UNIT 3 UPPER PALAEOLITHIC CULTURES

Contents

Learning Objectives

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

- understand the salient features of the Upper Palaelithic cultures in the Old World;
- discuss the sub-cultural phases and regional variants of Upper Palaeolithic cultures in Europe and Southwest Asia;
- describe the stone, bone and antler tools of the Upper Palaeolithic cultures; and
- know about the Upper Palaeolithic cultures in India.

3.1 INTRODUCTION

The Upper Palaeolithic is the third and last subdivision of the Palaeolithic, and it is characterised by the first great climax of human achievements. Upper Palaeolithic cultures flourished in Europe, Southwest Asia, Africa, South Asia and Southeast Asia during the later stages of the Upper Pleistocene, often referred to as Late Pleistocene (Fig. 3.1).

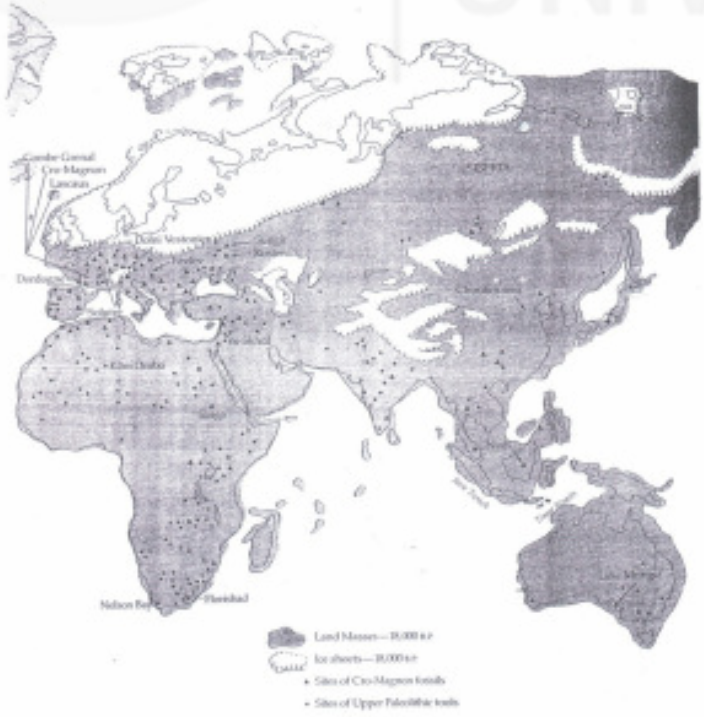

Fig.3.1: Map showing important site of Cro-Magnon fossils and Upper Palaeolithic tools in the Old World (after Campbell 1979)

Very broadly, the age of the Upper Palaeolithic falls between 40,000 and 10,000 years ago. The human species associated with this cultural phase is Anatomically Modern *Homo sapiens* (AMHS), the extant and the only surviving human species. We belong to this species. Upper Palaeolithic cultures succeed the Middle Palaeolithic Mousterian or other flake tool cultures in different parts of the Old World.

The first discovery of the skeletal remains of *Homo sapiens* was made in 1868 in Cro-Magnon, a rock shelter in the Dordogne region of southwest France, in a deposit containing Upper Palaeolithic tools. Hence this man is called Cro-Magnon man. He is anatomically identical to modern humans, but differed significantly from Neanderthals. Cro-Magnon man was tall, erect and well built. The Cro-Magnon people varied in physical type from one region to another. Bones unearthed in the Soviet Union are different from those found in France or Africa or China.

The Upper Palaeolithic is marked by technological advances in stone tool manufacture by the production of parallel sided blades which are finished into a variety of tools finished by blunting one side or backing. Blades are flakes, but very refined flat narrow ones, elongated in shape and having parallel sides. For producing blades, the cores are first trimmed all around to remove the roughness. Then, by striking along the circumference of the core, using a punch, a series of blades are removed. That means blades are produced by indirect percussion but not by direct percussion. After the removal of the first series of blades, a second, third and fourth series and so on are removed, until the core is exhausted. Thus, in this blade production technique, numerous blades are removed from a single core. These cores have a prismatic or fluted appearance; hence this technique is called "prismatic-core technique" or "fluted-core" technique. These blades, subsequently, are further worked and finished, by blunting one side of the blade, into various tool forms. This kind of retouch is called backing and these tools are called backed blade tools. These are backed points, pen knives, thick (orange piece like) lunates and triangles. Blades are also finished, by secondary retouch, into shouldered or tanged points, scrapers (end scrapers being most characteristic), burins and awls. The Upper Palaeolithic industries also consist of a variety of flake and core tools like side scrapers, ovate scrapers, notched scrapers, discoid scrapers, and unifacial and bifacial flake points. Some of these flakes are produced by the Levallois technique, and the discoid core technique, indicating the persistence of the preceding Middle Palaeolithic traditions.

Some of the backed blades could have been used by hafting as barbs to harpoons. The raw material used for the stone tools are fine-grained rocks. A variety of bone points and harpoons with single row and double row of barbs made on antler were found in several Upper Palaeolithic sites in southwestern France and other parts of Europe.

Artistic work also blossomed during this period. Upper Palaeolithic art begins in the Aurignacian culture, develops in the Gravettian and Solutrean, and blossoms in the Magdalenian, both in the splendid decoration of ordinary objects, and in the superb polychrome cave paintings. A large variety of paintings on cave or rock walls and cave ceilings, and petroglyphs (engravings or line drawings on rock or cave walls) have been found especially in France and Spain. Another important category of art is in the form of 'Venus Figurines'. These are small

statuettes of naked, and often obese or pregnant women, sculpted in mammoth ivory, stone or clay. These figurines may be fertility icons or emblems of security and success. According to some scholars, the appearance of language during this period made these behavioural changes possible.

3.2 UPPER PALAEOLITHIC IN EUROPE

Southwestern France is considered as the "classical region" in which all these Upper Palaeolithic developments are well preserved. The Upper Palaeolithic sequence of south-western France is used as a model for the Upper Palaeolithic cultural sequences because of the numerous well stratified sites. The stone tool industries of the Upper Palaeolithic, in this classical region, show a great deal of regional variations and sub-regional successions, which cover a time span of 40,000 – 12,000 years Before Present (BP). These industries are Chatelperronian (35,000 – 29,000 years ago), Aurignacian (34,000 – 29,000 years ago) Gravettian (28,000 – 22,000 years ago), Solutrean (21,000 – 19,000 years ago) and Magdalenian (18,000 – 12, 000 years ago) (Figs. 3.2 – 3.6).

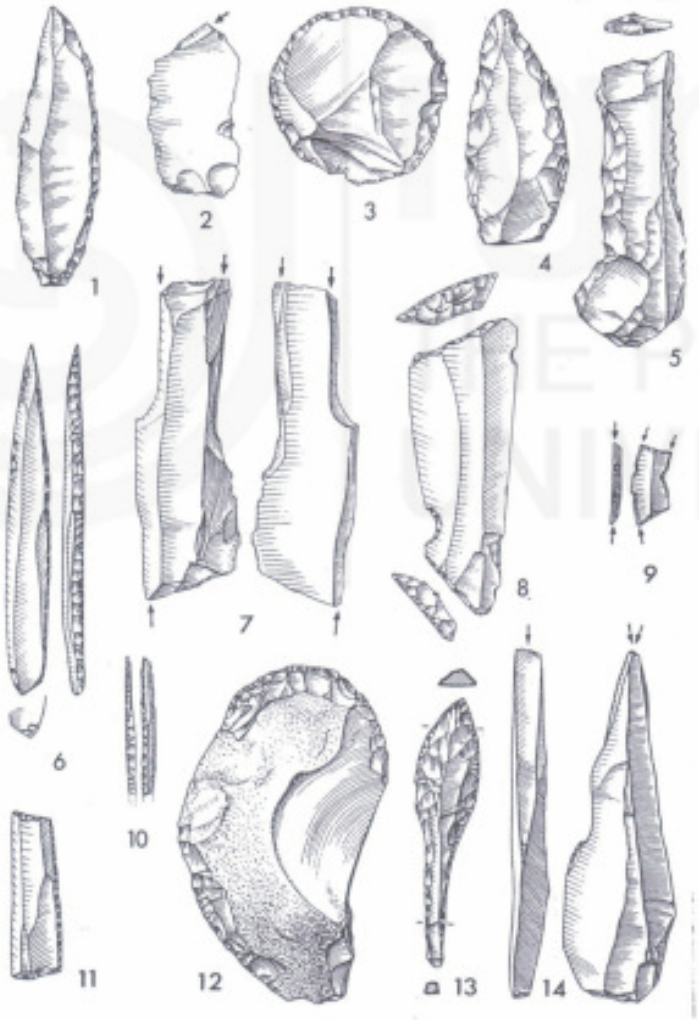

Fig.3.2: Upper Palaeolithic Tools from Southwestern France. 1) Chatelperronian knife; 2) Burin; 3) Scraper on flake; 4) Mousterian point; 5) Denticulated and truncated blade; 6) Gravette point; 7) Multiple burin on truncation; 8) Bitruncated blade; 9) Burin on bladelet (called Noailles burin); 10) Backed bladelet; 11) Truncated bladelet with retouch; 12) Flake scraper; 13) Backed point with a shoulder (called Font-Robert point); 14) Dihedral burin (after Bordes 1968)

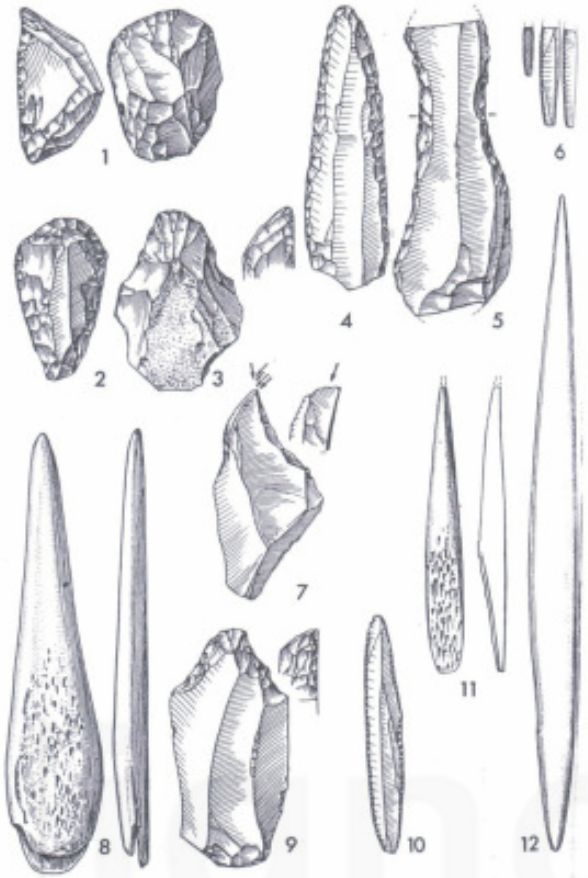

Fig. 3.3: Upper Palaeolithic Tools from Southwestern France (Aurignacian type). 1) Carinated scraper; 2) Scraper on retouched blade; 3) Nosed scraper; 4) Aurignacian blade; 5) Strangulated blade; 6) Bladelet; 7) Busked burin; 8) Split-base bone point; 9) Flat nosed scraper; 10) Retouched bladelet; 11) Bone point with a bevel; 12) Lozenge shaped bone point (after Bordes 1968)

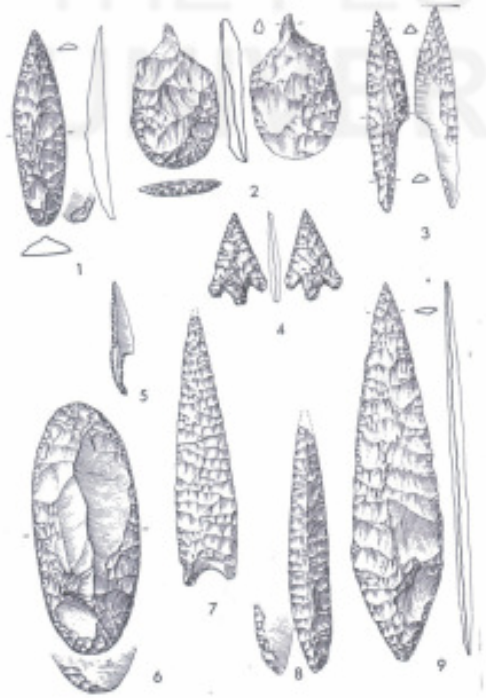

Fig. 3.4: Upper Palaeolithic Tools from Southwestern France (Solutrean type). 1) Leaf shaped point with one flat face; 2) Borer-end-scraper; 3) Shouldered point; 4) tanged and barbed point; 5) Shouldered point; 6) Finely retouched end scraper; 7) Point with a concave base; 8) Willow leaf point; 9) Laurel leaf point (after Bordes 1968)

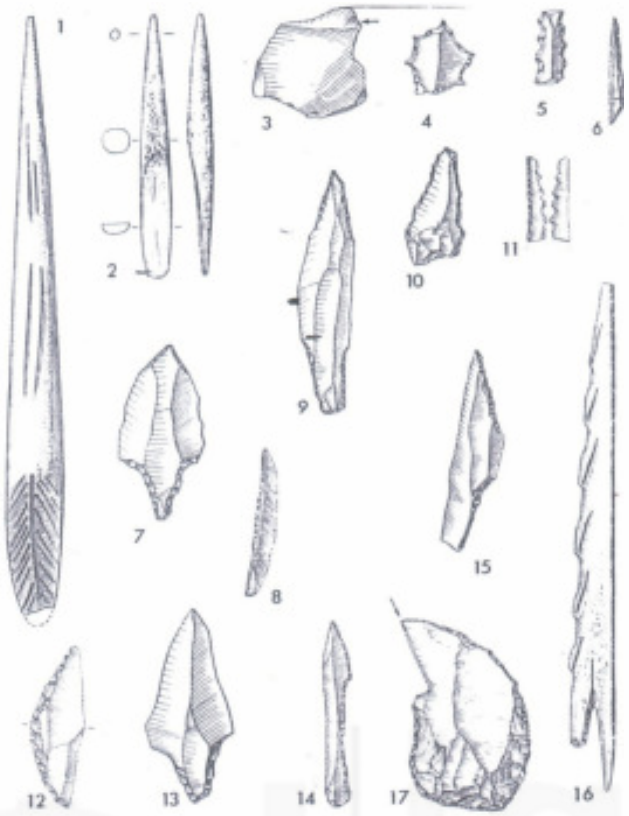

Fig. 3.5: Upper Palaeolithic Tools from southwest France (Magdalenian type). 1-2) Bone points; 3) Transverse burin; 4) Star shaped multiple borer; 5) Denticulated bladelet; 6) Triangle; 7) Tanged point; 8) Backed bladelet; 9) Tanged point; 10) Side scraper with abrupt retouch all around the edge; 11) Denticulated backed bladelet; 12) Backed point; 13) Tanged point; 14-15) Shouldered points; 16) Harpoon; 17) Parrot beak burin (after Bordes 1968)

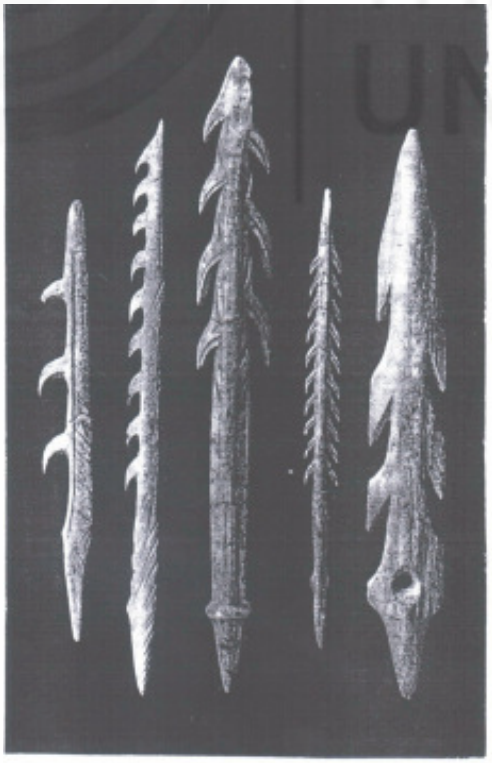

Fig. 3.6: Magdalenian bone harpoons from Southwest France. Harpoons with single row and double row (after Bordes 1968)

Chatelperronian is the earliest industry of the Upper Palaeolithic in central and south-western France. The Chatelperronian has been the subject of considerable controversy since its recognition in the early twentieth century. It has also been called the "Lower Perigordian", "Perigordian I" and "Lower Aurignacian". Chatelperronian appears to have been derived from the earlier Mousterian culture. Serious disagreement still persists about the status of the Chatelperronian. Majority of archaeologists appear to agree that most of the assemblages labeled Chatelperronian are the products of Neanderthals and that the industry was geographically restricted to a relatively small area of south-western France and northern Spain. Though Chatelperronian precedes Aurignacian technology, there must have been a few thousand years of overlap between the Chatelperronian and the Aurignacian.

The Chatelperronian culture is characterised by a stone tool called as the "backed point" or "backed knife". It is a blade having one of its edges blunted for holding or hafting recalling a modern penknife blade. It is also called Chatelperronian knife. The other types of this culture are pointed blades with curved backs blunted by steep retouching, which are called Chatelperronian points; burins, made on blades, with a chisel like cutting edge, used for working on bone and antler, and also for engraving; end scrapers most commonly on flakes rather than on blades; side scrapers and round scrapers on flakes; and other kinds of flake tools. There are also bone awls, pierced teeth and bone pendants, but in general, bone tools are meager in the Chatelperronian.

The Aurignacian culture is named after the type site Aurignac in southern France. In France it is stratified between the Chatelperronian and Gravettian. The Aurignacian culture is recognised by some special artifact types. These types are "steep" and "nosed' scrapers. The other types like different kinds of scrapers, backed blade tools, a variety of burins, and flake tools are also common. Aurignacian is characterised by the use of well made long narrow blades which were expertly struck off from prepared conical cores. Aurignacian is also recognised for its bone and antler tools such as awls, pierced antler bars used as smoothing tools for making arrows (arrow strengtheners), flat elongated spearheads, split-based bone points, antler and bone; and ornaments like pierced shells and teeth, carved bone pendants, bracelets, and ivory beads. Some of the earliest ivory carvings of animals and human figures begin to appear during this period. Even musical instruments made on bone such as whistles and flutes have been found at some sites. Climate during this period was very cold and dry. They hunted herd animals adapted to cold climate such as reindeer, mammoth, wooly rhinoceros, steppe horse and bison. Engraved figures of these animals on bone and ivory are found at some of the Aurignacian sites. Aurignacian covers Europe, Levant (region around eastern Mediterranean and Aegean), and it continues far to the east into Siberia.

Aurignacian type industries are found eastwards to the Balkans, Palestine, Iran and Afghanistan. In the Levant, the early Upper Palaeolithic culture is the Emiran (known from the caves of Mount Carmel, Jabrud and several others), which used backed blades, burins and a variety of scrapers including end scrapers. The Emiran belongs to the same time period as that of the earliest Aurignacian. Another

culture, closely related to Emiran is the Dabba culture of north Africa and Cyrenaica.

The Gravettian culture is named after the type site La Gravette in the Dordogne region of France. It succeeds the Aurignacian. This culture is characterised by new technological innovations for survival in the cold climate. The stone tool industry is distinguished by a small pointed blade with one side blunted. This blunted side has a straight back. This is known as Gravette point. The Gravettian people were big game hunters. They used spear throwers for hunting. They hunted bison, horse, reindeer and mammoth. They invented animal traps and fish traps and may also have used darts to kill birds and small mammals. They were trapping hares and foxes for their skins, which they sewed into warm clothing using ivory needles with drilled eyes. They were making nets and baskets.

The Gravettian people are also known for their large skin tents, which were constructed over frameworks of mammoth bones, as a substitute for wood on the treeless steppes. Some of the Gravettian groups were dwelling in semi-permanent villages.

Gravettian is known for Venus figurines. These are statuettes of women carved from stone, bone or ivory, or molded in clay and fired. Gravettian culture stretched from France to Ukraine covering Italy, Austria and Czechoslovakia. It is divided into two regional groups—the Western Gravettian and the Eastern Gravettian. The Western Gravettian is mostly known from cave sites in France. The Eastern Gravettian is known from open-air sites of specialised mammoth hunters on the plains of central Europe and Russia.

The next culture in the French sequence is the Solutrean. It is different from its predecessors. This culture is known after the type site Solutre in eastern France. The Solutrean is a western European culture confined to France and Spain, and known from a few sites in England. The most striking tool-types are beautifully made, flat, bifacially worked "leaf-shaped points" often of superb craftsmanship. These are called "laurel leaf points" and "willow leaf points". These are produced by pressure flaking. Pressure flaking is the technique of edge-to-edge flaking by applying pressure, and this required tremendous skill to create such delicate implements. Long spear points, with tang and shoulder on one side only are the other characteristic implements of the Solutrean. The other artifact types are barbed and tanged arrowheads, end scrapers, flint knives and saws. Bone and horn tools are also present. They hunted horse, reindeer, mammoth, cave lion, rhinoceros, bear and aurochs. The Solutrean culture existed for a short period between 21,000 to 19,000 years ago and disappeared as mysteriously as it appeared.

The Solutrean is followed by the Magdalenian culture. It represents the culmination of Upper Palaeolithic cultural developments in Europe. It is named after the type site La Madeleine in the Dordogne region of France. The Magdalenian culture was geographically wide spread in southwest France, northeast Spain, central Europe and Siberia, and later Magdalenian sites have been found from Portugal in the west to Poland in the east. The stone tools are a variety of backed blade tools, burins, scrapers, borers and projectile points. The

Magdalenian is best known for its elaborately worked bone, antler and ivory tools and other objects which served both functional and aesthetic purposes. These tools include a fine series of elaborate harpoons with single row and double row, spear throwers, adzes, hammers, rods, and eyed needles which are beautifully decorated with carved or incised patterns, or representation of animals. The motifs on these objects are square lattices, lattice of parallelograms, spirals, geometric designs, and carvings of heads of mostly horse and bison on bone handles. Items of personal adornment consist of sea shells and perforated carnivore teeth, which were possibly used as pendants for necklaces. Rock art in the form of cave paintings reached its zenith during the Magdalenian period. The world famous cave sites like Lascaux in France and Altamira in Spain are the best known examples of Magdalenian art which include beautifully rendered realistic figures in polychrome. These representations are animals (mainly horses and bisons), male and female human figures, positive and negative hand impressions, and dots and lines.

Magdalenian groups lived in caves, rock shelters, and tents in the open. They hunted predominantly reindeer, and Magdalenian sites also contain extensive evidence of hunting other large mammals such as red deer, horse, bison and other large mammals present in Europe at the end of the last Ice Age.

There is a small group of cultures known from Europe which in some cases is either contemporary, or of a later date, to the Magdalenian, but falling in the closing phases of the final episode of the last Ice Age. These are called epi-Palaeolithic. These are Hamburgian, Ahrensburgian and Feddermesser-Gruppen.

The Hamburgian culture (ca. 12,400 B.C. to 12,000 B.C.) of north Germany and Holland is a culture of reindeer hunters who lived in open sites in the summer season. Their tools consisted of a variety of harpoons recalling those of the Magdalenian, and a range of shouldered points made on blades finished by fine retouch. The Hamburgian (as well as the later East Gravettian and Magdalenian) flourished during the last main phase of the Wurm glaciation (last Ice Age). The ice sheets of the Wurm glaciation did not withdraw evenly, and there are marked warmer and colder oscillations. These Late-Glacial climatic events grade into those of the post-Glacial events. In the same fashion, the epi-Palaeolithic cultures develop into the post-Glacial Holocene Mesolithic cultures. As a matter of fact, there is “no marker horison” for the beginning of the Mesolithic. These epi-Palaeolithic cultures fall in between the fully developed Upper Palaeolithic and the fully Mesolithic.

3.3 EPI-PALAEOLITHIC IN EUROPE

Ahrensburgian (ca. 10,700 B.C. to 9600 B.C.) is another epi-Palaeolithic culture. It is a reindeer-hunter culture which is similar to Hamburgian in several ways, but later in date than the Hamburgian. Stellmoor, near Meiendorf in Germany, is a very important Ahrensburgian culture. Here occupations of both Hamburgian and Ahrensburgian are found. The tools of Ahrensburgian are similar to those of Hamburgian. These are harpoons and tanged points, and wooden arrow shafts

are found abundantly in the Ahrensburgian levels at Stellmoor. The Ahrensburgian culture covers much of the same area as Hamburgian. It belongs to the very last close phase of the Ice Age. Another epi-Palaeolithic culture in which the tanged point is the most important tool is the Swiderian of Poland and Ukraine.

Further west, at the western end of north European plains, is a group of stone tool industries which fall in the category of epi-Palaeolithic. These have been given the collective name of Federmesser-Gruppen (ca. 10,000 B.C. to 8700 B.C.). Feddermesser is the German name for pen knife. The stone tools of the Federmesser-Gruppen are characterised by a small backed blade which looks like a pen knife. Tanged points are also an important part of these stone tool industries.

Another epi-Palaeolithic culture known from Britain is the *Creswellian* culture. This is known from several cave sites in *Derbyshire*, south Wales, Somerset and Devon. The dominant feature of the Creswellian is the variety of backed blade types, including points and trapezes made on sections of blades, and also end scrapers and burins. Harpoons of Magdalenian style are found in Creswellian levels in some of the British cave sites (Aveline's Hole, Kent's Cavern). A fine bone needle, again similar to the Magdalenian is found at Cathole cave in the south Wales.

The various epi-Palaeolithic cultures, discussed above, may be regarded as ending with the close of Late Glacial conditions and the beginning of the warm conditions of the post-Glacial (Holocene) phase. To say that they ended merely means that they become merged into their more fully Mesolithic successors. The real changes that occurred in the Mesolithic are in response to climatic and environmental amelioration, and the growth of forests. The most prominent change in the Mesolithic, as a response to the growth of forests, is the appearance of first true axe for tree-felling and wood working. The first of these Mesolithic cultures is the Maglemosian (Star Carr in Yorkshire in England is the best known site), a culture of hunters and fishers which combined the use of flint axes with that of microliths.

The epi-Palaeolithic cultures in Southwest Asia are late Kebaran, Zarzian and Nebukian. These cultures have a considerable proportion of microlithic element, including geometric triangles and trapezes, and develop into the fully Mesolithic cultures during early Holocene. The Holocene period marks the end of Pleistocene Ice Age and the commencement of recent period.

The Upper Palaeolithic culture in India succeeds the Middle Palaeolithic culture and precedes the Mesolithic culture as in other parts of the Old World.

3.4 UPPER PALAEOLITHIC IN INDIA

The Upper Palaeolithic culture has a wide distribution in different physiographical zones in India (Fig. 3.7).

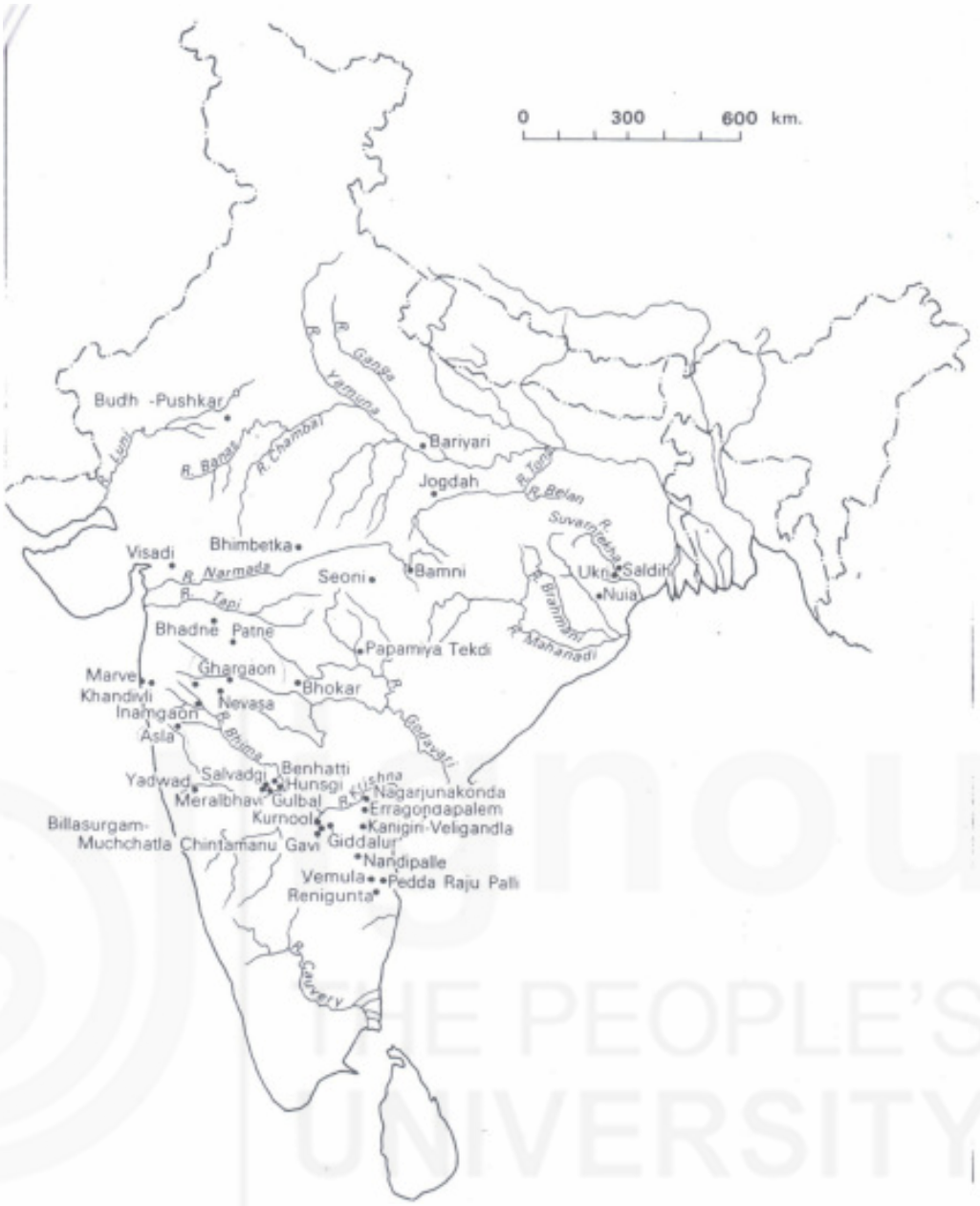

Fig. 3.7: Distribution of Upper Palaeolithic sites in India

It is known from Palmau (north Koel river valley) and Singhbhum (Subarnarekha and Sanjay river valleys) districts of Bihar; Garo Hill (valley of the Rongram river) in Assam; Allahabad, Banda and Mirjapur (Belan, Son, Tons and Yamuna valleys) districts in Uttar Pradesh; Mandla (river Banjer, a tributary of the Narmada) and Raisen (Bhimbetka caves) districts; Ajmer (in the vicinity of Budh Pushkar lake) district in Rajasthan; Baroda (in the sand dunes near Visadi) district in Gujarat; Dhulia (Kan river), Jalgaon (central Tapi Basin), Ahmednagar (Pravara Basin), Nanded (central Godavari Basin) and Pune (Ghod valley) districts of Maharashtra; Bijapur and Gulbarga districts of Karnataka in the tributary system of the Krishna valley (Salvadgi, Meralbhavi, Gulbal, Benhatti and Hunsgi are the best known sites); Karimnagar, Nalgonda, Guntur, Nellore, Kurnool, Prakasam, Kadapa, and Chittoor districts of Andhra Pradesh (several sites in the Eastern Ghats, in the river valleys and their tributaries of the lower reaches of the Godavari, Krishna, Tungabhadra, Penneru, Kunderu, Sagileru, Cheyyeru, Bhavanasi, Paleru, Gunjana, Rallakalava and Swarnamukhi river systems, and the Kurnool caves).

The Upper Palaeolithic cultural relics in varied physiographical zones of India are stone tools which are based on blade tool technology. Since most of these sites are open-air occupations, tools made of organic materials such as bone are not known because organic remains are prone to disintegrate in open-air situations. However, bone tools were recovered from the Kurnool caves in which conditions for the preservation of organic remains were favaourable (see Kurnool caves).

Radiocarbon dates for the Upper Palaeolithic obtained from different parts of India (e.g. Bhedaghat, Dharampuri, Chandrasal, Mehtakheri, Nagda, Belan valley, Inamgaon, Nandipalle and Patne and the Thermoluminiscence (TL) date from the Kurnool caves indicate a time period falling in the range of 40,000 B.C. to 8,000 B.C. The faunal remains from the Kurnool caves, found in association with the Upper Palaeolithic, also belong to the late Pleistocene age.

3.4.1 Stone Tool Industries

The Upper Palaeolithic culture in India is not marked by any sub-regional cultures (such as Chatelperronian, Aurignacian, Gravettian, Magdalenian and Solutrean in Europe) as in Europe. However, the Upper Palaeolithic industries in India show considerable degree of regional variation in tool types.

In Bihar and Assam the tools are made on thick broad flake-like blades. Hence, these are called flake-blades. Therefore, these industries in which tools on flake-blades are prominent are referred to as "flake-blade industries". The common tools are points, scrapers and borers. The other, less common types are backed knives, borers, burins and small choppers. The raw materials are agate, jasper and other siliceous rocks.

The Upper Palaeolithic industries in Rajasthan, Uttar Pradesh, Madhya Pradesh, Orissa, Maharashtra, Karnataka, and parts of Andhra Pradesh are characterised by well defined blades and tools made on blades. The blade tool technology in these industries is standardised. Hence, they are referred to as "blade-tool industries. The tool types are large to small sized blades (some of the blades are quite thick and long); backed blade tools; and scrapers, points, awls and burins on flakes, flake-blades and blades. The occurrence of tools finished by backing, such as the backed points, is low. Also the burins occur in a low frequency. Variety of scrapers (convex, concave, round, and notched) on flakes and flake-blades are most common, and also retouched blades are in significant numbers. The raw materials are chert, jasper, chalcedony and agate. In parts of Madhya Pradesh (e.g. Bhimbetka cave IIIF 23), coarse to medium grained quartzite is the raw material. In Andhra Pradesh, fine grained quartzite (e.g. Sagileru, Cheyyeru, Paleru river basins), and cherty-limestone (Kurnool caves) are also used.

In the excavations of Muchchatla Chintamanu Gavi (MCG I), one of the Kurnool caves, the blade-tool industry is found in association with a bone tool industry and Late Pleistocene fauna. In the lower Godavari valley the sites of Wankdi and Manikugudem (Adilabad district) have yielded considerable quantities of intentionally broken bones of large mammals, which are fossilised, in association with blade tools. These broken bones, in all likelihood, represent the leftovers of animals that were hunted and eaten. Grinding slabs are associated with the blade tool industry in the MCG I cave occupation. These grinding slabs suggest their possible use in processing plant foods, and also for milling wild grains. Here, large chunks of chocolate brown chert, quarried from the outcrops in the limestone beds were brought to the cave in considerable quantities. These large nodules are fire treated, by exposing to flame, for artifact production.

The Upper Palaeolithic industries especially in the Belan and Son valleys (Allahabad district) in Uttar Pradesh and in the southern belt of the Eastern Ghats in Andhra Pradesh are characterised by distinctive backed blade tool types and burins. Hence these are referred to as "blade-and-burin" industries. The distinguishing feature of these industries is the predominance of blades, backed-blade tools, and burins; a variety of scrapers (side, concave, convex, ovate, notched and discoid) on blades, flakes and flake blades; scrapers on blade cores; bifacial, unifacial, and shouldered points on flakes and blades, awls; and typical prismatic blade cores. An Upper Palaeolithic site in the Belan valley has yielded a barbed bone harpoon.

In the Belan, Adwa and Lilji river valleys, which are tributaries of the river Tons (a major tributary of the river Ganga) in Uttar Pradesh, there is a distribution of numerous Upper Palaeolithic and epi-Palaeolithic primary occupation sites in close proximity to perennial water sources on either side of the Kaimur ranges. In these sites which are called epi-Palaeolithic, in addition to regular Upper Palaeolithic tools, there are tools of microlithic proportion including different kinds of triangles and lunates. Some of the important epi-Palaeolithic sites in this region are Baghaikhor, Lekhahia and Lahariadih rock shelters in the Kaimur range; Chopani Mando in the Belan valley; and Maihar IV on a meander of Lilji river. The raw materials are chert, chalcedony, jasper, quartz and agate. These epi-Palaeolithic cultures reveal the transitional stage to the succeeding fully developed microlithic industries of the Mesolithic culture of the Holocene period.

The primary occupation sites in the Rallakalava (Vedulacheruvu, Nallagundlu) and Gunjuna (Peddarajupalli, Vodikalu, Bellu) valleys in the southern Eastern Ghats have yielded the best known evidence of the blade-and-burin industries in the country (Figs. 3.8 – 3.11).

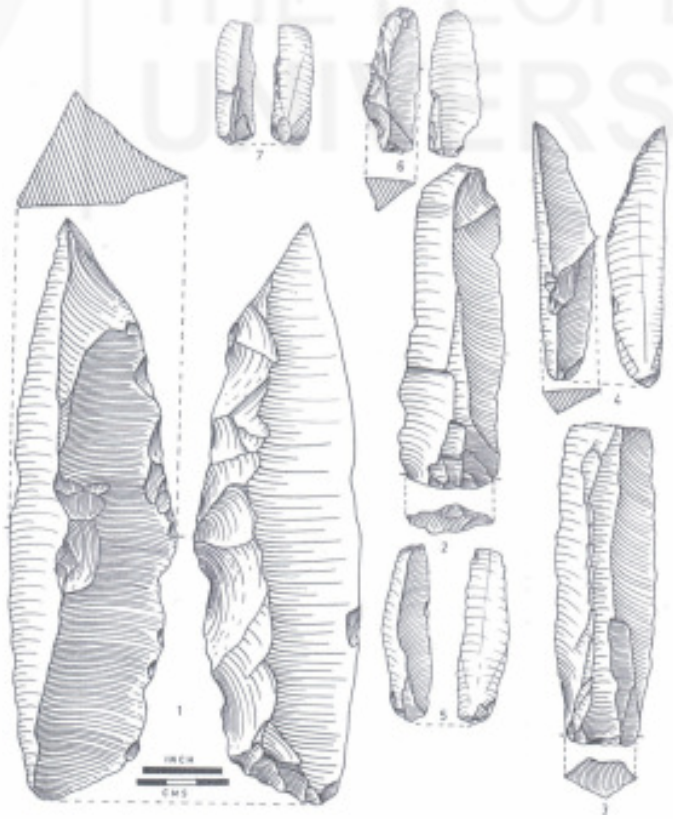

Fig. 3.8: Artifacts of the blade-and-burin industry from the Rallakalava valley, near Renigunta. 1, 4, 6, retouched blades; 2,3,5,7, simple blades (after Murty 1979)

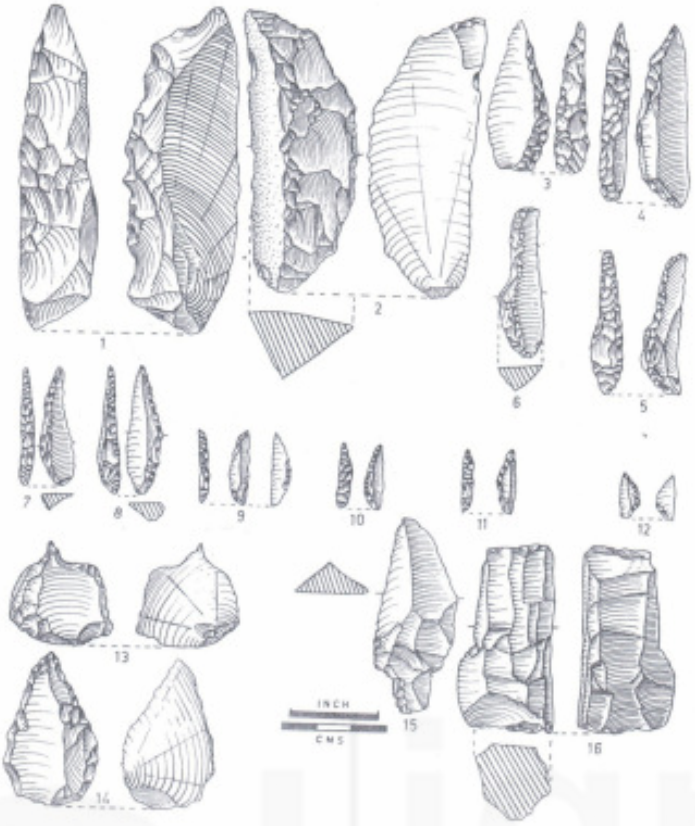

Fig. 3.9: Artifacts of the blade-and-burin industry from the Rallakalava valley, near Renigunta. 1-2, backed knives; 3-12, backed blade and bladelet tool variants (5 and 6 are backed pen knives); 13, awl; 14, unifacial point; 15, tanged point; 16, blade core (after Murty 1979)

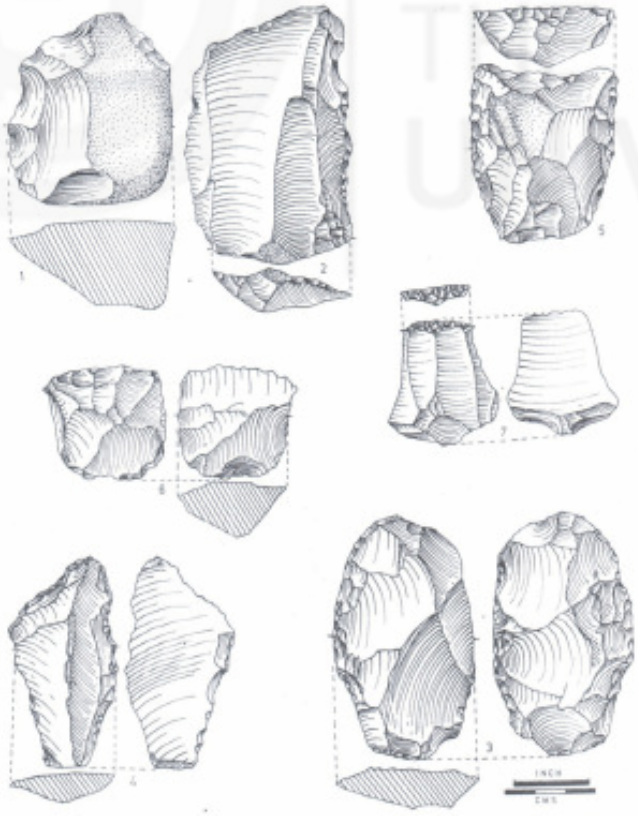

Fig.3.10: Artifacts of the blade-and-burin industry from the Rallakalava valley, near Renigunta. 1, convex scraper: 2, 4, side scrapers; 3, ovate scraper; 5, 6, 7, end scrapers (after Murty 1979)

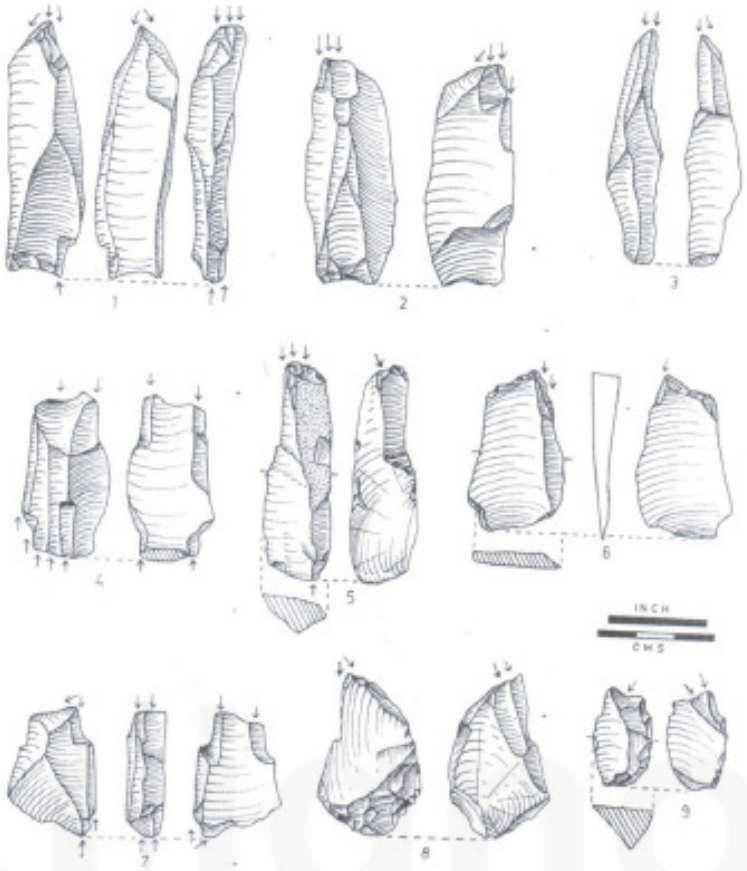

Fig. 3.11: Artifacts of the blade-and-burin industry from the Rallakalava valley, near Renigunta. 1-9, different types of burins (after Murty 1979)

What is most striking in these Rallakalava and Gunjana stone tool assemblages is the variety of backed-blade tools such as straight-back and curved- back points, points on truncated blades, pen knives, macro-lunates (as big as orange segments), macro triangles and macro-trapezes, and burins. These backed-blade tools, burins and scrapers display technological similarities to the Chatelperronian, Aurignacian and Gravettian types of Europe and Southwest Asia. These macro-lunates have damaged working edges due to use. They can be associated with working on wood and bone, as spoke shaves, for making hafts for projectile points. The raw material used for the manufacture of artifacts in this region is predominantly fine grained quartzite, and occasionally lydianite. The Rallakalava and Gunjana valley Upper Palaeolithic cultures also comprise a small proportion of microlithic tools such as triangles and lunates. Another noteworthy feature of the Rallakalava and Gunjana occupations is the occurrence of flat bored stones, and numerous grinding slabs. The flat bored stones indicate that they were possibly used as net sinkers for fishing. The grinding slabs suggest their use for processing of vegetal foods or even wild grains. The Upper Palaeolithic occupations in the Tons and Son valleys, and in the southern Eastern Ghats, are in close proximity to water sources. This indicates that aquatic foods also formed an important source of diet in these river valley occupations. Some of these occupations are extensive ranging from 5000m to 1000m in extant indicating that they were long-term occupations. They indicate sedentism in such habitats which provide varied seasonal food resources. The Upper Palaeolithic cultures in the Tons and Son valleys and in the Kaimur ranges of Uttar Pradesh and in the southern Eastern Ghats are notable for their evidences to trace the emergence of Mesolithic cultures.

At the Upper Palaeolithic site of Baghor I (Son valley) in Madhya Pradesh, there is evidence of worship of mother goddess. In the excavations of this site, has been found a female anthropomorphic stone with concentric triangles at the base, in the centre of a circle of sandstone rocks. In the vicinity of this site, there are similar stones in rock circles, which are currently worshipped as *mai* (mother goddess).

3.4.2 Bone Tool Industries

Upper Palaeolithic bone tools are known from the Kurnool cave sites. The excavations by Robert Bruce Foote and his son Henry Bruce Foote in the Billa Surgam caves, in the 1880s, yielded bone tools in association with Late Pleistocene fauna. The bone tools obtained from the Billa Surgam caves constituted 1700 specimens of worked and cut bones of which 200 were implements. The bone tools, as described by Foote, comprised awls, barbed and unbarbed arrowheads, daggers, scraper-knives, scrapers, chisels, gouge, wedges, axe heads, and sockets. Robert Bruce Foote observed that some of these bone tools are comparable to the Magdalenian culture of France. The occurrence of bone tools in the Billa Surgam caves is confirmed by recent excavations, in the 1970s by K. Thimma Reddy. Further, excavations in the Muchchatla Chintamanu Gavi cave (MCG I and MCG II), in the 1970s by M.L.K. Murty, have yielded blade tools and bone tools in association with Late Pleistocene fauna. The bone tools of MCG cave comprise scrapers, perforators, chisels, scoops, shouldered points, awls, barbs, spatulas, worked bones, and splinters (Fig. 3.12).

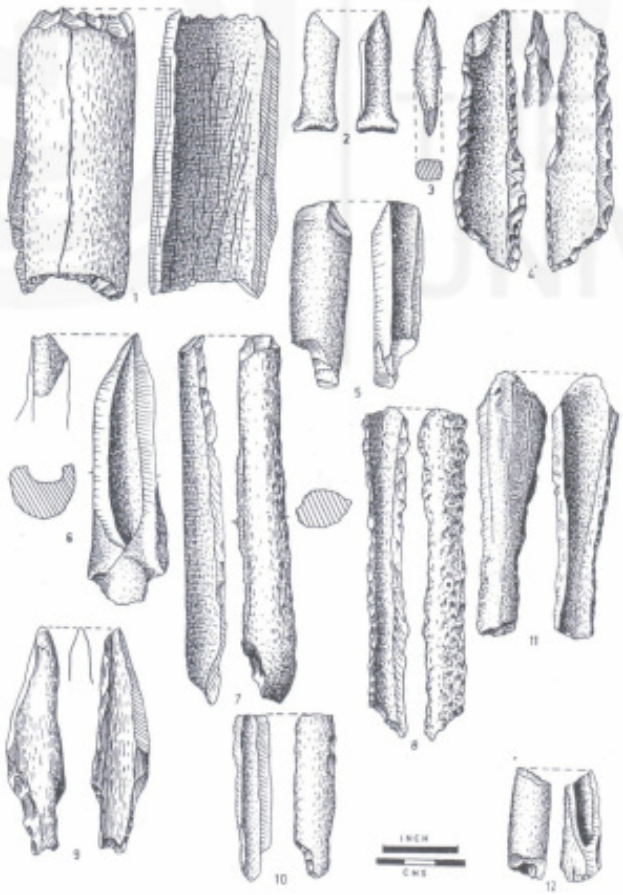

Fig.3.12: Bone tools from Muchchatla Chintamanu Gavi Cave I (MCG I), Kurnool caves. 1) scraper; 2-3) perforators; 4-6) chisels; 7-8) spatulas; 9) tanged point; 10) shouldered point, broken; 11) bone blank; 12) bone with both ends cut (after Murty 1979)

In a total collection of 1652 worked bones obtained from MCG I cave, 878 (47.40%) are bone blanks, and 151 (8.15%) are crudely finished tools; the rest representing broken bones and splinters. The MCG cave bone tools display a crude technology. This is because the cave is a short-term occupation and the possibility for complete representation of well finished artifacts is less likely in short-term occupations than in permanent occupations. In the manufacture of bone tools, in the first step, the ends of long bones selected for working are knocked off by striking obliquely on the shaft at the ends. Long and thick bones are transversely cut by chopping along the circumference at the desired point. From these prepared shafts of long bones, strips of bones (bone blanks) are removed by flaking and chipping. Some examples indicate that on a prepared shaft, parallel groves are made along the long axis, and long strips are removed. These long strips are further reduced in size and are finished into tools by flaking along the margins, lateral chipping and grinding.

3.4.3 Subsistence Economy

The Upper Palaeolithic blade and backed blade tools, functionally, must have been used by hafting in wood or bone, as composite tools. They might have been hafted to make barbed points, harpoons, projectiles, arrows, hunting spears etc. The variety of scrapers, burins, borers and awls indicate their use in wood and bone working. The Upper Palaeolithic tools thus indicate the manufacture of specialised hunting tools for hunting big and small game, and fishing. The evidence of the animals hunted during the Upper Palaeolithic is well preserved in the Kurnool caves. They consist of jungle cat (*Felis chaus*), porcupine (*Hystrix crassidens*), black naped here (*Lepus* cf. *nigricollis*), wild ox (*Bos* sp.), wild buffalo (*Bubalus* sp.), nilgai (*Boselaphus tragocamelus*), chinkara (*Gazella gazella bennetti*), blackbuck or Indian antelope (*Antilope cervicapra*), four-horned antelope (*Tetracerus quarricornis*), sambar (*Cervus unicolor*), spotted deer (*Axis axis*), barking deer (*Muntiacus muntjak*), mouse deer (*Tragulus* cf. *meminna)*, Indian wild boar (*Sus scrofa cristatus*), pangolin *(Smutsia gigantean*), monitor lisard (*Varanus dracaena*), and a few bones of birds and dermal scutes (horny plate) of turtles. Hunting these animals is a difficult task. The hunting techniques of varied contemporary hunting–gathering communities in different parts of India provide us insights and analogies to envisage the prehistoric hunting practices. Some of these communities are Van Vagris of Rajasthan; Bhil, Aheriya, Baheliya, Kanjara and Pardhi of Ganga plains and central India; Birhor of Chota Nagpur and Orissa; Katkari of western India; Chenchu, Yanadi, Boya and Yerukula of the Eastern Ghats; Irulas of Tamil Nadu; Kadar of Kochin; and Mala Pantaram of Travancore. All these groups hunt big and small game (the species mentioned above are included), birds, and fish in the rivers, lakes and ponds. They use specialised hunting contrivances such as a variety of traps, nets, snares, bows and arrows for hunting and fishing. The hunting practices of these communities point out the possibility of use of prototypes of some of these specialised aids in the prehistoric past, without which the game would not have fallen a prey. In so far as the exploitation of plant foods in the prehistoric past is concerned, no evidences are as yet available. But again, drawing analogies from the communities which are adapted to forested environments, it can be suggested that a variety of wild plant foods such as yams and tubers, fruits, nuts, flowers, leafy vegetables, shoots, and mushrooms; insects; and honey might have been gathered for subsistence. From the Mesolithic rock paintings of central India, in which some of these subsistence activities (hunting, fishing, collection of plant foods and

honey) are depicted, it is possible to predict that such activities were in vogue during the Upper Palaeolithic times.

3.4.4 Art

Some examples of art are known during the Upper Palaeolithic phase in India. These artistic representations can be classified as portable art (movable objects, or art mobilier) and mural art (paintings on cave walls and ceilings, or art parietal). Examples of portable art are mostly ostrich egg shell beads and engraved fragments. The well known sites are Bhimbetka III A-28, Ramgar (Chambal valley) and Khaparkheda (Narmada valley) in Madhya Pradesh; Chandresal and Kota (Chanbal valley) in Rajasthan; and Patne in Maharashtra. Examples of mural art are best known from the caves and rock shelters of Bhimbetka. The rock paintings here, assigned to Period I, are ascribed to the Upper Palaeolithic. These are linear representations in green and dark red colours of herds of huge animals like rhinoceroses, bisons, wild buffaloes, mammoths and boars. There are also stick-like human figures.

3.5 SUMMARY

Upper Palaeolithic cultures succeed the Middle Palaeolithic cultures and have a wide distribution in different parts of the Old World. These are associated with the fossil remains of Cro-Magnon man, who belongs to the species *Homo sapiens*, referred to as Anatomically Modern *Homo sapiens* (AMHS). The distinguishing features of these cultures are (a) specialised blade tool technology, (b) bone tool technology, and (c) art. In Southwest France, there are several regional phases in the Upper Palaeolithic cultures known as Chatelperronian, Aurignacian, Gravettian, Solutrean, and Magdalenian. These cultures flourished in the final stages of the last Ice Age. These Upper Palaeolithic cultures, at the closing stages of the last Ice Age are followed by epi-Palaeolithic cultures such as Hamburgian, Ahrensburgian and Federmesser-Gruppen. In Southwest Asia also there are local sub phases in the stages of Upper Palaeolithic. Upper Palaeolithic cultures in India also have a wide distribution, but there are sub-cultural sequences as in Europe.

Suggested Reading

Agarwal, D.P. 1981. *The Archaeology of India.* London: Cambridge University Press.

Agarwal, D. P. and J. S. Kharakwal. 2002. *South Asian Prehistory.* Delhi: Aryan Books International

Allchin Bridget and Raymond Allchin. 1982. *The Rise of Civilisation in India and Pakistan.* Cambridge: Cambridge University Press.

Bhattacharya, D.K. 1977. *Palaeolithic Europe.* Netherlands: Humanities Press.

Bhattacharya, D.K. 2006. *An Outline of Indian Prehistory.* Delhi: Palaka Prakashan.

Bordes, Francois. 1968. *The Old Stone Age* (Translated from the French by J.E. Anderson). London: Weidenfeld and Nicolson.

Burkitt, M. 1963. *The Old Stone Age: A Study of Palaeolithic Times.* London: Bowes and Bowes.

Campbell, Bernard, G. 1979. *Humankind Emerging* (Second Edition). Boston: Little Brown and Company.

Clark, Graham. 1977. *World Prehistory in New Perspective*. Cambridge: Cambridge University Press.

Clark, Graham and Stuart Piggott. 1976. *Prehistoric Societies.* Harmondsworth, Middlesex (England): Penguin Books Ltd.

Chandramouli, N. 2002. *Rock Art of South India (With Special Reference to Andhra Pradesh*). New Delhi: Bharatiya Kala Prakashan.

Coles, J.M. and E.S. Higgs. 1969. *The Archaeology of Early Man.* London: Faber and Faber.

Fagan, B.M. 2004. *People of the Earth: An Introduction to World Prehistory.* New Jersey: Pearson Education.

Hole, H. and R.F. Heizer. 1969. *An Introduction to Prehistoric Archaeology.* New York: Hold, Rinehart and Winston Inc.

Larsen, C.S. 1998. *Human Origins: The Fossil Record* (Paperback). Illinois: Waveland Press Inc.

Leakey, R. 1993. *Origins Reconsidered: In Search of What Makes us Human* (Paperback): New York: Anchor Books.

Lee, R.B and I. Devore (eds.). 1977. *Man the Hunter*. Chicago: Aldine Publishing Company.

Mathpal, Y. 1984. *Prehistoric Paintings of Central India*. New Delhi: Abhinav

Mathpal, Y. 1985. *Prehistoric Rock Paintings of Bhimbetka, Central India*. New Delhi: Abhinav.

Mishra, S. 1995. *Chronology of the Indian Stone Age: The Impact of recent Absolute and Relative Dating Attempts.* Man and Environment 20(2): 11-16.

Misra, V.N. 1989. *Stone Age India: An Ecological perspective*. Man and Environment. 14: 17-64.

Misra, V.N. 2001. *Prehistoric Colonisation of India*. Journal of Biosciences. 26(4): 491-531.

Murty, M.L.K. 1968. *Blade and Burin Industries near Renigunta on the Southeast Coast of India*. Proceedings of the Prehistoric Society. 34:83-101.

Murty, M.L.K. 1979. *Recent Research on the Upper Palaeolithic Phase in India*. Journal of Field Archaeology. 6(3): 301-320.

Murty, M.L.K. 1974. *A Late Pleistocene Cave Site in South India*. Proceedings of the American Philosophical Society. 118(2): 196-230.

Murty, M.L.K. 1975. *Late Pleistocene Fauna of Kurnool Caves, South India*. In A.T. Clason (ed.), Archaeozoological Studies. Amsterdam: North Holland Publishing Co.

Murty, M.L.K. 1981. *Hunter Gatherer Ecosystems and Archaeological Patterns of Subsistence behaviour on the Southeast Coast of India: An Ethnographic Model*. World Archaeology. 13 (1): 47-58.

Murty, M.L.K. 1985. *Ethnoarchaeology of the Kurnool Cave Areas*. World Archaeology. 17(2): 192-205.

Neumayer, E. 1983. *Prehistoric Indian Rock Paintings*. New Delhi: Oxford University Press.

Renefrew, C. and P. Bahn. 2001. *Archaeology: Theories Methods and Practices*. London: Thames and Hudson.

Sankalia, H.D. 1974. *Prehistory and Protohistory of India and Pakistan*. Poona: Deccan College Postgraduate and Research Institute.

Sankalia, H.D. 1979. *Indian Archaeology Today.* Delhi: Ajanta Publications

Sankalia, H.D. 1977. *Prehistory of India.* Delhi: Munshiram Manoharlal Publishers Pvt. Ltd.

Sample Questions

1) What are the salient features of the Upper Palaeolithic cultures?

2) Give a review of the Upper Palaeolithic cultures in Europe.

3) Give a review of the Upper Palaeolithic cultures in India.

4) Write notes on:

   i) Backed blade tools

   ii) Magdalenian bone harpoons

   iii) Hamburgian culture

   iv) Bone tools from Kurnool caves

   v) Animal remains from Kurnool caves and subsistence economy