

Mesolithic Culture

The Mesolithic cultural period succeeds the Palaeolithic and occupies temporally the earliest part of Holocene which began with the end of the last glacial period over 10,000 years ago. The dividing line between the Palaeolithic and the Mesolithic is assigned, however, with geopalaeontological or cultural changes in different parts of the world.

With the change of climate in our planet after Pleistocene ended (12,000 years ago), many plants and animals went extinct. The ecology changed drastically and man had no alternative but to readjust within the changed environment.

The Mesolithic was a **period of massive readjustments** to the environmental changes at the end of the last ice age. As the tundra and large animal herds of the Paleolithic disappeared, people adapted to the new, forested habitats and hunting continued its importance. Archaeological significance lies with the fact that man's way of life and his culture were firmly embedded in and influenced by his environment. The new environment led to a crisis among the hunter-gatherer groups: the descendants of the late glacial communities were faced with a difficult choice.

Consequently, there appeared gradual domestication of plants and animals and the formation of settled communities at various times and places. Another characteristic were hunting and fishing settlements along rivers and on lake shores, where fish and molluscs were abundant. And obviously, new varieties of tools and techniques appeared in order to adapt themselves to the changed ecological conditions associated with the retreat of glaciers, the growth of forests in Europe and deserts in North Africa, and the disappearance of the large game of the Ice Age.

The transition to broad-spectrum collecting began in different regions at different times and had varying consequences. In some areas **relatively permanent settlements emerged**, whereas in other regions people maintained mobile, nomadic lifestyles. In general, however, percussion-flaked **Mesolithic and Archaic tools** differ markedly from those of the Palaeolithic. Typically, they are **much smaller** and more specialised than Palaeolithic implements. Some of the most common Mesolithic tools are known as **microliths, small flakes of stone** that were used for a variety of purposes, including harpoon barbs and specialised cutting tools. The bow and arrow appeared in the Upper Palaeolithic, and both Mesolithic and Archaic peoples made extensive use of this technological innovation, which allowed hunters to kill game from a greater distance and with more accuracy than did spears.

Desmond Clark (1957) made three stages of development of Mesolithic corresponding to geological periods in Europe - such as, the **Early Mesolithic** (Mesolithic-I flourished between 8300-7700 BC), the **Middle Mesolithic** (Mesolithic-II flourished between 7700-5500 BC), and the **Late Mesolithic** (Mesolithic-III flourished between 5500-3000 BC).

MESOLITHIC CULTURE IN EUROPE:

Mesolithic is a cultural stage belonging to human beings who were completely modern in their biological characteristics and are known as *Homo sapiens sapiens*.

The Mesolithic sites are generally very abundant in Europe. **Southern Germany and Switzerland together, for example, have over 1500 known sites** of this period. Over 400 are known from France and more than 2000 from Austria, the Czech Republic, North-eastern Germany, and southern Poland. Mesolithic sites appear to be also abundant in the British Isles, Holland, Belgium, Scandinavia, Russia, Italy, and Spain.

Mesolithic period is more strongly discernible in areas where during Palaeolithic time the climate was similar to subarctic regions. In Europe, therefore, one can easily identify the **new traditions**

designated as Sauveterrean, Asturian, Maglamosean, Kitchen Midden, Campignian, Ertboel, Lyngby and many others.

These are all predominantly microlithic cultures where such tiny blade tool types as lunates, trapezes, points and triangles are prepared to be hafted in series on wooden handles to form effective implements. The main technological advantage of this period lies in the fact that a number of new combination of tools can be now prepared within a second by arranging the microliths on a suitable rod.

MAGLEMOSIAN CULTURE

The Maglemosian culture is named after the type site Maglemose. It is a Danish word meaning “big bog”. The site is located near Mullerup, Zeeland in Denmark. This culture is also referred to as ‘forest culture’ and is found near rivers, lake, marshes and other low lying forested areas.

Maglemosian culture is found in the whole plains of Europe but richest area is Denmark and south Sweden. It appears that Maglemosian people were especially attracted to rivers, lakes etc, which suggest that fishing and fowling played important role in their economy.

This is confirmed by the material culture and faunal remains from the settlement sites of Maglemosian people. Remains of pike fish are present and barbed bone points have been found embedded in pike skulls. Faunal remains represent large number of edible water birds, such as, duck, geese, and swan.

TARDENOISIAN CULTURE

Tardenoisian culture is named after the site of Fere-en-Tardenois at Aisne, France, discovered by de Mortillet in 1896. The culture has a wide distribution in France, Germany and the Iberian Peninsula. The culture seems to be concentrated around Mediterranean basin. On the west it spread up to England and on the east up to Poland and in southern part of erstwhile Russia. **This is basically a microlithic culture** and is devoid of any heavy-duty tools like axes and picks.

Azilian: It is a primary site in south-west France and is seen directly overlying Magdalenian deposit. The microliths include the famous Azilian points, small rectangular end scrapers, scalene triangles and lunates. Overall, Azilian industries are characterised by a variety of painted and engraved pebbles, the function of which till to date remains enigmatic. The paintings are mainly horizontal bands of rather thick streaks, crosses and spots. The point used is mainly red ochre.

Asturian: This is a tradition know from the Cantabrian coast of Spain and North Portugal. It is very atypical Mesolithic tradition and consists of rather big to medium sized pebbles shaped into picks and end scrapers with unifacial flakings.

Larnian: This represents a local tradition of north Ireland. The tools consist of backed blades, end scrapers points and burins. There are also some heavy tools like choppers and picks found with this industry.

Sauveterrean: In south France around 8000 B.C. a site called Sauveterre- La- Lemance shows the full-fledged Mesolithic culture. This tradition is characterised by notched blades, small blades retouched all around to form a single or a double point, triangular points, lunates, trapeze, borers and end scrapers.

Maglamosean: The tradition is named after the famous bog found in south Jutland in Denmark. It is known to have emerged in north Europe around 6,800 B.C. and may have survived well in to the 5th millennium B.C. The non-lithic component is very rich and contains several harpoons with single

row of barbs, fish hooks, eyed needles and variety of other antler pieces. One remarkable find of this industry is a medium sized stone tool hafted on an antler head.

Tool Culture

The followings are the tool types occurred during Mesolithic cultural period.

1. **Microliths** – Microliths refer to those tiny/small stone tools. On the basis of their general features with formal shapes and designs, microliths are generally classed as **geometric and non-geometrics**.

The first category refers to those having geometric shapes, such as, triangle, lunate (or crescent), trapeze, etc., whereas the latter category lacks such a form.

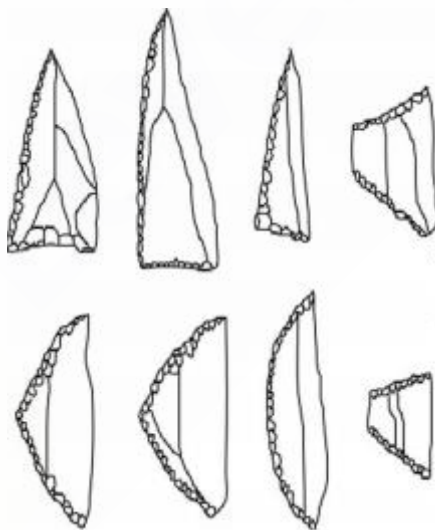
A. Geometric Microliths:

i. **Lunate or Crescent** – These usually refer to those having resemblance to a crescent moon and have a thick rounded back arc. A true lunate is supposed to be symmetrical in shape along the shorter axis which is different from an asymmetrical one having pointed at one of the ends (Sankalia 1964:71-72).

ii. **Triangle** - Those broken microblades, where the steeply blunted longitudinal sides form the steeply blunted base (Sankalia 1964, Rami Reddy 1987).

iii. **Trapeze** – As the term signifies, a trapeze microlith typologically refers to those having two parallel untouched horizontal sides and two non-parallel retouched sides.

iv. **Trapezoid** - These refer to those geometric microliths having the trapezoidal characters, such as 'having no pair of sides parallel in contradistinction to the trapeze' and it may be taken as 'a sub-type of trapeze in which no two parallel sides can be seen while the other longitudinal sides are retouched'



B. Non-geometric Microliths:

Tiny tools devoid of any geometric shapes are included under this category. They are often classified according to the type of support (flake, blade), location of retouch (end, side), type of retouch, edge morphology, etc. Under the category of non-geometric microliths

1. **Blades and Points** - i) truncated blades, ii) backed blades, iii) hollow-based point, iv) oblique blunted blades (or, pen-knife point), v) tranche, etc, are identified.

2. **Bone and Antler tools:** Axes and adzes - Bone axes and adzes were made out of antler (of red deer) and these have sharp edges and smooth inner surface of the perforation. Rough shaft-hole is common to almost all the antler adzes.

3. **Barbed bone point:** with a straight form and a row of fine barbs along one side, with the exception of the tip. The fine barbs are formed by means of small incisions, probably made with a sharp flint blade or flake or perhaps a burin.

4. **Knives and Chisels:** Knives and chisel blades are made out of the big tusks of the lower jaw of the wild boar at all important sites.

Beginning of sedentary lifestyle

Ecological conditions made the people concentrate near coastal regions along river banks. They became almost semi- sedentary and this influenced their demographic picture. Smaller bands fishing and fowling did not have to be as mobile as the Palaeolithic large mammal hunters.

In the Mesolithic tradition called **Ertboel in Germany crude pottery types already make their appearance**. This demonstrates that socio-culturally speaking Mesolithic was a more or less preparatory stage which finally culminated into a cultural form suitable enough to shift the basic economy of collecting into producing.

Beginning of Warfare

With the increase of population density in these bands intergroup fighting broke out for possession of females or even for areas which are environmentally rich. Some Mesolithic cave paintings depict these intergroup fights very vividly. Although still egalitarian in structure these bands became strongly organized for warfare.

Mesolithic Rock Art

A number of notable Mesolithic rock art sites exist on the Mediterranean coast of Spain. The art consists of small painted figures of humans and animals, which are the most advanced and widespread surviving from this period in Europe and possibly worldwide.

The painting known as **The Dancers of Cogul** is a good example of the depiction of movement in static art. In this scene, nine women are depicted, something new in art of this region, some painted in black and others in red. They are shown dancing around a male figure with abnormally large phallus, a figure that was rare if not absent in Paleolithic art. Along with humans, several animals, including a dead deer or buck impaled by an arrow or atlatl, are depicted.



The Man of Blicorp: The Man of Blicorp holding onto lianas to gather honey from a beehive as depicted on an 8000-year-old cave painting near Valencia, Spain.



Dance of the Cogul: El Cogul, Catalonia, Spain.

Burials

Excavation of some **megalithic monuments in Britain, Ireland, Scandinavia, and France** has revealed evidence of ritual activity, sometimes involving architecture, during the Mesolithic Period. One megalith (circa 9350 BCE), found submerged in the Strait of Sicily, was over 39 feet long and weighing nearly 530,000 pounds. Its purpose remains unknown. In some cases, however, megalith monuments are so far removed in time from their successors that continuity is unlikely. In other cases, the early dates or the exact character of activity are controversial.

MESOLITHIC IN ASIA

THE NEAR EAST

In the near east there seems to have been a shift from mobile big game hunting to utilization of a broad spectrum of natural resources at the end of Upper Paleolithic, similar to those changes that happened in Europe. There is evidence that people subsisted on a variety of resources, including fish, molluscs, and other water life; wild deer, sheep, and goats; and wild grains nuts and legumes. **The increased utilization of stationary food sources such as wild grain may partly explain why some people in the near east began to lead more sedentary lives during Mesolithic.**

To prove this point **Kent Flannery** conducted an experiment. Using the same kind of tools researchers were able to harvest a little over two pounds of wild grain in an hour. A family of four, working only during the few weeks of harvest season, could have collected more than what they require for the entire year.

Such harvest would have necessitated sedentism. Moreover, the stone equipment used for grinding would have been a burden to carry. Some of the grains would have been consumed and the rest would have been stored for the future. This would have been the motivation for construction of storage pits and also permanent housing. Once a village was built, people may have been reluctant to abandon it.

The Natufian of Near East

The Natufians lived between **10,200 and 12,500** years ago at the eastern end of the Mediterranean Sea in caves, rock shelters, and small villages with stone and mud-walled houses. They are named after **Wadien-Natuf**, a ravine near Jerusalem, Israel, where the remains of this culture were first found.



Natufians buried their dead in **communal cemeteries**, usually in shallow pits without any other objects or decorations. One of their villages, a 10,500-year-old settlement at **Jericho in the Jordan River valley**, contained a small shrine. Basin shaped depressions in the rocks found outside homes and plastered pits beneath the floors of the houses indicate that the Natufians stored plant foods. Natufians also used sickles small stone blades set in straight handles of wood or bone. The sickles were originally used to harvest sedge for baskets but later came to be used to cut grain

Natufian villages are also found at **Eynan site in Israel**. Eynan is a stratified site containing the remains of three villages in sequence, one atop another. Each village consisted of about 50 circular pit houses. The floor of each house was sunk a few feet into the ground. The villages appear to have had stone paved walks; circular stone pavements ringed what seems to be permanent hearths.

The tools suggested that Natufians harvested intensively. Sickles recovered from their villages have a specific sheen, which experiments have shown to be the effect of cutting of the grain. The Natufians are the earliest Mesolithic people known to have stored surplus crops. Beneath the floors of their stone vault houses they constructed plastered storages. In addition to wild grains the Natufians exploited a wide range of other resources. The remains of many wild animals are found in Natufian sites; Natufian appear to have concentrated on hunting gazelle, which they would take by surrounding whole herds.

The Natufians, as well as food collectors in other areas at the time, show many differences as compared to food collectors in earlier periods. **Natufian sites were five times larger than those of their predecessors. Burial patterns suggest more social differences between people. Although the available wild cereal resources appear to have enabled the Natufians to live in relatively permanent villages, their diet seems to have suffered. Their tooth enamel shows signs of Nutritional deficiency, and their stature declined over time.**

MESOAMERICA

A similar shift was also seen in New world, about 10000 years ago. The retreat of glacial ice from North America brought significant changes in Flora and fauna. Groundstone woodworking tools such as axes and adzes first appeared, as did nut-processing tool such as mortars and pestles.

In Highland Mesoamerica, the mountaineous region of central and southern Mexico, we also see a shift from big-game hunting to a broader use of resources in part due to a change in climate.

About 8,000 years ago the Archaic peoples in Mesoamerica appear to have moved seasonally between communities of two different sizes: **camp with 15-30 residents (macrobands)** and **camp with only 2-5 residents (microbands)**. Macroband camps were located nearly seasonally abundant resources.

Several families would have come together when these resources were in season, both to take advantage of them and to work together to harvest them while they were plentiful, to socialize. Microbands camps were also inhabited seasonally, probably by a single family, when groups were not assembled in macroband camps.

There is no evidence of social difference in archaic people of Highland Mesoamerica. The macroband was composed of related family groups and leadership was informal. There is a little evidence of ritual behaviour beyond presence of what may have been a ceremonial dance floor at Gheo-shih, a microband campsite in valley of Oaxaca.

MESOLITHIC CULTURE IN INDIA

The Mesolithic culture was a transitional stage between the Upper Palaeolithic and the Neolithic in India. The first discoverer of Mesolithic in India was **Archibald Carlyle** (1866-67). Carlyle was the first person to discover microliths, rock paintings, pigment pieces with marks of grinding, human skeletons, animal bones, ash, and charcoal pieces in rock shelters in **Mirzapur District of the North-western 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.

Subsequently, discoveries of microliths and bone tools were made by J.C. Cockburn and Rivett-Carnac in rock shelters 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.

Since 1867, the hunt for Mesolithic cultures in India continued for almost seven decades through the efforts of administrators, scholars, amateurs and professionals. As a result, hundreds of Mesolithic sites in South India, Maharashtra, Gujarat, Madhya Pradesh, Uttar Pradesh, Bihar and West Bengal came to light.

However, systematic excavations of Indian Mesolithic began with the entry of **Sankalia** (1940-1965). He discovered about one hundred sites in northern and central Gujarat.

Distribution

Its geographical distribution was wide extending across the states of Andhra Pradesh, Gujarat, Rajasthan, Madhya Pradesh, Tamil Nadu, Uttar Pradesh, Orissa, Bihar and West Bengal. Evidence of Indian Mesolithic has yet to come from Assam, Ganges and Punjab plains and deltaic Bengal and Kerala.

Archaeologist	Site
Sankalia-1941-1964,1968	Langhnaj in Mehasana District of Gujarat, Bangaltota in Bellary District, Bhimbetka in Raisen District of Madhya Pradesh, Sanganakallu in Karanataka
Misra- 1964,1971	Bagor in Bhilwara District and Tilwaha in Barmer District of Rajasthan
Ayyappan -1946 Zeuner and Allchin- 1956	Teri sites in Tirunelveli District of Tamil Nadu
Lal -1958	Birbhanpur in Burdwan District of West Bengal
Dutta- 1971	Sarai Nahar Rai in Pratapgarh District in Uttar Pradesh

Environment

There was regional variation in the climate.

- i) Region across Rajasthan and Gujarat- Scrub forest and thick grasses supporting large and small animals.
- ii) The Central region extending across MP was hilly cum forest area harbouring sizeable wealth.
- iii) The region extending in either side of Ganges in UP was characterised by thick forests interspersed by patches of grasslands and waterbodies. The forest abounds in flora providing good grazing grounds to wild animals like elephant, deer, stag, blue bull and smaller animals like rabbits, squirrels and rats.
- iv) The eastern region spreading over Odisha and West Bengal was characteristic of thick forests favouring abundance of plants and animal life.
- v) Southern region extending across Andhra Pradesh, Tamil Nadu, Karnataka was characterised by scrub jungles and grassland supporting large and small animals.

Chronology

The archaeological, geological and palaeontological evidences and radiocarbon dates reveal that:

- (i). The Mesolithic everywhere succeeded the Upper Palaeolithic.
- (ii). The Mesolithic culture in Karnataka, Andhra, Odisha, WB with non-geometric tools probably existed prior to 10000 years B.C
- (iii). The Mesolithic culture in Langhnaj(Gujarat) with crude-geometric tools probably existed around 3000 B.C.
- (iv). The Mesolithic culture in Rajasthan with highly evolved geometric tools probably existed between 5000-1000 B.C.

Materials

The Mesolithic people most commonly used various siliceous rocks such as chert, chalcedony, quartzite, quartz, rock crystal, agate and carnelian for making Microliths. Further, people adopted the processes of hafting, tethering or gluing for making compound tools.

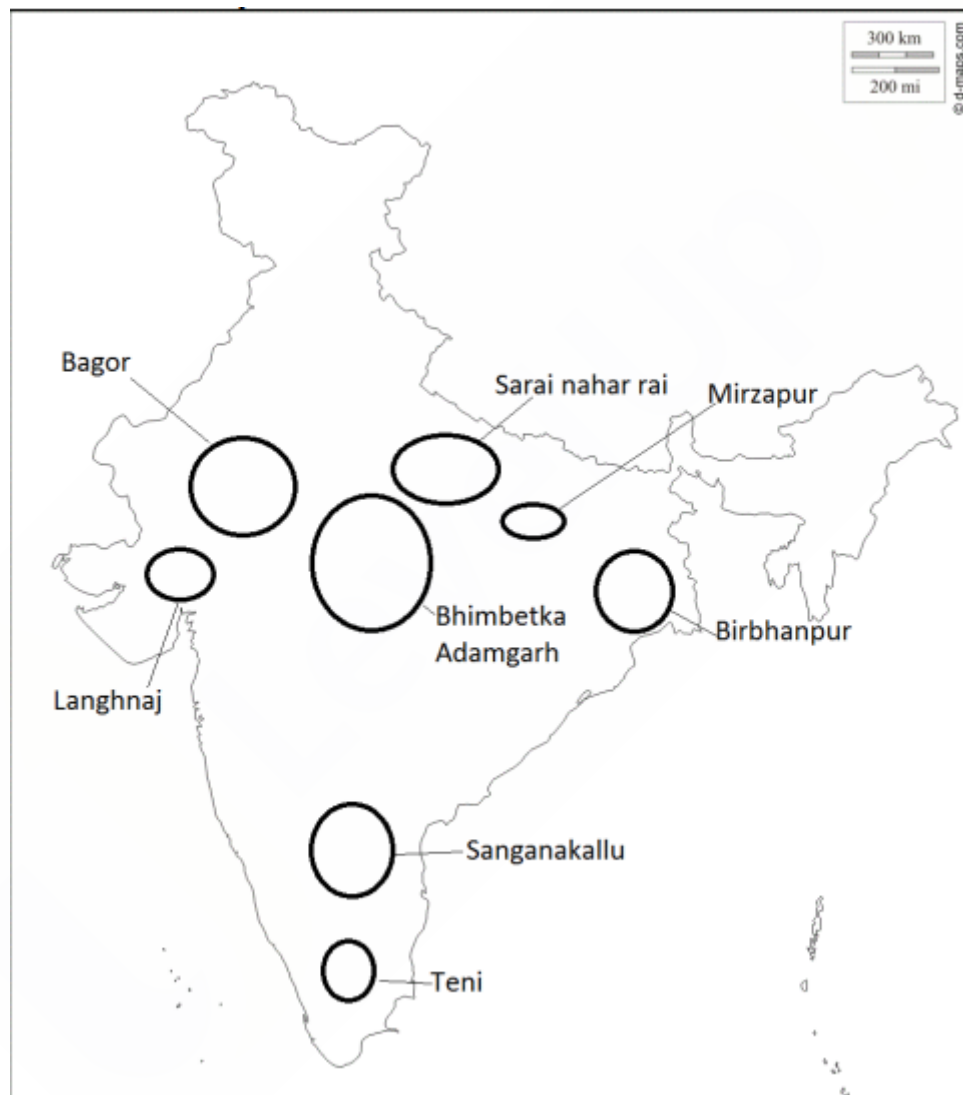
The Mesolithic tools included 3 kinds of microliths

- a) Non-Geometric- Sangankallu in Karnataka, Birbhanpur in WB
- b) Crude Geometric- Langhnaj Gujarat
- c) Highly Geometric- Tilwar and Bagore, Rajasthan

Key Facts/Important Sites

- 1) Mesolithic people has not only achieved their special adaptation but also settled in artificial erected structures in as early as 8000 B.C. So far we have only one site with such an early date from India (Sarai Nahar Rai)
- 2) At Bhimbetka there is evidence of a special structure erected outside the cave mouth to act as wind break. At Bagor, natural concrete from river bed seems to have been specially transported to living site to pave the living floor.

- 3) At Adamgarh, a large number of animal bones were found to be domesticated although associated findings were mainly suitable for hunting functions.
- 4) The first microlith discovered by Carlleyle in 1867 from Vindhyan rocks. However, systematic work was done by Sankalia's excavations at Langhnaj in Gujarat.
- 5) Most of sites show total adaptation to microliths and donot contain any such heavy tools such as picks and axes. Use of bones like the shoulder blade of a rhino found at Langhnaj indicate the aspect of non-lithic tool used.
- 6) Some of rock paintings discovered from Mirzapur district in UP and Bhimbetka in MP are found. All these show animal forms with isolated hunting and fishing scenes.
- 7) Intergroup fight or warfare is not merely a conjecture for this period is proved by the skeleton found at Sarai Nahar Rai with a microlith embedded in one of its ribs.



Mesolithic Art

THE BHIMBETKA ROCK ART

It is a natural art gallery-complex of prehistoric man and a land of archaeological treasures serving as invaluable historical chronicle since the Palaeolithic through the Mesolithic until the early history. Bhimbetka rock-shelters were also inhabited by the Middle to Upper Palaeolithic man as is evident from stone tools, and for its quantum and quality of rock paintings as well as for its surroundings still inhabited by primitive tribes who continue with the Stone Age traditions, it has been declared as an important World Heritage Site by UNESCO in the year 2003.

According to Yasodhra Mathpal and Somnath Chakraverty, there are about estimated 6214 rock art motifs in Bhimbetka predominated by zoomorphs (animal art) and a combination of them with human figures (anthropomorphs). A series of hunting scenes of archers are remarkable in Bhimbetka representing inter Mesolithic Art - group conflicts and probably within the group clashes as well.

PACHMARHI ROCK ART

The cave shelters of the Mahadeo hill are rich in rock paintings, most of which are dated to 500 - 800 AD, but the earliest paintings are about 10,000 years old of Mesolithic period. Most of the paintings are in white, sometimes also outlined in red. They depict scenes from everyday life and hunting as well as the warfare.

THE CUP-MARKS AND PETROGLYPHS

The cupules are hemispherical, cup-shaped, non-utilitarian, cultural marks that have been pounded into a rock surface by human hand. Robert G. Bednarik has used the term “cupule” and raised it to the status of an extraordinary art form among the earliest known prehistoric art and the most common motif type in world rock art.

Giriraj Kumar experimented with cupule-making process at Daraki-Chattan using hammer-stone technique and after five experiments observed that different cupules worked out to different depths required different time span.

Given that Daraki Chattan has over 500 cupules, one can readily appreciate the serious nature of the endeavour. Therefore, the cupule-making was no trivial exercise - at least not where hard stone was involved.

Why were the Cupules Made? There is yet no convincing explanation of the cultural or artistic meaning of cupules, but they are first and foremost a pattern of behaviour common to nearly all known prehistoric cultures around the globe. **Many scholars associate the cupules with fertility rites.**

IMPORTANT SITES

The Mesolithic sites in India can be grouped into Western (Bagor, Tilwara, and Langhnaj), Central (Bhimbetka and Adamgarh), Northern (Sarai Nahar Rai, Morhana Pahar, Baghai Khor, Lekhania, Gagharia Rock Shelter-I, and Dam Dama), Southern (Teris, Bangaltota, Shoarpur Doab, Khandvil, Palavoy, and Kurnool), and Eastern (Birbhanpur and Kuchai) culture complexes.

WESTERN CULTURE COMPLEX

Langhnaj (2000 BC)

Langhnaj in Mehasana District of Gujarat is another important Mesolithic site. 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.

i) Lithic material included finished microliths, such as blunted back blades, lunates, serrated blades, trapezes, scrapers and borers.

ii) Existence of microliths of crude geometrical types. Harpoons, fishing spears, bolas, burins, and notched flakes, grinders.

iii) A rhinoceros shoulder blade with marks of strainers and several hammer stones. Bones of wild boar, blue bull (nilgai), spotted deer, swamp deer, hog deer, a black buck, cattle wild buffalo, rhinoceros, wolf, mongoose, tortoise, rats and fish.

iv) Discovery of fourteen human burials in a flexed position. Cuts on the foreheads of all the fourteen skulls indicating cannibalism.

v) Dependence on hunting, gathering and to some extent on livestock raising.

Bagor (4600 B.C.)

V.N. Misra (1967) discovered and excavated the site of Bagor in Rajasthan. Bagor is a village located on the bank of river Kothari which is a tributary of the river Banas. Best studied Mesolithic site. It yielded:

1) Thousands of Mesolithic tools such as thin blades with flat retouchings, blunted back blades, obliquely truncated blades, obliquely truncated with lateral backing, triangles which mainly included scalenes, trapezes, broad trapezoids or transverse arrow heads, crescents and points.

2) Hand-made pottery with incised decorations. Charred bones of domesticated and wild fauna such as sheep, goat, buffalo, humped cattle, pig, black buck, chinkara, chital, sambhar, hare, fox, mongoose, tortoise, and fish.

3) Stone paving on habitation floor showing an almost sedentary life.

4) Extensive burial with pottery, tools and ornaments to accompany the dead. Only burial site with head pointing west found

CHARACTERISTICS OF THE CENTRAL CULTURE COMPLEX

Bhimbetka (2000-7000 B.C.)

Sankalia (1974) excavated cave III at Bhimbetka in Raisen District of Madhya Pradesh. The sites yielded:

1) Microliths such as triangles, trapezes, lunates, and so on.

2) Microliths were large in size, especially the lunates were slender.

3) A three feet high screen or wall built by piling stones near the mouth of the cave toward the side wall, which served as a windbreak.

4) Paintings on the cave walls and ceilings.

5) Wakankar (1973), Neumyar (1983) and Mathpal (1984) brought out a classified study of the morphology of rock art at Bhimbetka. According to these scholars the oldest style is usually represented in green colours. In some cases, red and yellow coloured lines are also drawn alongside.

It is quite evident from these depictions that one of the activities of Mesolithic ritual must have been reinforcing their organic solidarity. Songs and dances specially created to reinforce bond with the members of the band becomes very important part of primitive ritual activities. The other panels at Bhimbetka show such economic activities as hunting, carrying fishes, and honey collection.

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.

V.N. MISRA'S EXCAVATION

V.N. Misra excavated three shelters: IIF-15, IIF-23, and IIB-33. Of these, IIF23 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 cryptocrystalline siliceous material. Bones collected from a secondary burial were placed on the floor of the shelter. Shelter IIF-13 produced a lot of ash from a fireplace, small pieces of wheel-made pottery and microliths and other stone tools.

Adamgarh (5500 B.C.)

Adamgarh is another important site in the Western zone. **R.V. Joshi** (1964) excavated the site and obtained evidence of Mesolithic. The evidence included:

- 1) Microliths such as blades, lunates, obliquely blunted knives along with triangles and trapezes
- 2) Microliths cruder than those obtained at Langhnaj.
- 3) Microliths were constantly associated with pottery fragments and animal remains such as those of domesticated animals such dog, buffalo, sheep, goat, and pig and of wild animals like deer, nilgai, stag and so on.

CHARACTERISTICS OF THE NORTHERN CULTURE COMPLEX

Sarai Nahar Rai (9000 B.C.)

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.**

- 1). Microliths such as trapezes, points, crescents, lunates and triangles.
- 2) Presence of geometric microliths.

- 3). Animal remains like those of sheep, goat, buffalo, cattle, elephant and tortoise, many of which are of domesticated ones.
- 4). Rectangular house raised on four posts with fire hearths and with living floor made of humps of burnt clay.
- 5). Fire hearths with charred bones
- 6). One human skeleton with a microlith embedded in one of its ribs. Evidence of Warfare

Belan

Chopani Mando is one such site on the river Belan in Allahabad District, Uttar Pradesh. The site was excavated by GR Sharma. The site yielded:

- 1). Geometric microliths like lunates, trapezes and triangles.
- 2). Side scrapers, burins, points, borers, backed blades and retouched blades.
- 3). Hammer stones, anvils and sling balls.
- 4). Animal bones.
- 5). Circular huts with floors paved with burnt clay bumps. It indicated sedentary life.

THE CHARACTERISTICS OF THE SOUTHERN CULTURE COMPLEX (5000 B.C.)

A. Ayyappan (1946) and Zeuner and Allchin (1956) excavated the fossilized sand dunes called **Teris** at the place where river Tamraparni joins the sea. This site yielded:

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.

The Teri sites, particularly Sawyerpuram, one of the largest, were explored by anthropologist, A. Aiyappan in the early 1940s.

- 1) Non-geometrical microliths.
- 2) Microliths include lunates, backed blades, and pen knives, besides numerous blades and fluted cores.
- 3) Discoid cores, flakes, shaped into various kinds of points, side scrapers, thumb-nail scrapers, and borers besides burins form the majority of the industry.
- 4) Points and arrowheads prepared by using bifacial pressure flaking.

