild land and water animals, and birds.

We have nearly sixty radiocarbon and eight Thermoluminescence (TL) dates from over twenty sites. These show that the Mesolithic people lived between 10,000 and 2000 B. P. In the later part of their history they came into contact with rural and urban people. As a result of this contact the nomadic and hunting-gathering way of life underwent modification. The majority of the hunter-gatherers got settled, took up agriculture and other sedentary occupations and were assimilated into caste-based Hindu society.

2.5 BRIEF DESCRIPTIONS OF MAJOR MESOLITHIC SITES OF INDIA

Teri

Teri sites are located on red-coloured dunes, along the eastern coast of Tamil Nadu. They were first discovered by Robert Bruce Foote, Father of Indian Prehistory, towards the end of the nineteenth century. These dunes were formed during the Terminal Phase of the Last Ice Age or Upper Pleistocene, when sea level had fallen several metres lower than the present one. Because of lowered sea level large areas were exposed along the coast, and sand from exposed beaches was blown by wind and deposited along the coast. Hunter-gatherer groups occupied the surfaces of the dunes to exploit the marine resources of the shallow sea and vegetable resources of the trees and plants growing in the vicinity of the beach. During the post-glacial period when temperatures started rising and rainfall increased, dunes became consolidated and were weathered to a reddish colour. Archaeologists call them *teris* because they are known by that name in the local Tamil language. While the biological material on dune surfaces has decayed due to weathering, large quantities of stone artifacts and their manufacturing debris have survived.

The *Teri* sites, particularly Sawyerpuram, one of the largest, were explored by anthropologist, A. Aiyappan in the early 1940s. Later, in 1949, F.E. Zeuner, Professor of Environmental Archaeology at the Institute of Archaeology, London University examined the dunes, studied the red weathering, and collected stone artifacts from them. Zeuner took the artifacts with him to England where they were studied by archaeologist, Bridget Allchin. Together they published a comprehensive article on them, along with a reasoned interpretation of the climate during and after the formation of the dunes and their occupation by man. Their interpretation continues to be valid to this day.

Sarai Nahar Rai

The site of Sarai Nahar Rai is located in the plain of the Sai river, a tributary of the Gomati, in Pratapgarh district of Uttar Pradesh. The flat ground outside the village was used by the farmers for threshing of harvested crop by trampling under oxen hooves. Because of this activity over many years, stone artifacts, animal bones, and human skeletons buried below the surface got exposed and came to the notice of the village people. The news spread by word of mouth and people of surrounding villages started visiting the place out of curiosity. The news reached the ears of Dr. Ojha, a lecturer in the Department of Ancient Indian History, Culture & Archeology, Allahabad University and Acting Director of U.P. State Archaeology Department. Through Dr. Ojha, it came to the notice of G.R Sharma, Head, of Archaeology department, Allahabad University, who carried

out an excavation at the site and discovered a large quantity of stone artefacts, clay-coated fresh water shells, animal bones, and 14 human skeletons in excellent state of preservation. The skeletons have been scientifically studied by Prof. Kenneth A.R. Kennedy of the Cornell University, Ithaca, New York, U.S.A., and his colleagues and students.

Prof. Sharma organised a systematic exploration in Pratapgarh and neighbouring districts for locating more sites similar to Sarai Nahar Rai. In the course of the next few years more than 200 sites were brought to light. The most important of these are Mahadaha and Damdama in the same district, Chopani Mando in Allahabad district, and Baghor II, Baghor III, and Ghagharia in the neighbouring Sidhi district of Madhya Pradesh. All these sites have been excavated by the Allahabad University, those in Sidhi district, jointly with the University of California, Berkeley, U.S.A. The excavations have thrown a flood of light on the earliest human colonisation of the Ganga plains. Human skeletal material from these sites has been studied by Prof. Kenneth A.R. Kennedy and his colleagues and students like J.R. Lukacs, J. Chiment, T. Disotell, D. Meyers, and N.C. Lovell, and animal remains by P.K. Thomas and P.P. Joglekar of the Deccan College, Pune.

Langhnaj

The site of Langhnaj is located on one of the numerous sand dunes in Mehsana district of Gujarat. These dunes were formed during the hyper-arid climate of the Upper Pleistocene and were stabilised after the monsoon revived during the Terminal Pleistocene. The dunes form a rolling topography, and are clustered around a depression which gets filled by runoff from the dunes during the monsoon and retains till the next monsoon. It is a source of water for humans to wash their clothes and for livestock to drink and be bathed. As the dunes have a thick layer of soil formed during the sub-humid climate, they support a thick vegetation of thorny plants, bushes and grass which provides food for grazing animals. Leaves and fruits of trees and bushes like *ker* (*Capparis decidua*), *kumat* (*Acacia senegal*), *khejri* (*Prosopis spicigera*), *kheenp* (*Leptadenia pyrotechnica*) provide food for humans. Because of the pressure of human population wildlife has considerably declined but until nilgai is still seen and herds of blackbuck (*Antelope cervicapra*), chital (*Axis axis*), and gazelle as well as wild boar, jackal, fox, mongoose, porcupine, hedgehog were quite common until a few decades ago. Their flesh was a rich source of protein-rich and their skins were probably used for cloth and covering musical instruments like drums of various sizes and shapes. With assured source of food and water, Mesolithic human groups occupied almost all the dunes as testified by the presence of stone artifacts, their manufacturing debris, querns, grinders, hammerstones, and bones of wild animals.

Langhnaj was excavated by the eminent archaeologist H.D. Sankalia on several occasions between 1941 and 1949. He invited his colleague, Irawati Karve, Professor of Anthropology, and G.M. Kurulkar, Professor of Human Anatomy at the Govardhandas Medical College, Mumbai, to join him in the excavation to excavate the fragile human skeletons carefully. Besides the stone tool industry of microliths and non-microlithic stone tools, the excavation yielded fragments of querns and grinders, at least one perforated disc, small sherds of hand-made pottery, bone and dentallium shell beads, a copper knife in the middle level of the deposit, fragments of wheel-made pottery, an iron arrowhead and pieces of iron, and charred animal bones, including a scapula or shoulder blade of a rhinoceros.

a) *Environmental Setting*

Bagor is a large village on the left bank of the Kothari river, a tributary of the Banas, 25 km west of the town of Bhilwara in Rajasthan. The prehistoric site lies on a large and prominent sand dune, locally known as Mahasati, on the left bank of the Kothari, a non perennial river, about 1 km east of the village. Bagor is located in the centre of the undulating rocky plateau Mewar east of the Aravalli hills. Much of the plateau is covered by an open woodland of *khejri* (*Prosopis spicigera*), *babul* (*Acacia arabica*), *dhak* (*Butea frondosa*), and *khajur* (*Phoenix sylvestris*), and bushes of *kair* (*Capparis decidua*) and *ber* (*Zizyphus jujuba*). Annual rainfall of 60-70 cm occurs mostly during July-September. Extensive tracts of rocky land - what Kipling called the 'stony pastures of Mewar' provide adequate pasture for cattle, sheep, goats and camels. Pastoralism is an important part of the rural economy. Wild life comprising blackbuck, nilgai, wild boar, jackal, fox, monitor lizard, partridge and sand grouse was plentiful fifty years ago and is common even today.

b) *Site and excavation*

The site, which covers an area of about 10,000 Sq. m., was excavated by V.N. Misra from 1973 to 1977. The dune rising to a height of six metres above the level plain, provides a commanding view of the surrounding countryside. This must have favoured its selection for occupation by prehistoric man. Our estimates, based on the excavated area, show that an area of at least 80 x 80 m or well over 6,000 sq. m. was occupied from the beginning of the settlement.

The habitation material occurs throughout within the sand, thus attesting that the dune was under active formation when prehistoric man occupied it. Five layers were recognised in the 1.5 m habitation deposit. Cultural material was found in the top three of them.

c) *Cultural Sequence*

The excavated deposit reveals an occupation of over a period of five millennia. During this period a culture based on stone technology and hunting-pastoral economy underwent continuous evolution as evidenced by the appearance of new material traits and the decline and disappearance of older ones. The most abundant material which continued all through the occupation was the microlithic industry. No stratigraphical and cultural break is seen in the occupation. On the basis of changes in material culture three phases of occupation can be recognised.

In Phase I (c. 5000 – 2800 B.C.) microliths and animal remains were most profuse, and economy was based on a combination of hunting-gathering and herding. People lived in huts with stone-paved floors and wattle walls, or sheltered behind wind breaks. The dead were buried within the settlement in an extended position laid out east-west.

In Phase II (c. 2800 – 600 B.C.) stone artefacts and animal bones begin to decline in quantity, but copper tools and pottery make their appearance. Pottery is hand-made with incised decoration. The dead were still buried in the habitation area but in a flexed position and oriented east-west. The graves were furnished with clay pots, metal tools, ornaments and food offerings. Increased material

prosperity implies a more secure and stable economy and greater reliance on animal domestication.

In Phase III (c. 600 B.C. – 200 A.D.) occupation was restricted to the central part of the mound. Microlithic industry declined greatly and the animal bones were scarce and highly fragmented. Iron tools come into use, and pottery was more plentiful and entirely wheel made. Glass beads were added to the repertoire of ornaments; kiln-fired bricks and tiles were used alongside stone in structures.

d) *Microlithic Industry*

The flaked stone industry is unusually rich, with several hundred thousand worked pieces, and comprises the most common material at Bagor. No other site in India has yielded microliths in comparable numbers. The finished tools and their manufacturing debris are distributed more or less uniformly all over the inhabited area showing that the tools were manufactured within the settlement and that every family or social unit may have produced them for its requirement. The highest density is found in Phase I, which contains 45 to 55 %, of the material. It declines progressively in phases II and III. No marked typological or technological change has been noticed from lower to upper levels. Quartz and chert were the most common raw materials used. Although quartz predominates in the waste material, majority of the finished tools are made of chert. The greater use of quartz was no doubt due to its ready availability in the nearby quartz veins in schistose rocks.

The lithic industry is truly microlithic in that it is based on the mass production of microblades and their conversion into various microlithic forms. Non-microlithic tools, such as scrapers and burins, made on cores and flakes, are rare. More than forty types have been recognised of which the most common are: 01. Blade with flat retouch; 02. Blunted back blade; 03. Obliquely truncated blade; 04. Obliquely truncated and blunted back blade; 05. Triangle, mainly scalene and isosceles, 06. Trapeze; 07. Transverse arrowhead; 08. Rhomboid 09. Crescent; 10. Point

Besides these there are also some tools made on flakes and cores such as side, end, and round scrapers, and burins.

The microlithic industry is essentially geometric and appears to be most suitable for hunting. Technologically, a distinctive feature of the industry is rarity of the use of crested guiding ridge technique for removal of blades. Although occasional tools measure 40 mm or more in length, the majority are between 15 and 20 mm, and some measure between 5 and 10 mm only. Most microliths, particularly crescents, triangles are very carefully and retouched perfectly symmetric in form. It is indeed a puzzle how such tiny pieces measuring less than 10 mm could have been hafted and used. Another notable feature of the industry is the presence of petit tranche or transverse arrowheads in good numbers. This type is rare in other Indian microlithic industries. The Bagor industry is characterised by a very high standard of craftsmanship. The only microlithic industries which can compare with it in typology and technology are those of the Morhana Pahar group of rockshelters in Mirzapur district of U.P.

e) *Copper Objects*

Apart from fragments, five well-defined objects were found among offerings with the two burials of Phase II. These include one spearhead, one thin rod, and

three arrowheads. The spearhead is broken at the basal end. Both faces have a distinct mid rib and the sides taper gently towards the tip. The rod is 10.3 cm long, has a diameter of 2 mm., and is thicker near its lower tip, and the upper tip is folded to form a loop. It could have been used as an awl or to apply *kohl* as eye decoration.

The arrowheads are 22-25 mm long, 19-24 mm broad and 1.5 –2 mm thick. Two of these have a concave crescentic base and the third has a barbed base. All three are provided with two holes near, and parallel to the base. These must have been meant to secure the arrowhead to the shaft with the help of a string, metal wire or rivets.

The arrowheads are of considerable typological and cultural interest. Similar specimens but without holes are known from a number of Harappan sites in north Rajasthan, Sind, Punjab and Baluchistan, and from the Chalcolithic site of Azad Nagar in Indore city in M.P. There is no evidence to show that the people of Bagor knew metallurgy and had themselves produced the arrowheads. Most probably they obtained them and other metal objects from itinerant metal smiths who also catered to the metal requirements of the Harappan and Chalcolithic people.

f) ***Iron Tools***

Besides many amorphous bits of iron, two well-preserved arrowheads came from the deposit of Phase III. One of them is socketed and the other tanged.

g) ***Pottery***

Isolated bits of pottery - 1 to 2 cm in size – appear almost down to the bottom of the deposit but they are too small to indicate any shape, and are certainly derived from upper levels by infiltration. Thus Phase I is best regarded as devoid of pottery. However, as this level is richest in microlithic industry and animal remains, absence of pottery in Phase I does not indicate a lower intensity of occupation. It is only in Phase III that pottery appears in reasonable quantity.

Two main fabrics, named A and B, can be recognised; fabric A is characteristic of Phase II while fabric B is predominant in Phase III. A Ware is made of gritty and micaceous clay. Both surfaces of the pot are treated with a slip of fine clay, and in many vessels the slipped surface is burnished. Bright red slip has faded away in most cases and survives as dull brown colour. Firing has been done at a low temperature, rendering the pots highly fragile. There are no clear striations, and most pots seem to have been made entirely by hand.

Over a dozen complete pots were found which, with one exception, were associated with three burials. They include broad-mouthed jars, small *lota*-like pots, large shallow basins, smaller and deeper basins, and bowls in a range of sizes. There are also a few miniature vessels types which might have been used for ritual purposes. Two large, deep bowls have a pair of holes on the sides, suggesting either that they were suspended by strings for carrying food, for protecting it from pests within the home or for tying on a lid.

Though none of the complete pots is decorated, many sherds bear designs which are all incised and include groups of parallel bands, chevrons, herring bone patterns, criss-crosses, groups of short strokes, and finger nail incisions.

Although absence of the use of potter's wheel and inadequate preparation of clay and low temperature firing, show a simple ceramic technology, the surface treatment and forms are quite sophisticated. Indeed, several carinated forms suggest copying in clay of shapes natural to metal, and it is clear that Bagor pottery belongs to a mature tradition with a long evolution elsewhere.

Phase III pottery or B ware is very different from Phase II pottery and does not develop from the latter. It is entirely wheel made. Firing in this ware has been done at a higher temperature and pots are thinner, lighter and stronger than those of the A ware. They have a brick red surface and a reddish or bluish core. The common shapes are large jars and small cylindrical pots, and bowls. Decoration in this ware is rare and the few designs present consist of simple incisions. In general the pottery of Phase III is utilitarian and lacks any aesthetic appeal. The pear-shaped vessel and the bowl with flat base are typical forms of Shunga-Kushana period. They are very common in the early historic pottery from Balathal in Udaipur District. Therefore Phase III can be described as Early Historic.

h) *Structures*

In Phases I and II the only structures are large floors made of schist slabs and pebbles. In some places the stones appear to be aligned in a circular fashion with diameters of 3 to 5m., which may represent the outer periphery of circular huts or windbreaks. At several places small areas, 40 to 70 cm across, were paved with tightly packed stones, and were associated with concentrations of animal bones. These features might represent butchering floors for although there were plenty of charred bones, no hearths or fire places. In Phase III kiln-baked brickbats and tiles were also used in construction.

i) *Disposal of the Dead*

Five burials were found; one in Phase I, three in Phase II, and one in Phase III. All of them were within the settlement, a practice now well known to have been in vogue at Mesolithic sites in western and central India, and the Ganga plains, and in the Neolithic cultures of Kashmir and south India, and the Chalcolithic cultures of Maharashtra. In Phase I the body was laid in an extended position with lower left arm resting over the trunk and with its head towards the west. No grave goods were offered although a few animal bones found in the vicinity might be associated with the burial. In the three burials of Phase II the body was laid in a flexed position, with arms and legs folded as in a sleeping pose, and with the head to the east. How far this change in the burial practice signifies a change in the ethnic composition of the community is not possible to say as the skeletons of both phases I and II are too poorly preserved to draw any meaningful conclusions about their physical features. According to Kenneth A.R. Kennedy and John R. Lukacs, who examined the Bagor skeletons for their morphology and dentition, the only skeleton from Phase I (Mesolithic) is an adult female while of the three skeletons from Phase II (Chalcolithic) one is a child, one is an adult female, and one is an adult male. The only skeleton from Phase III is an adult female. However, subsequent examination of a small square object found on the neck of this skeleton showed the object to be a Muslim period coin. For this reason this skeleton appears to be a very late interment and cannot be associated with the cultural material of this phase.

The burials were provided with many offerings in the form of pottery vessels (originally no doubt containing food and water), ornaments, metal objects, and cuts of meat. In one case as many as eight pots were arranged near the head and on the left side of the body; two copper arrowheads were placed on the left side, one of them right on the lower left arm, and a large animal femur lay close to the body. In case of another burial four pots were placed near the feet and on the left side, a spearhead and an arrowhead lay near the head, and an awl or antimony rod (all made of copper) was placed below the abdomen. A broken terracotta spindle whorl was kept near the feet. In addition, thirty-six beads, mostly of banded agate and carnelian but some also of bone were found strewn on the chest and around the neck. The beads, from their position, almost certainly were part of a necklace which was worn by the dead person. With the third burial, that of an 8 to 10 year old child, only a single pot was kept near the head.

The teeth of the Mesolithic specimen were free from any dental pathology. Of the two Chalcolithic specimens for which information is available the adult one had suffered from caries while the child was free from any dental disease.

j) *Stone and Terracotta Objects*

Numerous hammerstones occurred all through the deposit but were more common in Phases I and II. All these bear tell-tale bruising marks in one or more places. They were no doubt used in the manufacture of stone tools and for breaking and splitting open animal bones. Some of the stones are of perfectly spherical shape and bear pecking marks. These were probably used as slingstones. Fragments of shallow stone querns and a number of flat rubbing or upper grinding stones were also found in all levels. The small size of these querns and shallow depressions on them contrast sharply with the large and deep quern so common on Neolithic and Chalcolithic sites. This and their small number preclude a significant role for them in food preparation. In Phase II were also found two perforated stones of the type common at Neolithic and Chalcolithic sites and referred to in the archaeological literature as mace heads, or as weights of digging sticks. The only terracotta object found is a broken plano-convex spindle whorl with its flat surface decorated with a frieze of punctured triangles. It was found associated with a burial of Phase II.

k) *Ornaments*

In Phase I only a few stone beads were found. These are similar to those of Phase II and are likely to have been derived from that level in which beads were very common. They are mostly of banded agate, carnelian and garnet, and are of short tubular and barrel shape. A few tiny bone beads are also present. Reference has already been made to a necklace of stone and bone beads found on one of the Phase II burials. In Phase III glass beads were also used and there were several kinds of stone pendants. Pieces of *geru* or ochre were found throughout the deposit. In the absence of painted decoration on pottery, pigment from these pieces may have been used for decorating the human body.

l) *Food and Economy*

The only direct evidence for reconstructing the subsistence basis of early Bagor are animal bones. These are most common in Phase I, begin to decline in Phase II, and are scarce in Phase III. Most of them are charred and fragmentary showing that meat was roasted on open fires and the bones broken and split open for the

extraction of marrow. The abundance of bones in Phases I and II suggests that animal food was more important in the earlier stages of the settlement. The remarkable correspondence in the distribution of animal bones and microlithic industry confirms that hunting was an important activity in Phase I and to a lesser extent in Phase II as well.

A study of the animal remains by P.K. Thomas (1975) shows the presence of both wild and domesticated species from the very beginning. Domesticated species include cattle (*Bos indicus*), buffalo (*Bubalus bubalis*), sheep (*Ovis aries*), goat (*Capra hircus aegagrus*) and pig (*Sus scrofa cristatus*), and wild ones comprise fox (*Vulpes bengalensis*), mongoose (*Herpestes edwardsi*), nilgai (*Boselaphus tragocamelus*), blackbuck (*Antelope cervicapra*), chinkara (*Gazella dorcas*), chital (*Axis axis*), and hare (*Lepus nigricollis*). D. R. Shah and K.R. Alur, who had examined a part of the faunal collection before Thomas, have also noted the presence of barasingha (*Cervus duvauceli*), hog deer (*Axis porcinus*), wild boar (*Sus scrofa cristatus*, Wagner), jackal (*Canis aureus*), rat (*Rattus rattus*), monitor lizard (*Varanus flavescens*, Gray), river turtle (*Lissemys punctata*, Bonnatere), and fish.

Thus the subsistence economy of the Bagor people during Phase I was based on a combination of hunting and herding. In phase II a decline in the quantity of animal bones and stone tools would suggest a reduced role for hunting and by implication a greater reliance on food production. Other evidence also points in the same direction. First, the introduction of pottery, metal tools, and ornaments, and richly furnished graves all reflect greater prosperity and a more stable and secure economic basis. It should be noted that constellation of traits is otherwise known only from sites where agriculture is established as a certainty. Secondly, perforated stones found in this phase are often interpreted in the archaeological literature as weights of digging sticks used in primitive agriculture.

In Phase III animal bones are scarce and more fragmentary, thereby restricting their amenability to zoological identification. A corresponding decline in microlithic industry would indicate a further decline in the role of hunting. Iron tools, wheel made pottery, and use of kiln-baked bricks, tiles and dressed stones in structures all suggest that agriculture must have been well established by this time.

m) *Chronology*

Five radiocarbon dates based on bone carbonate samples have been processed by the Tata Institute of Fundamental Research, Mumbai. They suggest that the chronology of the occupation of the site by early men varies from 4,480 B.C. to 2, 110 B.C.

Bhimbetka

a) *Location and Associated Sites*

Bhimbetka is a name of a large hill, located near the tribal village of Bhiyanpur, by the side of the Mumbai-Delhi line of the Central Railway, 30 km north of Hoshangabad and 45 km south of Bhopal. The hill is a part of the deciduous woodland-covered Vindhyan Hills of Central India. The hill, with an area of one sq. km. is topped by disjointed monolithic rocks, which contain at their bases and sides as also of many other rocks on the hill a complex of nearly 800

prehistoric rock shelters and caves, the largest concentration at one site in the world, in Sehore district of Madhya Pradesh. While Bhimbeka is the largest hill in the area, several other hills, like Bhaunrewali, Kari Talai, Vinayaka and Jondra, in its vicinity, also contain shelters of varying sizes. The shelters have been formed by natural erosion of the Vindhyan sandstone of which the hill and the rocks surmounting it as well as away from it are formed. While almost all the shelters contain paintings of prehistoric to medieval periods, a few of them also contain evidence of human occupation in the form of stone tools, pottery, copper and iron tools, beads of stone, steatite, faience and terracotta, other objects, animal remains, and human burials. Evidence of occupation in a few shelters goes back to a few hundred thousand years. Because of the quantitative and qualitative richness of its archaeological wealth, Bhimbetka has been granted the status of a World Heritage Site by the UNESCO.

Bhimbetka, discovered by V.S. Wakankar of Ujjain University in 1957, is a complex of nearly 1000 caves and rock shelters in the forested Vindhya hills, 45 km. South of Bhopal and 35 km. North of Hoshangabad in Madhya Pradesh. Over 500 shelters contain paintings of Stone Age to Late Medieval Period, and some of them also contain habitation deposits of Lower Palaeolithic to Early Historic period. A number of the shelters were excavated by V.S. Wakankar and V.N. Misra, from 1973 to 1977. The excavations yielded rich cultural evidence of the Lower Palaeolithic to Early Historical periods and biological evidence of the Mesolithic period.

b) *Environmental Setting*

What is the explanation of the richness of this archaeological wealth? Bhimbetka and its surroundings receive annual rainfall of about 1000 mm. Because of this the hills are covered with dense vegetation. The forest in the valley as well as on the slopes and tops of the hills contains numerous trees, plants and creepers which have edible leaves, flowers, fruits, seeds, roots and tubers. The hills also harbour many herbivores which are a large source of meat. There are a number of perennial springs and seasonal streams which are a source of assured water supply for animal and human populations of the area. Numerous caves and shelters provide ready-made protection against the elements. The hills have an inexhaustible supply of fine-grained quartzite for making tools. A few kilometres south of Bhimbetka there are exposures of Deccan lavas which contain veins of quartz and siliceous minerals from which Mesolithic people made their tools and weapons. Blessed with such abundance of all essential resources, Bhimbetka was indeed a prehistoric paradise, and it is therefore no surprise that the inhabitants of the shelters had enough leisure to produce one of the richest and most beautiful corpus of prehistoric art in the world. The site was jointly excavated by Dr. Wakankar and V.N. Misra..

c) *Wakankar's Excavation*

V.S. Wakankar excavated seven shelters and V.N. Misra excavated three. In one shelter, IIF-24 or Auditorium Cave, Wakankar found evidence of Early Acheulian culture and Pre-Acheulian chopper-chopping tools. In another shelter, IIA-28, he found a boundary wall made of large boulders to enclose the Acheulian habitation area. In several other shelters, he came across evidence of Middle Palaeolithic, Upper Palaeolithic, Mesolithic, Early Historic and Medieval period occupations. In some shelters he found human bones which he believed were fossilised.

d) *V.N. Misra's Excavation*

V.N. Misra excavated three shelters: IIIF-15, IIIF-23, and IIB-33. Of these, IIIF-23 is the most Mesolithic. The Mesolithic habitation area was partitioned into two by a wall of stone slabs and boulders. While Pre-Mesolithic industries were all made of quartzite. Mesolithic assemblage was made entirely of crypto-crystalline siliceous material. Bones collected from a secondary burial were placed on the floor of the shelter. Shelter IIIF-13 produced a lot of ash from a fireplace, small pieces of wheel-made pottery and microliths and other stone tools.

Shelter IIB-33 had the thickest habitation deposit of 1.5 m, and it belonged exclusively to the Mesolithic. The deposit yielded a highly developed geometric microlithic industry, many upper grinding stones, a few ground bone and antler pieces, and some pieces of ground red ochre. All these were associated with several primary burials found one above the other. The deposit also produced plenty of charcoal which was used for dating by PRL and BSIP laboratories. A number of dates ranging from 2000 to 8000 B.P. were obtained from this charcoal.

e) *Contact between Mesolithic Hunter-gatherers and Chalcolithic Farmers*

All the shelters yielded evidence of contact of Mesolithic hunter-gatherers with settled farmers. This evidence consists of copper tools, painted pottery, stone, steatite, faience, terracotta, agate and carnelian beads, and bangles of shell, porcelain and glass.

f) *Rock Paintings*

In addition to its rich and varied evidence of human occupation during the Mesolithic period, Bhimbetka is justly famous for its spectacular wealth of rock paintings. Almost every shelter on Bhimbetka hill contains some paintings. The same is broadly true of shelters on the other hills. A few shelters like the Zoo Rock, Wild Boar and Crab, IIIC-9, and Rangmahal are particularly rich in paintings.

The paintings occur on the walls and ceilings and in the niches or hollows in rock walls. They are made in red, white, yellow, green, and, rarely, black colours. These colours were produced by grinding naturally occurring pigment nodules into powder. The powder was mixed with plant sap or animal blood to form the pigment for creating the paintings.

g) *Subject Matter of Paintings*

The paintings depict a large variety of wild animals which comprise oxen, gaur, buffalo, antelopes like nilgai, blackbuck, deer like barasingha, sambhar, chital, hog deer, and barking deer, elephant, rhinoceros, tiger, leopard, hyena, wolf, jackal, fox, porcupine, monkey and rat. They are portrayed as sitting, standing, walking and running individually or in groups. The animals are realistically drawn and are characterised by vitality and dynamism. Next to them are scenes of hunting of animals by using spears, sticks, bows and arrows, traps and snares as also of fishing and digging of rats, tubers and roots, and collection of honey. Small animals are collected in bags or baskets, and carried to camps with the bag slung over the shoulder or back. There are also scenes of sanctified animals like the wild boar which is depicted in several shelters.

h) *Importance of Bhimbetka*

Bhimbetka is thus an archaeological site of exceptional importance in terms of the record of prehistoric technology, economy, biology, and art. When V.N. Misra and his team conducted excavation at the site in the 1970s, access to it was very difficult. The team had to walk over uneven and steep rocks and boulders, and close to deep ravines. Misra's team had to transport their camp and digging equipment on labourers' heads and in bullock carts for which track had to be made every time by dislodging boulders, breaking rocks, and filling depressions with rubble and mud.

Because of its artistic treasure the site received wide publicity through national and international news channels, news on radio and TV, articles which Wakankar and Misra wrote for English, Hindi, and Marathi newspapers and magazines, hundreds of visitors from Bhopal and nearby towns, and visits of a large number of Indian and foreign archaeologists to our excavations. The visit of the charismatic Prime Minister Rajiv Gandhi and Smt. Sonia Gandhi to Bhimbetka in 1984 further boosted its image. Following this visit the Madhya Pradesh Government built a road connecting the site to Itarsi-Bhopal highway, right up to the top of the Bhimbetka hill, a guest house and essential facilities for tourists. In 1978 V.N. Misra organised an international symposium on Indo-Pacific Prehistory at Pune. Nearly a hundred archaeologists from India and over 25 foreign countries who participated in the excavation also visited Bhimbetka. This visit further boosted the national and international image of the site.

The central and M.P. Govt. have all along been very supportive of our research and our efforts to bring Bhimbetka to the notice of the national and international archaeological communities and the public. Even while V.N. Misra's team were excavating at the site, the Archaeological Survey of India (ASI) had declared Bhimbetka a site of national importance. The building of infrastructural facilities has boosted tourist traffic to the site.

2.6 SUMMARY

This unit describes the Middle Stone age or Mesolithic cultures, which is in between Palaeolithic and Neolithic cultures. This stage is much shorter when compared to Palaeolithic stage. Mesolithic period is characterised by Microliths or the tiny tools. The diet of the Mesolithic people consisted of leaves, flowers, fruits, seeds, roots, and tubers, flesh of wild land and water animals, and birds. Mesolithic stage in India represented in the following states: Rajasthan, Gujarat, Maharashtra, Uttar Pradesh, Madhya Pradesh, Bihar, Orissa, West Bengal, Andhra Pradesh, Karnataka and Kerala.

Suggested Reading

Agrawal, D.P. J.S. Kharakwal. 2002. *South Asian Prehistory: A Mutidisciplinary Study*. New Delhi: Aryan Books.

Misra, V.N. 2002. *Mesolithic Culture in India*, In, *Mesolithic India*, (V.D. Misra and J.N. Pal (Eds.)), PP. 1-66. Allahabad: Department of Ancient History, Culture and Archaeology, Allahabad University.

Misra, V.N. and Malti Nagar. 2009. *Typology of Indian Mesolithic Tools*, Man and Environment, XXXIV (2): 17-45.

Wakankar, V.S. and R.R.R. Brooks. 1976. *Stone Age Paintings in India*. Bombay: Taraporewala and Sons.

Sample Questions

- 1) Define Mesolithic and mention its chief characteristics.
- 2) List the principal Mesolithic sites of India, their location and names of their excavators.
- 3) What are microliths. Mention their chief types and features. What Non-Microlithic tools are found in Mesolithic cultures?
- 4) Describe the burial practices of the Mesolithic period.
- 5) Give an account of the art of the Mesolithic period.
- 6) Summarise the evidence of contact between Mesolithic hunter-gatherers and their technologically and economically more advanced neighbours.
- 7) Discuss the economic and social consequences of contact between Mesolithic hunter-gatherers and their technologically and economically more advanced neighbours.
- 8) Write short notes:
- 9) (i) A.C.L. Carlleyle; (ii) V.A. Smith; (iii) Robert Bruce Foote; (iv) H.D. Sankalia; (v) G.R. Sharma; (vi) B. Subbarao; (vii) Grahame Clark; (viii) Langhnaj, (ix) Bhimbetka, (x) Bagor, (xi) Tilwara, (xii) Birbhanpur, (xiii) Teri Sites, (xiv) Ppachmarhi (xv) Kanjars, (xvi) Bahelias, (xvii) Bhils, (xviii) Van Vagris, (xix) Birhors, (xx) Chenchus, (xxi) Kadars, (xxii) Kurubas, (xxiii) Kal Belias.
- 10) Discuss the importance of the Mesolithic in human cultural evolution.