

or moving water could have been “life-giving” for the rock art. The nearness to the shore is witnessed by the sites covered by the tapes transgression, evidencing the tidal location. This can be observed amongst other places at Slettnes in northern Norway and Vyg in northwestern Russia. The tidal area changes, and an example from Tromsø during winter shows how the tidal area is suitable for placing the rock art (see Figure 47).



Figure 47 The tidal area in Tromsø during winter. Low tide to the left, middle water level in the middle and high tide to the right. Photos and illustration: Jan Magne Gjerde.

Lost relations and landscape – the natural background

When it comes to landscape, there is always a natural background. This backdrop has most often changed since the rock art was made. These changes can be all embracing where the environment has changed dramatically. The location and landscapes of rock art cannot be studied without accounting for its lost relations or landscape changes. To get a better understanding of the landscape one needs a better understanding of the environment and the changes that has formed the places and the landscape to the way we find it today. Within the perception of the environment, before modern science, ideology and belief would have been central concepts in a world-view where the boundaries between myth and reality would be faint or even not present.

Knowledge of the land is also important when studying location of rock art. There are no caves in Karelia in northwestern Russia, thereby there are no cave art. This seems somewhat basic; however, it is interesting how many distribution maps are presented without relating them to the background, the physical landscape. When trying to reconstruct the landscape in the Holocene, the major change is the land uplift that has changed the physical geography dramatically. If one does not try to reconstruct the physical landscape one might present flawed or less realistic landscapes for the interpretation of the contemporary experiences of landscape. We know that the physical landscape restricts lines of movement for both humans and animals. Thereby it must be integrated in a landscape study. These reconstructions are bound to be biased depending on the inaccuracy of the data, e.g. shoreline

data; the scarce vegetation data at a detailed level; or the restricted osteological data from the excavations.

By nature and its temporality, the landscape is constantly changing. Reconstructing lost relations are important when attempting to grasp the landscape of the past (Gansum et al. 1997). In a time of rapid environmental and physical landscape change, during and after the deglaciation, in the Stone Age of northern Fennoscandia, familiar places and communications; in other words, their physical and socialized landscape were constantly changing. This would have triggered the redefining and reordering of their world, thereby their world-view and their knowledge of being-in-the-world. During the colonization process when the first rock art was made in northern Norway, their “present” and not only the past must have been like a foreign country. The unfamiliar landscape would constantly be negotiated by these mobile hunter-fisher-gatherers. Seasonality, as earlier stated, is one of the main temporal movements in which humans are interacting. Even minor changes might be relevant for people and their interaction with the landscape. Even between two “contemporary” visits, one can have problems recognising the obvious and the familiar. I will exemplify this from experiences during my fieldwork at Lake Onega in northwestern Russia:

We had problems relocating panels with rock art studied in 2003. Some of the carvings were submerged due to the raised water level of the lake. With the flat topography, relations in the landscape had changed. The “island” where the local angler lived, had a path to the shore in 2003. Now, in 2005, we needed a boat to get there. My Russian colleague repeatedly stated that she did not know or could not find the rock art, but it is here: “I do not like this high water level. I can not recognise familiar things” (pers.comm Nadezhda Lobanova, 04.07.05).

In this manner, the perception of the landscape will change in relation to the physical landscape. This also shows how “minor” changes in the environment can and will change our way of movement, communications and experiences within a landscape. When looking at changes in a long-term perspective, this is even harder. When we get to landscapes today, what might have been an island in the archipelago could today be located inland. The sites in the Vyg rock art area, in NV-Russia, that was shore-bound to the White Sea in the Stone Age, are today, due to the land uplift, located on the riverbanks about 8km inland. This makes the area with rock art positioned at the river. This means that we have to reconstruct how the landscape would have been. The problems when it comes to topography (water level), vegetation, settlement, activity, animals, humans etc., are endless. Can we then fully perceive the landscape in full in the way people did 5000 years ago? I think not. However if we do not

make an attempt, one of the main structuring elements within peoples lives is lost, hence we have to try. When questioning whether archaeologists can study the landscape, I will return to Ingold's statement that there is no better definition of archaeology than the temporality of landscape (Ingold 1993). The appreciation of time or the diachronic approach to landscape studies was suggested by Gosden and Head: "The concept of the social landscape connects us up with other disciplines, but it also emphasises that prehistoric social processes need to be appreciated over much longer timescales than observed in the present and the recent past by anthropologists and geographers" (Gosden & Head 1994:113). Without a relative sequence of history or a timeline when archaeology is "deposited" one is left with a static image of the past, therefore also with a static image of the landscape. The study of landscape then has lost its relations. We have to be careful when discussing relations in the past in time and space.

Land uplift – the virgin land of the sea

Eustatic changes during the Holocene had significant impact on the landscape in coastal areas. The Holocene Land uplift, with a gradual regression of the shoreline, which was interrupted by many minor, and at least one major transgression, was dramatic; both physically and culturally. The Coast retreated seawards, rivers changed their courses, harbours became shallow and the beach ended up on dry land. The extent of land uplift varied depending on the distance to the centre of the Scandinavian ice sheet during the last Ice Age. The land uplift had periods of regression, standstill and transgression depending on the relation between the melting of the large glaciers and the eustatic process. At the coast of northern Norway, the land uplift has virtually stopped, while in Finland, where the thickest ice was covering the northern parts of the Baltic Sea, even today the land uplift is c. 8-9mm/yr; that is just under 10 cm pr 100 years (Danielsen 2001). This is nothing compared to the land uplift in the beginning of the Holocene, where the land uplift could be several metres during a century⁶⁷ (Dahl 1968).

The land uplift has led to raised shorelines. In Fennoscandia, the highest documented raised shoreline during the Holocene is from the coast of Ångermanland in Northern Sweden and the water level reached 286masl. This is the highest level of raised shorelines in the world (Fredén & Grånäs 2002). The emergence of land was temporarily interrupted in the southern Baltic area during the Ancylus and Litorina transgressions, prior to 9000BP and around 7000BP respectively. Contemporary with the Baltic Litorina transgression, a rise in relative

⁶⁷ Jacob Møller, personal communication, 2009.

sea level called Tapes I transgression occurred on the Atlantic coast in Norway (Eronen 2005:18). While in some areas, the land uplift was gradual, bear in mind that most parts of present day southwestern Finland was under water when the ice retreated. Raised shorelines combined with settlement data has proven successful when reconstructing past shorelines. However, the best source for information on the shoreline displacement is obtainable in the organic deposits of small lakes and bogs. The isolation of these basins from the sea can be identified by means of diatom analysis and changes in the properties of the sediments dated by the radiocarbon method. Large numbers of radiocarbon dates from sediment cores have shown that land uplift was extremely rapid in the early Holocene, then gradually slowed down later (Eronen 2005:18).

The shoreline computer program developed by Møller and Holmeslet (1998), even if it has proven to be slightly inaccurate some places (Corner et al. 1999:163), has given us a tool to reconstruct past shorelines in large parts of Fennoscandia (Møller & Holmeslet 1998). However, discrepancies and new data suggest that such programs should be addressed with caution. Lately an overview of the shoreline data for large areas of Scandinavia was presented by Pässe and Andersson (2005), and as their summary of shoreline data shows, there is still a lot of work to do before we get a fine chronology of the eustatic changes and variations. Several studies have shown that the shoreline curves and isobases based on these can be inaccurate (e.g. Corner et al. 1999). However, the shoreline data may provide a rough date of the past shorelines.

Land uplift has also had an effect inland. The shoreline also changed at many places due to lake tilting. Lake tilting could be one of the reasons why no Stone Age settlements are found on the shores of lake Ladoga (Saksa 2006). This could also be seen when settlement sites and rock art sites inland could be found above the water line in the inland lakes of Sweden and Finland whilst when they were made could have been just above the lake level (Bergman et al. 2003). The different annual fluctuations are not necessarily important, however when looking at the Onega site, the water level varied about 80cm from 2003 till 2005. Similar fluctuations in prehistory would leave some of the figures submerged; hence, this could force the making of new rock art.

The relation to prehistoric shorelines is important for the dating of the rock art. With the functional and cosmological explanations for the location, it becomes important when reconstructing past landscapes and landscape relations.

Land Uplift and Man – the shoreline connection

Land uplift has had a strong impact on human activity, subsistence, and settlements since the glacier started melting and made it possible to inhabit the land of the north. Stone Age hunter / gatherers lived by a mobile subsistence strategy, “constantly on the move”. As the land rose, and the sea receded, coastal dwellings were moved to lower elevations maintaining their close contact with the sea. Numerous archaeological finds bear evidence of such movements of Stone Age coastal inhabitants (Halén 1995; Hesjedal et al. 1996; MatisKainen 1996; Savvateev 1977:290, 291). Åkerlund found that during the Stone Age in southern Sweden, that the character of the activity would decide the distance from the shore of coastal settlements (Åkerlund 1996:27). Examples of how historically and present day hunter-fisher-gatherers have moved their settlements following the land uplift has been evidenced in the McKenzie River Delta in Canada (McGhee 1974).

Placing the settlement close to or at the shore (sea-, river-, or lakeshores) seems to have been one of the most important location factors for Stone Age settlements. Functional and utilitarian explanations for the shore bound settlement have been put forward repeatedly (e.g. Gjessing 1945; Shetelig 1922). Settlements at the shore were close to the boats, had overview of the sea – where enemies, sea birds, marine mammals and fish shoals could be spotted (Bergsvik 2009). Glørstad have connected this in a structuralistic manner where he related the dichotomy water: land to other opposition like insecure: secure, wild: controlled and nature: culture (Glørstad 1992). The dichotomy between land and sea as safe and unsafe areas has also been issued as an interpretation on the location. The dichotomy has also been seen as safe: unsafe areas where the ocean and the forest has been areas connected with fear (Bergsvik 2009). This could also be seen as familiar and unfamiliar landscapes.

The complex dichotomy between land and sea is seen amongst the Inuit, in several ethnographic examples, where the spheres should not be mixed (Jenness 1922:182f; McGhee 1977:145-146). Ethnography of hunter-fisher-gatherers supports the shore as a locational preference, both inland and coastal (Figure 48). The Eskimos, living in a coastal landscape that resembles the Stone Age settlement known from northern Fennoscandia chose settlement locations close to the sea, although, sometimes at a terrace at some distance away from the shoreline (Birket-Smith 1961:223). Depending on local conditions, prehistoric settlements are expected to be located at various altitudes above the contemporary sea-level (Møller 1987:54). Examples from Melkøya (Hesjedal et al. 2010) and Slettnes (Hesjedal et al. 1996) in northern Norway also show that the local topography could preference locations slightly off the shoreline, although “shore-bound”.



Figure 48 Inuit summer dwelling at Cape Lisburne, Bering Strait located on the shore. Photo © National Anthropological Archives, Smithsonian Institution.

The changes are important when looking at the location of rock art sites. Reconstructing prehistoric shorelines becomes important when attempting to study the landscape of the rock art. This can make us more aware of the changes that present day landscape has undergone, and how it was perceived in prehistory. Islands and points that we can see from sites today were submerged in prehistory when the rock art was made. Promontories could have been islands. The boulders with carvings at Slettnes in northern Norway would have gradually come up from the sea, before covered during or just after the tapes transgression. A straight unsettled coastline with vertical cliffs today could have been a vibrant preferred archipelago with a raised shoreline. This would have impact on the visibility from and towards the site. What today is perceived as inland may have been coastal in prehistory in northern Fennoscandia. The changes makes it important to date the rock art to assign it to the contemporary landscape and not the present landscape.

Boats and the sea were important parts of their lives as evidenced by the settlement record from Stone Age coastal Norway. The location of Norwegian Stone Age settlements by

good harbours has been thoroughly advocated for in coastal areas of Norway by several scholars (e.g. Bergsvik 1995; Bjerck 1990; Grydeland 2000). A large proportion of the settlements and rock art is situated at points and islets that would be inaccessible without well developed boats, hence seaworthy boats is a prerequisite for getting around in this seascape⁶⁸ (Bjerck 2007). Boats appear frequently in the rock art from the Late Stone Age in northern Fennoscandia, e.g. in Alta, Kanozero, Nämforsen and Vyg. The boats witness the strong marine connection between the rock art and marine activities where the boats might be depicting functional or cosmological aspects.

Recently, Bergsvik (2009) suggested that the shore zone was chosen because this zone was not classified as inland nor sea, but as a mixture of both. While the shore zone is related to real, different bodily experiences, Bergsvik puts forward that the location also might have been connected to the belief system or the cosmology of these peoples (Bergsvik 2009). Summing up, based on circumpolar cosmology and work on cosmology and rock art, according to Helskog (1999) and Lahelma (2005a), the shoreline is, therefore, the place where communication between humans and spirits is easiest (Bergsvik 2009). Bergsvik also shows that without reconstructing the lost relations (read: land uplift) it is difficult to study locational factors. In Bergsviks analysis of the settlements, he has the advantage of a more secure dating than we have for rock art sites. However, his analysis strengthens the fact that the main activity area in the Stone Age was at the shoreline, that is, the main places where humans interacted with each other and the elements.

With the land uplift changing the landscape so much that coastal rock art sites are found several km inland, like at Vyg in northwestern Russia, or more than 70m above the present shoreline, like at the Valle site in northern Norway, one need to be aware of these changes and try to reconstruct the topography.

Land uplift being one of the major changes in the landscape of the Holocene, one would expect that stories on land uplift was created during this time. Mythical stories connected to land uplift and flood is frequent at islands in the pacific where myths recall how islands are “fished up” or “thrown down”, e.g. (Nunn 2001; Nunn 2003). One of the Saami creation myths on the origin of the world could include a story represented by the observations of land uplift as the land came from the sea. In the beginning, there was no Earth, there was only sea – water and there was no man. The earth appeared from the Sea little

⁶⁸ Seascape is like landscape hard to define. In this thesis it refers to what the Welsh defines as “Morweddau” where seascape is a district or a geographical area exhibiting particular activities, characteristics and qualities as opposed to the the Welsh “Morluniau” where seascape refers to a more traditional sense of a painting, picture or a view.

by little represented by a bird that tried to land on the first appearance of grass. Gradually, the grass patch became larger and finally the earth appeared where the bird could lay its eggs (Čarnoluskij in Terebikhin 1993:8).

At Slettnes in northern Norway, the boulders with rock art appeared from the sea, and then rock art was made on the boulders. During the transgression, the boulders disappeared and was covered by the sea. Being fixed in the landscape in the shoreline one would expect that the people living at Slettnes connected these boulders to the changing shoreline. Situated in the tidal area, they would appear as small islands that initially came from the sea.

The “moving shoreline” would advocate for new stories being told on the appearing rocks when the “old” panels was not available due to functional reasons (e.g. vegetation) and / or disappeared from their cosmological location. The making of rock art in e.g. Alta, Nämforsen and Vyg as the coastal rock slopes appeared from the sea would advocate this notion. During time, some stories would survive changes in both society and nature, while others would change or new ones being told. Thus, the changes would be manifested in the rocks, perhaps as part of a collective social memory. New and old stories would be told. Some areas had long periods when the sea level was virtually constant or at a “standstill”. This makes it somewhat hard to apply shoreline data for dating of the rock art sites. However, this would have been periods when the landscape would have been more constant, hence, explaining different styles of rock art and superimposition than where the land uplift was rapid. Examples of sites that may advocate for a standstill can be found e.g. at Skavberg in northern Norway. In Alta, Helskog (e.g. 1983) has shown that certain scenes only occur at the same elevation hence strengthening the shoreline connection. The rock art at different elevations also show difference in the selection of motifs, size and style. This can be seen in e.g. in Alta, at Skavberg and at Sletjord in northern Norway. Thereby one can see how the rock arts theme and motif selection represents change and/or continuity. While the elk is a prominent motif in the early phases of the Alta rock art, it gradually disappears in the latter periods. This might reflect both changes in the economy and ideology (Helskog 1988:106). Thereby the importance of dating cannot be stressed enough since relations can be made that was not present at the time of the rock art.

Within Scandinavian rock art studies, few reconstructions of the physical landscape have been presented, with the exception of e.g. (Engelmark & Larsson 2005; Gjerde 1998; Gjerde 2002; Helskog 2004a; Ling 2004; Ling 2008; Sognnes 2001). That few scholars relate the location to the prehistoric shorelines are somewhat surprising when most researchers accept a shorebound location for rock art. The eustatic processes changed the physical

landscape and natural boundaries and communication lines in the landscape would have altered as the coastline changed its location. Good hunting places would have changed location in relation to the shoreline and vegetation. Previous good fishing places could be found on dry land. Virgin land came from the sea and had to be renegotiated and encultured by the people. Landscapes came from the sea and stories on the changes could be enacted.

Modern alterations to the landscape

The landscape has undergone massive changes during the last 150 years. The incredible work of Hallström, one of the pioneers in “landscape archaeology”, has made it possible to see how some of these changes altered the landscape at rock art sites. Hallströms fieldwork in the early 1900’s has given us a photographic record from all known rock art sites before the 1930’s. Some sites have hardly changed during the last century, such as Valle, in northern Norway (see Figure 49). Others have lost large parts of their landscape context, like at Nämforsen in northern Sweden and Vyg in northwestern Russia where large Hydro Power systems with connected dams have altered the landscape dramatically. Boulders with rock art have been moved from their landscape context, e.g. at Kvalsund in northern Norway, and rock outcrops have been blasted during roadworks like at Sletjord, northern Norway or moved into museums, like at Chalmn Varre that today is in Lovozero Museum on Kola Peninsula and the so-called Hermitage rock was moved from the shores of Onega to the Hermitage in St.Petersburg. In Alta, one can see how the building of houses have altered the landscape and the context of the site dramatically (Figure 50).

At a local level, CRM (Cultural Resource Management) of sites has also altered the landscape and the experience of the landscape. Even if the footpaths at Alta are nicely fitted, they still alter the landscape. The platforms at Nämforsen also make it difficult to study some of the carvings in the area. A recent demand to make archaeological sites better available to all of the public has also made platforms in front of rock art sites dominate the rock art site. Modern installations will make it harder to experience landscape at sites. Platforms and footpaths will make shades appear over the rock art and the sun light that once could have been a central part of the experience is hindered.

Another problem in Scandinavia is the modern painting of rock art. The rock carvings are painted red so that people should be able to see them better. This practice was early criticized by Hallström (1931), and today this practice is stopped for new sites, that has not previously been painted, at least in Norway by the Directorate for Cultural Heritage. We see

that the paint dominates the experience when studying rock art, and the drawbacks of painting is apparent at many sites (see Figure 87).



Figure 49 The Valle 1 panel with 72 years between the photos. This shows how little the landscape has changed the last 70 years. Photo to the left from 1932, after Gjessings (1932:Pl. LIII, fig. 1). Photo to the right from 2004. Photo and illustration: Jan Magne Gjerde.



Figure 50 The Storsteinen site from the sea in 1882 and today (2003) after the residential area has taken over the scenery. The Storsteinen boulder is marked with red colour. Photo to the left: Karl Krafft, Riksantikvaren and Alta Museum. Photo to the right and illustration: Jan Magne Gjerde.

Recently one has become aware of the incorporation of natural features, like cracks, crevices, waterpools, running water is part of the rock art story (Gjerde 2006; Helskog 2004a). Thereby the good intentions in conservation can sometimes remove some of the context of the rock art. Water sieving over the rocks have been removed. Cracks have been filled in with cement and water pools that might have been part of the story in the rocks are drained⁶⁹. Some places this has been necessary to save the actual figures from erosion and damages, however, the extent of “conservation” should be addressed with extreme caution since good deeds could go bad when it comes to the story in the rocks. When studying the rock art one

⁶⁹ Both in Vingen and in Ausevik in Western Norway conservation has altered where water is sieving over the rocks and filled in crevasses and cracks to prevent the rapid erosion and decay of the rocks.

also need to be aware of the modern changes to the rock art at both the micro and the macro level.

Within the “modern” alterations to landscape is also included a change in the manner in which we live and view landscapes. Very few people is today living as hunter-fisher-gatherers in northern Fennoscandia. Thereby one has to look into how hunter-gatherers perceive and live in landscapes. This also includes how we apply analogy and ethnographic landscapes to the study of rock art and landscape.

Ethnography and landscapes

Formal and informed methods

Within the study of rock art, there are mainly two methods; the formal methods and the informed methods. Even if this can be recognised in earlier works it was first put in concrete terms by Taçon & Chippindale (1998:6) and further applied (Bradley et al. 2002a; Chippindale 2001; Chippindale & Nash 2004b; Lahelma 2008; Nash & Chippindale 2002).

”By *informed methods* we mean those that depend on some source of insight passed on directly or indirectly from those who made and used the rock-art – through ethnohistory, through the historical record, or through modern understanding known with good cause to perpetuate ancient knowledge; then, one can hope to explore the pictures from the inside, as it were.” (Taçon & Chippindale 1998:6).

”... *formal methods*, those that depend on no inside knowledge, but which work when one comes to the stuff ”cold”, as prehistorian does. The information available is then restricted to that which is immanent in the images themselves, or which we can discern from their relations to each other and to the landscape, or by relation to whatever archaeological context is available.” (Taçon & Chippindale 1998:6).

The concept of formal and informed methods also must be borne in mind when studying both rock art and landscape. Informed methods are important to the interpretation of rock art and landscape. However, there are very few examples of rock art traditions that continue into the present. Rare exceptions are known from Australia, e.g. (Layton 1992; Taçon 1992), from south Africa, e.g. (Lewis-Williams 1981; Solomon 1998), northern America, e.g. (York et al.

1993), and Siberia (Animosov 1949 in Okladnikov 1970). However, bear in mind that practically no rock art sites have a direct informed record based on continuity. I am convinced that the application of the ethnographic record and informed methods need to be applied to get a richer understanding of rock art and landscape even though a direct link cannot be established. One of the crucial problems is however how we are to apply a rich ethnographic record on rock art and landscape with no direct continuous link in ethnography? We need to walk along the fine line of analogy. Even if the informed methods seem to have the upper hand, the ethnographic record also constrain the interpretation of rock art by being part of who and when gathered the information. We need to include formal methods when interpreting rock art and landscape. However, I advocate that the ethnography and the ethnographic landscapes should be embraced in the interpretation of archaeological landscapes.

Ethnographic landscapes – analogy and rock art

I have sofar briefly touched upon ethnographic parallels. Since I find ethnographic sources vital to the understanding of rock art and landscape of hunter-gatherers, I will elaborate on the ethnography and analogies related to rock art and landscape.

According to Bugey (1999): “An ethnographic landscape [or “aboriginal landscape”] is a place valued by an Aboriginal group (or groups) because of their long and complex relationship with that land. It expresses their unity with the natural and the spiritual environment. It embodies their traditional knowledge of spirits, places, land uses, and ecology. Material remains of the association may be prominent, but will often be minimal or absent” (Bugey 1999:27). This has opened for studies that show that natural features and cultural features within a landscape are interwoven and that the neglect of the natural environment cannot continue in archaeology. We need to look at the natural landscape as interrelated with the cultural landscape. Instead of renaming it, we have to look upon the landscape as a holistic definition as part of a whole in the world as we live it.

For a more comprehensive understanding of the landscape and how it may have been perceived by circumpolar hunter-fisher-gatherers, we can enlighten our prehistoric landscapes with the help of ethnographic landscapes. The prospect of the ethnographic record in the interpretation of rock art and landscape is inevitable and examples from the Saami and Siberian ethnography shows that the material is highly relevant to our understanding of rock art and landscapes in northern Fennoscandia (Helskog 1999; Helskog 2004a; Lahelma 2005a; Zvelebil 1997; Zvelebil 2003) .

Frequently the ethnographic record from South Africa and Australia are applied as “guidelines” for rock art in vast parts of the world. Rightfully the short time span between the ethnographic record and the rock art has favoured these geographical areas. There has been a justified application of the ethnographic record on the San rock art (Lewis-Williams 1981; Smith & Blundell 2004). Of course, some of the links between the South African ethnography and the South African rock art is useful elsewhere. However, it has been too easy to apply interpretations from South African rock art and Australian rock art onto the rest of the world. Applying ethnography leaves the same objections as with analogy in general regarding time and space. Thus, we need to justify the use of ethnographic parallels.

My study area is in the Arctic and Circumpolar regions of northern Fennoscandia. Based on similarities in northern landscapes (such as similar environment, seasonality and economy) they are likely to be more relevant for the interpretation and use of analogies from this area, I find it more justified to apply ethnographic material on landscapes in relation to landscapes and rock art from these regions. Important to the world-view is the landscapes ecology and economy. Most of the rock art in northern Fennoscandia are representations of the landscapes ecology and economy and humans interaction with these landscapes in a hunter-fisher-gatherer landscape in the circumpolar area. Thereby it becomes important to study the relations and interactions within the landscape and the cosmology and world-view connected to the landscape in the circumpolar regions.

According to Bradley, in contrast to farmers, hunter-gatherers give special importance to places, rather than monuments. He sees this as a part of the domestication of the mind and thereby the exploitation of nature rather than the belonging to nature (Bradley 1991:135). However, with a landscape approach, all features “belong” to landscape; hence, Bradley deals with this later (see Bradley, 2000). A similar idea on special places and the communication with spirits can be found among the Tungus of Siberia where, according to Shirokogoroff (1935), Tungus who do not hunt extensively and live on cattle breeding, in a limited region, believe much more in spirits located in different places, which they do not want to visit. This opposed to the “hunters” that live and travel in the regions of these places and “communicate” with the spirits (Shirokogoroff 1935:87). “Natural places” are important to people living by a hunter-fisher-gatherer strategy.

Ethnographic Landscapes or landscapes with so-called informed knowledge can shed light to landscape and landscape use in the past. Ethnographic landscapes and ethnography combined with traditional ecological knowledge can help us understand past landscapes. The

following section is exemplifying how landscapes are structured and perceived in some non-western societies.

When discussing landscape, structuring of landscape, land use and landscape perception, it is important to bear in mind what their economy relied on. First of all, the area I am discussing is mainly part of a northern environment. Thereby, the economy is coloured by this environment or environmental zone. What animals are available, what plants will be available, what physical landscape is available? The seasonal aspect is very important due to about 6-8 months of winter every year and the variation of adaptation this would imply on humans living within these elements. While agriculturalists build monuments, hunter-gatherers integrate natural places. In that manner natural places and natural features become hunter-gatherer monuments (Bradley 2000a). There has been a bias when it comes to landscape studies where the large monuments have been dominating (e.g. Bradley 1998; Cooney 2000; Edmonds 1999; Scarre 2002). An exception that may be viewed as a turning point is Bradley's (2000a) "An Archaeology of Natural Places", where he looks at how the unaltered places such as caves, mountains, springs and rivers assumed a sacred character in European prehistory. A strong emphasis is given to the fact that the ethnographic record might give us clues as to how the landscape was perceived in the past.

During the last years, we have also seen an increased awareness within landscape studies that the nature-culture opposition is a modern Western construction (e.g. Descola 1994; Descola & Pálsson 1996; Roepstorff & Bubandt 2003). This has also led researchers to review their idea of landscape in relation to archaeology. This has also been showed by several anthropological and ethnographical studies and has by several researchers been the inclusion of ethnographic landscapes, (e.g. Krupnik et al. 2004:4f).

“Key Animals” in rock art – key animals in circumpolar ethnography

The animals represented in Stone Age rock art of northern Fennoscandia are the same animals that are vividly wrapped in legends, stories and myths in circumpolar ethnography. Large game animals are often associated with rituals, either by the connotations to the animal itself, its characteristics, or when hunted. Various ethnographic accounts of the many rituals connected to the bear hunt in the Arctic, including feasting, singing and dancing, are evidence of such elaborate rituals (Berezkin 2005; Edsman 1965; Fjellström & Bäckman 1981[1755]; Helskog 1985a; Honko et al. 1993; Wikan 1985) which also included the burials of bears in the Iron Age and Medieval Age (Myrstad 1996; Petersen 1940). The bear hunt is depicted in

rock art in northern Fennoscandia, e.g. at Alta in northern Norway (Figure 71), Kanozero (Figure 70), Onega and Vyg in northwestern Russia. Similar elaborate rituals and stories connected to other large game animals, most likely celebrating the animal depicted in rock art, can also be found in the ethnographic record of the Circumpolar area for the elk (Animosov 1963a; Animosov 1963b; Okladnikov 1970), for the reindeer (Myanndash-rite) (Tjarnoluskij 1993), for whales (Lantis 1938; Lantis 1940; Lowenstein 1993; Lucier & VanStone 1995:56-58; Stefansson 1914:126-128, 133-139), large fish such as halibut and salmon (Gamvik museum 1997; Hauan 1996). The sheer size of the animals and the associated dangers by hunting these “largest animals” and the animal’s special position in society, even in recent times, can be one of the reasons why these animals are connected to rituals, and thereby appear frequent in the rock art. These large animals of the north (whale, bear, elk, reindeer) seems to be equivalent to the Eland, that in the San belief system in South Africa are described by Lewis-Williams as a polysemic key symbol (Lewis-Williams 1998:88).

Arctic Cosmology in rock art

The intimate knowledge of nature is normal among hunter-fisher-gatherers and the attitude of Arctic and Sub-Arctic peoples to the world around them is deeply spiritual (Okladnikova 1998:329). The ethnographic record from different parts of the world suggests that rock art can be connected to animism, totemism and/or shamanism (Gjessing 1942; Gjessing 1945; Helskog 1990; Hesjedal 1990; Ravdonikas 1937b; Siikala 1981; Tilley 1991) and ritual activity (Grønnesby 1998; Helskog 1985a; Helskog 1988). In South Africa rock art is taking part in the communication between the shamans and the supernatural (Lewis Williams & Dowson 1990; Ouzman 1998). This is also evident for the North American material (Arsenault 2004a; Arsenault 2004b). Tallgren (1933:197) regarded the rock art of Siberia to represent a “frozen” shamanism.

The cosmology of hunter-gatherers become important for the understanding of rock art since nature and culture is intertwined in their world view. The image of Mangi in Evenki myth is present in being of a dual (half-animal, half-human) nature. This dual nature is also represented in the shamanism (Animosov 1963a:164), and among e.g. the Kola Saami, humans transform into animals (bears, wolfs and wild reindeer) (Kharzuin, 1890 in Sergejeva 2000:164f). One of the figures at the recently discovered Kanozero site, at the Kammeniy 3 panel, depicts such a dual creature with a human body and bear-head. At New Zalavruga 15, at Vyg, one can also see the bear-tracks that end in a human representation, representing such

a duality, likely depicting a shaman. Such references to shaman transformations have been documented in vast parts of the circumpolar area (Jenness 1922; Shirokogoroff 1935). Okladnikov has also shown the similarity between the rock art of Siberia and the ethnographically documented shamanic practices (Okladnikov 1970). Attempting to grasp the idea of shamanism, a modern scientific construct based on observations and descriptions of shamans, we need to look into the world-view rooted in shamanistic practice.

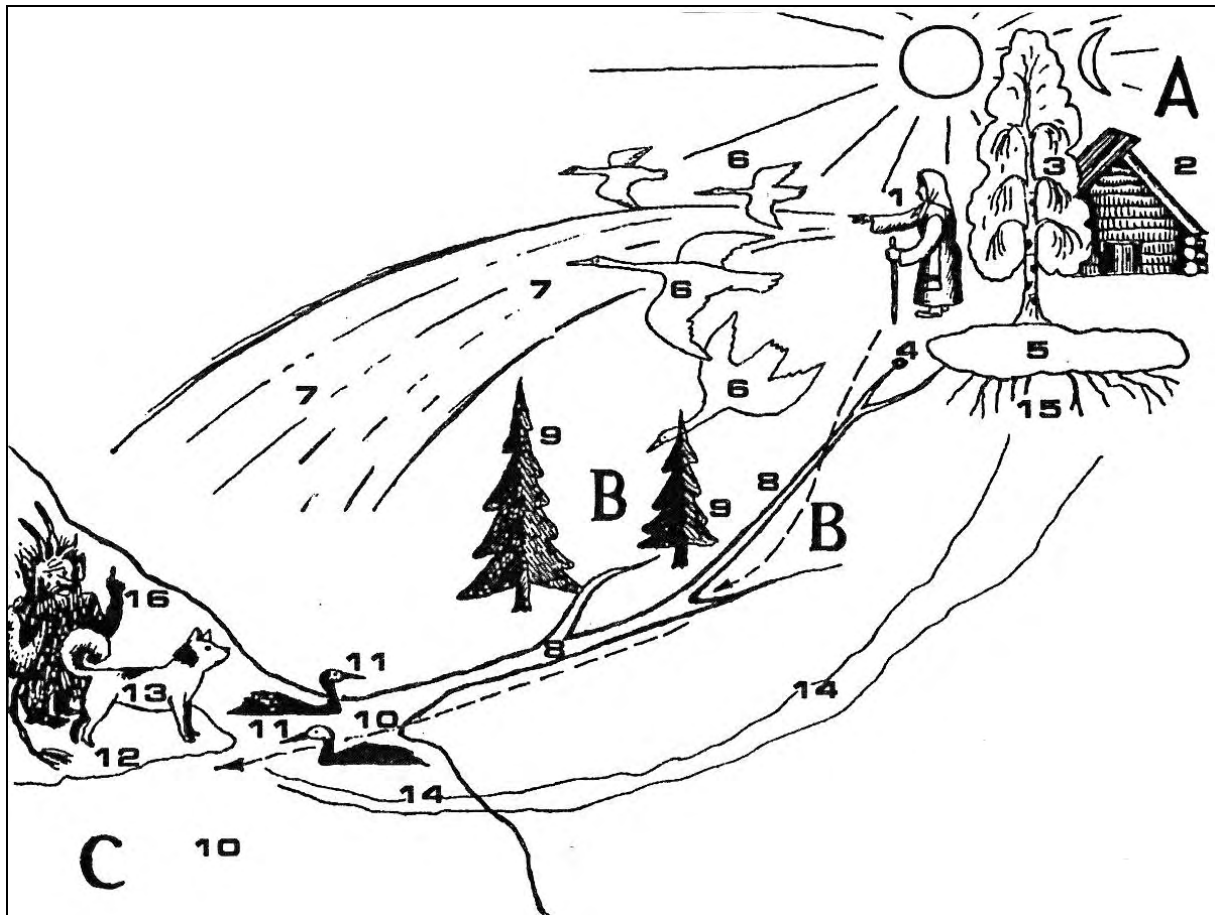


Figure 51 Summary of the world view as presented by Napolskikh (1992:fig. 1). Upper World (A), Middle World (B), Lower World (C). For a description of all legends, See Napolskikh (1992:11ff).

A comparison of different ethnographic sources from the circumpolar area⁷⁰ by Napolskikh (1992) summed up a general picture of the traditional world in the circumpolar area (Figure 51). This refers to the division of the world into an upper world (A), a middle world (B) and a lower world (C). Adding to the different cosmological worlds, there are some interesting notions in relation to rock art in Napolskikh world picture, mainly on the

⁷⁰ Lappish, Balti-Finnish, Volga-Finnish, Permian, Ob-Ugrian, Northern Samoyed and Selkup.

cosmological concept of the Evenki shamans according to which the shamans are connected with the Upper and the Lower worlds by a World River (Napolskikh 1992:13).

According to the Evenk: “The upper world, or ugu buga (ugu, “upper”; buga “world” “universe” “land”), are imagined to be similar to the land inhabited by people. According to their mythological concepts, the lives of the sky-dwellers were conceived of as analogous to that of the Evenks. Among the inhabitants of the upper world, first place was taken by the powerful supreme spirits, masters of the phenomena and elements of nature, of the taiga, animals, and people” (Animosov 1963a:160). The Evenks see their clan river as flowing through the three worlds of the universe: the headwaters are in the upper world, the middle course in the middle world, and the mouth of the river empties into the lower world, where the dead relatives live. The middle world is the world of the living people while the upper world is the place of the souls of people and animals (Animosov 1963a:187f). “The deceased kinsmen living in the nether world live, like the dwellers of the middle earth, in clans and tribes, and occupy themselves in analogous activities: they hunt, fish, lay traps in the taiga for animals and birds, go on fishing expeditions, wear clothing in the manner of living people, and are affected by the same fears and inadequacies” (Animosov 1963a:165).

A drawing by the Oroch shaman shows that the universe itself was conceived of as a living being and was identified with images of animals in the concepts concerning it. According to the initial description there are 113 items depicted on the map (Avrorin and Koz'minskiy, 1949 in Okladnikova 1998:339, fig 8.13). The map depicts the lower, middle and the upper worlds according to Oroch cosmography and describes various mystical journeys of shamans and souls of the dead (Figure 52). In the center is an elk without antlers personifying the middle world of the universe (1). The elk's spine represents a ridge of nine mountains and divides the earth (read middle world) into two parts: the eastern part (populated by the Orichi and related people) and a western part (populated by Russians and “the others”). To the lower right of the drawing is a bear—the master of animals (23). Behind the large elk (1), a lower elk (4) is linked to the mouth of a river (5), leading to the upper world (6), beyond the clouds. The headwaters of this river are in the upper world of the universe. The upper world has several unnamed rivers and lakes, a “bear lake” (7) and bear river (8). Around the earth is several seas: walrus sea (12); whale sea (13) and sea of the “masters of waters” (14). Below the large elk in the middle world (1) is a fish of the salmon species (3), representing the island of Sakhalin. China is in the head of the large elk (1) and America is the animal above the elk (2). The other images describe several Oroch legends about cosmogonic travels of souls of the dead and of famous shamans (Animosov 1963a:167;

Okladnikova 1998:336ff). This also shows that while animals and humans are depicted according to the cosmological landscape of the Oroch, the geographical knowledge or references to their geographical knowledge and journeys are integrated through descriptions of lakes, rivers, lands and islands linked to animals where animals act as geographical references.

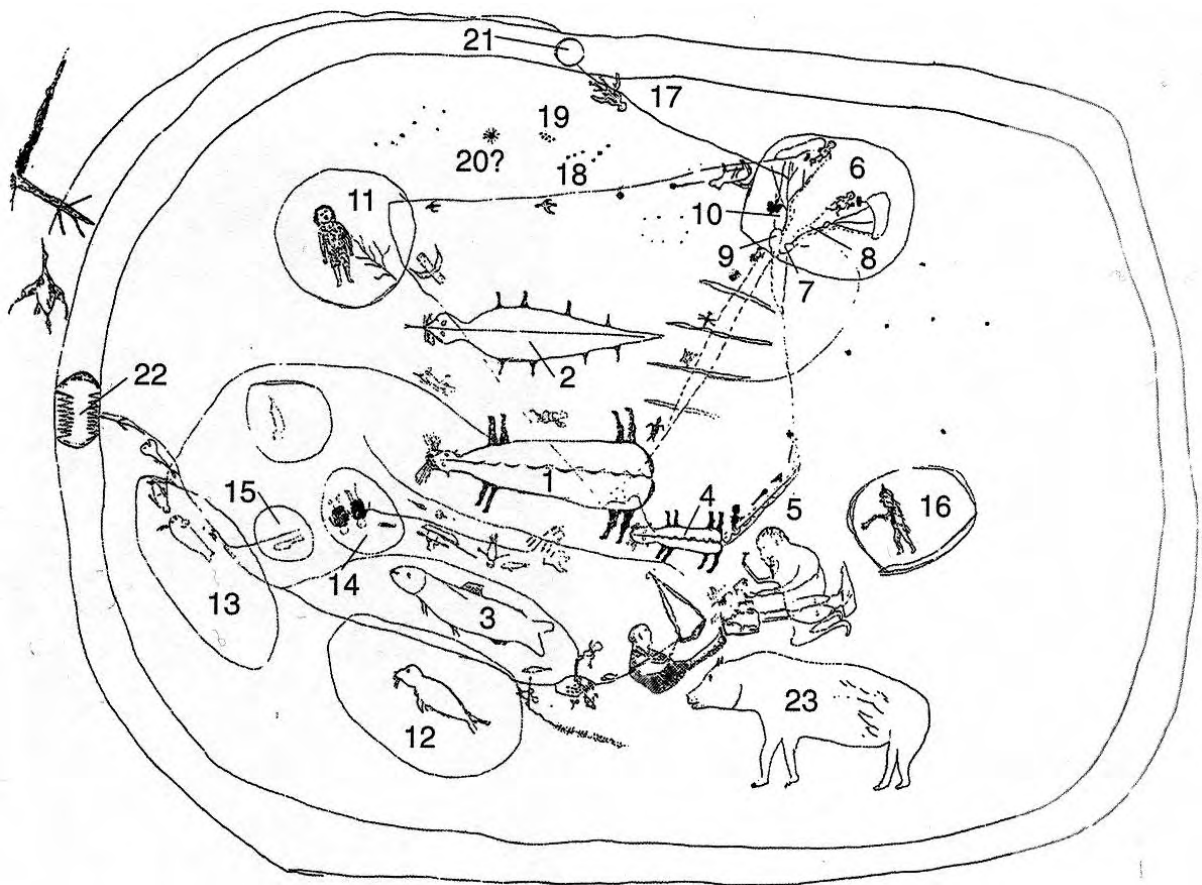


Figure 52 Map of the Oroch cosmography. Map originally published by Avronin and Koz'minskiy. Map from Okladnikova (1998:fig 8.13). Numbers are added to the map by Okladnikova to better reference to the features of the map. A more thorough description of the map can be found in Okladnikova (1998:339).

Based on Arctic ethnography, Helskog (1999), has shown how the location of hunter-gatherer rock art from the Stone Age might be the main locational factor by its shore connection. Helskog argues that the shore is the only landscape where the three cosmic worlds and natural zones, *water*, *earth* and *sky*, meet. Thereby, the carvings signify liminal places where communication between the human and the three spirit worlds of the cosmos was made. The basic cosmology where cosmos is divided into an upper (in the sky), a middle (on earth) and a lower (under the ground/water) world. The liminality argument from Circumpolar ethnography might connect the carvings in northernmost Europe to cosmology, shamanism and shamanistic practice. A link between the location of the Nämforsen carvings in northern

Sweden based on the location of the carvings by the waterfall and the Evenki belief that the shamans made contact between different cosmological worlds through whirlpools and rapids, was put forward by Tilley (1991:139-148). The location of two large stone blocks where two elk almost in full size is carved is found at Dolgiy Rapids and Ushkaniy Island of the Angara River downstream from Bratsk in Siberia. These rapids are named the Shamanskiy (Shaman) Rapids linking the location of rock art to the rapids of the shamans (Okladnikov 1970:90).

Helskog has through linking the Arctic Ethnography and the movement of the bear in the rock art interacting with natural features shown that the bear is moving between the three cosmic worlds as described for the Evenki. He finds this at three different locations in Alta. The bear is moving between the seasons visualized in the dens. The bear walks from the area with what he interprets as the moon and the sun in the upper world to the den in the middle world (where humans and animals live). It also interacts with the natural features by entering cracks and entering the lower world where the bear tracks stops when entering water surface in pools (Figure 71) (Helskog 1999:85f).

One can here see that the cosmology might be represented in different levels of the rocks art, at a motif or scene level, a composition level interacting with natural features (pools of water, cracks etc.) and by its location in the shoreline reflecting the middle world where the rock slopes are (Figure 53).



Figure 53 Rock art in the liminal zone. The rock art panel in the middle world. From boat at Onega, the liminal shorezone becomes very clear viewed from a boat. Photo of the large Besov Nos panel at Onega in representing the middle world, the sky the upper world and the lake, the lower world Photo: Jan Magne Gjerde.

Shamans and shamans in rock art

Central to the cosmology and the knowledge of the universe amongst circumpolar hunter-fisher-gatherers was the shaman. The word shaman derives from the Siberian Tungus (Evenk) word *šamān* and directly translates to “to know” or “a person who knows” (Shirokogoroff 1935). “A shaman is a man or a woman, who, according to the Tungus belief, knows the methods of entering into direct relations with the spirits” (Shirokogoroff 1927:368). According to Dunfjeld (2006) among the Saami, the shaman (Nåejtie) was like any other family member participating in daily life. From passed on traditions and own experiences, the Saami shaman had knowledge, insight and understanding connected to the practical process of the different tasks in a Saami cultural landscape (Dunfjeld 2006:33).

Applying San ethnography to interpret the rock art of South Africa, Lewis-Williams advocated for shamanism and the shamans’ performance (travels between the world during trance) as an interpretation of the rock art (e.g. Lewis-Williams 1981). The séance or the trance was central to the shamans when trying to reach an altered state of consciousness. During such altered states of consciousness (trance), some symbols like grid and line patterns appear. The rock art was *signs of all times*, since a comparison between the rock art in the Palaeolithic caves showed remarkable similarity with the San rock art (Lewis-Williams & Dowson 1988). Later this has resulted in a “one-size-fits-all assertion that hunter-gatherer shamans created rock art to record their trance visions” (Kehoe 2002:384). Lewis-Williams response to Kehoe clarifies that he has never meant that *all* hunter-gatherer rock art is shamanistic (Lewis Williams 2003). I do not regard all northern rock art as shamanistic, however, the shaman seems to have been an important communicator and is represented many places in the rock art of northern Fennoscandia.

All Arctic peoples have comparable figures [shamans], known by various names, as do people in other parts of the world (Vitebsky 2005:12). Hence, various kinds of shamanistic practice can be found around the world among hunter-gatherers (Vitebsky 1995). Shamanism, as defined here, is to be understood as an umbrella term for the performance of the shaman. The shaman in this thesis refers to *a holder of knowledge or a holder of wisdom practiced through communication with humans and the spirits*.

“The role of the shaman is closely linked to hunting as a way of life. Before the development of agriculture around 10000 years ago, all humans depended on hunting to survive, and it is hard to imagine that any other kind of religion could have existed. Shamans develop the ordinary hunter’s skills and institutions by flying over the landscape to monitor the movements of migratory animals and by performing rites to stimulate the vitality of animals and humans alike” (Vitebsky 2005:12)

With an introduction to agriculture and/or pastoralism, the emphasis of hunting most likely did not have the same importance as during the time when people were solely depending on hunting, fishing and gathering. Most accounts of the shamans practice was documented after the introduction of agriculture or pastoralism, hence masking the “hunting practice” and the physical journeys of the shaman. The stereotype shaman as presented by Eliade (1998) is thereby generally representing the shaman after the “introduction of agriculture”. Another bias is the shaman being presented as a priest compared to meeting with Christianity and the Christian crusades. Thereby few accounts exist of female shamans, although we know that there was both female and male shamans (e.g. Jenness 1922:195; Vitebsky 1995). The “New Age” version of shamanism (e.g. Harner 1980) thereby has biased the shaman, turning *him* into a healer where his other performances amongst hunter-gatherer have been neglected when discussing shamans or the constructed shamanism defining it as a religion.

Shamans get help from his helping spirits, previous great shamans or ancestors (spirits from the upper world) to perform their role as shamans. A central part of the communication by a shaman is linked to communicating with the spirits. Since animism is widely distributed in the ethnographic record of hunter-gatherers, I find it likely that such an orientation also existed amongst Stone Age hunter-fisher-gatherers. According to Shirokogoroff, shamans could speak to animals and / or animal spirits (Shirokogoroff 1935:78). There are also several accounts of spirits living in the rocks (e.g. Jenness 1922:190). Several accounts describe how shamans speak to the stones⁷¹ (read: communicate with the spirits in the rocks) (Jenness 1922:190; Shirokogoroff 1935:78). “... the Tungus will speak to an inanimate placing for the spirit (which may be especially made, or may be a tree or a rock), but he will speak to the spirit and not to the placing for the spirit” (Shirokogoroff 1935:78).

I will now exemplify what I see and interpret as shamans represented in northern Fennoscandian rock art, linking it to the ethnography of the circumpolar area. The main objective is to show that the shaman is present in the rock art of the Stone Age, and that it can be related to the cosmology as presented above.

The shamans link to the ancestors in a wide sense, meant they could communicate the wisdom from the past, present and the future. This link with the ancestors can be what is depicted at Ytre Kåfjord in Alta, northern Norway, where it looks like a line of persons is

⁷¹ An interesting example related to the location of boulders with rock art where a Copper Eskimo is communicating with the spirits in a stone placed close to the shore (Jenness 1922:190).

forming a necklace or a bow above the head of a person. At this panel, it seems like both a male shaman and a female shaman could be depicted (Figure 54). These “necklaces” have previously been interpreted as amulets where the fringes could be claws or/and teeth of bear (Helskog 1988:43). Such necklaces with teeth and small animal bones were frequent amongst the burials at Olenii Ostrov, northwestern Russia, dated to the Stone Age (Gurina 1956; Price & Jacobs 1989). In the light of arctic ethnography (e.g. Shirokogoroff 1935), the teeth and animal bones could represent the animal and human spirits since dualism encompassed in the shaman where he could take the form of a e.g. a bear or vice versa.



Figure 54 The shamans? At Ytre Kåfjord in Alta, northern Norway, depicted as if they have contact with their ancestors (spirits from the upper world). The left is interpreted as a female shaman where it looks like she is giving birth, thereby linking the ancestors to the child. The right is interpreted as a male shaman. For the internal relation between the figures that are located c. 20cm apart, see the lower left of **Figure 178**. The figures are c. 40cm large. Photos and illustration: Jan Magne Gjerde.

According to Hajdú (1963), amongst the Enets and the Sel`kup there were three classes of shamans according to their abilities. Only the highest class of shaman (Budtode) had a “full” kit of paraphernalia and the skill and knowledge of a of the Sel`kup shaman was reflected by his clothing and equipment (Hajdú 1963:35). When looking at the paraphernalia of a shaman and his tools for performing his role as a shaman, his costume⁷², the drum (with drum-stick), the staff reoccur in the different descriptions of the shamans (Animosov 1963a;

⁷² A shaman costume could weigh as much as 40kg (Shirokogoroff 1935:289).

Hajdú 1963; Shirokogoroff 1935). The symbols on the shaman's coat (and apron) were symbols of phenomena, which the shaman had to confront when travelling between the worlds. The costume (dress, apron, head-gear) also includes references to the three worlds and the shamans journeys (Okladnikova 1998; Shirokogoroff 1935:289). Among the Tungus, they have two main shaman costumes, a duck costume (for travelling to the upper world), and a reindeer costume (for travelling to the lower world). Adding to spirits they would or have encountered on their journeys (anthropomorphs and zoomorphs figures), the reindeer costume includes boats, rafts, bow and arrow, semicircle (moon), circle (sun), ring (rainbow) and a square hole (heaven entrance) while the duck costume differs by not including the symbols for travelling across water reaching the lower world (Shirokogoroff 1935:288f). What might be interpreted as a depiction of a shaman in the rock art of Alta is from the Ytre Kåfjord site where what I interpret as a shaman is spreading his "wings" as part of the costumes on one of his journeys (Figure 57). One Evenk (Tungus) costume provides specific topographic information on the shamans travels. The costume has stripes of different colour sewn over its ribbons. The description of the costume indicates that red stripes mean places "with fire" (read settlements), green stripes represent lush greenery, and blue stripes mean burned out or swampy areas. The sequence of stripes is also important: each stripe signifies one day of travel and a night stop; space between the stripes denotes the length of a travel; and stripes made of twisted hair represent turns on the shamans road where he has to go around obstacles (Okladnikova 1998:333). The horizontal landscape is combined with the vertical landscape and the cosmological landscape in the shamans dress. This encompasses the shaman as a holder of wisdom or he could be referred to as a hunter-fisher-gatherer living encyclopedia.

According to Shirokogoroff (1935), staffs were part of the shamans costume and were used for dealing with the upper world⁷³. These staffs are used by the shamans during travelling (Shirokogoroff 1935:290). Staffs, or elk-head sticks, are found at several rock art sites in northern Fennoscandia. They occur in Alta, Kanozero, Nämforsen and Vyg. At Alta, they are frequently depicted in association with the elk, while they also occur next to a bear, as at Nämforsen (Figure 55). These sticks have been interpreted as ritual staffs and could have been part of the actual hunt (Figure 55). Such elk-head sticks have been found in graves in northwestern Russia dating from the Early Stone Age (Figure 56) (Oshibkina 1989; Price & Jacobs 1989) and the Early Metal Age (Murashkin & Shumkin 2008; Shumkin et al. 2006). It

⁷³ Among the Tungus they were called "horses" or "reindeer" (Shirokogoroff 1935:290).

has been suggested that they belong to ritual leaders (shamans). Like the long-lasting motifs in rock art, the elk-head sticks were connected to burial practice for a long time.



Figure 55 Staffs or elk-head sticks from Alta (Bergbukten 1), left and Nämforsen (Hallström IIY1), Hallström (1960:plate XXII), right. Photos and illustration: Jan Magne Gjerde.

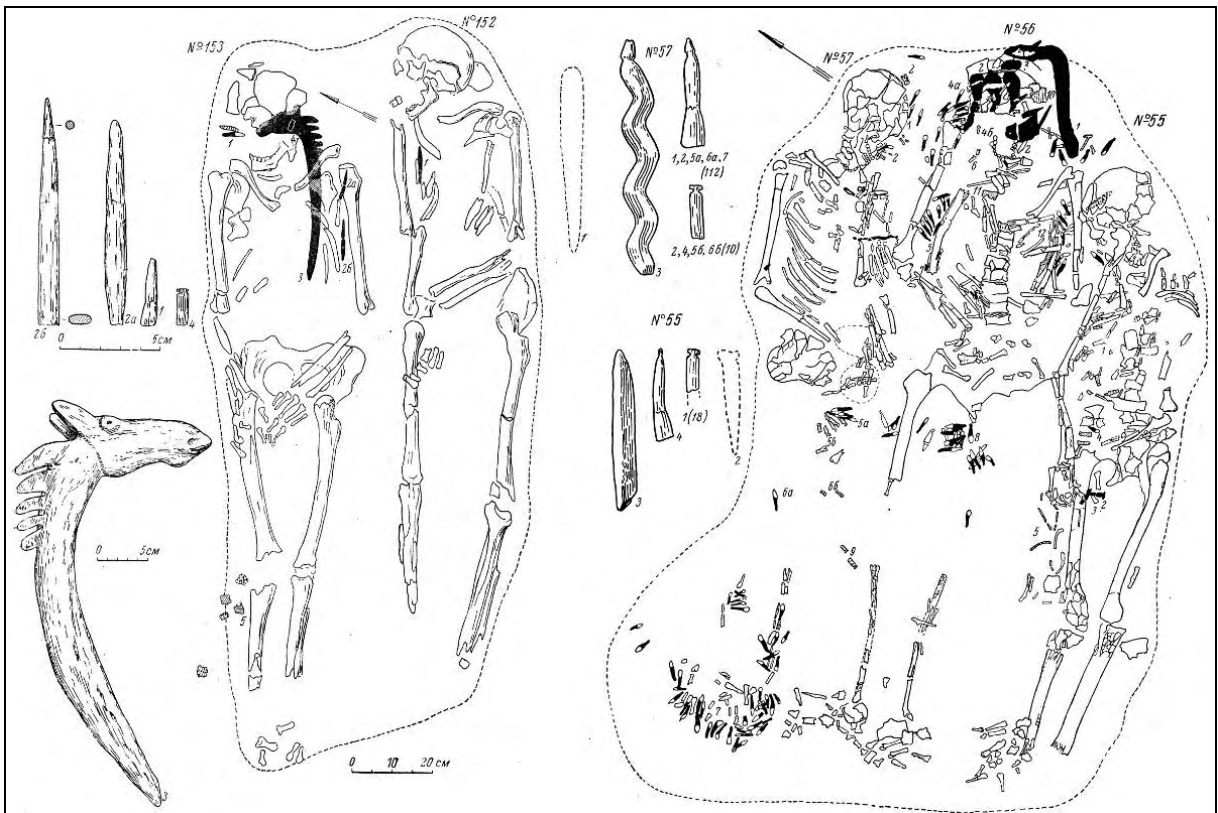


Figure 56 Early Stone Age burials from Olenii Ostrov, Onega, northwestern Russia (grave nr. 55, 56, 57, 152 and 153). After Gurina (1956:plate 27, 76).



Figure 57 Shaman with shaman costume with dress and head-gear spreading his coat? at Ytre Kåfjord, northern Norway. Photo: Jan Magne Gjerde.



Figure 58 A “ritual” at Bergbukten 4 in Hjemmeluft, Alta northern Norway, where the “hunters” are represented with elk-head sticks and a shaman is perhaps using his drum to start his journey to one of the other worlds. Most likely the shaman is holding a drum and one may see the fringes that hang from the drum. These fringes are frequently represented in the ethnographic record. Photo: Jan Magne Gjerde.

What has been interpreted as a shaman and his drum has been documented in Alta (Figure 58) (Helskog 1990) The first historical source, describing a Saami drum is *Historia Norwagie* (c. 1190AD). It provides evidence of the boat as a shamanistic metaphor. The boat on the drum was to assist the shaman to get through deep snow, over steep mountains and

across deep waters (Bäärnhielm & Zachrisson 1994:163f; Hætta 1994; Mulk & Bayliss-Smith 2006:86, 95). An alternative way of referring to the drum is to call it a boat, in reference to its perceived role as a way to travel to the supernatural world (Siikala 1992:65f). Among the Kemijoki Lapps in northern Finland, a drum was shaped like a boat (a bird-boat) representing the shamans journey (Itkonen 1946:121f). Among the Tungus, the shaman may use his drum as a canoe for crossing the sea (Shirokogoroff 1935:297). According to the Sel`kup, the drum is the shamans animal (usually a reindeer), on which he rides to the world of the spirits (Hajdú 1963:35).

Among the Selkups (Ostyak-Samoyeds) the vivification (ceremony of “reviving”) of the shamans drum was important where the drum and drumsticks were “brought to life”, otherwise it would remain dead⁷⁴. The shaman needed this rite to carry out the functions of a specialist of the religious cult, linked in the shamanistic concepts with the necessity of numerous “journeys” by the shaman through the mythical worlds of the universe. Otherwise the shaman was considered “not to have a road” (Prokofyev in Animosov 1963a:187; Hajdú 1963). A shaman journeying over the middle world can be seen in Figure 60, where the shaman is flying over the boat. The importances of “journeys” between the worlds and in the middle world are reoccurring in the accounts of shamanistic practice. They were the holders of wisdom on the universe. This wisdom was obtained by the shaman’s journeys. The shamans journeys were sometimes represented in the duality of the human / animal where they connected to the animals in their journeys. The animal and the shaman becomes one sharing the characteristics of each others. This can be seen several places in rock art, where a human is depicted with a bear head (Kamenniy 3, Kanozero, northwestern Russian), a human is walking with bear tracks (at New Zalavruga 15 in northwestern Russia). The duality in rock art can also be seen in the boat motif where animals are integrated in the boats, elk-head boats, reindeer boats and bird-boats (Gjerde 2008). Shamans real and imaginary journeys are crucial to his knowledge of the land, both geographical and cosmological where they are closely connected. The clearest example of what I interpret as the link between a shaman and a reindeer can be seen at Apana Gård⁷⁵, Hjemmeluft, Alta. Here one can see how the head of the animal is connected to the head of a human by a masked reindeer (Figure 59). This can be seen as the shamans journey where he would travel as a reindeer experiencing the world as a reindeer.

⁷⁴ This ceremony of “reviving” the drum is a essential part of initiating a shaman candidate and the reviving festival, lasting about ten days, occurs at the time when the birds migrate in the spring (Hajdú 1963:35). The link between elaborate rituals is connected to seasonal changes.

⁷⁵ The Apana Gård sites dated to the Early Metal Age and not the Stone Age.



Figure 59 Shamans journey through the reindeer. The shaman then connected with the reindeer taking on the forces and characteristics of the reindeer. Apana Gård, Hjemmeluft, Alta Photo: Jan Magne Gjerde.



Figure 60 Shamans journey?, where a human figure is depicted “flying” over a boat. Further to the right and closer to the sea (that can be seen in the upper right corner of the photo and that was close to the rocks when made), a boat is depicted upside down, maybe representing the analogous boat from the lower world at Apana Gård, Hjemmeluft, Alta Photo: Jan Magne Gjerde.

One can see that a form of shaman is most likely depicted in the Stone Age rock art. The shamans in the Stone Age most likely differed from the ones encountered in the ethnographic record. However, the Siberian Shaman are at present a justified analogy to the “shamans” represented in the Stone Age rock art. Numerous accounts describe shamans travels. They are the only humans that can move between the worlds in their universe. They can travel in their dreams and have mental maps of the landscape. Shamans have extensive knowledge of the land, both geographical and cosmological. The shamans coat as described by Okladnikova also included geographical information from travels. Shamans have been regarded ritual specialists. However, the shamans collection of information and holders of both geographical and cosmological wisdom can be regarded as holders of wisdom like described by Okladnikova when she describes them as among other things shamans were concerned with the balance between the microcosm of an individual and a macrocosm of nature and the universe (Okladnikova 1998:329).

According to Vitebsky, while laypersons could only fly on the back of a reindeer, real shamans could turn into a flying reindeer (Vitebsky 2005:12). At Storsteinen in Alta one can see such a person (most likely a woman by her attributes) riding on the back of a reindeer (Helskog 1988:64). A shaman riding on an elk was drawn by a Selkup shaman and has been recorded at several places in Stone Age rock art of Fennoscandia (Lahelma 2007:128f, fig. 8). “Shamans” riding red deer are also found at the Stone Age rock art area in Vingen, western Norway (see Figure 61 and Figure 62). While some shamans ride on reindeer or elks, the “real” shamans could turn into a flying reindeer (Vitebsky 2005:12). This could be what is depicted at Bergbukten 1 where reindeer appear to be “transforming into a flying person” and afterwards turn into a reindeer again (see Figure 63 and Figure 64). The scene depicted in the upper part of the compositions appear like if the humans is representing an animation, as if the person is flying over the landscape, in the middle world or on the way towards the upper world (Figure 63).



Figure 61 A "shaman" riding a red deer at Brattebakken in Vingen, western Norway. Notice the "staff" to the left of the rider as he holds it during the journey on the back of the red deer. Nightphoto: Jan Magne Gjerde.



Figure 62 A "shaman" riding a red deer at Brattebakken in Vingen, western Norway. Nightphoto: Jan Magne Gjerde.



Figure 63 Section of Bergbukten 1, Hjemmeluft, Alta. At the upper right of the photo one can see a line of persons. I interpret this as a journey where the shaman transforms from a reindeer then flying over the landscape before he/she ends the flight on its way to again transformed into a reindeer. Photo: Jan Magne Gjerde.



Figure 64 The flying shaman transforming from reindeer in the left to a shaman back into a reindeer at Bergbukten 1, Hjemmeluft, Alta. Compilation of three photos. Photo and illustration: Jan Magne Gjerde.

From the imaginary and real journeys of the shaman, I will journey into an often-neglected part of hunter-gatherers lives, their geographical knowledge. According to much Arctic Ethnography, there was no clear-cut division between the cosmological landscapes and the geographical landscapes. Amongst hunter-gatherers, these landscapes are intertwined. The geographical knowledge was and is crucial to all people living off nature as hunter-fisher-gatherers. An important aspect of the shaman life was also to conduct travels; most of these travels are described as imaginary or cosmological journeys. However, a shaman also

travelled on the horizontal plane (space) and the vertical plane (history) including travels between the worlds of the universe. The holder of wisdom of landscapes (a shaman or a hunter⁷⁶) could store his knowledge by flying through mental maps of the landscape, equivalent to memoryscapes where knowledge is related to the physical landscape and places. The landscape would be communicated to others by flying over the landscape, relating knowledge to the topography or main topographical features.

Geographical knowledge, memoryscapes and cynegetic activities

Geographical knowledge

According to Shirokogoroff (1935), amongst the Tungus [Evenki] of Siberia almost everybody knows the local geography and methods of orientation: “Indeed there is nothing mysterious in it. The conditions of life, namely, the hunting, migrations and the lack of communications, requires the Tungus to be “geographers” (Shirokogoroff 1935:66). When travelling with the Copper Eskimo, Jenness was “... greatly touched by the joy with which they would recognize each prominent lake and hill, and call up memories of earlier days in which these landmarks were associated” (Jenness 1922:32f). This “joy of travelling” also reflects that distance seems to have been no “obstacle” for people who migrate. However, they must have had an extraordinary knowledge of the landscape and how to move in it.

It is often said that “indigenous people” have a built in compass (Hætta 1990; Hætta 2008) and know their way in the landscape in a way that modern geographers envy at any given time. Knowledge of features in a given landscape will guide you in the wanted direction. The most obvious of these in northern Fennoscandia are the rivers. However, this is dependent on the character of the river. Among the Tungus rivers are sometimes not used as references since they are frequently interrupted by cataracts which makes them hard to follow (Shirokogoroff 1935:88). How and what features are regarded as landmarks and characteristics important for travelling is rooted in the background, the topographical characteristics of a landscape. Therby if moved from one landscape, e.g. the generally flat landscape of the Kola Peninsula in northwestern Russia to the fjordal landscape of northern Norway, topographical references will differ since geographical knowledge is rooted in the “local” or regional environment.

Among the Saami inland, from Alta to the Kautokeino area, a few characteristics in the landscape is vital to orientation. “Obvious” landmarks to the Saami like rivers, mountain

⁷⁶ A shaman could also be a qualified hunter.

peaks, “wolfnoses”⁷⁷ (*gumpenjinni* in Saami) and “ladies breast” (*buolža* in Saami) are applied as orientation marks. Wolfnoses are located at the top of valleyridges; hence, they are seen at a distance of several kilometres. The “wolfnoses” are situated at the end of long ridges formed by geological processes during the deglaciation and will always be oriented in a certain direction, according to the movement and the direction of the glacier (see Figure 65). These long ridges⁷⁸ (*Gukhes ennan* in Saami) can stretch several kilometres and are located in “flat areas” or in valleys in the inland. In the Kautokeino area they are directing you virtually north-south by its orientation. These landmarks become silhouettes in the skyline, hence they can be seen in the dark, during bad weather and throughout the seasons⁷⁹ (Hætta 1990; Hætta 2008). While some of these important landmarks in the landscape and their information are unfamiliar to us, some stand out and are more conspicuous, like the Saami holy mountain Stetind in Nordland, northern Norway or the Rundtinden mountain (see Figure 66), not far from the rock art sites Valle and Leiknes in northern Norway⁸⁰. Such landmarks like the large mountains and mountain ranges would be fixed points even when the coast changed due to the land uplift.

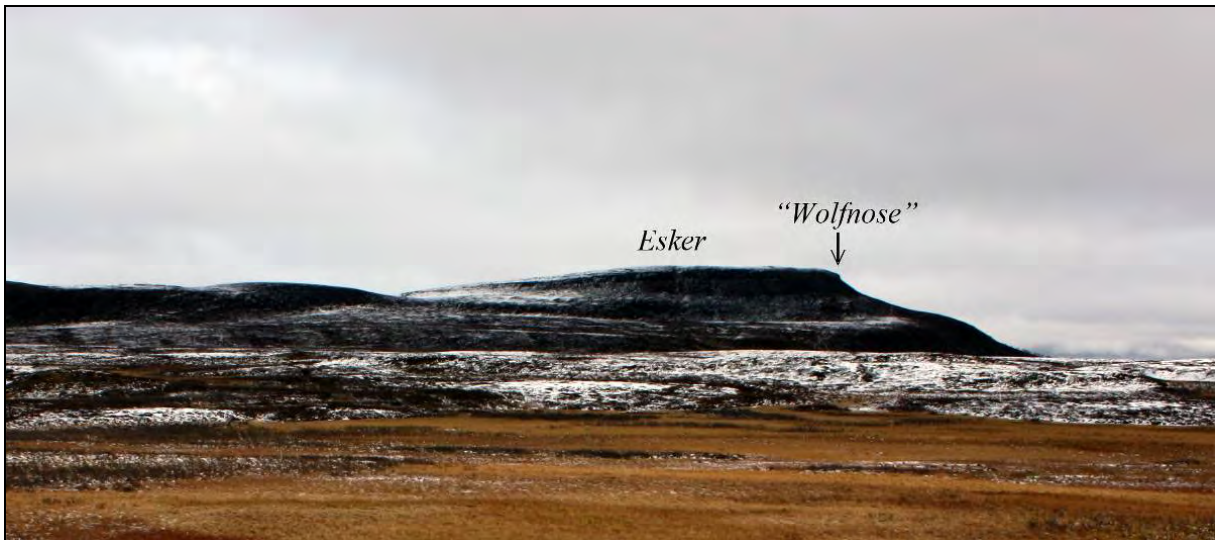


Figure 65 “Wolfnose” mountain ridge at Lodiken near Beskades, one can see the characteristic shape that yields information in the horizon in all seasons and virtually in all weather conditions since it stands out in the silhouette. Photo © Odd Mathis Hætta. Illustration: Jan Magne Gjerde.

⁷⁷ In Saami they are named *gumpenjinni* meaning wolfsnose. In Norwegian they are called Whalecarcass after the shape. Odd Mathis Hætta, personal communication, 2009.

⁷⁸ The geological term is *esker* which defines a long and narrow gravel ridge formed by glaciers.

⁷⁹ Odd Mattis Hætta, personal communication, 2009.

⁸⁰ The sites Leiknes and Valle is further discussed in the Ofoten Case Study later in the thesis.



Figure 66 The Rundtinden mountain area stands out when moving in the coastal landscape in Nordland, not far from the Valle and the Leiknes site. Valletindan with Rundtinden (the top slightly left of the middle of the photo) stands 798m from the surrounding fjordal landscape as a reference point and a landmark both from the inland and from the coast. Photo: Jan Magne Gjerde.

“Long, cold winters and generally harsh terrain present many hazards and offer relatively few economic resources. The traditional economies are a mix of fishing, hunting and whaling on the Arctic coast and collecting, fresh-water fishing, hunting and reindeer herding inland. These tasks usually involve seasonal migration, often over considerable distances and between contrasting environments. Hence the geographical knowledge of many individuals and their shared geographical knowledge of all groups is extensive” (Okladnikova 1998:329).

Through the ethnographic record, it has been argued that through orientation, the remembering of places and relations between places are important. They act as reference points in their knowing of the land (Aporta 2004; Aporta 2005; Rundstrom 1990). The ethnographic record shows that hunter-gatherers have a remarkable knowledge of landscape. Bear in mind though, that the ethnographic landscape knowledge is described by people who have lived at a place for a long time (Kelly 2003). When moved from one landscape to an unknown landscape, one needs to learn the landscape anew. This is a long process and takes generations since one will have to live in and travel through a landscape with no stories⁸¹. Ethnographic hunter-gatherers can draw fairly accurate, detailed maps of large areas that are familiar to them (Boas 1888:643-648; Nelson 1983[1899]:197). In sum, for hunter-gatherers landscapes are sets of named and/or “storied” places. These are generally made into a

⁸¹ Johan Albert Kalstad, personal communication 2007.

cognitive map. The map is relational, that is, one place is known as being a certain distance or time and direction from another place (Kelly 2003).

The regions visited by the Tungus are very large – sometimes covering nearly hundreds of thousands of square kilometres. Long travels were frequent among hunter-gatherers⁸². An example of this is through their annual migration patterns where they distance vast territories of several hundred km (Zvelebil 1997:36f). Thereby the knowledge of the region requires a good memory, experiences and still more, ability of orientation (Shirokogoroff 1935:67). Assuming the population in northern Fennoscandia during the Stone Age was not dense, they would live scattered in a large area, separated by vast empty spaces occupying riverine belts and scattered enclaves. Based on the ethnography in Arctic and Subarctic Eurasia according to Okladnikova (1998), important in hunter-fisher-gatherers lives were seasonal migrations and thereby a sophisticated geographic knowledge covering large geographical distances where they shared three important characteristics: environment, ecology and belief system.

The geographic knowledge then is knowledge in action (lived in landscapes), a holistic “wisdom of the land”. Along with the stories, they transform the wide expanses of the physical landscape into “memoryscapes” inhabited by human beings, animals, and spirits of all kinds. Following Collignon (2006b) and Shirokogoroff (1935:67), geographic knowledge is oral tradition; that is storytelling. According to Shirokogoroff, acquired geographical knowledge was transmitted to the younger generation by old men, persons with experience (Shirokogoroff 1935:67).

Memoryscapes and perception of landscape

Nuttall initiates and applies the term memoryscape in relation to landscape. “..., but by way of a brief definition, memoryscape is constructed with people’s mental images of the environment, with particular emphasis on places as remembered places” (Nuttall 1992:39). Stories and myth unfold against a geographical backdrop. Events, whether contemporary, historical or mythical, that happen at certain points in the local area tends to become integral parts of those places. These events are remembered with reference to specific events and experiences. Memories then, take the form of stories about real and remembered things. They cannot be separated from the land even though place names do not immediately reflect such

⁸² A Birarčen women left her family to visit her own clan “where she grew up” alone in a boat visiting the Birarčen settlement on the banks of the Amur River. She travelled for several days distancing more than 400km (Shirokogoroff 1935:67).

stories. Place names may be mnemonic devices, triggering a collective memory of events that was significant for the community, groups or individuals (Nuttall 1992:54-55). Place names are important in story-telling as they are situating devices locating narrated events in the settings where they occurred (Basso 1984:32). Through land and sea use, myth and historical events, an image of the community is reflected in the landscape. Memory is then a manner of articulating relationships between community and landscape, or between the landscape and individuals. Traces of memory are left ensuring activities in the landscape (Nuttall 1992:57). Nuttall sees the memoryscape as crucial when journeying through landscapes. According to Nuttall, without knowledge or memory of places and reference points, land becomes unknown territory to those who have no knowledge or memory of it (Nuttall 1992:57).

Collignon (2006b) observes that amongst the Inuit that geographic knowledge is knowledge in action, best described as a holistic “wisdom of the land”. It involves a mix of practical skills and oral tradition. Stories and place names are told and remembered. They transform the wide expanses of the physical landscape into memoryscapes, inhabited by human beings, animals and spirits of all kinds (Collignon 2006a). For the Inuit it is more important to find your way back to the camp than to actually capture game. According to Collignon, the core of Inuit hunters can be described as cynegetic activities. Cynegetic activities are applied to refer to travelling, hunting, trapping, fishing and gathering (Collignon 2006b:64).

As argued by Kelly and Todd, pioneers in a landscape would not initially know the landscape (Kelly & Todd 1988:235). When moving into “new” or unfamiliar landscapes, they need to be “lived in”, hence, enacted to become familiar. Thereby the ethnographic landscapes or the ethnographic landscape knowledge is a result of people living within the area for generations, enacting with and creating stories of landscape. Within a changing landscape, sometimes dramatic as course of the eustatic processes, places would change, and memory connected to places would have to be negotiated. When looking at rock art, it may fit the term memoryscape and be part of such a fixation of the past related to memory and place. This can be viewed in the light of similar ideas presented for Australian rock art where it is seen as part of marking the landscape. Humans are communicating knowledge visually, thereby socialising landscapes (Tacon 2002; Taçon 1994). For hunter-gatherers the core in their lives are based on cynegetic activities. Thereby, cynegetic activities and the relation to places and journeys become important memoryscapes, hence depicted in the rock art.

One can see through different ethnographical examples how important places, place names or marked places are to indigenous peoples around the world, e.g. (Collignon 2006a;

Schreyer 2006). The amount of appellative (describing) place names connects nature to culture amongst indigenous people (Hætta 1990; Hætta 2008; Qvigstad 1944:67f; Shirokogoroff 1935) is part of such a remembering of places (Collignon 2006b). Rock art could be such a remembered place where the stories are embedded into the rock. Whether they were part of a collective or individual memory might be an interesting discussion. By location, some places were restricted to few while others would be available to “everybody”. The variation both in extent, motifs, scenes and location makes one assume that the activities connected to the different rock art places cannot have been the same. There are not two exactly similar panels with rock art in all of northern Fennoscandia. Most likely they are all representing different stories or events, yet sometimes multiple events. Sometimes these stories would have shown similar traits, however they are all unique or individual.

According to Collignon (2006b), the Inuinnait would never separate animals from the knowledge of land. Such a division does not make sense to them since knowledge of game is an inherent part of what the hunters understand as geographic knowledge. Their territory or lived space is perceived through points, lines (axes), surfaces and ignored spaces (Figure 67) (Collignon 2006b:90-97). Surfaces or zones without game are regarded empty zones, they are less travelled and are so unimportant as to be nonexistent to them, ignored spaces. Thereby land – Inuinnait land – is made up of spaces, empty and full. Through human experiences and storytelling, the landscape becomes a memoryscape, a humanized environment (Collignon 2006b:97-99). Thereby the Inuinnait have a horizontal and a vertical dimension in the perception of space.

“The horizontal plane of perception (of points, lines, and surfaces) is a mental diagram that the Inuinnait carry with them and apply to any new spaces they discover in their travel. In contrast, the “vertical” plane of perception cannot be so easily applied to new territories. It takes time to make the new space historical and turn it into something familiar” (Collignon 2006b:100)

Comparing Collignons (Collignon 2006b) theory on territory (Figure 67) based on Inuinnait perception of landscape with the Oroch cosmography drawn by an Oroch shaman (Figure 52), is strikingly similar when it comes to geographical references through areas with activity or defined by animals in the actual zone or area. It includes such full and empty zones as described in the Inuinnait perception of territory (read landscape). The universe itself was conceived of as a living being and was identified with images of animals in the concepts concerning it (Avrorin and Koz'minskiy, 1949 in Okladnikova 1998:339, fig 8.13). As the

animals and humans are depicted according to the cosmological landscape of the Oroch, the geographical knowledge or references to their geographical knowledge and journeys are integrated through descriptions of lakes, rivers, lands and islands. The importance of both the geographical knowledge and the cosmological knowledge among hunter-gatherers makes me suggest that it is central to the Stone Age hunter-fisher-gatherers; hence, a central part in the stories represented in the rock art, as their perception of landscape.

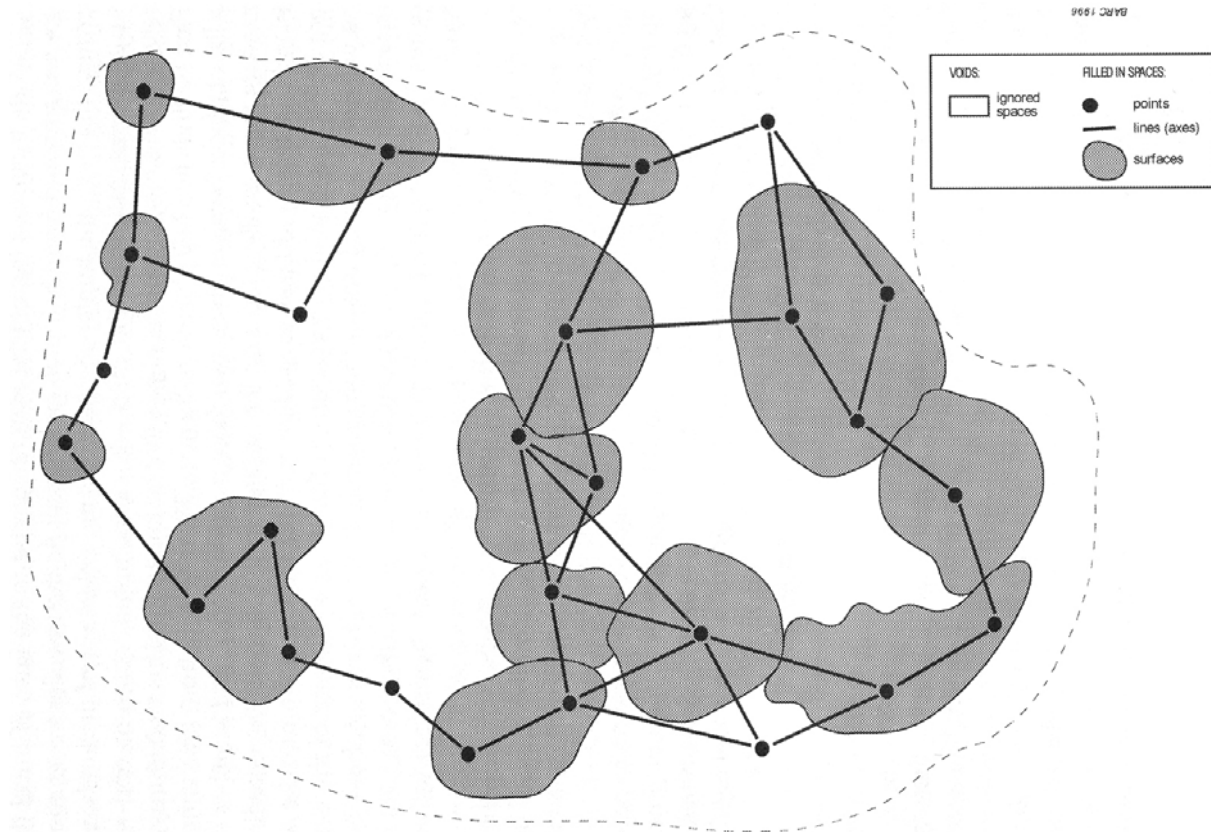


Figure 67 Theoretical diagram of Inuinnait perception of territory (landscape). After Collignon (2006b:fig 16).

Similar representations of landscape to the ones presented by Collignon (2006a) has been presented by the the *Inuit Land Use and Occupancy Projet* (Freeman 1976a; Freeman 1976b; Freeman 1976c) when areas traditionally occupied and those areas used within the “living memory” of the land and rights project of the Nunavut were documented. These were better presented in a Nunavut Atlas based on the previous data and new collections of data. The maps show how some areas were abundant of animals important to the Inuit, while other areas were “empty” (see Figure 68). The data was collected by interviewing hunters and elders asking them to describe their intensity of land use and to mark on the maps any hunting areas, travel routes, campsites, archaeological sites, or fishing sites that he or she could recall

(Riewe 1992:1f). Not all of the information could fit onto one map. The fishing places, communication lines and intensity of land use could not fit on the same map, however compare the maps and description of the maps in Riewe (1992:112, 113, 219-222). One can also see that the maps are influenced by “modern” hunting strategies like the fox-hunting for the fur-trade. However, the placing of animals in regions and the documentation of the resource-exploitation shows how the landscape can be seen as such empty and full zones like presented by Collignon (2006a), compare Figure 67 with Figure 68. Another important factor when looking at these maps and their information based on lived in landscapes, one clearly see how large distances were accounted for and the geographical knowledge by the hunter-gatherers. The selection of animals is also striking since they are representing areas or surfaces with activity.

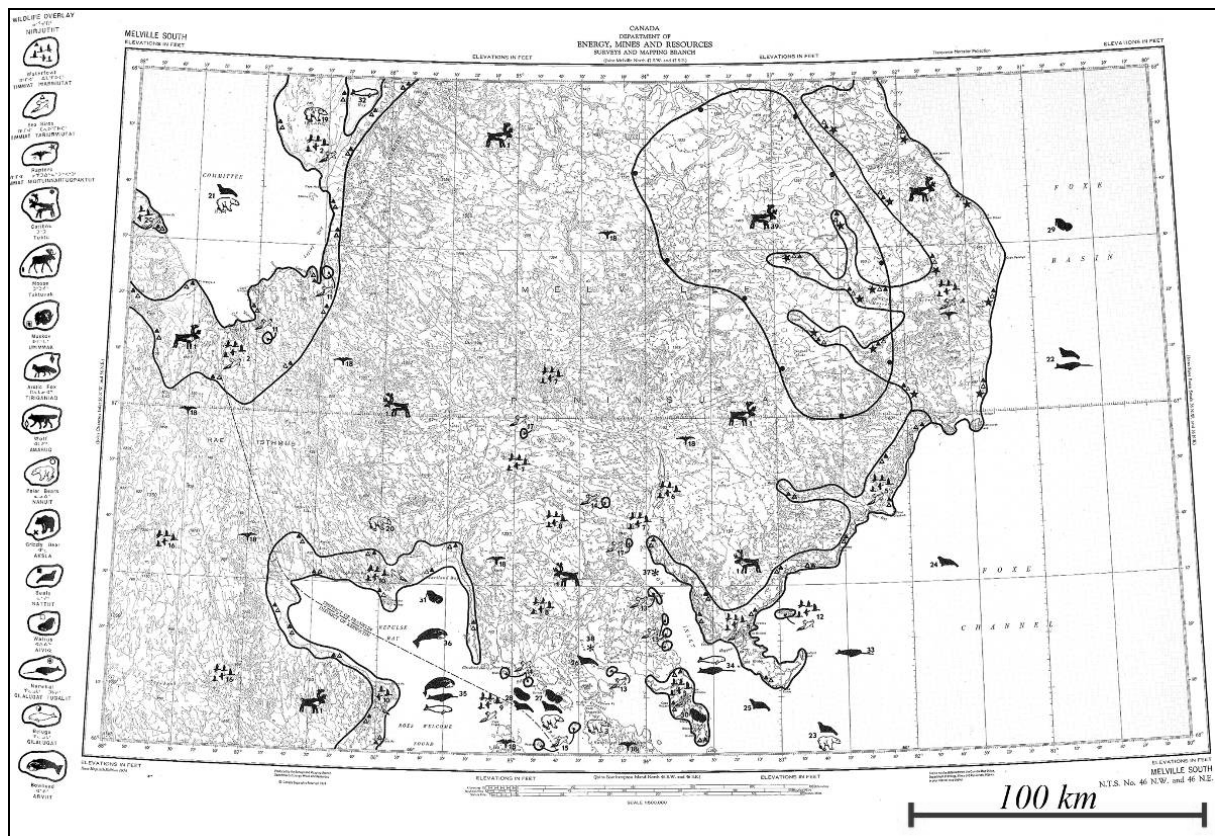


Figure 68 Inuit Land Use and Wildlife in the Melville South Area in Canada. Scale is added to show the size of the region according to land use. After Riewe (1992:113).

Distribution-analysis or site-catchment analysis has been applied when studying movement and relations between sites. The discontinuous landscapes of northern Fennoscandia with its many fjords, rivers and mountains, do not favour these methods. Sites close to each other the way the crow flies would have been far away when one look at communication and

sites far away from each other might be naturally linked due to their location within natural ways of communication (e.g. the coast, rivers, lakes). An example of this can be the early glaciers inland northern Fennoscandia that was present in the pioneer phase, the massive bog areas on the Kola-peninsula or the inapproachable mountains of northern Norway. The “natural” way of communication would have been the boat in northern Fennoscandia. This is also evident in the rock art material itself, the frequent boat motif from about 5000BC and the coastal location where waterways appear as major links of communication.

Moving to any landscape, landscapes would have favourable areas of living and areas where it was hard, even impossible to live. The landscape holds natural boundaries (cliffs, mountains etc.) and lines unsuitable for travelling (riverine, screes etc.). Some of these areas would change during the seasons. The inapproachable bogs at Kola Peninsula would be favourable during wintertime when they froze over. Large rivers, like the Alta River, or lakes, like Kanozero, could be journeyed by boat during summer and one could walk on the frozen rivers and lakes during winter. The area where such rich and empty zones are most prevailing in northern Fennoscandia is the fjords of Nordland in northern Norway where the steep mountains would have restricted movement both for animals and humans.

Rock art as “maps” and perception of landscape in rock art

Some rock art motifs have even been interpreted as maps in different parts of the world (Fossati 2002; Fossati 2003; Lewis 1998:57ff; Maggs 1998; Montelle 2003; Smith 1982) Okladnikova has shown that rock art of northern Russia could be viewed as maps. She briefly discusses rock art in terms of cosmological and geographical maps. Rock art provides the earliest indications that hunter-fisher-gatherer societies could represent spatial understanding of things both mythical and non-mythical (Animosov 1963a; Okladnikova 1998:329-330).

Geographical information is at times included in the decoration on ceremonial items. Among the Nivkhi, living by the Amur River in Siberia, Russia, bear hunting was very prestigious and was accompanied by elaborate rituals (Black 1988; Hallowell 1926). Similar bear hunting rituals and bear ceremonialism are described in vast areas in the ethnography of the circumpolar area (Hallowell 1926; Honko et al. 1993). Among the Nivkhi, ritual vessels⁸³ were used to hold either the hearts, or by other accounts, the meat, fat or animal head of the killed animals. The ritual vessels belonged to a clan and were used during the annual winter

⁸³ The ritual vessels were carved from birch or aspen and the largest could be c. 1.5m long (Okladnikova 1998:345).

bear festival. The handles were carved with map elements depicting events in the hunters chronicle: the bear, the den from which the bear was chased, footprints, pawprints and paths. Each vessel was carved as a chronicle of a specific hunt, which was narrated in the series of carvings on its handle and tip (Figure 69). The progress of the hunt was portrayed in the bears and the hunters tracks, and local topographic features that could serve as points of orientation, such as forests, rivers, and clumps of trees were also portrayed (Okladnikova 1998:344f). Looking at the depictions at the ritual vessel, they easily compare to the stories in some of the rock art panels where topographic elements are included in the story, and the geographical knowledge of the area of the hunt was included in the ritual vessel.

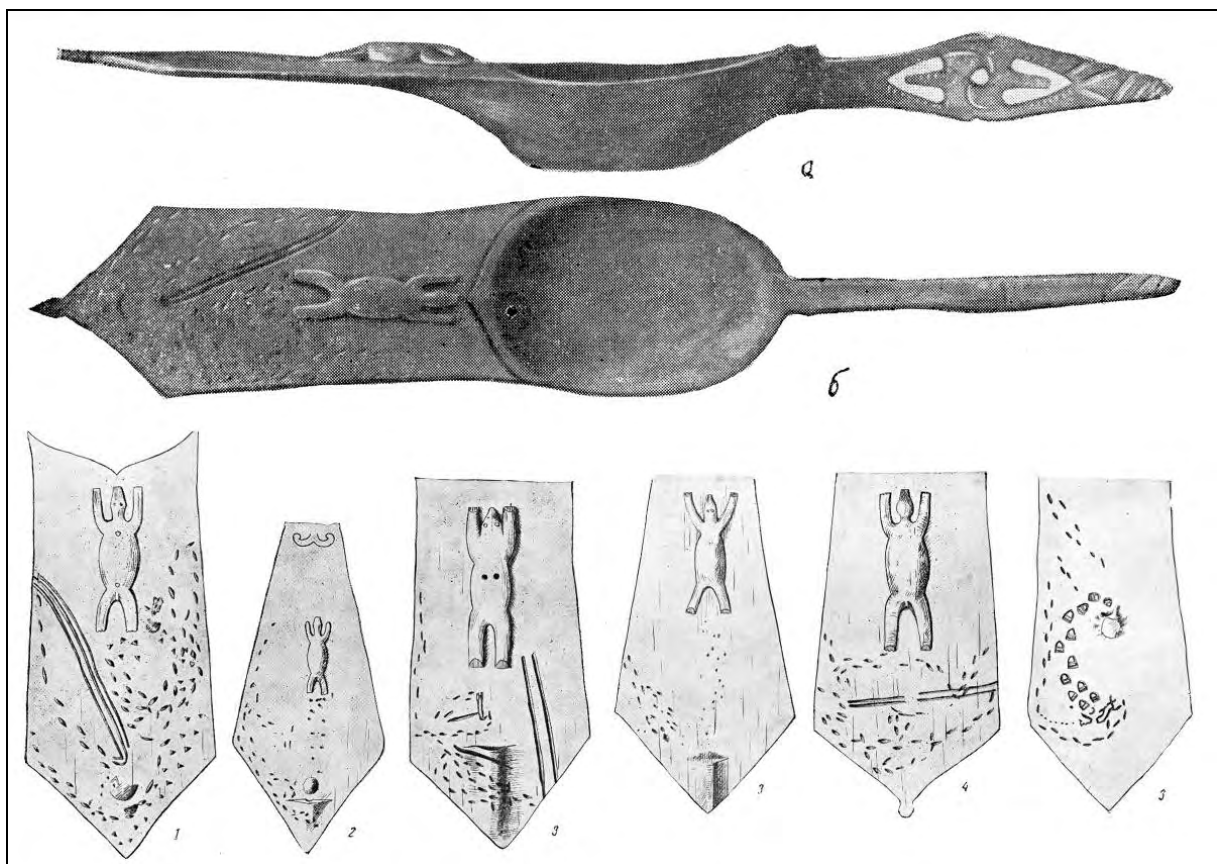


Figure 69 Ritual vessels connected to the annual bear hunt ritual among the Nivkhi. The carvings refer to a bear hunt with geographical references (topography from the skier and ski tracks and the bear den) and movement by the bear tracks and hunters tracks. Compiled from figures of the ritual vessel after Ivanov (1954:plate 245, 246, 247, 248), described by Okladnikova (1998:344ff). Illustration: Jan Magne Gjerde.

Similar depictions are found in the rock art at e.g. Kanozero (Figure 70) and Alta (Figure 71). At the rock art sites, the bear tracks, the den and the topographical element in the rock surface would act as spatial references. Both the ritual vessels of the Nivkhi and the rock art panels in Alta in northern Norway and Kanozero in northwestern Russia include the season (spring / winter), the time of the annual bear hunting festival among the Nivkhi (early spring).

At Kamenniy 7, Kanozero northwestern Russia, the hunter is also skiing like at the Nivkhi ritual vessels. The topographic elements in the stories included in the ritual vessels and the rock art relates to the vertical landscapes (memoryscapes), the horizontal landscape (space) and the cosmological landscape (world-view). The similarity in the carvings at the Nivkhi ritual vessels with the rock art images are striking, possibly telling similar stories. The bear hunting scenes in rock art could then relate to bear-hunting rituals as described in the ethnography (Edsman 1965; Fjellström 1981 [1755]; Hallowell 1926; Honko et al. 1993).



Figure 70 The bear hunting scene at Kamenniy 7, Kanozero, northwestern Russia. The bear hunting scene is superimpositioning a Beluga whale hunting scene. Tracing to the left, where I have extracted only the bear hunting scene in relation to the topography at Kammeniy 7. The whole palimpsest is presented in **Figure 225**. One can follow the tracks in the photo to the right. Tracing, photo and illustration: Jan Magne Gjerde.

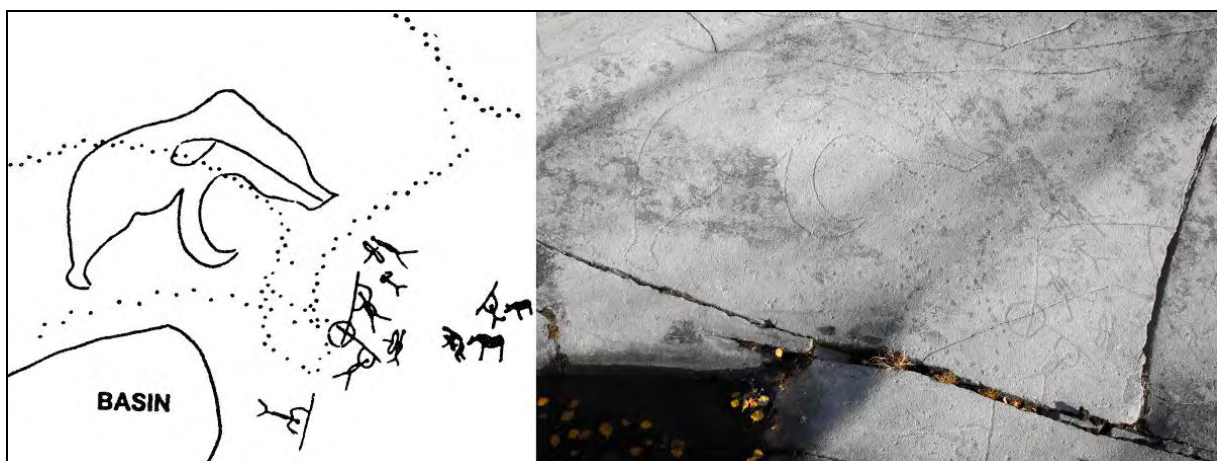


Figure 71 The bear hunting scene from Ole Pedersen, Hjemmeluft, Alta. Section of tracing to the left after Helskog (Helskog 1999:fig 7). One can see that the bear-tracks are coming from/moving into the small pond at the panel perhaps moving into the lower world. Photo and illustration: Jan Magne Gjerde.

People skiing during the bear-hunt and the elk-hunt have been found in rock art both at Kanozero and Vyg in northwestern Russia. Adding to this people walking with snow-shoes are also represented at Kanozero (Kammeniy 3) and in Alta (Ytre Kåfjord). They are generally connected to winter-hunting (Figure 71). The winter-hunt on skis from the Stone Age is strengthened by finds of skis dated to the Stone Age from vast parts of northern Fennoscandia (Naskali 1999; Sørensen 1993). An important find linking the elk to skiing is the find from the site Vis 1 in Russia⁸⁴. One of the skis have an elk carving under the back of the ski (Figure 72) where the sculpture of the elk's head is interpreted as a symbol of rapid movement (Burov 1989:393-397).

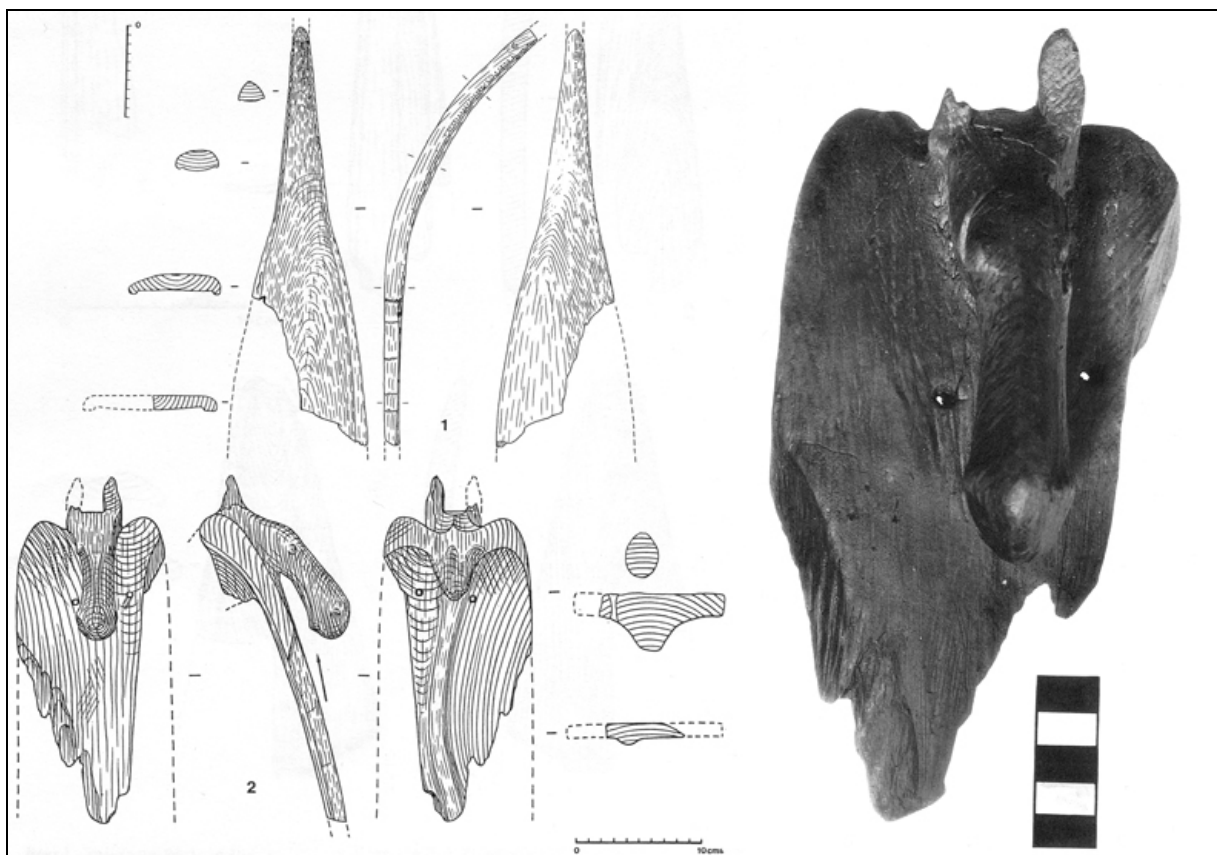


Figure 72 Stone Age ski from Vis 1, Siberia, Russia. An elk-head sculpture is carved under the back of the ski. After Burov (1989:394-395, figure 2 and 2a).

The geographical knowledge, understanding and the perception of spaces in zones might explain positioning of the rock art on the surface. The placing of the figures on the rock surface has “always” puzzled researchers. Why are there figures on this panel, the one further away and no carvings on the panels in between? Why is not that part of the panel used? There

⁸⁴ The Vis 1 site has been dated to between c. 8300BP-7000BP. Calibrated by OxCal, this means c. 7500-5800BC.

seem to have been no reason as to why the rock surface was not “fully” carved, or more figures added to the panel between the figures. That is why spaces on the rock panel was left out while other areas or zones were filled in with rock art. These gaps or areas without rock art has virtually never received attention. However, relating the positioning of figures, scenes and compositions to an Inunniat perception of landscape, this sheds light to the positioning of figures in “empty” and “full” zones. The placing of the figures and scenes could be related to the hunter-gatherer perception of space, where the figures and scenes were placed in relation to points, lines and surfaces where “full zones” and “empty zones” are represented. This could also relate to the domination or sole choice of animals on certain panels / sites. It could also explain why one or a selection of animals; or one theme dominates some panels: like whale-hunting, elk-hunting, bear-hunting, shamans with shaman staffs (elk-head-sticks). They relate to the surfaces, or an area, in which the characteristics were of this and this type or where a certain type of activity was performed. This area or surface might be rooted in the spatial landscape, the historical landscape or a cosmological landscape or a combination between these landscapes.

Before writing, the landscape and the storytelling including geographic knowledge could then be stored in the rock art. Their key animals and activities define the surfaces with connected information. I am of the opinion that the rock art of hunter-fisher-gatherers, placed in their surfaces or areas, relates to geographical knowledge and encompass geographic information at various levels. This could refer to single figures connecting the animal and its surface (area) up to the large compositions where several surfaces or areas were defined and could be connected to geographical knowledge. Like at Ole Pedersen, in Hjemmeluft, Alta (see Figure 71), the people would know where the bear dens were in the landscape. The bear cubs would leave marks on the trees (within a 25m radius) and the grown bears would mark the entrance of the den by leaving bitemarks. By these marks the Tungus would know where the bear dens were and could easily find them when they wanted to hunt them (Shirokogoroff 1935:78f). The bear-dens would be fixed points or surfaces in their perception of landscape. According to Popov, everyone would know exactly where the places are for hunting wild reindeer with nets (*bukuruobobo*) (Popov 1966:42). This shows that the places for reindeer hunting, the bear-dens and other places within cynegetic activities were fixed and known as geographical references.

Another example of this is the goose hunt from boat at New Zalavruga 6, Vyv, northwestern Russia (Figure 73). Here, geese, most likely during the molting season as described in ethnographic sources (Popov 1948; Popov 1966:48f; Storå 1968) being hunted

from boat (Figure 74). The goose hunt described by Popov had an outcome of about 300 geese⁸⁵, however in good years a thousand or more could be killed in one hunt (Popov 1966:49). There are certain lakes that are ideal for such hunts. Popov has described these mass hunts of molting geese among the Nganasan (Popov 1948). The geese were rounded up, or chased from small surrounding lakes into a larger lake where the mass-hunt were performed (Storå 1968:74ff). By depicting the geese hunt possibly referring to a certain lake, the people would connect the rock art scene to a surface or a zone favourable for geese hunting (this could be the lake favourable for hunting geese when molting following the describing place-names from ethnographic sources, e.g. (Collignon 2006b; Jernsletten 1997; Shirokogoroff 1935). The scene could then encompass the horizontal landscape, the vertical landscape and the cosmological landscape.



Figure 73 The hunting scene at New Zalavruga 6, northwestern Russia. A person is sitting in the back of the boat while another person with head-gear is standing in front of the boat shooting arrows at the geese. Many of the geese have arrows standing from their backs. The geese are depicted as if they have no wings, as they would appear during the molting season. Photo: Jan Magne Gjerde.

⁸⁵ The hunted Barnacle Geese have a weight of ♂ 1500–2200g, ♀ 1300–1900g. That means that the outcome of a large hunt with an average of 1500g pr goose could with no problem be about 4500kg. The oil from the geese was valued during the winter months and the goose meat was dried (Popov 1966).

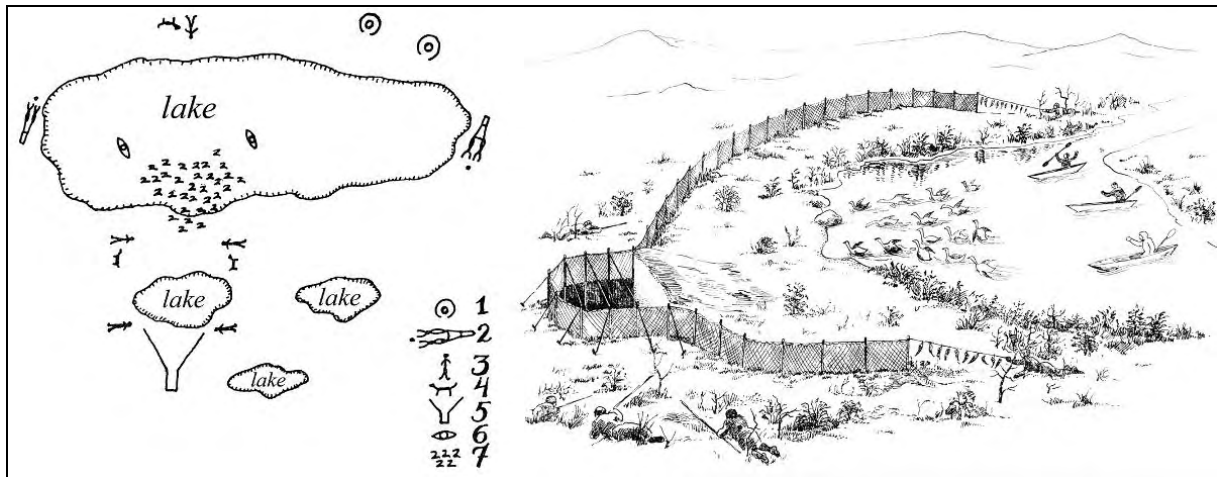


Figure 74 The traditional geese hunt by the Nganasan as described by Popov (1948) and Storå (1968). To the left, a schematical drawing of the rounding up of geese. Legends: 1=tents, 2=sheltered by reindeer sledges, watchmen or helpers during the hunt, 3=hunters assisting the drive, 4=dogs, 5=net enclosure, 6 hunters driving the geese from boat, 7=geese. To the right, drawing of a geese drive at a smaller lake. Illustration reworked from Storå (1968:fig 9 and 10).

According to Helskog (1999) based on arctic ethnography, landscapes and features can have a status as a special ritual place – a lake, a mountain, a canyon in which there live spirits. They were holy places, and places where rituals and ceremonies were performed, where contacts with the spirits and other worlds were made (Helskog 1999:78). Since Collignons study did not include what may be defined as a “ritual landscapes” they are not present in her theoretical diagram⁸⁶ (Figure 67). However, ritual places and activities could be depicted in relation to Collignons description of the Innuinait perception of territory. Thereby there could be ritual zones that one also would have spatial reference to either on the horizontal plan (geographical) and/or the vertical plan (memoryscape, history) and/or part of their cosmology (world view). The previous ethnography of the Inuinnait (Copper Eskimos) becomes important to view other aspects of the peoples activity as described by e.g. Jenness (1922) and Stefansson (1913).

Boats and journeys in Stone Age rock art

A frequent motif in the Stone Age rock art in northern Fennoscandia is the boat motif often depicting hunting or fishing from boat (Figure 75), I am of the opinion that the strong focus on the depiction of boats refer to travels and long journeys. One can observe two boat types in the Stone Age rock art. The less depicted small boats similar to the Eskimo kayak and the larger boat type, similar to the Eskimo Umiak. Most often, the Umiak boat-type is

⁸⁶ Since the last shamans in her study area died in the 1970's, one knows very little on their specifically influenced geographical knowledge (Collignon 2006b:153).

depicted with an elk-head stem. However, there are a few examples of reindeer heads and bird heads in the stem (Gjerde 2008). In northern Fennoscandia, the elkhead boat is the dominating boat-type, where the earliest boats already are depicted with an elk-head in the stem. Such an elk-head in wood, normally interpreted as an elk-stem, was found in a bog⁸⁷ Lehtosjärvi outside Rovaniemi, Finland (Figure 76) (Erä-Esko 1958; Kivikoski 1964[1961]), dated to about 5970BC according to Lindqvist (1983:5). The similarity in the boat-types all over northern Fennoscandia is striking (see Figure 79) (Gjerde 2008), and the elk-head boat depictions do not occur further south. They seem to be connected to a similar choice of animal represented in the stem, possibly referring to their cosmology where the elk is central as observed in the ethnographic record for vast parts of the circumpolar area. The practice of connecting animals to the boats are represented in the ethnographic record from vast parts of the circumpolar area; animal parts, amulets or figurines were also put in the boat as a token or an offering connecting the boat to the animal world (Brandstrup 1985:148f, 156, 158). Amulets or figurines of the whale, elk and bear made in flint is found on Late Stone Age sites by the White Sea, NW-Russia (Zamyatnin 1948:106). The animals used on the stem or in the boat as charms or amulets could vary. Stuffed seals have been put onto the stems (Thornton 1931:165) and wolf skulls, dried ravens, vertebrae of seals, tip of red fox's tails or eagle feathers have also been put into the boat during whale hunts (Murdoch 1892:275, 437).

The elk is a fantastic swimmer (Figure 77); hence with no problem will distance more than 15km (Farbregd, 1980:44). When the elk is swimming, the elk antlers could look like a boat. At some cases, the antlers of the elk are depicted like a boat in rock art (Lahelma 2007:117-119; Tilley 1991:68). The boat and the elk is merging into one motif at some places, where even the boat image has legs (Lahelma 2005a:32). A good example of elk-antlers depicted as a boat is found at Nämforsen, northern Sweden (see Figure 250). The combination of the boat-elk and human-elk has also been linked to a mythological interpretation for the Nämforsen material (Bolin 2000). The elk-head in the stem of the boat and the tail at the stern would make the boat appear like an elk floating at sea.

The importance of travelling by boat can be found in the frequent depiction of the boat in the rock art of northern Fennoscandia. What could be a celebration of a journey, either during annual or seasonal migrations or travelling we see at Ytre Kåfjord where two persons are carrying a boat similar to the Umiak and 10 persons (with head-gear) is perhaps “celebrating”

⁸⁷ Previously part of a lake or large river.

the journey (Figure 78). Such long journeys between the coast and the inland are documented by the Inuit when they carry the Umiak over stretches to get to the lake or a river.



Figure 75 The halibut fishing scene at Forselv, northern Norway. Two persons are fishing. The fisher to the left has a large halibut attached and the person to the right has a smaller catch. It seems like the fisher to the right has sinkers attached to the fishing-line. The size of the halibut has been questioned, however, the largest recorded in northern Norway was more than 4m long and weighing more than 400kg. The stem of the boat appears to be a bird-head representation. Dated to the transition between the Early and the Late Stone Age. From the top of the boat to the lower end of the halibut measures 55cm. Rubbing by Jan Magne Gjerde.

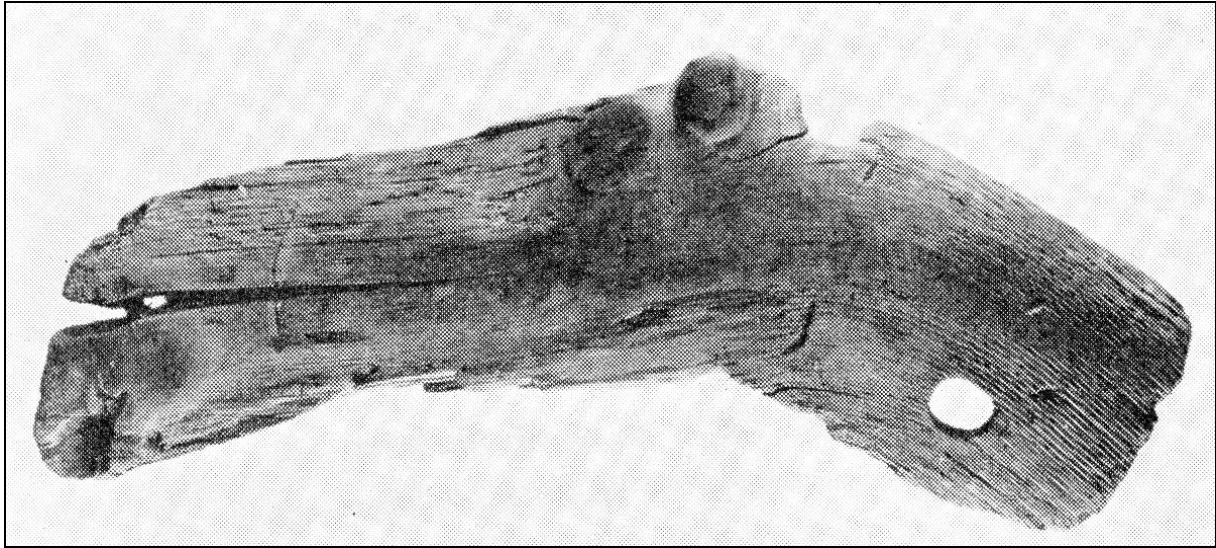


Figure 76 The elk-head stem dated to the latter parts of the Early Stone Age from Lehtosjärvi near Rovaniemi in northern Finland. The elk-head is c. 50cm long and the hole to the right has been suggested as the place for a seating device attaching the head to the stem of a boat. After Erä-Esko (1958:9, fig 1)



Figure 77 Two elks swimming across the Lyngen-fjord near Tromsø, northern Norway. The two elks can be seen in the lower left of the photo. They distance more than 5 km swimming across the Lyngen-fjord. Photo: © Sara Johansen.

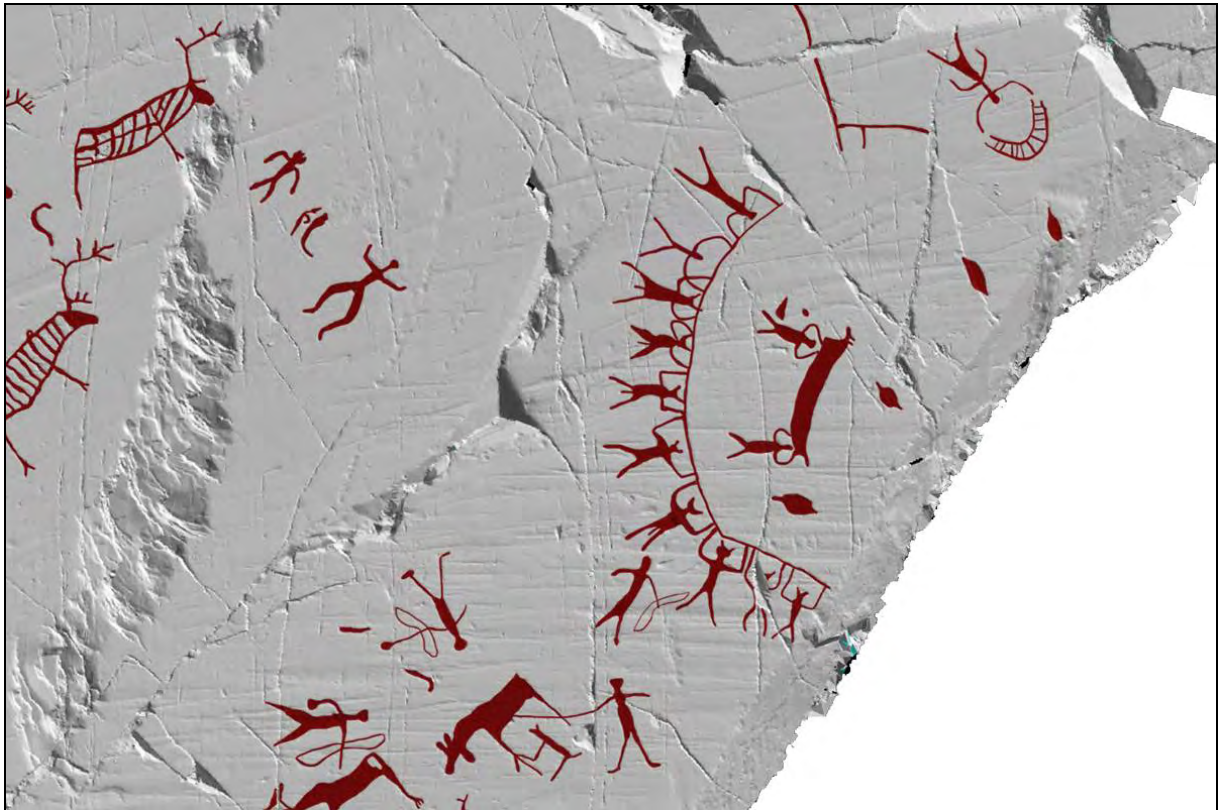


Figure 78 Two persons are carrying an umiak-type boat from Ytre Kåfjord, Alta. The persons in a crecent around the boat-carriers are wearing head-gear. This is known from shaman costumes and from the dress of hunters from arctic ethnography (Black 1991; Shirokogoroff 1935). This scene could refer both to a real journey or an imaginary journey referring to the horizontal landscape or / and the vertical landscape or / and the cosmological landscape. Tracing with kind permission Karin Tansem, © VAM.

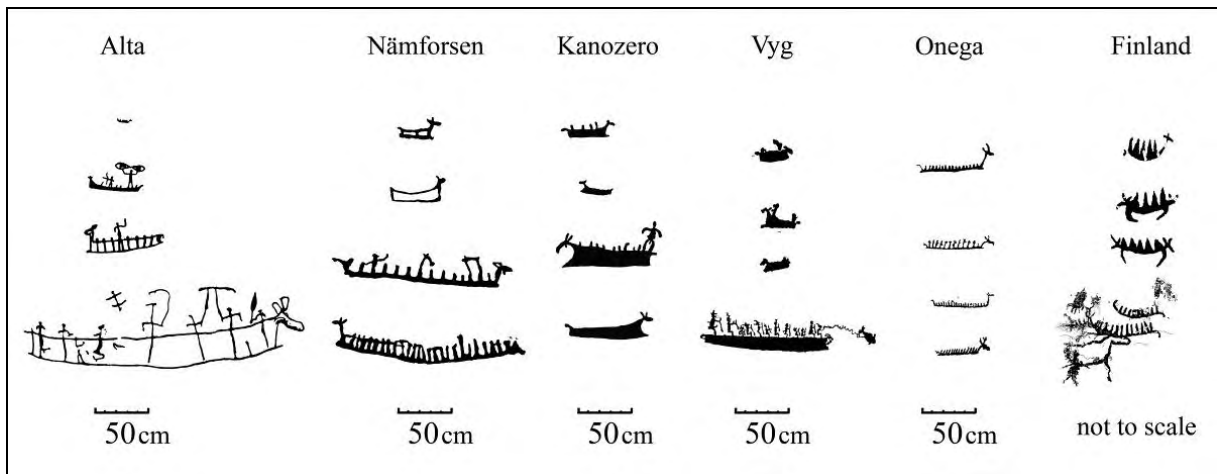


Figure 79 Elk-head boats from the north dated to the Late Stone Age. Boats from Alta, northern Norway after Helsing (1989:figure 4). Boats from Nämforsen, northern Sweden after Hallström (1960). Boats from Kanozero, northwestern Russia (tracing Jan Magne Gjerde). Boats from Onega, NW-Russia after Hallström (1960:plate XXVIII) and Ravdonikas (1936:plate 1 and plate 13). Boats from Finland are from top to bottom from the sites: Patalahti, Saraakallio, Saraakallio, Pyhänpää. After Lahelma (2005b:fig 1). Illustration: Jan Magne Gjerde.

Long journeys or vision quests are described as a central part of shaman performance. This was how they acquired their knowledge, their wisdom of the world. However, not only the

shaman would go on long journeys. People could travel several hundreds of kilometres, sometimes alone, even just to keep up with their “native” clan such as described by Shirokogoroff (1935:67). People in the past conducted long journeys. Recently Lindgren has stressed the importance of being a traveller during the Stone Age when it comes to the acquiring and exchange of raw material (Lindgren 2007). The importance of travelling, communicating and storing information, then retelling the stories at certain places or certain times was connected to certain people in society as suggested by Barth in Southeast Asia and Melanesia (Barth 1990). The importance of being a traveller, when it comes to exchange and interaction in a wide sense; the acquiring of artefacts, raw material and not the least communication, knowledge and information exchange between people would have been an essential part of life amongst Stone Age hunter-gatherers.

A large proportion of the settlements and rock art are situated at promontories and islets that would be inaccessible without well developed boats. Hence seaworthy boats is a prerequisite for getting around in this seascape of northern Norway (Bjerck 2007:7). This could be one of the reasons why the boat is frequently depicted. Large boats with many people depicted, could represent what Helms ethnographically is referring to as the long journeys. Large boats and the actual (long) journeys that were performed may have been associated with rituals as suggested by Helms (1988; 1992). In Hallström's work when he suggests a similarity between the carvings from Nämforsen and Onega (Hallström 1960:317), and the brief notion on the long journeys to and from such meeting places (Hallström 1925:89; Hallström 1945:33), I am of a mind that Hallström meant is that people through their journeys could have visited several of these “meeting-places”. Hallström travelled to and from the sites, revisited them, hence, witnessing the similarities not from tracings in a book, but by first hand knowledge. Through extensive fieldwork, I have tried to walk in the footsteps of Hallström by studying the rock art *in situ*.

Scales or Levels of Landscapes

The study of rock-art and landscapes can be carried out at several levels: at inter-regional levels; at regional levels or; at a local level; at the site level or at the panel level (Sognnes 2002:198). The aspect of scale or levels in landscape studies will be important when attempting to study landscape in relation to rock art. Moving down to the panel level, compositions, scenes or even motif / figure can be related to landscapes. Most studies regarding landscape have centred round the geographical sphere. Chippendale chose to break

down the landscape into four different metric scales (physical scales) chosen by a potential ten as his methodology to study landscapes (Chippindale 2004:110-115). An example of this is when the smallest boat-figures in Vyg is c. 5cm and the largest whale-figures at Leiknes is c. 7.5m. Applying a metric scale system, when studying relations between landscape and rock art, seems not to be a preferable solution.

In this study, I will relate landscape to what can be defined as the macro landscape and the micro landscape. This division might be criticized, as such a division perhaps never existed in prehistory. However, I will apply the terms and their concept as analytical tools in order to relate the rock art to landscape at different levels. Let there be no doubt about my viewpoint as to the relation between the micro landscape and the macro landscape: they are interrelated. The micro-landscapes deal mainly with the close surroundings of the rock art and macro landscapes studies rock art within the wider landscape and its surroundings. I will clarify what I mean by micro and macro landscapes by a discussion where different rock art experiences or perceptions exemplify elements of the different levels. I will present to the reader how the different scales or levels interact with the rock art, and make the reader aware of the terms for the broader discussion on landscape in relation to rock art.

Macro landscapes – rock art and its surroundings in the wider landscape

Studying the macro-landscape or large topographical features have been criticized and labelled a Western approach to landscape (Smith & Blundell 2004). Smith and Blundell forget that they are themselves “constrained” by “one ethnographic” reading of the landscape. Coloured by San Ethnography, they regard meanings in landscape related to major topographical features as a Western worldview rather than looking at different ethnographic records from different areas. Moving back to the circumpolar regions: “Traces of Saami trapping and reindeer-herding cultures are strikingly unlike the traces of agrarian and urbanized societies, since the traditional lifestyle and culture of the Saami make use of natural resources, the remains of which are integrated parts of the environment. They were part of the pre-Christian conception of the world, with a strong belief in the presence of ancestors and other spiritual beings at certain locations. Holy places, sometimes consisting of entire mountains, were objects of different kinds of ceremonies. They are to be found everywhere in the Saami landscape – along migratory routes, at the dwelling-sites, in the hunting-grounds and by the fishing waters” (Mulk, 1994:123). Similar conceptions can be found amongst the Samoyed where they suppose that there are divine and spiritual beings in the manifestations

and phenomena of nature, in lakes, in rivers, in mountain peaks or in any other conspicuous formation of nature (Hajdú 1963:32f). The Saami ethnographic record shows that a kind of animism was practiced and that every object from small to large could be laden with meaning and stories, as suggested rooted in Saami ethnography by e.g. Mulk (1994) or Manker (1957) for the Saami sacred sites. Any place with a special marking in the landscape is holy; mountain-tops, islands, islets, rapids, water-falls and marshes (Mulk 1994:122). Therefore, I find it justified to study the major topographical features in a landscape as well as small topographical features in relation to perception and meaning in the past.

At a macro level one is studying rock art within the wider landscape and its surroundings. Traditionally this would be the study of rock art in a locational perspective in relation to the natural environment (e.g. cliffs, lakes, mountains and rivers) and cultural remains (e.g. burial cairns, hunting places or settlements). A description of where the rock art site is located has generally been applied as grounds for locational analysis with a distributional focus. Most often, this has resulted in distributional analysis that rarely accounted for the background. Examples of how such distributional examples with the application of geographical models have been applied can be found in Sognnes work on the distribution of rock art in middle Norway rooted in geographical and mathematical models (Sognnes 1987b).

The location of rock art in relation to the natural and cultural environment that may indicate why rock art is located where it is in relation to the macro-landscape could be e.g. :

- water (e.g. water-falls, rivers running next to the rock art)
- liminal or anomalous topographic features (obvious topographic landmarks)
- the form and shape of the rock outcrop (e.g. boulder, vertical cliff, coastal rock slope)
- economic area (agrarian or hunters environment)
- good hunting places
- mountains
- nodes or central places in the landscape
- other contemporary archaeological remains (graves, settlements, etc.)
- shoreline / shorebound
- intervisibility between sites
- audiovisual
- landmarks

- communication lines
- accessibility (e.g. caves, scree contra coastal rock slopes)
- rock colour
- ritual places

Many of the previous studies (Kjellén & Hyenstrand 1977; Mandt 1972) looked upon the environment and the diagnostic criteria in locational analysis as structural oppositions. These spatial analyses (Sognnes 1987b) were mainly based on what is formal methods in rock art research while later the informed methods have played a crucial role in the interpretation.

Studies have shown that rock art sites have been located in the vicinity, adjacent to or at nodes and landmarks in the landscape that could be embedded with meaning. The most striking of these are the rock art sites placed in water-falls (Goldhahn 2002b), rapids or in the vicinity of conspicuous mountains (Mandt 1998). However, the most striking feature within the macro-landscape that seems to structure the location of rock art in northern Fennoscandia is the shore-line. Several studies have shown us that the rock art was deliberately placed near the shore-line throughout Fennoscandia during the Stone Age (Bakka 1973; Bakka 1975b; Forsberg 1993; Helskog 1999; Hesjedal 1994; Mikkelsen 1977; Savvateev 1970; Savvateev et al. 1978). Most of these studies focused on a functional acceptance that the shoreline is where the rock surfaces always are available. There is no vegetation in the upper tidal zone (see Figure 46, Figure 47, Figure 53 and Figure 80). An interesting notion when it comes to the placing of rock art in relation to the tidal zone (horizontal orientation) is that virtually all rock art, figures and compositions are constrained to c. 2m in elevation⁸⁸. The large reindeer corrals and the massive compositions of figures and scenes, like at Bergbukten 1 in Hjemmeluft, Alta (see Figure 171) or at Ytre Kåfjord, Alta (see Figure 155) in northern Norway, are depicted within this 2m elevation zone while the composition is more than 8m in length. Generally, all figures, scenes and compositions are placed on the rock surfaces horizontally and virtually never break this pattern being placed vertically.

Later studies have shown that this shore location of the rock art was not just near the shore, however in many places within the tidal area. The evidence for this is the covering of the rock art by marine sediments, sometimes from the tapes-transgression, e.g. at Slettnes in northern Norway (Hesjedal 1993a), Hammer in middle Norway (Bakka 1975b) or Vyg, north-western Russia (Savvateev 1970). Helskog's cosmological interpretation of the shoreline

⁸⁸ This elevation of c. 2m can vary slightly, however the inland sites with paintings at Värrikallio (Figure 83) and carvings at Kanozero, Onega or Landverk seems to fit this pattern of a maximum of about 2m.

connection for rock art (Helskog 1999) has also presented a wider meaning for the location of the rock art sites by the waterline (Figure 53). Sognnes (2003, 2004) supports the shoreline connection, but takes a more cautious view reminding us to include the local topography and not to take the relation between the rock art and the shoreline for granted. To be able to reconstruct the prehistoric landscape or the experience of landscape it is of crucial importance to attempt to reconstruct the physical landscape. Adding to this the settlements was also predominantly placed near the prehistoric shorelines. There are also examples of rock art sites dated to the Stone Age that do not have a strict shoreline connection for all the rock art in the area, e.g. Vingen in western Norway (Lødøen 2006).



Figure 80 The present shoreline within the Hjemmeluft area, Alta, showing the vegetation free area including the sea-spray zone from mean tide and in the upper tidal zone that was preferred for the making of rock art, most likely by both functional and cosmological reasons. The area varies slightly, but normally is c. 2m in elevation. Photo: Jan Magne Gjerde.

Within the macro-landscape the rock art can be studied at a **site-level**. At JoSarsaklubben the single reindeer (c. 1.80m in size) is polished into the vertical rock surface, c. 55masl. By shoreline dating this figure was made about 9200BC. The rock panel would be facing the Kanstadvjord. The reindeer can be seen as if is located running towards the river close by. With a raised shoreline, the lines of movement at the rock art site would have been from the rock art site towards the river where the rock outcrop on the other side of the river would force the reindeer either to follow the river up to the pool. Alternatively, it could enter the fjord. Here we see that the reindeer image is polished into the rock where the natural lines

of communication for the reindeer is restricted. By its size and colour contrasting from the rest of the rock surface (white on grey background), the animal can be seen from a distance of up to 300m. This shows that the rock art figure in some cases might be a central part of the macro-landscape. When moving in e.g. a kayak at sea, one would see the reindeer figure from afar. In a broad sense this would be similar to marking the land as presented for Australia by Taçon (1994). This rock art could also function as signposts heaped with information.

At the site level, the shape and form of the actual site can also be of relevance. At Finnish rock painting sites, the whole cliffs with rock art has an anthropomorphic shape, e.g. (Sarvas 1975:46-47). This has later been observed in Sweden (Fandén 2002:7) and in Norway (Slinning 2002) hence suggesting that the rock art is interacting with the rocks also at a site level. When dealing with these anthropomorphs in the rocks the observation point is of importance.

Animals and faces and connected stories to them can be found in vast parts of the world. Lately geologists have had a renewed focus on rocks and their meaning, and Vitalianos geomorphology (Vitaliano 1973) has been given attention (Piccardi & Masse 2007). Numerous examples connect landforms or aboriginal landform lore to myths and stories (Manker 1957). An example of this is the Saami sacrificial site Basseuksa – the “holy doors” in the Lule River Valley (Manker 1957; Mulk & Bayliss-Smith 2006:106) The interpretations of rock surfaces as having attributes have been questioned due to the subjectivity. However, we know that the Saami *sei`de* stones⁸⁹ or places have been attributed to animals or persons. Sometimes one need the context to see that it really is such an animal. When it comes to the shapes in the rocks it has to do with perception, how one approaches (at what angle, direction) and observes the rock. If one is standing too close one cannot see the features and too far away, the feature can disappear. A good example is the so-called Bear Stone (*Bjørnesteinen*) at Mortensnes in Varanger in northern Norway. This boulder takes the form of a bear when it is observed from the right angle. It is also interesting that the Bear Stone is pointing towards a saami sacrificial site (Vorren & Eriksen 1993:114-116), similar to the one described by Schefferus (1956). Without the ethnographic knowledge, one would most likely never see the boulder as a bear-representation. This example shows how, one in many cases, is left out of the context of the site or as Taçon insolent implies when discussing rock art and ethnography: “If you miss all this story, well bad luck” (Taçon 1992). At Lillestraumen, northern Norway a boulder with rock art is found related to Stone Age house structures (Grydeland 2001:fig 51). There are two

⁸⁹ *Sei`de* is a naturally formed stone of certain qualities or shapes that have been regarded holy by the Saami.

bear figures on the boulder. The boulder could represent a bear with bear figures, however, bad luck for my story, I have no complementary ethnography.

The significance of colour in the past has recently been discussed in several papers (Bradley 2000b; Cooney 2002; Darvill 2002; Gage et al. 1999). The colour (type of rock or discolouration) of the rock seems to have been important at the site level. At the shores of Onega, north-western Russia, the red granite stands out in contrast to the beaches. This can be observed at several locations where the colour of the rock surface might be a locational element, a reference point (or what Collignon calls an anchor point) in the landscape. At Värrikallio in northern Finland (Figure 82), I was struck by the massive vertical red coloured cliffs that stood out in the landscape when approaching the site by boat. Then moving closer to the rock, the red paintings gradually overtook the visual experience (Figure 82 and Figure 83). The colourization in the rocks is often not visible due to the lichen and moss that covers the rock surfaces. However, located in the shorezone, rocks with carvings would be free of vegetation, like at the shores of Onega today (Figure 81) and the paintings by the inland lakes, like at Värrikallio (Figure 83).



Figure 81 The red rocks at Onega (Peri Nos 3). Observe the person with what is interpreted as a giant paddle with an elk head. This could also have been part of the paraphernalia for the shamans paddle like the elk head sticks. Photo: Jan Magne Gjerde.



Figure 82 The vertical cliff with rock paintings at Värrikallio, northern Finland. Not only the cliff stood out in the flat landscape, but also the rocks were red in colour. The rock surface with the paintings are located slightly to the right in the photo. Illustration is a compilation of three photos. Photos and illustration: Jan Magne Gjerde.



Figure 83 Close up of section of the vertical cliff with rock paintings at Värrikallio, northern Finland. The red coloured figures painted onto the “red rock”. The highest figures are located c. 3m above the lake surface. Photo and illustration: Jan Magne Gjerde.

Archaeological remains found in connection with rock art might give us an insight into the activities connected with rock art. Relatively few major excavations have been done adjacent to rock art sites in northern Fennoscandia, with the exception of Nämforsen in northern Sweden and Onega and Vyg in northwestern Russia (Lobanova 1995a; Lobanova 1995b; Savvateev 1977; Savvateyev 1988). An increased application of traditional archaeological methods at rock art sites should be conducted better to understand rock art sites

(Loendorf 1994; Taçon & Chippindale 1998). A renewed interest in excavation in rock art research is forthcoming (Lahelma 2006; Larsson et al. 2003; Lødøen 2003). I predict this type of contextualization of rock art will be one of the major issues within rock art research during the next decades. A close connection between rock art and settlement for the Late Stone Age has been suggested for large parts of northern Fennoscandia (Forsberg 2000; Heimann 1999; Helskog 2000; Lobanova 1995a; Lobanova 1995b; Lobanova 2006; Ramqvist 2002b; Simonsen 2000:27). However, some studies conclude that the local landscape can be divided into ritual and non-ritual places (Heimann 1999; Ipsen 1995; Viklund 1997).

The material record in front of, or adjacent to, rock art sites normally do not differ from settlement remains. The question that needs to be asked, is whether finds such as the elk bones found in front of panels with rock paintings depicting elk (elkhead boat), like at Valkeisaari, at Lake Saimaa in southern Finland, dated to the Late Stone Age / Early Metal Age (Lahelma 2006; Luho 1968; Luho 1971), are merely domestic “rubbish” or were deposited sacrificially or as part of rituals? Recent excavations at Valkeisaari combined with ethnographic analogy have strengthened the interpretation of this as ritual deposits, linking the rock art site to ritual practice. The rituals seems to have included the preparation, consumption and sharing of food (Lahelma 2006).

Arrow-heads have also been found in front of rock art panels at the rock paintings at Astuvansalmi in southern Finland (Sarvas 1969), Flatruet, northern Sweden (Hansson 2006a), Billefjord, northern Norway (Helberg 2004). Two of the three arrow-heads found at Flatruet was broken. This made Hansson assume that the arrows were shot at the rock art^{90,91} (Hansson 2006a:91). However, the broken arrow-heads might also be a result of a deposit in front of the rock art after the hunt as an offering. Moving to the Siberian ethnography, such offerings, with a 6000-year tradition is seen at the vertical cliff Suruktaakh-hkaya in the valley of the Markha River in the Lena region (Figure 84). In cracks, crevices and on ledges on the rock art cliff, one finds offerings⁹². The raw material is both local and material unknown to the Lena region (Okladnikov 1970:92-94), which indicates that people travelled to these places. Numerous arrows were driven into the crevice of the sacred cliff and Okladnikov sees the offerings of arrows and arrowheads as a widespread element of the hunting cult among the

⁹⁰ In modern accounts to use rock art as target has a wide tradition, hence damaging the rock art. Examples of this is found in Telemark, southern Norway, where the marks of the shot-gun is still visible where the rock art is (Slinning 2002).

⁹¹ During the spring ritual, the Evenks in Siberia shoot in turn on a wooden image of an elk (Animosov 1963:164).

⁹² The offerings witness a long tradition where modern bullets mirror Stone Age arrowheads and matches mirror Stone Age fire-tools with a remarkable continuity.

tribes of the North (Okladnikov 1970:96). According to Okladnikov: “The aim of all the various rites and ceremonies connected with the cult of sacred cliffs among the Evenki and their Neolithic predecessors was the magical multiplication of the elks; they all reflected an identical effort—to further by magical means the mating of the animals; their objective was to fill the taiga with new herds of hoofed animals” (Okladnikov 1970:97).

The location and the context of the finds at Suruktaakh-hkaya bring me to one of the earliest interpretations of rock art sites in relation to the macro landscape. The connection between hunted animals placed at favourable hunting places representing hunting or hunting magic connected to the hunting place (Brøgger 1925:29; Bøe 1931; Farbregd 1980; Mikkelsen 1986; Petersen 1929:34; Simonsen 2000:38; Wetterberg 1845). The interpretation is that these places were visited before, during and / or after the hunt to perform rituals, e.g. as described from the ethnography amongst the Evenki (Okladnikov 1970:97-98). The hunting magic interpretation has however been highly questioned by several scholars for some time (Hagen 1976:127-134; Sognnes 1994:42). As a result of this the hunting magic hypothesis has received little attention within the later decades, with the exceptions of a few short presentations (Farbregd 1994; Helberg 2001; Mikkelsen 1985). Lately, the hunting magic or sympathetic magic has made a renaissance in relation to rock art (Keyser & Whitley 2006; Thackery 2005), and at some places, like at Vyg, such links between the hunting place, hunting scene in rock art and the rock art place are advocated (Gjerde 2005; Gjerde 2009; Gjerde in press-a; Gjerde in press-b). The context of the finds at archaeological excavations connected to rock art and the ethnography backs up the interpretations that some rock art sites were connected to hunting. Although we need to widen the understanding of the rock art where it includes a wider representation referring to cynegetic activities where not only hunting and hunting magic is represented or can be taken as an interpretation for the rock art sites.

When looking at the large rock art areas like Alta or Nämforsen the scales or levels of landscapes become harder to discuss. Intervisibility can be applied in order to look at how rock art sites might be connected. This could work for e.g. Nämforsen. However, at Alta, the rock art sites are located at several places in the inner Alta-fjord (see Alta case study). A definition would be that sites that can be seen from each others would be part of a linked area. One could also talk about a **rock art area** where sites are most likely connected even if there not necessarily is a direct intervisibility between the actual sites, e.g. at Alta. However by moving in the landscape, e.g. in Alta, one might see all the places where the sites are located from a boat. At this level, dating plays a crucial part of the relations to the landscape.

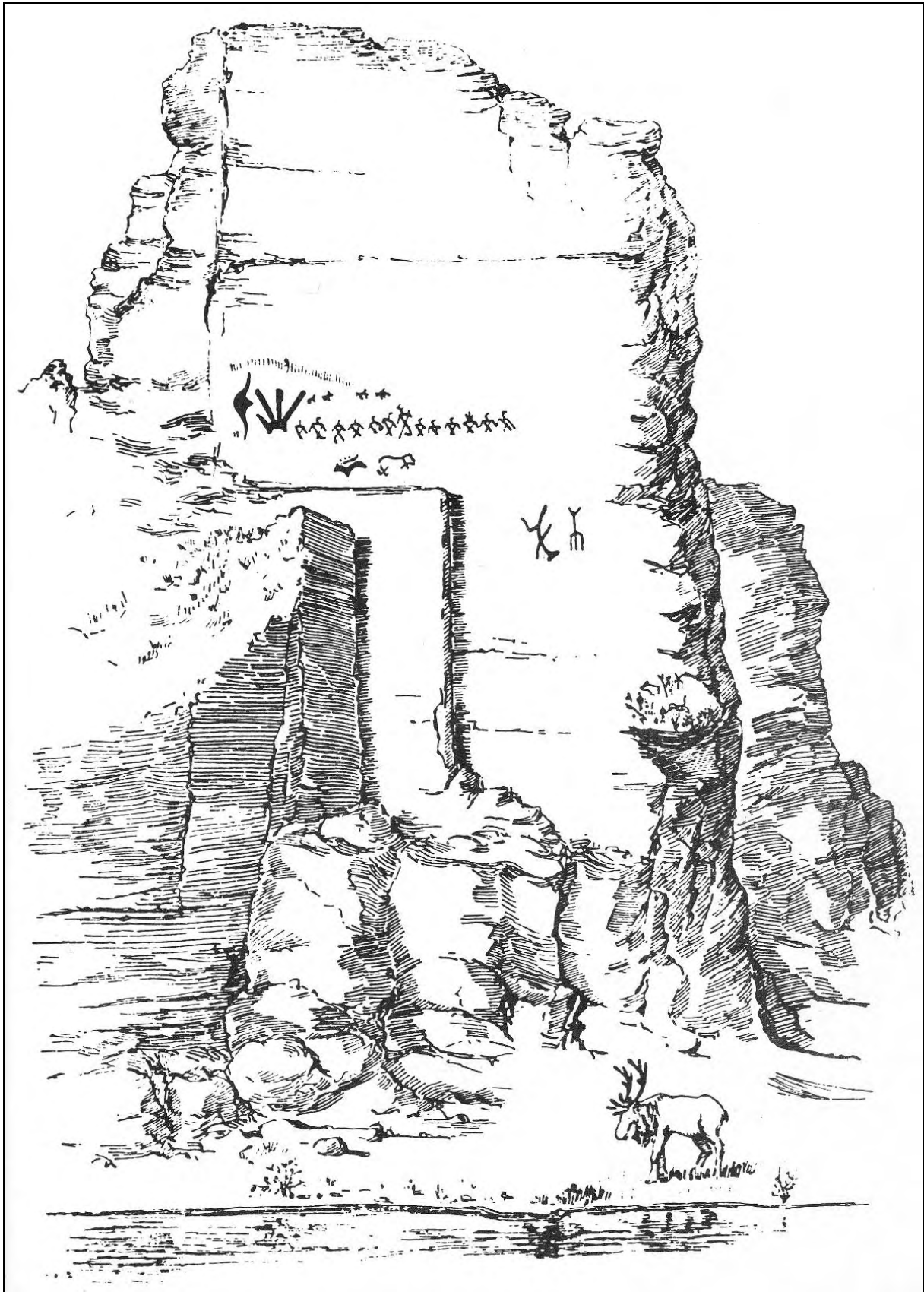


Figure 84 The Suruktaakh-hkaya cliff in Siberia with rock art in the valley of the Markha River. With offerings on ledges, cracks and in crevices representing 6000 years of continuous tradition in offering at a rock art site visualizing cynegetic activities of the Stone Age? After Okladnikov (Okladnikov 1970:figure 20).

The next level would be the **regional level**, where the sites can be connected to each other in a regional area or a naturally defined larger area, like a fjord, e.g. the Ofoten fjord in northern Norway (with the sites: Brennholtet, Forselv, Jo Sarsaklubben, Sletjord and Valle) or a lake, e.g. Onega or Kanozero in northwestern Russia. Here it is also very important to look at the dating before one assumes any connection between the sites.

Then, at an **inter-regional level**, one might look for communication lines, where the rock art might help us to look at similarities over large distances that might suggest cultural contact over large areas. Fjords might be such lines, river systems, or large landscape features that would make it more “natural” for both animals and humans to move along these lines of communication. Examples of this are e.g. Kanozero which would be a central place when moving from the Barents Ocean to the White Sea or the Alta region from the interior to the coastal areas, where the interior valleys are funnelled into the Alta fjord. This would be one of the most favourable places for hunting the wild reindeer on its seasonal migrations. At this level, relations between rock art and the natural environment might help us.

When studying rock art and landscape it is of crucial importance to have visited the place, spending time in the area preferably at different seasons, in order to be able to associate the place with the prehistoric landscape and landscape use. Relating the sites and the landscape to lost relations, e.g. the relations to other contemporary archaeological remains and with a raised shoreline due to the land uplift or natural communication lines, e.g. how people travelled. Otherwise, one may relate the landscape to the present situation. With the modern alterations in the landscape, photos taken before such alterations might help us when reconstructing lost relations, e.g. the waterfalls at Nämforsen.

An example of second hand interpretations of landscape is by Bradley, when he describes the Late Mesolithic rock art site from western Norway: “Vingen is located in a particularly impressive natural setting and the site is difficult to reach” (Bradley 2000a:81). Today logistics make it hard to get to Vingen, however during the Late Mesolithic in this marine environment located on the coast; Vingen is located merely 8km from the rich contemporary settlements at the Skatestraumen. Spending time in the landscape, visiting these sites by boat and with a geographical knowledge of the contemporary archaeological record makes me carefully assume that Vingen was not so difficult to reach during the Late Mesolithic.

Large concentrations of rock art has been interpreted as meeting places and / or nodes in the hunter-gatherer landscape. Hallström interpreted Vyg, by comparison to Nämforsen, to be a node by its unique geographical location (ideal aggregation places by its location)

(Hallström 1960:XI). While Hallström linked the rock art nodes to the unique character of the place, Hagen interpreted these large concentrations of rock art, e.g. at Vyg to be a result of their ecological favourable location (Hagen 1969:143). The large rock art areas like Alta, Kanozero, Nämforsen, Onega and Vyg have also been seen as a meeting place for a large group of people or many groups that would gather for different types of social interaction at certain times of year (Stolyar 2000; Stolyar 2001:124). The favourable location of the large rock art sites, located where coast and inland meets would have been ideal meeting-places for dispersed groups with common traditions, where they could get together to hunt, fies and perform tribe traditional activities (Hagen 1976:127-130). The large rock art centers could be seen as district centers or regional holy places (Simonsen 2000:37).

Amongst the Saami, groups of people meet at certain places in seasonal migrations rooted in favourable ecological areas and places at certain time of year (Vorren 1978:265f; Vorren 1980:245f). At an inter-regional level, when functioning as “central places” we need to view these large concentrations in relation to hunter-gatherers land use. Amongst the Nganasan people wander about 600km-700km to hunt (Popov 1966:21), and on minor hunting trips of about 100km-150km (Popov 1966:31). Amongst the Nenets hunter-gatherers, the annual migration patterns where they distance vast territories of several hundred km (Zvelebil 1997:36f). The macrotopography will probably guide the extent of such land use. The large whale hunting scene at New Zalavruga 8, Vyg, northwestern Russia, witness more than 50 persons in 6 boats taking part in one whale hunt. This account reflects that a number of people must have gathered during the whale hunt. It is also an indication that there must have been a large concentration of people living at Vyg during the whale hunt.

Moving to the ethnography of traditional peoples in Canada, several such aggregation sites have been documented. At these large aggregation sites at the end of the 19th century, between 600 and 2000 people gathered from different groups during the whale hunt, while few people lived there throughout the year (Lucier & VanStone 1995: 41f). Even if one cannot uncritically transfer the ethnographic examples to archaeology, the large settlement record from the Vyg area indicates that this have been a favoured place during the Late Stone Age. When many people met, these aggregation places would be favourable places for exchange, both of goods, information, knowledge and various types of social interaction. This is also mentioned in the ethnographic sources at times of the annual whale ceremony at the end of the “whaling-season” that included feasting, dancing and exchange of goods (Lantis 1947:67). The favourable location of some of these rock art sites, both when it comes

to communication (at natural lines of communication) and ecology most likely favoured some of the sites and thereby the meeting of people.

Good maps, aerial photos and satellite images are helpful when studying rock art in relation to the macro landscape at a regional and an inter-regional level. Detailed maps have been a problem in Russia, and it is only within the last years that detailed maps with elevation data have been made available to the public. Lately, satellite images have made it easier to look at rock art at this level. They were not equipped with these tools in prehistory and looking at landscape through a birds-view has been criticized (Tilley 1994). However, they are great analytical tools when studying location and relations at a macro level. Even though the use of maps have been questioned (Tilley 1994), it must be an advantage for us trying to grasp the location, the wider landscape and how communication lines might have been in prehistory at these large scale levels (Rączkowski 2001).

Micro-Landscapes – miniature landscapes and the interaction between the rock surface and the rock art

Hallström (1907b:188, fig. 14, 15) early noticed that there could be an interplay between where the figures were placed on rock surfaces when he described two elks positioned on the rock surface as if they were drinking from the Ånnsjön lake at Landverk in northern Sweden (see Figure 15). Natural features, or “clues” as Hallström named them, could be part of the rock art story: “Some of these clues will — as the researcher so often finds — consist of nothing but misread natural structures, veinings, variously coloured strata in the surface of the rock, etc. Many such pictures drawn by Nature herself, have attracted the attention of the Lapps, by whom they have been worshipped as in some way or other connected with their deities or myths” (Hallström 1938:19).

Supported by ethnography, the rock surface has been interpreted to be laden with meaning and sometimes as a visual representation of the landscape (Lewis-Williams & Dowson 1990; Ouzman 1998; Nash 2002; Helskog 1999, 2004; Keyzer & Poetschat, 2004). According to San belief in South Africa, the rock face constitutes an interface between this world and the spirit world (Lewis-Williams & Dowson 1990). Similar observations are presented for the Algonkian rock art in northern America. Cracks, crevices and cave entrances in cliffs and rocks served as passageways for these spiritual beings (Arsenault 2004b:299ff). Helskog has shown that the topography and the natural features related to the rock art may also represent a ritual or a physical landscape (Helskog 2004). The interpretation of such

phenomena in rock art can be very subjective, but it is a reappearing phenomenon in many places: from applying natural cracks to the motif/figure or striation marks from the ice age to the use of water pools as “lakes”, running water as rivers. Sometimes the whole rock surface may appear as a miniature landscape with rivers, lakes, valleys, mountains etc. (Figure 85) In other words, the selection of the surface might be the reason why the motif, scene or composition is located exactly where it interacts with the rock surface.

Elements from the micro-landscape that might be part of the rock art and the story told are e.g.:

- striation marks
- layering in the rock
- cracks
- small water collections (lakes)
- running water (rivers)
- lakes
- damages or erosion in the rock surface
- rock colour
- changing type of rock
- elevation - edges, crevasse, "hilltops"
- inclination of the rock surface
- other topographical features
- waves of lakes or the sea
- sound (acoustics)

The above mentioned elements interact with the rock art, hence they can be studied in relation to figures, scenes and compositions. Micro-landscape is then defined as the levels of perception where one does not need to remove the body from the rock art. Thereby it is also at a level where one can observe the rock art at the site and where we can observe the actual rock art. In other words, the place where we are in direct physical contact with the rock art. I have defined three levels in relation to rock art and the micro-landscape; the figure level; the composition level and the panel level. There are of course exceptions to this definition where the site is only made up by one panel or where the panels are close together. One may also have to move around/ walk onto the panel to see all the rock art and its possible interrelations.

However, at most sites one has to move between panels to see the different panels at a site, like at Bergbukten in Hjemmeluft, Alta, northern Norway, Nämforsen in northern Sweden or Vyg by the White Sea, northwestern Russia.



Figure 85 The present shoreline area, about the time of mean sea level, near Hjemmeluft in Alta, Northern Norway that show the miniature landscape in the vegetation-free tidal zone. One can see rivers, lakes, valleys and mountains etc. Photo: Jan Magne Gjerde.

At a **figure level**, one may see whether features within the rock surface has been applied or could be part of the figure. An example of this is from Josarsaklubben, northern Norway where the only crack in the rock surface makes out the mouth of the reindeer (Gjerde 2006). At the **scene** or **composition level**, the placing or the location of a scene, scenes or compositions might be related to natural features. The two swans at Leiknes in northern Norway are placed on a quartz-vein (see Figure 135). The quartz-vein appears as the water line where the swans are swimming on the water. The part of the swans under the water line are depicted under the quartz line. Another example is from Nämforsen where a boat is placed where water is running like in a miniature river (see Figure 267) (Gjerde in press-b). At the **panel level**, the whole panel may be located between “borders” in the rock outcrop. An example of this is at New Zalavruga, northwestern Russia where the rock art panels might mirror their landscape of islands and islets in the river mouth / estuary (Gjerde 2005; Gjerde 2009). The different levels are applied as scales or levels in which one may observe elements in the rocks or connected to the rock surface that might interact with the figures.



Figure 86 The focus of the rock art changes and due to the growth of lichen one gets a different perception of the rock art in relation to the rock surface. The visual impression disappears due to the lichen. Top photo before the removal of lichen. Bottom photo after the removal of lichen. The “only” problem is the red paint that dominates the visual impression and differs from the manner in which people in prehistory would have seen them (if they were not also painted in prehistory). Both photos and illustration: Jan Magne Gjerde.

Most of the available documentation of rock art was performed during what Helskog names the tyranny of the figures (Helskog in press), when the main object of the documentation was to identify figures (e.g. Gjessing 1932; Hallström 1938; Ravdonikas 1936b). Revisiting the rock art with new research aims and new methods of documentation show that new figures are discovered on previous documented panels. In Alta, the removal of the lichen has also made new figures appear and thereby also new relations to the elements (Tansem & Johansen 2008). The lichen dominates the rock surfaces with rock art, sometimes making it impossible to see the figures. It also makes it impossible to see how some of the elements interact with the rock art (Figure 86). The red paint is totally dominating the visual perception of the rock art and we need to be aware of this when studying the rock art. This is exemplified in an example from Bergbukten, Hjemmeluft, Alta in northern Norway, to show how dominating a painted figure can be as opposed to an unpainted one even in “perfect” light conditions (Figure 87).

Changes works at all levels in landscape studies, e.g. who is to claim that the cracks in the rock surface has always been there? Different changes like the weathering of the rock surface or the disappearance of bits and pieces of the rock through time can lead to flawed interpretations. It is very important that one is aware of such changes taking place over time within the micro-landscape. It is highly problematic to conduct studies of micro-landscapes through photos and /or tracings. One needs to approach the rock art with new eyes and with a wider aim when it comes to documentation. One should study the rock art *in situ*, preferably over time and/or through re-visiting. The pitfalls are many in landscape studies, thereby one need to be careful when interpreting situations in the rock surface or in the landscape that was not present in the past. From my own experience, revisiting sites makes one observe different elements within the rock art. New figures and details in figures might reveal themselves. Changing light conditions, weather or seasons makes one observe different elements within the rock art.

A good example of where the micro-landscape can be interpreted as a miniature landscape is from Onega in northwestern Russia. Here we see how the micro-landscape and the macro-landscape are interacting where most likely natural features are reflecting geographical knowledge. On one of the panels at Peri Nos, Onega, northwestern Russia, one can see a thick line of “black” rock in the red granite (Figure 88). This line is bending and twirling down towards the lake. Only one motif is depicted in the black rock, a boat. The boat has its stem facing towards the lake. The black rock surface could represent a river going into the lake. When the nearest river, ca 2km away bears the name The Black River (Chornaya)

this becomes more interesting. The river is black due to colouring from the black soil. Here we see how the different colouring in the rock or the different rock type might have been the reason why the boat is made exactly where it is. In addition, it might be a reference to the physical landscape, the river. This also shows how important it is not only to document the figures, but that the interpretation of landscape also needs new documentation that accounts for relations in a different manner than the figure-focus of past research. Such direct links between the rock art, the micro-landscape and the macro-landscape rarely occurs so “readable” to us. However, the interaction between natural features in the rock related to the rock art could refer to topographical features or a geographical knowledge.



Figure 87 Two elk figures at Bergbukten 4, Hjemmeluft, Alta, northern Norway. The top elk figure painted, while the bottom is not painted. Observing people looking at the rock art, they will not see the unpainted one before they are paid attention to it. The red colour dominates the visual perception. Photo: Jan Magne Gjerde.



Figure 88 The river in the rock at Peri Nos, Onega, northwestern Russia. The only figure in the miniature river in the rock is a boat depicted in the direction of the Onega Lake marked with white arrow. The lower photo shows the boat-figure. Photos and illustration: Jan Magne Gjerde.

Rock art *in* landscapes – landscapes *in* rock art

As Gosden and Head (1994), I see the the ambiguity of the landscape concept as a fruitful tool to keep different research disciplines together. A landscape approach to rock art in this thesis includes relations between archaeology, ethnography, geography and geology. Landscape, by encompassing both the conceptual and the physical, are particular ways of expressing conceptions of the world and means of referring to physical entities. A wider definition of landscape is advocated, based on Johnstons “paradox of landscape”, where landscape includes all our relationships with our surroundings, material culture, architecture, ecology, memories, narratives and cosmologies (Johnston 1998:317).

As the landscape holds both the conceptual and the physical, it is a landscape in motion. The landscape changes can be temporal (such as the tidal landscapes of the shores or the seasonal changes) or all-inclusive or permanent changes, such as the Holocene land uplift that changed the topography and in some areas of northern Fennoscandia made familiar places unfamiliar. Landscape is characterised by an interaction between nature and culture, which includes our experiences from living within it; hence, the landscape is changing and dynamic. This dynamic quality is partly due to natural and man-made changes in the environment. However, we also alter the landscape through our experiences and interpretations; thus, the landscape can be a cultural process (Hirsch 1995:5).

To get to grips with the changing landscape from an archaeological perspective, one need to approach the lost relations of landscape to time. Reconstructing the physical landscape is important when studying lost relations in a landscape. Otherwise one may interpret relations in a present landscape validating them for the landscapes in the past.

Learning the landscape takes many years and an ethnographic landscape is valued by a group because of their long and complex relationship with that land (Buggey 1999:27). According to (Kelly 2003), landscape is learned through a set of places that are connected to or exist as “remnants” of secular stories or sacred, mythical “adventures” of the past, where it is not enough to know the simple geography but also extensive folklore and / or religious information as well (Kelly 2003:47).

I do not think we can find all of the landscapes that were present in the mind of the makers of rock art. However, by studying how elements interact with rock art, one may get closer to the stories told in the rocks, that seems to reflect Stone Age hunter-fisher-gatherers long and complex interaction with that land. For a more comprehensive understanding of the landscape and how it may have been perceived by circumpolar hunter-fisher-gatherers, we can enlighten our prehistoric landscapes with the help of ethnographic landscapes.

When looking at the rock art there is a clear selection of motifs. There is a selection of animals that are found worthy of being placed on the rocks and there is a selection in the depicted scenes and activities. The rock art in many ways reflect what Collignon (2006b:64) refers to as cynegetic activities. Within this, geographical knowledge is central and as Collignon states everyone by nature is a geographer (Collignon 2006b:1).

As shown above, landscape can be studied at several scales or levels. One is aware of the subjectivity represented in the interpretations of landscape. I have demonstrated how landscape may interact with rock art both at a macro and a micro level. Some of the examples hint towards the fact that the microlandscape and macrolandscape are interacting. Hence, the rock art and the microlandscape can be seen as representations of the actual physical landscape; the macro landscape (Gjerde 2006; Helskog 2004a). Through the study of rock art and landscape at several scales or levels including the ethnography one may get closer to the rock art *in* landscapes and the landscapes *in* rock art, that is needed to approach a better understanding of Stone Age hunter-fisher-gatherers long and complex relationship with *that land*.

In this thesis, I choose sites where I discuss them in relation to landscape as presented above. The ethnographic landscape of hunter-fisher-gatherers, the horizontal plane in rock art and landscapes, the vertical plane in rock art and landscapes and the cosmological plane in rock art and landscapes will be important. Within this, since I am moving several thousand years back, the changing landscapes are important since landscape is never constant. The aspect of time and dating are therefore important. In the Case studies, I will discuss the sites at different levels using my analytical tools within the levels of landscape; the macro-landscape and the micro-landscape. Thereby looking at the case studies interrelated landscapes. Important for my reading of the landscape is the aim with which I approach the figures with new documentation in mind with other aims and approaches than previous researchers, trying to perceive the landscape of Stone Age hunter-fisher-gatherers in northern Fennoscandia as represented in the rocks interacting with the rock art.

Chapter 5 Cracking landscapes of rock art in northern Fennoscandia

The natural setting of rock art in northern Fennoscandia

The natural background of northern Fennoscandia show great variation. The difference in experience of a steep mountainous coastal fjord landscape in northern Norway opposed to the flat riverine lake system landscape of Karelia in northwestern Russia are enormous. The natural background will have implications for how animals and humans interact with nature when it comes to activities and communication. The natural background has changed since the last Ice Age and these changes would have had impact on the landscape of the rock art.

Deglaciation and Land Uplift in northern Fennoscandia

The early part of the Holocene in northern Fennoscandia is dominated by the deglaciation subsequently followed by a rapid land uplift. In northern Norway, the edge of the glacier in the Ofoten region was covering parts of the coast even as late as 10000 cal years BP (8000BC) (Påsse & Andersson 2005:fig 13). This means that the glaciers would have been present in the inner fjords and would be covering much of the inland mountain ridges that today are dominating the landscape in the Ofoten region in northern Norway. In addition to the land uplift, the enormous glaciers were “filling” the fjords, calving into the fjords. The fjords would also have had drift ice. At present, only rough maps of the deglaciation process can be made (Eronen 2005; Hyvärinen 1997) and new finds of archeological sites (e.g. Bergman et al. 2004; Rankama & Kankaanpää 2008) indicates that the deglaciation maps have to be reconsidered. When the Valle and Nes sites in Ofoten, northern Norway, were made they can not have been far from the large glacier “inland”. The narrow land strip of only a few kilometres between the ocean and the glaciers “inland” cannot have been wide. In the Early Holocene the landscape would in northern Fennoscandia in broad terms resemble and most likely appear similar to present day landscapes in the high arctic, e.g. like at Svalbard, Greenland or northern Canada.

During and after the deglaciation, the Baltic Sea has undergone massive changes. The main cause for these changes was the land uplift. During the Late Weichselian, the southern part of the Baltic Sea was a freshwater-basin while the northern Baltic Sea was covered by the Scandinavian ice sheet. This is defined as the Baltic Ice Lake (10300BP). Then at about

10000BP, the glacier had slightly melted and opened a canal into the Baltic Sea naming the area the Yoldia Sea. The northern parts of the Baltic was still under the Scandinavian ice sheet. By 9300-9200BP, the land had risen between Denmark and Sweden sealing the Baltic Sea into a massive lake, the Ancylus Lake, larger than the present Baltic Sea area. Then at about 7500-7000BP, the canal was opened between Denmark and Sweden due to the filling in of the Ancylus Lake naming the area the Litorina Sea. After this period, the land has continued to rise, shrinking the extent of the larger Litorina Sea till the area we today know as the Baltic Sea (Eronen 2005). After the ice retracted, the large hydrosystems formed the landscape of northern Sweden, forming large lakes and rivers that entered the present Baltic. The Ångermanälven River has the largest run-off river in northern Sweden. Innumerable tributary rivers are connected to the large Ångermanälven River (Selling 2001).

A consequence of the accelerating Late Glacial/Early Postglacial melting of the large glaciers was a marked rise in the sea level ending at the Tapes transgression maximum at c. 6000BP. Land had been covered by enormous ice-masses, which in turn led to a depression with a centre in the Bothnia Bay. This was followed by the rapid land rise during the Late Glacial / Early Postglacial period. Prehistoric shorelines and relative sea level in Fennoscandia are therefore a product of a combination of eustatic and isostatic processes. This explains the large variations in prehistoric shorelines in Fennoscandia. The large geographical variation in relative shoreline displacement has led to problems regarding the archaeological record. Sites situated close to the shore in areas with low isostatic rebound would have been flooded, eroded and / or covered by beach sediments by the transgression (e.g. Bjerck 1986; Fischer 1995). Some areas, like in the White Sea-region in northwestern Russia, land uplift and subsequent transgressions and regressions based on the relations between the isostatic and eustatic processes (Deviatova 1976; Kaplin & Selivanov 2004), led to a complex stratigraphic record for the geologists and archaeologists.

Stone Age economy and rock art

The data for reconstructing the fauna in northern Fennoscandia during the Stone Age in relation to rock art is scarce. Due to the fact that animals are dominating the Stone Age rock art, I will briefly look into the osteological material that are “relevant” for the Stone Age rock art. The settlements with faunal remains are few, and often distant from the rock art sites. With the scarce data from the settlements when it comes to the faunal remains, one can not be sure whether the rock art fauna reflects their economy, and the selective depiction when it

comes to animals have been related to ideology rather than economy. It has previously been argued that the osteological data did not fit the animals in the rocks (e.g. Hallström 1960; Helskog 1987; Magnus & Myhre 1976:110).

Most likely fishing dominated their coastal economy although this can only be suggested from other areas with a more outer coastal location. The settlement record broadly indicate a wide variety of animals where maritime resources was central to the economy in coastal areas (e.g. Engelstad 1983). In northwestern Russia the inland sites, like at Nisjneje Veretje in Karelia, dated to the Early Stone Age, were dominated by elk and reindeer (Gurina 1956; Lindqvist 1994:117). At the Late Stone Age settlements in the Vyg region a clear dominance by sea mammals were present where especially the seal by far is dominating the material record but where the element of white whale are also noteworthy. More than 80% of the bone material are of sea mammals (Lindqvist 1994:117, 122, 188). At Jerpin Pudas the majority was of reindeer and seal, while at Zalavruga IV seal and white whale dominated with bones from beaver, reindeer, marten and squirrel. At Zolotetz (I, IV and VII), seal is by far the dominating species with elements of beaver and reindeer at Zolotetz IV (Savvateev et al. 1978:17). The prehistoric hunters in the interior of Norrland (northern Sweden) obtained their food mainly from mammals, although fish was an important complement. Three species produced almost the entire yield. A conservative estimate would be that elk, reindeer and beaver made up as much as 85% of the mammalian prey. The yields of beaver and reindeer are of marginal importance compared to the elk and studies find that the elk was the source of 75% of the meat coming from mammals (Ekman & Iregren 1984:38f). This dominance in elk can also be found at the recently excavated Late Stone Age site at Bastuloken situated about 35km northwest of the Nämforsen site (Engelmark & Harju 2005). At the Late Stone Age sites Černaja Rečka I, Kladovec II and III adjacent to the Onega rock art in northwestern Russia, the bone material included elk, reindeer, beaver, wolf, fox, marten, roe, seal and perch. At the rock painting site Valkeisaari, at Lake Saimaa in southern Finland, adjacent excavations show that elk-bones are dominant (Lahelma 2006; Luho 1968; Luho 1971)

The faunal record show that a variety of species made up Stone Age hunter / fisher / gatherer economy. The faunal record indicates that these were specialized hunter / fishers that specialized in few animals and that at the coastal sites their economy were dominated by marine resources while inland they were dominated by terrestrial resources. Where one has a good faunal record adjacent to the rock art sites (the Nämforsen area in northern Sweden and the Vyg area in northwestern Russia), there seems to be a correspondence between the animals depicted in the rocks and the animals in their settlement remains.

Case studies - Cracking landscapes of rock art in northern Fennoscandia

At the start of this thesis, my initial aim was to see all Stone Age rock art in northern Fennoscandia. In my overview of rock art sites from the Stone Age in Fennoscandia show that there are 276 sites (see Figure 90). Many of these sites have multiple listings. Like at Nes in northern Norway where 4 sites are defined as one, in the overview, due to the close relation. The large rock art area also include several sites like at Alta, Kanozero or Nämforsen. A careful estimate would suggest that there are more than 300 sites with an estimate of more than 20000 figures dated to the Stone Age in northern Fennoscandia. I soon had to make a selection due to the size of the material record. The geographic area and the number of sites had to be delimited. Initially, I studied the dating of the sites to see which sites belonged to the Stone Age. This excluded some sites making the time frame of the thesis discuss rock art in northern Fennoscandia from the first pioneers entered northern Fennoscandia after the last Ice Age about 10000BC until about 2000BC.

Central to this thesis has been to include sites both in northwestern Russia and from northern Scandinavia, which rarely has been done due to administrative and political reasons since the early days of Hallströms studies. It was important to choose sites that covers large parts of this large geographical area. Some sites I was not allowed by the Russian authorities to visit due to their location and some sites demanded special permission to get access to which I was fortunate to get. This made both planning and execution of the fieldwork more time consuming than initially estimated⁹³. The distribution and the extent of figures at the large rock art centres made me choose these as case studies. During my fieldwork, I have spent time at the central sites and visited the majority of rock art sites in northern Fennoscandia.

The four large rock art areas chosen in my study are Kanozero and Vyg in northwestern Russia, Nämforsen in northern Sweden and Alta in northern Norway (see Figure 89). The rock art concentration in the Ofoten-fjord was chosen since this area had many sites within a limited geographical area (the Ofoten-fjord), which included sites from both the Early Stone Age and the Late Stone Age. The Ofoten area is a unique situation in northern Fennoscandia where one has rock art from the pioneer settlements and throughout the Stone Age. By choosing these five rock art areas, I would have rock art from the Stone Age covering large areas of northern Fennoscandia. Only two sites is at present found in northern Finland.

⁹³ I would like to address a gratitude to my Russian colleagues that assisted me during fieldwork. Without them the fieldwork in Russia would have been impossible.

The Finnish sites have therefore not been chosen as a case study but some of the Finnish material is included in the discussion in Chapter 6.

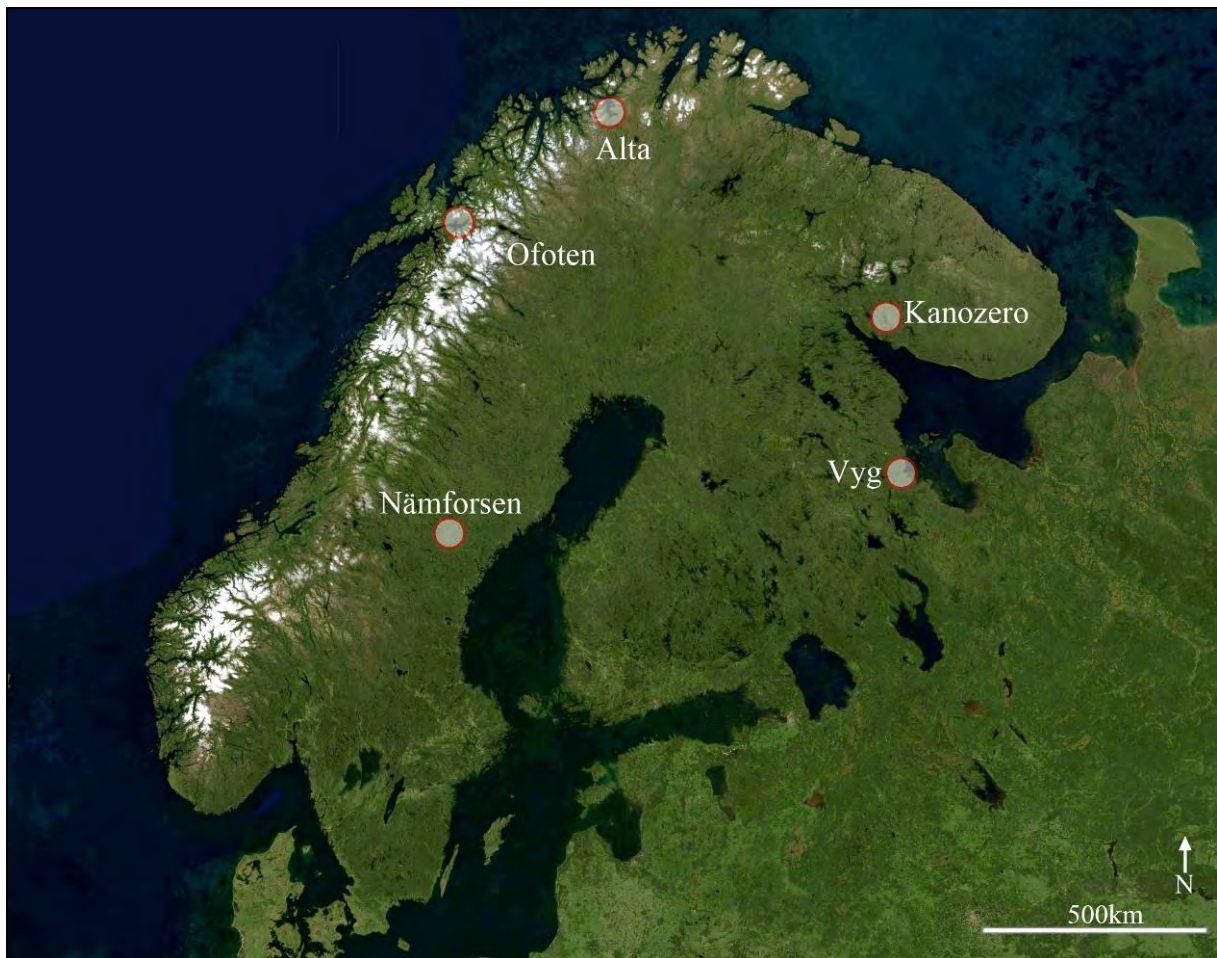


Figure 89 Fennoscandia with the five case studies marked. Background satellite image by www.bingmaps.com. Illustration: Jan Magne Gjerde.

The geographical distribution of the sites selected and the amount of rock art makes this a good opportunity to look at similarities and dissimilarities over a large time period and large distances. It was also central to the case studies that rock art has been made over a considerable time at the same place. The initial dating suggestions show that rock art was made at the large rock art concentrations for thousands of years at the same places. When it comes to distances, there has been a tradition of disregarding geographical distance in relation to administrative and political boundaries keeping the eastern (Russian) and the western (Scandinavian) material from each other.

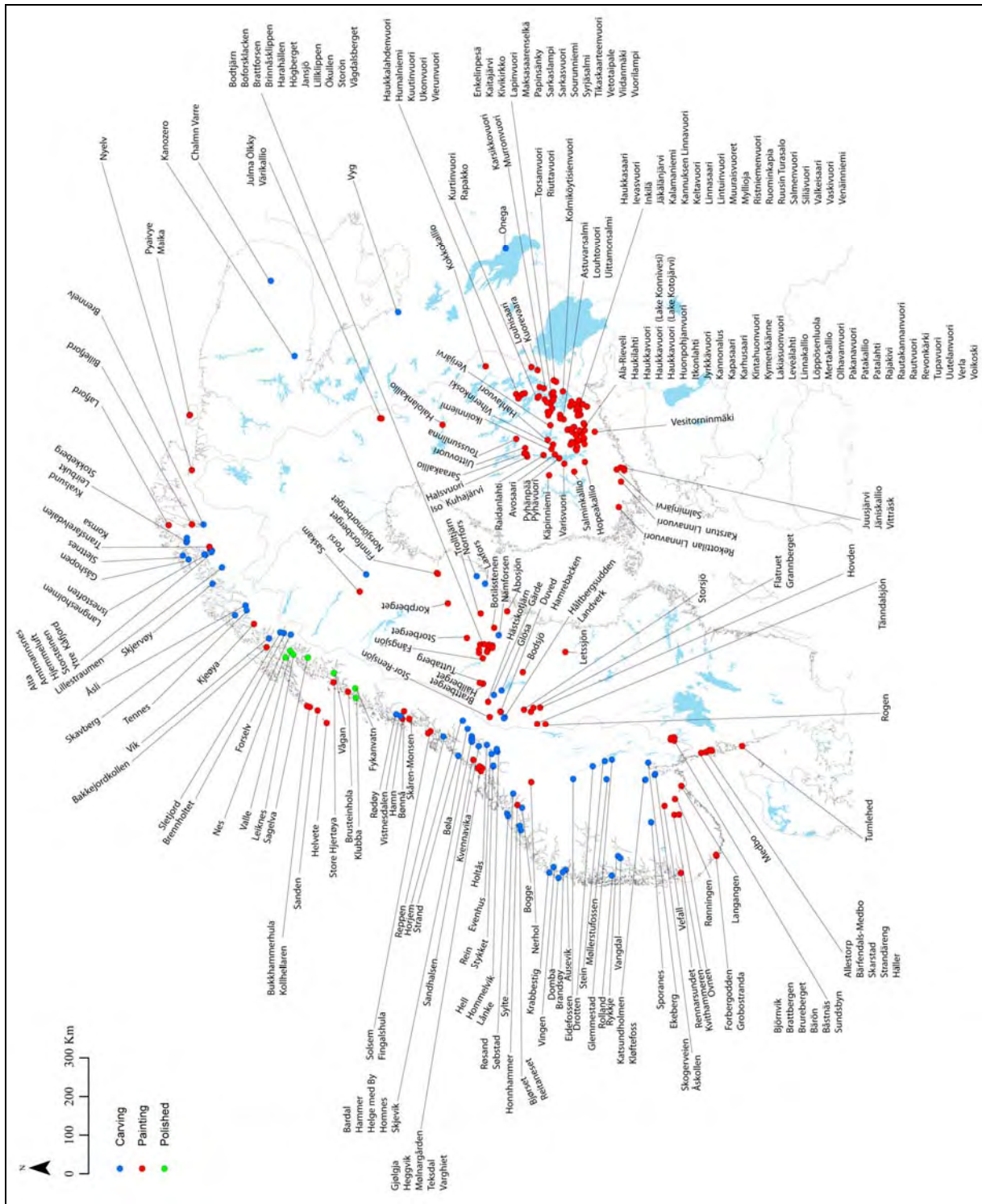


Figure 90 An overview of Stone Age rock art of northern Fennoscandia with site names. Where imperative, site names have been clustered like at the large concentrations at Alta, Nämforsen, Onega or Vyg. Other places, like Nes, northern Norway, include four sites. At this scale, including all the sites in Fennoscandia, some clustering was enforced. Some of the painted sites may belong to the Early Metal Age are included due to the insecure dating. This is meant as an overview where the reader can relate to the different sites discussed in this thesis and when reading other rock art works from Fennoscandia, to be able to relate them to what area the sites belong. A total of 276 places with rock art is marked on the map. A larger version of this map is inserted as an inlay at the back of this thesis. Illustration: Jan Magne Gjerde.

Important to this thesis landscape perspective is the reconstruction of rock art landscapes. The land uplift has been essential in the Holocene and I have emphasized how landscapes have changed and would appear different from today. The reconstructions have been made by reconstructing the sea level at the time of the making of the rock art. The dating of the sites is therefore crucial and by not accounting for such lost relations one may reconstruct relations and connections between a rock art site and the landscape that was not present at the time of the making of the rock art.

Important elements “cracking landscapes of rock art in northern Fennoscandia” are reconstructing the lost relations of time, macro landscapes and micro landscapes. A presentation of rock art and landscapes will attempt to show how rock art are integrated in several levels of the landscape. The five case studies present how the macrolandscape and the microlandscape could be part of the story told in the rocks from the tiniest crack to the wider landscape. The Case studies are presented by first entering the Ofoten region since this is the area where rock art has the longest tradition starting about the time when the first people settled northern Fennoscandia after the last Ice Age. Then I will move to Alta further north in Norway before I enter the Russian sites of Vyg and Kanozero ending up in northern Sweden at Nämforsen.

Ofoten

Rock art of Ofoten

The geographical distribution of known sites with rock art in the area (see Figure 91), makes me include the nearby sites: Vik and Kjeøya just north of Ofoten, and Sagelva just south of the Ofoten area. There are 13 sites with a total of 17 panels with rock art in the Ofoten case study area. The Forså site is excluded from the study by its young date⁹⁴. The Sagelva site was first mentioned in 1906 (Hallström 1909:148ff), and the Sletjord sites were the only known site in the Ofoten area when Hallström started his investigations in the beginning of the 20th century (Gjessing 1932; Hallström 1938). Recently, another panel found at Sletjord makes the site consist of three panels with rock art. The large Leiknes site was found by kids playing on what they called the Animal Rock (Dyreberget) in 1915 (Rekstad 1916). The Forselv site was found in 1929 (Gjessing 1931), and the Valle site a couple of

⁹⁴ Forså, Eufjord in Ballangen, Nordland was regarded young by Simonsen due to its low elevation at 9m.a.s.l. (Simonsen 1958:12f). The Forså site has ID-nr. 36946 in Askeladden. A maximum-date for the Forså site applying Møllers shoreline program (Møller & Holmeslet 1998) at isobase 29 get a direct reading at 2100BP, calibrated to 170-50BC.

years later (Gjessing 1932). The carvings at Vik was discovered in 1947⁹⁵ (Simonsen 1958:14), and the first paintings was reported at Kjeøya in 1953 (Simonsen 1958:17). The first site at Nes, at Jo Sarsaklubben, was discovered in 1967 (Bratrein 1968). A few decades later (1995) another site was found at Nes, named Fjellvika a few hundred meters from Jo Sarsaklubben⁹⁶. Recently, two more sites have been discovered at Nes; Nes Fort Øst and Nes Fort Vest (Hauglid 2006) making the Nes Peninsula consist of four sites with rock carvings.

The sites have been thoroughly studied during fieldwork⁹⁷. The Ofoten area has carvings of the polished and the pecked type and a site with paintings at Kjeøya. The polished sites are dominated by large animals, both terrestrial and marine, with the largest figure, that of a whale, being 7,63m in length (see Figure 92). The pecked carvings show a wider register of motifs, and human figures, boats, geometric patterns occur (Figure 93). The painted site has human representations, small animal figures and grid patterns. The landscape in the Ofoten area has undergone massive changes since the rock art was made and it is important to include changes in the natural background of the rock art. Connecting the rock art to a shore connection, the lost relations of the rock art shows that the landscape has changed immensely and this has large consequences for the dating of the Ofoten rock art and the interpretation of the landscape context of the rock art.

⁹⁵ Initially, two panels with rock art was documented at Vik, however by closer examination, as also assumed by Simonsen (1958:16), the marks consist of natural stria and cracks in the rock surface

⁹⁶ Gnr 27 Nes, Lødingen. Report by Hein Bjerck, 16.11.1995. Topographical Archive, Tromsø University Museum, 57134.

⁹⁷ With the exception of Nes Fort Øst and Nes Fort Vest, that was found after my fieldwork was conducted. At Forselv, I spent more time than anticipated when documenting the panel due to the fact that this site now have more than doubled its amount of figures to more than 100.



Figure 91 The sites included in the study at Ofoten⁹⁸ (see **Figure 89**). The paintings are marked in red, the carvings are marked with blue and the polished carvings are marked in green. There are 13 sites with a total of 17 panels with rock art. At Nes, there are four sites; Nes Fort Øst and Nes Fort Vest in the southern part of the peninsula and Fjellvika and Jo Sarsaklubben about 4km further north (see **Figure 102**). The landscape is dominated by steep high mountains and a maze of fjords. The Frostisen glacier is situated south of the Forselv site. Satellite image from Google Earth. The scale is total 20km. The Illustration: Jan Magne Gjerde.

⁹⁸ Askeladden Id-nr for the sites in Figure 91: Sagelva (27030), Nes (Fjellvika (8828), Jo Sarsaklubben (18960), Nes Fort Vest (101282), Nes Fort Øst (101279), Leiknes (16929, 60099), Valle (16940, 63396), Kjeøya (76981), Forså (36946), Vik (27189), Forselv (56752), Brennholtet (56314), Sletjord (47016 and 67268).



Figure 92 Section of the large Leiknes 1 panel. The photo is taken from helicopter. The size of the figures makes it easier to see them from a distance. The large whale in the middle of the photo is 7.63m long (Compare with tracing in **Figure 96**). Photo: Jan Magne Gjerde.



Figure 93 Night photo of a section of the left part of the Forselv site (Compare with tracing in **Figure 127**). Central left one can see a grid figure/geometric pattern and to the right of it a reindeer. The largest grid pattern in the upper left of the photo measures about 50cm in width. There are also several more grid patterns on this panel and more animal figures to the right. Photo is compiled from two night photos. Photos: Jan Magne Gjerde.

Dating the Ofoten rock art

No place in northern Fennoscandia has been so widely debated when it comes to dating as the rock art from the Ofoten area. Early and unique finds that were regarded to date to the pioneer phase has caused the polished rock art to be included in virtually all rock art studies. Three dating methods have been applied: style, technique and shoreline. Early, the large naturalistic figures in the polished technique were assigned to the Early Stone Age to suggest that the earliest rock art from northern Norway had its origin in the Palaeolithic art of middle Europe (Brøgger 1909; Hallström 1907a; Hallström 1907b; Hallström 1908b:78-83;

Hallström 1909)⁹⁹. Later Brøgger and Hallström found the old age and the European link hard to accept (Gjessing 1932:52f). The cave paintings Upper Palaeolithic date is undisputed, however, the lack of open-air rock art dated to the Palaeolithic made this connection problematic. Lately some of the recent discoveries of open-air rock art on the Iberian Peninsula has been dated to the Palaeolithic (e.g. Bicho et al. 2007; Zilhão 1995). These dating suggestions have received critique, based on the stylistic argument (Bednarik 1995; Bednarik 2009). Despite the critique, the context of the finds from the Iberian Peninsula (Coa Valley) of open air rock art favours an Upper Palaeolithic date (e.g. Bicho et al. 2007; Zilhão 1995). Recent discoveries show that the material is not exclusively made up of the more known “French” cave art (e.g. Leroi-Gourhan 1968), but co-existed in deep caves, cave mouths, shallow rock-shelters and open-air outcrops (Bicho et al. 2007). In my opinion this opens for a cautious consideration of a “Palaeolithic” origin for the earliest rock art in northern Norway.

Some of the sites in the Ofoten area is very old and land uplift has changed the landscape, leaving some of the sites more than 70m above the present shoreline. This has large implications for the dating of the sites and it is vital for the interpretation and the understanding of the macrolandscape. This advocates a thorough discussion on the dating of the sites. The paintings at Kveøya were dated to the latter part of the south-Scandinavian Bronze Age¹⁰⁰ or even later by Simonsen employing size and stylistic comparison to the Solsem-cave in northern Norway (Simonsen 1958:20; Simonsen 1970:107; Simonsen 1991:104f). Hesjedal generally dated all the paintings to the Early Metal Age (Hesjedal 1990:129) and Olsrud followed Hesjedal, dating the Kjeøya paintings to between 1800BC to 0AD (Olsrud 1996:12). The paintings are situated at 18masl. If we apply the SeaLev shoreline program (Møller & Holmeslet 1998) to this site, the direct reading at 18masl gives 8000BP. As many researchers have pointed out, it is not likely that the paintings were located in the shoreline.

When dating the paintings from middle Norway, Sognnes extracted 5m from the elevation for the paintings to get them out of the area where the water would splash onto the rocks (Sognnes 2003a). If we extract 5m from the altitude at Kjeøya, at about 13masl, the direct reading of Møllers shoreline diagram is then 4800BP at isobase 17, calibrated to 3640-3530BC. It is however more likely that we have to look for different dating techniques when

⁹⁹ The bear figure at Valle (see Figure 43) has been categorized as a Polar Bear, indicating an old Age for the carvings (Hesjedal 1990:114f).

¹⁰⁰ The South-Scandinavian Bronze Age is dated to c. 1800-500BC, where the Early Bronze Age is from 1800-1100BC, while the Late Bronze Age is from 1100-500BC.

it comes to paintings. The only motif that may be compared with the carvings from this area is the grid-pattern. Although a bit different, that would place the paintings at the same time as Forselv and Vik, dated to the Late Stone Age. The uncertainty of the dating makes me exclude the site with paintings in the following discussion of the Ofoten area.

The dating of the Sagelva site has been widely debated due to its location. By shoreline dating, geologist Rekstad ascribed the Sagelva carvings to the Early Stone Age, however, as he foresaw already in 1919, he questioned whether archaeologists would dare to ascribe them to such an age (Rekstad 1919:54f). Gjessing accepted this early date (Gjessing 1932:46-48) and presented the earliest rock art in Nordland as an origin area for rock art in Fennoscandia (Gjessing 1936b:fig. 1).

All the polished carvings are situated in northern Norway and they are located above the tapes maximum, while the pecked carvings are located under the tapes maximum (Gjessing 1932:47; Gjessing 1945:264; Hesjedal 1990:16f). The technique and style “argued” that the polished rock art was the oldest, then the pecked rock art was made, before the latter phase of rock art was represented by paintings. This straightforward *evolutionistic stylistic chronology* was put forward by Gjessing (1936a:158-169) and Hallström (1938:183) and was continued by Bakka (1975b:28-36), Hagen (1976:164-166) and Simonsen (1979:469-470). Later, the shoreline argument was questioned by Johansen and Simonsen due to the high age (6000BC) of the carving due to the location of Sagelva (Johansen 1972:226; Simonsen 1970:53; Simonsen 1978:32) while Gjessing upheld his dating suggestion of Sagelva to be from the Early Stone Age (Gjessing 1974:8).

The motifs at Sletjord made Helland assign the carvings to the Bronze Age (Helland 1908:783). Based on the difference in altitude combined with difference in motif and style, Hallström saw the panels at Sletjord as evidence of a chronological difference; hence, carvings were made at Sletjord for a long time where the earliest belonged to the Stone Age and the latter belonged to the Bronze Age (Hallström 1938:51). The Forselv site was dated by its elevation to the Stone Age¹⁰¹. Moreover, Gjessing strengthened his argument by courageously placing the boat figures, which most researchers placed in the Bronze Age, to the Stone Age: “As far as can be seen, there are no really positive reasons for placing the carvings to the Bronze Age. The boats can scarcely be any proof in that direction – they are entirely associated with the sphere of the Stone Age carvings” (Gjessing 1931:285). Even if Gjessing already in the 1930’s dated the rock art at Forselv to the Stone Age, the boat motif

¹⁰¹ When Gjessing is applying the term Stone Age in this context, he is referring to the Late Stone Age.

had been synonymous with the Bronze Age, and some scholars have had problems accepting an “old” date for the boat motif even after the conclusive finds at e.g. Alta, Slettnes and Vyg (see Gjerde 2008).

In his studies of northern Norwegian rock art, Simonsen argued for a “short chronology” of rock art where the polished and the pecked carvings date to the Late Stone Age (e.g. Simonsen 1978:32-33). Among others, Simonsen found it hard to accept that the rock art could belong to the Early Stone Age; hence, he ascribed the earliest sites to c. 4000BC, and the latter to about 2000BC (Simonsen 1970; Simonsen 1991).

The evolutionistic chronology was questioned by the conclusive dating of the Alta material (e.g. Helskog 1983; Helskog 1988) where Helskog saw no change from a naturalistic to a schematic style in the rock art record of Alta (Helskog 1989b). The rock art sites that was covered by marine sediments at Slettnes, northern Norway (see Case study Alta) dated to about 4500BC (Damm et al. 1993; Hesjedal et al. 1993) also made Simonsens dating problematic to uphold. Hesjedals study in the Ofoten area relied solely on shoreline data based on new geological data and found that the lowest figures on the earliest panels of polished rock art in Nordland to be from between 9900BP to 8500BP (Hesjedal 1990:111-112; Hesjedal 1994) justifying the old age of the earliest rock art. The results from Hesjedals study and the data from Alta and Slettnes questioned the evolutionistic short chronology for rock art in northern Norway. In his latter works, even Simonsen “reluctantly” accepted a slightly older date for the polished rock art and where they could be as old as 6000BC (Simonsen 2000:20-23, 42). Simonsen saw a clear continuity between the polished carvings and the pecked carvings where the latter polished carvings were contemporary with the earliest pecked carvings based on stylistic studies. Simonsen saw the Leiknes site as a site where rock art had been made for a considerable time based on the superimposition as the bridge between the polished and the pecked carvings (Simonsen 1958:63). In contrast Hesjedals data argued for a discontinuity between the polished and the pecked carvings (Hesjedal 1990; Hesjedal 1993b; Hesjedal 1994). Hesjedals main result was that the polished rock art was made between 9900BP and 8500BP while the pecked rock art was made between 6600BP and 4300BP (Hesjedal 1994:4f, table 1 and 2).

It has been argued that the difference in technique can or is more likely to represent social discontinuity (different ethnic groups), not chronological discontinuity (Bostwick et al. 1998:8; Helskog 1989b:91-93). Bostwick’s main argument is the geographical distribution of the rock art of the two types (not overlapping). However, she also sees a difference between the motifs, the styles and technique without showing what she defines as these differences in

style. Bostwick dates both the polished and the pecked carvings to the Late Stone Age (Bostwick et al. 1998:8).

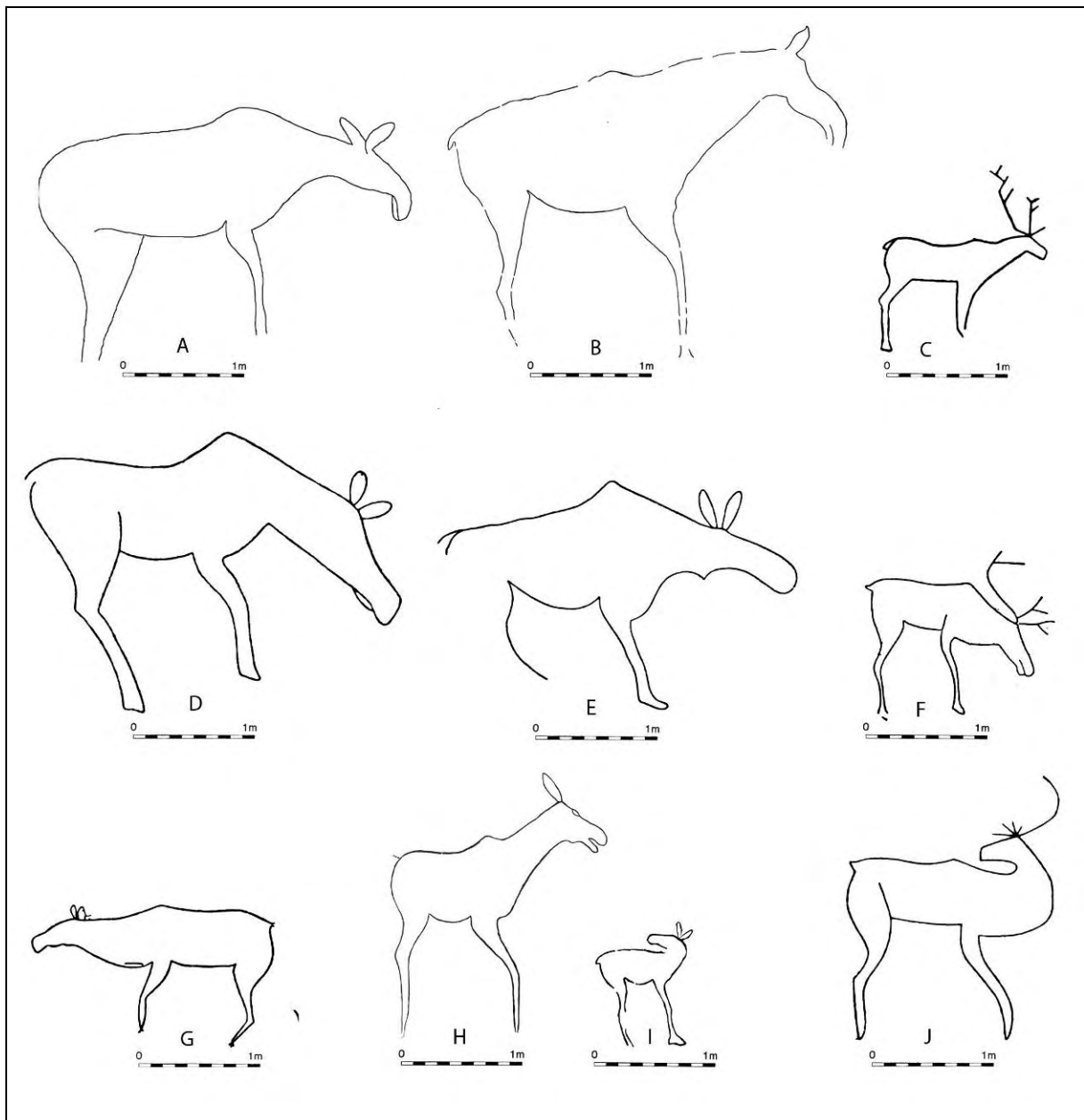


Figure 94 Examples of pecked carvings from middle and northern Norway and polished rock art from northern Norway. A: Vågan (polished), tracing from RA-project, B: Bardal (pecked), tracing from Gjessing, 1936, C: Leiknes (polished), tracing from Gjessing, 1932, D: Leiknes (polished), tracing from Hallström, 1938? Or Gjessing 1932, E: Klubba (polished), tracing from Gjessing, 1932, F: Forselv (pecked), tracing from Gjessing, 1932, G: Sletjord (Herjangen) (pecked), tracing from Gjessing, 1932, H: Brennholtet (pecked), tracing from RA-project, I: Stykket (pecked), tracing from Sognnes, 1981:26, figure 7 (figure 4), J: Leiknes (polished), tracing from Gjessing, 1932. All figures related to same scale, 1m. Illustration: Jan Magne Gjerde.

All the polished carvings are made on hard granite, while the pecked are made on “softer” rock types. Trying to make carvings by the pecking technique with stone tools in the hard granite are very difficult since the hammer and chisel breaks easily. The reason why

some of the polished figures are so visible today is due to good preservation condition due to favourable geology.

The previous dating suggestions put forward for rock art in the Ofoten area can be seen as represented by two directions. As shown above; Simonsen and later Bostwick argues for a short chronology and Hesjedal argues for a long chronology with a discontinuity between the polished rock art and the pecked carvings. The size and stylistic argument put forward by several scholars (e.g. Bostwick et al. 1998) can be questioned when looking at the material record. I have selected figures of deer-representations from both the polished and pecked material record also including the area further south of the Ofoten area. When looking at the size and stylistic argument, I cannot see that it still holds water since the difference in size and stylistic variation is minor (see Figure 94). The largest polished whale figure at Leiknes is 7.63m long while the pecked whale representation at Bardal in middle Norway is c. 6m long. The largest polished elks are c. 3m and the largest pecked elk from Gärde in northern Sweden is about 3.65m long¹⁰². These differences in size are minor between the polished and the pecked carvings. However, the variation and the range of motifs separates the pecked carvings from the polished rock art.

The site Fykanvatn further south of the Ofoten fjord, (see Figure 95), has been problematic when it comes to shoreline dating. The highest figures are located at 138masl. The lowest figures are located at 96masl. The SeaLev program gives a date to 12700BP for the highest elevated carvings. While the lowest carvings is dated to c. 9800BP. At 12700BP, the Scandinavian Glacier was still covering the Fykanvatn area, however at 9800BP the area was ice free (Andersen et al. 1979:200f). Hesjedal commented this fact when studying the relation between the pecked and polished carvings. Hesjedal solved this by dating the higher elevated carvings to be contemporary with the lowest elevated ones (Hesjedal 1990:112). At the time of the deglaciation the geological data is very uncertain, and the rapid uplift is problematic when applying data before 10000BP¹⁰³. The deglaciation process of northern Fennoscandia should be further investigated. The earliest rock art dates to the pioneer phase, when people inhabited the new land of the north. Recent studies have shown that the initial colonization process in northern Fennoscandia was a rapid event, perhaps within a few centuries (Bergman et al. 2004; Grydeland 2005; Kankaanpää & Rankama 2005; Rankama 2003). I have placed the ¹⁴C dates before 9000BP in relation to the earliest rock art sites

¹⁰² Recently, we discovered a large elk figure at the Skavberg 2 site, in northern Norway, that is made in pecked technique. It measures about 2.8 in length.

¹⁰³ Jacob Møller, personal communication, 2009.

suggesting that the earliest rock art originates from the colonization process of northern Fennoscandia (see Figure 95). I am of the opinion that the reason why we do not have more rock art from this early period is preservation causes and that the area of polished rock art is found at favourable locations when it comes to the preservation of the rock art. Previously the data has suggested a southern origin for the colonization of northern Fennoscandia (e.g. Bjerck 1994:47; Rankama 2003:39; Shumkin 1990a:13) even though the geological data opened for an eastern origin (Møller 1996; Møller 2003). An eastern origin of the colonization of northern Fennoscandia, initially put forward by Bjørn (Bjørn 1929) is now supported by recent finds in northern Finland¹⁰⁴ (Rankama & Kankaanpää 2008), even though they are slightly younger than the first ¹⁴C from northern Norway, they should be viewed in the light of early colonization of northern Fennoscandia. It could appear like if northern Fennoscandia was colonized both from the south and from the east. One needs more geological data on the deglaciation compared with the pioneer settlements in northern Fennoscandia to be more sure of this early deglaciation process. Socializing the landscape could have been important to the people first entering this area. One of the means of such socializing could be the making of rock art that could be seen from afar. At Jo Sarsaklubben one can see the large reindeer at a distance of about 300m.

Both Helskog and Bostwick question the shoreline dating for the polished carvings while they accept the shoreline date for the pecked carvings also as representative for the date of the polished carvings (Bostwick et al. 1998:8; Helskog 1989b:91-93). Returning to the material record, the two sites at Valle with no intervisibility is situated at about 73masl. At Nes in Lødingen, four sites with polished rock art is found with no intervisibility. They are all situated between 55masl and 50masl, a period of about 600 years according to the land uplift data (see Figure 99). At both Valle and Nes there are no sites below or above this elevation, even if there is no shortage of rock surfaces (Figure 97). I would argue, in the line of Hesjedals study that the polished rock art can be related to the shoreline, and apply shoreline dating for the polished rock art.

¹⁰⁴ The earliest ¹⁴C date from Sujala is 9265±65BP, that would be calibrated by OxCal 3.51 to between 8640 to 8300BC with 2 sigma.

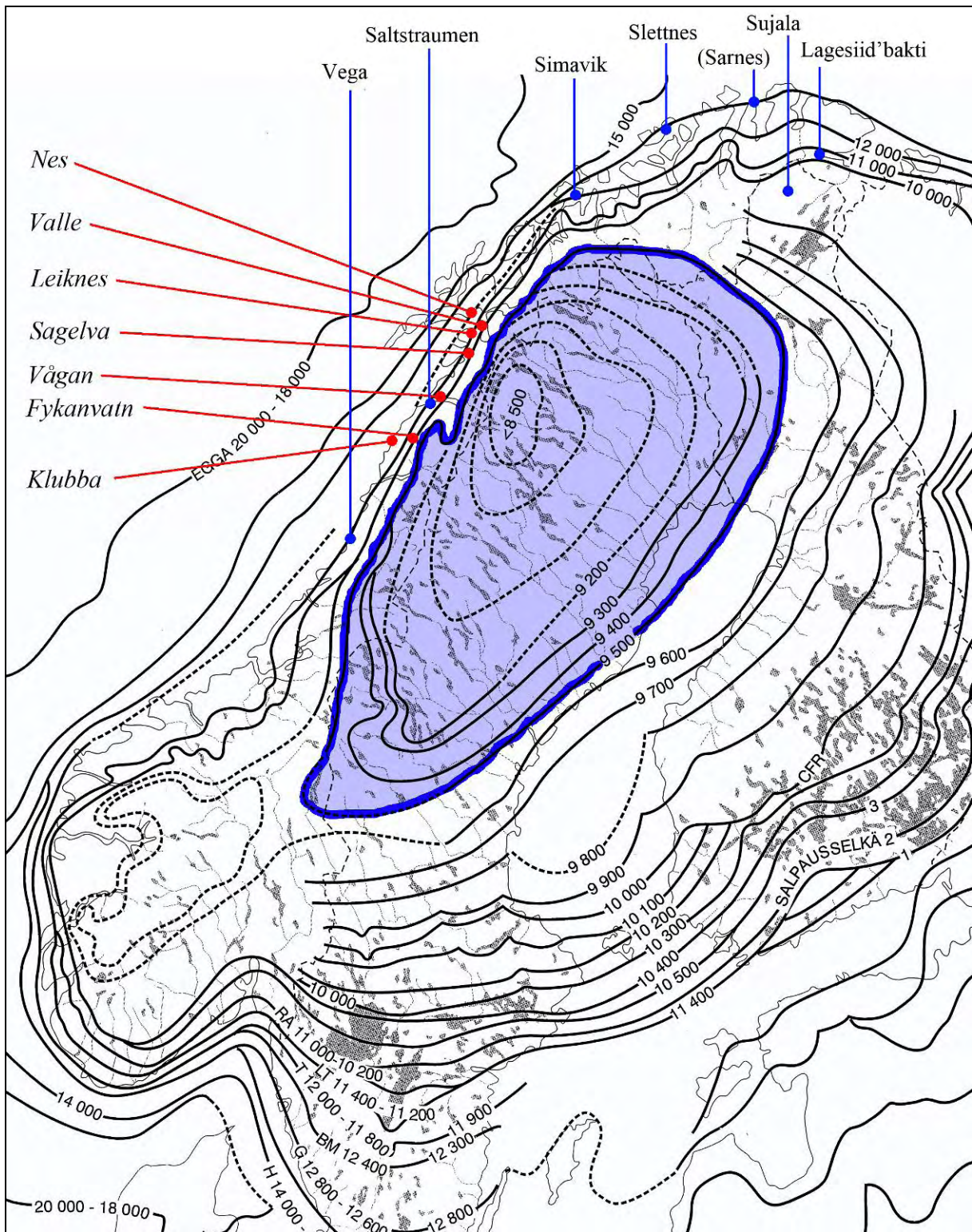


Figure 95 Polished rock art sites and settlement sites dated to be older than 9000BP mapped in relation to the deglaciation of northern Fennoscandia. Background map show ice recession lines and major ice-marginal formations in Fennoscandia based on data from Lindström et al. (2002) after Eronen (Eronen 2005:fig: 2.4). Settlement ^{14}C data: Vega 9350 ± 270 , Saltstraumen 9580 ± 90 , Simavik 9200 ± 200 , Slettnes 9610 ± 80 , Sarnes 10280 ± 80 , Sujala 9265 ± 65 ¹⁰⁵, Lagesiid'bakti 9940 ± 101 . Settlement data and dating after (Bergman et al. 2004; Bjerck 2008; Blankholm 2004; Grydeland 2005; Hesjedal et al. 1996; Rankama & Kankaanpää 2008; Thommesen 1996). Illustration: Jan Magne Gjerde.

¹⁰⁵ At Sujala in northern Finland, 5 ^{14}C dates were obtained: $9265\pm65\text{BP}$, $9140\pm60\text{BP}$, $8940\pm80\text{BP}$, $8930\pm80\text{BP}$, $9240\pm60\text{BP}$.

In his study, Hesjedal related the rock art to the previous shoreline and used Möller's shoreline programme to get the actual dates. Hesjedal extracted 2m from the medium shoreline because then the rock art would be above water all the time (Hesjedal 1990:110; Hesjedal 1996:33). Since the velocity of the land uplift was more rapid, gradually slowing down, extracting 2m from a site like Valle at 73masl makes next to no difference on the dating. However, extracting 2m from the Forselv site at 32masl will be noticeable. Based on the functional reasons and the cosmological reasons for a shoreline location. I have not extracted 2m from the shoreline, but applied medium water level when dating the sites. This is also to get a more comparable result from the different areas, an argument put forward by Ramstad (2000) for the western Norwegian material.

A repeated "story" at Leiknes also argues for a shoreline location (see Figure 96). The carvings at Leiknes is situated between 51m and 43m (Figure 96). The carvings are composed as if they were made successively during the land uplift. The difference in elevation is c 8m and the extent of the site is 23x19m. In the Ofoten region, the difference in elevation between mean water level and high tide is at c. 1m¹⁰⁶. The difference between low tide and high tide is 2m (Statens_Kartverk 2009:34). When looking at the tidal area today, there is a vegetation free zone in the area just above the upper tide area (see chapter 4). This zone varies, where local topography is important. The vegetation free area is determined by the sea spray, and could vary from site to site. However, as stated in Chapter 4 when discussing the shore connection, even if there are figures at different elevations, all figures belonging to the same scene or compositions are made horizontally and within 2m elevation. The Leiknes site shows such compositions that are divided at about 2m in elevation (see Figure 96). Could it be that when the carvings lost its shoreline location, they somehow had to be remade in the shoreline based on their cosmology. Interesting for the Leiknes site is then that a composition of figures depicted at about 47masl is repeated at 45masl (see Figure 96). Central in the composition is a large elk turning its head backwards. A reindeer is coming in from the left superimpositioning the large elk. Another reindeer is depicted at the same place as the elk moving right. Above this composition is a bear with its head where the elk head is. Such a repeated scene at different elevation would advocate for a shoreline location if stories were connected to the shore.

¹⁰⁶ Based on tide tables from the Narvik area.

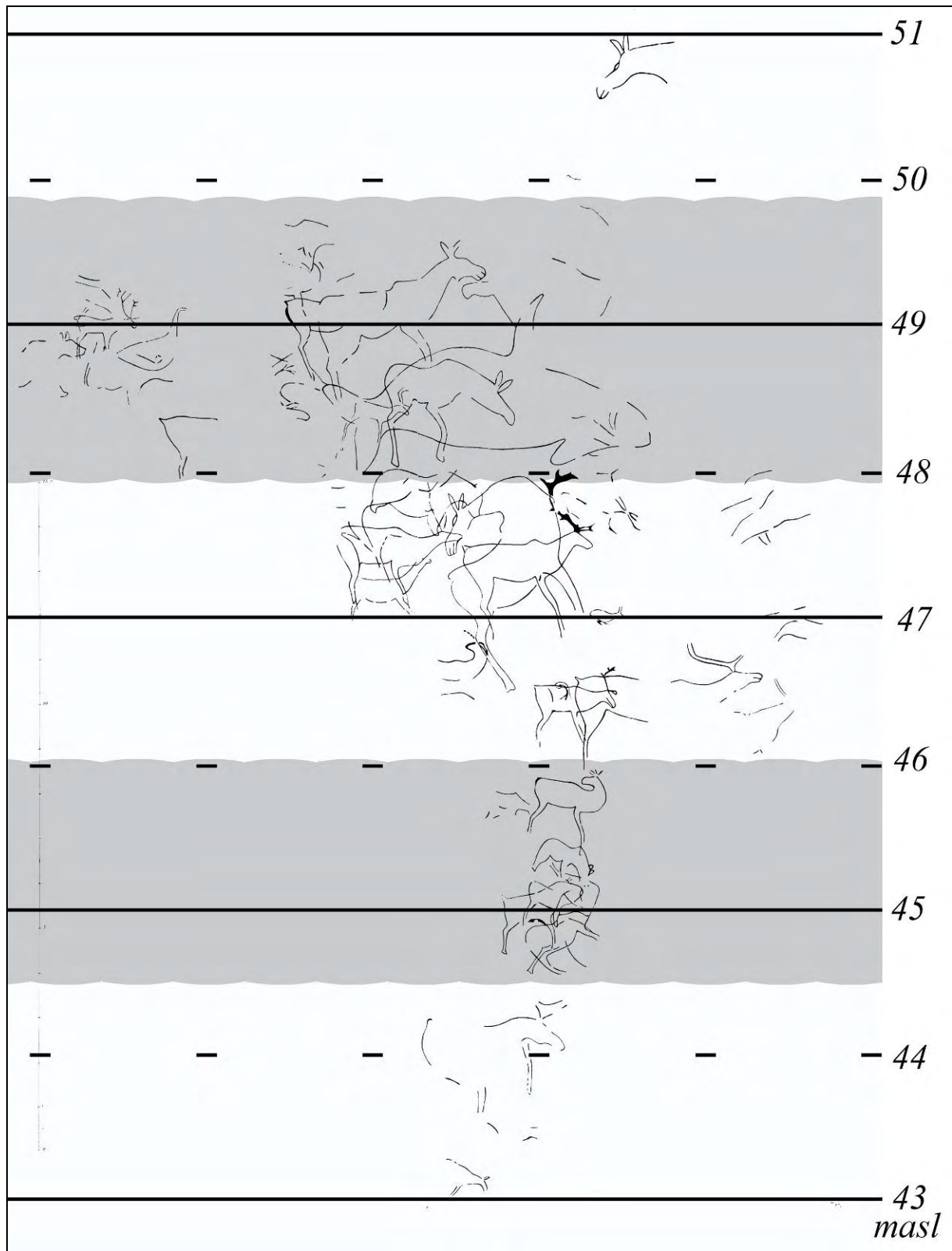


Figure 96 The Leiknes panel with elevation data. Compositions are sectioned and one see that the compositions is lying within the 2m parameter discussed in chapter 4. One can also see that one of the compositions centred round the large elk looking backwards at 47-48masl is repeated at c 45masl. Tracing after Hallström (1938:plate 5-6). Illustration: Jan Magne Gjerde.



Figure 97 The Jo Sarsaklubben site at Nes, Lødingen, northern Norway. The reindeer is c. 1.80m long and is situated on the panel in the middle of the photo. The photo is taken from helicopter at 55 m elevation to see how the rock art would appear from sea when it was made. With a shoreline at the animals feet (compare **Figure 105**). One can see that there are “available” surfaces close-by with no rock art. Photo: Jan Magne Gjerde.

When approaching the Leiknes 1 site from helicopter at the same elevation as the figures (See Figure 110 to Figure 112), the division at the figures at the site became more obvious. I have visualized these divisions based on the relation to the shoreline where the Leiknes 1 site can be seen as being made in five phases related to the prehistoric shoreline. Bear in mind that the land uplift would have been at a pace where the changes would be notable from generation to generation (Hesjedal 1990:112f). Applying the shoreline computer program (Møller & Holmeslet 1998) in relation to the sectioning at Leiknes 1 reveals that by shoreline dating all the figures at Leiknes 1 (see Figure 96) was made between about 8300BC and 7600BC. Including the Leiknes 2 site, all the carvings at Leiknes was made between c. 8300BC and 6800BC.

A critique has been put forward when it comes to the use of old documentation and its shortcomings in rock art research (Goldhahn 2006:71). The elevation data applied by Hesjedal (1990; 1993b; 1994) was gathered from Gjessing, Hallström and Simonsen (Gjessing 1932; Hallström 1938; Simonsen 1970). Since the elevation measurements have not been verified, I checked them in relation to maps and aerial photos. Especially at the Sletjord site the elevation data was incorrect, thereby making the shoreline dating too young. The Sletjord 1 site is located at c. 36masl (not at 29masl) while the Sletjord 2 site is located at c. 24masl (not at 18masl). The new readings and information on elevation makes the carvings at Sletjord about 1000 years older than estimated by Hesjedal. New measurements at Forselv in 2007 showed that the lowest figures were located at c. 32masl and not 29masl making the carvings slightly older. At Jo Sarsaklubben the data given by Simonsen was 40masl (Simonsen 1970:69). The polished carving at Jo Sarsaklubben is however located at about 55masl¹⁰⁷.

The Ofoten area would benefit from research excavations adjacent to the rock art sites. Recent excavations at Forselv adjacent to the site produced few finds. However, the scarce material found indicates a dating to the transition between the Early Stone Age and Late Stone Age (Helberg 2008:52f). The results of the excavations are contemporary with the shoreline dating and it is likely that the first carvings at Forselv was made in the latter parts of the Early Stone Age continuing during the early parts of the Late Stone Age. A new figure also appeared during the small-scale excavation (see Figure 98).

Applying the computer program SeaLev (Møller & Holmeslet 1998), although aware of its drawbacks, the results are presented in my dating suggestion for the Ofoten rock art sites are presented in Figure 99. Accepting the shoreline dating, the polished rock art is still the oldest; however, there is no long discontinuity between the techniques and the gap between the few polished sites are longer than between the latest polished and the earliest carved sites. The data argues for a long chronology of rock art in the Ofoten area starting with the first pioneers colonizing northern Norway after the Ice Age, continuing throughout the Stone Age. When looking at the current dating presented here, I am not sure Gjessing and Hallström should have rejected the “Palaeolithic origin” for the earliest rock art in northern Norway.

¹⁰⁷ The data from the early elevation measurements seems to be incorrect especially where the distance from the sea is far and the inclination of the land is low. This is related to the previous methods margin of error. One should be cautious when applying old elevation data. I have placed the rock art sites on maps related to aerial photos, so that the elevation data for the sites in question the error margin is less than 1m.



Figure 98 Night photo of the new grid figure that appeared during the excavations in 2007. The grid figure measures about 30cm in length. Photo: Jan Magne Gjerde.

The current dating suggestion for the Ofoten area is summarized in Figure 99 and Figure 100. Based on shoreline dating, the rock art in Ofoten was made between about 9200BC until about 3500BC. All the rock art made before c. 5500BC included exclusively large game. Then at about 5500BC the first other figures appear at Sletjord 2, where elk tracks are depicted. The increase in the variation in motif can be seen at the large Forselv site from about 4700BC where human representations occur and man made artefacts appear (boats, fishing devices) along with geometric grid patterns. It has been argued that there is a change in style between the polished and the pecked carvings, although the results presented in Figure 94 shows no such stylistic difference between the polished and the pecked carvings. When looking at the rock type where the rock art is produced, all the polished sites (even the ones further south of the study area) are made in hard granite. The reason why the carvings are polished rather than pecked I therefore explain through the hard rock surface. While it is

virtually impossible to chisel the figures into this rock, to polish them would be rather easy as suggested by modern polished carvings at Klubba further south of the Ofoten area in northern Norway.

Site	Type	masl	Isobase	BP Møller (1998)	OxCal BC	Period
Leiknes 1 (lowest)	Polished	43	24	8600	7605-7585	ESA
Leiknes 1 (highest)	Polished	50	24	9100	8300-8280	ESA
Leiknes 2	Polished	31	24	8000	7050-6830	ESA
Jo Sarsaklubben*	Polished	55	21	9700	9250-9185	ESA
Fjellvika*	Polished	50	21	9400	8730-8630	ESA
Nes Fort Øst*	Polished	50	21	9400	8730-8630	ESA
Nes Fort Vest*	Polished	55	21	9700	9250-9185	ESA
Sagelva	Polished	48	30	8200	7310-7080	ESA
Valle 1	Polished	73	26	9600	9150-8840	ESA
Valle 2	Polished	73	26	9600	9150-8840	ESA
Brennholtet	Pecked	27	34	5200	4040-3970	LSA
Forselv	Pecked	32	34	5800	4710-4610	ESA/LSA
Sletjord 1	Pecked	36	33	6500	5485-5470	ESA
Sletjord 2	Pecked	24	33	4800	3640-3530	LSA
Sletjord 3	Pecked	26	33	5100	3960-3810	LSA
Vik	Pecked	21	23	5400	4330-4240	ESA

Figure 99 The dating of the sites in the Ofoten region based on shoreline data representing the maximum dates for the sites. The sites marked with * all are situated at the Nes peninsula. Thereby I have grouped them in this diagram. The dates in this diagram is dating the lowest part of the lowest figure at the panel. The Calibration is done by OxCal ver. 3.10 (2005). The data is given with 2 sigma¹⁰⁸

¹⁰⁸ Two sigma with 95.4% accuracy.

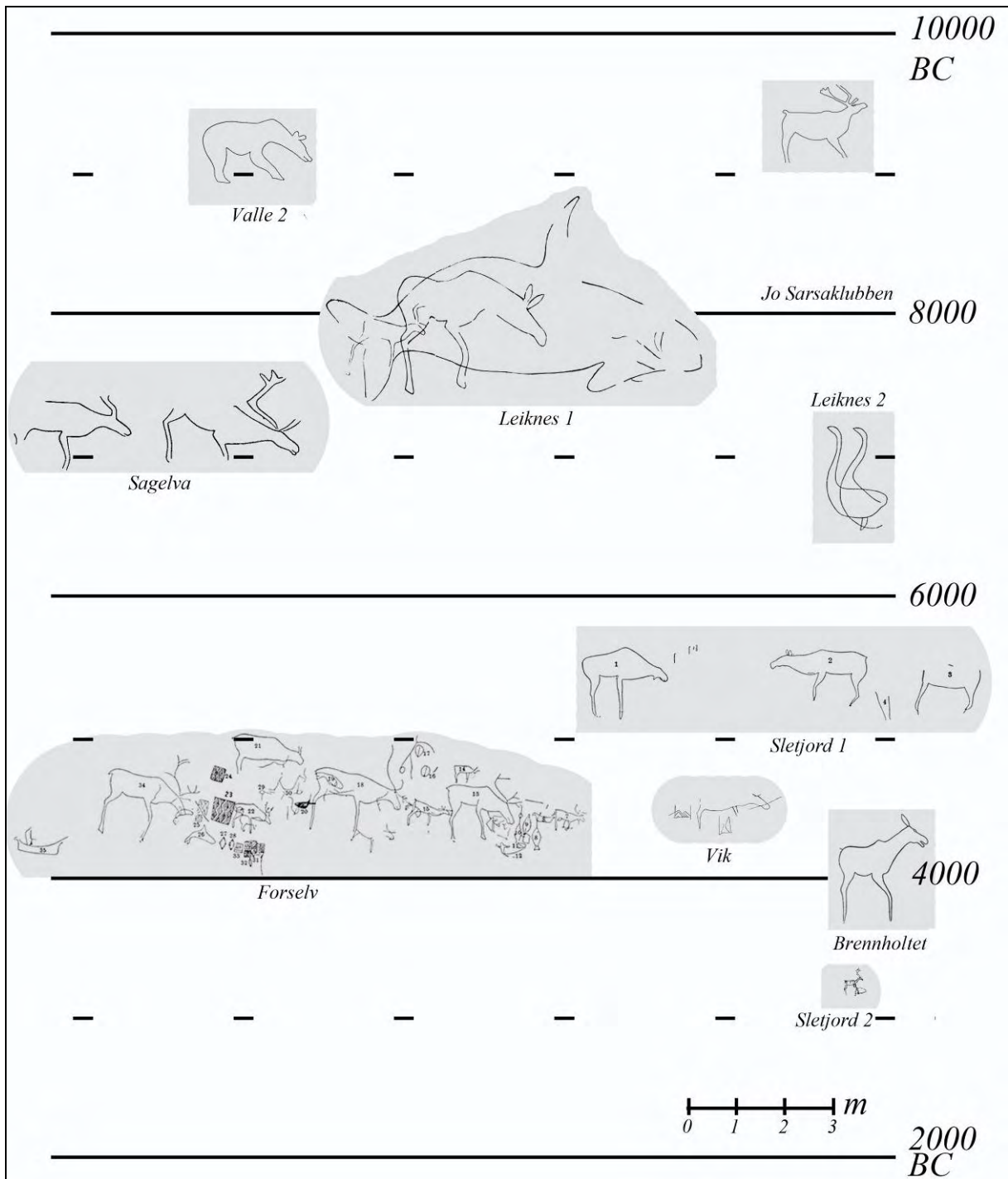


Figure 100 Chronological overview of the sites in the Ofoten area based on the data from **Figure 99**. Not all the figures are included, but they show the main trend in the development of rock art in the Ofoten area. Tracings after Gjessing, Hallström and Simonsen (Gjessing 1932; Hallström 1938; Simonsen 1958). All the figures are in the same scale making it easier to compare the figures. Illustration: Jan Magne Gjerde.

Macrolandscape and Microlandscape of Ofoten

Macrolandscape

Dating is crucial for the interpretation of the macro landscape. In the Ofoten area one can see from the datings that some of the sites would have been made within a few km of the Scandinavian Ice sheet during the deglaciation (see Figure 95). The line of land between the sea and the glaciers cannot have been wide, thus constraining the movement of man and animal (see Figure 95). Include the land uplift data and one can see that the area that people journeyed based on cynegetic activities was narrow. The landscape would generally be dominated by high mountains rising from the fjords with few favourable areas. An example of how “steep” the landscape was can be seen in the example from the site Valle where the flat coastal archipelago area has appeared as a result of the land uplift, while when the carvings were made, the landscape would have been dominated by mountains and fjords (see Figure 101). The deglaciation data at Ofoten is problematic since the area is dominated by solid rock with few verified dates for the deglaciation process similar to the areas with moraine deposits. The data will therefore become less accurate and more problematic.

Due to the rapid land uplift when the first rock art was made c. 9200BC, the early rock art would lose its shoreline connection faster than the later sites at c. 5000BC as the land uplift rate slowed down. The changes in relation between land and sea could have been one of the reasons why the shoreline seems to have been such a liminal phase. Bear in mind that the people inhabiting these unfamiliar places must have tried to make them familiar, explaining the dramatic changes that the land went through that had great impact on their everyday lives and most likely their world-view.

The first rock art in the Ofoten area is dominated by large life-size animals. To observe the rock art in full, they are best seen from a distance even though one sees them standing at the rocks. Most likely they would act as reference points in the landscape communicating information that could be seen from the sea at boat. The large images in “white” with a darker background would have been visible from about 300m distance. The first sites in this landscape were made to be seen from a distance. They would act as signs in the landscape that are important when marking a land. This could have been part of colonizing new land or making unfamiliar landscapes familiar. The figures at the Forselv panel cannot be seen at a distance. Interestingly this panel is not facing the ocean; hence, the figures could not have been seen from a boat.

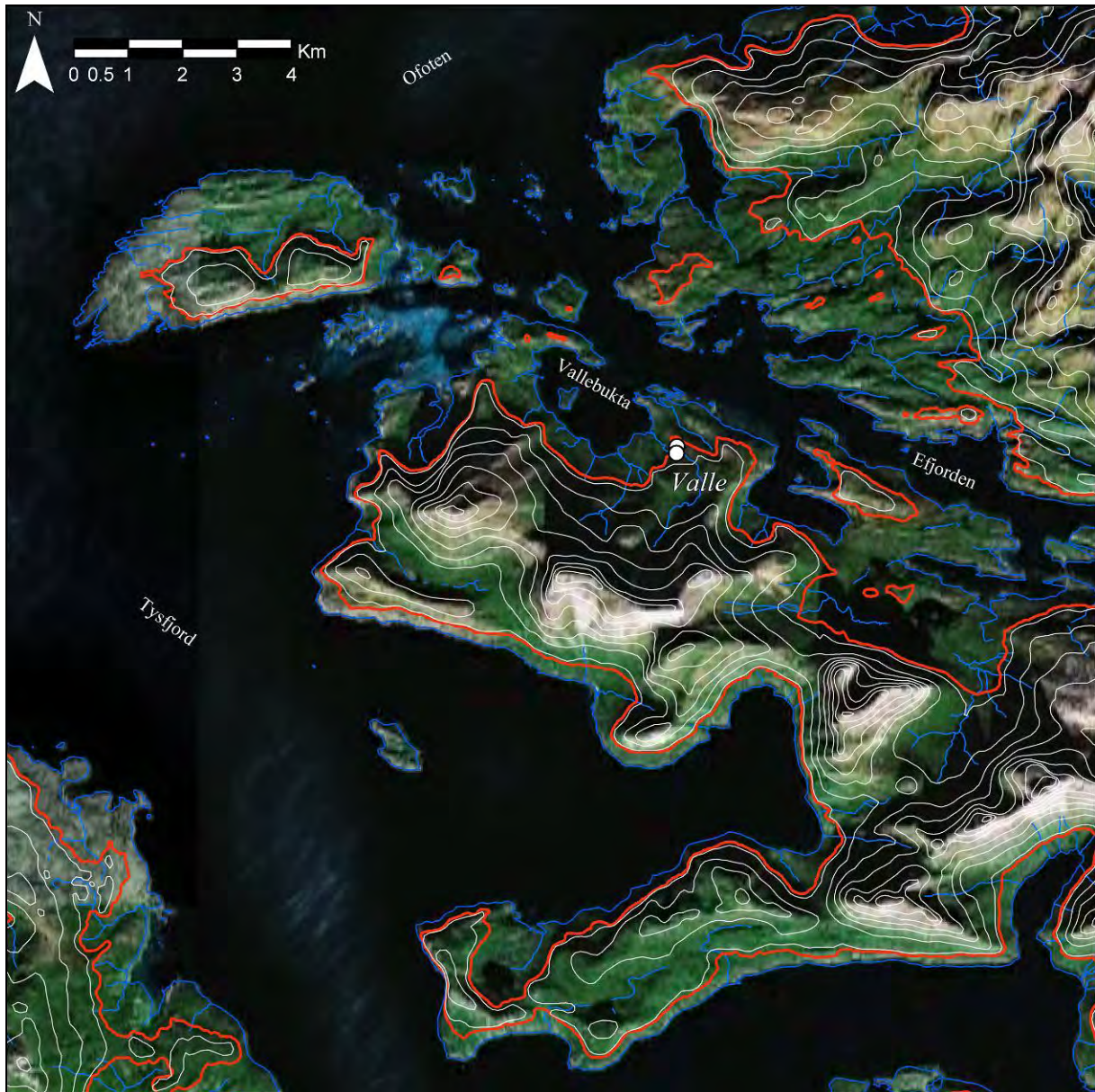


Figure 101 Reconstructed landscape at Valle to show the large impact on the available favourable land for hunter gatherers. The present secluded Vallebukta (Valle Bay) becomes part of the fjord, and the "flatter" land strip along the coast is replaced by steep cliffs and mountains with "few" favourable places. The Valle site is marked with white dots right of the centre of the figure. The contemporaneous coastline at about 73masl is marked with red. Background image from Google Earth. Contours at 100m. The highest mountain south of the Valle site, the Breiskardtind raises 883masl. The mountain ranges in the area restricts movement, and the coastal location would favour boats as communication in the area. Illustration: Jan Magne Gjerde.

Settlements during the Early Stone Age in coastal Norway, even when accounting for the representativeness problems, favoured a shoreline location both the interior and the coastal regions. Generally, there also seems to have been a so-called delay in the settling of the inner fjords, while the coastal archaeopelago was explored during the pioneer phase of the Early Stone Age in Fennoscandia (Bjerck 2009a). This has been explained through the favoured rich coastal resources where along the coast seal hunting was of major importance (Bjerck 2007). Analogous to the settlement record, the earliest rock art is located in the outer regions of the

Ofoten fjord, while the latter is located in the inner fjord regions. The earliest rock art in the Ofoten region were made by pioneers during the colonization phase in northern Fennoscandia after the last Ice Age and I assume most of the visits to the area were short journeys by scouts and explorers travelling into an unfamiliar landscape.

With raised shorelines, the sites with polished rock art is located in the outer regions. They are also generally located in the entrance areas to the tributary fjords either on what was islands or on peninsulas. The pecked carvings on the other hand are generally located in the inner regions of the fjords (see Figure 91). Based on the dating, when the coastal sites were made, the inland fjords were in the early stages covered by glaciers and sites like Sletjord 1 would be submerged until c. 5500BC when it emerged from the sea due to the land uplift. This means that the two sites at Valle would be made about 3500 year before Sletjord 1 and as much as 5500 years before Sletjord 2.

Even though scholars have been aware of the impact of the land uplift and the implications for the landscape setting at the rock art sites in Ofoten area, few notions have been made in that regard. Although Gjessing notes that a raised shoreline, "... it [the panel at Forselv] would be facing a sheltered, quiet bay" (Gjessing 1931:284). When discussing the location between the steep mountains, Gjessing finds that the wild terrain would suit hunter / gatherers, while it would have been difficult to carry out primitive and extensive agriculture (Gjessing 1932:25).

Observations at the site convinced me that the large figures were best seen from the sea. To see how the rock art sites and the landscape could have been in prehistory, one would have to be more than 50 m above the present shoreline at e.g. Jo Sarsaklubben. The best manner in which to see the figures from the Stone Age sea level was to fly in by helicopter observing them at the old water level. The results were promising. Figures that can be seen at a distance of more than 100m today must also have been very visible at a distance when made. I could see the Jo Sarsaklubben reindeer at about 300m distance. The reindeer at Jo Sarsaklubben is c. 1.80m long. At Leiknes, the figures are not so visible, however, they could be seen at about 100m distance today. Located in the shoreline they would also attract the eye when approaching the area by boat. Observing the landscape at the elevation of the rock art also gave a new perspective on how the place must have looked like when the rock art was made. Combined with the GIS maps, they give a good representation of the surroundings at the rock art sites (Jo Sarsaklubben, Leiknes and Valle). The fact that there is almost no change in the vegetation in the area by the three sites between the time of the rock art and today also makes these sites preferable for such a study.