



Mesolithic Culture of Europe

(Azilian, Tardenoisian, Maglemosian, Kitchen Midden)

Introduction

The Mesolithic period falls between Palaeolithic and Neolithic in time. In Lubbock's original division of the Stone Age into two periods; the Palaeolithic and the Neolithic, were thought to have been separated by a hiatus. Subsequent



excavations at Mas d'Azil in France and other sites documented

Archaeological Period		Sequence of culture		
HOLOCENE	Neolithic			
	MESOLITHIC			
PLEISTOCENE	PALAEO LITHIC	Upper	Magdalenian Solutrean Aurignacian	Blade tool industry
		Middle	Mousterian	Flake tool industry
		Lower	Levalloisean Clactonian	Flake tool industry
			Acheulean Chellean Pre-chellean	Core tool industry
Eolithic				

the existence of Early Holocene hunting and gathering cultures in mid-latitude regions. By the last quarter of the nineteenth century, several authors like A. Brown had suggested independently the use of the term Mesolithic for these industries, although the first synthetic studies of European Mesolithic industries, compiled by J.G.D. Clark, were not published until the 1950s.

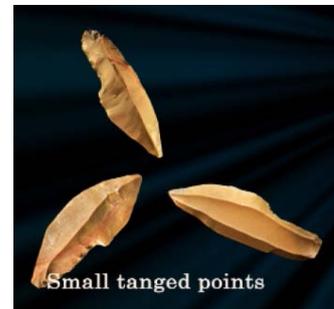
The Mesolithic is the period of the last hunter-gatherers of Europe beginning on the onset of the Holocene, around 10,300 BP. The end of the Mesolithic is characterized by the appearance of agricultural economies, usually along with other changes such as permanent villages and ceramic vessels. Because this economic transition occurred at different times throughout the continent, the dates for the end of the Mesolithic differ across Europe. In general, hunting and gathering persisted longer as the dominant economy in the

north, and hence the Mesolithic lasts considerably longer in the northern parts of the continent.

Epipalaeolithic

Epipalaeolithic is a loosely defined chronological or cultural classification applied to the last phase of the Palaeolithic period. In the past, researchers of European prehistory have sometimes used the term to describe the period between the Palaeolithic and the Mesolithic. During this interval the material culture complexes in Europe, such as the Azilian, exhibit certain aspects of Magdalenian technology and subsistence and make use of many of the same sites but lack key cultural indicators of the Upper Palaeolithic such as developed art and lack microlithic technology, and so have fallen outside the traditional classification of the Mesolithic. Confusingly, the term is also occasionally used in the European context, to denote the entire interval between the Magdalenian and the farming cultures of the first Neolithic phase.

The term Epipalaeolithic is used in place of Mesolithic to describe final Late Pleistocene and Holocene assemblages that reflect a continuation of a Palaeolithic way of life, based on hunting of large herbivores, from ca. 12 Ka to as late as 3 Ka, in northern Europe. Tool kits are highly variable but often include



small tanged or backed points, scrapers and burins, a wide range of bone and antler tools including barbed harpoons, and some geometric microliths reflecting the development of composite tools. Specific industries may



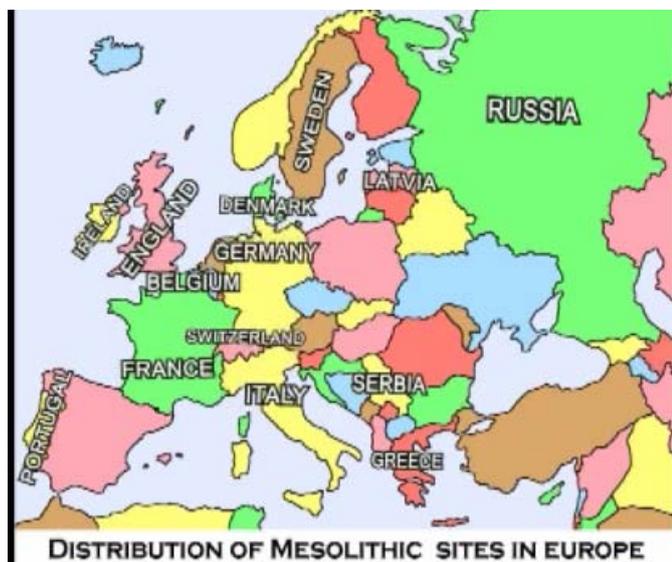
include the reindeer-hunting cultures such as Hamburgian, Ahrensburgian of the

North European plain; the Maglemosian of the North European plain; the Azilian, the Sauveterrian, and the Tardenoisian of France and Belgium; the Asturian of Spain; the Romanellian of Italy; the Creswellian of England; and comparable industries from Provence, Portugal, and other areas of Europe. Some authors limit the use of the term Epipaleolithic to industries of southern and southeastern Europe, as well as Africa, where greater continuity exists between Late Pleistocene and Early Holocene adaptations due to greater environmental continuity over the period involved. Other users of Epipaleolithic reserve the designation Mesolithic for industries that reflect economic intensification in the direction of domestication, sedentism, or environmental modification.

One major difference between Upper Palaeolithic and Epipaleolithic cultures in Europe is the apparent disappearance of widespread imaging traditions based on animals. The few images associated with these sites are either abstract (Azilian) or represent schematic human figures (Asturian).

Distribution of Mesolithic Sites in Europe

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. By contrast, portions of South-eastern Europe, notably Bulgaria and Greece, appear



to have relatively few known Mesolithic sites. Some of the important Mesolithic sites of Europe are:

1. Portugal: Cabeco da Amoreira, Cabeco da Arruda, Moita do Sebastiao etc.
2. France: Dourgne, Gazel, Montclus, Chateauneuf, Tevieg, Hoedic, Mannlefelsen etc.
3. Ireland: Mount Sandel etc.
4. England: Star Carr, Seamer Carr etc.
5. Belgium: Bois Laiterie, Margaux, Remouchamps etc.
6. Germany: Bedburg-Konigshoven, Henauhof Nord II, Hohlenstein-Stadel, Grosse Ofnet, Friesack, Schellnecker Wand, Hohen Viecheln etc.
7. Denmark: Prejlerup, Ertebolle, Ringkloster, Tybrind Vig, Dejro, Vaenget Nord, Vedbaek, Svaerdborg, Holmegaard V, Stroby Egede etc.
8. Sweden: Skateholm, Loshult, Kams etc.
9. Latvia: Zvejnieki etc.
10. Russia: Oleneostrovski Mogilnik, Vis etc.
11. Serbia: Lepenski Vir etc.
12. Greece: Franchthi etc.
13. Italy: Uzzo etc.

Mesolithic Technologies

The most definitive and widespread characteristic of Mesolithic technology is the use of small, often geometric forms of microliths. Microliths formed the basis for a wide range of composite tools, including arrows, barbed fish spears, and sickles. Since the stone elements of composite tools could be easily replaced in a haft of worked bone, antler, or wood, composite tools may have represented a more efficient technology, as well as a way to create long detachable arrowheads, and curved stone cutting edges with multiple blades set in a sickle haft. The widespread use of very small



projectile points in the Mesolithic suggests that arrow points may have been designed to remain in the animal, possibly to dissolve a poison into its bloodstream, rather than to kill the animal on contact.



In Europe, the sequential forms of microliths, from tanged/shouldered points to triangles to trapezes, are often used to establish chronological and even cultural relationships among the Azilian, Sauveterrian, Tardenoisian etc., although the regional distribution of these forms is extensive, and different forms coexist or overlap in time.

The appearance of microliths suggests greater use of the bow in hunting. Mesolithic subsistence was based on hunting of solitary and small herd-game, as well as on fishing and birding. On the newly deglaciated North European Plain, sites such as Hohen Viecheln suggest that the first human occupants of these regions such as Ahrensburgian and Hamburgian groups continued late-glacial hunting adaptations focus on reindeer and elk. Later North European Mesolithic groups, such as the Maglemosian, increasingly focused their efforts on red deer, wild cattle, and marine mammals. Mesolithic cultures from the temperate forests of Europe, such as the Azilian, Tardenoisian, Sauveterrian, and Montadian, furnish evidence of scheduled exploitation of forest resources, including acorns, hazelnuts, wild cattle, boar, fallow deer, red deer, and ibex.

Chipped stone axes were common in northern European Mesolithic contexts. Stone for axes was mined and transported over longer distances. The development of Mesolithic bone-and-antler technology is equally unique. Bone, antler, and wood formed the hafts of such composite tools as sickles, as well as the points, barbed or smooth, of arrows, harpoons, fishhooks, and leisters.

The innovation in fishing enabled the fisher to tire the prey and to land a greater proportion of the larger species. Other accessories of fishing, including

the nets themselves recovered from sites in northern Germany and Scandinavia, demonstrate the use of various fishing strategies such as nets, traps, weirs, harpoons, lines by Mesolithic peoples. Dugout canoes and paddles indicate the widespread use of boats.



Azilian

Azilian is the Epipaleolithic or Early Mesolithic industry of Western Europe. The term was introduced by the French Prehistorian E. Piette in 1899 to describe a phase in the transition from the Palaeolithic to the Neolithic. Specifically, Piette had discovered in the deposits of the Mas d'Azil cave near Ariège in the Pyrenees region of France, a tool assemblage consisting of flat



Ofnet Cave in Germany

harpoons made of deer horn and a collection of various sized and shaped pebbles decorated with coloured schematic designs. Although his interpretation of these artifacts was initially resisted, subsequent discoveries in other sites throughout France and elsewhere in northern Europe, such as at the Ofnet Cave, near Bayern, Germany by H. Breuil in 1909 verified his original proposal. Today, the Azilian is generally regarded as representing an initial phase in the Mesolithic cultural sequence, which is dated to 11–9 Ka.

The Azilian industry is the transitional period between the Upper Palaeolithic Magdalenian industry and Mesolithic. Because the Azilian appears at the end of the last glaciation, it has traditionally been regarded as marking the beginning of cultural and technological adoptions to a postglacial environment.

The Azilian was first excavated in 1874 at Abri Duruthy in France. The sites of Mas d’Azil and La Tourasse are regarded as its type-sites. The Azilian assemblage contains flat single-row Azilian harpoons often with button-hole perforations and curious painted Azilian pebbles.

The Azilian assemblages are identified by their high proportion of backed bladelets and small end-scrapers; a low but variable proportion of burins; and the presence of Azilian points.

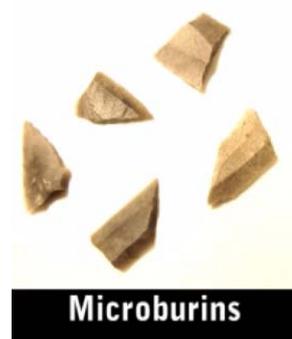
The Azilian is characterized by the replacement of the rich naturalistic mobiliary and parietal art of the preceding Magdalenian with a rather limited art of a much simpler geometric style. This art is occasionally manifested on bone tools, but most characteristically on the famous painted and occasionally engraved Azilian pebbles found in great concentrations at Mas d’Azil and Rochdane etc. in France and several sites of Spain, Switzerland and Italy. Single and multiple dots and strokes running across the width of the pebbles are the most common motifs. More complex designs include crosses, wavy lines, and longitudinal lines hatched with short strokes. The motifs are usually painted in red, or occasionally black, but some are engraved.

Tardenoisian

The Tardenoisian stage of the classic



Mesolithic/Epipaleolithic sequence of inland France dated to ca. 8–6 Ka or possibly later, was named after the



type site of Fere-en-Tardenois. It is distinguished from earlier industries by the presence of geometric microliths, microburin, scalene triangles, trapezoids, and points with concave bases. The term is sometimes used to describe industries with geometric microliths from other regions, such as eastern Europe, as well as

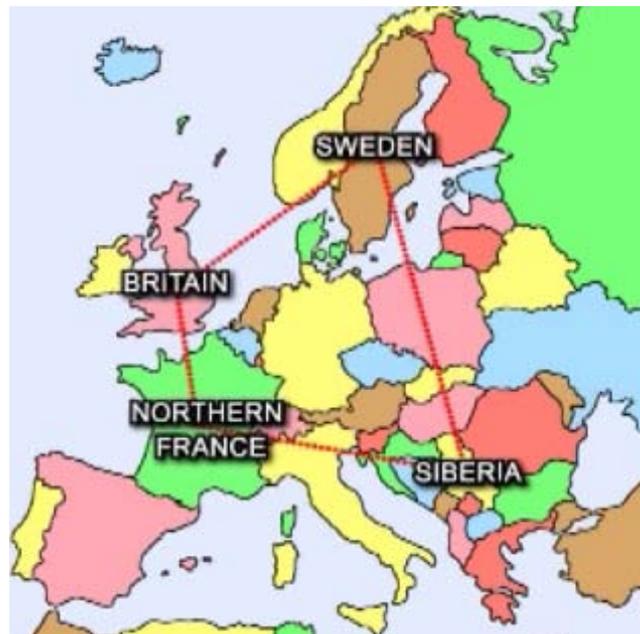
to distinguish northern French sites of Tardenoisian industry from southern ones of Sauveterrian industry.



The term Tardenoisian is applied to an ill-defined group of Mesolithic assemblages, characterized principally by the



presence of asymmetrical trapezes and long blades. Assemblages with Tardenoisian characteristics can be identified across Europe from Iberia to Sweden excluding Britain, centring on northern France. Tardenoisian assemblages are generally thought to post-date assemblages defined as Maglemosian and those defined as Sauveterrian; however, the relationship with the Sauveterrian has been the subject of much debate.



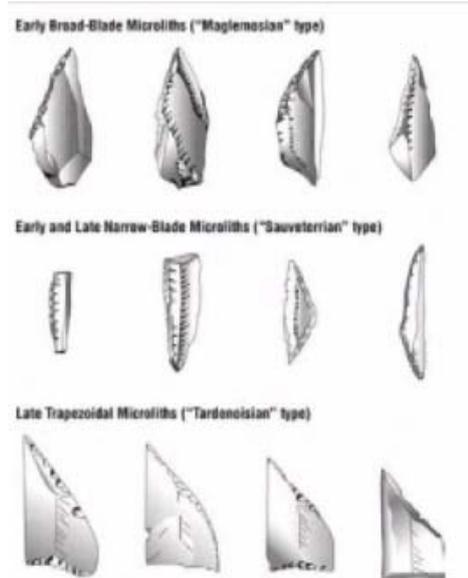
Maglemosian

Maglemosian, also spelt as Maglemosean, is the widespread family of early Mesolithic industries, extending from Britain across the North European Plain, defined in the Magle Mose bogland area of Zealand, Holland. The lithic industry is characterized by the presence of axes, obliquely blunted points and

flints. The presence of microliths and axes differentiate the assemblages from those of the Upper Palaeolithic. The sites of northern Britain with Maglemosian characteristics are culturally distinct from the non-Maglemosian lowland sites.



Most Maglemosian sites represent summer and fall lakeshore settlements, some with small individual or



nuclear-family hut floors, in which both the hunting of forest species such as aurochs, elk, red deer, roe deer and the consumption of marine or lacustrine resources such as fish, shellfish, seals are reflected in the faunal remains, as well as in

the artifacts. In addition to a stone industry with chipped-core axes and microliths, such as lunates and backed bladelets, Maglemosian sites have yielded wooden paddles, net weights, nets, floats, canoes, fishhooks, barbed and notched points and harpoons, and even nutshells due to the excellent organic preservation of wet sites.

The Maglemosian Open-Air Site of Star Carr

Star Carr is the most famous Mesolithic Maglemosian open-air site in Yorkshire of England excavated in the 1950s by J.G.D. Clark and dated to ca. 9.5 Ka by radiocarbon dating. It is a wet site with excellent organic preservation. The site has yielded remains of a brush pile or platform at the edge of a former lake, possibly representing a dump rather than a prehistoric campsite. It is associated with barbed antler spearheads, bone awls,



and scrapers, and a large series of antler frontlets, variously interpreted as ritual objects, hunting disguises, or a raw-material cache. A wooden paddle and a roll of birch bark suggest the presence of construction of boats. The stone industry included flint axes and geometric microliths, such as angular backed bladelets approaching trapezes, probably relating to arrow manufacture.

The associated fauna is dominated by red-deer remains, possibly representing repeated winter hunting episodes, and it also includes the earliest European evidence for the domesticated dog. In contrast to other Maglemosian sites, fish remains were not recovered. The excavation and interpretation of the site reflect the economic approach to prehistory. Clark's work at Star Carr is regarded as a pioneering example of a multidisciplinary investigation.

Kitchen Midden

The term Kitchen Midden is used in a general sense to describe an archaeological deposit formed largely of refuse from food preparation and, in a more particular sense, to describe large mounds of shells with associated cultural debris found at some coastal sites.



Examples of the latter include the Asturian complex in northern Spain and the Ertebolle culture in Denmark and Scandinavia. Another group is located at the mouth of the Tagus in Portugal. While shell middens are a particular feature of Mesolithic Atlantic economies, they also exist in the Mediterranean, for example, Ile de Riou in the bay of Marseilles has impressive limpet middens perhaps dating from 6000–5000 BC.

Recent studies of shell middens have tended to stress that although they often form the most impressive physical evidence of a hunting gathering economy in overall nutritional terms, they may only form a minor or seasonal part of a much more complicated foraging strategy. Even where marine

resources underpinned a hunter-gatherer economy, sea-bird catching, egg collecting and fishing may have been more important components in terms of their nutritional value.

Other Mesolithic Industries of Europe

There are several other regional industries of the Mesolithic period in Europe like Sauveterrian, Asturian, Kunda culture etc. discussed below.

The Sauveterrian is a Mesolithic assemblages characterized principally by the presence of small triangular points and narrow blades. First identified at the site of Sauveterre-la Lemance in southwest France, the assemblages date from about 7000 BC onwards, being produced for perhaps a millennium. S.K. Kozłowski interprets the Sauveterrian as an assemblage type, originally including a specific tool-kit, that evolved in southern France and was then adapted to a greater or lesser extent through much of west and central Europe including Britain. Sauveterrian assemblages are generally thought to post-date the Maglemosian, or to be contemporary with the later Maglemosian, and to predate the Tardenoisian; however, the relationship with the Tardenoisian has been the subject of much debate.

Asturian is the Mesolithic stone and bone industry linked to the shell-midden sites of northern Spain. The Asturian lithic industry is crude and has a high proportion of heavy duty tools, including a unifacial pick. Compared to the Azilian, it exhibits a relatively high proportion of serrated artefacts and a relatively low proportion of backed bladelets. The Asturian was identified as a distinct culture after excavations by Vega del Sella at the cave of El Penicual in Asturias in Spain in 1914.

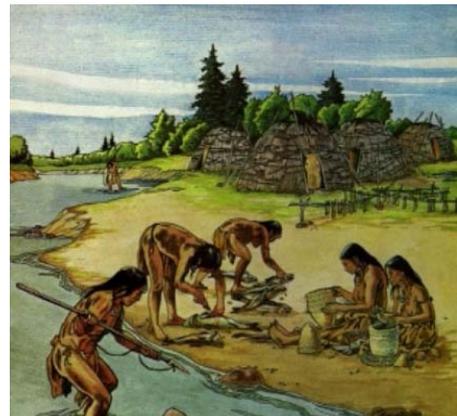
The term Kunda is used to denote a Mesolithic cultural tradition that spread across Estonia, northern Latvia and neighbouring regions of northwestern Russia. The type site is Kunda, located in northern Estonia, east of the city of Tallinn. The fauna includes elk, brown bear and beaver. The Kunda-type industry comprises tanged points, points and adzes. The stratified site of

Narva has yielded faunal remains of elk, red deer, wild pig, roe deer, brown bear and seal.

Economic Features of the Mesolithic in Europe

The meaning of Mesolithic and the list of industries assigned to this interval are far from uniform. The term carries technological (microliths, composite tools), chronological (Early Holocene), and socioeconomic (broad-spectrum resource use, economic intensification, semi-sedentism) connotations.

Some scholars reserve the designation Mesolithic for northern and western Europe, where societies adapted to forest-based subsistence, practicing hunting, gathering, and fishing, and using composite tools succeeded one another before the advent of domesticated



stock and agriculture. In this view, societies that continued a Palaeolithic way of life, characterized by nomadic hunting of large herbivores, or whose tool traditions continue relatively unchanged from Late Pleistocene to Holocene times, are referred to the Epipaleolithic, a term originally suggested by H. Obermaier as a synonym for Mesolithic. Such societies were found in the extreme north of Europe, where reindeer hunting continued to form the subsistence base, and in the Mediterranean Basin, where red deer and other forest species dominated both Late Pleistocene and Holocene assemblages.

Like the other major divisions of prehistory, the Mesolithic is associated with fundamental socio-economic as well as technological changes. According to some scholars, the term Mesolithic is synonymous with the particular type of hunting, fishing and gathering economy that evolved as a response to post-glacial environmental changes such as afforestation.

The advancement of the economic and material culture during the Mesolithic include extensive forest clearance and an associated technology of

mattocks, and tree-felling axes; elaborate seasonal scheduling of resource exploitation; domestication of the dog; the use of the bow and the development of microlithic technology; the development of river canoes and sea-going craft together with sophisticated fishing gear including the first evidence for nets and hooks; skis; and long-range exchange networks evidenced by the spread of Mediterranean obsidian and Polish chocolate-coloured flint.

An important point is the proportion of arrowheads in Mesolithic assemblages especially in Tardenoisian assemblages, which is distinctly higher than in the Magdalenian and has led to the characterisation of the Mesolithic as essentially the era of hunting with a bow. The components of the diversifying Mesolithic economy show great variation from region to region, and the new methodological approach of foraging theory is increasingly applied to try to explain these complex strategies. In the Pyrenees and in many areas of northern and western Europe, red deer and wild pigs became a principal prey, while at sites in both northern and southern Europe there is evidence for specialized marine fishing. The impressive shellfish middens of the Asturian and Ertebolle economies, but probably seasonal, exploitation of coastal resources.

Mesolithic economy made increasing use of plant foods. Some scholars have been tempted to see pre-adaptations to the coming agricultural revolution in the intensifying use of plant resources, suggesting that a primitive form of animal husbandry developed in the Mesolithic. They also point to the domestication of the dog, the development of storage facilities and associated semi-sedentism, and the social developments reflected in the advent of cemeteries in some regions and the increasing deposition of grave goods.

The later Mesolithic period of southern Scandinavia (*c.* 7500–5000 BP) is characterized by a large series of settlements with well-preserved faunal remains. Considerable inter-site variability has been identified, in terms of the frequency of different species and the season of year when they were exploited. Rowley-Conwy has suggested that Danish sites such as Ertebolle, Bjornsholm

and Meilgaard are likely to have been large base camps and possibly permanent settlements. These are found in generalized locations that give access to coastal, terrestrial and freshwater resources.

Aggersund in Denmark contains very high frequencies of Whooper swan, and the evidence indicates winter occupation, while Vaengo So, located on a small islet a few metres from the shore, has an assemblage of whale bones and is likely to have been a location where stranded whales were exploited. A similar range of sites is found in southern Sweden. Here the large multi-phase settlement cemetery site of Skateholm has a remarkably diverse faunal assemblage indicating hunting in all biomes and all seasons of the year.

The British waterlogged site of Star Carr has provided detailed information about Mesolithic economic activities, including evidence for domesticated dog. In general, the Mesolithic witnesses a decline in long-distance connections between different regions and an increasingly local and regional scale of social organization. Later Mesolithic sites are concentrated around more productive estuarine areas, where prolonged shellfish collection created enormous middens, i.e. piles of discarded shells. The cemetery of Vedbaek in Denmark provides evidence for complex Mesolithic mortuary rituals.

The economic and technological developments of the Mesolithic also made possible a greater degree of sedentism, often based on fishing. Elsewhere in Europe and western Asia, small lakeshore huts may have been seasonally reoccupied in alternation with rock shelters or forest camps. Within-settlement differentiation of activities and public vs. family areas is more marked than previously. Large Mesolithic cemeteries in southern Scandinavia also argue for increased sedentism. Finally, the sizes of social territories, whose boundaries are reflected in trade networks, microlith styles, bone-point forms, and decorative motifs, are correspondingly reduced from Palaeolithic times.

Broad-Spectrum Revolution during the Mesolithic Period

In 1965, K.V. Flannery introduced the concept of the broad spectrum revolution to emphasize the shift in man-land relationships that took place in the final Late Pleistocene to Early Holocene. Mesolithic or its equivalent represented a level of more intensive exploitation of the natural environment. Small-scale resources like fish, shellfish, nuts, snails, birds, and tortoises were increasingly important in the diet of Holocene hunters, who developed new strategies and technologies for taking large non-migratory forest and marine species. At Franchthi Cave in Greece, for example, tuna represent 50 percent of the faunal remains by the Late Mesolithic. The scheduling of resource use was particularly important. Although the site of Star Carr in England was occupied by red-deer hunters in winter and early spring, Maglemosian lakeside sites of northern Europe reflect largely summer and fall occupations, when both nut harvesting and fishing opportunities were at a maximum. Seasonal movement from lowland winter camps to upland hunting settlements is documented for the Late Palaeolithic and the Mesolithic of Greece.

Conclusion

The Mesolithic period witnessed massive readjustments to the environmental changes at the end of the last ice age. As the tundra and large animal herds of the Palaeolithic period disappeared, people adapted to the new, forested habitats. Hunting continued its importance, but shifted to focus on deer and other woodland animals. Small game, fish, birds, and plants increased their importance as subsistence diversified.

By the end of the Mesolithic, economies in some regions were strongly focused on marine or inland aquatic resources. Accompanying these changes in subsistence was a number of technological innovations that led to greater

efficiency of hunting and increased ease of travel. Initially, people were quite mobile and utilized many different parts of their habitat, but gradually they began to restrict their movements to limited areas and to concentrate their settlements in only parts of the landscape.

In some regions, notably coastal Denmark and south Sweden and especially the Iron Gates area of the Danube, residence appears to have become virtually sedentary. Art proliferated, largely in the form of decorations on implements and personal ornaments, and some materials were exchanged over large distances. Cemeteries appear in certain rich areas and document a rich complex of ceremonial activities focused on death. Social distinctions become increasingly evident, suggesting greater complexity in roles and status. In some regions, interpersonal violence is well documented and suggests an increasingly crowded and competitive social landscape.
