Animals of importance to Mesolithic coastal dwellers of Northwest Norway: excerpts from a group of petroglyphs at Leikness. The interlaced motives represent bear, elk, killer whale, reindeer, hare, and swan. Most of them are made approximately in the natural size of the species in question. For instance the rendering of the killer whale measures 7.6 m.

The motives are polished into a smooth mountain slope. They are examples of a kind of art which is seen in several places along the Mesolithic sea shores in Norway. Their location often indicates that they were approached — and in some cases even produced — from boats. According to the local shore line chronology, the illustrated petroglyphs probably date from the period 9100–8500 b.p.

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The Mesolithic of Western Norway: prevailing problems and possibilities

Sveinung Bang-Andersen

Abstract

The landscape and settlement development in West Norway until c. 5200 y b.p. is broadly outlined. An evaluation of the source material reveals lacunaes which delimit detailed information on topics such as daily life, mortuary practices and artistic skills. However, the Mesolithic of West Norway holds a rich potential for insight into cultural-historical problems of a superior order, in particular the process of colonization.

Physiography

Western Norway is a country of great landscape variation. Geographically it covers coasts which extend 750 kilometres as the crow flies between the Lista peninsula and the Hitra island, and a ten times longer distance when inshore and fjord areas are included. Inland West Norway is separated from East Norway by the main water divide in the high mountains. SW Norway ("Sørvestlandet", the counties of Rogaland and Vest-Agder), forms a southern transitory zone between East and West Norway, and NW Norway ("Nordvestlandet", the county of Møre & Romsdal) a northern transition between West and Mid Norway (fig. 1).

West Norway may be grossly divided into four main zones:

the outer coastal strip, consisting of a multitude of smaller and larger islands which protect the mainland from the open sea. Generally the islands have a low relief, while the mainland is steep and rocky. This is, however, not the case in Jæren, the large coastal moraine plain in the Southwest;

the inner coast, characterized by islands and numerous inlets, bays and fjord entrances leading to areas with valleys and mountains;

the fjord and valley zone, consisting of alternating steep mountain sides and areas with more gentle slopes. The longest fjord, Sognefjorden, is 150 kilometres along its main axis;

the high mountains, between and behind the fjords, generally reaching c. 800 to 1200 m a.s.l., with peaks protuding 1500 to 2500 m a.s.l. The mountain area is characterized by a multitude of lakes and rivers and a few glaciers.

Landscape history

Ice recession

Unlike Jutland and most other parts of continental NW Europe, Norway was totally ice-covered during the final stage of the last glaciation.

The outer coastal strips of SW and NW Norway were deglaciated probably as early as 15,500 and 12,500 y b.p. respectively (Anundsen 1985, Rye et al. 1987), which makes the ultimate possible dates for postglacial human enterprise in Norway.

The final ice recession from the coast and lowland started in the transition between the Younger Dryas and Preboreal chronozones, 10,000 b.p. Around 9800 b.p. the ice front was positioned at the head of the Hardanger and Sognefjords, and by about 8500 b.p. all inland valleys and mountain areas were completely deglaciated (Andersen 1980) (fig. 2).

Therefore it should be logical to expect pionéer inland exploitation to be at least two or three thousand years later than that in coastal areas.

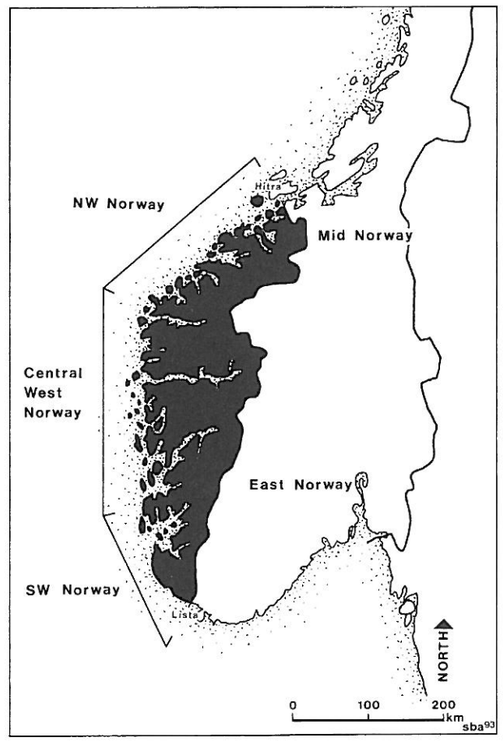

Fig. 1. The geographical extent of Northwest, Central and Southwest Norway.

A. Fischer (ed.) *Man and Sea in the Mesolithic*. Oxbow Books, Oxford. 1995.

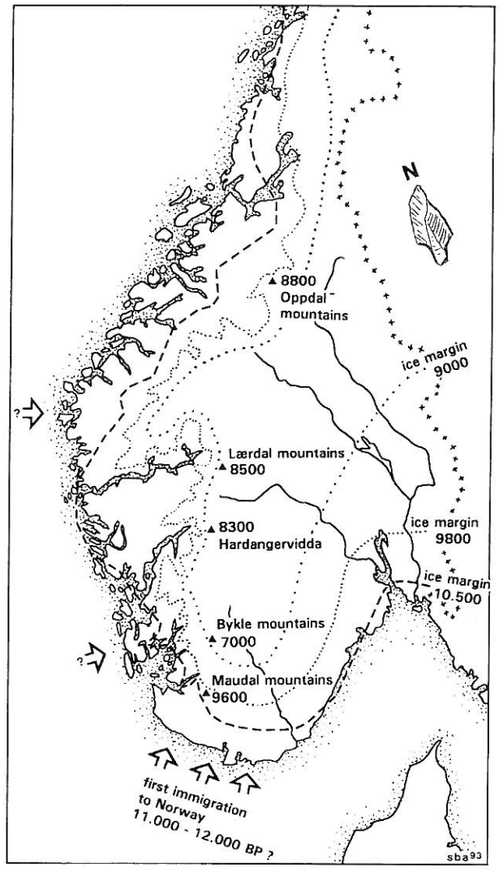

Fig. 2. Correlation map showing main events of the the ice-recession in the interior of Southern Norway. Data compiled from a large number of sources.

Sea-level fluctuations

The furrowed, weather-beaten coasts of western Norway have experienced two main transgressions; a Late Weichselian displacement in the Younger Dryas around 10,500 b.p. (Anundsen 1985), and an Early Holocene displacement, commonly labelled the Tapes transgression, between c. 9000 and 4500 b.p. (Hafsten 1979).

These transgressions clearly distinguish West Norway from East and Central Norway, which underwent a continuous shoreline rise through the Postglacial period. Accordingly, Mesolithic sites inundated and *eroded* by transgressions form a special West Norwegian phenomenon (Bjerck 1986), as do Mesolithic sites sealed and *preserved* by the same natural agents (Bang-Andersen, this volume).

Vegetational history

The Late Glacial and Early Postglacial vegetation and climate development in West Norway is well known, due to extensive research projects carried out, in particular by the palaeobotanical milieu in Bergen since the late 1930's. Supported by radiocarbon datings and inter-Scandinavian coordination, a biostratigraphic Blytt-Sernander based chronology was developed twenty years ago (Mangerud et al. 1974). In a slightly modified form it still is the basic framework used by natural scientists.

So far, archaeologists have been reluctant to adopt this chronological system. However, because archaeological units are strongly influenced by non-cultural factors — and *absolute* archaeological units, distinct in time and space, probably never existed (cf. Bjerck 1986) — the use of the chronozones should be strongly recommended.

Archaeo-zoology

The zoological record is still highly arbitrary, as osteological material is almost completely lacking in Mesolithic sites in Western Norway, except for some few rock shelters and stratified open sites, and off-site natural bone assemblages in beach sediments and waterlogged deposits seldom occur. Not one single *Rangifer tarandus* bone fragment has, for example, until now come to light from the countless number of Mesolithic "reindeer hunting" sites investigated in the mountains during the last three decades.

A most useful, however incomplete, fauna historical survey is now being put together for South Norway (Lie 1986, 1988 & 1990).

Palaeo-oceanography

Mainly as a result of concern of the greenhouse-effect, and partly as a byproduct of oil exploration activities in the North Sea, knowledge of the Late Pleistocene and Early Holocene marine environmental factors such as sea temperature, salinity and circulation pattern, has increased (f.i. Jansen & Bjørklund 1985, Rokoengen et al. 1991, Zahn 1992). This kind of research will, no doubt, also be of value for the understanding of Mesolithic sea resource utilization and coastal settlement patterns in West Norway.

The archaeological record

The data base presently available for direct cultural-historical interpretation of the Late Weichselian and Early Holocene, can be characterized as *fragmentary, incoherent* and partly *contradictory.*

Just a handful of Mesolithic graves, or possible traces of burials, have been found. Other closed find categories such as votives and deposits are practically non-existent in the record, and few — if any — naturalistic rock art localities depicting game or hunting scenes can beyond doubt be dated to the Mesolithic, which chronologically covers the period until c. 5200 radiocarbon years b.p.

Radio-carbon years b.p	Chrono-zones	West Norway					East Norway		Radio-carbon years b.p
		Olsen 1984	Bjerck 1986	Indrelid 1986	Alsaker 1987	Nygaard 1989	Mikkelsen 1975	Lindblom 1984	
9000	Pre-Boreal	Early Mesolithic (Fosna)	Fosna	Fosna	Fosna	Fosna I	Phase I (Fosna)	Phase 1	9000
					Transition phase			Phase 2	
	Boreal	Middle Mesolithic	Early microblade tradition	Middle Mesolithic		Fosna II	Phase II		
8000					Microblade phase	Nøstvet I			8000
7000	Atlantic						Phase III (Nøstvet)	Phase 3	7000
6000		Late Mesolithic (Nøstvet)	Late microblade tradition	Late Mesolithic	Transition phase	Nøstvet II	Phase IV		6000
								Phase 4	
5000	Sub-Boreal	Neolithic Period							5000

Table 1. Recent chronological sub-divisions of the Mesolithic in Southern Norway.

Except for a few rock shelters and caves (f.i. Bøe 1934, Lund 1951), sites with well-preserved organical material are virtually unknown. A settlement site with a deep, stratified cultural layer containing overwhelmingly rich osteological remains, recently investigated in Kotedalen in the maritime surroundings of Bergen (Olsen 1992), does, however, prove the existence of highly informative open sites in West Norway.

The vast majority of sites exhibit clear signs of later use and contextual intermixture. Therefore, the most valuable information about site structure, typological development and absolute chronology is generally found on sites preserved by thick sealing sediments such as deep bog layers (Bang-Andersen 1988), eolian sand deposits (Selsing 1988) or beach ridges (Bjerck 1982, Bang-Andersen this volume).

Chronology

The chronological framework for both East and West Norway has been based mainly on coarse-grained typological criteria, due to the generally bad preservational state of all kinds of organic material. Uncertain dating attempts have been made using local shoreline regression curves.

The main center for Mesolithic research in West Norway has been the Historical Museum of Bergen University, where a series of chronological schemes have been worked out. There is general agreement on the overall framework, but some dispute about where to set the boundaries, and what to call the divisions. (The various suggestions are compiled in table 1). The authors differ in opinion with regard to both the dating of Fosna, the oldest Postglacial find complex documented both in East and West Norway, and how to name the three or four Mesolithic units.

The definition of zone-borders in relation to absolute chronology is in many cases tentative, and in some instances illusory. For a more detailed characterization and discussion of the typological attributes, see Bjerk 1986, Nygaard 1990, Olsen 1992.

The absolute dating of the first settlement has been seriously hampered by the almost complete lack of preserved organic material for radiocarbon analysis.

The oldest reliable datings, so far, derive from a small group of Preboreal inland sites in SW Norway — the Myrvatn Group — dating between 9600 and 9000 b.p. (Bang-Andersen 1990). However, potential earlier sites in West Norway with a clear maritime-littoral setting have been tentatively dated by shore line chronology to minimum 10,400 and c. 10,000–9500 b.p. (Prøsch-Danielsen & Høgestøl, this volume, Bjerck 1986).

Cultural history

Mesolithic research in West Norway has made considerable progress in spite of the inevitable problems relating to the shortcomings of the source material.

During the 1970's the Mesolithic settlement in the interior was extensively studied in two interdisciplinary research projects (Indrelid et al. 1978, Indrelid 1986, Bang-Andersen 1989). Through a large number of totally excavated and well-dated sites, and comprehensive pollenanalytical work, the cultural and natural history of the mountain areas gradually became better known than their coastal and lowland counterparts.

From 1980 and up to the present date the main efforts have been focused on Mesolithic and Neolithic

chronology and settlement development along the coast, to a large extent accelerated by plans for oil-related industry or new road systems along the coast.

A number of local or regional analyses of general interest have come into print, mostly in Norwegian (e.g. Bjørgo 1981, Alsaker 1987, Bergsvik 1991, Olsen 1992), and some important articles with inter-regional chronological or cultural historical perspectives have also been completed (Indrelid 1975 & 1978, Mikkelsen 1978, Madden 1983, Bjerck 1986, Nygaard 1990). However, a modern synthesis on the Mesolithic of Western Norway which includes the achievements of the two last decades and relates these to the Northwest European Mesolithic record is still to be written.

The Mesolithic settlement of West Norway — by virtue of remote geographical position, late deglaciation and relatively moderate landscape transformations — holds a potential for insight into cultural historical problems which may be far more difficult to investigate in most other parts of Northern and Western Europe. Those problems are:

1) The process of colonization in formerly uninhabited ares, both coastal and inland.
2) The patterns of contemporaneous exploitation of food resources within a wide variety of landscape types.
3) The development of sedentariness and adoption of agriculture in the outer circumference of NW Europe.
4) Human adaptation to marine resources through time and gradually changing living conditions.

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