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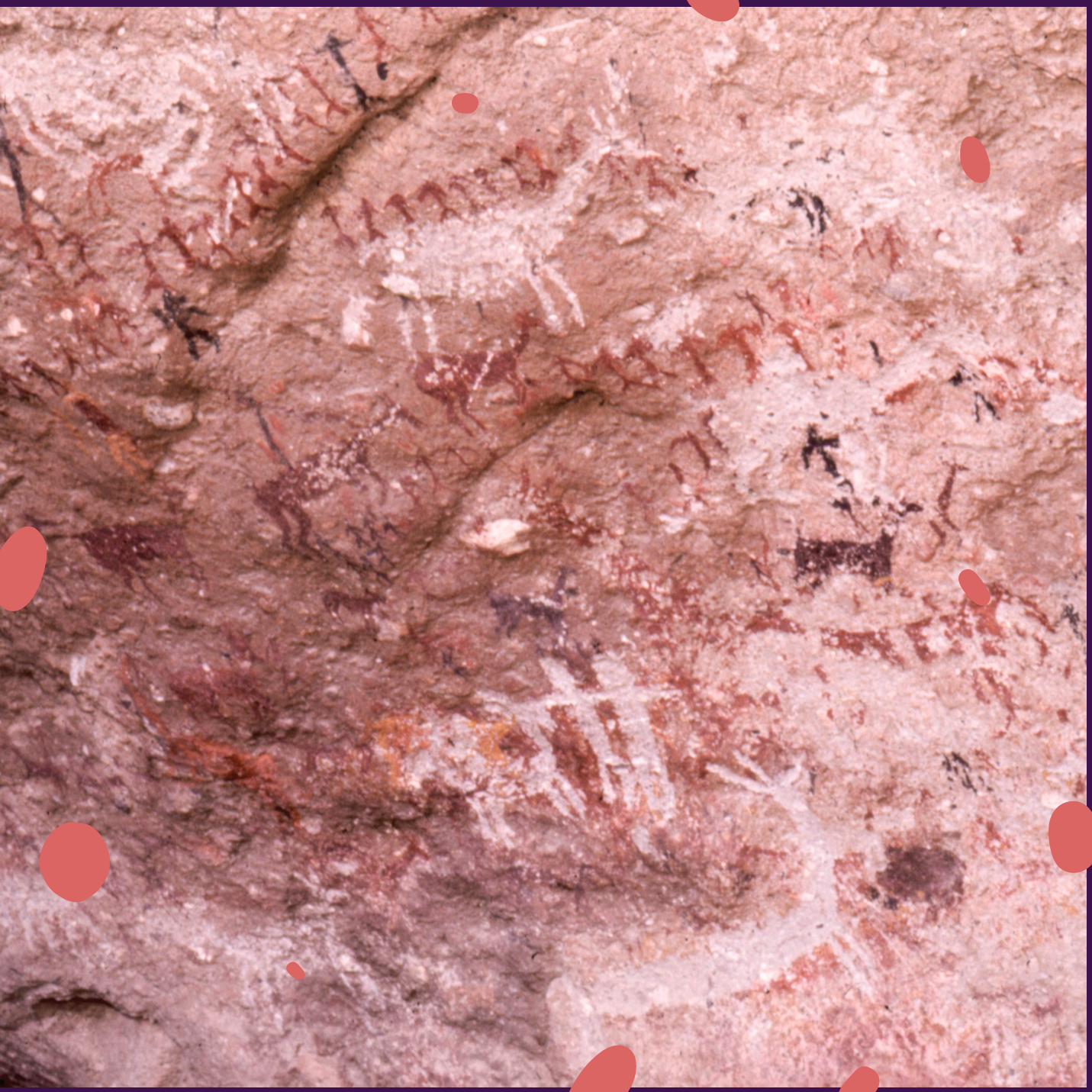

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THE DEPICTION AND USE OF MARINE ANIMALS IN THE LAST ICE AGE IN WESTERN EUROPE

LA REPRESENTACIÓN Y EL USO DE ANIMALES MARINOS EN LA ÚLTIMA EDAD DE HIELO EN EUROPA OCCIDENTAL

Paul G. Bahn[1]

Abstract

The paper presents a brief overview of the evidence -in both imagery and in archaeological remains- for exploitation of marine mammals and fish during the last Ice Age in Western Europe.

Keywords: Last Ice Age, whales, seals, marine fishes, imagery.

Resumen

Este artículo presenta una breve panorámica de las evidencias -tanto en imágenes como en restos arqueológicos- de la explotación de mamíferos marinos y peces durante la última Edad de Hielo en Europa Occidental.

Palabras clave: última Edad del Hielo, ballenas, focas, peces marinos, imágenes.

1. Independent researcher. pgbahn@anlabyrd.karoo.co.uk

The last Ice Age, the period from *c*. 40.000 to 12.000 years ago, was an era of hunter-gatherers, and any consideration of the food resources available and how they were exploited needs to take into account the local topography and environment, as well as the climate and the seasons of occupation. It should be remembered that Ice Age Eurasia could, for long periods of time, be an inhospitable place with bitter winds, freezing temperatures and waterlogged lands. Following the tracks of herds in such hostile environments would have been a formidable challenge -and not without risks- so having a variety of alternative food options would have been a vital lifeline for our hungry ancestors. On the other hand, both southern France and Iberia would have been pleasant regions in which to take refuge during the coldest phases of the Ice Age.

Although hunting was undoubtedly one of the principal activities of the period, how important were marine resources to these people? While this may seem a straightforward question, it is not one that is easy to answer, for one major reason. At the Last Glacial Maximum -around 22.000 and 20.000 years ago- the West European coastline would have been 10 and 100 km further out than it is today in some areas (Clifford and Bahn 2022). Hence people from inland sites would have had a much greater distance to travel, but many communities could have had seasonal or permanent dwellings on the coast, which are now drowned. Due to the subsequent rise in sea level, therefore, we have lost most of the coastal habitation sites which would provide the clearest evidence for the extent and importance of the exploitation of sea animals during the Upper Palaeolithic. Consequently, we have to make the best deductions we can from the few depictions of such marine mammals and fish that have been discovered so far in both parietal and portable art, and from a few bones and teeth that have been unearthed and identified. This brief survey does not aspire to be exhaustive, but will merely present some of the most prominent pieces of evidence.

Depictions in parietal and portable art

Ice Age imagery includes thousands of depictions of animals (together with a few birds and fishes), but representations of maritime fauna are not numerous. However, some of the examples discovered so far display such scrupulous exactness that, despite the reservations involved in deriving zoological information from art objects, it has been possible to estimate the species represented. It is therefore undeniable that the artists had actually seen these creatures: indeed, they may have been drawn from nature rather than from memory.

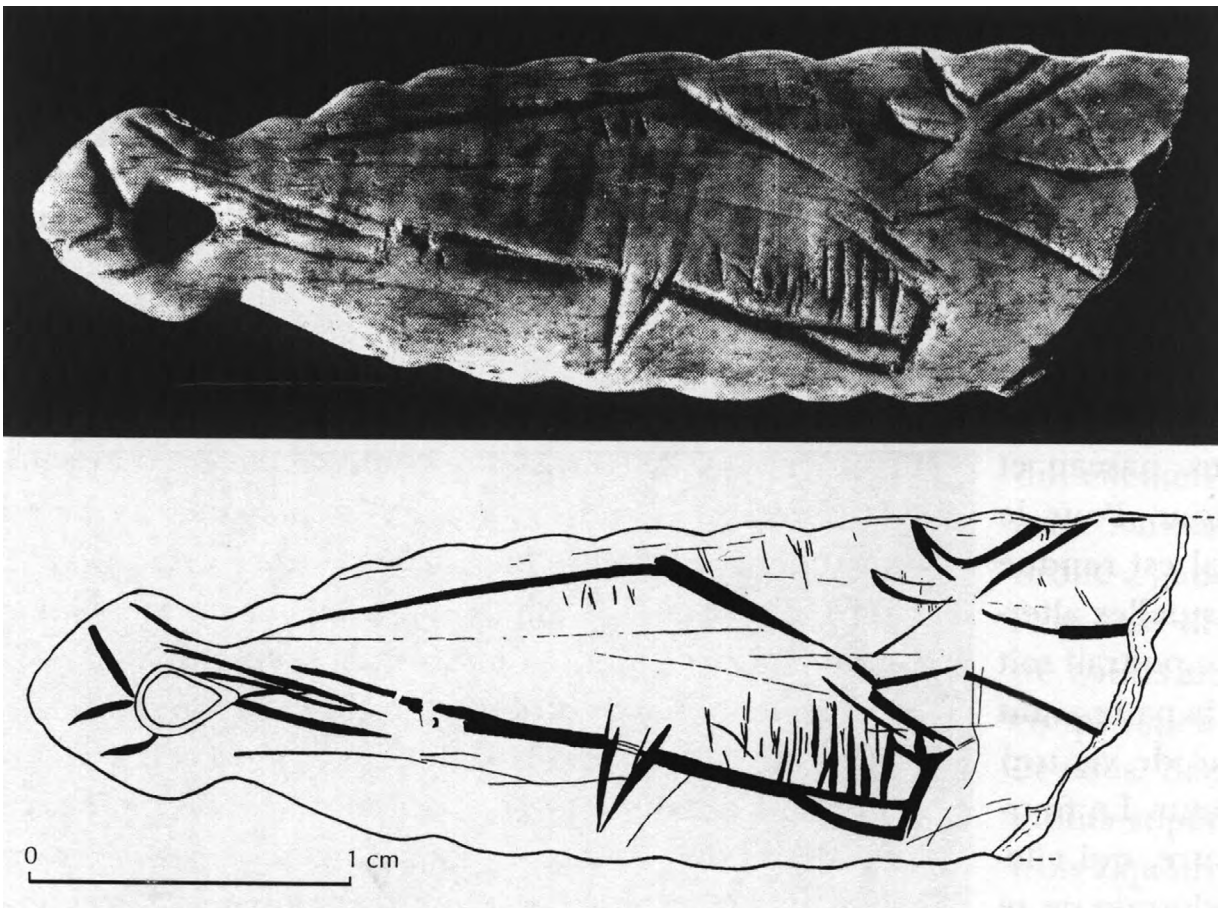


Figure 1. Engraved whale and deer on a pendant from Bourrouilla (Pyrénées Atlantiques). Photograph and drawing by A. Roussot.

The earliest known depictions of whales occur in the Upper Palaeolithic art of Spain and France (Bahn 2013; Pigeaud 2017). The best known are two late Ice Age (Magdalenian) portable images. The first, from Arancou in the French Pyrenees, is an engraving of a whale and a stag on a bone pendant (Roussot 1995-1996) (Figure 1); the other, from Las Caldas in Asturias (Spain), is an engraving of a whale on a cachalot tooth (Polledo 2011: 101) (Figure 2). One assumes that the creatures must have occasionally been seen beached on shore -Arancou was only 40 km from the sea at that time.

They were also presumably seen offshore in the sea. The well-known perforated antler baton from Montgaudier (Charente, France), discovered in 1885, is famous for its beautiful depictions of grey seals (see below) and serpentiforms; but between them are three strange arched figures. Robineau (1984) has interpreted these 2 cm-long motifs as baleen-whales, with their heads to the left, but this idea seems somewhat tenuous, to say the least.

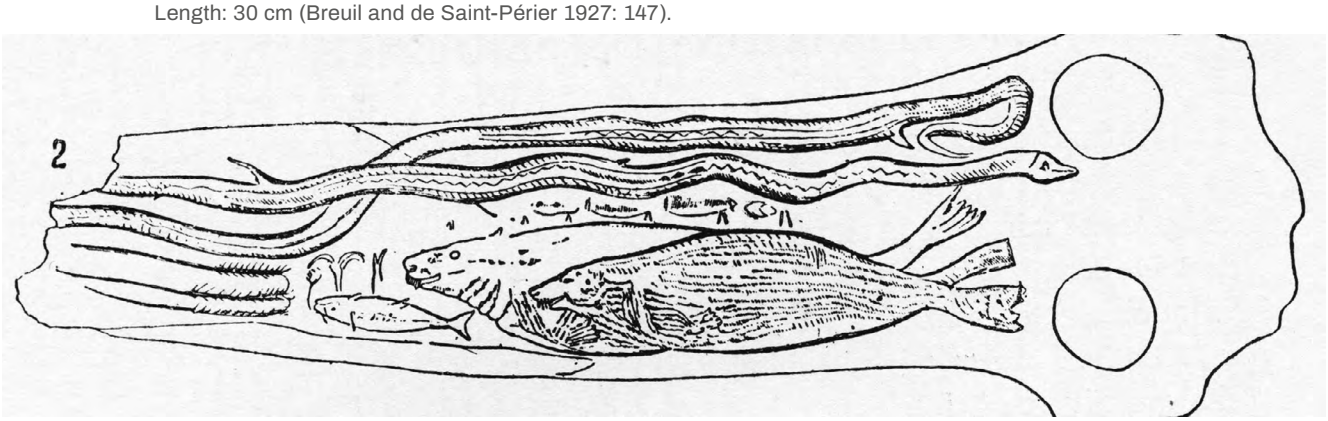
Figure 2. Engraving of a whale on a whale tooth from Las Caldas (Asturias). Length: 52 mm (Museo Arqueológico de Asturias).

Only one fairly definite parietal depiction is known in Upper Palaeolithic art -a 2-metre engraved whale in the northern Spanish cave of Tito Bustillo (Millara and Angulo 2010: 60; Polledo 2011: 101) (Figure 3). In the southern Spanish cave of Nerja, some motifs are commonly interpreted as either seals or dolphins, but they are so vague that it is difficult to be sure (Dams 1987a: 17, 1987b: 219-223; Sanchidrián 1994: 133-135, 184-193). Finally, there are eight extremely doubtful engravings of what may be seals on the walls of Cosquer Cave, France (Clottes and Courtin 1994: 129-135).

Where portable depictions of seals are concerned (Airvaux and Mélard 2006; Bahn 1977: 253-254, 1982: 255, 1984; Capitan *et al*. 1924; Crémades 1998; de Sonneville-Bordes 1986: 639-641; de Sonneville-Bordes and Laurent 1983) the above-mentioned baton from Montgaudier bears engravings of two specimen, one of which was thought by Gaudry (1886) to represent the common seal (*Phoca vitulina*), but which are now thought to be male and female grey seals (*Halchoerus grypus*), characterised by their elongated muzzle, their size difference and the male's neck folds (Marshack 1970, 1972, 1975) (Figure 4). However this illustration need not necessarily imply long-distance movement by the artist since the site is relatively close to the Atlantic coast; the same can be said of the representations of seals at southern French sites such

Figure 3. The whale figure in Tito Bustillo. Photograph by R. de Balbín.

Figure 4. Drawing of the seals and other species on the baton of Montgaudier (Charente), Magdalenian. Length: 30 cm (Breuil and de Saint-Périer 1927: 147).



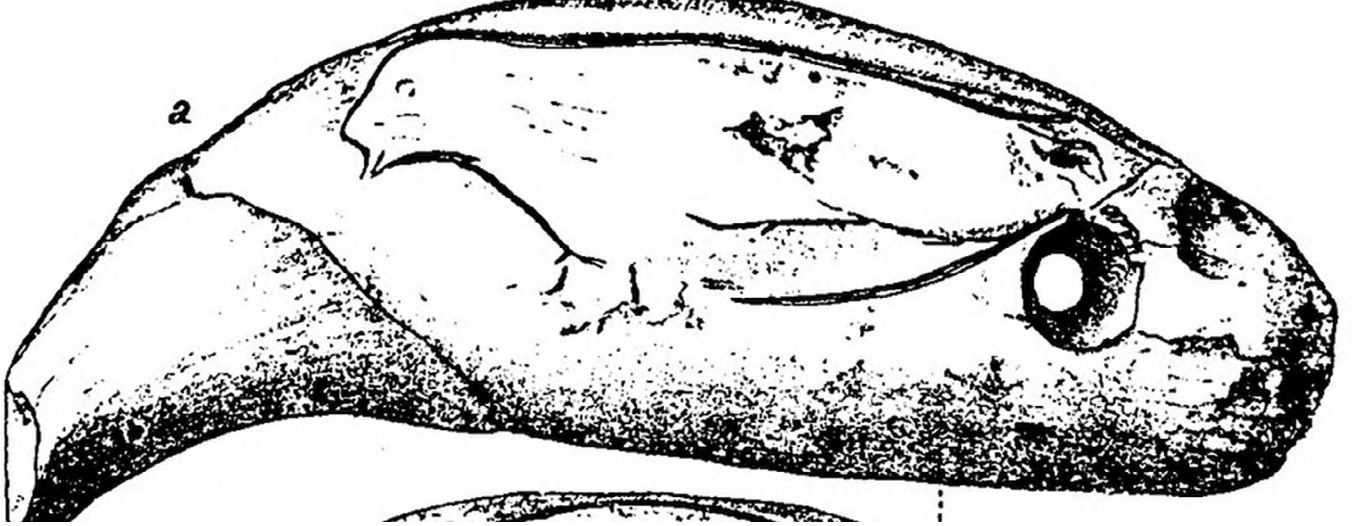


Figure 5. Engraved bear canine with a depiction of a seal, from Duruthy (Landes) (Lartet and Chaplain-Duparc 1874: fig. 38).

as Duruthy (Landes) (Figure 5), Brassempouy (Landes) and Isturitz (Pyrénées Atlantiques); but other finds such as those at the Abri Mège, Teyjat (Dordogne), La Vache (Ariège) and the two engravings from Gourdan (Haute-Garonne) quite definitely involve great distances: Gourdan, for example, is in the Central Pyrenees, and the discovery of its first seal engraving forced Piette (1873: 412) to conclude that

> il est incontestable que celui qui a gravé cet amphibie a voyage sur les bords de la mer, et comme Gourdan se trouve dans la Haute Garonne, au milieu des Pyrénées centrales, il faut bien admettre que les hommes qui habitaient sa grotte parcouraient le pied de la chaîne de montagnes jusqu'à la mer[2].

It might be argued that these engravings came inland by exchange; but as the Magdalenian artists had undoubtedly seen and studied these creatures, one must assume that they had either travelled to the sea from inland or formed part of a sedentary coastal community. Some seal depictions have even been found hundreds of kilometres inland. For example, 13 engravings on *plaquettes* of seals have been unearthed at Gönnersdorf, Germany, located 500 km from the North Sea coast during the Ice Age (Bosinski 2008: 87-103; Bosinski and Bosinski 2009).

Finally, among the many representations of fish in Ice Age art (Breuil and de Saint-Périer 1927; Cleyet-Merle 1987, 1990) only a very few depict marine species: for example, in portable art, as in the flatfish at Lespugue (Haute Garonne, France) in the central Pyrenees (de Saint-Périer 1912) (Figure 6), and

2. "It is undeniable that the person who engraved this amphibian travelled on the shores of the sea, and as Gourdan is in the Haute Garonne, in the middle of the central Pyrenees, it must be admitted that the men who lived in his cave travelled along the foot of the mountain range to the sea" (the translation is mine).

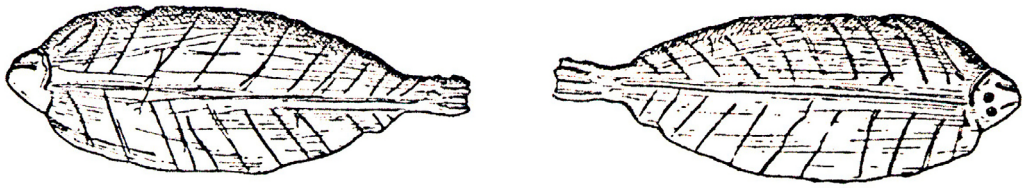


Figure 6. Bone cut-out of a marine flatfish, Lespugue (France) (de Saint-Périer 1912: fig. 80).

the Abri du Souci (Dordogne, France) (Citerne and Chanet 2005-2006). On cave walls, one can cite the fish at La Pileta, Spain (Dams 1978: 85, 1987a) (Figure 7). A number of painted shapes in Cosquer Cave, a French coastal cave, have tentatively been interpreted as jellyfish (Clottes and Courtin 1994: 135-137).

It has been concluded (Breuil and de Saint-Périer 1927) that little or no fishing was done out at sea, and only those species were known which could be caught near the shore at low tide. This relative lack of interest in sea fish is also in evidence at Grimaldi (Monaco/Italy), where remarkably few of their remains were found among the thousands of inedible molluscs. Therefore, it seems likely that during their visits to the coast the human groups were still primarily interested in terrestrial resources.

Figure 7. Large drawing of a fish in the cave of La Pileta, Spain. Photograph by J. Vertut, P. Bahn collection.

Marine resources

Nevertheless, for those living on or near the coast, marine resources were unquestionably of great importance at times. Obviously, coastal peoples were able to exploit marine fish, such as bream, stingray and wrass. But they would have needed some knowledge about the deeper tidewaters and shore fringes, and the tidal times, in order to use rafts or boats in open waters (Clifford and Bahn 2022).

Marine resources would have been collected from estuaries, tidal zones, coastal plains and numerous inlets along the rocky shorelines. Fish and molluscs would have been vital foods for these communities -mineral salts could be derived from crustaceans and shellfish. Seals or even a stranded whale might also provide an unexpected feast.

For example, at La Riera (Asturias, Spain), sea bream was caught on the rocky coast. As noted above, most of the few depictions we have of sea fish are flatfish, which can be captured close to shore in shallows, for example in pools left by receding tides. In this site, from 21.000 b.p. onwards, over 19.000 relatively intact molluscs were found from 21 species, even though the site today is a two-hour walk to the coast. Edible species comprised 97.5% of the collection, with only 2.5% being ornamental -and among the edibles, 92% were limpets (*Patella*). These can survive for three to four weeks if stored at 5-12° C under a protective covering of damp seaweed. Stored in the cave, they would have made a useful tiding-over food, and also a good trail food since molluscs stay fresh for several days.

Some shellfish could be eaten raw, but others are better cooked. Some can be opened with a knife, while others open in heat -either boiling water, or by roasting (for example, burned specimens were found at El Juyo, in northern Spain). Crustaceans could likewise be boiled. One wonders if Ice Age people ever boiled seawater to get salt.

Bone chemistry, involving analysis of isotopes of a variety of elements in bones and teeth, reveals the percentage of terrestrial and marine proteins in the human diet in the last Ice Age, and studies have shown that the latter increased at the end of the period -derived from fish and seafood on the coast, and from salmon inland.

Raw materials from the sea

Further enlightenment is provided by certain faunal remains from inland sites. In France, for example, all seal remains other than some perforated teeth

at Isturitz are from sites in the Perigord: namely the Abri Lartet at Les Eyzies, the Grotte de Raymonden at Chancelade, and the Abri Castanet at Sergeac (Clark 1946; Harlé 1913). The Raymonden mandible, from a late Magdalenian level, belonged to a harp seal *Phoca groenlandica*; the left and right mandibles from Castanet came from a ringed seal *Phoca foetida/hispida* and were found in an Aurignacian layer. Both are species of the open sea and are now only found in Arctic waters. The two sites are 200 and 190 km respectively from the modern Atlantic shoreline, and presumably somewhat further from the prehistoric coast.

Consequently, scholars from Harlé (1913) to Clark (1946) have been reluctant to accept the hypothesis that the seal remains and depictions indicate human movement, preferring instead to postulate long excursions upstream by the animals. However, where seal behaviour is concerned, such journeys are not only rare but abnormal, and it is unlikely that the very patchy archaeological record would conveniently preserve so many osteological and artistic records of a very occasional event. It seems more reasonable for ethology to overlook the exception in favour of the norm, and therefore to accord the seal its normal habitat in prehistory and accept the consequences of the archaeological evidence: namely that human groups in the last Ice Age made long-distance journeys to the coast.

In recent years, research has revealed that objects made of whale bone were widely distributed in Ice Age sites in the Pyrenees and elsewhere (Pétillon 2008, 2013). In the Magdalenian, no less than 109 implements -mostly projectile points- of whale bone have been identified in 11 Pyrenean sites (no less than 63 of them at Isturitz). Exclusively of Atlantic origin, doubtless from animals stranded on the shore, they show that such implements were transported up to 350 km in an extended coastal-inland network (Pétillon 2008, 2013). In addition to the above-mentioned engraving of a whale on a whale tooth at Las Caldas, a bas-relief of an ibex from the Mas d'Azil (Ariège, France) is also on the tooth of a cachalot *Physeter catodon* (Poplin 1974, 1983). Las Caldas has also yielded pendants made on the teeth of seals, sperm whales and pilot whales (Álvarez-Fernández 2008).

Beached whales would have provided the best opportunities for ancient peoples to see these creatures at close hand, and such events are by no means rare. For example, according to Clark (1947), between 1913 and 1926 there were no less than 407 strandings of 17 different species of whale on the shores of Britain; and the potential bonanza of such events was enormous. In historic times, according to the 16th-century account by Olaus Magnus (Clark 1947), a single whale could fill between 250 and 300 wagons and yield meat

for salting, blubber for lighting and heating, small bones for fuel, large ones for house-building, and enough hide to clothe forty men.

At the southern Spanish cave of Nerja, for example, in a late Magdalenian level, excavators have recovered 167 plates from two barnacle species that are specific to the southern right whale (*Eubalena australis*) which must have reached the northern hemisphere due to Antarctic sea-ice expansion. This strongly suggests that Ice Age humans presumably found stranded whales on the coast and, due to the size and weight of the bones, only transported skin, blubber and meat to their caves (Álvarez-Fernández *et al*. 2013).

Conclusion

One can therefore deduce that the few examples of depictions and bones known from these creatures in the European Ice Age must be the tip of the iceberg, and that the frequent encounters with seals and -especially- stranded whales must have provided tremendous opportunities for obtaining a wide range of invaluable resources. One can certainly assume that, at least for coastal communities, maritime species and materials were of huge importance, even if the evidence to support this view is sparse and has mostly disappeared.

It would be fascinating to compare the relatively well-documented data from Europe with those from other parts of the globe. This has already been done for one class of evidence -for example, whale depictions in world rock art (Bahn 2013)- a study which revealed a puzzling absence of such images in vast areas (the entire coasts of Africa, India, China) but notable concentrations of them elsewhere (South America, Northwest America, Northern Europe). A similar study of seal depictions in world rock art could likewise be of great interest. Of course, it is often difficult or impossible to date rock art, so regional studies -of any period in the past- will also need to take into account the relevant archaeological and faunal remains, combined with isotopic analyses of human bones and teeth, to develop new insights into the importance of marine resources in different parts of the world and in different periods.

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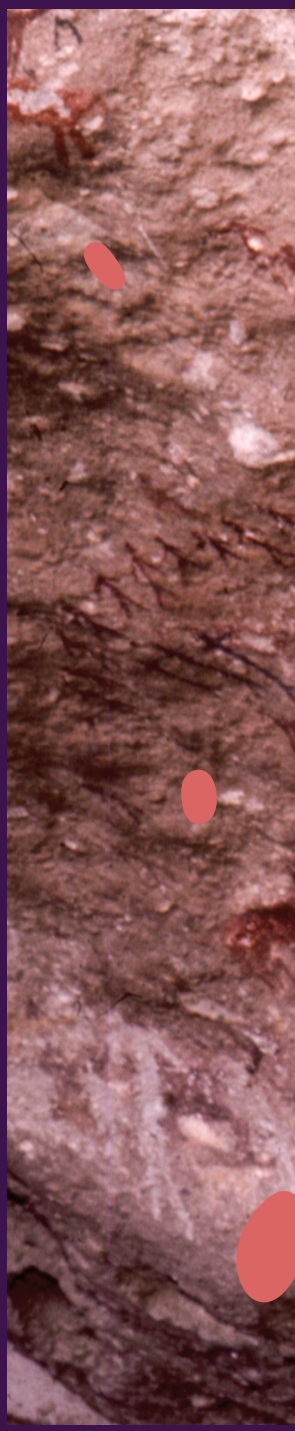

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