Middle Palaeolithic Cultural Phase – Mousterian

Introduction

In comparison to the Early Palaeolithic, the Middle Palaeolithic period witnessed an increase in the proportion of prepared cores, especially Levallois cores, an increase in the size and complexity of retouched flake tools, and a decrease in the number of large core-tools, like Acheulian picks and handaxes. This period also witnessed improvement in hunting technology and hunting abilities reflected both in the tools and in the faunal remains.

Most of the Middle Palaeolithic industries in Europe are grouped in the Mousterian complex, although flake industries with leaf-shaped points found in southern Germany are referred to a separate tradition, known as the Altmuhlian, and assemblages from most areas of western and central Europe, with small sharply pointed handaxes, are known as Micoquian. Middle Palaeolithic industries characterized by blade technologies are particularly concentrated in north-western Europe, including England, Belgium, northern France, and the Rhine Valley of Germany.

Handaxes occur in many European Mousterian assemblages, especially in northern France, Belgium, and England, they are absent from some areas of France like Provence, Charente etc., and quite rare in south-western Asian and North African Mousterian contexts. In Spain, a Vasconian Mousterian is distinguished by the addition of cleavers. Thinned bifacial points occur in later Mousterian assemblages in central and eastern Europe,
called as the Altmuhlian and continue into the earliest Upper Palaeolithic, or transitional, industries of eastern Europe, where they form the basis for theories of Middle-to-Upper Palaeolithic continuity. These tools do not occur in the Mousterian of Western Europe or south-western Asia. In southern Europe like Italy, Greece, the Balkans, Mousterian industries are often characterized by very small implements.

This period is marked by the first sustained occupation of high altitudes and boreal forest zones under cold climatic conditions, repeated occupations of caves and rock shelters, emergence of symbolic activities, first use of coloured mineral pigments and burials.

**Mousterian tradition**

Mousterian culture is the lithic tool tradition which evolved from Acheulian culture during the middle Palaeolithic. It occurred in Europe and the Near East during the Wurm glaciations period. Mousterian culture also includes objects created with a decorative intention and there are indications of funerary practices.
The name Mousterian culture was given after the type site of Le Moustier in Dordogne of France by Gabriel de Mortillet in the nineteenth century. Le Moustier is a rock shelter where partial skeleton of a Neanderthal youth was excavated in 1909. Stone tools from the Middle Palaeolithic sequence of this rock-shelter were given the name of Mousterian tools. Mortillet introduced the terms like Mousterian, Aurignacian, and Magdalenian, in order of increasing complexity, to designate the tools from the French sites of Le Moustier, Aurignac, and La Magdalene respectively.

**Important Mousterian Sites**

Some important Mousterian sites of Europe include:

1. France: La Cotte-de-St-Brelade (Jersey); Le Moustier, La Quina, La Ferrassie, La Micoque, Combe Grenal, La Chapelle-aux-Saints, and Pech de L’Azé etc.
2. Spain: Cueva Morin
3. Germany: Hohlenfels, Konigscauf, Saltzgitter-Lebenstedt etc.
4. Italy: Torre in Pietra and Saccopastore, Grotta Guattari (Monte Circeo) etc.
5. Hungary: Erd and Tata etc.
6. Croatia: Krapina and Vindija etc.
7. Bulgaria: Bacho Kiro
8. Ukraine: Molodova, Starosele etc.
9. Greece: Asprochaliko

Beyond Europe, the other important sites are Karain in Turkey; Teshik-Tash in Uzbekistan; Jabrud in Syria; Ksar Akil in Lebanon; Shanidar in Iraq; Tabun, Kebara, Qafzeh, and Amud in Israel; and Djebel Irhoud, Haua Fteah, Khor Musa, and Mugharet el-Aliya in North Africa.

The Mousterian in strict sense does not occur in India, sub-Saharan Africa, or eastern or south-eastern Asia, as the characteristic technologies and tool forms are not commonly found in these regions.

**Mousterian Technology**

The Middle Palaeolithic in Europe is essentially an industry based on the production, shaping, and use of flakes, although handaxes, generally smaller than those of earlier times, continue to be made. These flakes are manufactured in various ways, two of the most common being the use of disc-shaped cores and use of the Levalloisian technique.

In the former, flakes are struck from a core from its edge, moving radially around the circumference to remove successive flakes. The end result is that cores do resemble semi-flattened oval or round discs with scars of flake removals projecting in from the edge on both faces. This is a relatively simple technique that requires little
shaping of the core to allow flake removal and is applicable to both large and small stone nodules. The flakes that are produced in this way can vary considerably in size and shape.

The Levalloisian technique, on the other hand, is more complex. Essentially, this is a process that allows the flint knapper to predetermine the shape of flakes to a much greater degree than other techniques, but at the expense of additional work to prepare the core. Several steps are necessary to shape the nodule around its edge and to shape the broad surface to guide the force of the blow so that ultimately a flake may be removed that corresponds to the desired shape.

Many such Levallois flakes are pointed and may have been used, without the need for further retouching, as spear points. Because of the extensive working of the core before flake removal, this technique requires larger stone nodules, and there is a tendency for the Levallois technique to be most common in regions where large flint nodules are available. Many of the flakes, both Levallois and other, are further shaped by retouch.

Mousterian artefacts are much more specialized than Acheulian ones. These Mousterian tools were given a form before sharpening their edges. The most typical Mousterian tools found in Europe and the Near East are flakes produced by means of the Levallois technique, which were subsequently modified to produce diverse and sharper edges. Although the Levallois technique appeared during the Acheulian period, it reached the peak during the Mousterian culture.

By this technique flakes were produced with a very precise shape. The cores were carefully prepared by trimming their edges, removing small flakes until the core has the correct shape. Thereafter, with the last blow, the desired flake is obtained. The final results of the process, which includes points; scrapers etc. are subsequently modified to sharpen their edges.

Mousterian assemblages from Europe have low-to-moderate percentages of Levallois débitage, and high ratios of denticulates, notches, and side scrapers. Mousterian assemblages from central and Eastern Europe feature large numbers thin, well made handaxes and are sometimes distinguished as the Eastern Mousterian or the Micoquian.

Mousterian industries are characterized by the use of both discoidal and Levallois flaking techniques to produce flakes, blades, naturally backed knives, and points. These are knapped, primarily by direct percussion, into a wide range of forms, including side scrapers, retouched points, denticulate, and notches. Some Mousterian industries also have rather small, symmetrical handaxes.
Most Mousterian lithic assemblages are made on locally available raw materials, with only a small component produced on high-quality exotic flints. Studies by J.M. Geneste of raw-material economy among French Mousterian sites point to a consistent pattern of expedient use of local and low-quality raw materials paired with prolonged curation of symmetrical tools made of exotic materials. Very few recognizably modified bone tools occur in Mousterian contexts, although some pieces of bone and antler preserve wear traces from their use as flint knapping percussors. A few flaked shell tools have been found in the Italian site of Grotta Guattari.

**Mousterian Typology**

French archaeologist François Bordes developed an elaborate typology for the Mousterian artefacts, with 63 different types of flake tools recognized, based largely on their shape and location of retouch, with some attention to the appearance or kind of the retouch scars as well. He established large categories, such as points, side scrapers, and denticulated or notched pieces, and further subdivided these into recurring types.

One of the most intriguing and heavily debated observations he derived from this typology was that entire assemblages could also be classified on the basis of the relative proportions of the different tool types. He argued that these tools did not occur in all possible combinations of relative frequency at various sites, but rather, that there were recurring patterns in these combinations. Some assemblages are heavily dominated by denticulated and notched flakes, others by side scrapers, others by handaxes or backed knives, and still others show a roughly equal proportion of all categories.
Using graphs of the cumulative percentage of tool types in an assemblage, François Bordes distinguished four major variants of the French Mousterian:

The Charentian Group: Especially prevalent in the Charente district just to the north of the Dordogne. This variant is characterized by high numbers of scrapers and the absence or scarcity of backed knives and handaxes. This is subdivided into two variants: the Quina type, with a low Levallois index and large numbers of Quina scrapers (thick, with stepped retouch) and transverse scrapers (scraping edge is opposite striking platform), and the Ferrassie type, with a high Levallois index and few Quina or transverse scrapers.

The Typical Group: This variant shows a medium but variable percentage of scrapers, variable proportions of Levallois débitage, and low percentage or absence of Quina scrapers, transverse scrapers, backed knives, and handaxes. Points are most common in this variant.

The Mousterian of Acheulian Tradition (MAT): This variant is characterized by variable Levallois index, medium-to-low percentages of scrapers, few or no Quina scrapers, the presence of Upper Palaeolithic types (burins, end scrapers), numerous denticulates, and most characteristically, backed knives and/or handaxes. Two subdivisions of this type exist, one (MAT A) with triangular handaxes, the other (MAT B) with few, poorly made handaxes but numerous backed knives. MAT B is always later than MAT A.

The Denticulate Mousterian: This variant shows a high percentage of denticulate and notched pieces, variable Levallois index, and all other types (scrapers, Quina scrapers, backed knives, handaxes) rare or absent. With the exception of the Mousterian of Acheulian Tradition, which is also the only variant that changes consistently through time, most of them have variability between the facies.

Use of other Raw Materials in the Middle Palaeolithic

Due to the problems of preservation, only a few artefacts made of raw materials other than stone are known from the middle Palaeolithic period of Europe. There is an evidence of a wooden spear, over 2 meters in length, with a fire-hardened tip, from the north German site of Lehringen. Microscopic usewear analyses of stone tools in France suggest woodworking activity and wood was an important element of Neanderthal technology. Wood was also used as fuel, as evidenced by numerous finds of wood charcoal in hearths.

Bone is another material that was used in technology as several smooth polished bone points have been found. Bones and antlers seem often to have been roughly
flaked to create working ends and edges for use as scrapers, heavy-duty knives, or possible retouchers.

Hide-working is another important activity identified through microscopic usewear analysis, and presumably contributed to the manufacture of clothing and housing. The use of furs is suggested by the high number of skeletal remains of small furbearers in faunal assemblages.

Plant products were presumably utilized, as indicated by scant traces of plant polish on some stone tools and by the necessity for some sort of adhesive to attach stone tools to their hafts. Pieces of tree resin with the imprint of stone tools have been found at the site of Königsaue in Germany.

Mineral pigments, especially hematite or red ochre, were also used; abraded lumps have been found in sites, some artifacts such as Quina scrapers carry traces of the pigment on their faces, and even an apparent quarry for hematite has been found in Hungary. The uses of these pigments included hide preparation or dyeing, body painting, or ritual use. Finds of lignite at the site of Les Canalettes in southern France suggests that this form of coal was occasionally used as fuel, perhaps when wood was scarce.

**Relationship between Neanderthals and Mousterian tradition**

Traditionally, the Mousterian technological shift was thought to be very closely associated with the early forms of *Homo sapiens* and especially with the emergence of Neanderthal man. The Mousterian date range roughly coincides with that of skeletal evidence for the Neanderthals. However, the relationship between Mousterian technology and human evolution is now recognised to be significantly more complex.
The hominid remains found in most European and many western Asian Mousterian contexts are unambiguously Neanderthals, however, a few European Neanderthal fossils occur in post-Mousterian contexts, such as the Chatelperronian of Saint-Césaire and Grotte du Renne at Arcy-Sur-Cure.

At some sites anatomically modern humans have been found in levels that yield Mousterian technology, for example, at the site of Starosel’ye. Like the evidence from Qafzeh and Skhul caves in the Near East, this suggests that modern humans made Mousterian tools. Furthermore, towards the end of the Neanderthal date range, around 40,000 to 35,000 BP, the remains of Neanderthals seem to be associated with early variants of Upper Palaeolithic blade-based technology, such as the Chatelperronian in France, the Szeletian of central Europe and the Uluzzian of Italy. At St Césaire, for example, a cave site in the Charente region of France, a Neanderthal burial has been found in apparent association with Upper Palaeolithic Chatelperronian tools.

**Social and Religious Life during Mousterian tradition**

Mousterian sites show evidence for significant developments in economic, social, and cognitive behaviour in comparison to the preceding Early Palaeolithic culture. Neanderthals buried their dead. Voluntary burial is indicative of respect and appreciation, as well as a way to hide the body from scavengers which also imply concern about death. Neanderthal burials have been located in several areas, mainly in southern France, Italy, northern Balkans, the Near East (Israel and Syria), and central Asia (Iraq, Caucasus, and Uzbekistan).
The “old man”, a partial skeleton of the species Homo neanderthalensis from La Chapelle-aux-Saints site of France was found in a rectangular hole dug in the ground of a cave. Existence of tombs at the sites of La Ferrassie and Shanidar has been also suggested. Some of the remains were not only buried intentionally, but there seems to be evidence of rituals. There is evidence of presence of burial objects at some sites.

The presence of fragmentary, often burnt, human skeletal remains from Mousterian sites such as Krapina in Croatia has led many to suppose that cannibalism played a part in Mousterian life ways, as a subsistence option and as a mortuary ritual. Most researchers consider such damage to be explicable in terms of damage inflicted by carnivores or by subsequent human occupations on sites where human remains were exposed on the surface. At Krapina, where cannibalism has often been invoked to explain the condition of the remains, the practice of defleshing, and secondary burial of the dead is a far more likely cause.

Although grave goods may, have been placed in some graves, and lumps of ocher or manganese, some faceted from use, are common, indisputable symbolic artifacts are rare in European Mousterian sites; one of the most convincing is a fossil nummulite with an incision from Tata in Hungary.

The nature of Neanderthal language is difficult to resolve, given the present evidence; the major anatomical structures were there, including a modern hyoid bone in the neck.

**Settlement Patterns during the Mousterian tradition**

Wherever Mousterian industries are found, their appearance usually coincides with fluctuating, but generally cooling, climates. In Europe, this period witnesses a gradual retreat of deciduous forests and their replacement throughout much of the continent, first by boreal forests and later by steppe tundra. Although Neanderthals are often described as cold adapted, evidence of Mousterian occupation of actual tundra and periglacial zones is scarce. The first extensive human occupation of the plains and river valleys of Russia and the Ukraine, however, may date to this time.
In south-western Asia and North Africa, the distribution of the Mousterian coincides very closely with temperate woodlands, suggesting that extremely arid Saharo-Arabian deserts represented a formidable obstacle to settlement. In contrast to the Early Palaeolithic, repeated occupation of caves and rock shelters is a common feature of the settlement pattern. The ephemeral nature of these occupations is further suggested by the widespread evidence of carnivore activity at Mousterian sites, presumably during the absence of the human occupants.

Mousterian cave occupations preserve concentrations of ash and burnt bone that are probably hearths. At a few sites, for example, Grotte de Renne and Molodova I, excavators have identified concentrations of stone and bone that may be the footings for tents or windbreaks.

There is a very clear trace or cast of a posthole at Combe Grenal, while at several French sites like Baume-Bonne Cave in the southeast, a number of sharply delimited stone pavements or artificially constructed cobble floors, each measuring ca. 10 m², were recovered in excavation. The best evidence for the construction of living structures in Mousterian sites is provided by the excavation of pits up to 60 cm deep, dug into consolidated cave deposits at Combe Grenal, Le Moustier, and La Quina, possibly served as storage of food.

The large oval arrangement of mammoth bones with interior hearths in Mousterian Layer IV at Molodova is interpreted as hut foundation, which may also be a storage structure.
Subsistence Pattern during the Mousterian tradition

Little is known of Mousterian plant food use, owing primarily to a lack of preservation. The large mammals whose bones occur regularly on Mousterian sites include cold temperate (Palearctic) species such as bison (*Bison*), wild cattle (*Bos primigenius*), horse (*Equus caballus*), onager (*Equus hemionius*), reindeer (*Rangifer tarandus*), red deer (*Cervus elaphus*), wild boar (*Sus scrofa*), ibex (*Capra sp.*), fallow deer (*Dama sp.*), and gazelle (*Gazella gazella*).

Most Mousterian faunal assemblages feature a wide range of species, rather than a single focal species. Stable-isotope analysis of hominin and faunal remains from La Ferrassie in France suggests that Neanderthals secured regular access to meat and fat. Evidence for exploitation of marine molluscs is found at Mediterranean sites such as Haua Fteah and Gorham’s Cave (Gibraltar). Specialized fishing sites and fishing technologies are unknown.

Conclusion

The middle Palaeolithic industries of Europe are found between 250,000 to 30,000 years ago. This period is defined largely on the basis of core technology and predominantly flake tools that are found in Europe. This period also witnessed improvements in hunting technology, which reflects both in the tools and in the faunal remains. This tradition is named after the type site of Le Moustier, in France by Gabriel de Mortilet in the 19th Century. The main technology of the Mousterian tradition is of two kind i. e., the discoidal/Mousterian technique, and the Levallois technique. Traditionally, it was thought that the Neanderthal man have a close relation with the Mousterian tradition. Now this concept has become more complex. The Mousterian people started intentional burials with or without rituals on the one hand and cannibalism on the other. Although grave goods are found in some burials the symbolic Mousterian tools are in Mousterian sites of Europe.