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Rock art and Landscapes

Studies of Stone Age rock art from Northern Fennoscandia

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Preface

Initially, I would thank all the people, who in numerous ways have accompanied me on this journey towards an understanding of Stone Age rock art and landscapes of northern Fennoscandia. It has been an adventourous journey with stops and delays that have been welcomed and some that have been hard to accept. Thanks to all the friendly faces I have come across during the work on this thesis.

My two supervisors, Knut Helskog at Tromsø University Museum and Charlotte Damm at the Department for Archaeology and Social Anthropology, have patiently accompanied me since I started this Phd-journey where I have benefited from their knowledge and guidelines even if I at times must have led them to frustration during my stops at a “few” more harbours than recommended. Summing up, the time we have spent discussing rock art, they have been good sparring-partners. Charlottes encouraging commitment the last year of the writing-phase, while Knut was on sabbatical in Cambridge and Gothenburg, is much appreciated.

I am grateful for the help of two readers of the manuscript of this thesis before I set out on the final writing of the thesis, Alma Elisabeth Thuestad and Trond Eilev Linge. I would also like to thank the readers, comments and friendly chats concerning my papers and presentations at workshops, seminars and conferences.

Thanks to the many people at Tromsø University Museum that in various ways helped me on this long journey. The interdisciplinary Phd-miljeu at Tromsø University Museum makes other diciplines familiar and the Phd process benefits from the coffee breaks. Special thanks to Kjetil Sagerup, Anne Helene Tandberg and Trond Elling Barstad for keeping the spirits up at hard times. Thanks to Johan Arntzen that helped me with GIS when imperative. Thanks to the crew at Alta Museum which I could always rely on when needed.

My first encounter with northern Fennoscandia was the large excavations at Melkøya near Hammerfest in northern Norway in 2001. I was to meet Nadezhda Lobanova, Vladimir Shumkin and Anton Murashkin. When I started my Phd-thesis, these Russian researchers became important since they were my gateway to the Russian rock art. They also introduced me to other researchers such as Eugen Kolpakov and Aleksej Tarasov, that have aided me in my fieldwork and archival work in Russia during this thesis. Thanks to Juri Savvateev and

Abram Stolyar for sharing their knowledge of Russian rock art research with me during friendly talks. Thanks to all the Russian colourful people that I met during the fieldwork. The different landscapes and experiences of Russia will forever be part of my memoryscape.

I was fortunate to get a grant from the Univeristy of Tromsø to be a visiting scholar which gave me the opportunity to stay six months at the McDonalds Institute of Archaeology at the University of Cambridge under the supervision of Liliana Janik which I first met during fieldwork in Russia.

During the fieldwork of this dissertation, I have spent a total of more than 9 months visiting the majority of the rock art sites in northern Fennoscandia, distancing more than 30000km in car to and from the sites. I find these travels and spending time at the key sites in this study important when studying rock art and landscape. Experiencing first hand the variation and characteristics of the landscape has been important for my understanding of landscape. The extensive fieldwork in northern Fennoscandia, including the visits in the archives in Umeå, northern Sweden, Petrozavodsk and St.Petersburg in northwestern Russia could not have been conducted without financial support from various scholarships. Thanks to Tromsø University Museum, Nansenfondet, Seljestadfondet, The Research Council of Norway, The Norwegian Barents Secretariat, Roald Amundsen Centre for Arctic Research, Institute for Comparative Research in Human Culture, Norsk Arkeologisk Selskap, Norsk-Finsk Kulturfond. They gave me the oppurtunity to visit all these places, spending time in the landscape and at the rock art sites.

Finally, but not the least, I would like to thank my three girls **Anine**, **Dorthe** and **Øyvor** that always gave me favourable conditions for working with my Phd-thesis. Their patience have been extraordinary when my focus was on rock art during fieldwork, conferences or after hours at the office.

Front cover photo: Skiers hunting elk during winter. New Zalavruga 4, Vyg, northwestern Russia. Photo: Jan Magne Gjerde.

Contents

Chapter 1 Introduction

Introduction

Rock art in itself is often linked to cosmology, rituals and religion. According to this notion rock art are cosmological representations and can never be reality. A reindeer can never just be a reindeer and a hunting scene clearly depicting a reindeer hunt cannot be that of a reindeer hunt, but a cosmological representations of a hunt. Through my reading on rock art, I have sometimes been amused by papers linking hunting scenes to anything but hunting. Stone Age rock art in Fennoscandia is rock art, made by hunter-fisher-gatherers, clearly depicting large game animals, hunting and hunting scenes. Why is then virtually never hunting part of contemporary interpretation of Stone Age rock art? A critique of rock art research the past decades is well at its place.

In rock art research it is a common interpretation that everything must have a second meaning and mean something more than what is actually depicted. A good example of this is when Tilley in his art of ambiguity discusses the Nämforsen material where he draws attention to the ambiguity of the boat (elk-head boat and antlers as boats) (Tilley 1991:68). Tilley then continues his cosmological quest of rock art: “Just as the vast herds of elks depicted did not exist, neither did these accumulations of small vessels nor the massive ships. What we are dealing with is not reality but a cosmological depiction of it” (Tilley 1991:77). I do not question that parts of their cosmology is included in Stone Age rock art. However, I would have to be taken quite far ashore to be convinced no rock art is depicting reality.

Leaving Tilleys boat on my journey through rock art of northern Fennoscandia I find the rock art to be narrative stories. They are amongst other things depicting elk-hunting, reindeer-hunting, whale-hunting, bear-hunting and halibut fishing. These clear narrative scenes include hunting and cannot be questioned as to what they are depicting. The initial aim when studying rock art is to identify what is depicted. Sometimes there is no question as to what the motif represents. However, there are numerous examples of figures where we cannot identify the motif or where erosion has led to the fact that the figures cannot be identified. Some of this is due to passage of time. However, most of this is due to the fact that we do not know the cultural code of the figures and the figured rocks. We have to account for the lost relations of rock art.

Important to this thesis has been that the results should be checkable and verifiable by the reader since I am discussing material and sites one otherwise would have to visit. Much work has been put into documenting the sites to show relations and to make it easier for the

reader to follow the arguments put forward. It was an aim to present the rock art as I have perceived it first hand so that the reader's second hand experience would be validated according to the material record. This has been important from the initial fieldwork to the written work presented in this thesis. To make this possible extensive photo documentation has been conducted in large parts of the sites in northern Fennoscandia. I have applied photos from archives, maps, aerial photos, satellite photos to get to grips with the landscape of rock art in a wide sense. Thorough fieldwork has been conducted and it has been important to visit many sites to get the background of rock art and landscape. More than 9 months have been spent on fieldwork in Fennoscandia where the visit of numerous sites has founded the background of this thesis. This thesis is not an attempt to present a complete record of rock art in northern Fennoscandia and it is not an attempt to study and document all the figures in northern Fennoscandia. Even if I have been, and still is, tempted to see it all, such an aim would result in this thesis never reaching the hands of the reader. Thereby it is not an attempt to stylistically study all rock art figures; if so I would still walk along the shores of Lake Onega or be stuck in a pine forest in northern Sweden. Too many researchers have stranded in an area never completing their documentation aims[1]. This thesis is a study of lost relations of Stone Age rock art and landscape in northern Fennoscandia.

Aims

The primary aims of this thesis are, through new documentation, to see how landscape are incorporated and interact with rock art at several levels in Stone Age northern Fennoscandia in order to get a better understanding of rock art and landscape.

One of the aims in this thesis are crossing borders. By studying rock art and landscapes in northern Fennoscandia, the administrative borders are broken down also being part of reconstructing lost relations of Stone Age hunter-fisher-gatherer rock art and landscapes.

Central to studying the lost relations of rock art and landscape is an interdisciplinary approach, where I apply data from archaeology, ethnography, geography and geology to get a better understanding of rock art and landscape. The reconstruction of lost relations will be focused on reconstructing the natural background by applying geological data to reconstruct the landscape changes, mainly related to the Holocene land uplift. Where modern alterations

[1] The pioneer of rock art research in Fennoscandia, Gustaf Hallström, set out to study all Stone Age rock art of Fennoscandia in 1906. By 1938, he had published the Norwegian sites and in 1960 the Swedish sites appeared accompanied by a discussion in relation to the Russian sites in which he never published. The documentation and his pre-manuscript is located in the Research Archives of the Univerity Library in Umeå, northern Sweden.

have changed the landscape, old documentation have been studied to get a better picture of the rock art sites before these changes occurred.

Central to this reconstruction of lost relations of rock art and landscape has been embracing ethnography. Through relating rock art and landscapes to ethnographic landscapes I wanted to see whether this could aid our understanding of Stone Age hunter-fisher-gatherer rock art and landscapes.

A new research aim, studying rock art in relation to landscapes, initiated new documentation of the rock art as part of reconstructing lost relations of rock art. One of the aims was therefore to study the "natural background" of the figures looking for new clues aiding the interpretation of the lost relations of rock art. New documentation made me not only look at the figures themselves, but also the placement of the figures both in relation to the natural elements and the wider landscape.

I attempt to show that landscape is incorporated in rock art at many levels from tiny natural features to the location and relations to the macrolandscape. I emphasize that rock art is not only cosmological representations of hunter-fisher-gatherer worlds but also reflects reality where they are closely bound to what is defined as the cosmography of rock art where knowledge of the land were manifested as memoryscapes in the rocks reflecting the intertwined cosmological and real world of the Stone Age hunter-fisher-gatherers.

In chapter 2, rock art and landscape is viewed in the light of the research history. Central to this is to get a historical background to the find history, chronology and how landscape has been studied in relation to rock art. Then in chapter 3, the art of documentation must be investigated since the manner in which this thesis approach rock art includes natural elements; the microlandscape and macrolandscape. The main aim in documentation is moved form the figure itself to the context of the rock art. In chapter 4, I will set the parameters for what is discussed and how I discuss rock art in this dissertation focusing on the theory of rock art and landscape and levels of landscape where reconstruction of lost relations is in focus, discussed in relation to rock art, where ethnography will play a major role. In this section it is evident that ethnography is embraced throughout the dissertation in the relation to rock art and landscape. Then, in chapter 5, the case studies are presented reflecting rock art from five regions of northern Fennoscandia; Ofoten and Alta in northern Norway, Kanozero on the Kola Peninsula and Vyg by the White Sea in northwestern Russia and Nämforsen in northern Sweden. The Case studies will focus on reconstructing the landscapes in relation to time, macrolandscapes and microlandscapes where the aim is to show how landscape interact with rock art. After the Case Studies are presented, Chapter 6 includes a discussion centred round

the cases studies in relation to lost relations linking the case studies to Chapter 4 before I round off in Chapter 7, where I draw some main lines and concluding remarks in relation to the thesis.

Figure 1 Overview of the ”geographical” areas of Fennoscandia. Stone Age rock art sites are marknad with dots. Notice that middle Norway, northern Sweden, southern Finland and northwestern Russia is at virtually the same latitude. For an overview of the sites, see inlay in the back of the thesis. Illustration: Jan Magne Gjerde.

Time and area

This rock art study has been limited chronologically to the Stone Age. This includes the Early and the Late Stone Age in northern Fennoscandia[2]. In broad terms this is the time period from the first pioneers entered northern Fennoscandia after the last Ice Age until about 2000BC.

Geographically the thesis focus on the material from northern Fennoscandia. Since the study includes rock art from a large geographical area within four countries, I am referring both to sites, areas, regions and countries in this thesis. The manner in which I have related the material according to regions is presented in Figure 1, which will make it easier for the reader to follow where the rock art is situated when referred in the text. This division is mainly based on administrative boundaries; however, it is also based on geographical areas and distribution of rock art.

Definitions

Types of rock art

I will briefly introduce the reader to some of the central concepts that will be useful in the discussions so that the reader will know what I refer to when applying central terms in relation to rock art. There are three main types of rock art in the study area; *polished* (polished carvings, ground art), *carvings* (pecked carvings) and *paintings*. Adding to these there are examples of incisions; thin lines made with a sharp and what has been classified as cut carvings where the result appears as if it was cut into the rock surface.

Polished (Ground art)

Polished carvings make up a broad line of c. 2cm. They are made by some kind of polishing on hard rock (see Figure 2). Most likely, they are made by rubbing a hard stone on the rock surface, hence making an outline representation.

Carvings (pecked carvings)

The carvings are by far the most common technique of rock art (see Figure 3). The general opinion is that the carvings are made applying a hammer and chisel technique (stone and chisel). Sometimes it seems like after making the outline of a figure, the figure is smashed or banged inside to make a **bas-relief** (see Figure 3).

[2] Fennoscandia are geographic and geological terms used to describe the Scandinavian Peninsula, the Kola Peninsula, Karelia, Finland and Denmark.

Paintings

Rock paintings are most likely applied to the rock consisting of red ochre mixed with fat (see Figure 4). It is believed to have been painted on the rock surfaces applying the finger.

Other types of rock art

A technique is the **Cut** or "V-shaped carvings" where the lines are appearing to be cut into the rock surface like a V-shape. When studying these lines it is more likely that they are polished into the rock surface (see Figure 5). This makes the actual technique similar to the polished rock art. Another technique sometimes combined with the pecked technique is the **drilling** of small holes. The technique could be somewhat similar to the technique of making fire. This would leave a distinctive circular "deep" hole in the rock (see Figure 6). **Incisions** or engravings have generally been discarded as modern interference and interpreted to be made with a knife (see Figure 7). However, there are examples that incisions are found connected to Stone Age rock art. Some places it appears like the initial figure were made with a sharp object like the incisions and later pecked in full (Bergbukten 3, Hjemmeluft, Alta, northern Norway).

Figure 2 Polished carving at Valle 2, northern Norway. Photo: Jan Magne Gjerde.

Figure 3 Carving from Bergbukten 4, Hjemmeluft, Alta, northern Norway. Photo: Jan Magne Gjerde.

Figure 4 Painting from Värikallio, northern Finland. Photo: Jan Magne Gjerde.

Figure 5 Cut or "V-shaped carvings" from Hell, middle Norway. Photo: Jan Magne Gjerde.

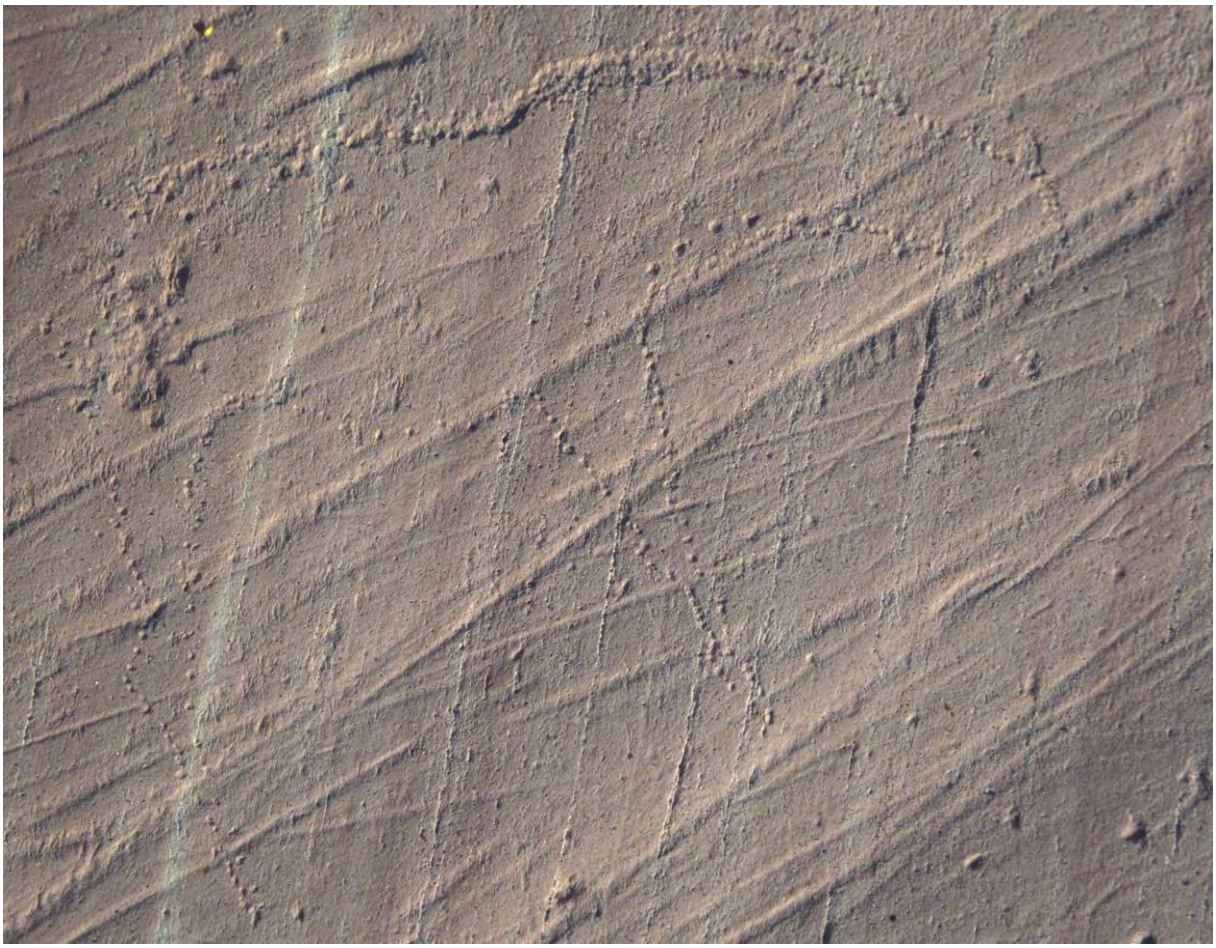


Figure 6 The drilling technique from Ytre Kåfjord, Alta, northern Norway. Photo: Jan Magne Gjerde.

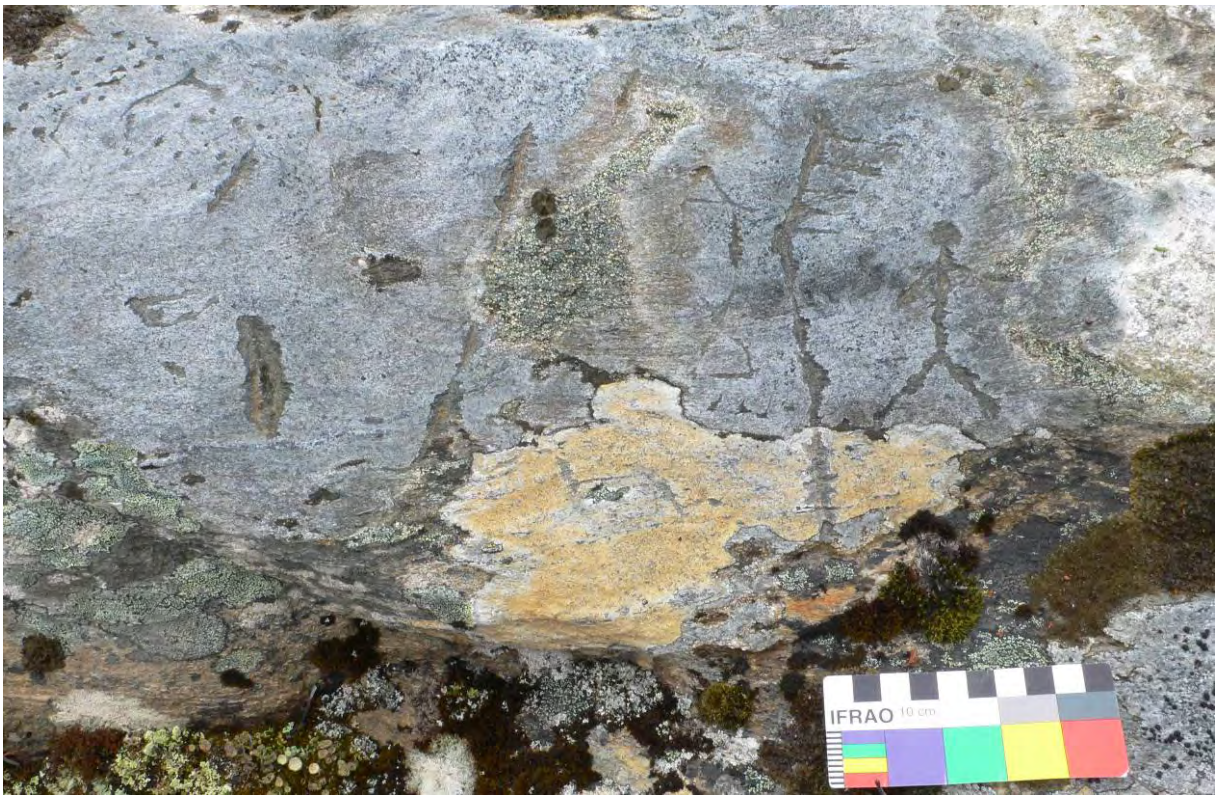


Figure 7 Incisions at Reinøya, northern Norway. The figures are estimated to be maximum 200 years old. Photo: Jan Magne Gjerde.

Rock art - from figure to region

To clarify what I define as the different levels of referring to rock art, from a figure to a region, I will define these terms before I exemplify how this is applied by demonstrating it for one of the panels at Zalavruga, Vyg, northwestern Russia.

Figure – A figure is every mark made on the rock. This could be unidentified lines, peck marks or spots of paint or identified figures like elks or boats.

Motif – A motif is an identified figure, such as an elk, a boat, a geometric pattern or a human representation. If there are seven elks and three boats on a panel, the panel is made up by 10 figures and 2 motifs.

Scene – A scene is where figures interact. This may be figures standing together in a defined group adjacent to each other or where the relations are more or less clear-cut or the obvious where figures make up a scene like a beat-hunt, halibut fishing or reindeer hunting.

Composition – A composition refers to figures and scenes that are made in relation to each other, however not necessarily all of the figures on a panel and more than a scene with several figures. A composition could include several scenes.

Panel – A panel is a section of a rock outcrop that separates by local topography where an outcrop can be divided in several panels. An example of this is e.g. a large boulder that has rock art on more than one side of the boulder.

Site – A rock art site could be a boulder, a panel or a several panels defined to belong to the same site. Most often the sites are given name by the local place name. The rock art site is divided from other sites through geographical distance. Often an area is given a site name and adjacent rock art is named by the same site name but given individual panel numbering. This is common in the large rock art areas.

Rock art area (Area) – A rock art area is defined as a cluster or a large concentration of sites within a geographical defined area. Examples of such areas are the Alta area, the Nämforsen area or the Vyg area.

Region – is a larger geographical or administrative unit or large defined areas; like the rock art in the northern Norway, the Barents-region, the rock art on the Kola Peninsula, the rock art in northern Sweden or like in this thesis the rock art of northern Fennoscandia.

New Zalavruga 4 - from figure to region – an example

To clarify how the different terms are applied in relation to rock art is demonstrated by an example from Vyg in northwestern Russia (see Figure 9). The panel New Zalavruga 4 is chosen because it illustrates the problems when defining rock art and how it is referred to. It also contains information regarding the levels I apply when referring to rock art from figures to regions in this thesis.

According to Savvateev, there are 121 **figures** in his presentation of the Zalavruga rock art (Savvateev 1970:202-221). If one then look closely on his tracing not all the figures are numbered. The elk tracks to the left of the panel are not individually numbered. Thereby when researchers refer to how many figures there are on a panel one have to look at how they are counting (e.g. the 17 elk tracks, number 6 on Savvateev's tracing illustrates this). The elk-

tracks have been given nr. 6-9 on Savvateevs tracing. The total number of elk-tracks are 30. This shows how uneven the individual counting and the quantifying of rock art are. Different practice by different researchers and different research traditions (countries) can lead to different results. While Savvateev' refers to the New Zalavruga 4 panel as having 121 figures, my count brings the total amount of figures to 318 figures (see Figure 8). However, only 16 clear **motifs** (identified / interpreted). This is also important when distinguishing figures from motifs. Another problem is the interpretation of a motif. Sometimes one cannot see what the individual motif is, like at Savvateev's figure nr. 68 (see Figure 9) where the dots lead to a bear, thereby making the dots that cannot be individually identified as bear-tracks interpreted as bear-tracks.

Motif	**Number of figures**	**Motif**	**Number of figures**
Arrow	28	Harpoon ropes	7
Bear	3	Human representations	33
Bear track	18		
Beluga (white-whale)	6	Human tracks	29
Boat	16	Reindeer	2
Bow and Arrow	10	Sea-bird	1
Elks	3	Ski pole depressions	108
Elk-tracks	30	Spears	3
Harpoon	1	Unidentified	20

Figure 8 Overview of the number of figures and motifs at the New Zalavruga 4 panel, Vyg, northwestern Russia.

A figure could then be anything made in the rock while a motif is something identified, like a bear, a boat or a ski-track. The morphology of the animals can most often reveal what animal is depicted; the topography of the rock and how the motifs are made gives us a clue to what motif is depicted. If one look at the ski tracks on the panel, the large elk-hunting scene on the left section of the panel shows three skiers leaving their ski poles. On the right section of the panel one can see a skier, however this might also be a person with snow shoes. The information in the "animated" scene to the left tells us that the three persons are hunting with skies on. By their shape, the dots on the left section of the panel is interpreted as elk tracks due to their morphology, but mainly because they end up in the respective elks. The same fact could be observed where the dots end up in a human figure on the right section of the panel; hence, they are interpreted as human tracks.

Figure 9 The New Zalavruga 4 panel at the New Zalavruga site from the Vyg rock art area in northwestern Russia. Reworked from Savvateev (1970:plate 35).

There are at least eight **scenes** on the New Zalavruga 4 panel. On the left section of the panel, the elk-hunting scene is depicted. These figures are interpreted as one scene because the figures clearly interact and belong together in the elk hunting and the three skiers following each elk from the same ski-track. To the right of this elk-hunting scene is a Beluga hunting scene where three boats are actively taking part in the hunt while two boats are not connected to the whale. This might be interpreted as a beluga-hunting scene where five boats take part in the hunt. One clearly see that an interpretation is made when defining this as scenes. On the right hand section of this panel, there are five beluga-hunting scenes and four scenes interpreted as bear hunting. One scene is depicting an elk-hunt. Looking at the large beluga-hunting scene is made up of 1 boat, 1 beluga whale, 1 harpoon, a rope and 12 human representations. As seen from Savvateev's tracing he interprets this as two figures (105 the boat with boatmen with its hunting gear and 106 the beluga whale). Looking closely at this scene also shows us that the different human representations are holding artefacts (sticks) and some of them have headgear on. The panel New Zalavruga 4 has also been interpreted as a **composition** that represents the seasonal landscape moving from the winter in the left to the summer / autumn with the Beluga hunting scenes (Helskog 2004a:280; Savvateev 1970). The **panel**, New Zalavruga 4, is clearly divided from the other panels by natural features at the **site** Zalavruga in the Vyg **rock art area**. The Vyg rock art area is located by the Vyg River close to the village Vyg Ostrov 8km from the town Belomorsk in the Karelian Republic, in the **region** of northwestern Russia.

There are many ways in which to classify and define the material record. By applying a similar system when referring to rock art it is easier to comprehend what I am referring to in this thesis.

Chapter 2 A selective research history of rock art in northern Fennoscandia

Research in archaeology will always be rooted in the available material culture, research trends, education, political issues and the context of the researcher etc (see e.g. Goldhahn 2006:71; Mandt 1991:17-18). This research history focuses on northern Fennoscandia. *Based on the topic (rock art and landscape) and period (Stone Age) of the thesis this selective research history will consider the growing material record, the dating and interpretations with regard to a wide definition of place, location and landscape.*

In general, one can refer to a Scandinavian research history and a Russian research history. The administrative boundary, the political situation and the language barrier have hindered research between east and west; hence the distribution maps by Scandinavian researchers virtually never included the Russian sites and vice versa[3]. The rock art in the two areas have generally been treated separately with a few exceptions (Bakka 1975a; Hallström 1960; Helskog 1999; Helskog 2004a; Lindqvist 1994; Malmer 1981; Savvateev 1985). Large monographs and material publications have triggered peaks of research.

The first period (before 1900) covers the discovery and the initial acknowledgement of rock art as a topic for the archaeologists. The pioneer phase, influenced by the scarce amount of sites, invites to incorporate all of Fennoscandia since it has strongly influenced the following research in northern Fennoscandia. Based on research intensity, I have sectioned the research history into five parts. The second period (1900-1930) shows how rock art and how "the fast growing material" were discussed. In the third section (1930-1960), the general interest in rock art triggered intensive documentation published in large monographs virtually simultaneously in Russia and in Scandinavia. The fourth period (1960-1990), started with the delayed publication of Hallström's monograph of the Swedish material where he stressed the relation between Onega in northwestern Russia and Nämforsen in northern Sweden. In Russia the newly discovered rock art at Vyg by the White Sea (Savvateyev, 1970) led several researchers to make justified attempts to compare the material between Russia and Scandinavia (e.g. Bakka 1975a; Malmer 1981). The similarity in the rock art from the large Alta area[4] suggested that the rock art in northernmost Europe shared similar traits (e.g. Helskog 1988; Helskog 1989a). Spatial analyses of rock art were presented (e.g. Sognnes 1983a; Sognnes 1987b), however still on a regional or national level. The 1970's and onwards

[3] The shortage of sites in Finland (Only one site with rock art was found in Finland before 1963.) left Finland out of rock art research virtually until the large Astuvansalmi site, discovered in 1968.
[4] The first rock carvings in Alta was found in 1973.

was also dominated by ecological approaches, thereby also the start of location studies (Kjellén & Hyenstrand 1977; Mandt 1978). The period from 1990 to today, characterized by pluralism in archaeology in general, is treated as one section where in the 1990's, landscape archaeology and thereby location was anew introduced to rock art research. Adding to this, the political situation between east and west made it easier to access each other's material. At the end of this chapter, I will draw some main lines according to the research history in relation to this thesis.

Into the light – the discoveries before 1900

Probably the earliest records of rock art from Russia (the Ural districts) and Siberia were made by a Swedish officer when prisoner of war (Strahlenberg 1730 in Hallström 1960). Strahlenberg saw the carvings as magic signs like the ones on Saami drums used for superstitious activities (Brunius 1868:37). Already in 1868, Brunius compared the rock art described by Strahlenberg and found that they were closely related to the Scandinavian rock art[5] (Brunius 1868:37-39). A couple of sites (Glösa and Nämforsen in northern Sweden) were mentioned already in the 18th century (Hallström 1907a:218; Hallström 1960:130). Brunius lead was followed up in the 1890's by P. Olsson when he compared the Swedish paintings[6] with the Russian paintings from Jenisei, Buchtarma, Irtisch and in Ural. Olsson found similarities between the paintings from the two areas based on the similarity between the figures on the rock art and the figures on Saami drums (Olsson 1898:55-56). The rock carvings at Onega, northwestern Russia was discovered by Grewingk in 1848[7] (Grewingk 1854). Grewingk related them to the previously known rock art of the Ural Mountains and the River Tom and dated them to the Early Middle Ages. Later Grewingk related the Onega rock art to the Bronze Age rock carvings of southern Sweden and Southern Norway (Bohuslän) (Grewingk 1878:85-87). In northern Norway, a Danish botanist, Martin Vahl, reported from his journey in 1794, that: "At a farm in Balsfjorden there is a rock surface where several figures are engraved, …"[8] (Holmboe 1916:350). Before 1900, only 18 sites with rock art are known. The cluster was in the central part of Scandinavia (see Figure 10).

[5] "Största delen af dessa minnestecken äro nära beslägtade med våra hällristningar, och de bevisa, att de folkeslag, som uti en mycket aflägsen forntid bebott dessa landsträckor, haft samma sedvanor som Nordens urinbyggare" (Brunius, 1868:38).
[6] Olsson had studied the carvings at Landverk in 1891, and later the paintings at Flatruet Olsson, P., 1899. Hällmålningar på Flatruet i Herjeådalen. *Jämtlands läns fornminnesförenings tidskrift*, 2, 139-42..
[7] They were first mentioned in a publication by Peter Schved in 1850.
[8] "Ved en Gaard i Balsfjorden findes en Helle, hvorpaa adskillelige Figurer ere indgraverede;…" (Holmboe, 1916:350). This is the Bukkhammaren site at Tennes in northern Norway.

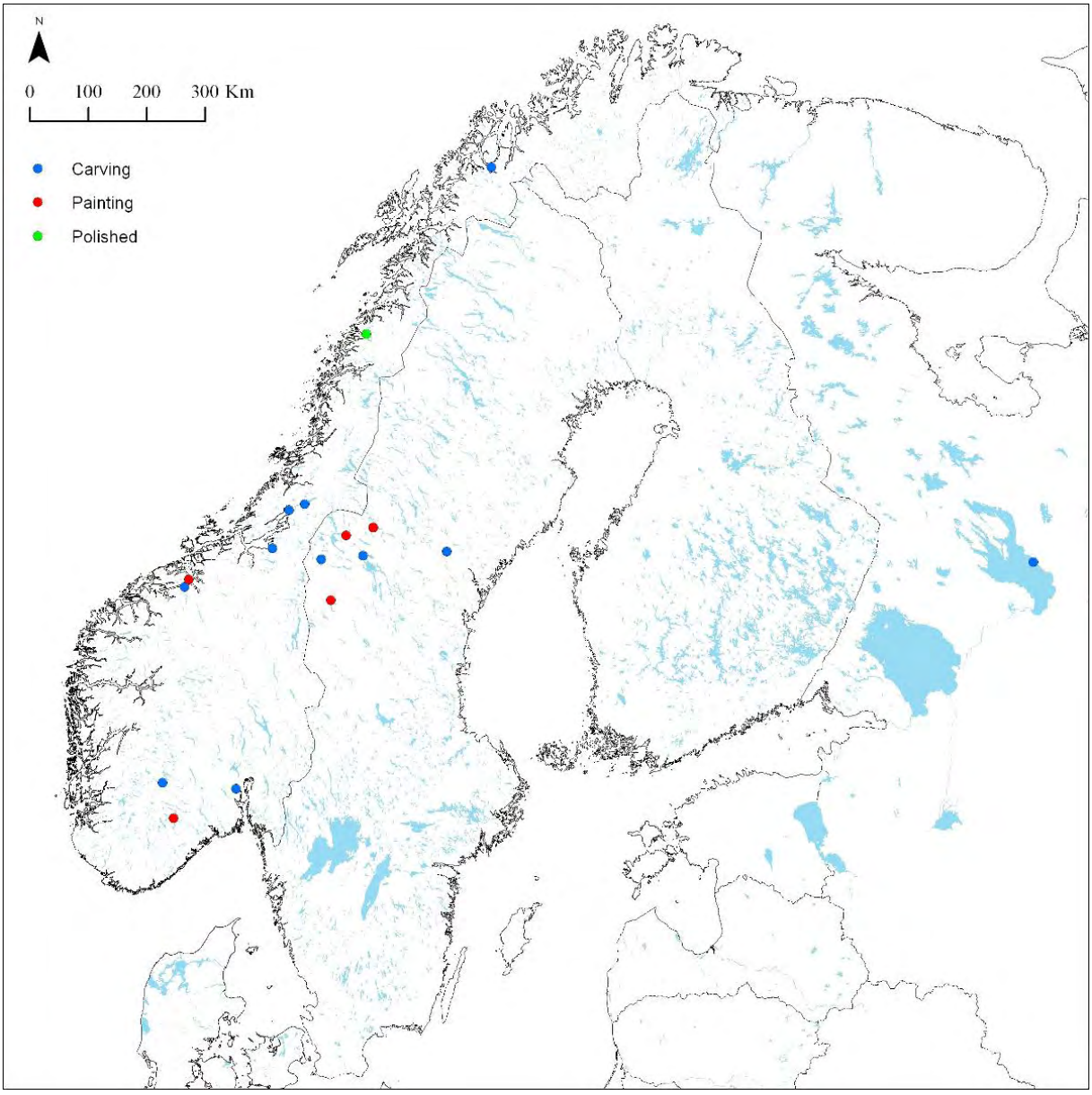


Figure 10 Stone Age rock art discovered before 1900 in Fennoscandia. Two of the sites in northern Sweden are situated so close at this scale that they appear as one mark on the map. Illustration: Jan Magne Gjerde.

The first person that considered the location of the rock art site was Wetterberg when he introduced the hunting place interpretation for the Glösa site in northern Sweden (Wetterberg 1845). The Glösa site had been presented as a sacrificial sites of the Lappish people where they had driven reindeer over the steep cliffs to get food (see Figure 11). After each successful hunt, a new animal was made in the rocks. The hunting magic idea was in Wetterbergs view a natural consequence of a comparison between the location and the nature of the rock art (Wetterberg 1845). Wetterberg`s interpretation has proved to be long-lived, and followed the rock art interpretation for a long time.

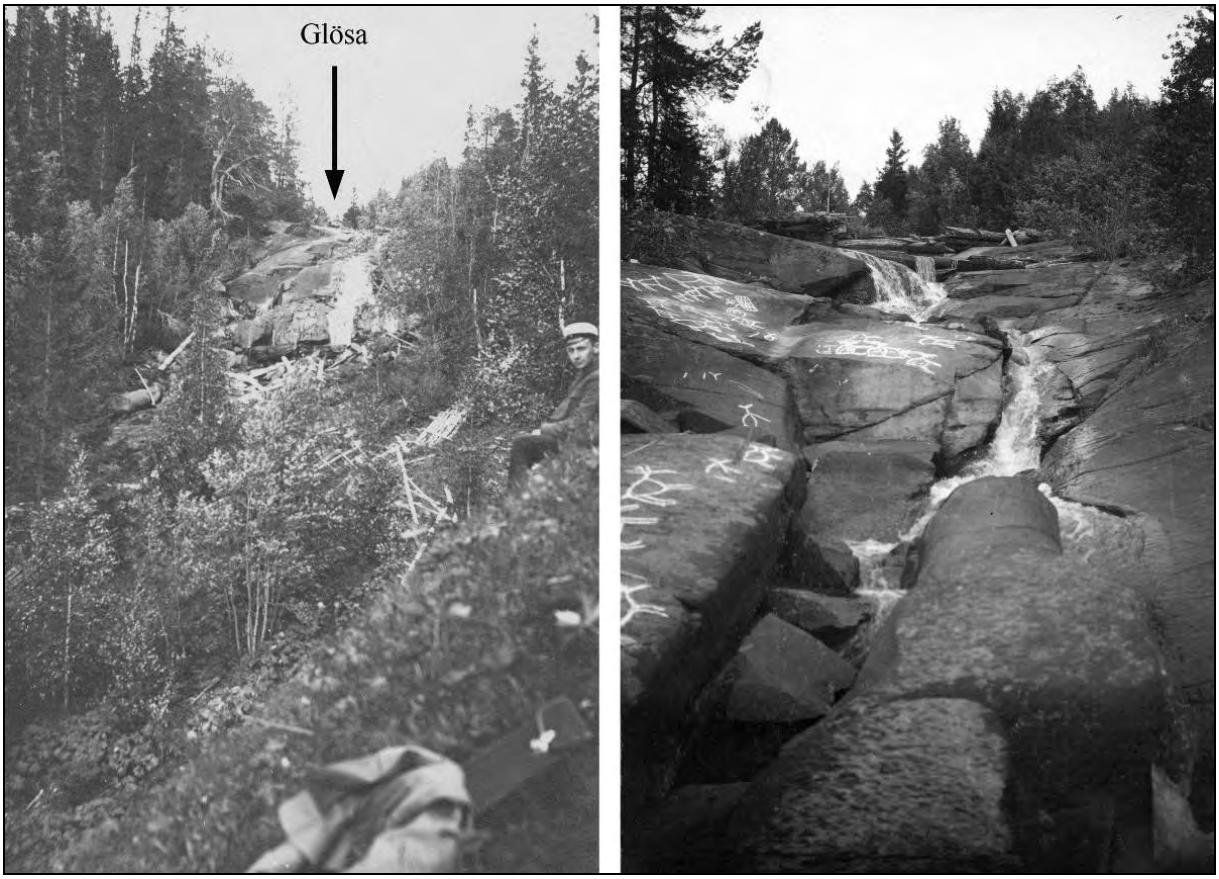


Figure 11 The Glösa site. The photo to the left shows the steep cliffs and the location of the carvings. The photo to the right shows the main area with carvings at Glösa. The site is dominated by deer-animals. They have been interpreted as both elks and reindeer. There are also geometric grid patterns interpreted as hunting traps. Photos by Gustaf Hallström, 1907. Photos from Gustaf Hallström archive, Univerity of Umeå. Illustration: Jan Magne Gjerde.

The brief accounts rarely related the rock art to the rest of the archaeology before 1900 and they were regarded to be relics of recent stories, folklore or myths (e.g. Bendixen 1879:103; Grewingk 1854; Lossius 1898:10). It seems to be common that people looked to more recent stories and explanations for the rock art motifs. I will briefly present a couple of these stories connected to rock art before I enter the more scientific era of rock art research – the period after 1900:

> One of the most fascinating legends connected to rock art is from the Besov Nos site in Onega in northwestern Russia, where: "Once upon a time Bes and Besikha (Devil and his wife) lived by Lake Onega. They marked their presence there by means of rock images. Then the strong faith came. Crosses were hewn upon the images [one cross made upon the gigantic anthropomorph (so-called Bes), another to a cycnomorph]. The Devil and his wife had to escape. They wanted to take a piece of the rock with them as a reminder of their home. Unfortunately, the Devil fell in the water with this rock and was drowned (Grewingk 1854:98 and Barsov 1878: 226 in Poikalainen & Ernits 1998:42).

Another example is from Bøla[9] (see Figure 12), middle Norway. People living near Bøla explained the large reindeer and its origin as a hunter's story. "A Saami hunter had shot an elk in the mountains. This was during spring-time and the snow crust could not support the animal, so it went through the snow crust. Still, the animal ran so fast that the Saami hunter could not reach it until it came to this rock. Here the animal caved in, kneeled down and was killed by the Saami. In the memory of the animal, it was carved in the rock surface" [10] (Lossius 1898:10).

Figure 12 The conspicuous Bøla reindeer at Bøla, middle Norway. Photo: Gustaf Hallström 1907, after Gustaf Hallströms research archive, Umeå, Sweden.

Summary – before 1900

Central to the research before about 1900 is the focus on whether the rock art was authentic and how old it could be. In other words, whether this was relevant for the archaeologists. The paintings from Hunnhammer in the northern part of western Norway was regarded to be remnants from Dutch or Scottish sailors from the 16th and 17th century (Gjessing 1936a:114; Sognnes 1999:466). The publications are mainly descriptive and the scarce record made researchers hunt for similarities in distant places and from more recent periods.

[9] The site Bøla in Trøndelag, Middle Norway was discovered about 70 years ago, that is c. 1840 when the moss (turf) was removed when a grinding mill was built by the waterfall (Hallström 1908:71).

[10] "En Fin havde skudt paa en elg (som ovenfor bemerket er dog dyret en ren) oppe i fjeldet; det var paa vaarparten og skaren bar ikke dyret, som gikk igjennem. Men alligevel sprang det så hurtig at Finnen ikke kunde naa det, før det var kommet til dette berg. Her orkede det ikke mer, kastede sig på knæ og blev saa dræpt af Finnen. Til minde herom hug han siden dyrets billede ind i fjeldvæggen" (Lossius 1898:10).

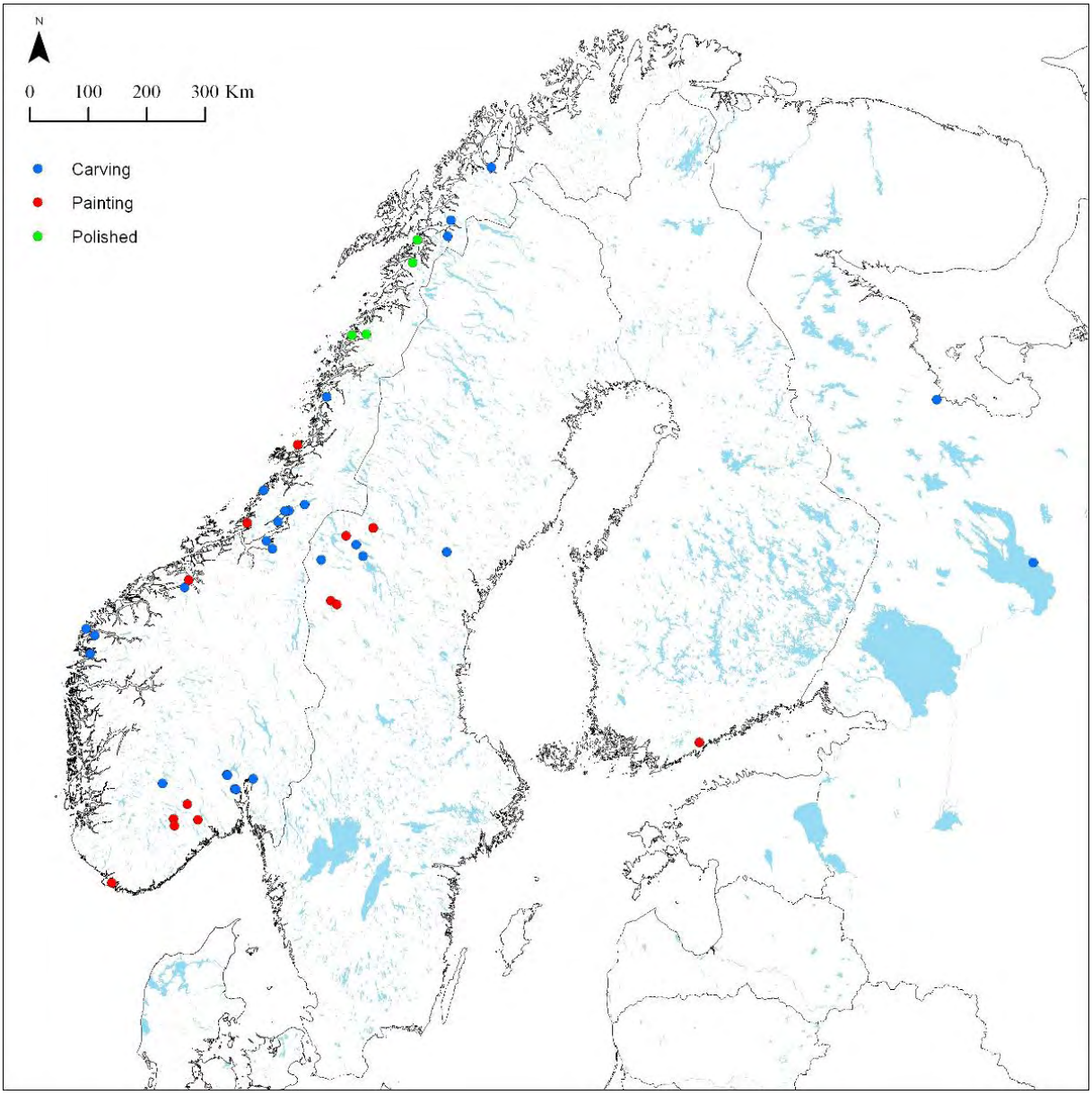


Figure 13 Stone Age rock art sites known before 1930 in Fennoscandia. Illustration: Jan Magne Gjerde.

The material increases – the first overview

The growing material record triggered the first overviews of rock art (Coll 1902; Coll 1903; Coll 1906). The rock art pioneer in northern Fennoscandia, Hallström, initiated his lifelong quest to study all known Stone Age rock art in Fennoscandia early in the 20th century. According to Hallström, accounting for the fast growing material record from Norway at his initial fieldwork in Norway in 1907 there were 8 sites, in 1917, there were 22 and in 1938 at the publication there were at least 38 (Hallström 1938:14). Adding to this the large rock art site in Vingen in western Norway (Bing 1913), the Vyg carvings in northwestern Russia was

found (Linevskii 1939) and the first paintings at Vitträsk in southern Finland (Europaeus 1917; Europaeus 1922). According to my overview (see Figure 10), before 1900 there were 18 sites in all of Fennoscandia while at 1930 there were 46 sites (see Figure 13).

Hallströms initial plan was to publish the rock art of Fennoscandia in at least three monographs in the series: "Monumental Art of Northern Europe from the Stone Age"[11] (Hallström 1938:11f; Hallström 1960:IXff). The outline of his study was made in 1906 and his preliminary documentation were published in Swedish periodicals where he presented an overview of the known northern Scandinavian Hunter's rock art both from Sweden and Norway (Hallström 1907a; Hallström 1907b; Hallström 1908a; Hallström 1908b; Hallström 1909; Hallström 1910; Hallström 1919). Central to Hallströms publications were documentation, dating and technique.

Virtually simultaneously, Brøgger and Hansen launched the division between Hunters art[12] and Agrarian art (Brøgger 1906:359; Brøgger 1909:105; Hansen 1904:323f). Hansen separated them by "ethnic group", content and geographical distribution and dated the hunters art to the Bronze Age (Hansen 1904:323ff), while Brøgger based his dating on Ziegler's study (Ziegler 1901) and the degree of weathering on the Bardal site in middle Norway, where the Agrarian art is superimposing the Hunters art. Thereby Brøgger dated the Hunters art to the Stone Age and the Agrarian Art to the Bronze Age (Brøgger 1906:356; Brøgger 1909:105f). With the basis in the similarity in motifs, both Hallström and Brøgger claimed that the paintings belonged to the same tradition as the carvings (Brøgger 1909; Hallström 1909:155). This strict repeated division between the Hunter's art and the Agrarian art was rarely questioned, with the exception of Ekholm (1917). A problem with the division was that motifs were synonymous to dating; hence, e.g. the boat motif could only be Agrarian dated to the Bronze Age.

In Russia, Hallströms initial studies at Onega started in 1910 and continued in 1914[13] (Hallström 1960:XI), see Figure 14. Hallströms investigations were interrupted by World War I (Hallström 1960:337) and he could not return to Russia afterwards. Thereby his documentation of the Onega rock art with photos, tracings and paper moulds was never published with the exception of a few panels (Burkitt 1921) and later the so-called Hermitage

[11] The first volume was to be the Norwegian Localities, the second was the Swedish ones and the third one was to be on the Russian rock art. This was however not to be possible due to a number of "circumstances beyond my control greatly hampered my work" (Hallström 1938:12). See under the 1930's.
[12] Due to the known geographical distribution of the Hunter's art restricted to Northern Norway they were named Arctic Rock Art, North-Scandinavian Art or Naturalistic Art (Böe, Hallström and Brøgger).
[13] With him was Miles Crawford Burkitt from Cambridge and Bror Schnittger from Stockholm (Hallström 1960:XI; Gustaf Hallströms Research archive Umeå, Sweden).

rock that was moved to St. Petersburg (Hallström 1960). While rock art was included in the overview of the Norwegian prehistory (Brøgger 1925; Shetelig 1922; Shetelig 1925), the Russian research on rock art between 1900 and 1930 are restricted to a few minor encounters[14] (Poikalainen & Ernits 1998).

Figure 14 Hallström and Burkitt documenting rock art at the Peri Nos site, Onega, in 1914. The point in the background is the large Besov Nos site. Photo after Gustaf Hallströms Research archive Umeå, Sweden.

A groundbreaking systematic study to date rock art in relation to the geological data was done at the Bogge-site[15] (Ziegler 1901). The shoreline dating method to get a maximum date for the rock art was soon adopted by other researchers and was to influence the dating of rock art to this day.

With regards to interpretations, Ziegler suggested the Bogge site as a hunting place for hunting drives where the figures were made in connection to this hunting practice[16] (Ziegler 1901:5). Based on Reinach's theory on the Palaeolithic art as hunting magic (Reinach 1903), Brøgger associated both the carvings and the paintings with the hunting magic and a reflection of their resources (Brøgger 1909:111; Brøgger 1925:92). When interpreting the Vingen rock

[14] The Besovy Sledki site (first named Zolotetz, its region name) site (later is part of the Vyg rock art area) was discovered in 1926, however, not published before the end of the 1930's (Linevskii 1939; Ravdonikas 1936b).
[15] Møre and Romsdal, northern part of Western Norway.
[16] "Skulde her eller i nærheden have været vejdestedet for en periodisk drivjagt fremover halvøen og figurene være indristet i en eller anden betydning i forbildelse hermed?" (Ziegler 1901:5).

art site in western Norway as a "hunter's heaven" where red deer were driven over the cliffs[17], Brøgger explains the rock art as a prayer to the powers (Brøgger 1925:78). The origin of this deterministic location interpretation is rooted in the hunting magic where the connection between the hunting places and rock art was striking at several sites with rock art (Brøgger 1925:76, 89-90; Petersen 1929:34).

Figure 15 The elks at Landverk, in northern Sweden, situated at the rock surface as if they are drinking from the Lake Ånnsjön. Figures were chalked by Hallström, however when carved they most likely would have appeared this clear. Photo Gustaf Hallström, 1907. Photo after the Gustaf Hallström Resarch Archive, University of Umeå.

The link between rock art and previous shorelines made Coll look at the location at Sporanes in southern Norway. The Sporanes site was located inland in the mountain region on the shore of the Totak Lake[18]. The cliff with rock art elevated c. 1½m above low-water, while on high water-level, it was overwhelmed by waves (Coll 1902:55). Coll saw the importance of this "unchanged" original location for the carvings (Coll 1902:57), hence it would be better when studying the prehistoric landscape context, because changes would have been minor compared to other sites. Another observation when it comes to location was that carvings were often found by water-falls (Coll 1902:42, 47-48). Hallström also noted that the water was flowing over the figures at for instance Nämforsen and Glösa (Hallström 1907b:179).

[17] "Skaff oss rike høstdrifter av hjort som vil løpe mot havet i vest, så vi kan styrte dem ned og få mat og klær til våre lange vintre" (Brøgger 1925:78).
[18] Telemark county, southern Norway.

Brøgger ascribed all the known arctic rock carvings in Norway to a typical arctic Stone Age setting: a coastal landscape. Similar locations are found in Jämtland and Ångermanland in Sweden where Brøgger saw them located in a typical Stone Age landscapes[19] (Brøgger 1909:111).

Hallström described how natural features like lines, cracks and crevasses were utilized by the makers of rock art (Hallström 1907a:222; Hallström 1907b:185; Hallström 1908b:55). In his interpretation of the Landverk site in northern Sweden (see Figure 15), he described how the elks were depicted as if they are shown to be walking by the lakeshore, like if they were drinking from the lake (Hallström 1907a:222; Hallström 1907b:188). Hallström presented the application of natural features as part of the rock art visualization about a century before it was commonly accepted.

Summary – 1900-1930

The new discoveries and the growth of the material record, that evidenced that rock art was more dispersed and was not restricted to few sites, was important. Central to the debate was the age of the rock art. Ziegler's study relating rock art to the geological shoreline data was a pioneer work. Hallström's studies where he documented rock art across national borders were important for the understanding of the similarities evident in rock art over large distances. The location was included in the interpretation; hence, the hunting magic hypothesis combined with the hunting place theory won acceptance for the Hunters art. The understanding of the landscape change was touched upon and Coll demonstrated that places where the landscape change had been minor were of importance. By this time, one had established that rock art could be as old as the Early Stone Age. The works of Hallström "forced" Norwegian archaeologists to document the Norwegian rock art. The political division between east and west was now established and hindered further cooperation between the two areas.

1930- 1960 – large scale material publications – the art of documentation

Intensive fieldwork by Norwegian archaeologists documented and published the Norwegian rock art in the 1930's (Bøe 1932; Engelstad 1934; Gjessing 1932; Gjessing

[19] In Brøggers discussion, Stone Age landscapes are coastal landscapes.

1936a)[20]. Rock art discovered after the initial publications were consecutive published in the same descriptive manner (Bøe 1940; Fett 1941; Gjessing 1938; Gjessing 1944; Lund 1941). Simonsen later published new material in a sequel to Gjessing' Arktiske helleristninger (Simonsen 1958). The focus on material publication in Norway during the 1930's concurred with the intensive documentation of rock art conducted in Russia (see Figure 16) (Linevskii 1939; Ravdonikas 1936b; Ravdonikas 1938). In Russia the two large material publications by Ravdonikas[21] with rock art from the Onega and the White Sea (Vyg) (1936b; 1938) presented the material while he elaborated his interpretations through an intensive publication activity, mainly in Sovetskaja Archeologija from 1936-1940 (Ravdonikas 1936a; Ravdonikas 1937a; Ravdonikas 1937b; Ravdonikas 1940). In Sweden, Hallström continued the meticulous documentation of the Nämforsen site (see Figure 17). The list of material publications from the 1930's evidences an activity in rock art research unequalled in Fennoscandia even today. From 1930 to 1960 the material record had grown from 46 sites in 1930 till 70 sites in 1960 (see Figure 18).

Figure 16 Documentation of the Besovy Sledki South site. From Ravdonikas expedition to Vyg in 1934. Photo from the archive of Institute of Material Culture, St. Petersburg, Russia.

[20] Johannes Bøe also documented the large Ausevik site, Western Norway that was meant to be published as a sequal to his publication on the Vingen carvings: "Felszeichnungen im Westlichen Norwegen II". Bøe's Ausevik documentation remains unpublished. However, Hagen documented the site in the late 1960's (Hagen 1969). Bøe's documentation of the Ausevik material is located in the Archives of Bergen Museum.

[21] New figures was going to be published in volume three by Ravdonikas, however this was never published (Ravdonikas 1938 in Hallström 1960:338).

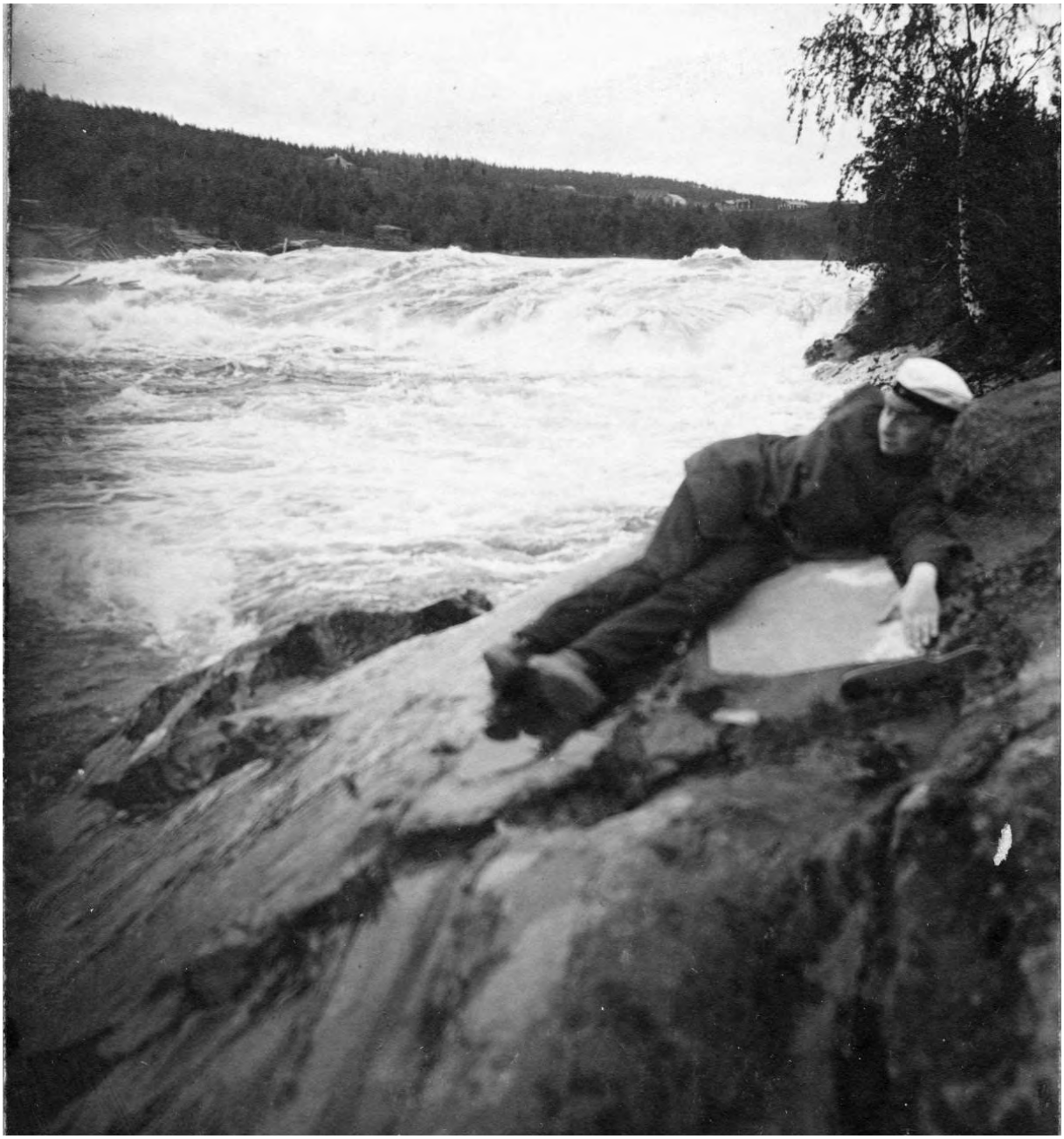


Figure 17 Part of the documentation at Nämforsen. Keeping the tracing paper dry must have been a challenge next to the rapids of Nämforsen. Photo: Gustaf Hallströms archive, Research Archive, University of Umeå, northern Sweden.

Hallström saw both the Russian and the Norwegian publish the same material he had initially set out to document and publish in three volumes. Hallström had given up publishing his "superfluous" material as he put it. Fortunately for us he reached the conclusion that his documentation and interpretations somewhat differed from that of the Norwegians [22] (Hallström 1938:12). Without doubt, leading Norwegian archaeologists threw a spanner into

[22] Even in 1938, Hallström was so sure that his volume two on the Swedish rock art was going to be published soon that the bibliography was placed in the second volume (Hallström 1938:17; Hallström 1960). It was to take another 22 years.

Hallström's work and Gjessing's overbold critique [23] (Gjessing 1941) of Hallströms publication of the Norwegian material (Hallström 1938) was out of order.

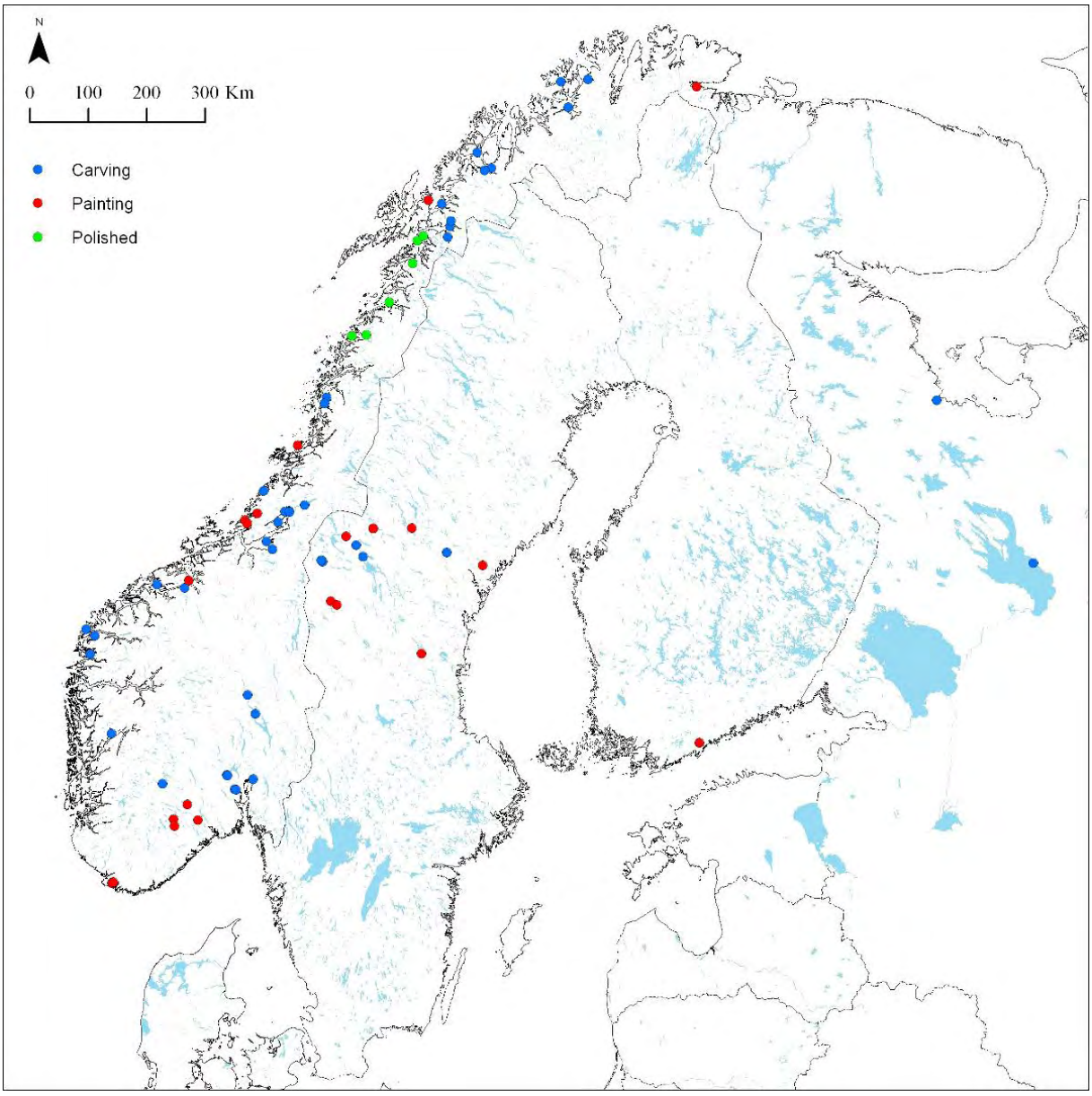


Figure 18 Stone Age rock art in Fennoscandia discovered before 1960. Illustration: Jan Magne Gjerde.

[23] In a review of Gustaf Hallströms work of 1938 on the Norwegian localities, Gjessing sees it as problematic to put the Norwegian hunters rock art in a European context when the Swedish material was not adequately known (read published). Gjessing boldly also critiszes Hallström for not being up to date on the Norwegian material and that Hallström should have focused on the Swedish material. This must be seen as a result of Norwegian nationalism in archaeology.

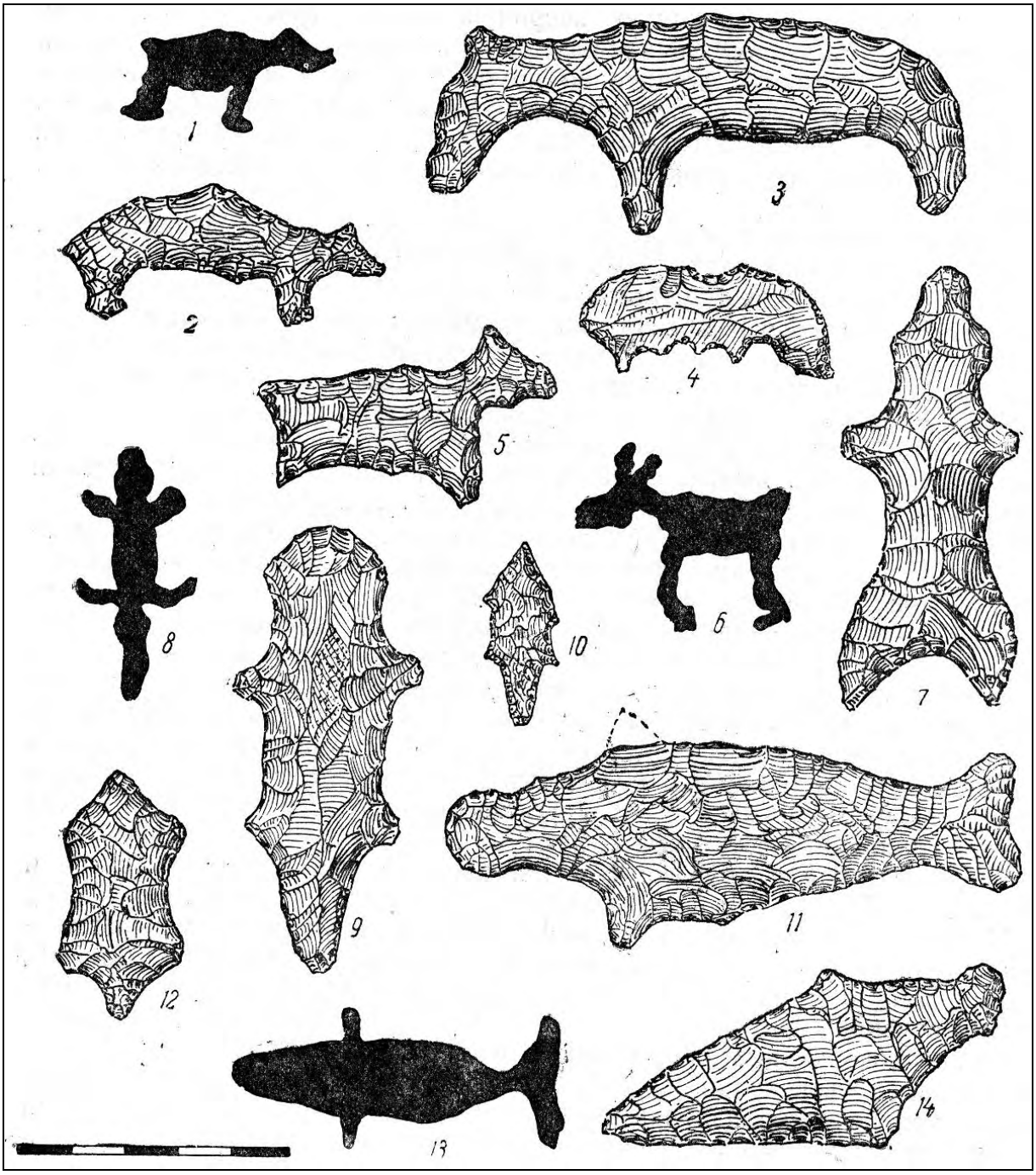


Figure 19 One of the comparisons by Zamyatnin of the flint figurines from Late Stone Age settlements from the White Sea-region and rock art from Onega and Vyg. In this illustration (1) is from Besovy Sledki, Vyg and (6,8) is from Peri-Nos, Onega and (13) is from Besov-Nos, Onega. The division in the scale in the lower left is 5 cm in total. After Zamyatnin (1948:106, plate 4).

The material publications directed research towards documentation, typology and chronology where discussions focused on the stylistic theme (Brøgger 1931; Engelstad 1935; Gjessing 1936b; Hallström 1937). Both Gjessing (1936a:158-169) and Hallström (1938:183) presented typologies based on their suggested evolutionistic development in rock art from naturalistic towards more schematic representations. The evolutionary development was also

supported by Engelstad for the eastern Norwegian rock art (Engelstad 1934:107). The shoreline data made Gjessing suggest that the oldest hunters rock art (arctic rock art) dated to the Early Stone Age with a continued tradition into the Late Stone Age and maybe well into the Bronze Age[24] (Gjessing 1932:47, 50; Gjessing 1945:264, 272). Gjessing stated that the Hunters art had to be older than the Agrarian (Gjessing 1936a:171). This evolutionistic typology based on size and style, already suggested in the early 1900's, was to dominate rock art research through decades to come. With few exceptions[25] (Moberg 1957) the hunters and agrarian art was studied separately.

In Russia, the connection to the adjacent Late Stone Age sites, (Neolithic) dated by ceramics, made Ravdonikas and Brjusov date the rock art both at Onega and Vyg to the Late Stone Age and some to the Metal Age (Brjusov 1940:276-284; Brjussow 1957:120-122; Poikalainen & Ernits 1998; Ravdonikas 1936b; Ravdonikas 1938). Zamyatnin compared the flint figurines from NW-Russia (White Sea-region) dated to the Late Stone Age with the rock art Vyg and Onega (see Figure 19) and found the carvings contemporary to the finds from the sites based on the selection of motifs and similar stylistic impression (Zamyatnin 1948).

An elaborate use of ethnography enriched the interpretations of rock art, where Gjessing demonstrated an impressive knowledge of the arctic ethnographic record and embraced it in his interpretations of rock art (e.g. Gjessing 1936a; Gjessing 1942; Gjessing 1945). Rock art interpreted as part of rituals and religion were justified both in Scandinavia and in Russia. Rock art was viewed as part of totemism (Gjessing 1945:318-319; Petersen 1940; Ravdonikas 1937b), shamanism (Gjessing 1932; Gjessing 1936a:138-157; Gjessing 1938; Gjessing 1942; Gjessing 1945) and animism (Ravdonikas in Savvateyev 1982:35; Ravdonikas in Stolyar 2000). Central to the interpretations was that Stone Age rock art was part of a hunting magic practice[26] mainly based on ethnographic analogies depicting large game and hunting scenes e.g. from Forselv and Rødøy in northern Norway (Gjessing 1936a:1). Tallgren had already interpreted the Asian rock art as evidence of "a frozen shamanism" (Tallgren 1933:197) and the Asian ethnography strengthened Gjessing's hunting magic interpretation (Gjessing 1945:312). According to Gjessing, the hunting magic rituals would have involved some form of shamanistic practice. Gjessing saw the developmental

[24] The polished site was dated to the Stone Age, while the Tennes site in northern Norway argued for a continous production into the Bronze Age.
[25] Moberg studied the Nämforsen site and the relation between the hunters and the agrarian art. He found that the hunters art superimpositioned the agrarian art (Moberg 1957).
[26] "Det blir etterhvert hevdet med noe bortimot aksiomatisk visshet, at den monumentalkunsten som vi etter gammel arkeologisk terminologi gjerne kaller "arktiske" ristninger og malinger, har sitt psykologiske utspring i en primitiv jaktmagi. Og sikkert med rette" (Gjessing 1936:1).

stage from an individualized art where the hunted animal was depicted in the Early Stone Age to a communal ritual practice in the Late Stone Age. This was seen as a part of a general specialization in most aspects in society (Gjessing 1945:312-314). Linevskii and Gurina also advocated for hunting magic for the Russian sites. According to Stolyar (2000), Gurina linked the bird figures at Onega to the allegedly important bird hunting (Stolyar 2000). Linevskii interpreted some of the motifs at Onega in Russia as hunting traps, while Ravdonikas interpreted them as solar and lunar signs (Stolyar 2000:154). Ravdonikas saw the rock art of Karelia as evidence of a development from the old totemic notions going back to Palaeolithic to a religious cosmic world outlook with animism and complicated ideas of the next world (Ravdonikas in Savvateyev 1982:35; Ravdonikas in Stolyar 2000). According to Stolyar (Stolyar 2000), Linevskii's studies focused mainly on interpretations connected with hunting magic and the depictions of everyday life in the Stone Age (Stolyar 2000).

Ravdonikas supported the interpretations of the south Scandinavian Bronze Age rock art by Almgren (1926; 1934), and ascribed the mythical content, and thereby cosmology, to the Karelian rock art (Onega and Vyg). In line with the evolutionistic interpretations in Scandinavia, Ravdonikas claimed that the worldview of prehistoric man in Onega had changed from totemic (as a relic from the Palaeolithic Period) to cosmic (sun and moon) as a new stage of development (Ravdonikas 1937a; Ravdonikas 1937b).

Material publications enabled researchers to look for similarity between sites. These comparisons most often related to one motif (e.g. Hallströms similar motif of a fringe-figure at Peri Nos, Onega and Lamtrøa, middle Norway (Hallström 1938:313)). Generally, "similarity" was established without concretizing what was similar / dissimilar. An example of this is Gjessings discussion of the Trøndelag material (middle Norway) where he sees clear similarities between the material in northern Norway, eastern Norway, western Norway and the Swedish sites without exemplifying what is similar (Gjessing 1936a:159). It is somewhat peculiar that in an epoch when dating was such an area of commitment; many researchers virtually discarded dating when it come to comparative studies.

Ravdonikas saw the sun and moon figures from Onega closely related to the Scandinavian figures (Ravdonikas in Laushkin 1959:272). In his evolutionary explanation, Gjessing found that the northern Russian rock art had moved on to include evolved compositions (Gjessing 1945:314). Gjessing further found the stylistic similarity between the carvings from northern Russia (both Onega and the White Sea) to be much younger than the oldest "Norwegian monumental art" (polished carvings). Its similarity in style and technique assigned them to be similar to the youngest hunters art (then Late Stone Age/Early Bronze

Age), e.g. at Tennes, northern Norway and the agrarian art from the Bronze Age further south in Norway (Gjessing 1945:285). Laushkin saw the similarity between the rock art at Onega and the Saami-drums (Laushkin 1959:273). When comparing the Russian and the Scandinavian rock art, Brjusov and Kühn represent the two opposites. Brjusov claimed that one could not compare the South Scandinavian and the Karelian rock art (the only thing they had in common was that they were made in stone). On the other hand Kühn stated that the Russian carvings "sind ohne die Skandinavische Kunst nicht zu erklären" (Kühn 1952:194).

The connection between water and rock art was in Scandinavia seen as an interpretive element and connected to the hunting magic (Gjessing 1945:298). Rock art located on islands in waterfalls (Nämforsen), rivers (Gärde) and on boulders in lakes (Åbosjön) strengthened this connection to water (Gjessing 1945:299; Hallström 1943; Hallström 1945). A similar connection to the previous shoreline at the Onega Lake and at Vyg was presented for the Russian material (Ravdonikas 1936b; Ravdonikas 1938). According to Gjessing, the close connection between rock art and water in all of Fennoscandia is interpreted as belonging to the hunter's world-view where rain and water is linked to fertility (Gjessing 1945:302). Laushkin saw the topography of the rock art with the sun symbols related to the "sun-cult" located by the water surface on cliffs where one daily could see the sunset in the lake (Laushkin 1959:273). The connection to water was also confirmed by Simonsen and he felt that water had played a major part in the location of the rock art[27] (Simonsen 1958:72).

While the Hunters rock art was considered wild, the Agrarian rock art was viewed as domesticated. Thereby the location would reflect the economy. Bjørn noticed that the naturalistic rock art often was located on deserted places (Bjørn 1933:54). The hunting magic theory and the location are not coincidental, since they normally are located in wilderness or in outlying fields[28]. Sometimes the terrain is very wild like at Fykanvatn in northern Norway (see Figure 21 and Figure 22) (Gjessing 1932:56). Sites where the migratory routes of large games passed the rock art site (Gjessing 1931:29; Simonsen 1958:72), or places ideal for hunting animals driven over steep cliffs (Gjessing, 1945:301), advocated for the hunting magic theory. There were clearly links between the large game depicted in the rocks (Figure 20), the "hunting place" (Figure 21) and the wild terrain (Figure 22) as at the Fykanvatn site in Glomfjord, northern Norway.

[27] "At vandet har spillet en viktig rolle for valget av klippeflade er utvivlsomt; det nye stof bekræfter dette". Simonsen refererer her til vannsig ved Skavberg og Vik samt Åsli ved foss og Kirkely, mulig andre som har ligget helt i vannkanten (Simonsen 1958:72)

[28] "Ristningen ligger så uveisomt til og kilometervis borte fra det elektriske ledningsnett, som ofte er tilfelle med de nordnorske ristningene" (description of the Valle site in northern Norway) (Gjessing 1932:60).

While most studies focused on the hunting place location (e.g. Hallström 1945), Gjessing also found the special location of the caves and the scenery there ideal for rituals (Gjessing 1932:57). Rooted in his awareness when dating the sites, Gjessing observed that the location of rock art sites moved from the wild hunting places closer to, and sometimes included in the settlement areas (Gjessing 1945:313-315). The rock art places are interpreted as aggregation places at certain occasions and/or certain times of year where ritual cult was practiced (Gjessing 1945:313; Hallström 1945:33-34). For Nämforsen, Hallström found the boats to be illustrating the long journeys to and from Nämforsen (Hallström 1945:33). The similarity between the Russian and the Swedish material made Hallström justify cultural contact between the areas (Hallström 1945:37; Hallström 1960). This would mean that people from vast areas would meet at these places.

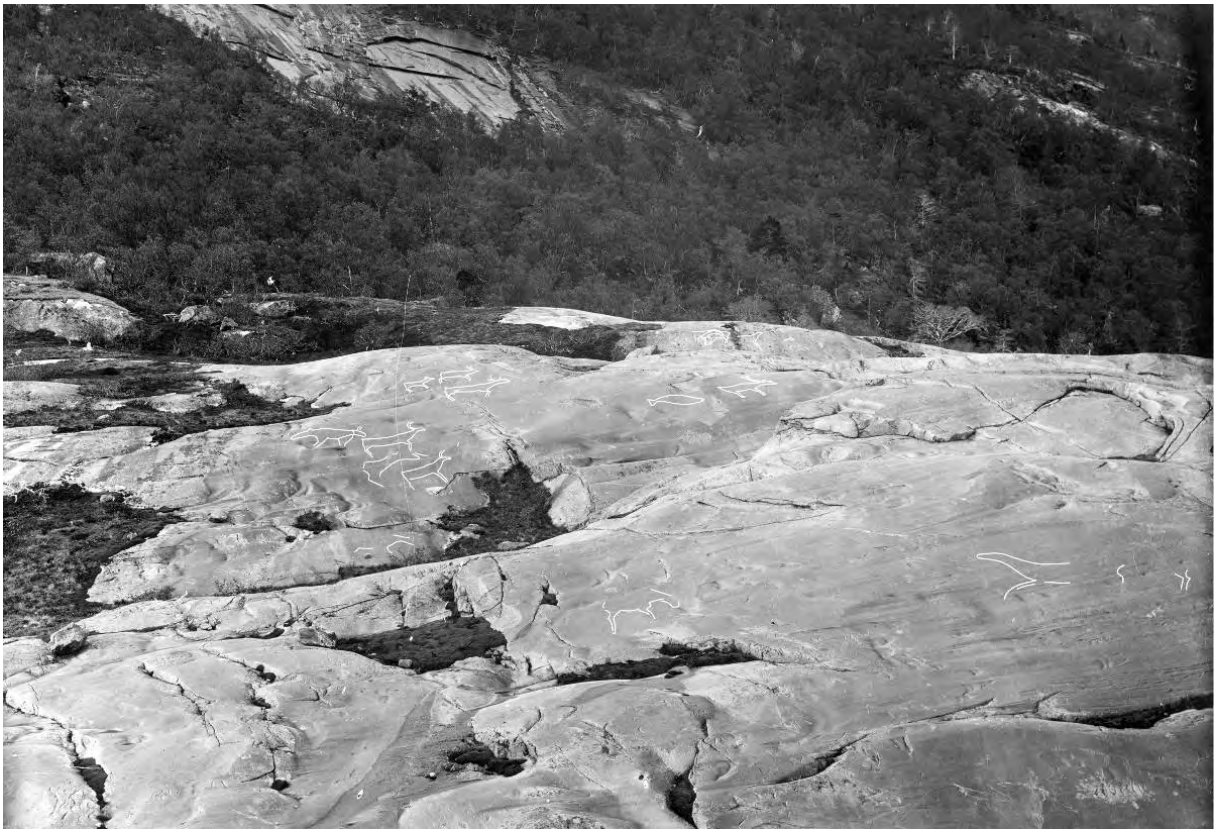


Figure 20 The main area with polished carvings at Fykanvatn. Photo by Gustaf Hallström, 1908. Photo from Gustaf Hallström archive, Umeå, Sweden. Some of the figures were chalked by Hallström before the photo was taken. The figures have been traced in white colour and the figures behind the sea mammal figure above the middle in the photo is traced from detailed photos. The sea mammal measures about 2m in lenghth. Illustration: Jan Magne Gjerde.

Figure 21 View towards the Fykanvatn site with polished rock art dated to the Early Stone Age. Compare with **Figure 22**. The carvings are situated on the rock slopes from about the middle of the photo and upwards on the rock slopes. Photo by Gustaf Hallström, 1917. Photo from Gustaf Hallström archive, Umeå, Sweden. Illustration compiled from two photos. Illustration: Jan Magne Gjerde.

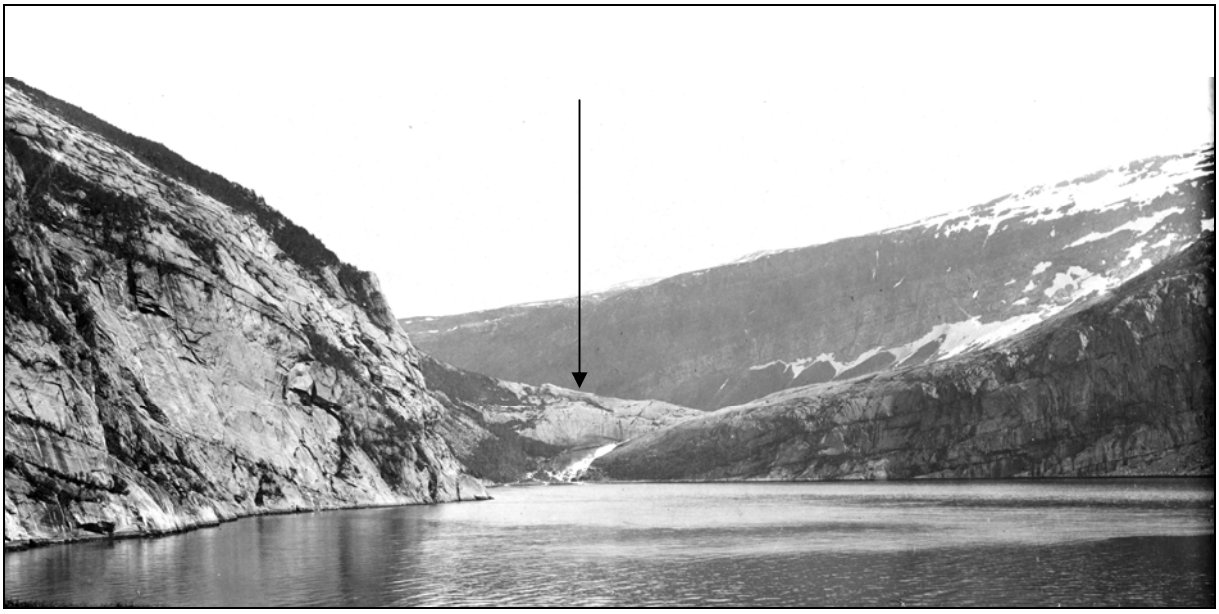


Figure 22 The landscape setting in the Glomfjord area with the Fykanvatn site with polished carvings dated to the Early Stone Age on the smooth rock surface situated slightly below the middle of the photo indicated by the arrow. Compare with figure **Figure 21** Photo by Gustaf Hallström, 1908. Photo from Gustaf Hallström archive, Umeå, Sweden. Photo is also published by Hallström (1938:fig. 26).

Even though researchers were highly aware of the change in context, e.g. land uplift, few attempts were made to reconstruct the location of the rock art by raising the shoreline. To my knowledge, Gjessing makes the first attempt at reconstructing the location when he found that the Forselv site in northern Norway would have been located in a small coastal bay if the shoreline was about 30m higher than today (Gjessing 1931; Gjessing 1932:49). The

microlandscape of rock art was briefly touched upon when Hallström noticed that that: “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). Bøe mentioned that uneven surfaces and lines in the rock were applied and included in the rock art (Bøe 1931:19). Gjessing noticed that a striation line in the rock was applied making parts of the reindeer and the front leg of a bear-figure at Forselv (Gjessing 1932:26). Researchers accepted that natural features were included in rock art; but they were rarely discussed.

Summary – 1930-1960

While the 1930’s was an active period in rock art research both in Russia and in Scandinavia, the 1940’s and 1950’s were the sleeping decades of rock art research with few exceptions (e.g. Laushkin 1959; Simonsen 1958). The intensive publication and quality of the publications of the rock art material in the 1930’s has made these publications reference works. The research commitment to dating justified the connection to the Stone Age both in Scandinavia and in Russia and rock art was related to the rest of the archaeology (e.g. Gjessing 1942; Gjessing 1945). The new dating suggestions, combined with good material publications, opened a fantastic opportunity for comparative studies between the Russian and the Scandinavian material. Comparative studies was conducted within national boundaries (e.g. Linevskii 1939). However, the potential for comparative studies was not fully appreciated before Hallström challenged the topic (Hallström 1960). One might see this as an under-communication of the east-west relations after the Second World War.

The first reconstruction for the prehistoric landscape setting was put forward. Most interpretations favoured the hunting magic / hunting place interpretation. The adjacent sites was connected to the rock art. While several researchers mentioned the inclusion of natural features, the explanation stranded as a functionalistic relation to cost-effectiveness when making the rock art.

1960 – 1990 – the material record is multiplied

As a marker for this next phase, Hallströms initial studies at Nämforsen was published 54 years after he initiated his studies (Hallström 1960). Hallström realised that: “Instead of what was originally planned, the two only known large carving groups in northwestern Russia

– which are both connected with the Scandinavian material – will be summarily dealt with here". (Hallström, 1960:337). In my opinion, the void after Hallström in rock art research is still notable since he devoted his work to rock art crossing administrative boundaries.

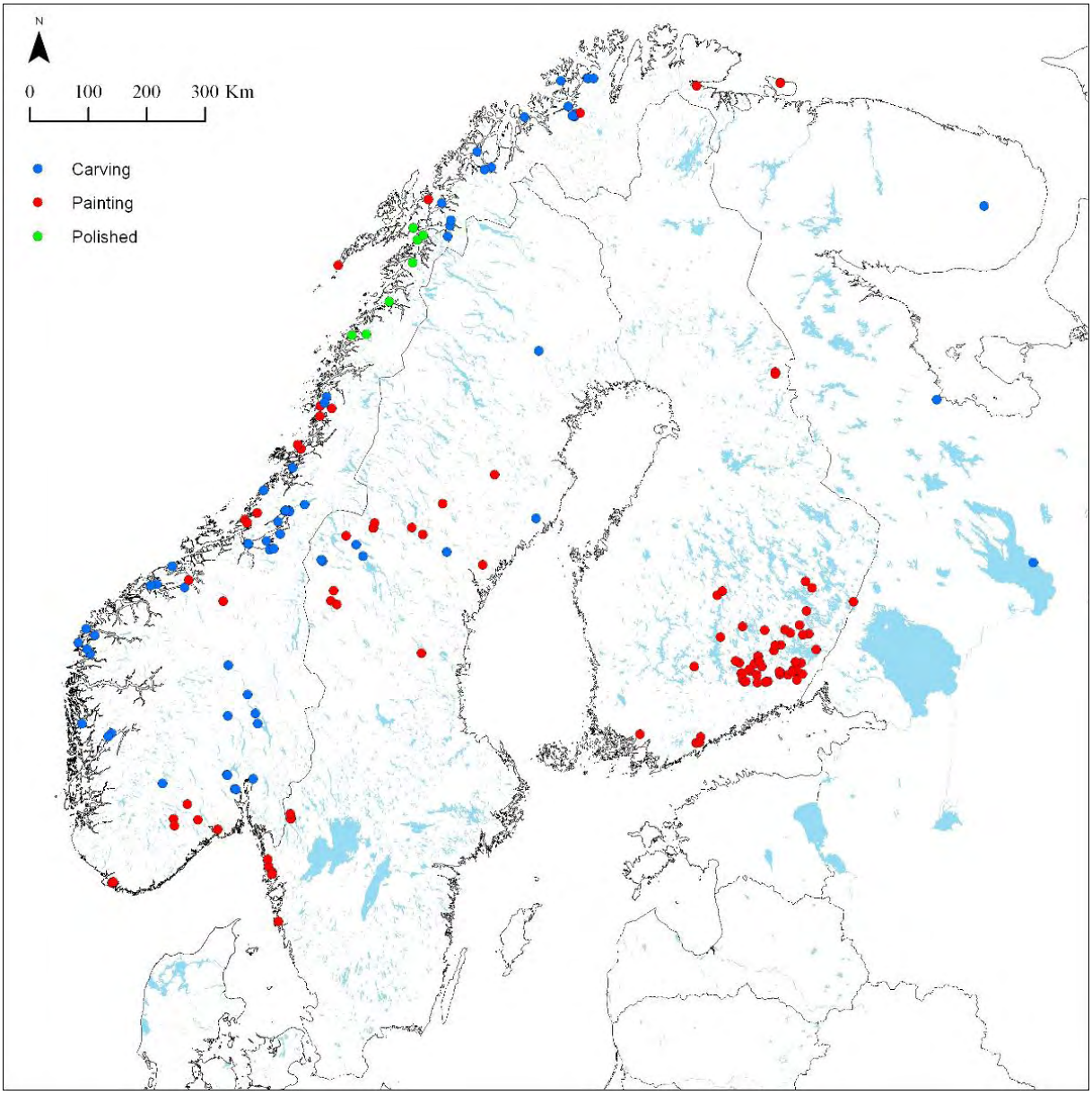


Figure 23 Stone Age rock art discovered before 1990. Illustration: Jan Magne Gjerde

The number of sites across Fennoscandia increased steadily and from 1960 to 1990 the number of sites increased from 70 to 178 (see Figure 23). Adding to this the number of figures at the large concentrations made the material growth during this period virtually inapproachable. For the first time one realised that keeping up with the growth of the material record was problematic.

Massive hydropower building along the Vyg River led to extensive excavations in the region. More than 1200 new rock art figures were uncovered (Savvateev 1970; Savvateev 1977; Savvatejev 1967; Savvatejev 1968), making Vyg one of the large rock art areas in Fennoscandia. The boulders with rock art at Chalmn Varrae on Kola Peninsula and the painted sites at Rybatchy (Fisher Peninsula) (Gurina 1980; Shumkin 1990b; Shumkin 1991), were important since they evidenced the diversity in the Russian material, a diversity mirrored in northern Norway. The first carvings in Alta was discovered in 1973 and Helskog initiated the documentation of the Alta material in the 1970's. One soon realised that there was more rock art in the area[29] (Helskog 1988), and an academic overview of the Alta material still awaits publication. The Alta area is today the largest rock art concentration in northern Fennoscandia. In middle Norway, the fast growing material was consecutively published in archaeological reports and in journals (Bakka 1988; Bakka & Gaustad 1975; Møllenhus 1962; Møllenhus 1968; Sognnes 1981; Sognnes 1982; Sognnes 1983b) making this material available to scholars. Between 1960 and 1990, successful reconnaissance surveys in Finland discovered 52 new rock-painting sites[30]. The largest and most discussed, at Astuvansalmi (found in 1968) remains a key site. Only two sites are found in Northern Finland, Värikallio and Julma Ölkky[31] (Kivikäs 1995; Taavitsainen 1978).

Bakka, Hagen and Simonsen continued the idea of an evolutionistic stylistic development of rock art from the 1930's with minor alterations, such as the internal dating between the styles (Bakka 1975b:28-36; Hagen 1976:164-166; Simonsen 1979:469-470). Bakkas excavations at the Hammer site where the panel was over layered with marine deposits was influential for the dating of rock art (Bakka 1975b; Bakka 1988; Bakka & Gaustad 1975). Based on the data from Hammer, Bakka separated three phases that would suit the evolutionistic scheme (Bakka 1975b). The context of Bakka's excavations at Hammer became as stated by others a fix-point for the dating of rock art (Hagen 1976:163). The over layering was important for the dating, and still is. However, Bakka's phases must be seen as a strong wish to separate phases that fit with a general model (see Figure 24). Visiting the Hammer VI site due to its importance for the dating made me question Bakka's divisions. The difference between Bakka's three phases is about 42cm in elevation[32]. The layer covering all the figures is the same. There might be three phases with rock art at the Hammer VI site.

[29] In 1925 Nummedal had excavated a site at the base of this coastal rock slope. The site is dated to the transition from the Early to the Late Stone Age (Søborg 2006:424).
[30] 50 of these were located in southern Finland.
[31] The two sites are located only about 3.5 km apart. The Värikallio rock art site was found in 1977 while the Julma Ölkky was found in 1978
[32] The tidal difference for Trondheim and thereby Hammer region is about 2m

However, as shown in Figure 24, figures that fit the evolutionistic idea were selected, and presented as three chronological phases.

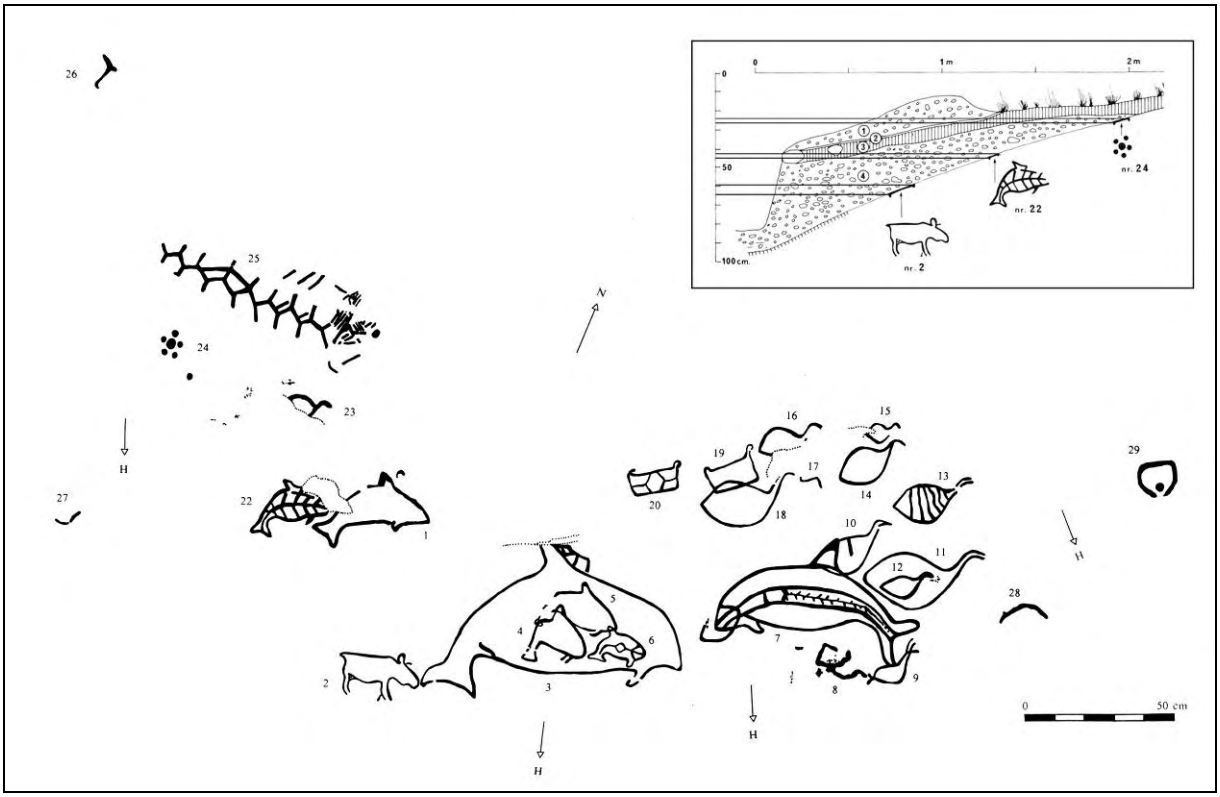


Figure 24 Bakka's tracing of Hammer VI after Bakka (1988:plate V) in 1988:plate nr. V. Illustration upper right reworked from Bakka (1975b:14, fig. 9). The elk figure (nr. 2) is between 59-65cm, the sea mammal figure (nr. 22) is between 42-45cm and the cupmark figures (nr. 24) is between 23 and 27cm. Illustration: Jan Magne Gjerde.

Concern with dating the sites continued. During the 1980's, Helskog has through a line of works discussed the chronology and the stylistic development in the Alta-area (Helskog 1983; Helskog 1984; Helskog 1985b; Helskog 1985c; Helskog 1987; Helskog 1988; Helskog 1989a). Based on correspondence-analysis and the relation between structures and shoreline data he has combined the data to give a relative and absolute dating (Helskog 1983:48). Helskog's successive phases from c. 4200BC to 500BC (e.g Helskog 1987:21), suggests a continuous tradition of rock art (Helskog 1987:30) making Alta a key area for the north Scandinavian rock carving chronology (Helskog 1985b:184).

While most researchers now advocated for a "long" chronology, Simonsen re-dated the start of the arctic rock art and argued for a "short" chronology. Thereby dating all rock art to the Late Stone Age (Simonsen 1978:32-33). Based on the Karelian rock art, Hagen questioned the general evolutionistic chronological aspect of the line from the older

naturalistic style to the younger schematic style[33] (Hagen 1969:140, 144). However, Hagen did not elaborate this notion. The issue was first to be addressed in a thorough study of the rock art from the Hjemmeluft area in Alta where Helskog rejected the traditional evolutionary development of style on north-Scandinavian hunters' art (e.g. Helskog 1983). Helskog argued that in Alta, there was no gradual change from naturalistic to unrecognisable small schematic animals, thereby this would be the case for the rest of northern Norway (Helskog 1989b:99-101).

Like the Hammer site in middle Norway, the rock art area in Vyg, northwestern Russia had rock art with over layering material. Savvateev applied shoreline dating when he dated the sites at Vyg and argued for an internal development within the sites[34] (Savvateev 1977; Savvateev et al. 1978). Stolyar on the other hand adopted Gjessings typology on rock art and dated the large naturalistic animals at Old Zalavruga to be the oldest at Vyg[35] (Stolyar 1977; Stolyar 2000). In 1985 Savvateev grouped the development of rock art in Fennoscandia into four main stages[36] (Gurina & Stalsberg 2005). One might claim that he was strongly influenced by the evolutionistic development presented by Gjessing and Hallström in the 1930's (see Gjessing 1936a:168; Hallström 1938:183). Savvateev was influenced by Simonsens short chronology, dating the earliest rock art (the polished rock art in northern Norway) to the 4th millennium BC. Savvateev's chronological stylistic scheme was the first attempt to include all of the rock art in Fennoscandia, the Scandinavian, the Finnish and the Russian material.

As for comparative studies, Hallström established the similarity between the Nämforsen and the Onega material. His main argument was based on the similarity in the boat-motif where they: …, belong to the same type, the single-lined, mostly furnished with a distinct animal head – in my opinion an elk,…" (Hallström 1960:345). When comparing Nämforsen and Onega, Hallström also found remarkable divergences. While the human figures at Onega and Vyg were drawn in profile, en face was the norm in Scandinavia (Hallström 1960:346-354). Hallström was aware of the problems when comparing figures and stated that: "The overwhelming agglomeration of figures at Nämforsen as well as at Onega makes it easy to become absorbed in such attempts at comparison, even though they will often appear more or less subjective" (Hallström 1960:339).

[33] "Med andre ord kan man ikke på grunn av art, stil og størrelse uten videre opprettholde noen generell regel om hva som er eldst og yngst" (Hagen 1976:144).
[34] His focus on accuracy made him measure the elevation with three decimals.
[35] Stolyar pers.com.
[36] Savvateev was fortunate to get all the relevant Scandinavian litterature translated to Russian

Moberg found similarity mainly within boats and the elk motif in Fennoscandia. He was cautious and questioned where the border between similarities interpreted as contact and similarities likely to be merely a coincidence was drawn. Sooner or later one will cross this border in comparative studies (Moberg 1971:228). Based on the similarity in motif and the recent discoveries and advances in dating for the Norwegian material and the Russian material, Bakka, saw the similarity between the rock art in the boreal zone (Bakka 1975a). Malmer's chorological study of North European Rock Art was a reaction to the many regional studies where he wanted to "…fill the gap to some extent"[37] (Malmer 1981:103). Malmer's line of argument had problems due to the lack of carvings in Finland. Hence, he concluded that despite the similarities that "Chorological and comparative studies have produced no definite conclusions about the relationship between Karelian and Scandinavian rock-engravings" (Malmer 1981:100). The main problem with Malmers study is the lack of approaching the dating problem in relation to a comparative approach.

Helskog found the similarities between Alta and the rest of Fennoscandia as a reflection of similarity in ideology, belief and communication over large geographical areas (Helskog 1987:25). The correlation was explained by "fast" exchange of ideas in northern Europe when it comes to communication, rituals, religion and ceremonies, not only on the functional plan (Helskog 1988:109). However, besides the regional similarities there are also diversities that was believed to be linked to local continuity with distinctive features (Helskog 1988:109).

Simonsen divided the rock art of the Northern Cap into an eastern and a western group. The eastern group included the sites in east-Karelia, many figures in southern Finland and some of the Nämforsen figures. He stated that this rock art had a different stylistic development that could not be paralleled with, nor dated in relation to the western group (Simonsen 1979:470). Lindqvist, based on an eastern tradition with fully carved figures and the western traditions outline figures, continued Simonsen's idea on a western and an eastern group. Lindqvist compared the boat representations where he presented a chronological and geographic seriation of the boat figures (Lindqvist 1983; Lindqvist 1984:25; Lindqvist 1985).

The focus on ecology and adaptation to the environment renewed the interest in the sympathetic-magic interpretation. Hagen questioned the link between animal migration routes, hunting places and rock art (Hagen 1976:129-134). However, the ecological mainstream convincingly linked the location of rock art sites to good hunting places and migration routes

[37] This is a publication of his manuscript from 1972 (Malmer 1981:foreword) and would explain why neither Alta nor Chalmn Varrae was included in the study.

for large game (Farbregd 1980; Mikkelsen 1973; Mikkelsen 1977; Mikkelsen 1979; Mikkelsen 1986; Simonsen 1979:447-448; Simonsen 1982). Gjessing felt that "art forms could not be profitably studied in isolation from their content, that is, in fact, from the whole eco-cultural situation (eco-cultural environment (sphere)) (Gjessing 1978:15). Some researchers, as Gjessing in the 1930's, questioned the fact that the osteological data did not correlate with the depicted animals in rock art (e.g. Hallström 1960; Helskog 1987; Magnus & Myhre 1976:110). For Nämforsen this was explained through the connected elk-hunt and the possible ritual ceremonies (Hallström 1960:341). While several researchers claimed that the difference in animals depicted in rock art was due to the natural environment (read ecology) (Moberg 1971:228), Helskog found it likely that the changes in rock art through time (read animal type) had more to do with ideology (religion) than of economy (Helskog 1985c:199).

Rock art sites, especially the large concentrations, was interpreted as central places in the landscape. While Nämforsen and Vyg was interpreted as nodes through their its unique geographical location (ideal aggregation sites strengthened by its rich settlement record), Hallström could not explain the Onega site in the same manner (Hallström 1960:XI). However, by studying natural lines of movement, I am of the opinion that Onega would fit the same interpretation situated at a unique geographical location, placed at the rock slopes adjacent to the two major rivers Chornaya and Vodla.

The large rock art centres was by several researchers in this period interpreted as meeting places for different types of social interaction (Hood 1988; Malmer 1975:45; Malmer 1981:107; Stolyar 2001). While Hallström favoured the places unique geographical character, Hagen interpreted the large concentrations at e.g. Vyg as a result of the ecological favourable places related to the hunting magic (Hagen 1969:143). Later, based on the settlement record Hagen claims that the hunters groups would have been too small, however they could have gathered at these places (Ausevik, Nämforsen and Vingen) certain times of year (Hagen 1976:127-128). 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, fiest and perform tribe traditional activities (Hagen 1976:127-130).

Central to early studies of rock art and location was the mapping of sites. Location as a structuring feature was explored in many studies where rock art was placed within an economic frame (arable land, hunting places) or near natural features like water (rivers, water-falls) or large land-marks like mountains. Early locational studies similar to those conducted in Norway and Sweden (e.g. Kjellén & Hyenstrand 1977; Mandt 1972; Mandt 1978) were not

attempted in Russia. This was most likely due to the scarce amount of sites and the restricted access of maps.

Virtually all the circumpolar rock (from Scandinavia to Canada) art are situated close to the sea, rivers or lakes (Gjessing 1978:20). The search for rock art in Finland and in northern Sweden based on the locational criteria that rock art will follow major water-ways have occasionally been successful (Ramqvist et al. 1985a; Ramqvist et al. 1985b; Taskinen 2000; Viklund 2004d). However, not to an extent that I am convinced they have cracked the rock art locational code. Most rock art is found along waterways and natural lines of communication. Based on the distribution of rock art sites, Lindqvist tried to visualize them to the waterways of the north combined with stylistic comparison (Lindqvist 1984:2). This was done at a too generalized level and did not show any other pattern than the fact that the majority of the rock art is shore-bound.

Figure 25 The Astuvansalmi site, southern Finland. One of the anthropomorph cliffs with rock paintings in Finland. This is the largest site in Finland. The paintings can be seen in red in the middle of the photo. The cliff-"face" is seen slightly right of the middle with the protruding nose. Photo with kind permission National Board of Antiquities, Finland.

Natural features with meaning on rock surfaces were further explored. A crack dividing the Bes (devil) figure at Besov Nos was by Laushkin interpreted as already

worshipped before the rock art was made and was interpreted as the initial pathway to the kingdom of the dead (Laushkin 1962:381). Savvateev saw the large elk hunting scene at New Zalavruga 4 in relation to the rock surface where the miniature landscape acted as a replication of the natural environment that was clearly part of the composition (Savvateev 1970:202). Stolyar observed that some of the boats at Vyg were parallel with the water-level in the river and that the striation lines were applied (Stolyar 1977:32-33). A major breakthrough when it came to the location of rock pictures and landscape was Sarvas observation when he saw the rock art sites as representations of faces (see Figure 25). Many of the rock art panels are made on rock outcrops with such human attributes (Sarvas 1975:46-47). This has later been observed in Sweden and in Norway (Slinning 2002) hence suggesting that the rock art is interacting with the rocks. The different levels of landscape that was interacting with rock art was observed, though not really grasped before landscape was given a central place in rock art research from the 1990's and onwards.

Summary – 1960-1990

The discovery of the Alta rock art area and the large increase of figures at Vyg were central to research in this period. The boost of Finnish sites contributed to the inclusion of Finnish rock art. The dating question was further explored and the over layering rock surfaces at Hammer and Vyg combined with the shoreline dating analysis in Alta gave us a better framework to discuss the rock art in relation to its cultural context. Even though the straightforward development in rock art was strong, the new finds questioned the evolutionistic schemes. There was however still a discussion whether the development could be seen as a short or a long chronology. The new finds clearly established that the boat motif also belonged to the Stone Age. Hence, the strong focus on motif and style in dating was questioned and shoreline dating had its definitive breakthrough. The general ecological approach in archaeology favoured the hunting magic/hunting place interpretation, even though there seemed to be no clear-cut link between the animals in rock art and the scarce osteological data. Locational and distribution studies shared an economic bias where the agrarian versus the hunter was seen as the two opposites. Rock art centres were interpreted as central places in the landscape. Some researchers mentioned natural features in relation to rock art and the Finnish anthropomorphic rock outcrops with rock art has influenced researchers to take a few steps back and observe the rock art at some distance.

1990's to present – rock art in landscapes - landscapes in rock art

An increasing interest in rock art evidenced by the fast growing list of publications has initiated update papers and books presenting current rock art research (e.g. Bahn & Fossati 1996; Bahn & Fossati 2003; Bahn et al. 2008; Goldhahn 2006). Kalle Sognnes two papers (Sognnes 1996; Sognnes 2003b) summarizing rock art research in the 1990's in Northern Europe was continued by Goldhahn (2008) and Devlet (2008). The research history for northwestern Russia is presented for the Onega rock art by Ernits and Poikalainen (Poikalainen 2004; Poikalainen & Ernits 1998). Within this period, the material record has also grown immensely. The Alta site in northern Norway now exceeds 6000 figures (Helskog 2004b). When re-documented, the Nämforsen site in northern Sweden has grown from 1500 to more than 2300 figures (Larsson & Engelmark 2005). In Norway, Sweden and Finland, the number of sites have increased, see e.g (Lahelma 2008; Schanche 2004; Viklund 2004d). New discoveries have been made in the Onega area (e.g. Poikalainen & Ernits 1998). With intensive surveying, I am convinced more paintings will appear in northwestern Russia, mirroring the Finnish record. The present national boundary between Finland and Russia "artificially" reflect the prehistoric distribution of rock paintings (see Figure 26). In northwestern Russia, the Kanozero[38] site found in 1997 (Likhatchev 1999) has entered the record as one of the large rock art centres with more than 1000 figures. Between 1990 and today a staggering 98 new sites with rock art has been found in Fennoscandia bringing the number of sites up to 276. The large rock art areas are counted as one site and at some of the sites; there are numerous panels and a vast number of figures. A careful estimate suggest that in northern Fennoscandia are more than 20000 rock art figures from the Stone Age.

Several studies dealt with the dating of rock art regionally during this period (Baudou 1993; Forsberg 1993; Kivikäs et al. 1999; Ramstad 2000; Seitsonen 2005a; Seitsonen 2005b; Sognnes 1995; Sognnes 2003a). The only attempt to make an overview of the hunters art within large parts of Fennoscandia was presented by Lindqvist (1994). Lindqvist dated the sites by percentage of the tapes maximum, hence his work was rightfully criticized by Ramstad when he compared the shoreline dating of Lindqvist with some of the western Norwegian material (Ramstad 2000). While Helskog advocated the shoreline dating for the Alta rock art area, Simonsen still argued for a stylistic approach (Simonsen 1991). By

[38] A preliminary presentation can be found on http://kae.rekvizit.ru/kan/kanintr.htm.

clutching on to the evolutionistic development on rock art, according to Simonsen, the Alta rock art[39] could not be older than the naturalistic polished carvings could not be no older than 3000BC (Simonsen 1991). The conclusive results presented by Hesjedal (1990:132; 1993b; 1994) made Simonsen reluctantly accept the older dates although not rejecting the stylistic development (Simonsen 2000).

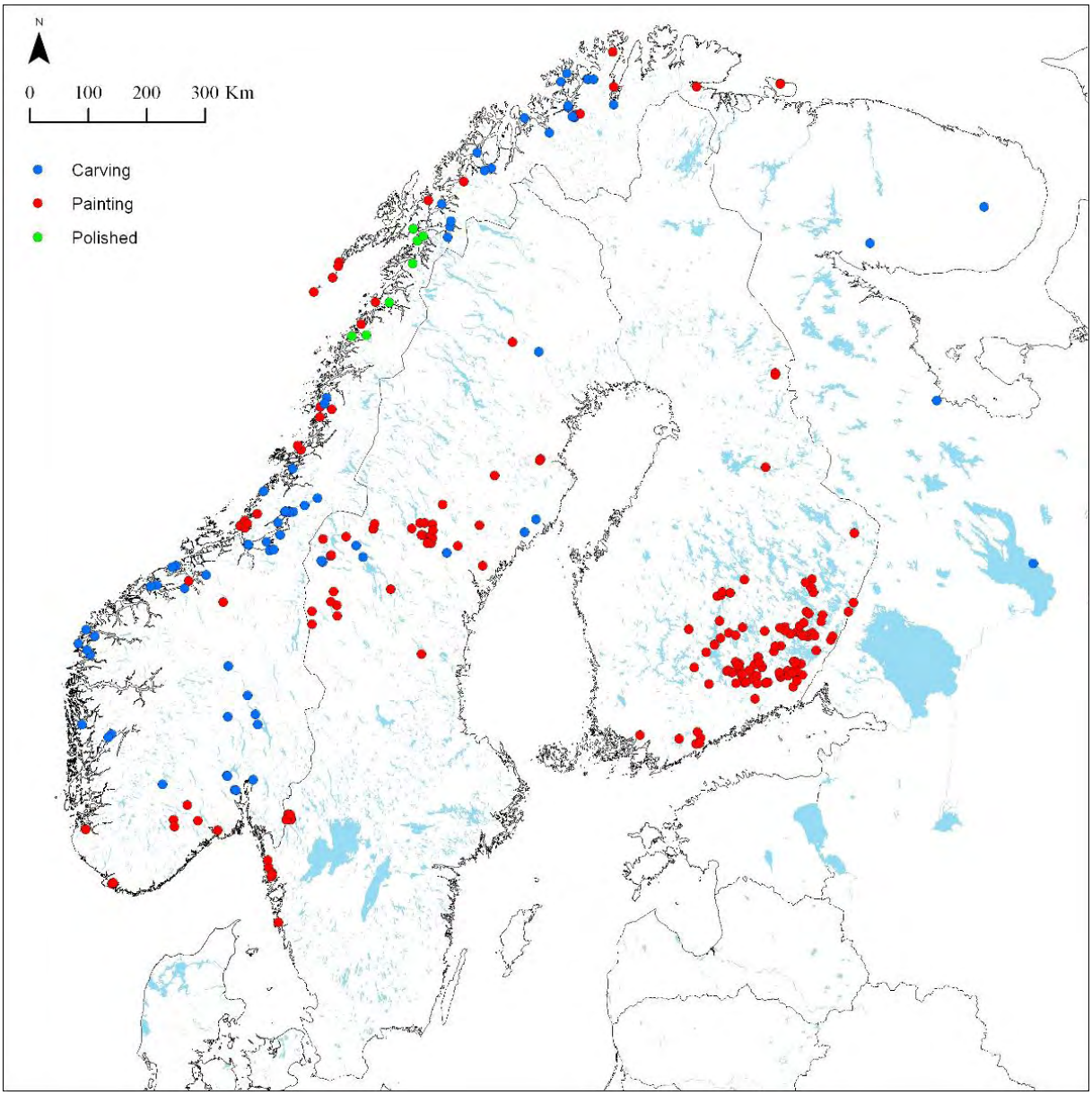


Figure 26 Stone Age rock art sites in Fennoscandia of 2010. This overview is presented with place names in **Figure 90** and a larger version with place names appear in an inlay at the back cover of the thesis. Illustration: Jan Magne Gjerde.

[39] Dated to begin at about 4200BC (e.g. Helskog 1983).

The boulders with carvings at Slettnes had to be contemporary or older than the over layered marine sediments from the tapes transgression (Damm et al. 1993; Hesjedal 1993a; Hesjedal 1993c; Hesjedal et al. 1996; Hesjedal et al. 1993). When re-dating rock art sites in middle Norway, Sognnes criticized the strict regular dating based on the land uplift, even though he still applies the dating method (Sognnes 2003a). While Baudou relied on shoreline dating when working with the Nämforsen material, Forsberg added correspondence analysis and superimposition (Baudou 1993; Forsberg 1993). The land uplift was also applied in southern Finland to date the rock art (Kivikäs et al. 1999; Seitsonen 2005a; Seitsonen 2005b). Problems with shoreline dating are evident; however, many sites show that rock art would have been located in the tidal zone or in the upper half of this zone. The shoreline dating argument has been strengthened by Helskog in his cosmological explanation for the location of rock art by the shoreline for vast parts of northernmost Europe (Helskog 1999:76ff). Even if the critical voices towards shoreline dating of rock art is present, the method is still being applied by the same voices (e.g. Sognnes 2003a). The general idea in Russia is that all the rock carvings belong to the Neolithic. This has been strengthened by the connection between rock art and the adjacent sites and like at Zalavruga, Vyg in northwestern Russia where the fire-place is on top of a layer above the rock art (Lobanova 1995a; Lobanova 1995b; Lobanova 2006; Savvateev et al. 1978; Savvateyev 1988; Tarasov & Murashkin 2002; Zhulnikov 2006). The general picture is that dating has become more important within rock art research. A renewed focus on excavations in connection to rock art sites have just started. The excavations might reveal some of the context of the activity connected to rock art sites. Recent results from excavations connected to rock art e.g. (Grönhagen 1994; Hansson 2006b; Helberg 2004; Lahelma 2006; Larsson et al. 2003; Lindgren 2003; Lødøen 2006; Tarasov & Murashkin 2002; Taskinen 2006) shows that this should be an area of commitment the next years.

Comparative studies are performed on a regional level most often without crossing national borders (Hesjedal 1990; Sognnes 2004) with a few exceptions (Lindgaard 1999; Sognnes 2002) dealing with minor regions. The problematic access to the material and the quantity have made several scholars state the difficulty and thereby the urge for a comparative study of the Russian and Scandinavian material (Ramqvist 2002b). According to Shumkin there are clear parallels between rock art on Kola Peninsula and the northern Norwegian material (Shumkin 2000; Shumkin 1990b; Shumkin 1991). The new finds at Kanozero showed similar traits with Alta, Onega, Chalmn Varre and Vyg (Shumkin 2004). Helskog

have through several papers commented on the similarities and differences between northern Norwegian and Karelian rock art (e.g. Helskog 1999; Helskog 2001b; Helskog 2004a).

Location is still central to the interpretation of rock art. Hesjedal argued that the paintings in the caves in northern Norway might represent shamanism due to their location at remote sites and in caves (Hesjedal 1994:13). Forsberg sees the location of the engravings at small islands in the middle of the rapids as evidence of shamans visiting an isolated dangerous place (Forsberg 1993:244). Both Hesjedal and Forsberg saw the location of the rock art sites as indications of a shamanistic practice early in the 1990's when landscape studies had its break-through in archaeology. Several studies continued the spatial distribution of rock art sites (e.g. Forsberg 2000; Sognnes 2001) following the tradition of e.g. Kjellen & Hyenstrand and Mandt (Kjellén & Hyenstrand 1977; Mandt 1972; Mandt 1978; Mandt 1991). The more general geographic or distribution map studies of landscape, where cost efficiency and the economic aspect were prevailing, became less prominent when anthropological and phenomenological approaches entered landscape archaeology. One were now studying what could be defined as socialising landscapes (Taçon 1994). The ambiguity of the landscape concept (e.g. Gosden & Head 1994) was stressed; hence the interdisciplinary studies of landscape was much appreciated (e.g. Hirsch & O'Hanlon 1995; Ucko & Layton 1999). Phenomenological theories, put forward by Tilley (1994; 2004) and the anthropological perspective put forward by Ingold (1993; 2000) were complemented by Bradleys studies of rock art and landscapes (Bradley 1991; Bradley 1997; Bradley 2000a; Bradley et al. 1994; Bradley et al. 2002b). They have all initiated and influenced several studies to put landscape and rock art on the agenda (e.g. Chippindale & Nash 2004a; Chippindale & Taçon 1998). In many ways, much of the landscape studies connected to rock art have had its base in theory rooted in ideas put forward by British scholars dominated by Bradley, Ingold and Tilleys works.

The functional explanation for the shore bound location (e.g. Bakka 1975b; Mikkelsen 1977; Savvateev et al. 1978), was strengthened by Helskog's shore connection where he convincingly linked the strict shoreline connection to arctic cosmology (Helskog 1999). Mainly due to the land uplift and the coastal location, the landscapes setting of rock art sites have changed for the majority of rock art sites in Fennoscandia. Sometimes the changes are enormous, leaving the once shore bound localities way onto dry land. It is therefore somewhat surprising that only a few studies (Gjerde 2002; Gjerde 2009; Helskog 2004a; Sognnes 1992; Sognnes 1994; Sognnes 2001) are devoted to the reconstruction of the landscape or to how the rock art landscape have changed and the diachronic perspective of the

landscape. The most obvious change important for the understanding of the landscape and an altered landscape setting is the land uplift. This landscape change is with a few exceptions restricted to dating discussions. The rock art located where land uplift has had little impact on the landscape, such as the inland lakeshore sites (e.g. Kanozero and Onega in north-western Russia), becomes important sites for such analysis. Some places the land uplift and lake tilting have to be accounted for, while fluctuations in water level also changes the landscape setting of some inland localities, as shown by Lobanova for the Kochkovnavolok area at Onega (Lobanova 1995b:fig 21.3 and 21.6).

That rock art concentrations were meeting places or district centres for large groups of people is still advocated for (e.g. Baudou 1993; Baudou 1995; Forsberg 1993; Simonsen 2000:37). Tilley interprets Nämforsen as a meeting place for three clans following a totemic practice (Tilley 1991:108-113). Forsberg also interpret the Nämforsen site as an intra-group site (Forsberg 1993:242). The large rock art sites as meeting places between inland and coastal groups as previously suggested (see Hood 1988) also got acceptance from Hesjedal for the northern Norwegian material (Hesjedal 1993b:48). Stolyar also put forward the interpretation of the rock art centres as meeting places for the Russian sites. He advocated for the location as a result of people dealing with new environments after massive migrations, "getting to know" new places, restructuring their world-view at these places[40] (Stolyar 1999).

When reconstructing the landscape of rock art sites in relation to the land uplift, Sognnes found that there was a change in the location of the Stone Age rock art sites in middle Norway. The oldest, interpreted as sites for esoteric purposes and rituals, situated at the base of landmarks dominating the local landscape only suitable as a meeting place for small groups of people. While the later ones were easy accessible and could be seen as aggregation places where it was possible for large groups of people to get together and settlement sites may have existed close by. Sognnes saw this as an indication of a change in the purpose and meaning of the hunters rock art that may have changed during the Late Stone Age[41] (Sognnes 1992:110-112). Rock art as part of a domestic or a ritual place is central to some studies. The connection between rock art and settlement for the Late Stone Age has also been stressed for large parts of northern Fennoscandia (Forsberg 2000; Heimann 1999; Helskog 2000; Lobanova 1995a; Lobanova 1995b; Lobanova 2006; Ramqvist 2002b; Simonsen 2000). While some of the studies show that rock art is an integrated part of the settlements (e.g. Hesjedal et al. 1996; Lobanova 1995a; Lobanova 1995b) others have shown

[40] Abram Stolyar, personal communication, 2005.
[41] Sognnes applies the term Neolithic. I have however applied the term Late Stone Age.

that the local landscape can be divided into ritual and a non-ritual places (e.g. Heimann 1999; Ipsen 1995; Viklund 1997). This shows that there is no straight-forward link for the location of all rock art sites. The diversity shows that there are no uniform clear-cut relations when it comes to location of rock art and settlements. All rock art sites encompass its unique character that enclose layers of communication related to stories at different levels. Even though it is not unusual that settlements are located adjacent to rock art sites, bear in mind that most settlements are not located adjacent to rock art sites.

The connection between hunting place and rock art is still withheld[42] (Farbregd 1994; Simonsen 2000:38), however have been regarded unlikely by others (Sognnes 1994:42). Even if the hunting place interpretation is rejected for sites (e.g. Sognnes 1992; Sognnes 1994), the hunting pits at e.g. the painted rock art site at Högberget in Northern Sweden is most likely such a place located by the migration route for elk. These elk hunting pits are part of a larger elk hunting pit area that stretches for 355m and is made up by 35 elk hunting pits (Lindgren 2002:65; Viklund 2004d:49). It is also interesting that the link between the motifs depicting the whale hunt at Vyg are located in connection with what most likely were the hunting places (Gjerde 2005; Gjerde 2009; Gjerde in press-a).

Even if it natural features was previously observed to be part of the rock art, the interest in the micro-landscape of rock art and the documentation of natural features in relation to the rock art started in the early 1990's. Rooted in San ethnography, Lewis-Williams and Dowson presented how the interaction between rock art in South Africa and the natural features would give new meaning to the rock art. They incorporated San ethnography in the interpretation of the natural features. Spirits were communicating between the worlds through cracks in the rock surface showing how "nature" and "culture" were intertwined (Lewis Williams & Dowson 1990). Faradejev also showed how natural features (striation marks) could have been included in the rock art stories at Vyg (Faradjev 1993). Different studies have recently related the micro landscape of rock art, showing how the rock surface interact with the rock art (Arsenault 2004a; Bradley et al. 2002a; Gjerde 2006; Gjerde 2009; Gjerde in press-a; Gjerde in press-b; Goldhahn 2002a; Goldhahn 2002b; Helskog 1999; Helskog 2004a; Helskog in press; Helskog & Høgtun 2004; Nash 2002). The miniature topography of the rock art panels in relation to the figures have led to the interpretation of rock art as maps. The "maps" held information on the environment, the topographical and

[42] Helleristningar ved jaktstedet. Vi veit ganske mykje om habitatet til dyra slik at vi kan sjå på migrasjonsruter for reinsdyr og elg, dei beste fiskeplassane, dei beste hekkeplassane for sjøfugl osv. Mange av bergkunstlokalitetane er plassert ved eller veldig nær slike jaktplassar (Simonsen 2000:38).

cosmological landscape. That cartography and meaning could be embedded in the rock art has briefly been looked at in northern America, southern Africa and Russia (Lewis 1998; Maggs 1995; Okladnikova 1998). Okladnikova presents an interpretation on how rock art can be seen as ancient cartography in Siberia and NW-Russia with an example from the New Zalavruga 4 site at Vyg (Okladnikova 1998). How the natural features in the rocks could be a reflection of the environment and the topographical landscape is advocated for the Vyg area rock art (Gjerde 2005; Gjerde 2009; Gjerde in press-a).

The landscape interpretations in rock art have lately undergone some critique. Based on formal studies of rock art compared to informed studies on rock art and landscape, Smith and Blundell generates problems with the western landscape view that is dominating rock art and landscape research. In their opinion the so-called western landscape analysis in rock art research are forcing a modern perception onto prehistoric landscapes (Smith & Blundell 2004). The micro-landscape interpretation have also been questioned as "subjective" interpretations and found to be coincidences (Bednarik 2004).

Summary – 1990-today

The re-documentation of the large sites showed that new figures were to be found and that documentation virtually is a never-ending story. New documentation techniques, more intensive surveying and new research aims have contributed to more material and new interpretations. The dating discussion have resulted in a finer chronology where the oldest rock art in northern Fennoscandia dates to about 10000BC, while the latter dates to historic times. The strict evolutionary development of rock art has been questioned and one now accepts that the diversity is greater than previously suggested. Locational and landscape studies have contributed to a wider understanding of rock art and landscapes. Rock art and landscapes are interrelated from the tiniest crack to large communication lines. Ethnography has been given more room in the interpretation of rock art and the anthropological and phenomenological approaches to landscape have been argued. The general acceptance of rock art as diverse and the diversity in interpretation shows that not all sites might be the same and might not withhold the same information.

Summing up – *moving on*

The material record

The discovery of rock art has generally been by chance by the public. Surveying for rock art has at times been successful (Ramqvist et al. 1985b; Sognnes & Haug 1998; Viklund 2004d). However, most attempts to find new rock art sites by systematically surveying have been less victorious (e.g. Forsberg & Saetersdal 2004). When Hallström initiated his systematic documentation of Stone Age rock art in northern Fennoscandia, 15 sites were known[43]. A century later Fennoscandia has more than 300 sites dated to the Stone Age. Many of these sites have multiple panels; hence, the total amount of figures has increased from about 400 to more than 20000. The shore bound location in the Stone Age is prevailing, and may be explained by location in relation to arctic cosmology (Helskog 1999). The distribution of carvings and paintings is also somewhat a puzzle. There are up to date no known carvings in Finland from the Stone Age[44]. There are also no paintings in Russian Karelia, while across the border in Finland they are numerous (see Figure 26). New finds during the latter years has shown us that most likely new sites and areas with rock art will complement the record.

Through his travels, Hallström travelled past Alta, Kanozero and Vyg in the early 1900's. Being the person that documented most rock art in Fennoscandia through his journeys into areas wrapped with legends, he unknowingly travelled past some of the most impressive rock art sites known today. Like Hallström, one of my objectives was to see the rock art *in situ*. Central to the study was to experience the rock art place. I have spent more than 9 months at fieldwork and driven more than 30000km through northern Fennoscandia to see the different rock art sites. I still have a few places to visit, however the majority of rock art sites in northern Fennoscandia have been explored. By doing this, I have most likely also travelled past some of the most impressive rock art yet to be discovered. When questioning why?, I refer to the title of Lewis-Williams book on South African rock art: "Seeing is Believing" (Lewis-Williams 1981). Without visiting all these sites, it would have been a different thesis all together.

The fast growing material was by early researchers viewed as problematic (Hallström 1938:14ff) when from 1900 to 1930 the material record increased from 18 sites to 46 sites. That is 28 sites in 30 years. Since 1990, rock art has been found at 98 new places; that is about

[43] Eight in Norway, six in Sweden, one in NW-Russia and none in Finland.
[44] However, there are a few carvings on fish-sinkers in northern Norway one with a halibut figure, Tromsø University Museum: TS4867a (Simonsen 1958:plateXXIX) and one with a human figure Tromsø University Museum: TS11083.

five new sites a year. Some of these sites have numerous sites connected to them. Adding to this numerous panels has been found connected to previous sites.

Dating

Dating rock art is still a controversy (e.g. Sognnes 2003a). Stylistic comparison and typologies are still applied; however, more than a century after it was introduced, shoreline dating is the prevailing dating method for Stone Age rock art. While shoreline dating recently has shown us that some of the stylistic dogmas can be questioned (e.g. Ling 2008; Sognnes 2003a), the 1930's produced typologies that have proved somewhat hard to discard. Scholars repeated the typologies and at a general level, the current dating in many regards fit the suggestions put forward by Gjessing, Hallström and Ravdonikas in the 1930's (Gjessing 1932; Hallström 1938; Ravdonikas 1936b). The evolutionistic regime in rock art dating, from a naturalistic towards more and more schematic representations, has also been criticized (e.g. Helskog 1989b). However, Hesjedal later showed that this is justified for the Nordland and Troms region (Hesjedal 1990). When looking at dating according to size this is somewhat dubious, however when combining it with motif and shoreline data there still seems to be a change from the depiction of large game towards larger variation and a multiple of motifs. The main change between the rock art from the Early Stone Age and the Late Stone Age is that humans and human activity is present in the Late Stone Age, such as hunting scenes, dancing, sexual relations etc. Thereby human made objects also appear, like boats, elk head sticks, spears etc.

Up to date, the best method for dating rock art is shoreline dating. The over layering of marine deposits, over layering of cultural remains and water erosion on the rock surfaces combined seems to suggest that most of the rock art from the Stone Age was shore-bound. We are though dependent of reliable shoreline data. The local accuracy for the land uplift is hard to get hold of, and the overall extrapolated shoreline data (Møller & Holmeslet 1998) have lately proven to be inadequate (e.g. Corner et al. 1999); hence assigning a wrong date on the rock art. The inland sites with carvings located in the shoreline area (e.g. Onega, northwestern Russia and Gärde in northern Sweden) and the cosmological interpretation strengthens a shore bound location. However, there will always be exceptions, such as the paintings at Flatruet in northern Sweden. The different dating methods and new finds have shown that rock art has been made in Fennoscandia from the first people settled this virgin land virtually until today.

It is important to date rock art, because without an attempt to date the sites, rock art research will exclude itself from the rest of the archaeology.

Comparative studies

Early comparative studies in rock art, dominated by the scarcity of the material, focused on the similarity in the motif in itself. Systematic studies presented in the 1930's for both Norway and Russia altered this. The general framework for the typologies was the structuring of the material into chronological typologies. Stylistic features in the motifs were discussed. However, the strong emphasis on the motif as a dating fix point led to contradicting dates for e.g. the boat motif. These typologies are still the basis for several comparative studies. It has also been noted that most work on rock art bases its studies on nearly 100 years old documentation and material publications with its notable shortcomings (Goldhahn 2006:71). By studying the documentation, some sites are poorly documented, hence making both the interpretation of the actual motif and comparison flawed. Most comparative studies has been performed at a local or regional level (e.g. Hesjedal 1990; Lindgaard 1999; Sognnes 2002). Many of them has also been conducted with lack of available material and with a general lack of focus on dating (e.g. Gimbutas 1956; Laushkin 1959; Laushkin 1962; Malmer 1981). An exception is Lindqvist study from the 1980's and early 1990's (Lindqvist 1983; Lindqvist 1984; Lindqvist 1994). The general lack of updated material publications has made this work a difficult task (e.g. Ramqvist 2002b).

It is a re-occurring problem that people apply motifs or stylistic "similarity" as evidence of the same date. The motif most often applied is the boat motif. The earliest boats are depicted in northern Norway more than 2500 years before the first boats are depicted in southern Scandinavia (Gjerde 2008). Without relating the rock art to a relative good dating framework, some interpretations become flawed. This is also commented by Savvateev for the comparison of the Onega material and the South-Scandinavian material that should be dated to different periods, but by referring to old dating suggestions where: "Inaccuracies in the facts presented observed in the original sources were repeated" (Savvateyev 1982:36). The new material from Alta and Vyg gave surprising results when it came to dating (e.g. Helskog 1988; Savvateev et al. 1978). The boats would have to be from the Stone Age, thereby discarding the previous Bronze Age ownership of the boat motif. The material from the Late Stone Age available for comparative studies was multiplied. However, Bakka (1975b), Hagen (1976), Savvateev (1985) and Simonsen (1958) upheld the typologies on the development of

rock art. Many studies thereby suggested similarity between the Russian and the Scandinavian material without any in depth study of the material.

Location and Landscape

An early focus on the difference in economy when it comes to the hunter's art and the agrarian art in Scandinavia led to a focus on the difference in location. However, most of these early straight-forward assumptions have proven wrong. Mandt convincingly showed that there was no link between agrarian rock art and cultivated land in western Norway (Mandt 1972; Mandt 1978). The scarcity of sites in Russia has made it somewhat difficult to view the material as representative. However, the number of sites is increasing and I am convinced that it is only a question of time before the Russian record matches the Scandinavian.

As part of the early hunting magic interpretations, the hunting place was advocated for (Brøgger 1925; Petersen 1929; Wetterberg 1845). Good examples of this is still present (Farbregd 1980; Farbregd 1994; Lindgren 2002; Mikkelsen 1985). Lately, more nuanced views has renewed the focus on hunting magic (Helberg 2001; Keyser & Whitley 2006; Thackery 2005; Viklund 2004d). Maybe it is time to review some of these "discarded" ideas. Even if the hunting place and hunting magic interpretation of rock art sites have been highly questioned and under communicated the last decades, this interpretation does not have to exclude other interpretations. By no doubt hunting was central to Stone Age hunter-fisher-gatherers in northern Fennoscandia. The focus on large game, and elaborate collective hunting scenes, evidence a focus on hunting in the Stone Age rock art.

The variety of rock art and rock art sites likely represents a variety of activity connected to rock art, rock art sites and the land beyond. To equalise all rock art sites and interpret them as remains of one type of activity would be to simplify the variation evident in the material. We cannot justify that the thousands of carvings from the Alta rock art area, the painted cave art in northern Norway, the large reindeer at Jo Sarasaklubben in northern Norway and the single reindeer at the Brennelv site in northern Norway are made, acted and were applied in the same manner by people in prehistory.

The large rock art areas interpreted as meeting places where a variety of social activities took place has been advocated by several researchers for most of the large rock art sites, e.g. (Hood 1988; Malmer 1975; Stolyar 2001). The unique geographical location of these places is important and most likely these places were aggregation sites functioning as

nodes in the landscape where a variation of activities occurred. When it comes to the largest concentrations of rock art and the large variety of rock art motifs one find it is evident that these places most likely acted as meeting places for people from large regions. The availability of satellite images, new maps and an increased number of sites can open up new doors to landscape analysis. The lack of maps and the scarcity of sites in Russia under-communicated spatial studies.

While some rock art sites are located at landmarks that even today are perceived as unique, others apparently to our eyes have no such parameters. Several researchers have observed that some rock art sites are located near naturally "special places", like water-falls (Goldhahn 2002a; Goldhahn 2002b; Hallström 1960; Ramqvist et al. 1985b). Others have shown that they are located at communication lines in the landscape, like rivers, etc. Rock art show a large variation in location. The relation to other cultural remains also varies. Some rock art is distanced from the settlements (Heimann 1999; Ipsen 1995), while at other places it is virtually an integrated part of the settlements, e.g. (Hesjedal et al. 1996; Savvateev 1970; Savvateev 1977). Another factor here is accessibility. While some sites are placed deep into caves in northern Norway where one have to search for them and bring light into the caves to see them, e.g. (Bjerck 1995), others are placed where one naturally will find them when following natural lines of communication, e.g. at Gjølgjavatnet in middle Norway. At some places one can see the rock art at several hundred metres distance, e.g. at Jo Sarsaklubben in northern Norway, while at other sites one almost have to stand on the rock art and move along a panel or around the rock outcrop to see the figures and the scenes depicted, such as at Alta in northern Norway or Kanozero in north-western Russia.

When it comes to the location of rock art sites, even if the variation is vivid, some re-occurring features are repeated too many times for it to be just lucky incidents. The landmarks are one factor, the shape of the rock outcrop another etc. Like gateways to the other worlds, it seems like figures are appearing from the rock. The Anthropomorphic rock outcrops in Finland (Sarvas 1975), that by a closer look faces the same reality on many places in Sweden (Fandén 2001) and Norway (Slinning 2002) can not be accidental.

Several researchers have lately shown what Hallström already in the early 1900's noted, that natural features are included in the rock art. Lately, one has observed how integrated the natural features and micro-landscape is in the rock art. It shows how the landscape has been an integrated part in rock art from the tiniest crack to the large communication lines. How landscape is interacting in rock art has been studied by several researchers at different scales and levels. By no doubt this will receive further attention.

Different studies have been related to the micro landscape of rock art showing how the rock surface interact with the rock art. Often the stories in the rocks might have been there before the figures were added complementing or adding to the stories in the rocks.

During the last decade or so, anthropological views on landscape and perception amongst hunter-gatherers have given new interpretations on prehistoric landscape, e.g. (Ingold 2000; Jordan 2003; Tilley 1994; Tilley 2004). The focus on landscape since the early 1990's is still to reach its peak. It will be interesting to see how anthropological views on landscape (e.g. Krupnik et al. 2004) are related to rock art. It has made place, location, landscape, and its relations more actual than ever.

About 100 years after the initial systematic research on rock art in northern Fennoscandia started, we still try to resolve some of the crucial problems of the pioneers. We have gradually refined the dating framework. Even though new theories are brought into rock art research, the material record and the ethnographic record remains key for the interpretation. An important notion within the last decades is that we have to accept the diversity in the record; hence not look for one inclusive interpretation for all rock art.

A central issue that will be dealt with is how and what we document. There has been a focus on the figures only and most of the documentation applied in rock art studies today span from the material publications published more than 70 years ago. Most studies are therefore performed on the basis of "old documentation" conducted according to old research aims. It is therefore vital when studying rock art and landscape, to spend time at the rock art places reconsidering the art of documentation (Gjerde in press-b). Since the research aim in this thesis is to study landscape in relation to rock art, central to the thesis was to spend time in the landscapes of rock art.

Chapter 3 Seeing is believing

Documentation of art and the art of documentation

The aim of this chapter is see how documentation of rock art has changed and to show that if we are to study rock art with a new research aim, entering the landscape of rock art, one need to look at the rock art anew. This means combining methods of documenting rock art and the documentation of rock art in relation to landscapes to observe the different levels of landscape.

There is always a close relationship between documentation and the interpretation of rock art. The researchers' aims and approaches during documention will guide and constrain the interpretations based on the available documentation. Bear in mind that documentation is always an interpretation of reality. First and foremost, it is important to consider what to document, and what not too (e.g. what is to be included in the documentation); Second, how we are documenting (e.g. tracings, photography), and; Thirdly the lost information (e.g. changed landscape, lost relationships). Therefore, it is crucial to bear in mind the aims and approaches of previous researchers when applying previous documentation in our contemporary interpretations (Gjerde in press-b).

The aim of documentation of rock art has until recently been the documentation of the actual figures, where technique and motif has been the leading premises (Gjerde in press-b; Helskog in press). I would argue that the overall standard of documentation has not changed much since the large material publications of the 1930's. Documentation most often set out to achieve the most accurate documentation of the figures. Recently features in the rock surface has been related to the rock art figures, hence, we need new documentation. To give the reader an opportunity to grasp the problems when studying rock art, a short presentation of how to see and document rock art follows. Many researchers still apply "old" documentation when discussing rock art, hence one must consider the researchers aims when documenting the rock art. When studying rock art and landscape one needs to perform on-site studies.

Surveying - How to see rock art

Numerous methods and creative solutions are used to find or to see rock art. Anyone who has visited a rock art site knows how hard it can be to see the figures. When it comes to paintings, the best time is to see them when the weather is moist since water makes the

paintings more visible[45]. Painted sites with superimposition make it very hard to discern the different figures (see Figure 27). When it comes to the polished rock art, even small amounts of lichen have made it impossible to see the figures (e.g. Fykanvatn, northern Norway). Lichen is a problem since it covers the rock art (see Figure 28). Applying water onto the carved figures often makes them more visible[46]. To feel the rock surface with the fingertips was early used to distinguish natural from cultural lines (Brunius 1868:74). In Scandinavia, there has been a tradition to paint the carvings to see them better. This practice was early questioned by Hallström (1931). It is not recommended to paint the carvings due to preservation causes. It is also a problem when the key interpretations are painted onto the rocks. New documentation, (Gjerde in prep-b), shows that more is to be found on the same panels and thereby the paint is showing a "flawed" interpretation. The paint is also visually challenging since the paint dominates the rock surface, making it harder or virtually impossible to see the unpainted carvings.

Figure 27 Värikallio, northern Finland. It is somewhat hard to distinguish the figures due to the superimposition. However, right of the middle of the photo, one can see human figures. Photo Jan Magne Gjerde.

The most effective practice when looking at rock art is to be at the site at the right time according to light conditions, applying different methods to see the rock art (see Figure 29). When the sunlight is at the right angle according to the rock surface angle or inclination, the

[45] Researchers have applied sterilized water onto the rock surface, however, this is not recommended due to preservation causes.
[46] To apply water onto the rocks to make carvings more visible was already commented in the mid 19th century (Holmberg 1848).

relief in the figures stands out. Most often, this occurs when the sun is low on the sky, during spring or autumn. Numerous mornings and evenings during the sunrise and the sunset have been spent on the rock surfaces trying to see rock art in the "right" sunlight. Previous researchers have emphasized the importance of observing the rock art in different lighting before documentation (Brunius 1868:74).

Figure 28 Photo of the lower parts of Bergbukten 1 where the lichen is covering the rock art. The back legs of the elk is not visible in normal daylight. Photo: Jan Magne Gjerde.

Unstable weather conditions forced experiments to "replace" the sunlight when studying rock art. Already in the mid 19th century artificial light during nighttime was applied to see the rock art (Brunius 1868:74) The advantage over the sunlight was that the light source could be moved around. Apparently, Gustafson used bicycle lights when investigating rock art in Østfold, eastern Norway in the beginning of the 20th century (Engelstad 1934:17). Per and Eva Fett applied lights during nighttime to see the rock art, then during daylight critically reconsidered the chalked lines made during night (Fett & Fett 1941:8). The creative minds when trying to favor the best conditions to see the rock art was presented to me in a friendly chat with Juri Savvateev a few years ago. Fishing boats at Lake Onega was lighting the lake while fishing. The light reflected onto the rock surface making the figures more visible[47].

[47] Juri Savvateev, personal communication, 2004.

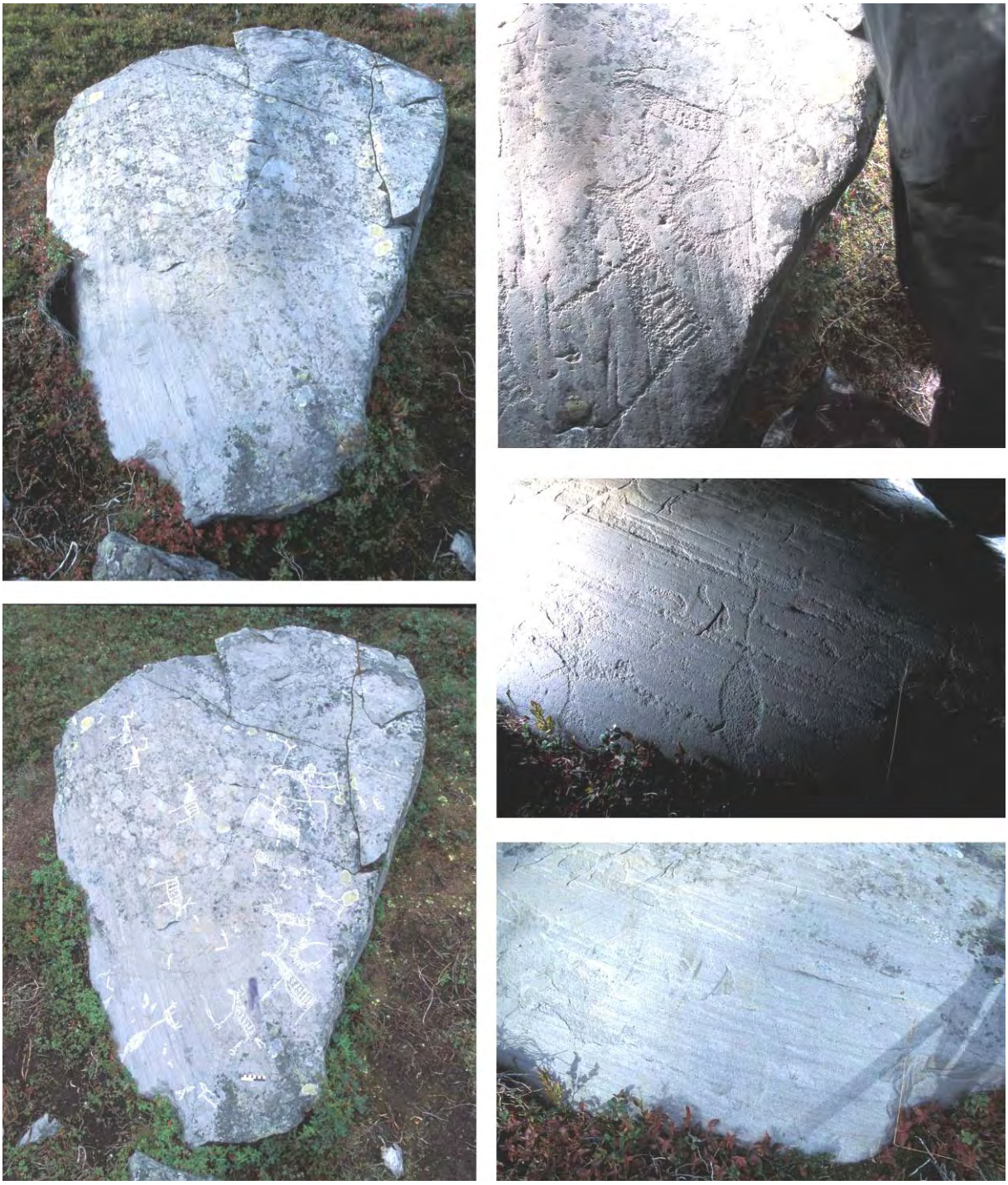


Figure 29 Photo of Bergbukten 1 in daylight and photo of Bergbukten 1 under black plastic. The boulder was chalked after working with black plastic. In photo middle right, one can see is depicting the halibut fishing scne that is invisible on photo bottom right. All the figures on the boulder are chalked and can be seen in the bottom left photo. When comparing the two photos of the boulder,on the left side, one can see a ridge on the top left photo that is not visible at the bottom left. Another interesting observation is that the halibut fishing scene is depicted where the rock surface is "dropping" There is no fishing scenes in Alta depicted on horizontal rock surfaces. They are always depicted in vertical locations mirroring the depth of the fish in the fishing scene. Photos and illustration: Jan Magne Gjerde.

With the help of mirrors, Almgren could reflect the sunlight onto the rock surface at the right angle to see the rock art. Unwanted light could be taken away with black plastic

(Mandt 1991:101). Michelsen, Bakka and Hagen first applied a modification of Almgrens method in western Norway during the 1960's, where the rock surface is covered with black plastic, then letting the light in from the wanted angle[48]. The use of black plastic have recently been successfully adopted by Russian researchers (Lobanova 2007). The method is regarded one of the best methods to see rock art in northern Fennoscandia. The main problem when documenting rock art is the vegetation that covers the rock art. At inland sites like at Kanozero and Onega in northwestern Russia, where the rock art is still in the shoreline, it is easier to see the figures than where they were overgrown by micro-vegetation.

I have applied most of these methods when looking at rock art. However, sunlight at the right angle, a wet surface or covering the rock surface with black plastic has proven to be the most effective. Changing weather conditions can also make rock art stand out better and make figures more visible. In essence, due to different practice of recording in different areas and time, I had to standardize the information for my own analysis.

Documenting rock art

One is rarely able to present the rock art in scale 1:1, even though exceptions have occurred (Worsaae 1846:pl 15). The largest figure at Leiknes in northern Norway is a killer whale more than 7m long. The largest scene from Kåfjord in Alta is a bear and its bear-tracks that can be followed for more than 8m. It is virtually impossible to present the large rock art scenes from Alta, Kanozero, Nämforsen or Vyg in the scale 1:1. The reduction of the documentation is important and too often figures are compared without scale, so the reader do not know the size of the figures. Reducing the documentation to handy format often makes the extent and details in the rock art appear like dots. This is sometimes problematic.

The first documentations of rock art were by free-hand drawing. One can see that the documentation depict the figures as an ideal representation of the motif (see Figure 32). Details were not always included and motifs were central, not scale, nor accuracy of the actual depictions. The relation to the other figures could be arbitrary depicted, and figures or details left out. Later rock art was documented in scale from a grid frame laid out on the rock surface, (see Figure 30 and Figure 31). By drawing every square meter on chalking paper, one could later reduce them to a more comprehensible scale. Chalk was early applied to mark the figures, (see Figure 33). At the largest panel from Lillforshällan in Nämforsen the development from free-hand drawing and the variation in focus when documenting can be

[48] Gro Mandt, personal communication, 2000.

observed by combining the documentations after Ekdahl from 1828, Mandelgren from 1868 and Hallströms tracing published in 1960 (see Figure 32).

Figure 30 Gjessing at Forselv in Skjomen, northern Norway. The grid is laid out over the figures. After (Gjessing 1932:pl. XLIV, fig1).

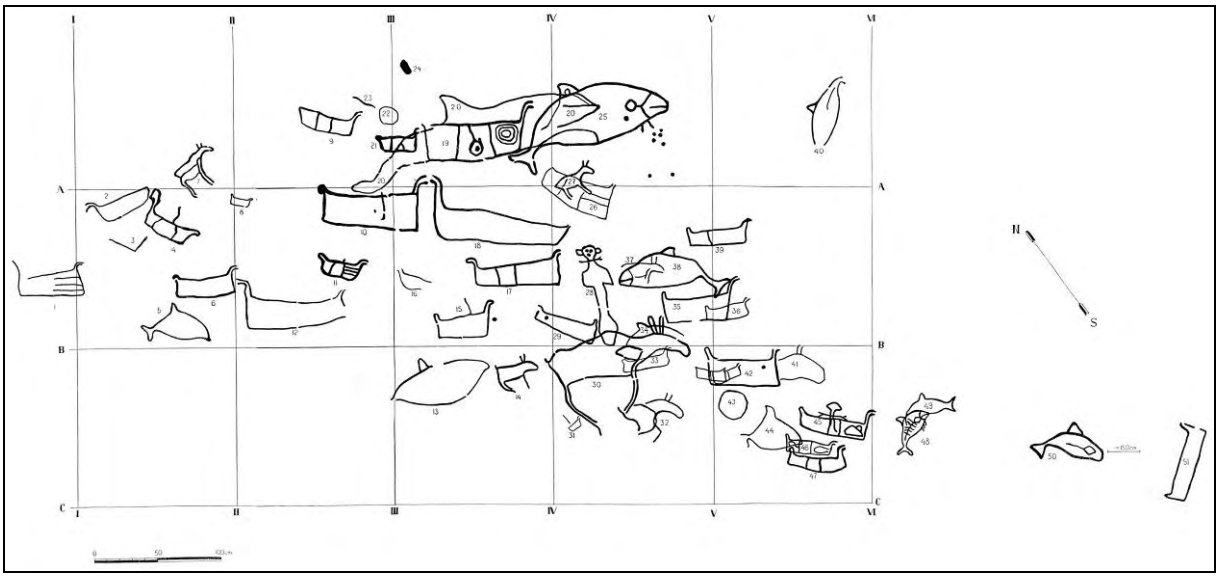


Figure 31 Tracing of Evenhus, middle Norway by Gjessing (1936a:pl. LXXVII).

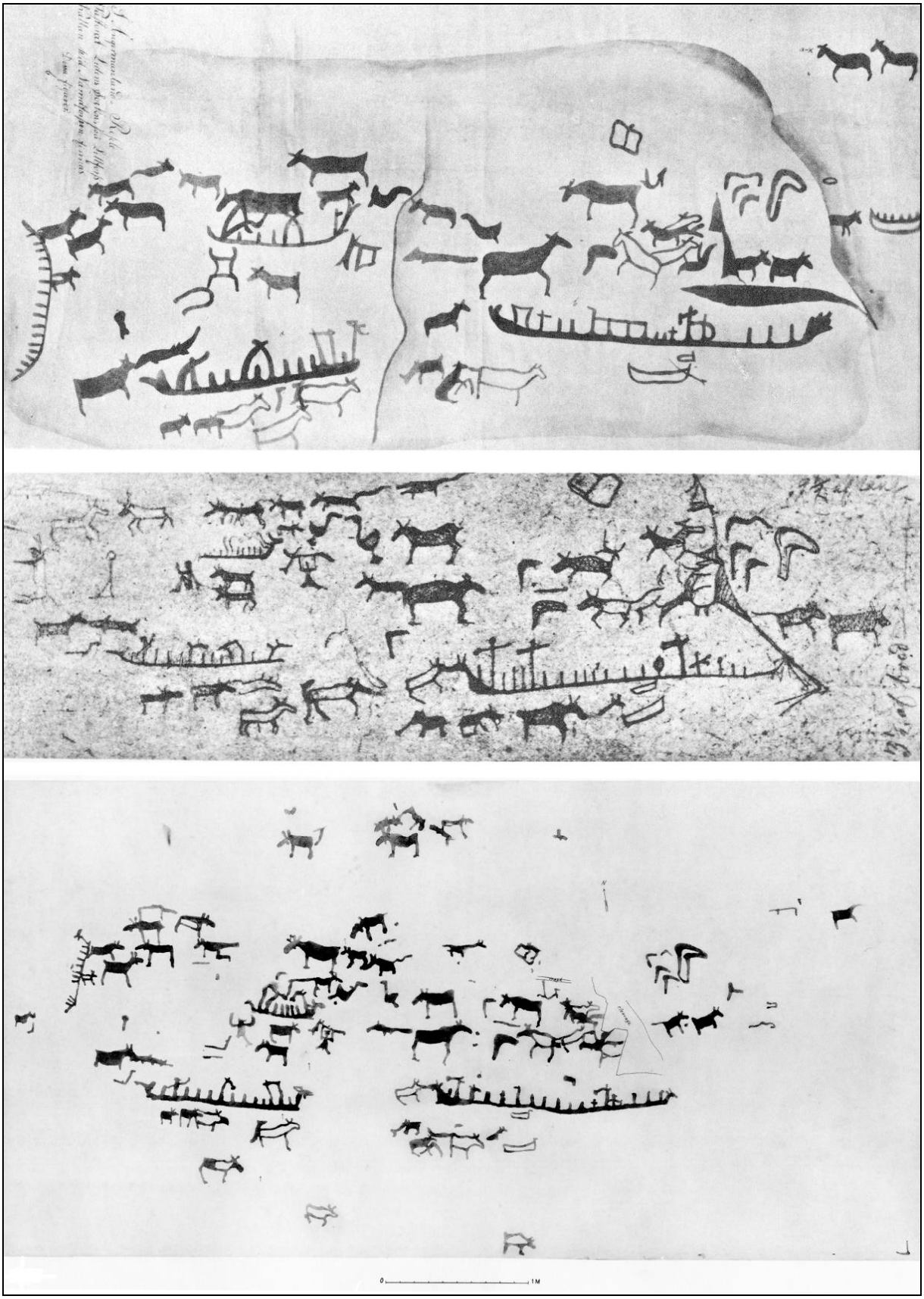


Figure 32 Documentation of the largest panel at Lillforshällan, Nämforsen, northern Sweden. Top: free-hand drawing by Ekdahl (1828). Middle: free-hand drawing by Mandelgren (1868). Bottom after Hallström (1960). All figures after (Hallström 1960:fig 79, 80 and pl. 13). One can see that the documentation gradually moved from an idealistic visualization to a more detailed depiction of the actual rock art. Illustration: Jan Magne Gjerde.

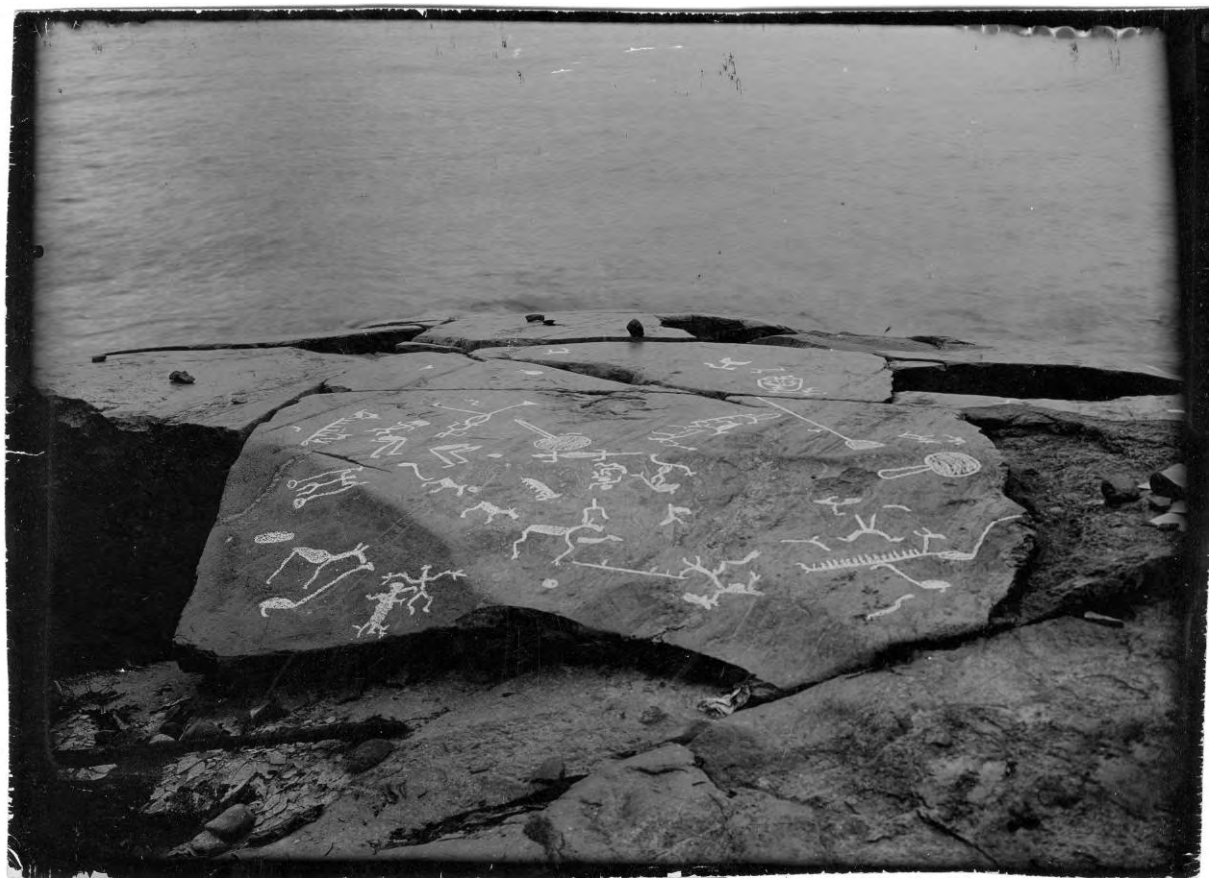


Figure 33 Documentation of Peri Nos, Onega (the Hermitage rock since it was later taken to the Hermitage In St. Petersburg) of Gustaf Hallström in 1910. With kind permission of the Gustaf Hallström Archive, Umeå University.

The frottage or rub-off has been widely used. At Zalavruga, northwestern Russia, in the 1960's, all the surfaces were rubbed[49]. This is very time consuming, however one may achieve a very good result. One of the problems with frottage is to distinguish natural lines (e.g. erosion, damages, cracks etc.) from the carvings. For Zalavruga the interpretation of the figures was done from the frottage's afterwards. There was no site investigation questioning the frottage[50]. Later it has shown that much of the erosion was taken to be figures and some of the figures documented were in fact erosion. Frottage can also be a good method to see superimposition in rock art. An example of this is observed at Kamenniy 7 at Kanozero, northwest Russia (see Figure 34).

[49] Juri Savvateev, personal communication 2004.
[50] Juri Savvateev, personal communication 2004.

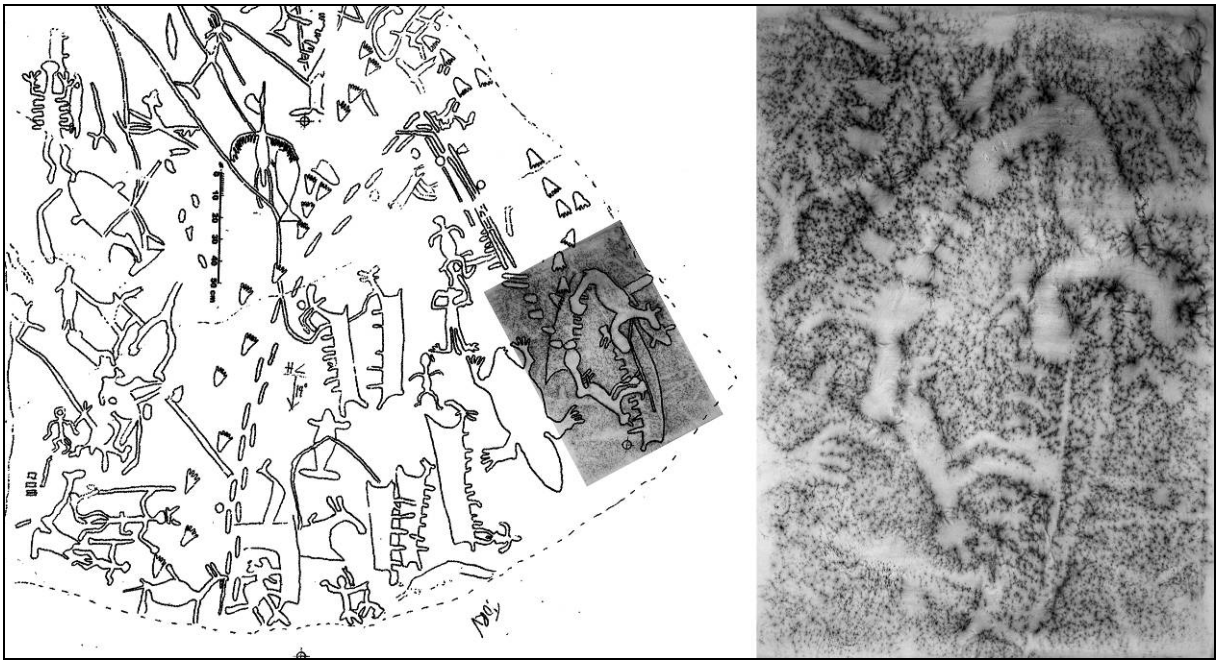


Figure 34 Frotage and tracing of a bear hunting scene from Kanozero (Kammeny 7). One can clearly see that the bear and the man is superimpositioning the Beluga hunting scene from two boats. Tracing, frottage and illustration: Jan Magne Gjerde.

Different kinds of casts, moulding or plasting has been applied to get a "negative" copy of the rock art. Paper machee (Hallström 1960:fig 82-86), plaster casts (Bøe 1932:77; Engelstad 1934:24; Fett 1934) and silicon-based moulds[51] (Devlet et al. 2006; Hesjedal et al. 1996:fig 80) have been applied. Casts of rock art is very accurate documentation and copies are ideal for exhibitions and presentations. However, it is very time consuming and expensive, and sometimes leaves an unwanted effect on the rock surface.

In the 1960's, caulking paper was replaced by transparent plastic. Michelsen, Bakka and Hagen applied the method in the 1960's in western Norway[52]. The most common type of documentation the last decades in Scandinavia has been tracing the chalked figures onto tracing plastic, later reducing them to a suitable scale. This is still the leading documentation method in Scandinavia[53]. Another method applied lately is tracing directly from photos. Preferably, one should at least apply different documentation methods to get a richer documentation. However, this is often restricted by time and economy.

A combination of different documentation techniques can reveal more of the actual rock art. Thereby it is important to see the rock art at different times and with different

[51] Lately a silicon based material has been applied successfully at Pegtymel, Chucotka, Russia, by Ekaterina Devlet that apparently has no side effects (Ekaterina Devlet, personal communication, 2005).
[52] Gro Mandt, personal communication, 2000.
[53] I applied tracing plastic when documenting at Kanozero, northwestern Russia, Forselv, northern Norway, and a few minor tracings have been done where required.

techniques. However, there must be no doubt as to the effect of the low sun on the right angle onto the rock surface. Different documentation techniques will make one come closer to a "correct" reproduction of the actual figures on the rocks. However, the question is whether these are always the only or the most important feature in the storytelling rocks?

Photo-documentation

Photos were early part of the documentation of rock art. Already in the 1890's, the first photos were taken of rock art (Nordbladh 1980:10). The works of Hallström was groundbreaking, giving an invaluable record of the rock art in the early 1900's. Photography was further explored in the 1930's. The advantage of new and more manageable cameras made it easier to document the rock art using photos. Photos supplemented the large material publications in the 1930's (Engelstad 1934; Gjessing 1932; Gjessing 1936a; Hallström 1938; Ravdonikas 1936b; Ravdonikas 1938).

Fett presented an overview of what is important when photographing rock art (Fett 1934). His observations and aims are not far from current standards when it comes to photography and rock art. His observations made him take photos of rock art at three levels. The *technical photo* holds information on depth of the carving, technique and rock type. A *group-photo* aim to show where on the rock outcrop the carvings are made. Then, the *landscape photo* is to show how the site is located in relation to the terrain feature. "Everything is allowed, as long as it gives a good impression of the landscapes character and tells us why they made the rock art exactly where it is" [my translation[54]] (Fett 1934:80).

Night-photography was explored already in 1917 by Hallström (1938:15) and during the 1930's, this technique was further explored. This method is very effective, however, problems discerning what was natural lines, cracks and weathering in relation to the figures made researchers question the method (Hallström 1938:15). The strongest opponent to the method, Burenhult, described it as "undoubtedly one of the worst and the most subjective for reproducing rock carvings" (Burenhult 1973:13). Even though the problems are evident, it is a good documentation method that often brings out lines not seen by other means of documentation. Sometimes one is prevented from studying the carvings in sunlight by vegetation (restricting the suns access) or other problems (overcast weather) and then the

[54] "Alt er tillatt, bare det gir et godt inntrykk av landskapets karakter og forteller hvorfor risteren ristet akkurat der" (Fett 1934:80).

black plastic technique to better see the figures or the night photography is good replacements complementing other documentations.

Today the use of digital photos has changed the overall picture. The rapid transition from analogue cameras to digital cameras has occurred at a speed rate one could not foresee. The waiting for the development of photos is replaced by instant pleasure. One does not have to regard the costs that previous researchers did when economizing the number of photos. One can also instantly see whether a photo lives up to ones expectations. By applying photography during different light conditions and night-photography one can instantly get photos that might help with the documentation and studying rock art. One can take photos under different conditions and compare them at the site when documenting. The advantages are numerous. Today, the best and most cost-effective documentation of rock art is different types of photos. Digital photos can be applied immediately, tracing the figures even at the site. For rock paintings, this has shown to be much effective (Ramqvist 2002a; Slinning 2002), see Figure 35.

Figure 35 Working digitally with paintings from Rouksesbakti. Here one can see that by applying various techniques the images becomes more clear and stand out from the reddish rock surface. Photo and illustration: Jan Magne Gjerde.

Digital documentation

Lately different scanning methods have been applied to document rock art, e.g. (Simpson et al. 2004). Digital photogrammetry applying photos and digital elevation models for the panels have also been explored, e.g. (Chandler et al. 2005). Such 3-D documentation has also been explored for the Kåfjord site in Alta, northern Norway (Bjelland & Helberg 2006:54, fig 41-42), see Figure 36. The results are promising, and the opportunities for building models in 3-D for e.g. exhibitions are fabulous. The drawback is that they are expensive or give an unsatisfactory result. Even with the best available scans of the rock surface, one still needs to interpret the rock art from its background accounting for e.g. striation marks or erosion. The question new digital documentation methods leave is whether they give more information regarding the interpretation of the rock art? I think photos or photo mosaic gives the wanted results. As part of the rapid digital revolution, scanning might prove more effective in the future when it is easier adapted and less expensive.

Figure 36 Section of the Ytre Kåfjord site represented by scanning and photo. The photo to the right is taken during daylight covered by black plastic letting light enter from the lower right. A digital tracing with either a scan or a photo in the background would make a good representation of the figures. The scanning to the left by METIMUR with courtesy Alta Museum. Photo to the right and illustration: Jan Magne Gjerde.

Documenting landscapes of rock art

As stated by Fett, landscape photos should be taken to get an impression of the landscape character and why the rock art was made where it is (Fett 1934:80). Even though his aim was somewhat ambitious, it was an important notion that the documentation of rock art was also to include its landscape setting. Due to the various “decay of context” through erosion, weathering, vandalism etc., researchers had a better opportunity to study the rock art in the early parts of the 20th century. Not at least the context of the landscape has changed dramatically at some rock art sites (see Figure 37).

Figure 37 Photo of the Nämforsen site. Top photo with kind permission the Gustaf Hallström archive Umeå. Photo by Gustaf Hallström 1916. Bottom photo from 2004 by Jan Magne Gjerde. The "main" character of the landscape, the water-fall is gone due to the hydro power station. Illustration: Jan Magne Gjerde.

Detailed maps of the location of the sites and aerial photographs have been used to show the location of the rock art sites and its landscape. Such presentations have been rejected

mainly by the phenomenological approach to landscape since observations regarding prehistoric sites should not be conducted through a birds-eye perspective (Tilley 1994:chapter 1). I can see no dangers in applying the birds-eye perspective to landscape studies as long as one is aware that this is what one does. I find the application of GIS [55] (Geographical Information Systems), aerial photographs, satellite images and maps combined with on site observations as useful and complementary. To disregard the birds-eye perspective would be to diminish relational mapping in prehistory. Ethnographic studies favor mnemonic places in relation to each other and relations between places can be observed by stepping back – or seeing from afar. "Natural" communication lines cannot be observed directly without journeying through the landscape and by on-site observation. We need to apply "modern" mapping to relate prehistory to our landscape research. Without reconstructed landscapes and the use of modern mapping, we are unable to grasp what the physical landscape would have been like. For the changing landscape of rock art, at many places this would be observing and interpreting the sites from underneath the contemporary shoreline. For many places, even modern landscape changes, has been dramatic to the context of sites. Observations made by previous archaeologists, e.g. photos of landscapes and rock art are important when visiting a site (e.g. see Figure 37). My fieldwork has included the study of photos in archives and collections with a changed landscape context in mind[56].

In this thesis I have tried to find new ways of observing and documenting the landscape of rock art. First of all there has been a priority to spend time at the rock art site and in the surrounding area. To get a better understanding of the landscape context and the location of the rock art sites, I have applied maps, aerial photos and satelitte photos. This has where imperative been compared to old photos before modern alterations altered the landscape context of some of the sites. The land uplift has been reconstructed on maps where the lost relations have been studied. At some places, the landscape has changed much due to the land uplift, like at the sites in Ofoten, northern Norway where some sites are located as much as 73m above the present sea-level. The steep landscape in the surrounding area made me look for alternatives to se how the landscape would be with a raised sea-level. This was performed by looking at the maps with a reconstructed shoreline to see how the landscape would have been in relation to the location of the rock art site. In Ofoten in northern Norway, the steep landscape made it difficult to see how the landscape would have been with a

[55] In this thesis ArcView has been used for the GIS work.

[56] I am most grateful for the open doors at Gustaf Hallströms archive at the University of Umeå, the private collections of Vladimir Ravdonikas at Kunstkamera and Institute of material culture in St.Petersburg and the private collections of Juri Savvateev in Petrozavodsk.

reconstructed sea-level contemporary to when the polished rock art was made. I tested the use of helicopter to raise my observation point to the level of the contemporary sea-level. This was done at the the Jo Sarsaklubben site at Nes, the Leiknes site and the Valle site in Ofoten, northern Norway. This gave me the oppurtunity to see how the polished rock art could be seen from a distance, as it could have appeared in prehistory. The results were promising and an interesting observation was that the rock art could be seen at as much as 300m distance at Jo Sarsaklubben.

From figure to ground

Lately it has been shown that the natural features in the rock surface and the elements might be part of the story told in rock art (Gjerde 2006; Gjerde in press-a; Helskog 2004a; Keyser & Poetschat 2004; Lewis Williams & Dowson 1990; Ouzman 1998). This has also meant that how we see, what we look for and how we document the rock art has changed. The most accurate documentation of a figure may not longer be of such importance for the rock art story. An example of how free-hand drawing is better than other documentation methods for looking at the story-telling rocks can be seen in the drawing by Høgtun, in Alta (see Figure 38), where he draws the landscape of the figures (Helskog & Høgtun 2004).

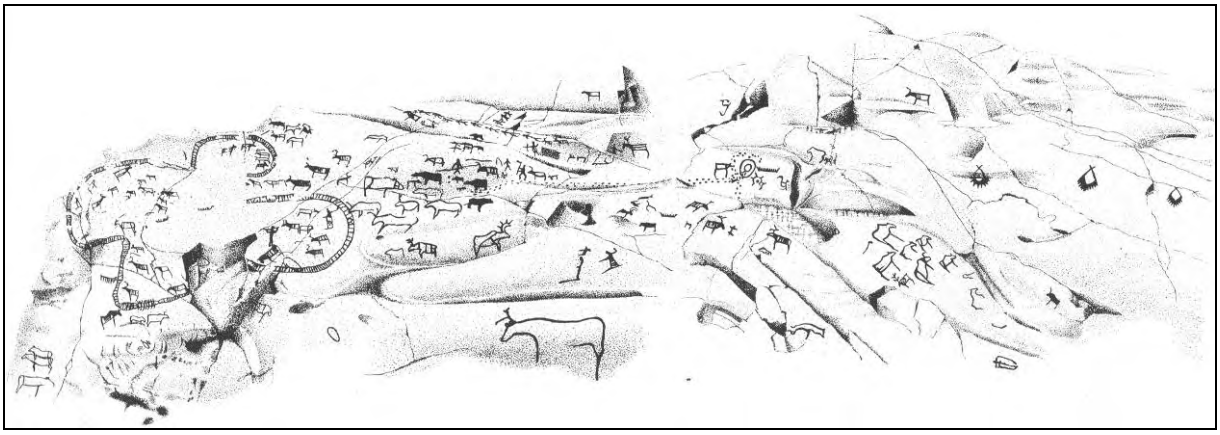


Figure 38 "3D"-drawing of the Bergbukten 1 panel in Alta, northern Norway. After Helskog and Høgtun (2004:30-31, fig. 7).

Photos take a central place in this thesis. Through an example from Nämforsen in northern Sweden, I will show how photos might give more information than tracings. At Bradön in Nämforsen, northern Sweden, Hallström documented a boat depiction (see Figure 39). This boat figure would then be used in stylistic studies as an elk-head boat with a bent keel. A photo shows how researchers normally would photograph the boat representation (see

Figure 40). Shifting focus, stepping back, not aiming for the actual correct perspective when documenting the boat one gets a new picture with more information regarding the boat even if one can not see all of the boat on the photo (see Figure 41). When approaching the site the boat is perfectly located where the water runs when raining and when the water-fall at Nämforsen is at its wildest. In my observation, the boat is interpreted as if it is sliding down the representation of the river (in the photo the area where it is wet can be seen in darker lichen). Aware of the fact that the rock art at Nämforsen is located at a large water-fall it also looks like the figures are structured according to the miniature landscape reflecting the physical landscape at Nämforsen (Gjerde in press-b). By comparing Figure 40 with Figure 41, one see that the result of the photos gives different possibilities for interpretation of the rock art. However, such observations must preferably be made at the site through experience and observation.

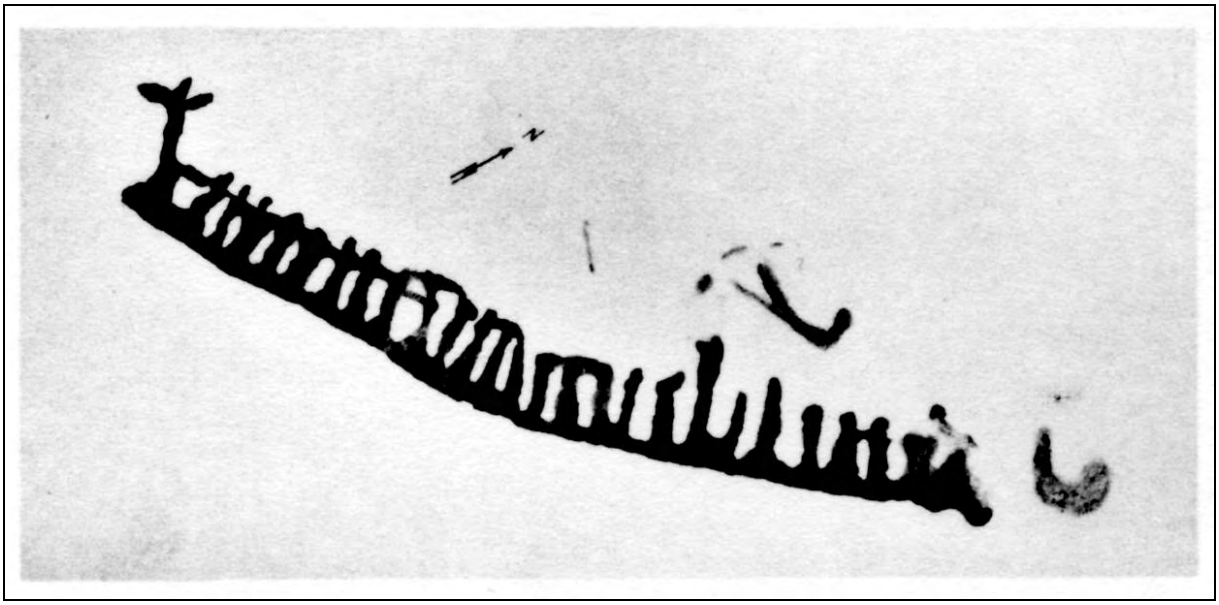


Figure 39 A boat figure from Bradön (B:2), Nämforsen, northern Sweden. Tracing after Hallström (Hallström 1960:pl XXIII).

Figure 40 A boat figure from Bradön, Nämforsen, northern Sweden, documenting the actual boat figure. Photo Jan Magne Gjerde.

Figure 41 A boat figure from Bradön, Nämforsen, northern Sweden. Here we can see that the boat representation is depicted as if it is sliding down the river. Photo Jan Magne Gjerde.

WhatYouSeeIsWhatYouGet[57] – summing up

From the initial phases of rock art studies, researchers have been concerned with a most accurate reproduction of rock art. The strive after the objective rock art documentation was much appreciated by rock art scholars in the 1970's (e.g. Burenhult 1973:13) have been continued and we still search for the best documentation available, e.g. through scanning of rock art. Most previous researchers have been aware of the difference in documentation between researchers. Engelstad even went as far as claiming some had a richer imagination while others only documented what they were 100% sure of. Engelstad also stressed the fact that the more eyes the better when documenting rock art (Engelstad 1934:13). Hallström added with importance the revisiting of rock art sites (Hallström 1938:15), and through my experience with rock art documentation, I could not agree more. I appreciate the opportunity I have had during the work with this thesis where I could visit the sites more than once. The difference in the documentation of rock art can be observed in the large material publication by Hallström (Hallström 1938) compared with the materiel publications by Bøe (1932), Engelstad (1934) and Gjessing (1932; 1936a) of the same material. From my own experience, I know that revisiting sites makes one observe different elements within rock art. New figures and details of figures might reveal themselves. Changing light conditions, weather or seasons makes one observe different elements within the rock art. Clearly, we have the upper hand when it comes to the methods and techniques of documentation to our previous researchers. However, at many places the context of the rock art has changed dramatically, both at the micro-level and at the macro-level. To be able to see the Nämforsen carvings or the carvings at Vyg before the large hydropower systems were built must have been extraordinary. One should not underestimate the documentation performed by the rock art pioneers. In many cases, they give us invaluable information that we are not able to observe today due to the constant changing landscape of rock art. It is with the utmost respect of previous researcher's documentation and their achievements that I might see rock art with new eyes. Through my work, I have appreciated both tracings, rub-offs, photography and night-photography.

Even how much we try, Eva and Per Fett's statement from 1941 is still as valid as when it was published: "A total objective rock carving investigation is today unthinkable thinkable [my translation[58]]" (Fett & Fett 1941:11).

[57] Wysiwyg = "What You See Is What You Get" was an aim within early computing. The aim was that what one could see on the screen was to appear on the printer. In any documentation of rock art, we strive to make the result appearing in printing a reflection of what is on the rocks.
[58] "Nogen helt objektiv helleristningsundersøkelse er i dag ikke tenkelig" (Fett og Fett 1941:11)

Chapter 4 Landscapes and rock art - rock art and landscapes

Landscapes and rock art – rock art and landscapes

In this chapter, I will set the parameters for what is discussed, and how I am discussing rock art and landscape in this dissertation. I will first briefly approach a definition of how landscape is to be understood in this thesis. Throughout this chapter one will see that landscape amongst hunter-gatherers cannot be viewed within one research discipline. Throughout the chapter, I will relate the study of landscape and rock art to ethnography, geography and archaeology. Important in this discussion of landscape is how it is perceived, since in my opinion: There is no one "reading" of landscape.

When it comes to motifs, the selective depictions in rock art favour large game (bear, elk, reindeer and whale), human figures and boats. When it comes to scenes and compositions, clearly, the hunting theme is dominant (elk hunting, reindeer hunting, whale hunting and bear hunting) and widely represented. However, one must bear in mind the multivocality that could be stored in motifs and scenes where the information communicated in a single motif might bear meaning that cannot be read from the motif or scene in itself.

As with any archaeological remains, dating is crucial. We have to date the rock art, otherwise it cannot be related to the other archaeological record and changes in the landscape. I will briefly discuss the dating of rock art and it's importance, since in northern Fennoscandia people have been making rock art from the first pioneers colonized Fennoscandia after the last ice age until fairly recent times, about 12000-year "continous tradition" of making rock art. At the large rock art areas (e.g. Alta, Nämforsen and Vyg), rock art was made in the same area for thousands of years and to mix the rock art uncritically without relating it to time would bring rock art into an unwanted abyss.

Then I will move on to discuss change in relation to landscape. By relating rock art to the temporality of landscape, I will look into minor and major changes in the landscape. Some of these are temporal (like seasons and tidal landscapes in relation to rock art and its location), while others are all-embracing, returning to the importance of a diachronic perspective, I will emphasize the importance of the lost relations of rock art due to natural changes in the landscape (e.g. land uplift) and modern alterations to landscape (e.g. hydro power constructions).

When discussing the lost relations I will move onto the ethnography of landscape and the importance of analogy in the study of rock art and landscape where I stress the importance of ethnography and the ethnographic landscapes of the circumpolar area. Within the ethnographic landscapes in relation to rock art, the cosmology (world-view or perception of the world) and thereby the shaman in relation to rock art, will show how the knowledge of landscape is related to the location of rock art at different levels. The shaman practice is important in the world of hunter-fisher-gatherers throughout the circumpolar area. I will therefore bridge the ethnographic record to what could be observed in Stone Age hunter-gatherer rock art. An important issue will be the journeys, both real and imagined, that are central to the shaman practice and hunter-fisher-gatherers by seasonal and minor migrations.

Journeys and travels bring me on to the significance of geographical knowledge where I will apply the idea of memoryscapes in a cynegetic[59] lifestyle. I will here show how rock art relates to geographic knowledge of the landscape of hunter-gatherers. I will apply theory on landscape from human geography and relate this to ethnographic landscapes. Thereby show how rock art includes perception of landscape. Within this, I will show how travels and journeys are represented in Stone Age hunter-gatherer rock art reflecting back on cynegetic activities and the shaman practice.

After setting the parameters, I will show how rock art and landscape relates to different levels where nature and culture are intertwined in the rock art. I will then show how rock art is related to the macro-landscape and the micro-landscape, which will be my analytical tool in the case studies of the thesis. The main hypothesis being that rock art and landscape is intertwined in scales or levels of landscape that reflects Stone Age hunter-gatherer perception of living in the world.

What is landscape?

The term landscape is applied in infinite ways and variations. The meaning and content of the word is indefinable. In the etymologic dictionary over the Norwegian and Danish language, the landscape word of origin was most likely a general term describing the characteristics or the qualities of an area or a country[60].

[59] Cynegetic was first brought to my attention by Collignon (2006b). Cynegetic derives from Ancient Greek and means something like “connected to hunting”.
[60] Landskab skylder sin betydning til middel nedertysk Lantchop (hollandsk Landschap), nyhøitysk Landscipe ”egn” (eng. landscape); oldnorsk Landskapr betyr ”lands skik eller beskaffenhed (Falk og Torp 1991:443).

When reading about or discussing landscape, attempting to grasp the indefinable concept, one eventually comes to grip with the notion that landscape is a term that both invites and defies definition. Landscape is ambiguous in many ways. We have an abundance of "landscapes" where landscape more or less has become a "frosting" word. The different "-scapes" have multiplied in search of a better word (if it exists).

Some see the ambiguity of the concept as a fruitful tool to keep different research disciplines together: "… it is the very fullness and ambiguity of the concept of landscape that makes it so useful and helps span the gaps that might otherwise exist between numbers of disciplines. The thread that binds geography, archaeology and anthropology together around the theme of landscape is the notion of history that can be derived from it" (Gosden & Head 1994). Layton and Ucko (1999:1f) defines landscapes as: "…particular ways of expressing conceptions of the world and they are also a means of referring to physical entities". They follow Gosden and Head's ambiguity and define the two main approaches or views on landscape based on the notion that: "Landscapes encompasses both the conceptual and the physical" (Gosden & Head 1994:113). Landscapes are then particular ways of expressing conceptions of the world and means of referring to physical entities. Both the above approaches are established usages, hence, following Olwig (1993); it is fruitless to argue which one is the correct (Olwig 1993:338-339).

A wider definition relating landscape to experience is Johnstons "paradox of landscape" where landscape includes all our relationships with our surroundings, material culture, architecture, ecology, memories, narratives and cosmologies (Johnston 1998:317). Different people can see the same landscape in many different ways, even at the same time (Franklin & Bunte 1994; Mack 2004). Landscape then 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, referring to Hirsch (1995), the landscape can be a cultural process (Hirsch 1995:5). In other words, one landscape is many landscapes through different experiences and preconceptions. I will exemplify difference in perception of a landscape through my own experience when travelling to a rock art site in northwestern Russia during fieldwork for this thesis:

> After hours of driving, in the flat forested landscape of northwestern Russia, we drove past a river. I was told by a Russian colleague to pay attention to the "the big water-fall". I looked out the window. We stopped, and I could still not see the waterfall. When they explained exactly where it was I could see a stronger stream and a drop of about 1m in the river.

My topographical references, growing up in the coastal mountainious Western Norway, do not perceive this as a waterfall. This exemplifies that definitions within a landscape are based on our experiences of physical landscape. What we pay attention to will vary in relation to experience and cultural context.

Moving back to the characteristics of landscape, one may refer to physical entities or qualities to describe a landscape. One may refer to a coastal landscape as opposed to the inland landscape. One may refer to an areas main characteristics, like mountain scenery. One may refer to a landscape as flat or undulated. At a large level, looking at Fennoscandia; Norway is the land of the fjords; Finland is the land of the lakes etc. Describing a landscape is hard, and place descriptions are rooted in experience from living in a landscape. Consequently, the characteristics of landscape features and elements may be difficult to grasp when trying to describe an unfamiliar landscape. The long journeys during the fieldwork for this thesis, covering vast parts of northern Fennoscandia, forced me to be a geographer. The characteristics of the land changed dramatically from region to region as I explored the unfamiliar landscapes of northern Fennoscandia. Growing up in coastal Norway with its fjords and high mountains, I struggled finding my way in a flat, heavy forested landscape like inland northern Sweden or in Russian Karelia.

Hunter-fisher-gatherers have an extremely rich vocabulary of appellative (describing) place names. Examples of this can be found among the Inuit (Collignon 2006b), the Siberian Tungus (Evenki) (Shirokogoroff 1935), or the Saami (Qvigstad 1944). Hunter-fisher-gatherers live in landscapes and their lives centres around what Collignon defines as cynegetic activities. Cynegetic derives from Ancient Greek and means something like "connected to hunting", referring to travelling, hunting, trapping, fishing and gathering (Collignon 2006b). Thereby landscapes related to cynegetic activities and cynegetic knowledge is important for hunter-gatherers. One may, with Collignon, claim that everyone by nature is a geographer that deals with places, spaces and the environment (Collignon 2006b:1).

Trying briefly to sum up a short definition of landscape is not easy. Landscape for me at a general level is *the interaction between nature and culture and our experiences from*

living within it. When looking at this in a long-term perspective, time and change are also central terms within landscape and archaeology.

Landscape and archaeology

A variety of approaches can be seen in the abundance of uses of the term "landscape" in archaeology. Preucel and Hodder list four such approaches to studying prehistoric landscapes. They see these approaches as a gradation of views from landscape as natural to the landscape as cultural; the first of the approaches involve the reconstruction of specific environments. They deal with what was out there that past people had to live and adapt to. The second approach they termed "landscape as system". These studies refer to the need to place sites within an overall pattern (of sites and off site activities). The third approach is "landscape as power". This approach regards the landscape as ideologically manipulated in relations of domination and resistance. Their fourth approach is "landscape as experience" The term landscape can be taken to refer to how the environment was perceived and imbued with meaning (Preucel & Hodder 1996:32f). Lately several researchers (Arsenault 2004b; Smith & Blundell 2004), have convincingly shown the weakness of the first two approaches. They leave aside the cosmology, myths and symbolism that give meaning to the natural landscape. Instead, they are advocating the use of aboriginal knowledge of landscape and landscape use to move away from the Western "gaze of nature" (e.g. Arsenault 2004b:71ff; Smith & Blundell 2004).

An increasingly popular approach to landscape archaeology in recent years is the phenomenological approach. This approach lies within the above-mentioned fourth approach, where individual experience and the perception of landscapes have been central. The approach has a strong foundation in British archaeology (Brück 2005). Experiences of Neolithic and Bronze Age monuments within a "domesticated" landscape are presented and regarded to have been similar in the past (e.g. Bradley 1993; Bradley 1998; Thomas 1996; Tilley 1994). The works of Bradley (1991; 1993; 1994), Ingold (2000) and Tilley (1994; 2004) have inspired a number of studies where experience of the landscape has been central. The common factor within all these early studies of landscape (e.g. Cooney 2000; Edmonds 1999; Scarre 2002) is that they relate monuments in relation to landscape, and how monuments are perceived "today" in the present landscape. Most of these studies rarely relate to the changes in the landscape between the landscape of today and when they were made. Thereby, how people in the past could have perceived and included them in their lives. By focusing on

monuments, many studies left out the archaeology of natural places, and how natural features were included, applied and perceived by people in the past as advocated by Bradley (2000a). Central to this thesis is accounting for the lost relations in landscape trying to get a better understanding of the past landscapes, not the present landscapes.

Archaeology needs to look at landscape with a diachronic perspective. Factors like continuity and change becomes central notions. To get closer to how people lived in the past we should look into how the landscape was experienced, following Johnston's (1998) definition of landscape, we, as archaeologists have to try to include how people experienced landscape in the past.

Figure 42 A panel with rock carvings at Vingelven in the Vingen rock art area in western Norway, dated to the latter period of the Early Stone Age and the Late Stone Age. With its 860 m, the large mountain Hornelen, seen in the background, is the highest sea cliff in Europe, and has for a long time been used as a landmark for naval navigation. Photo: Jan Magne Gjerde.

Landscape and rock art

Previous discussions of rock art and landscape have focused on why sites or panels are located at particular places in the landscape (see Figure 42) (Goldhahn 2002b; Hood 1988; Mandt 1978; Mandt 1999; Sognnes 1987b) and on how landscapes and rock art are perceived (Bradley 1994). Location studies were rooted in topography, spatial studies and relations to other cultural remains, like graves and / or settlements etc (Kjellén & Hyenstrand 1977).

Within the perception of rock art and landscape, phenomenology was explored by Tilley in his perception of rock art and landscape studies (Tilley 2004; Tilley 2008). Lately studies have shown how landscapes might be represented in the panels themselves - real and cosmological (Bradley et al. 2002b; Helskog 1999; Helskog 2004a; Myhre 2004; Wahlgren 1998) where natural features are part of the rock art, acting as the canvas (Keyser & Poetschat 2004), where the rock surface might even represent topographical features in a miniature landscapes (Helskog 2004a). The above-described directions reflect the research history where landscape has moved from being nature to being regarded as culture where natural features are cultural features in the sense that they are embedded with meaning, e.g. the anthropomorphic cliffs with rock paintings in Finland (Sarvas 1975:46-47). I will later elaborate on the relations between rock art and landscape where I discuss and exemplify how rock art and landscape interact.

Figure 43 The large bear figure at Valle 2, northern Norway dated to the Early Stone Age. The bear is 2.26m long. Photo: Jan Magne Gjerde (with self-timing release).

Selective depictions in rock art

The rock art record, although selective reflects local environment, e.g. there are no giraffes or elephants in northern Fennoscandian rock art. Within northern Fennoscandia, rock art is characterized by the depiction of large game animals. The rock art in northern

Fennoscandia from the Early Stone Age virtually only depicts the large animals (e.g. bear, elk, reindeer, whale). The first rock art depicted is life size or near to life size (see Figure 43). The largest animal depicted in rock art from northern Fennoscandia is the killer whale[61] depicted at Leiknes, northern Norway that measures about 7.5m. This earliest rock art in northern Fennoscandia dates to between c. 10000BC-5000BC by shoreline dating. Then, from c. 5000BC, both the number of sites and the motifs increase and rock art includes animals, humans, human made objects (e.g. boats, hunting gear) and figures are depicted in scenes and compositions. Some of these scenes are depicting a fairly narrative description of hunting, like the whale hunting at Vyg (see Figure 190) or the bear-hunting in Alta (see Figure 71) or at Kanozero (see Figure 70).

Time - dating rock art – dating landscapes

The chronological setting has been, is, and will still be one of the crucial questions within rock art research. The oldest rock art in northern Fennoscandia dates to the pioneer phase after the last glaciation. By shoreline dating, the polished rock art sites in northern Norway are given a maximum date to c. 9400BC-7600BC[62] (9900-8500 BP) (Hesjedal 1993b:31). The youngest rock art are often associated with the Saami and can be dated within the last centuries (Mulk & Bayliss-Smith 2006; Shumkin 2000; Simonsen 2000:48). This means that rock art in northern Fennoscandia has been made for more than 10000 years. When discussing relations within rock art and rock art and archaeology, the cultural context is important. Without dating the rock art, it is left short-handed in relation to the rest of the archaeology, hence: "Rock-art research must contribute directly to archaeology if it is to achieve anything of value…"(Bradley 1997:8).

The dating of rock art in northern Fennoscandia is rooted in relative chronologies. Several methods have been applied. The combination of different dating methods are preferred, however, few places holds data to support multiple methods. Early dating suggestions in rock art was based on an evolutionistic view of the rock art, from large naturalistic, to small complex schematic, where technique and style was important in the typological chronologies presented (Gjessing 1932; Gjessing 1936a; Hallström 1938). I will briefly put forward the most common dating methods applied in this thesis.

[61] Orcinus orca.
[62] Calibration of Hesjedals dates by OxCal 3.10.

The strict shore location of the rock art sites from the Stone Age in northern Fennoscandia makes the *shoreline dating* the most favourable method when dating rock art. The argument for such a location was long rooted in functional explanations (Bakka 1975b; Mikkelsen 1977), and later strengthened by relating the shore connection to the cosmology of arctic ethnography (Helskog 1999). However, one must bear in mind that such a shoreline dating only gives a maximum date for rock art. Rock art sites that are covered by marine deposits from transgressions, e.g. Slettnes, northern Norway (Hesjedal et al. 1996) and Zalavruga, Vyg, northwestern Russia (Savvateev 1970) can be seen as Rosetta stones within this dating method. They are sealed finds; hence, they act as reference sites with a unique dating context. Shoreline chronology cannot be established for the inland sites. However, Mikkelsen applied the results from the coastal carvings dated by shoreline data to date the inland rock art by stylistic comparison (Mikkelsen 1977).

Adjacent archaeological dated sites or artefacts can relate to the rock art (Lobanova 1995a; Savvateyev 1988; Taavitsainen 1978), however, one cannot be sure that they are contemporary. *Superimposition or stratigraphy* has been applied where figures are carved on top of each other (Forsberg 1993; Gjessing 1932:11; Gjessing 1935). One can claim one is earlier than the other, however, although difference in time between the figures is unknown. Where figures show difference in *erosion* it may indicate difference in time, however rarely the internal relations (Gjessing 1932:11). *Chorology (changes within motifs),* style and the typology of motifs have been viewed in relation to chronology (Malmer 1981; Mandt 1991; Stolyar 1977). The pitfalls in stylistic studies are many and although it has been suggested that one should gradually move towards a post-stylistic era (Bahn & Lorblanchet 1993) the epistemology and a general lack of other dating suggestions, make it somewhat impossible. Difference in *technique* have been assigned to difference in time (Hesjedal 1994; Simonsen 1958), however this seems more problematic to establish.

The concluding remark when it comes to dating methods, is that we need to study the context of each panel and each site. There are not two identical panels within the rock art in Northern Fennoscandia. The most reliable comparable definition for the rock art is variation of similarity. For many of the sites we do not know how long time they made rock art at a panel. We do not know whether the rock art was re-used for later activities after they were made, and if they were, for how long? Further research and new data in the future might show us a highway of dating, however now we have to combine and rely on the narrow trails that together will make up a path of chronology suggested by shoreline dating.

Making, revisiting and tradition of rock art

A problem concerning the dating of the rock art is whether the figures on a panel are made at one time, hence being contemporary, or whether they were made successively. This was early touched upon by Holmboe (1861:33) where he claimed that the boat carvings in southern Scandinavia were made successively. Gjessing backed this idea and stated that the carvings would have been made during a long period of time one by one at certain occasions, like at ceremonies (Gjessing 1939:5). Such ceremonies have been connected to seasonal rituals (Simonsen 1986). Contra Gjessing, Marstrander claimed that the carvings were made in one go and within a short time frame (Marstrander 1963:75). While today most scholars would agree that the majority of the sites in northern Fennoscandia were produced successively, this does not exclude that some panels was made during a short period. The revisiting of rock art sites through a long time period, sometimes connected to rituals, have their counterparts in the ethnographic record from Siberia (Okladnikov 1970). The painting and re-painting of rock art sites are also well-known in Australia (Chaloupka 1992), South-Africa (e.g Lewis-Williams & Dowson 1989) and North-America (e.g. Spier 1930).

That rock art is made at the same places for a long time is obvious when studying the large rock art areas like at Alta in northern Norway, Nämforsen in northern Sweden or Vyg in northwestern Russia. We also know that people revisited the same panel repeatedly for thousands of years. The Bardal site in middle Norway clearly evidences such revisiting, where the figures clearly belong to different periods, the Stone Age and the Bronze Age (Gjessing 1935; Gjessing 1936b; Hallström 1907a:222). Later, by style and motif, I would claim that it is likely that people made rock art at Bardal in the Early Stone Age, Late Stone Age, Bronze Age and most likely during the Iron Age. Bardal was a site where people visited the same panel during 6000 years. This would question the strict shoreline connection as a location criteria for all rock art at all times. A study of western Norwegian rock art show that the strict shore connection is not so important in later periods (Gjerde 2002). This concur with the latter phases of rock art from the Bronze Age and Iron Age at Bardal in middle Norway that cannot de directly connected to the shoreline.

If the rock art was made successively, the questions would be: what timespan separates the different figures, when were the first figure and the last figure on the panel made? Was all the rock art on one panel made at one time?, once every year?, once every generation? or did they revisit the rock art time after time after it was made? In other words, was images added to the panel once or was they made by successive visiting to the site? Sometimes it looks as if they have come back to the panel to make more figures, to “complete” a scene or to add

features to the compositions or the panel. We can see examples of this on superimpositions from Ytre Kåfjord in Alta, northern Norway (see Figure 154) or at Kanozero in northwestern Russia (see Figure 226) and by water erosion at Jerpin Pudas 3, Vyg, northwestern Russia (see Figure 195). There are no clear-cut answers to the questions regarding the making and revisiting that is valid for all the rock art in question.

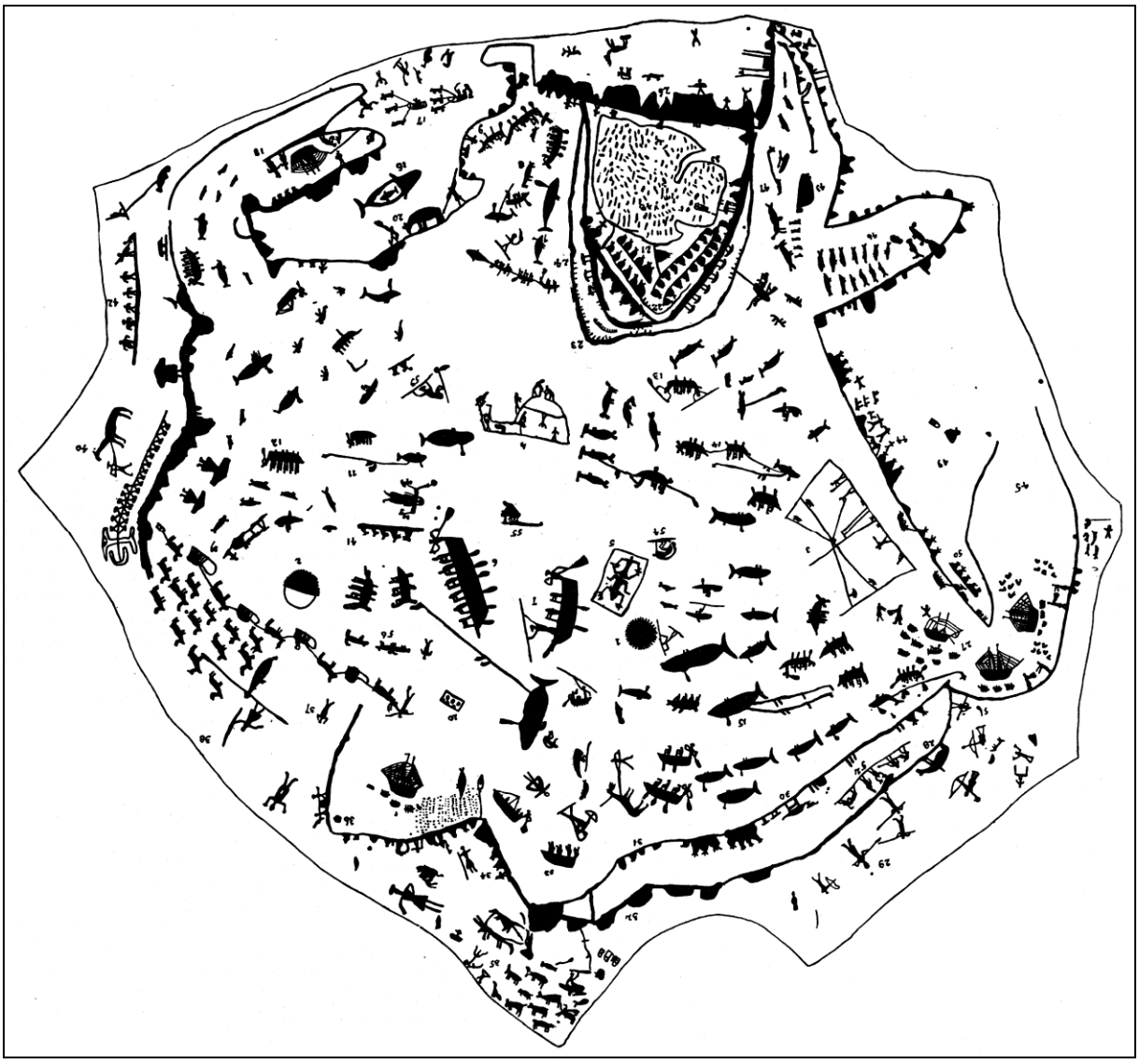


Figure 44 Hide painting from Chukchi presenting a "History of a Year of the Chukch" (Hoffman 1897:938ff), graphics after Hoffman (1897:plate 81).

I will exemplify the successive "visiting" of a site by "comparing" a rock art panel to the hide paintings described in the ethnography of the Chukchi[63] in northern America (see Figure 44). Motifs and scenes were added to a hide painting according to special events

[63] Chukchi, or Chukchee are an indigenous people inhabiting the Chukchi Peninsula and the shores of the Chukchi Sea and the Bering Sea region of the Arctic Ocean within the Russian Federation.

during a year or a life-time (Hoffman 1897:plate 81). At this particular hide-painting motifs and scenes are put onto a hide representing major events in a person's life. This would explain the number of figures and the variation in motif and scenes. Such hide paintings could also belong to a family or a group / clan. A similar way of representing the figures and scenes that could origin from the same idea is also found in the rock art at e.g. Onega (Peri Nos), at Vyg (New Zalavruga 9) in northwestern Russia (see Figure 45), and possibly at Slettnes 2 in northern Norway, where one to see the images and the relation between the images would have to "read" the panel in a circular way or move like in a spiral. At the boulders like Slettnes 2 one would need to move around the boulder to see the images.

Figure 45 Tracing of New Zalavruga 9, Vyg, northwestern Russia. After Savvateev (1970:plate 62).

The changing landscape

Another temporal aspect of rock art is related to the landscape and the landscape of rock art as it was and is perceived. One of the advantages of rock art as opposed to the excavated record is that one can visit and revisit the sites. It has been claimed that one of the strengths of rock art as a material category is that it is still in its context. With a few exceptions, rock art is still located in the landscape as opposed to collections in a museum. Even if the rock art was found and documented a century ago, we can return to the site and study the rock art anew. In terms of archaeological data acquisition, we can "excavate" a rock art panel over and over again, with new methods and new research aims. It is not "destroyed" as a Stone Age settlement site will be after the excavation / documentation.

There are temporal changes that can be observed today, like seasonality, weather, tides and so forth. All these "minor" changes are important to the perception and the study of landscape. When dealing with archaeology and landscape, since we are looking into the time-depth of landscape, there are also major changes to the landscape in relation to Stone Age landscapes of rock art. I choose to define these major changes, or long term changes, as the lost relations that we have to encounter to study landscape of the past. Within this the previously discussed dating and time is important since it is no idea relating Stone Age Rock Art to the Bronze Age. When it comes to the lost relations, there are the changes to the land after the post-glacial period (mainly land uplift for northern Fennoscandia), changes in vegetation and animal life (fauna and flora). However, there are also man made changes. Most of these have occurred within the last 100 years as part of industrialism (building of houses, roads, hydropower constructions etc.). These modern alterations to landscape are often all embracing, non-reversible and has changed the landscape and many of the sites dramatically.

Temporality of Landscape

Ingold has shown that the process of dwelling is fundamentally temporal. The apprehension of the landscape must begin from a recognition of its temporality. Only through such recognition, by temporalizing the landscape, can we move beyond the division that has afflicted most enquiries up to now, between the "scientific" study of an atemporalized nature, and the "humanistic" study of a dematerialized history. Ingold defines the study of archaeology as "the temporality of the landscape" (Ingold 1993:162).

The temporal changes in the landscape can be minor and major. Some rock art may only be seen at certain times of the day, when the light is coming onto the panel from the right direction. Sometimes wet rock or running water makes the figure come "alive". At some sites

today, the figures can only be seen clearly for a few minutes before they disappear and merge with the rocks. When and how the figures were observed has to be studied at a figure / panel level over time. The importance of the sunlight (Laushkin 1962) and running water (Simonsen 1958) has been suggested as part of the reason for the location, however, I will not discuss these factors at this point.

In the arctic, temporal changes can be all embracing. Uninviting as the winter and cold may seem to us, people chose to settle and live in the circumpolar region of the world. Living at the "top of the world" meant that the seasonal fluctuations were larger than further south. However, no doubt these fluctuations and adapting to these temporal changes were important to people living in the arctic by a hunter-fisher-gatherer strategy. During winter, the polar night leaves us without sunlight for a few months. There is a restricted light and some activities become difficult. In many ways, parts of nature are sleeping during the polar nights. Then during summer, the midnight sun means 24-hour daytime and life cannot be described when it comes to the activity level. Everything comes alive. Such changes are important for people living in the north. The seasonality becomes important since relating, planning and living by seasons is crucial for the good life of hunter-fisher-gatherers. By looking at the rock art, the seasons are represented in the scenes e.g. like the spring bear hunt in Alta northern Norway or Vyg in northwestern Russia, the autumn reindeer hunt in corrals in Alta in northern Norway or the late summer / autumn whale hunting at Vyg by the White Sea in northwestern Russia.

Seasonal landscapes – in rock art

> "The Nganasan spend most of their lives hunting and fishing. Therefore, all of their activities are of strictly seasonal nature and are divided according to the seasons and months (kiṭeda) of the year" (Popov 1966:17)[64].

The seasonal aspect is very important and in general hunter-gatherers of the north divide their year in summer and winter time, e.g. (Manker 1963; Popov 1966:17ff). The calendric year among the Nganasan is counted as two years: the summer year and the winter year (Popov 1966:17). There are variatins in how long the "winter year" and "summer year"

[64] The Nganasan are one of the indigenous peoples of Siberia. They are the northernmost of the Samoyedic peoples, living on the Taymyr Peninsula by the Arctic Ocean. They are nomadic hunters, fishers and herders of reindeer.

are in the circumpolar region, although about six months is the norm[65]. The variation of adaptation to the seasons would imply how humans are living within these elements. The different animals hunted, the animals characteristics (like fur, antlers etc.) and the activities associated with the hunting is defining the months; like the goose molting month, the big month (elk month) or the hornless month (when reindeer have dropped their antlers) (Popov 1966:17-19).

Virtually only large game is depicted in Stone Age rock art of northern Fennoscandia. The animals most frequently depicted are the elk, reindeer, whale and bear. Common for these animals are that they are "seasonal" animals. They will appear and disappear in a landscape at certain places at different seasons. The elk, reindeer and the whale are migrating animals that will move through the landscape at different times of year[66]. Thereby, the hunting of animals may represent different seasons. By considering the animal's morphology, one may get information with regard to the season, or the time of year represented in the rock art (Helskog 2004a:271f).

The migration of wild reindeer between the inland and the coast during autumn and spring sometimes covers distance more than one thousand km. Amongst the Nganasan this migration is virtually north-south on the Taimyr Peninsula. The migration often assumes great proportions. Herds of several thousands wild reindeer migrate and for several days they cross known areas of movement "… without fear of the cries and shots of the hunters." (Popov 1966:20). Such "animal landscapes" are today unknown landscapes due to the mass-exploitation of animals during the last centuries. Migrating animals are moving along lines of movement in the landscape documented for centuries, and indications in the archaeological records, perhaps for thousands of years (e.g. Selinge 2001). By topography, some lines of movement are natural to certain animals, which include natural crossing places. The reindeer will follow well-trodden paths that they have "always" done and the animals appear at the "same" places year after year during the seasonal migrations (Popov 1966:21, 35; Stewart et al. 2004). Hunter-fisher-gatherers, by spending time in the landscape, will build their geographical knowledge around such important places and lines of movement for their hunting strategy in relation to the elements. These are places where not only animals pass, but places central to the cynegetic activities of hunter-gatherers. Hence, these places are central in the hunter-fisher-gatherer landscape.

[65] Amongst the Nganasan there are four summer months and eight winter months (Popov 1966:17).
[66] Even though there are groups of elks that are more stationary.

Figure 46 The tidal area in Hjemmeluft, Alta during winter show how the area above mean tide will "always" be free of snow, hence, available throughout the year. Photo: Jan Magne Gjerde.

Seasonal landscapes and rock art

Seasonality is one of the main temporal movements in which humans interact. The activities and areas "settled" changes within the different times of year. The place and the landscape will be different in winter and summer. Humans and animals in hunter-fisher-gatherer societies have to adapt to the seasonal landscapes.

Hallström argued that both the Sagelva site in northern Norway (Hallström 1909:150) and the Hell site in middle Norway (Hallström 1908b:55) was made during winter time by people standing on the ice. A common statutory is that making rock art was strictly a summer activity in the north due to snow covering the rock art in winter (Helskog 1988:20). However, as for the coastal rock art, the location by the shore makes the rock art available all the time since the rocks and the rock slopes in the upper tidal area is snow free, like in Alta (Figure 46). With regard to the inland sites located by rivers and lakes, an example can be taken from Hallströms documentation at Nämforsen where he could not approach the island Bradön due to the high water level at midsummer in 1907. When he returned in December 1916, he could easily approach the island and document the rock art (Hallström 1920:108f). The carvings at Landverk in northern Sweden and at Ponoj on Kola Peninsula, northwestern Russia that are located on the river shore, are under water parts of the year due to high water level in the spring / summer time. Moving to the inland lakes, the rock slopes at Kanozero and the rock

slopes in Onega are the first places where the ice and snow melts, thereby the first places that appears after winter. Caves with rock art would have been accessible throughout the year. Most of the sites with rock paintings in Finland, Norway and Sweden are easier to access during wintertime when the lakes are frozen; thus, I am convinced most of the rock art on the vertical cliffs with rock paintings are made during winter standing on the ice even though some could have been made from boat during summer. The vertical cliffs with both carvings and paintings would have been available and visible throughout the year. The "red" rocks would stand out in clear contrast to the white land during winter. When documenting the inland rock paintings by lakes, Hallström preferred to do this during winter, when they were easier to approach and document (Hallström 1960).

At the painted site Värikallio in northern Finland, and at the carvings at Hell in middle Norway, the location of the figures on the vertical cliffs indicate that they were made during winter. Some of the figures at Värikallio are located about 3m up the vertical cliff (see Figure 83). By putting snow on the ice, one could easily reach the highest elevated figures. The same situation is observed at Hell where the highest elevated figures cannot be reached when standing on the ledge beneath them. During fieldwork, I could not reach the highest part of the figures; hence, I find it problematic for the maker to reach them too. The Botilstenen boulder in Storsjön in northern Sweden is also a rock art site that one needs a boat to approach during summer while during winter one would walk past the boulder on the ice.

Ethnographic sources from the Shoshoni people in northern America talks about the carvings made during winter, where"…; one can hear the spirits chiselling their pictures if one comes near these places in the winter-time" (Hultkrantz 1986:54). Gjessing connected the rock art to winter-activities based on the location of the rock art sites related to the settlement pattern where the summer settlements were on the outer coast and the winter settlements were in the inner parts of the fjords (Gjessing 1974:6f). Even if Gjessings settlement model can be questioned, Gjessings seasonal argument is still important since it was based on the hunter-fisher-gatherer economy.

The seasonal aspect of the activities depicted in the rock art reveals that they are depicting events throughout the year. The location of the rock art means that virtually all the sites were available throughout the year. I see no reason why the making of rock art or the activities at the rock art sites should have been restricted by the seasons. They could have been made at certain times. But I think that rock art was made and activities at the sites went on throughout the year. The strong seasonal element in the scenes that are depicted may indicate that some of the rock art was connected to seasonal activities (Simonsen 1986), such

as festivals, rites etc. Rites connected to seasonal change is common among hunter-fisher-gatherers in the ethnographic record, (e.g. Animosov 1963a:163). Even though we do know that the seasonal aspect is included at different levels in the rock art, we do not know whether some sites were *only* visited at a certain time or season during the year or, as I suggest based on the location, places that were visited throughout the year.

Temporality of the shoreline – Tidal landscapes

The shoreline location has been stressed since all rock art in northern Fennoscandia, either coastal or inland, are located at the shore (with a few exceptions). Even if seasonal fluctuations in rivers and at lakes can affect whether rock art panels was available, the tidal landscapes shows how the rock art is situated in the liminal zone between land and water. While previous interpretations were restricted to the functional aspect of this location (Bakka 1975b; Mikkelsen 1977), a break-through when it comes to an explanation for the shoreline connection was presented by Helskog (1999). Rock art seems to be integrated in the cosmology where rock art interact with natural elements can be found many places around the world e.g. from Canada and South Africa (Arsenault 2004a; Arsenault 2004b; Arsenault et al. 2005; Lewis-Williams 2002b; Lewis Williams & Dowson 1990). Rooted in the cosmology described in arctic ethnography (Animosov 1963a; Shirokogoroff 1935; Vasilevich 1963), Helskog (1999) found that a common trait was that their perception of the universe or the world are divided in three parts, an upper world, a middle world and a lower world that was viewed in the light of the location of rock art. The shoreline fit such a liminal place between the worlds in the cosmology of the circumpolar hunter-gatherers described in the ethnography. The location of rock art would then be in between the worlds. The location of rock art by the shore, that is on coastal rock slopes, in rivers, by boulders in lakes or on rock slopes or vertical cliffs at lakes seems to reflect the location of the division between the worlds of "arctic hunter-gatherers". These were places where worlds would interact. The area where it would be preferable to place the rock art seems obvious based on the vegetation free zone when studied in relation to the snow cover and the tidal landscapes.

At times one can see how the tide and the water flowing over the rock art can make the figures come alive. At Onega, I observed some of the small swan figures "animated" as if they were "swimming" when the small waves swill over the panel. Another example are the porpoises in north-western Norway where the water could have made the porpoises "move" when the water was in the levels of the boulders (Kleiva 2006). Water, here through the waves

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 century[67] (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 Påsse 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 seascape[68] (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 stydying rock art, and the drawbacks of painting is apparent at many sites (see Figure 87).

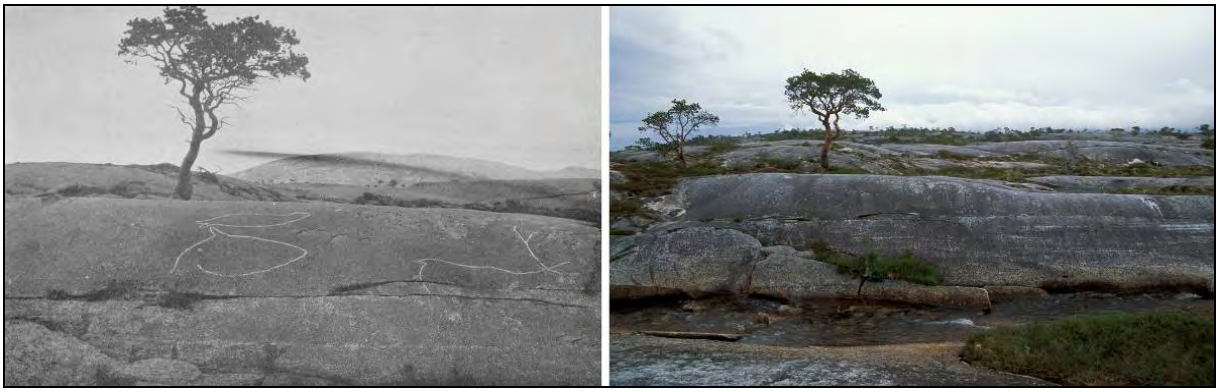


Figure 49 The Valle 1 panel with 72 years between the photos. This shows how little the landscape has changed the last 70 years. Photo to the left from 1932, after Gjessings (1932:Pl. LIII, fig. 1). Photo to the right from 2004. Photo and illustration: Jan Magne Gjerde.

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 drained [69]. 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 siewing over the rocks and filled in crevasses and cracks to prevent the rapid erosian 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 Buggey (1999): "An ethnographic landscape [or "aborigional landscape"] is a place valued by an Aborigional 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" (Buggey 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 wiev. 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.

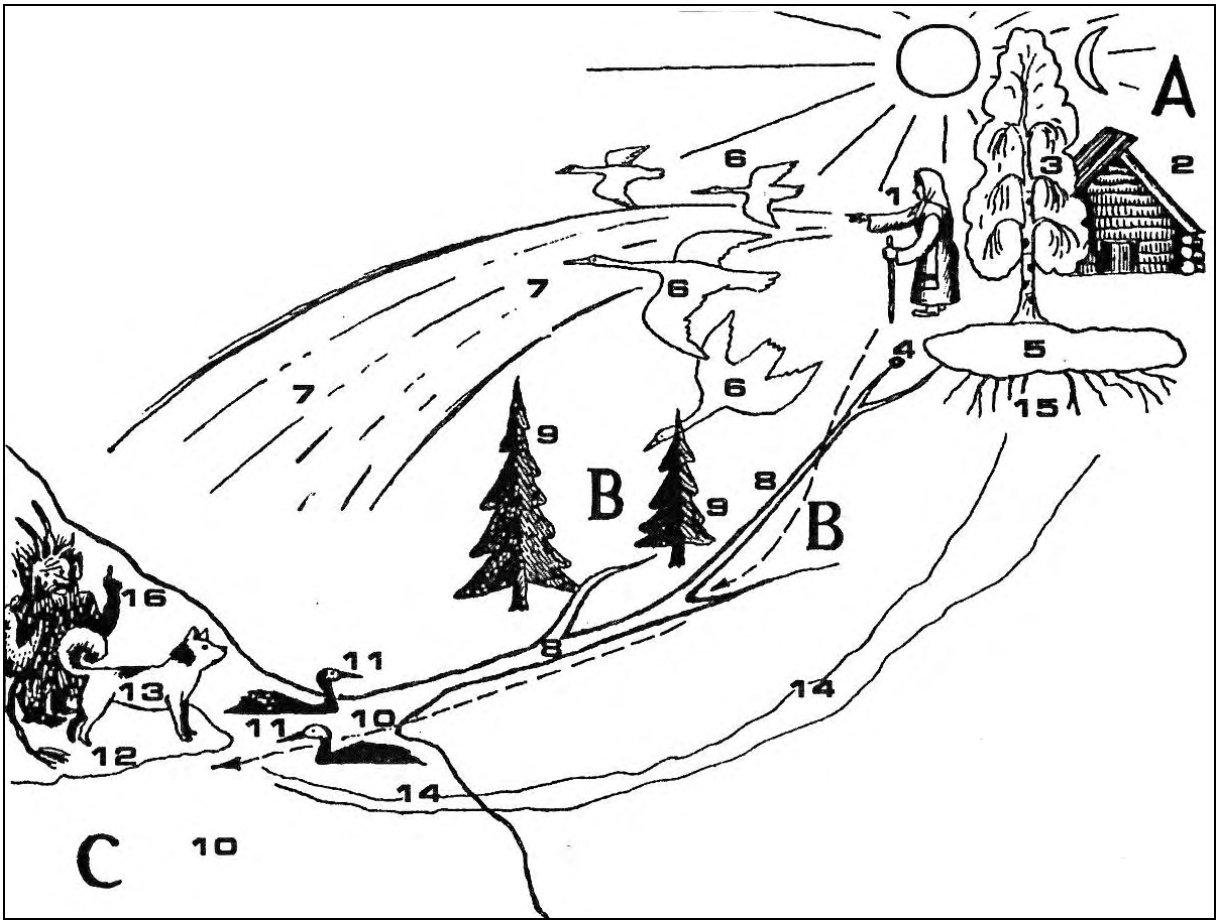


Figure 51 Summary of the world wiev as presented by Napolskikh (1992:fig. 1). Upper World (A), Middle World (B), Lower World (C). For a description of all legends, See Napolskikh (1992:11ff).

A comparison of different ethnographic sources from the circumpolar area[70] 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 concering 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 elks 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.

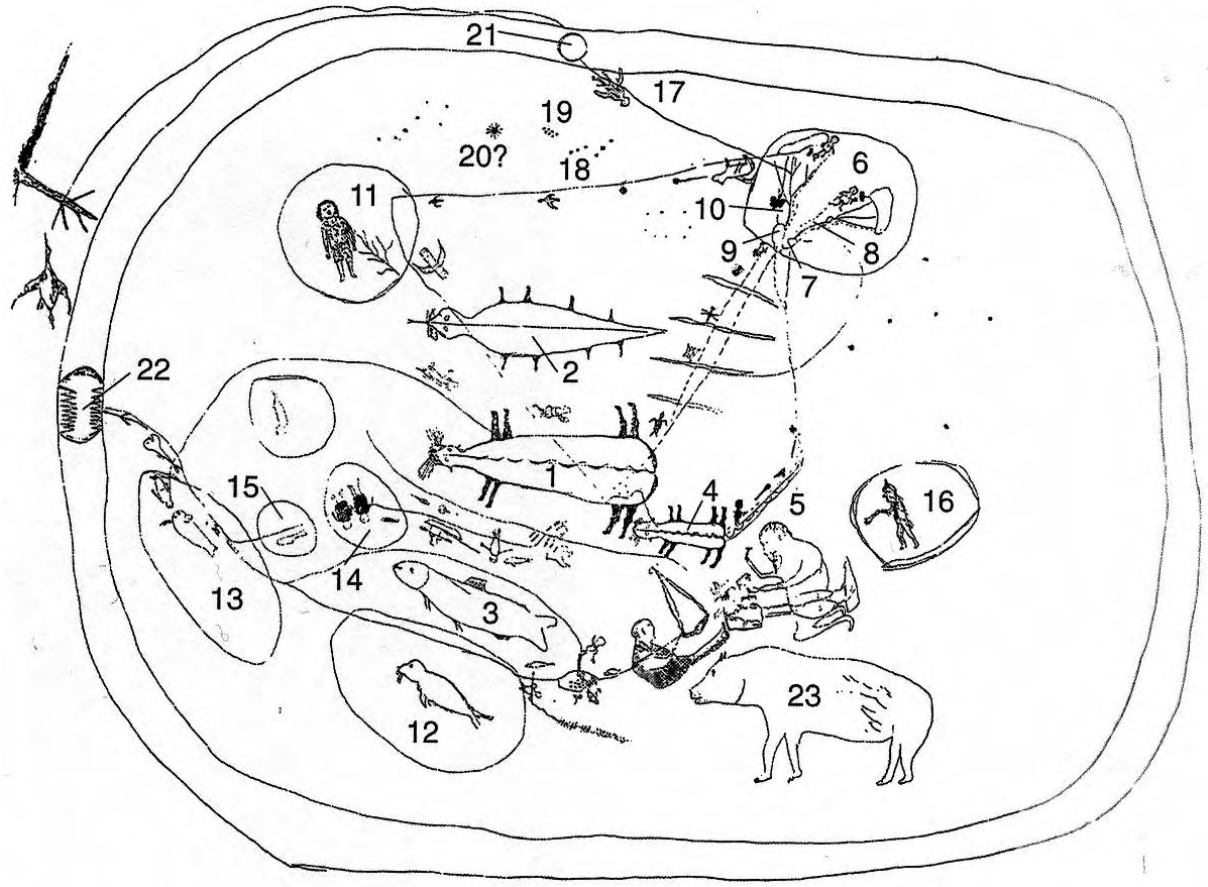


Figure 52 Map of the Oroch cosmography. Map originally published by Avronin and Koz'minskiy. Map from Okladnikova (1998:fig 8.13). Numbers are added to the map by Okladnikova to better reference to the features of the map. A more thorough description of the map can be found in Okladnikova (1998:339).

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 elks 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 feratures (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 conciousness. During such altered states of conciousness (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 excisted. 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 where 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 cruisades. Thereby few accounts excist 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 gets 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 excisted 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 stones[71] (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 sence, 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 costume[72], 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 apren) 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 (anthropomorps 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 world[73]. 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.

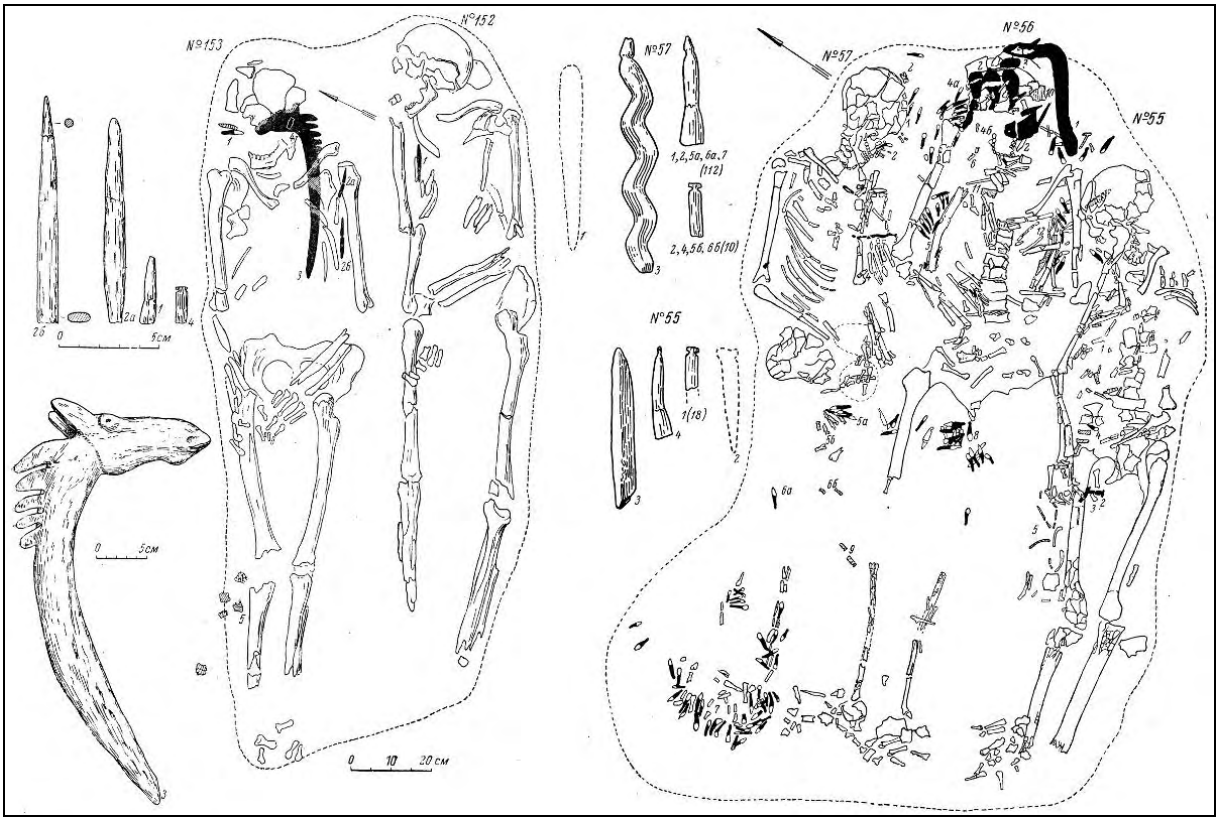


Figure 56 Early Stone Age burials from Olenii Ostrov, Onega, northwestern Russia (grave nr. 55, 56, 57, 152 and 153). After Gurina (1956:plate 27, 76).

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

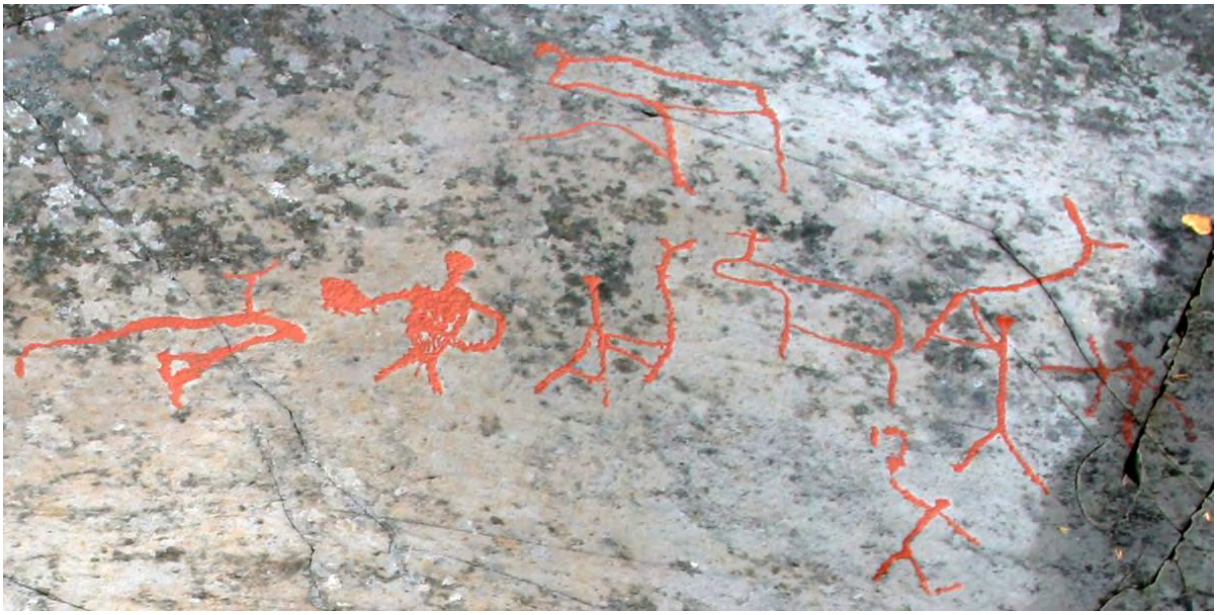


Figure 58 A "ritual" at Bergbukten 4 in Hjemmeluft, Alta northern Norway, where the "hunters" are represented with elk-head sticks and a shaman is perhaps using his drum to start his journey to one of the other worlds. Most likely the shaman is holding a drum and one may see the fringes that hang from 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 dead[74]. 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 mytical 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 Gård[75], 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 afterwords 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 oh 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 hunter[76]) could store his knowledge by flying through mental maps of the landscape, equivialent 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] (*gumpenjunni* 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 ridges[78] (*Gukhes ennan* in Saami) can strech 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 siluettes in the skyline, hence they can be seen in the dark, during bad weather and throughout the seasons[79] (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 Norway[80]. 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 siluette. Photo © Odd Mathis Hætta. Illustration: Jan Magne Gjerde.

[77] In Saami they are named gumpenjunni 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 stories[81]. 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-gatherers[82]. 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 expances 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, aquired 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 concering 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.

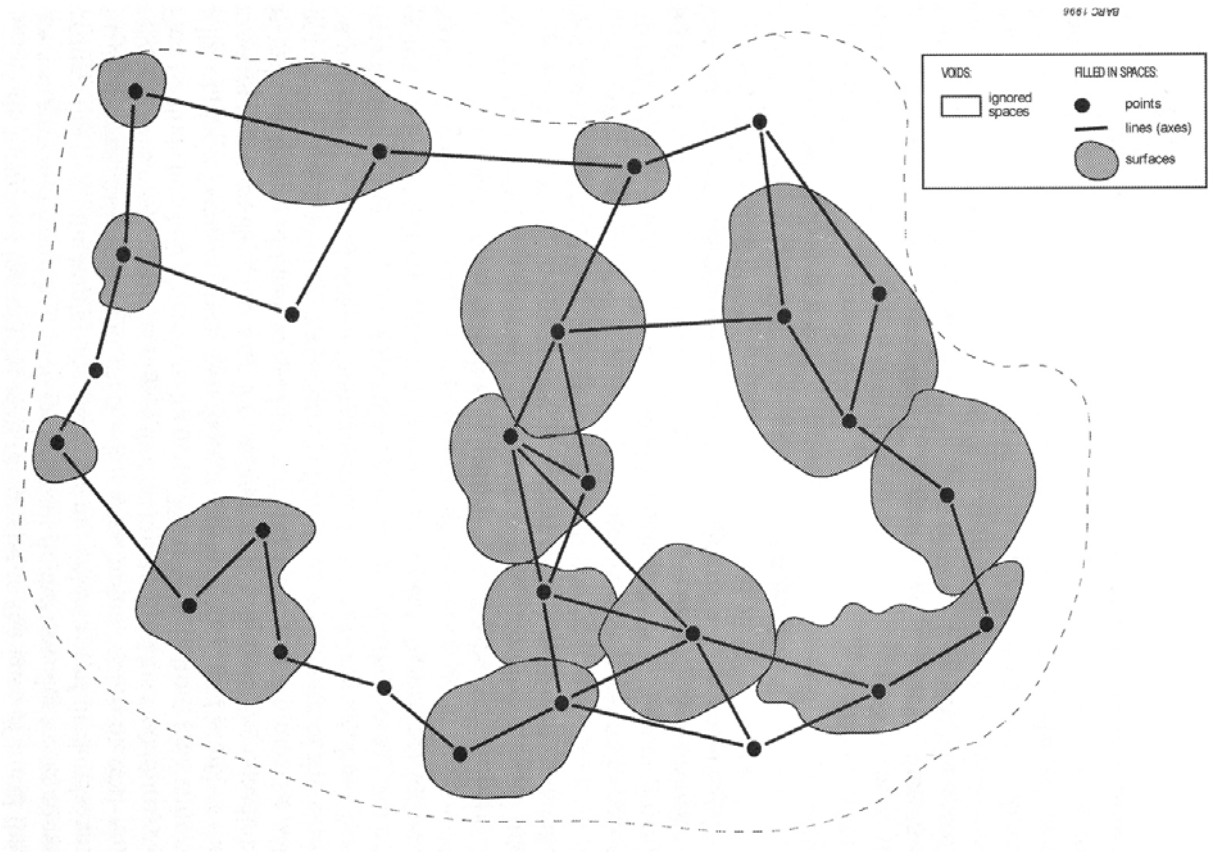


Figure 67 Theoritecial diagram of Inuinnait perception of territory (landscape). After Collignon (2006b:fig 16).

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.

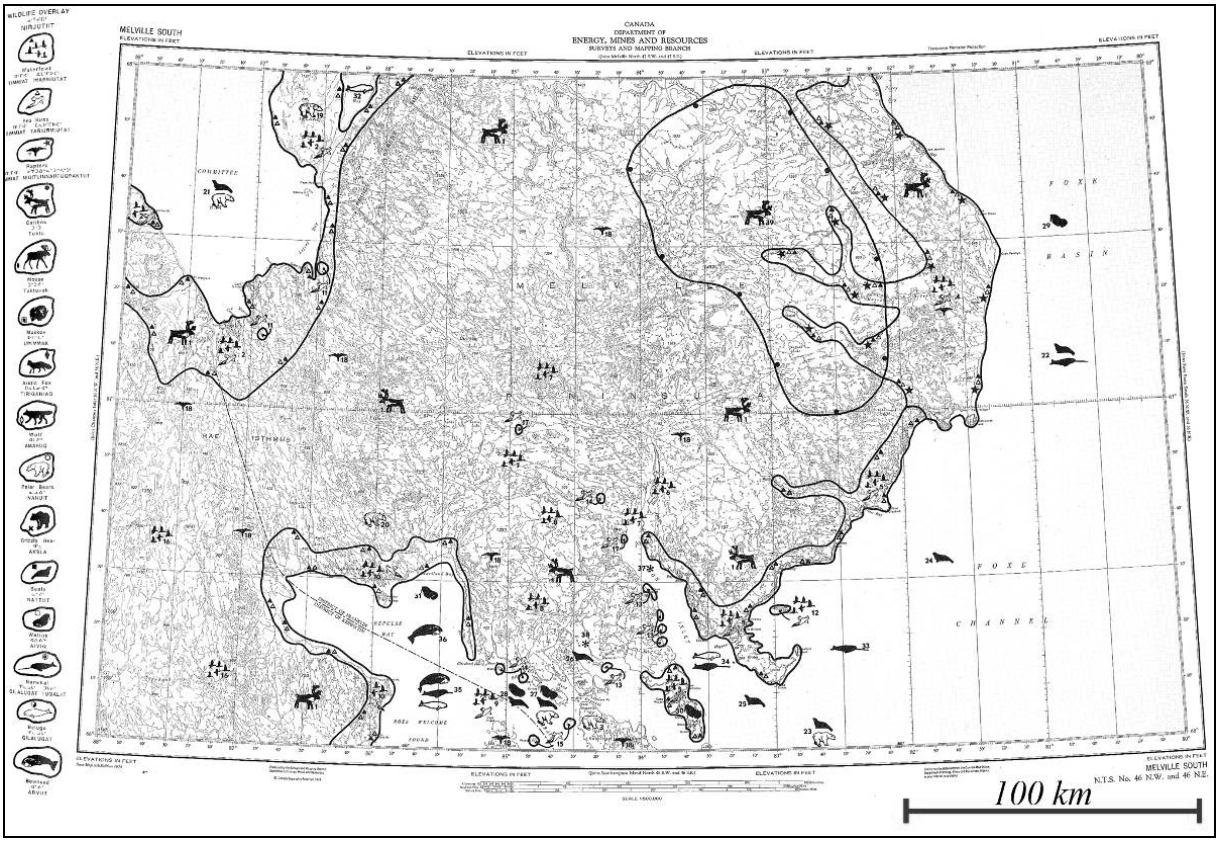


Figure 68 Inuit Land Use and Wildlife in the Melville South Area in Canada. Scale is added to show the size of the region according to land use. After Riewe (1992:113).

Distribution-analysis or site-catchment analysis has been applied when studying movement and relations between sites. The discontinous 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 vessels[83] 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.

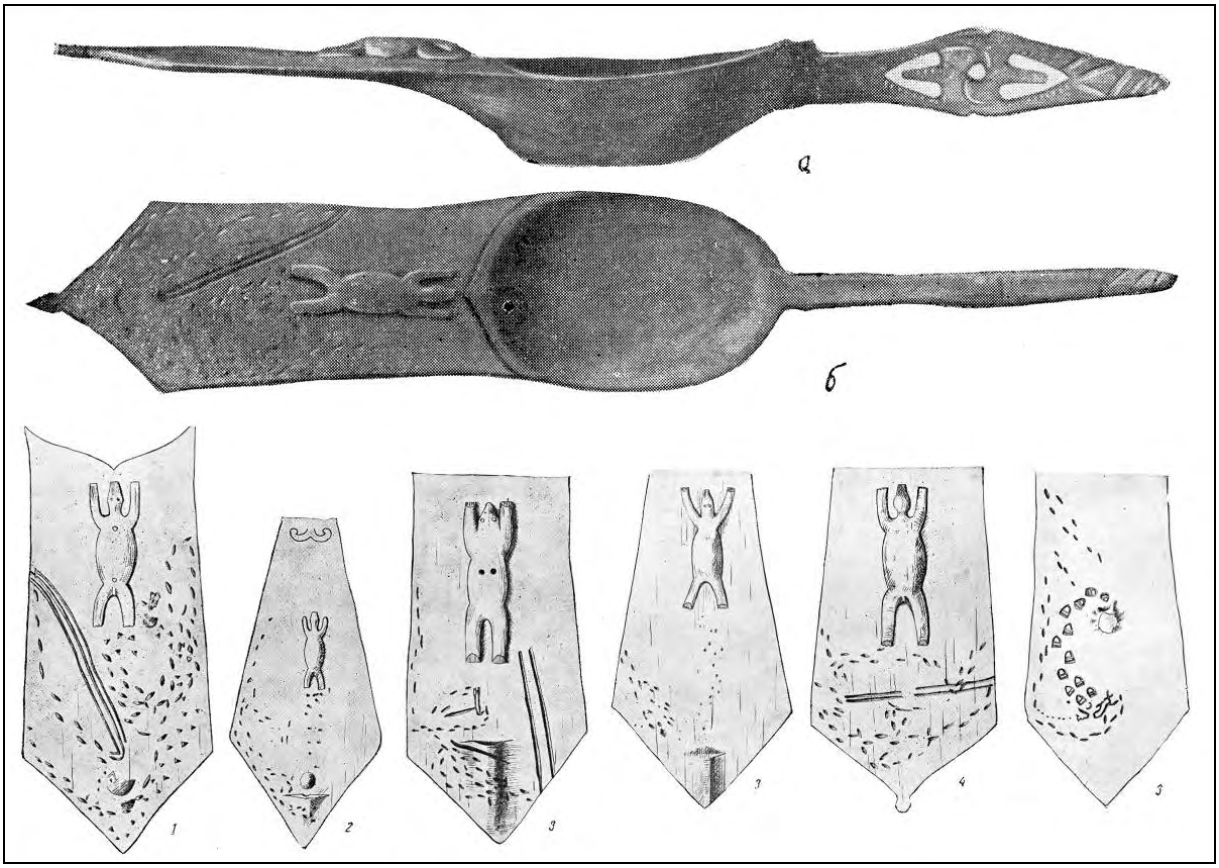


Figure 69 Ritual vessels connected to the annual bear hunt ritual among the Nivkhi. The carvings refer to a bear hunt with geographical references (topography from the skier and ski tracks and the bear den) and movement by the bear tracks and hunters tracks. Compiled from figures of the ritual vessel after Ivanov (1954:plate 245, 246, 247, 248), decsribed 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 skies 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 Russia[84]. 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).

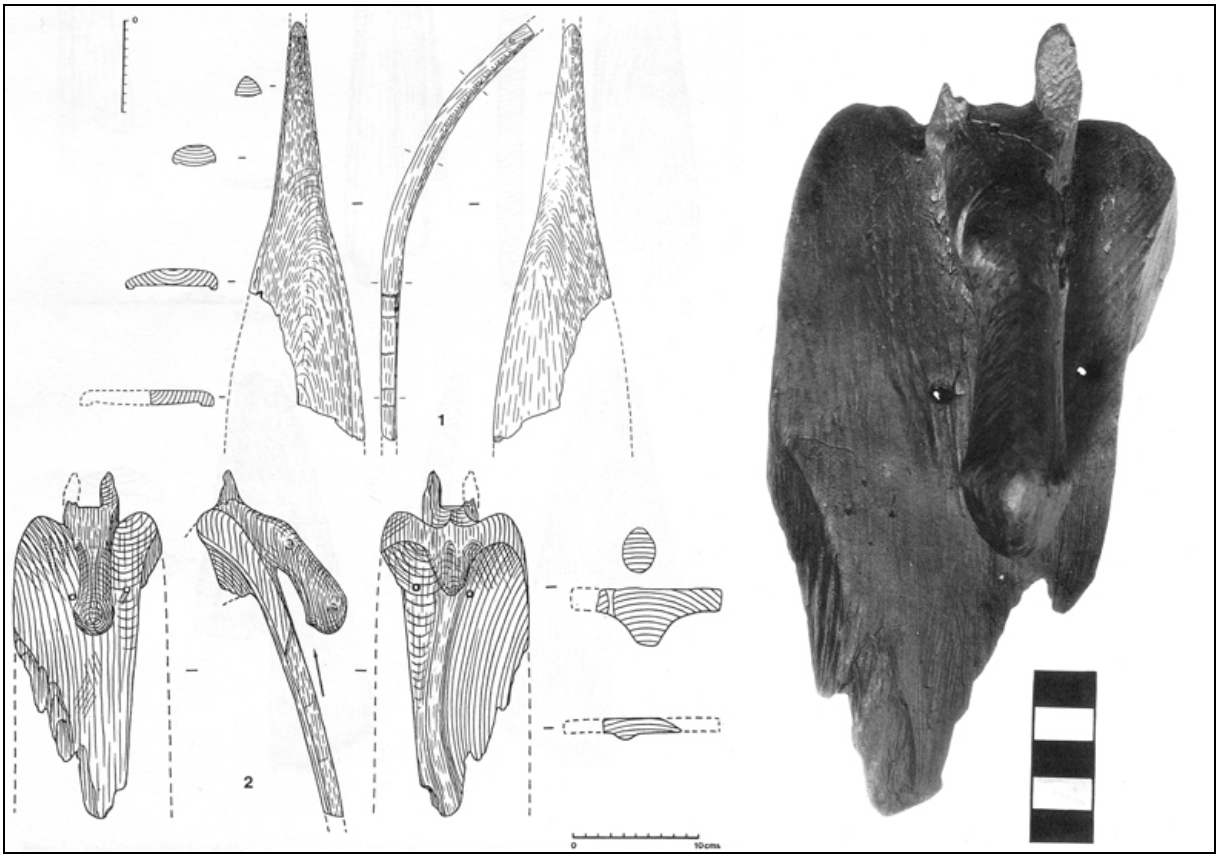


Figure 72 Stone Age ski from Vis 1, Siberia, Russia. An elk-head sculpture is carved under the back of the ski. After Burov (1989:394-395, figure 2 and 2a).

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 geese[85], 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 decribed 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 thelakefavouableforhuntinggeesewhenmolting 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).

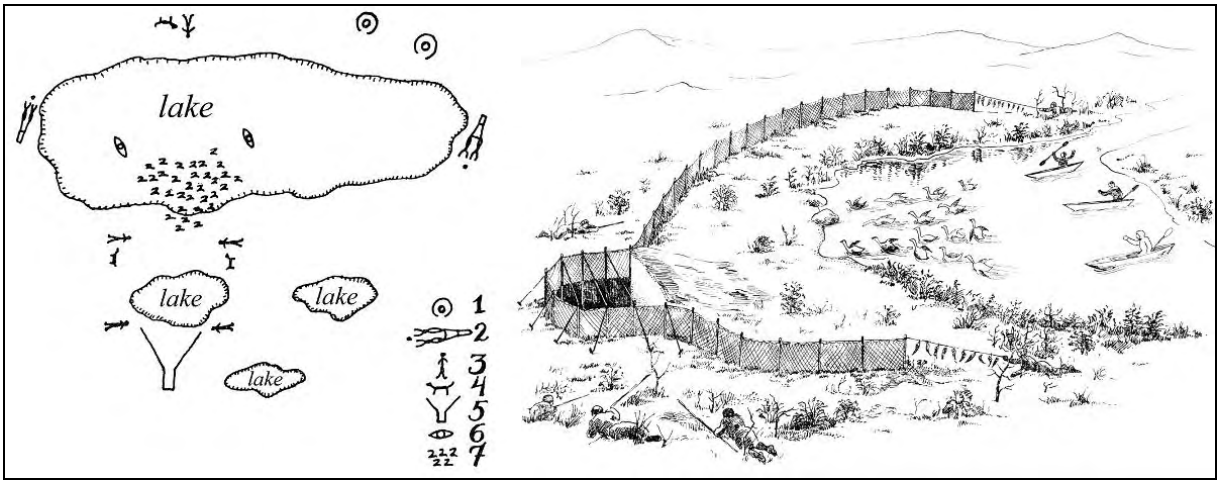


Figure 74 The traditional geese hunt by the Nganasan as described by Popov (1948) and Storå (1968). To the left, a schematical drawing of the rounding up of geese. Legends: 1= tents, 2=sheltered by reindeer sledges, watchmen or helpers during the hunt, 3=hunters assiting the drive, 4=dogs, 5=net enclosure, 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 diagram[86] (Figure 67). However, ritual places and activities could be depicted in relation to Collignons description of the Ininnuiat 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 Stefannson (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 bog[87] 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 sculls, dried ravens, vertebras 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 streches 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 hfisher to the right have 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.

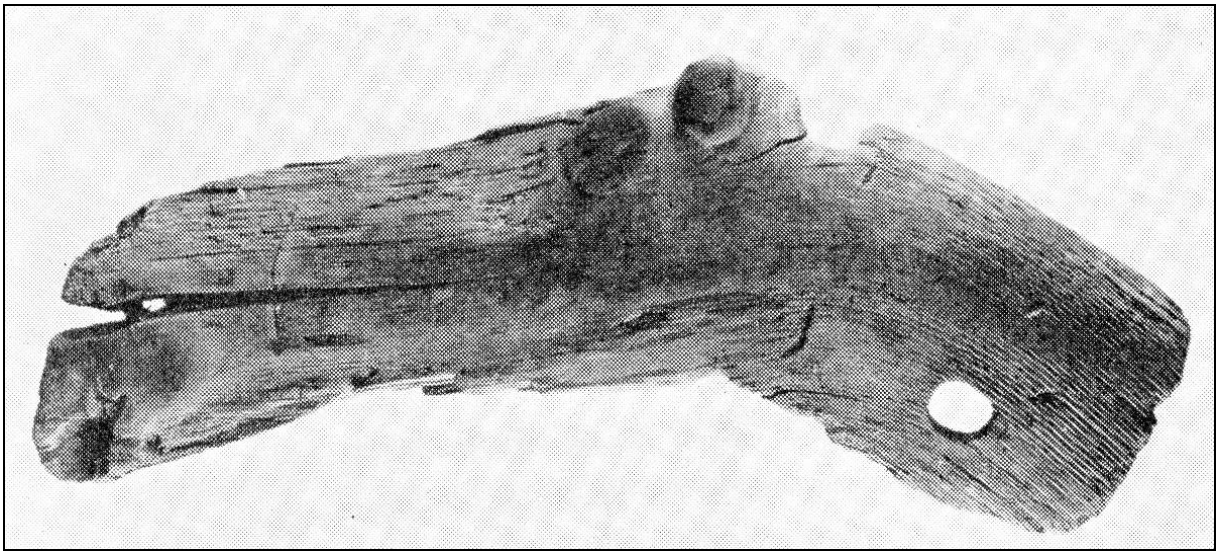


Figure 76 The elk-head stem dated to the latter parts of the Early Stone Age from Lehtosjärvi near Rovaniemi in northern Finland. The elk-had is c. 50cm long and the hole to the right has been suggested as the place for a seating device attaching the head to the stem of a boat. After Erä-Esko (1958:9,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

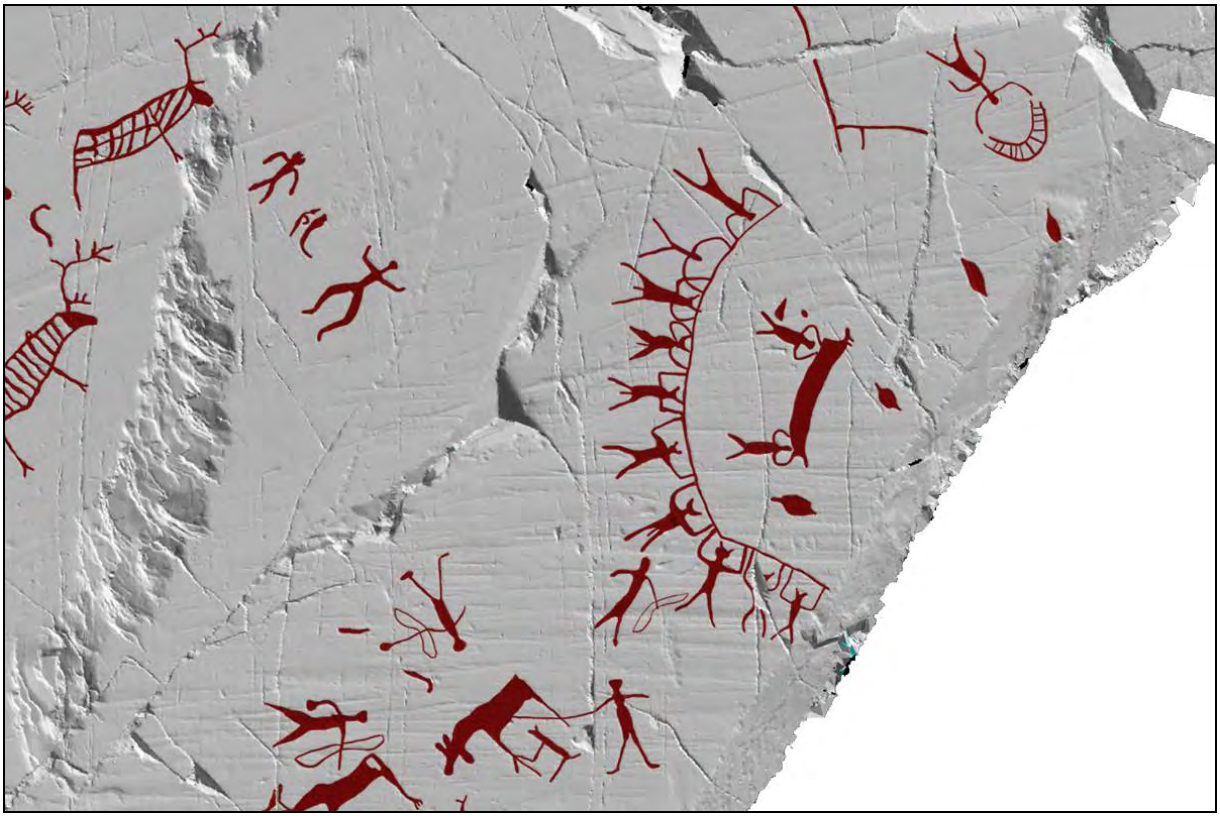


Figure 78 Two persons are carrying an umiak-type boat from Ytre Kåfjord, Alta. The persons in a crecent around the boat-carriers are wearing head-gear. This is known from shaman costumes and from the dress of hunters from arctic ethnography (Black 1991; Shirokogoroff 1935). This scene could refer both 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.

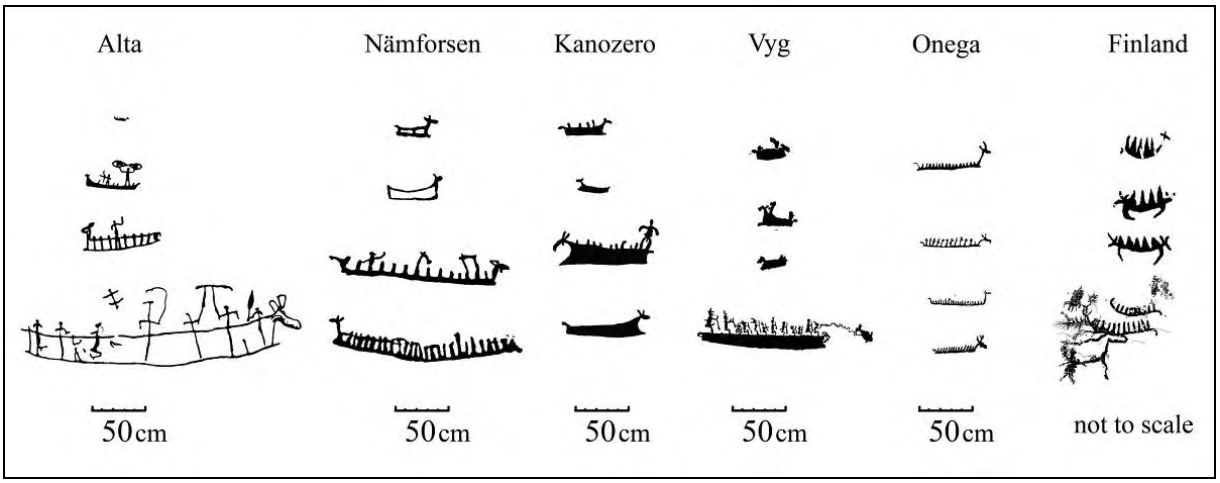


Figure 79 Elk-head boats from the north dated to the Late Stone Age. Boats from Alta, northern Norway after Helskog (1989:figure 4). Boats from Nämforsen, northern Sweden after Hallström (1960). Boats from Kanozero, northwestern Russia (tracing Jan Magne Gjerde). Boats from Onega, NW-Russia after Hallström (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 aquired 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 aquiring 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 Hallströms 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 micro 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 critizised 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 anomal 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 conspicous 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 elevation[88]. 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 innland sites with paintings at Värikallio (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 Kanstadfjord. 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 geomythology (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* stones[89] 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 Värikallio 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 Värikallio (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 Värikallio, 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 Värikallio, 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 offerings[92]. 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 contiuinity.

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 Neolthic 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.

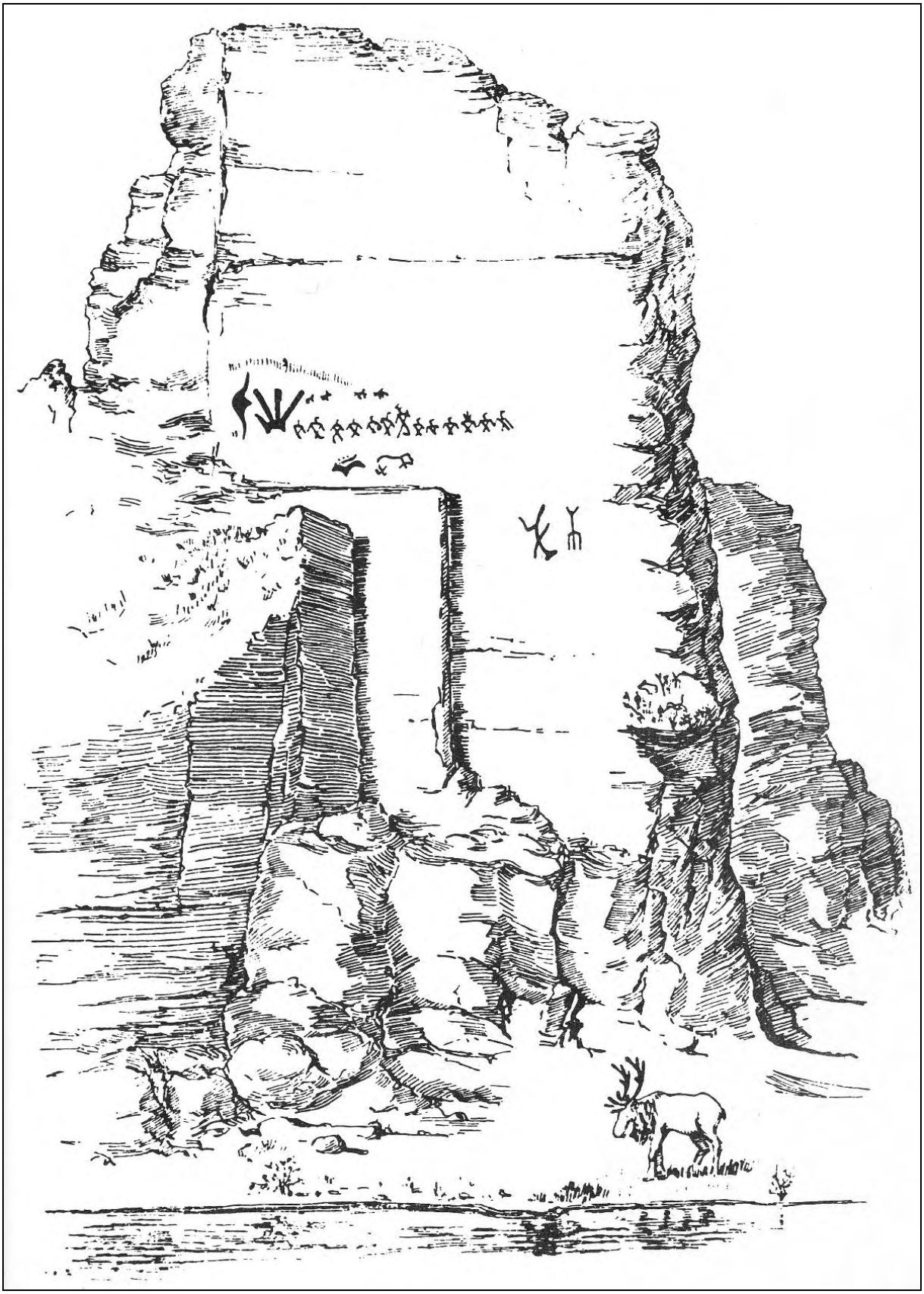


Figure 84 The Suruktaakh-hkaya cliff in Siberia with rock art in the valley of the Markha River. With offerings on ledges, cracks and in crevisses representing 6000 years of continous tradition in offering at a rock art site visualizing cynegetic acticities of the Stone Age? After Okladnikov (Okladnikov 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 lager 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, fiest 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 aggregregation sites have been documented. At these large aggregation sites at the end ot 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
- vawes 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 that 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 lokking 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 Noway 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 secluding 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 (Selinge 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 wether 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 concervative 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 thet 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 nortwestern 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 estimated[93]. 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 north-western 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.

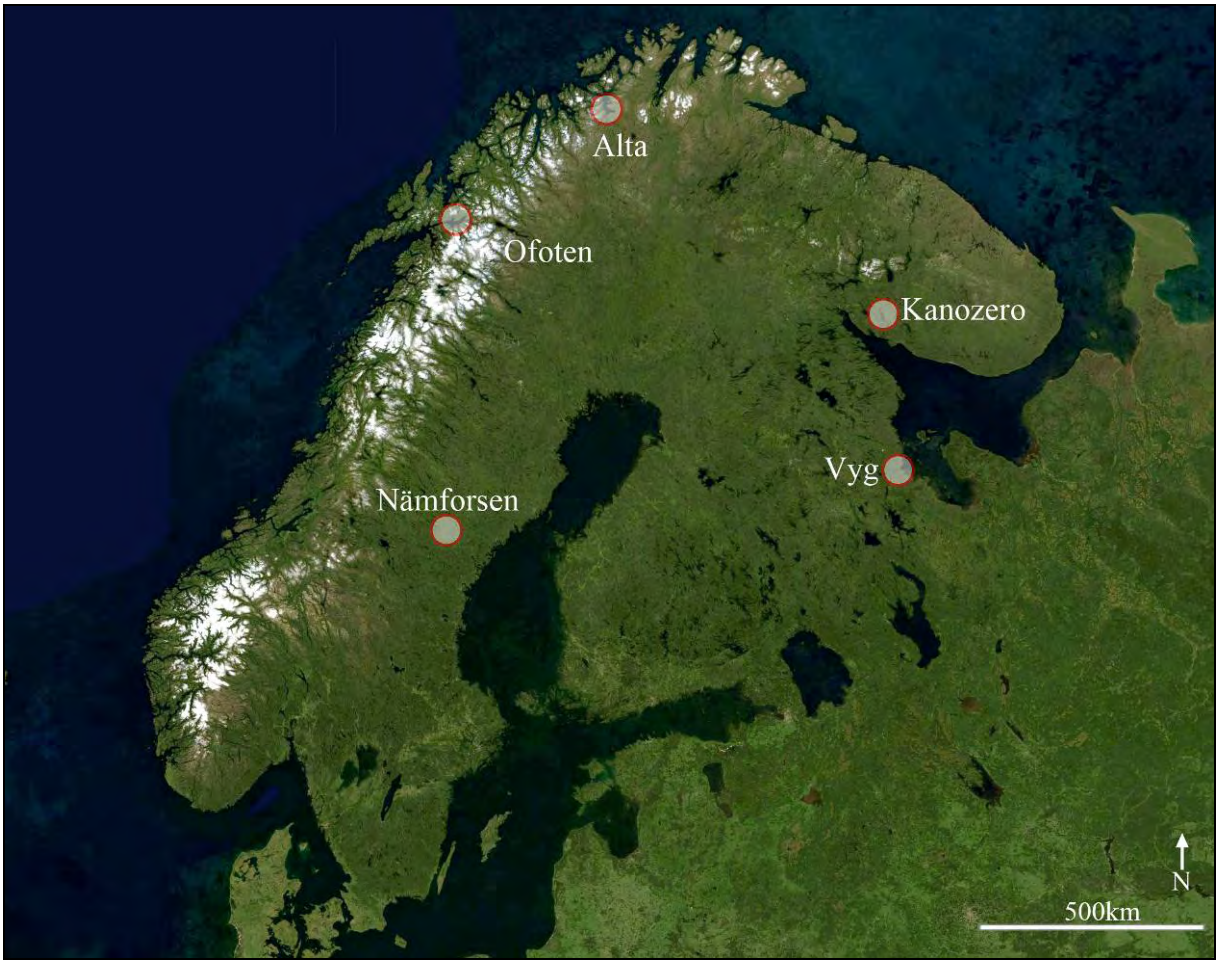


Figure 89 Fennoscandia with the five case studies marked. Background satellite image by **www.bingmaps.com**. Illustration: Jan Magne Gjerde.

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.

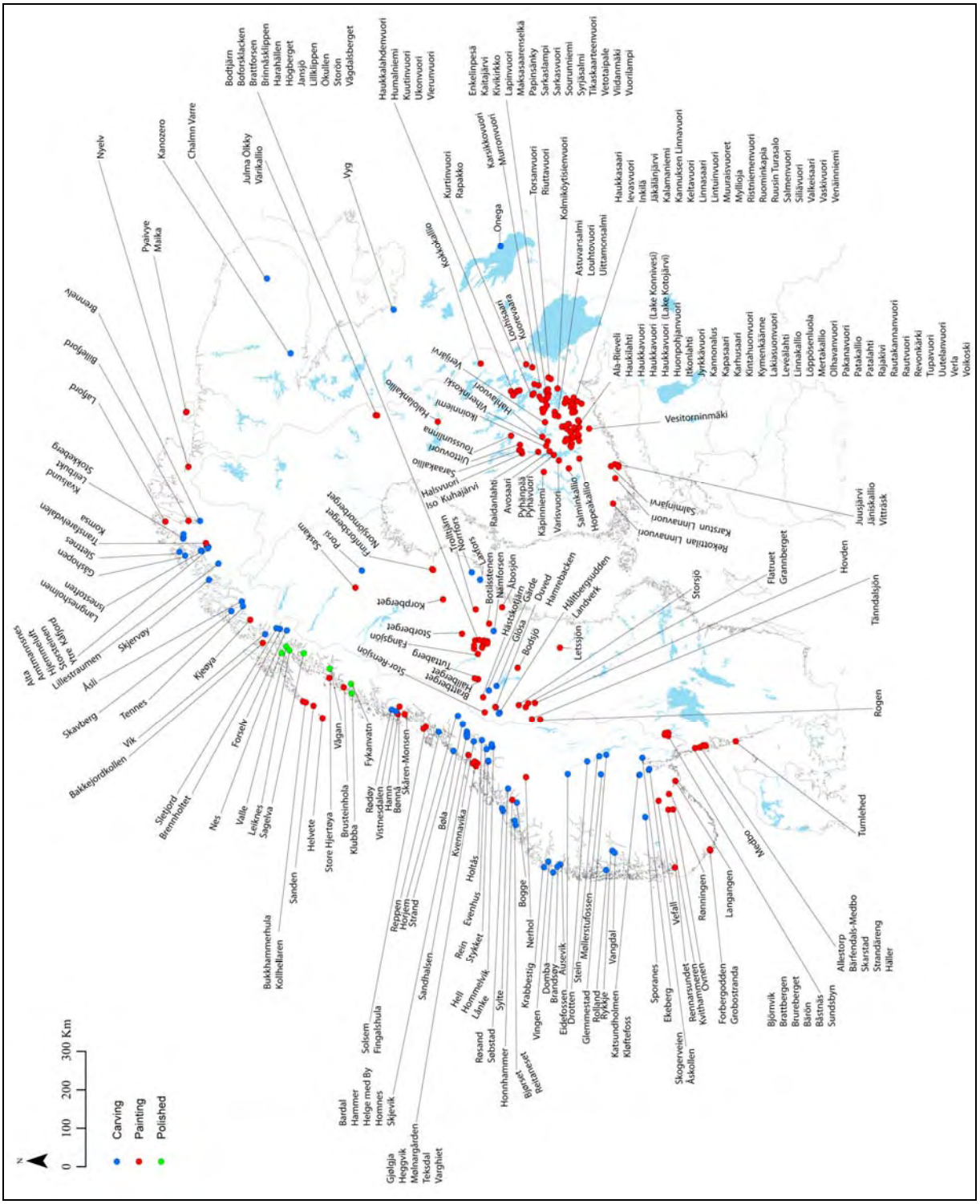


Figure 90 An overview of Stone Age rock art of northern Fennoscandia with site names. Where imperative, site names have been clustered like at the large concentrations at Alta, Nämforsen, Onega or Vyg. Other places, like Nes, northern Norway, include four sites. At this scale, including all the sites 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 Ofoton 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 date[94]. 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, Efjord 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 1947[95] (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 Sarsaklubben[96]. 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 fieldwork[97]. 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 Ofoten[98] (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. Satelitte 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; Zilhãu 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; Zilhãu 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 Age[100] 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 Age [101]. 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).

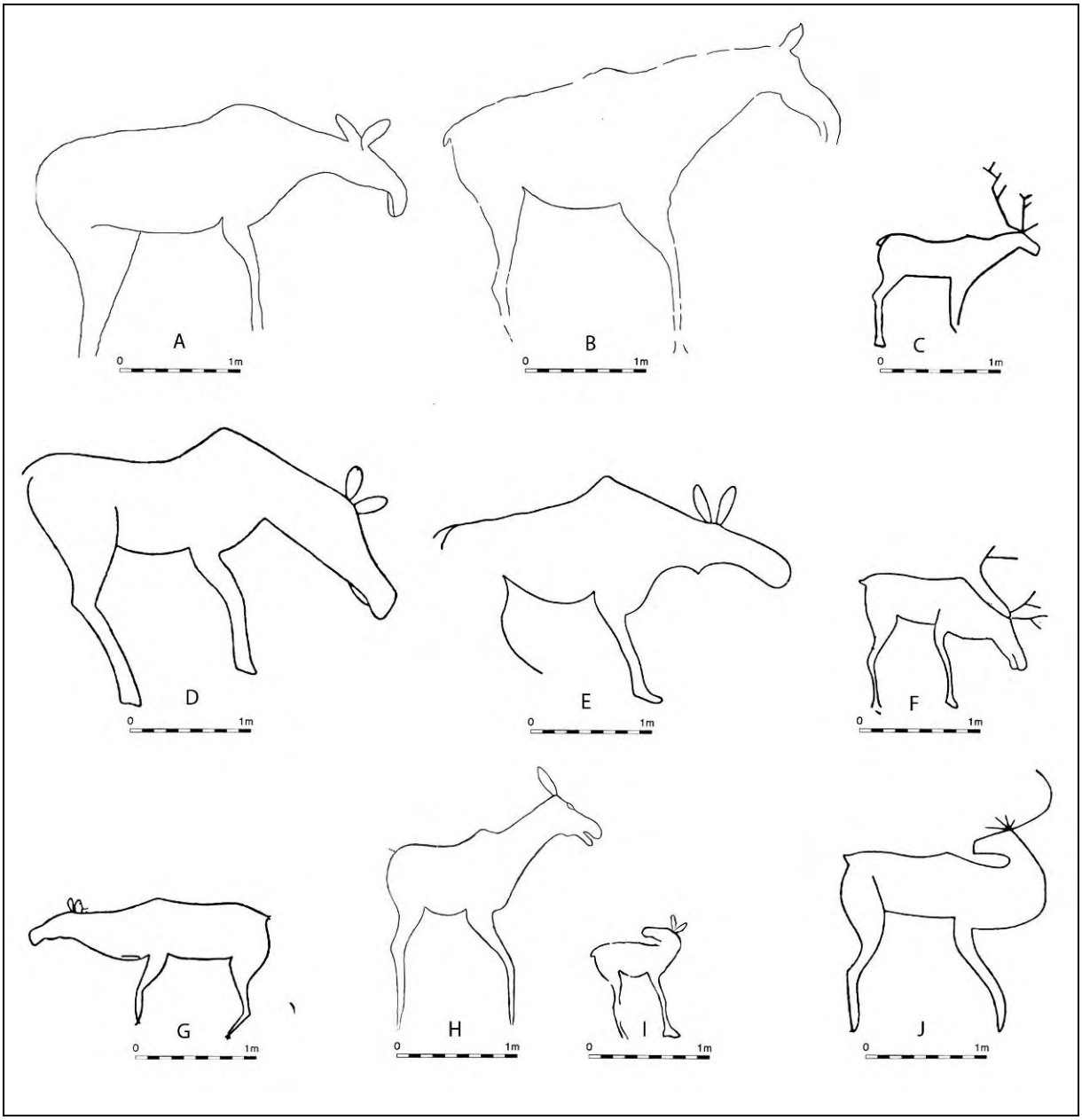


Figure 94 Examples of pecked carvings from middle and northern Norway and polished rock art from northern Norway. A: Vågan (polished), tracing from RA-project, B: Bardal (pecked), tracing from Gjessing, 1936, C: Leiknes (polished), tracing from Gjessing, 1932, D: Leiknes (polished), tracing from Hallström, 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 long[102]. 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 10000BP[103]. 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 ^{14}C 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 Finland[104] (Rankama & Kankaanpää 2008), even though they are slightly younger than the first ^{14}C from northern Norway, they should be viewed n 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 need 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 ^{14}C date from Sujala is 9265±65BP, that would be calibrated by OxCal 3.51 to between 8640 to 8300BC with 2 sigma.

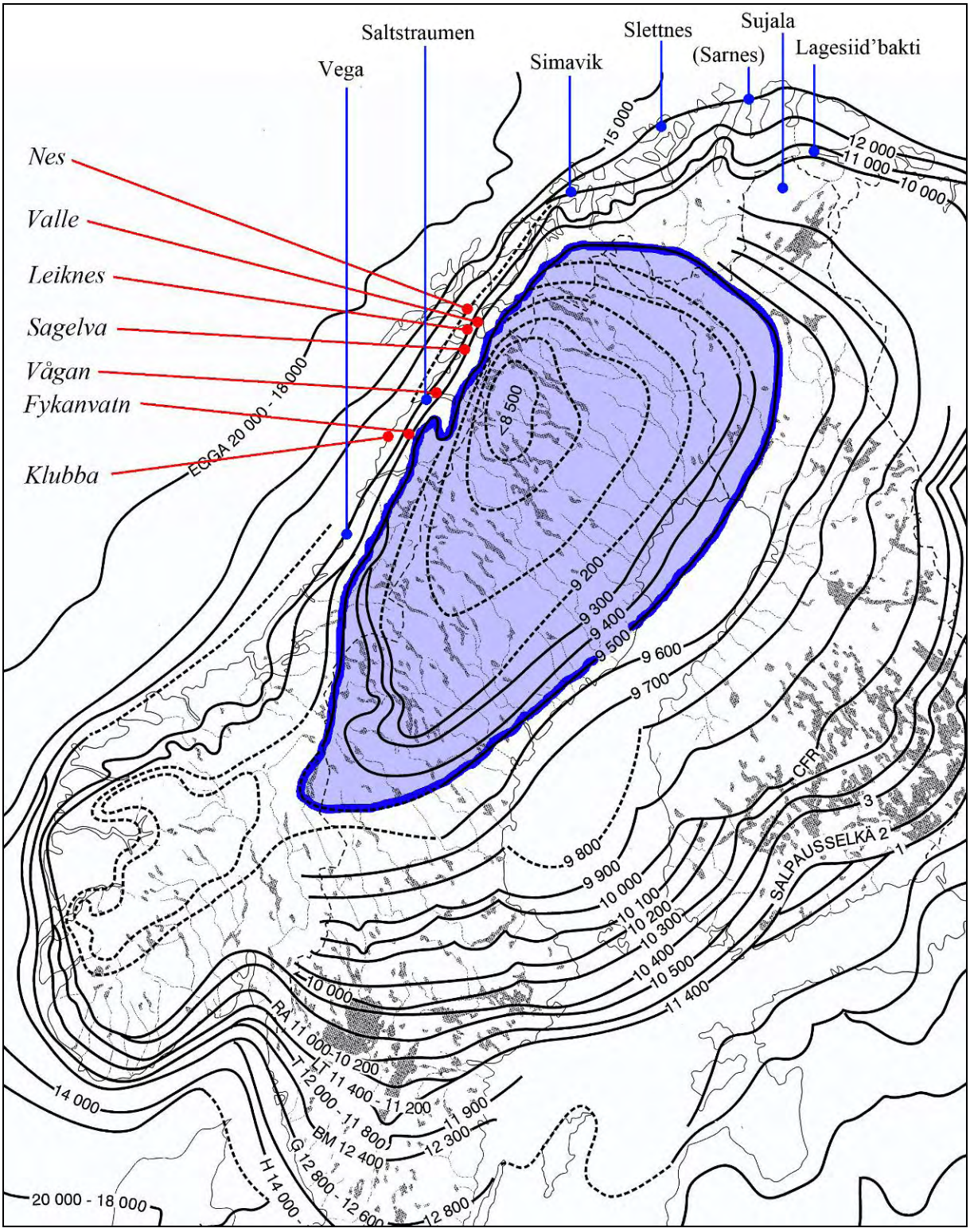


Figure 95 Polished rock art sites and settlement sites dated to be older than 9000BP mapped in relation to the deglaciation of northern Fennoscandia. Background map show ice recession lines and major ice-marginal formations in Fennoscandia based on data from Lindström et al. (2002) after Eronen (Eronen 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±65BP, 9140±60BP, 8940±80BP, 8930±80BP, 9240±60BP.

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. 1m[106]. 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.

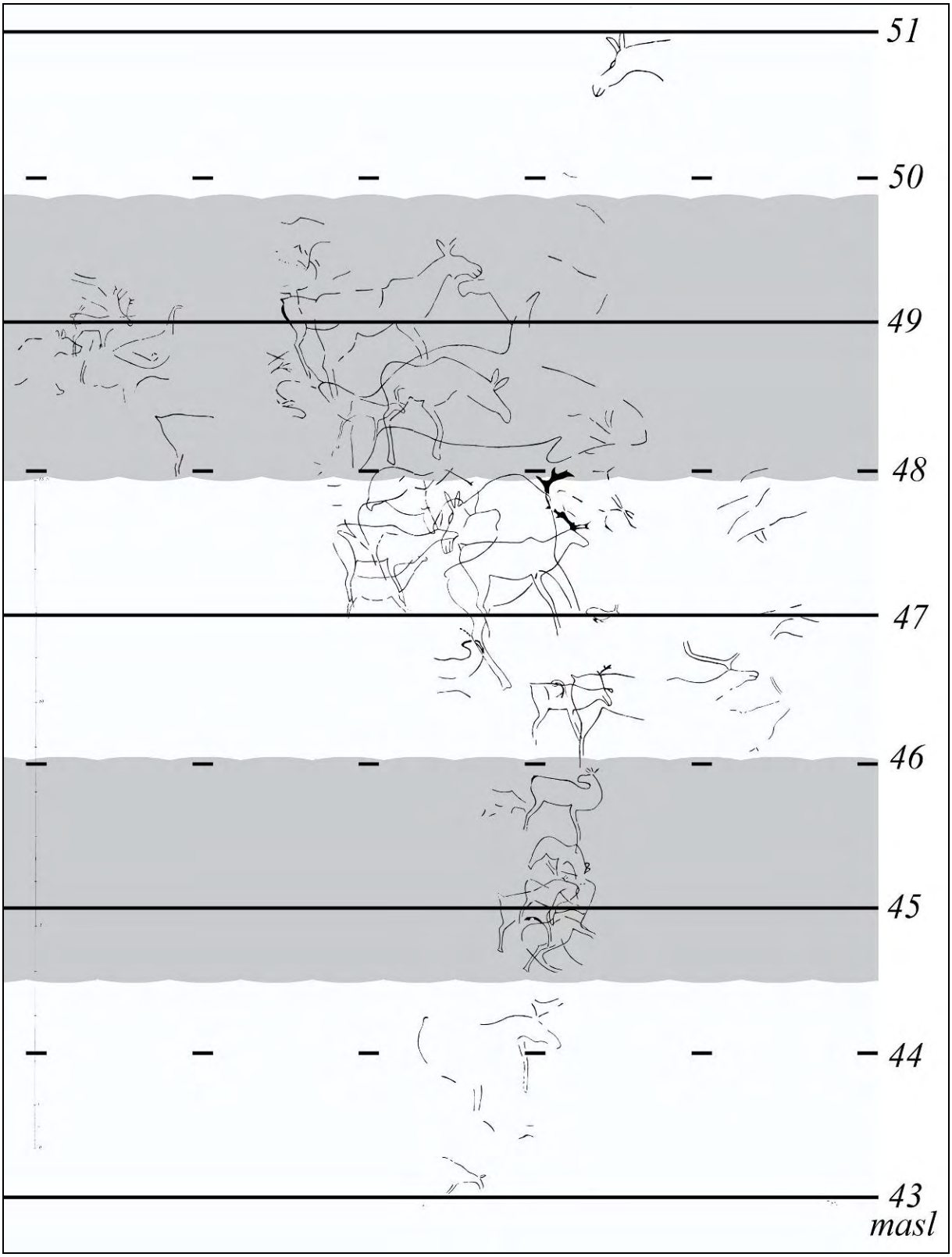


Figure 96 The Leiknes panel with elevation data. Compositions are sectioned and one see that the compositions is lying within the 2m parameter discussed in chapter 4. One can also see that one of the compositions centred round the large elk looking backwards at 47-48masl is repeated at c 45masl. Tracing 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 abaout 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 55masl[107].

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 sigma[108]

[108] Two sigma with 95.4% accuracy.

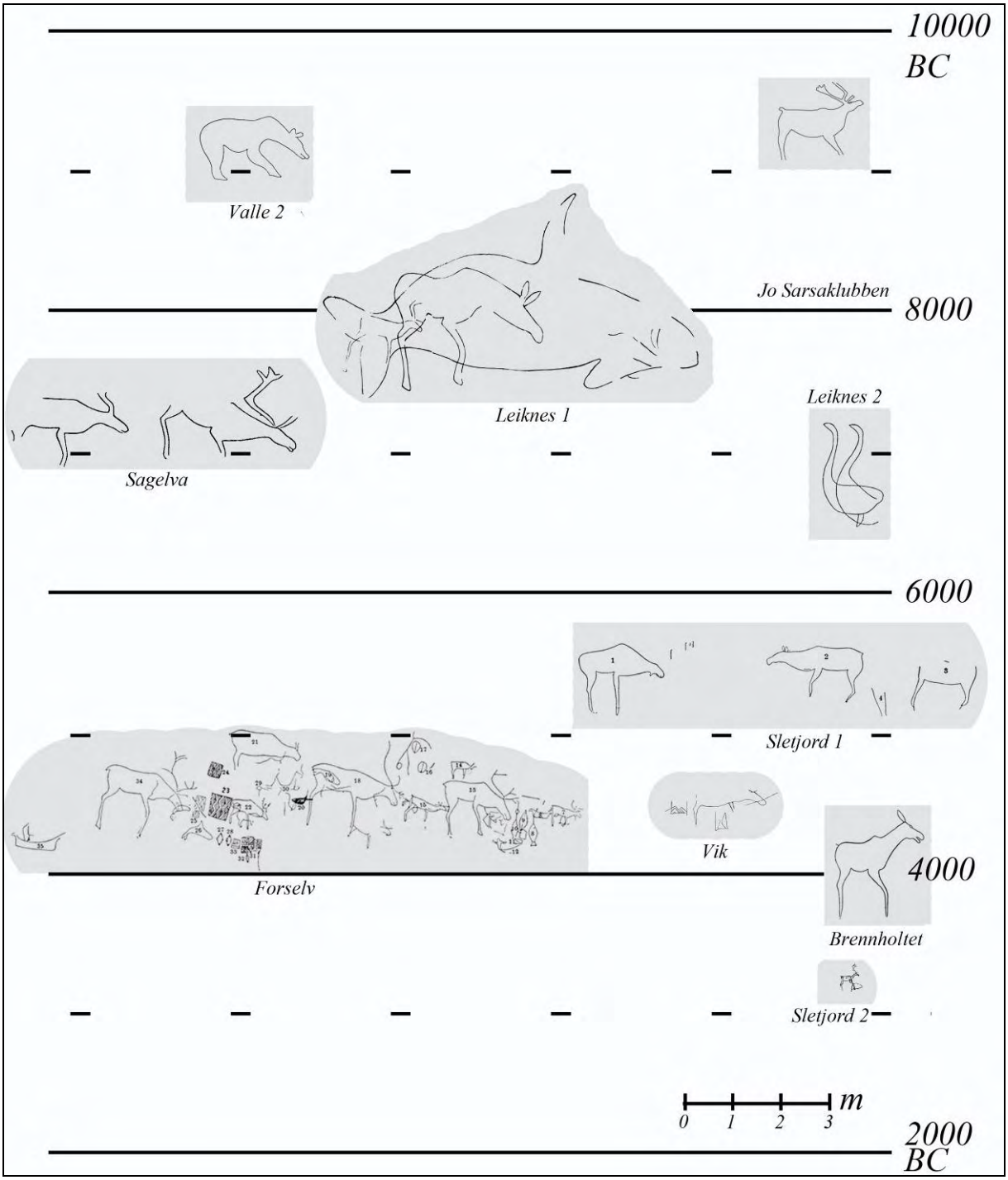


Figure 100 Chronological overview of the sites in the Ofoten area based on the data from **Figure 99**. Not all the figures are included, but they show the main trend in the development of rock art in the Ofoten area. Tracings after Gjessing, Hallström and Simonsen (Gjessing 1932; Hallström 1938; Simonsen 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 loose 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 see 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.

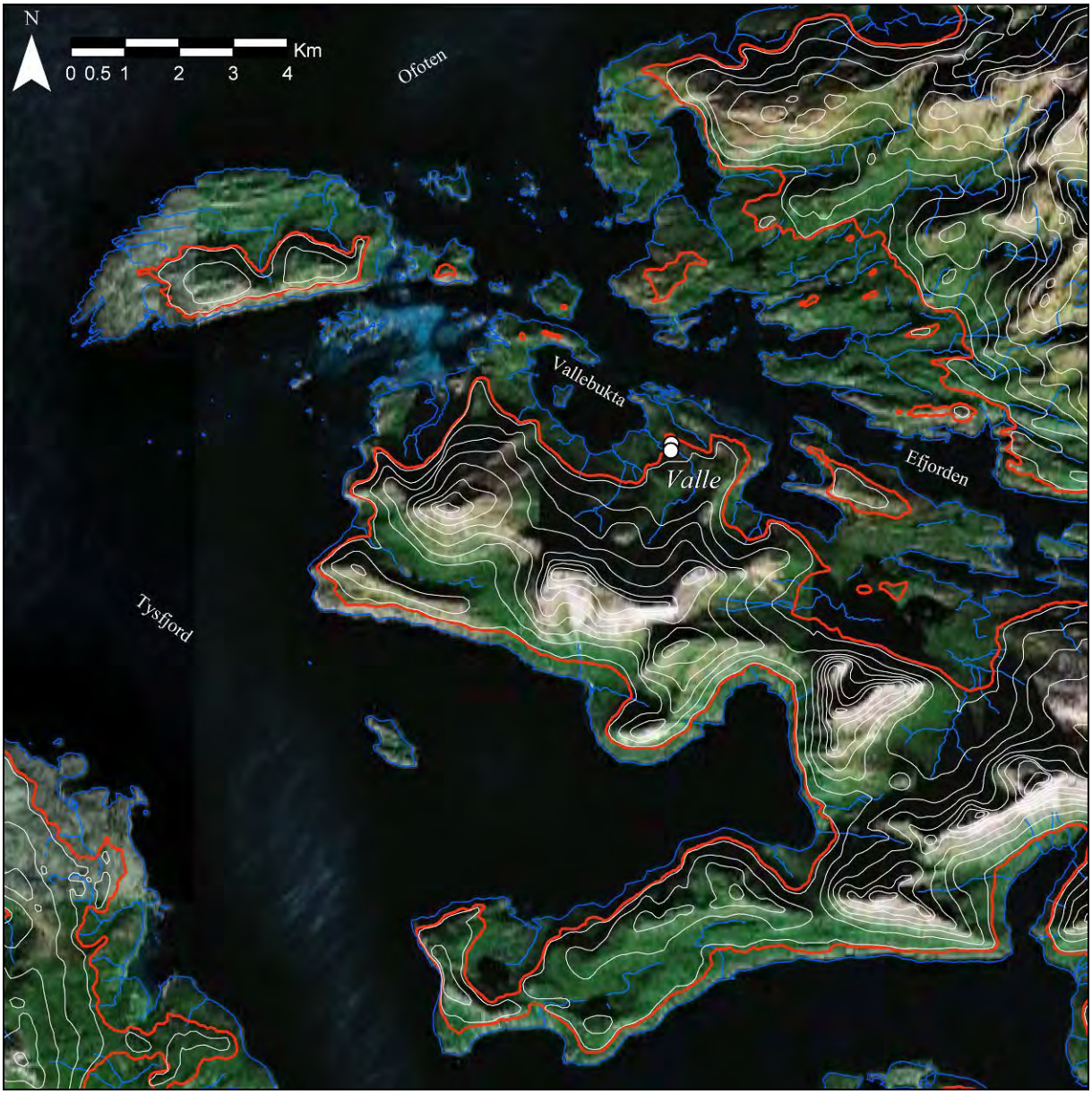


Figure 101 Reconstructed landscape at Valle to show the large impact on the available favourable land for hunter gatherers. The present secluded Vallebukta (Valle Bay) becomes part of the fjord, and the ”flatter” land strip along the coast is replaced by steep cliffs and mountains with “few” favourable 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.

When discussing the relation to the macro-landscape, I have raised the shoreline to the level of the carvings. This is performed by GIS and maps with a 1:5000 detailed scale and for most of them with 1m elevation data. Where only the 5m elevation data was available, the elevation data has been calculated in ArcView based on elevation data and fixed elevation points. The sites are presented according to the dating suggestion in Figure 99, starting with the oldest ones at Nes.

Nes[109]

When referring to Nes, this unit includes the four sites Fjellvika, Jo Sarsaklubben, Nes Fort Øst and Nes Fort Vest located at the Nes Peninsula on the northern side of the Ofoten fjord, between the two tributary fjords (the Kanstadfjord west of the Peninsula and the sound Tjeldsundet on the eastern side of the Peninsula), see Figure 102. The carvings at Fjellvika and Jo Sarsaklubben are facing the Kanstadfjord, while the Nes Fort sites are situated at what would have been the southeastern part of the Nes Peninsula (see Figure 102 and Figure 103). The sites are fairly contemporary, all all made between 9370-8630BC based on shoreline dating. Reconstructing the sea level at c. 50m shows that the area has many "natural harbours" and the rock art sites are placed at the entrance or at the points between such small, sometimes secluded bays (see Figure 102, Figure 106 and Figure 109). My main focus at Nes has been the Jo Sarsaklubben site since the Fjellvika site is hard to see and the Nes Fort Øst and Nes Fort Vest site was found after my initial fieldwork.

Jo Sarsaklubben

The carving at Jo Sarsaklubben stands out in white, contrasting the greyish lichen covered rock surface. By its size, its location on a vertical cliff and the contrast in colour from the rock surface it would have been visible from a distance. With a raised shoreline it would have been clearly visible from the sea. The Jo Sarsaklubben site would have been located at the shore at the edge of a point where shoreline turned inwards towards a small bay where the Brenelva runs today and a small pond is located today (see Figure 103). Standing on the hilltop on the southern side of this small bay about 100m from the panel the figure was clearly visible during fieldwork in 2004. Based on the fieldwork in helicopter at the level of the carvings, the figure could be seen from the sea at a distance of about 300m (see Figure 97,

[109] Nes includes four sites, Fjellvika (Askeladden Id-nr. 8828), Jo Sarsklubben (Askeladden ID-nr. 18960), Nes Fort Vest (Askeladden Id-nr. 101282), Nes Fort Øst (Askeladden Id-nr. 101279).

Figure 104 and Figure 105). The life-size reindeer is quite impressive where it stands on the vertical cliff moving towards the area with the river and small pond close by. Even at a slightly lower elevation, at about 50masl, the small bay at Jo Sarsaklubben would have been a favourable place for settlement due to the good landing place for boats.

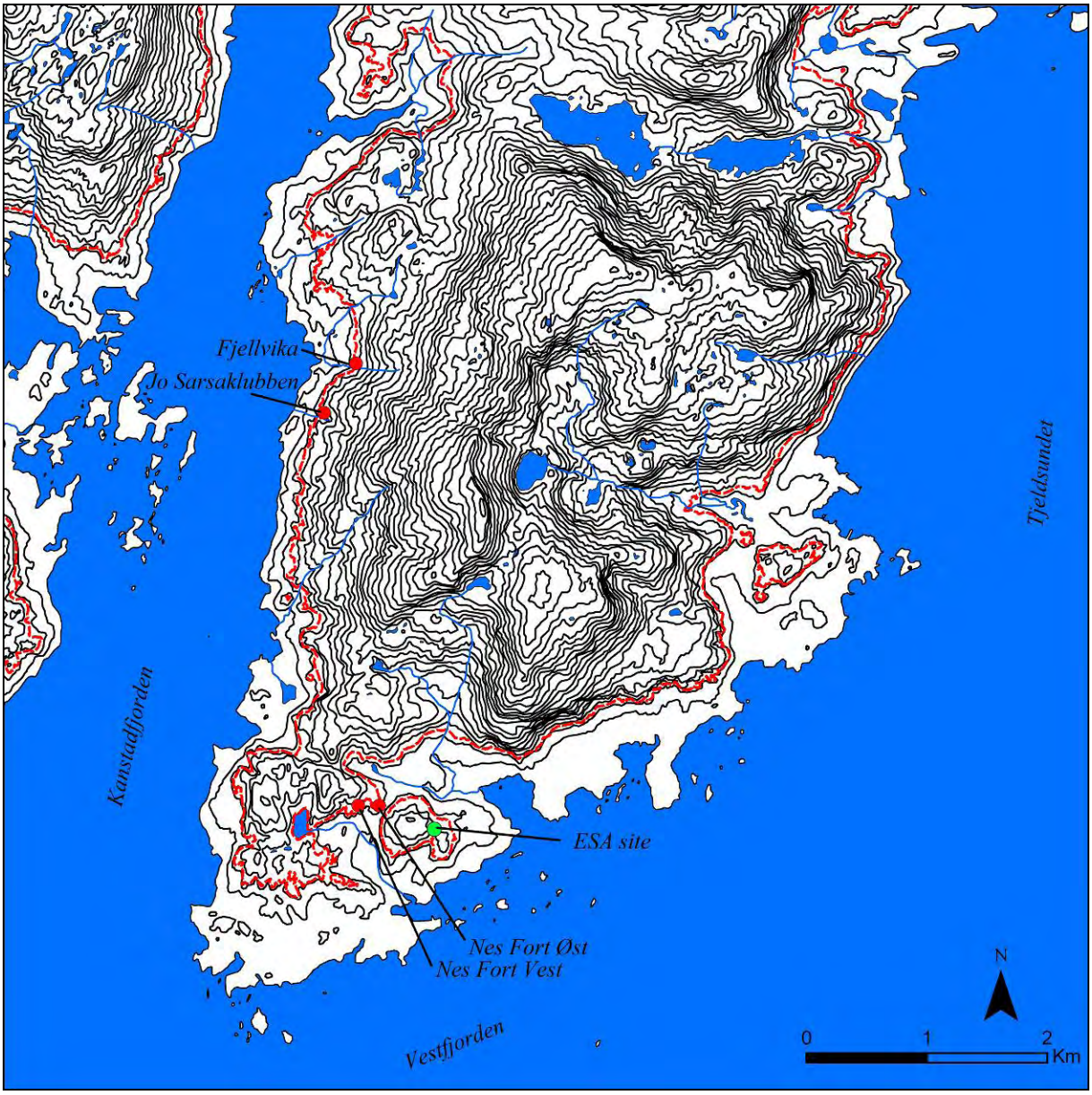


Figure 102 Reconstruction of the landscape at Nes by GIS. The shoreline in dashed red colour is situated at c. 50masl. Notice the ESA site (marked in green), located between the eastern hilltop Neshaugen and the western hilltop Klokkatohaugen situated at c. 55masl on what was a small island just east of the rock art sites. The Nes Fort Øst is situated at c. 50masl and the Nes Fort Vest site is situated at 55masl. Contour lines are 20m. The mountain east of the Jo Sarsakluben site is the Lødingaksla of 569m. The Jo Sarsaklubben and the Fjellvika site are facing the Kanstadfjord while the Tjeldsundet sound is east of the Nes Peninsula. Illustration:. Jan Magne Gjerde.

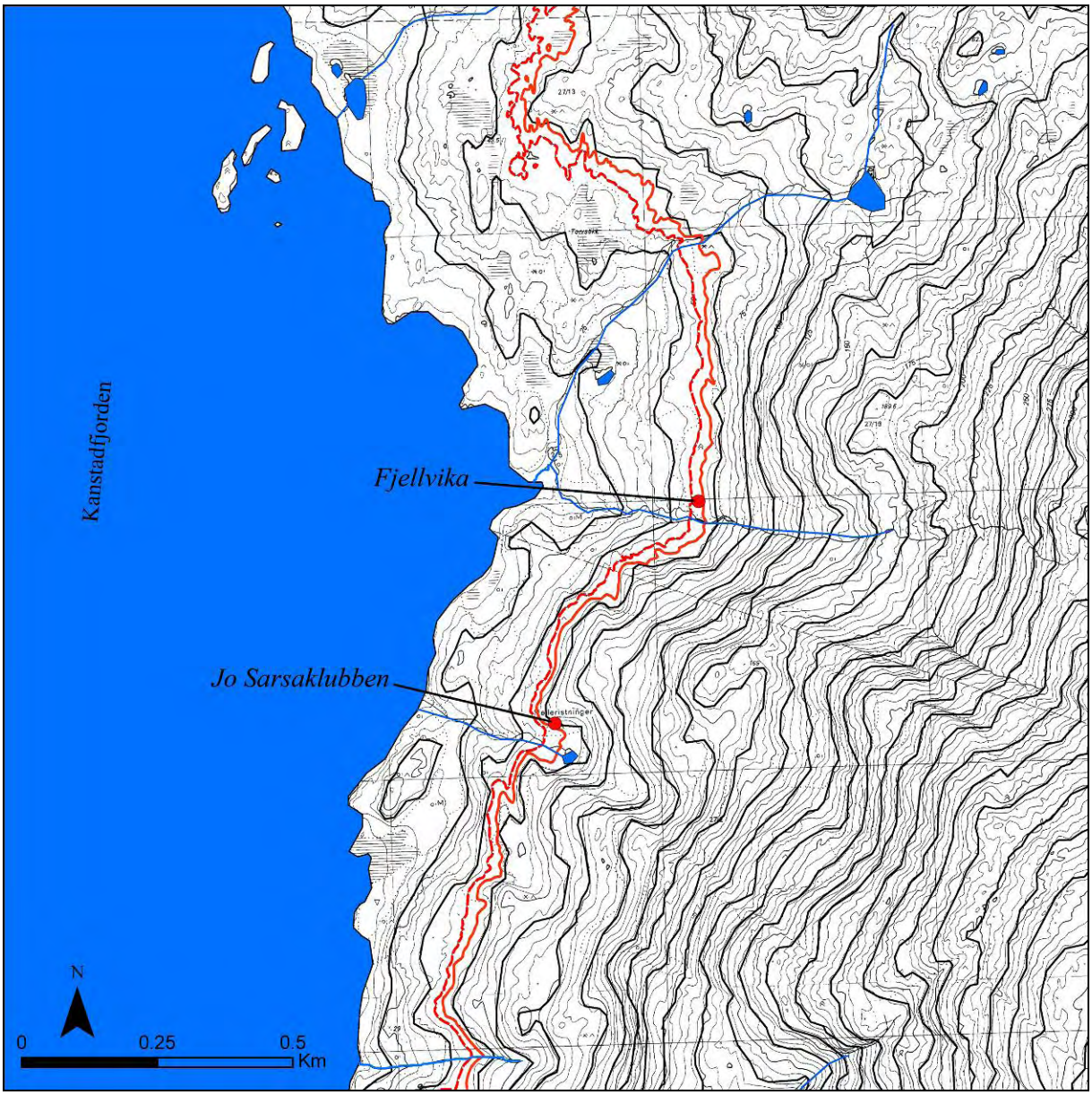


Figure 103 Reconstruction of the landscape at Jo Sarsaklubben and Fjellvika by GIS. The red dashed lines are representing the shorelines at 50masl and 55 masl. Especially at Jo Sarsaklubben one can see the favourable place for settlement in the secluded bay where the present small pond is situated. There is also a sheltered area suitable for settlement just south of the Fjellvika site. North of the Fjellvika site is also a favourable small bay, suitable for settlement. Vegetation in this area makes it hard to find rock art if it was made near that bay too. Contour lines at 20m, background map contour lines 5m. Illustration:. Jan Magne Gjerde.

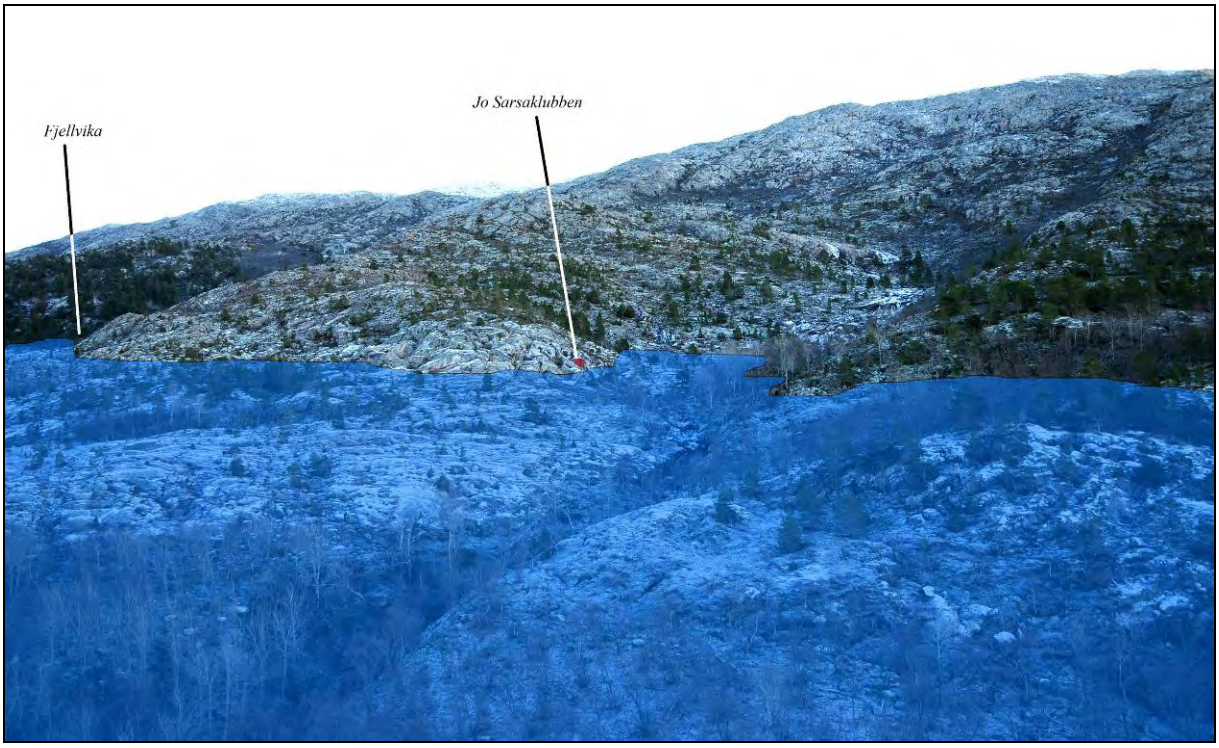


Figure 104 Tentative reconstruction of the Jo Sarsaklubben area based on the reconstruction of the landscape in **Figure 103** and the view towards the site from helicopter at the elevation of the carvings. Illustration: Jan Magne Gjerde.

Figure 105 Tentative reconstruction of the Jo Sarsaklubben area based on the reconstruction of the landscape in **Figure 103** and the view towards the site from helicopter at approximately the same elevation of the carvings. Illustration: Jan Magne Gjerde.

Nes Fort

With a raised shoreline, the sites Nes Fort East and Nes Fort Vest are sitated at a point between the Nes Peninsula and a small island east of the sites (see Figure 106). The small island has an Early Stone Age settlement remains located at about 55masl assumed to be contemporary with the polished carvings. West of the two polished carving sites, a small fjord ends in a secluded bay. This bay would be favourable to settlement and should be surveyed. According to the survey report the Nes Fort Vest site can be identified as an elk figure due to the classical elk beard, while at Nes Fort Øst it can only be established that the animal is of a deer (most likely reindeer or elk) (Hauglid 2006).

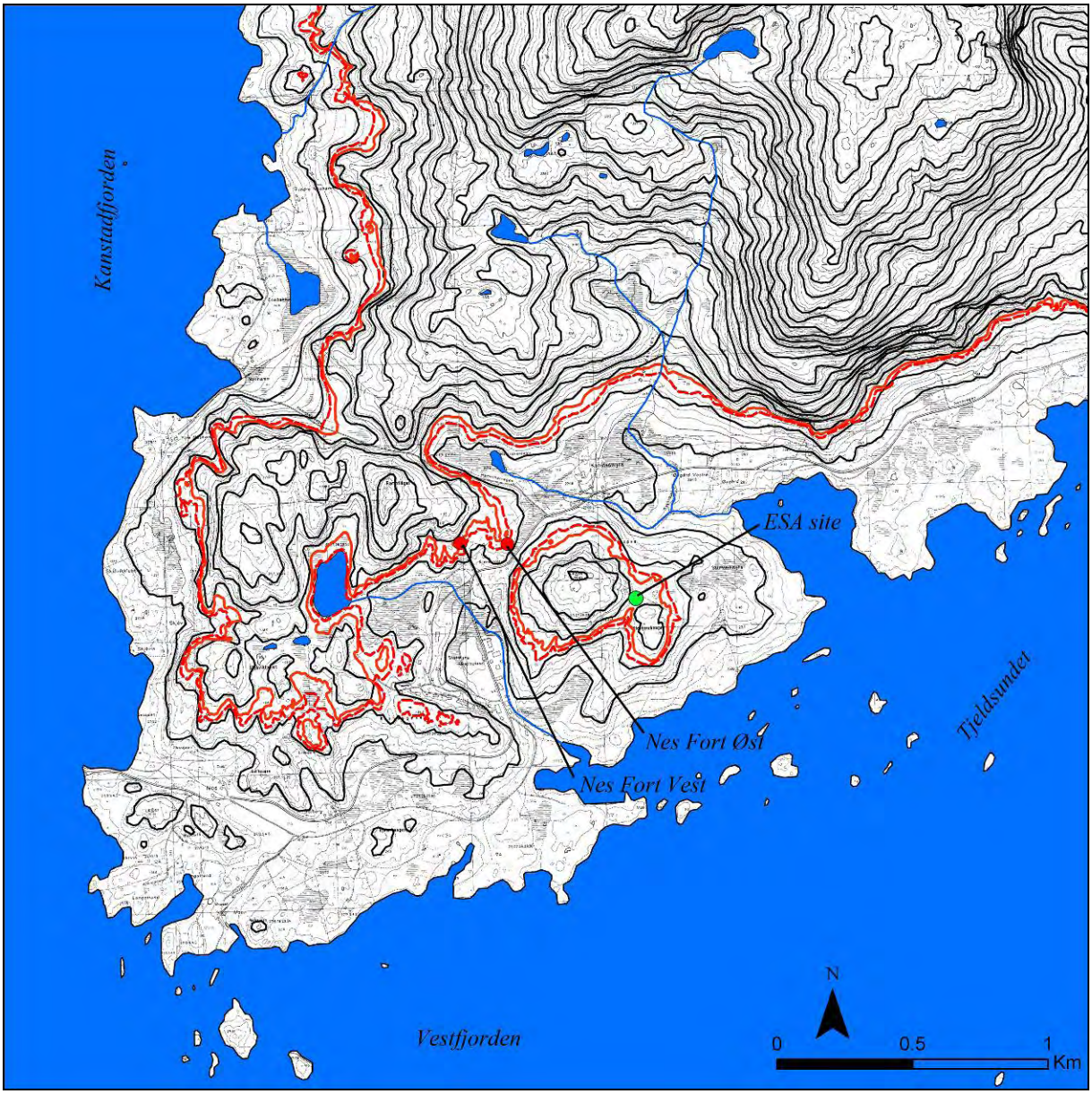


Figure 106 Reconstruction GIS of the landscape at Nes Fort. Notice the ESA site marked with green dot, located between the eastern hilltop Neshaugen and the western hilltop Klokkatohaugen situated at c. 55masl. The Nes Fort Øst is situated at c. 50masl and the Nes Fort Vest site is situated at 55masl. One can see the favourable

places for settlement in the secluded bay where the present Nesvatnet is located following the bay southwest of the two rock art sites. Also the favourable isthmus with two bays north and northwest of the two rock art sites seems to be favourable places for settlement. Contour lines at 20m. Illustration: Jan Magne Gjerde.

Valle[110]

The Valle site is located in the outer parts on the south-western side of the Efjorden fjord. The Efjorden fjord is a tributary fjord running east from the Ofotfjorden fjord. It is located on the eastern side of the Vallebukta bay . To the south of the site, the steep mountain side ends in the tall mountainchain Valletindan with the highest top at Breiskardtinden at 883masl. South of the Valle 1 panel is the hilltop Finnhågen at 191masl. Thereby the name of the site has also been Finnhågen, but now generally named Valle. The sites at Valle are located about 600m from the Moldforvika bay in the eastern end of the Valle bay. Valle 1 is located on a virtually vertical cliff on the northern side of the Molodforvikelva River that runs through the Moldforvika valley. The site is located where the terrain changes character from steep to flat. Valle 2 is located about 150m north of Valle 1 in the flat area south of an area with small hilltops at Gåsjenesheian. Valle 2 is located above a collection of water that may dry up during summer. Both panels at Valle are located at c. 73masl.

Reconstructing the landscape by raising the sea-level at Valle, to about 73masl (see Figure 107), show that both rock art sites would have been located in a bay that today is the Moldforvikdalen valley. The carvings at Valle 1 would have been located where the river runs into the present Valle bay. The local topography suggests that the river beneath the panels would have been filled in by the sea at mean water level or high tide at the time of the making. When standing on the other side of the river one gets a clear view of the polished carvings (see Figure 108). Both Valle 1 and Valle 2 can be seen from a distance. Seeing the carvings from the sea would however be a problem since they are located at ridges facing the south while by boat one would approach the area from the west. Comparing a photo taken by Gjessing in 1931 and a photo taken in 2004, there is almost no change in the setting. Due to the minor vegetation changes in the area (see Figure 49), this site is ideal when trying to reconstruct the landscape. The change that is worth mentioning is the lost shoreline relation. It is therefore surprising that Gjessing is puzzled by the marine animals depicted far from the present shoreline. Even if he suggests a higher shoreline when the figures was made so that they would be closer to the shores, he does not accept the old age of the carvings (Gjessing 1932:63). Simonsen also found it strange that seals and porpoise were depicted so far from the

[110] In literatture also known as Finnhågan. Valle 1 (Askeladden ID-nr. 63396), Valle 2 (Askeladden ID-nr. 16940).

carvings contemporary coastline (Simonsen 1970:65; Simonsen 1991:62) One can even today see the Valle bay and the ocean from the site and by accepting the shoreline connection the sites would be located at the shores.

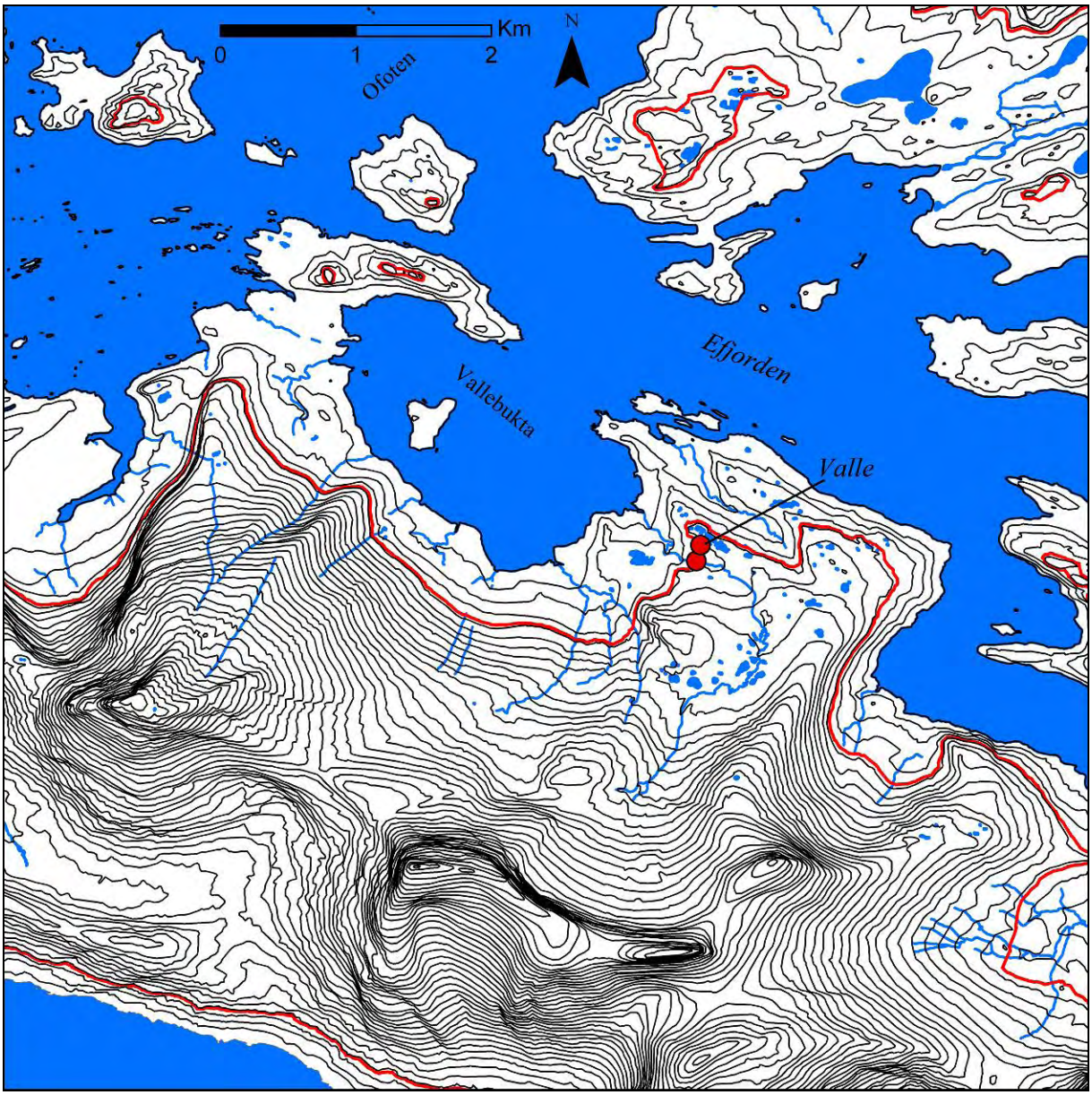


Figure 107 Reconstructed landscape at Valle. Notice the flat area where the Valle carvings are situated. The present secluded Valle Bay becomes part of the fjord, and the ”flatter” landstrip along the coast is replaced by steep cliffs and mountains with “few” favourable places. The Valle site is marked with red dots and the coastline at about 73masl is marked with red. The Moldforvika River is the one that runs past Valle 1, the southern site of the two sites at Valle. Contours at 20m. 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.

Figure 108 Photo and tracing of the Valle 1 site. Tracing after Gjessing (1932:plate XXVIII). The porpoise in the left of the tracing can be seen beneath the three to the left in the photo. With a shore connection, the sea would have filled in what is now the river. One can also see that no figures are made at the lower part of the panel. Scale under the seal to the right in the tracing is 1m. Photo and illustration: Jan Magne Gjerde.

Leiknes[111]

The Leiknes panels are located above the promontory Leiknes that give the site its name. Leiknes lies between the fjords Tysfjord and Ofotfjorden/Vestfjorden on the Tysnes-peninsula that runs virtually south-north, ending in the Ofotfjord/Vestfjorden. The site is located on the north-eastern side of this peninsula facing east towards the Tysfjord-fjord (see Figure 109). The tallest mountain in the mountain ridge above the site, in the west is Steinfjellet at 408masl. The Leiknes site contains two known panels. They are both located on rock slopes. Leiknes 1 is located between 51masl and 43masl. Leiknes 2 is located at 31masl.

Reconstructing the shoreline at Leiknes 1, shows that the site would have been located along the coastal rock slopes on the western side of a bay where today the Leikneselva runs down the "Leiknes valley" between the hilltops Leikneskollen at 95masl to the north and the Strandåsen at 77masl to the south, then forming a narrow tiny fjord. At the time when the Leiknes 2 carvings were made, the Leikneselva fjord would be on dry land (See Figure 109).

[111] Leiknes 1 (Askeladden ID-nr. 16929), Laiknes 2 (Askeladden ID-nr. 60099).

The reconstruction also shows that the Leiknes peninsula, a characteristic of the landscape today, would have been submerged at time when the carvings were made. Gjessing visited the Leiknes area in 1937 to search for Early Stone Age settlements to support the Early Stone Age dating suggestion for the polished rock art sites. By looking at the lost relations of the Leiknes area, raising the shoreline, he observed the valley south-southwest of the Leiknes panel (see Figure 109). Gjessing assumed that the settlements would have been along this old fjordvalley and surveyed the area[112]. South of the fjord valley Gjessing found settlement remains at about 65masl suggesting an Early Stone Age date[113]. A minor excavation by Gjessing revealed more artefacts of coarse quartzite backing such a date[114]. Further investigations should be made in this area, perhaps linking the rock art to early settlements. Raising the sea to about 60masl, connected to the settlement, shows that this area would have been a favourable place for settlement for a long time with ideal places for landing boats sheltered from the elements even before the polished carvings were made.

[112] At the time this valley was overgrown and Gjessing found no settlements (read house structures). Gjessing also found settlement remains at the tapes terrace at about 28-30masl with settlement remains most likely dated to the Late Stone Age.
[113] Gjessing estimated the elevation to be about 52masl (Gjessing 1942:312). Later, the site is found to be at about 65masl by Hauglid (1993:129).
[114] Tromsø University Museum, Topographical Archive. Report by Gjessing 1937, reference Gnr 76, Leiknes, Tysfjord Kommune, Helleristningsfelt + diverse saker, 57133. The finds are catalogued with number TS 3868.

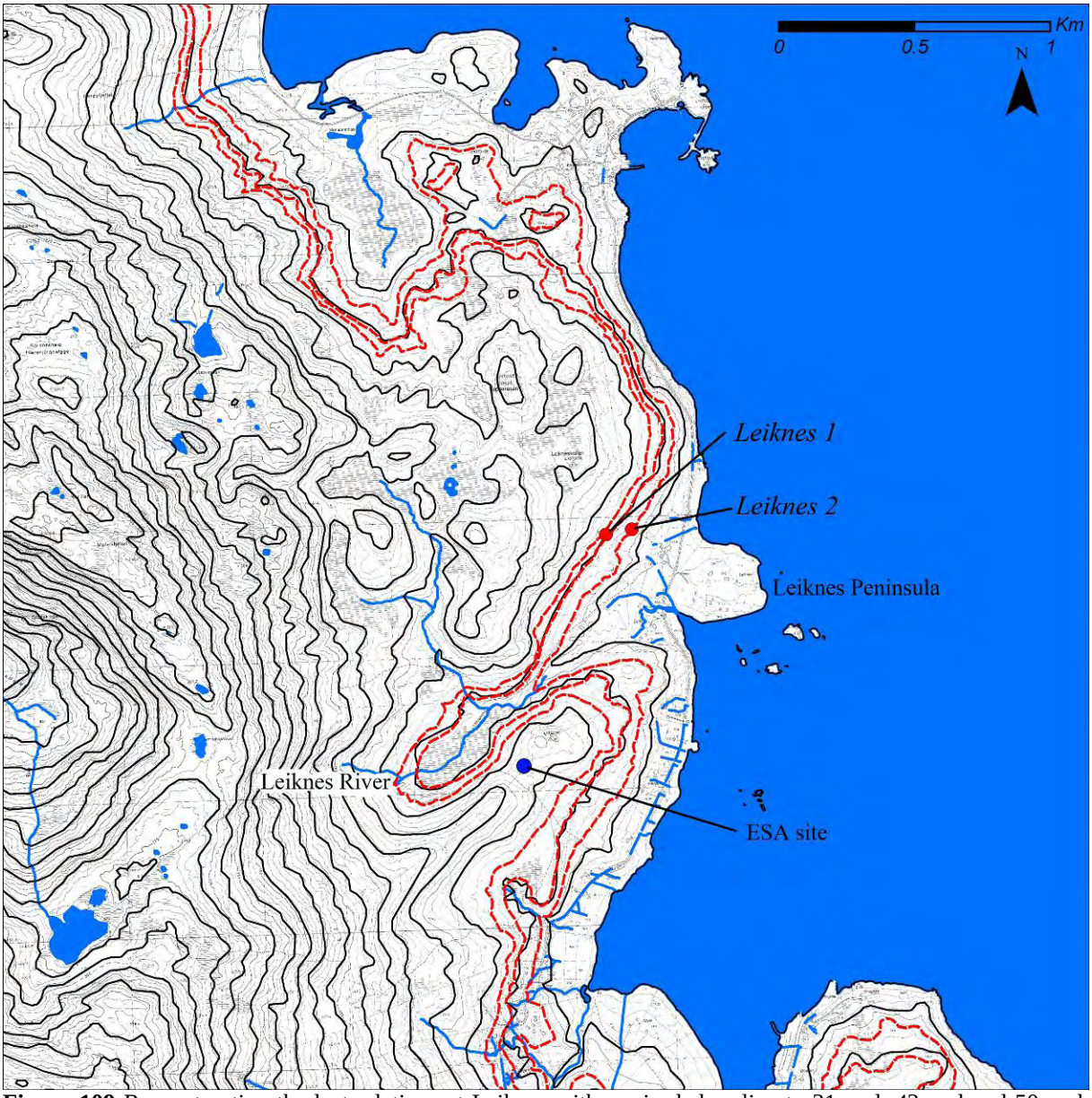


Figure 109 Reconstructing the lost relations at Leiknes with a raised shoreline to 31masl, 43masl and 50masl. The dashed red lines are at 31masl, 43masl and at 50masl. The Early Stone Age site is marked based on Gjessings descriptions (Gjessing 1937). The small peninsula beneath the carvings that today is a landscape characteristic would have been submerged at the time of the carvings. Contours are 20m. Illustration: Jan Magne Gjerde.

One of the interesting aspects of Leiknes 1 is that the figures cover a vast area of the rock surface. The figures are located between 51masl and 43masl. That is c. 8m difference in elevation. The extent of the panel is about 26,5m in length. Combined with the angle of the slope of the rock panel, one cannot see the figures above you since the inclination makes it impossible. The extent of the figures on the panel makes it impossible to stand on one place of the rock and observe all the figures and its narrative. One has to move around the rock, and even then, it is hard to see the figures due to the share size. This makes me suggest that the figures and the panels (read narratives) were meant to be seen from the sea by boat. By

observing the panel and the figures at the altitude they were made in one might get a better idea of how the panel and its figures were observed in prehistory with a raised shoreline.

Figure 110 The Leiknes area from the air. Photo taken from helicopter. One can clearly see the favourable bay with a raised shoreline, compare with **Figure 111**. Photo: Jan Magne Gjerde.

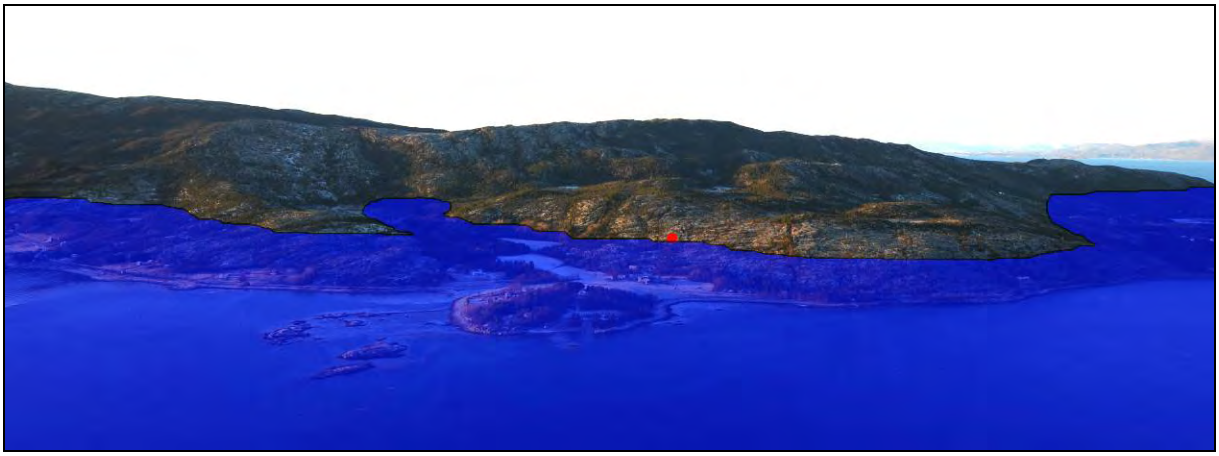


Figure 111 Rough reconstruction after data from **Figure 109**. The Leiknes 1 site is marked with a red dot. The elevated shoreline at 50masl is drawn by free hand after the elevation data as can be seen in **Figure 109**. The settlement would have been at the promontory left of the reconstructed bay. Photo and illustration: Jan Magne Gjerde.

From helicopter, I could observe that landscape at Leiknes and the figures at the same elevated level as the sea would have been when the carvings were made (See Figure 110 to Figure 113). The context of the Leiknes 1 panel, due to the “low” angle of inclination, would be changed more by the land uplift. Figures would loose their shoreline connection, hence perhaps loose their magic, as parts of the liminal world. Then new carvings were made in the shoreline area. Figures and stories had to be reinforced and new stories had to be told in the rocks. The large rock surface at Leiknes would gradually loose its shoreline connection, hence new figures were made further away. This could be the reason why Leiknes 2 was made.

When studying the figures at the panel at Leiknes 1, many of them are superimpositioned. It also looks like the figures are made in sections at certain elevations (See Figure 96).

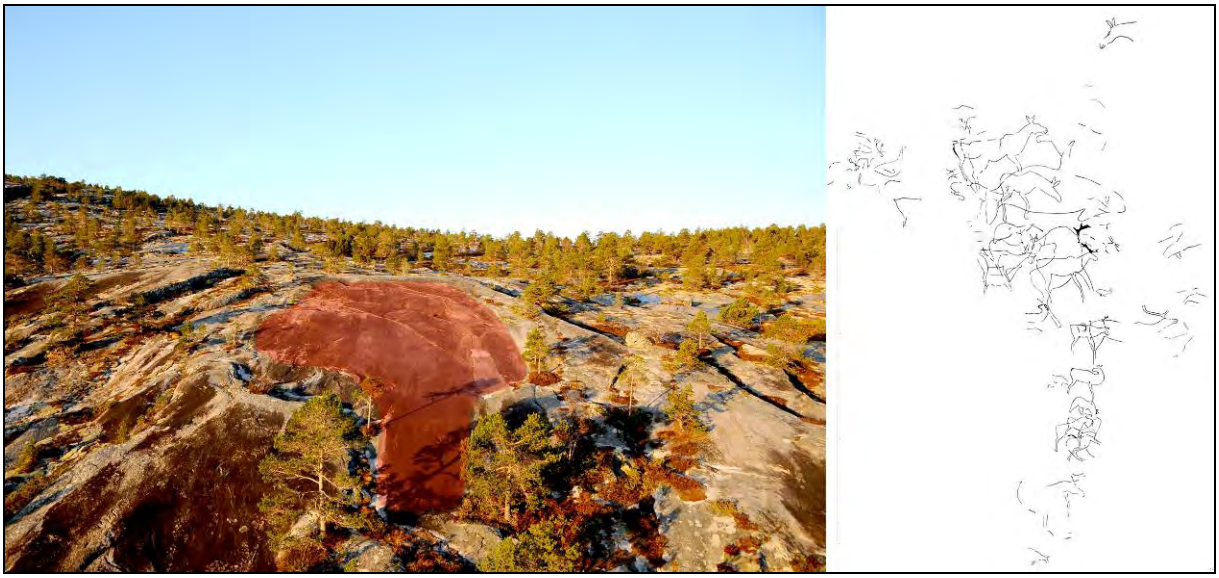


Figure 112 The Leiknes 1 panel as seen from the same elevation as the carvings from helicopter at about 45masl. From a distance of more than 100m one could see the figures even with poor light conditions (little contrast due to sun directed at the panel). The area with figures are marked with red on the photo. The large whale figure is in the middle of the photo (Compare with **Figure 92**). Tracing to the right after Hallström (1938:plateV-VI). Photo and illustration: Jan Magne Gjerde.

Figure 113 The Leiknes 2 site. Photo taken from helicopter at the "same" elevation as the carvings, at about 30masl. The two swans can be seen in the middle of the left photo at the point of the black arrow. An enlargement of the swans is found in the right photo. Compare **Figure 135** taken from the ground by the carvings. The swan figures could be seen at c. 150m distance. When the carvings were made, they were most likely situated in the upper shore-level. The Leiknes 1 marked by the black arrow at the top of the left photo. Photo and illustration: Jan Magne Gjerde

Sagelva[115]

The Sagelva site is located on the western side of the Sagelva river (thereby its name) between the inner parts of the Sagfjorden fjord and Nervatnet lake. The Nervatnet lake is at 45masl to 46masl depending on the fluctuating water level of the lake, while the polished carvings at Sagelva is located at 48masl. The Nervatnet lake is the last lake in a line of lakes that forms a large valley that stretches for about 9km in south-east direction. The steep mountains on the side of this valley evidence a very steep landscape that would have constrained lines of movement. The mountains on either side of the Sagelva site are about 500masl. The ridges of mountains both east and west the valley are higher than 1000m (see Figure 118). With the high altitude of the mountains, one must assume that the area also was close to small glaciers remaining from the last ice age[116].

The large figures at Sagelva can easily be observed by standing on the opposite riverbank at the present Sagelva (Figure 115). The panel at Sagelva is approachable due to a small ledge in front of the carvings and the inclination. It is possible to carefully get down to the carvings, although with slight fear when trying to approach the carving furthest to the left of the panel (Figure 114 and Figure 115).

Figure 114 The Sagelva site. The panel with the two reindeer figures located in the middle of the photo are marked with red. Most likely when the carvings were made, the water level would be just below the reindeer figures. Compare with **Figure 115** and **Figure 116**. Photo Gustaf Hallström (photo 88), 1908. Hallström Research Archive, University of Umeå, Sweden. Illustration: Jan Magne Gjerde.

[115] In litterature also known as Sagelv or Sagfjorden (Askeladden ID-nr. 27030).
[116] Jacob Møller, personal communication, 2009.

Figure 115 Photo of the panel with polished carvings at Sagelva by Gustaf Hallström, 1908. Notice the steep mountains in the background. Hallström Research Archive, University of Umeå, Sweden.

Figure 116 Reconstruction of the panel at Sagelva with a raised water-level at the ledge beneath the carvings. The difference between mean water level and high tide is c. 1m. That is that the carvings would have been made in the upper tidal zone, the liminal zone visualized as if the reindeer are running along the water line. Original photo from 1908 from Hallströms Research Archive, University of Umeå, Sweden. Illustration: Jan Magne Gjerde

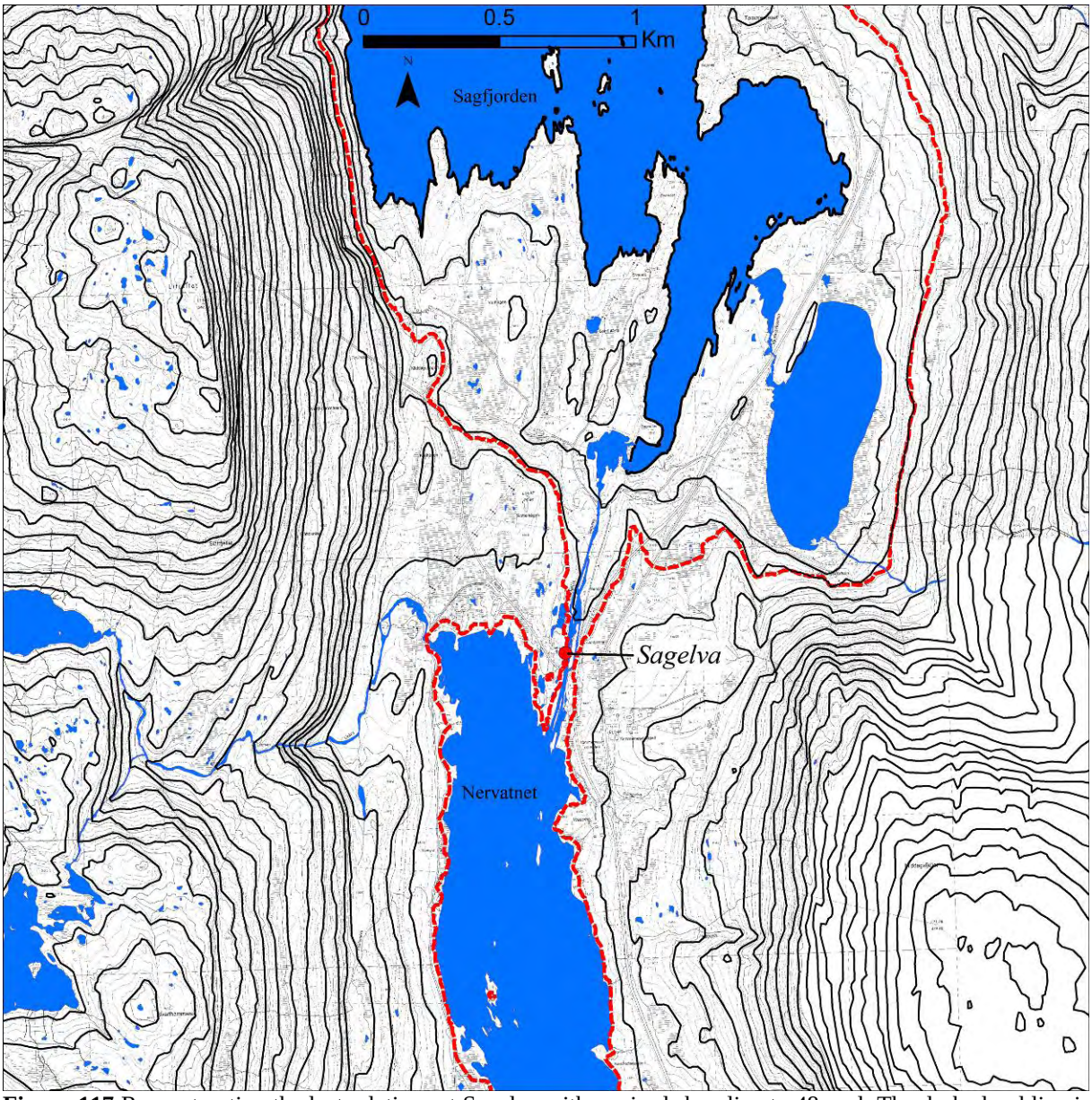


Figure 117 Reconstructing the lost relations at Sagelva with a raised shoreline to 48masl. The dashed red line is situated at 48masl. Notice the narrow strait where the carvings are located and the flat areas on both sides of the strait where the Sagelva carvings are situated. These "flat" areas would be suitable for settlements. Contours at 20m interval. Illustration: Jan Magne Gjerde.

When reconstructing the topography at Sagelva by raising the sea-level (see Figure 116 and Figure 117), the polished carvings are located on the western side of a narrow strait where the Sagelva river is running today. The tidal effect on this narrow area must have been immense and the tidal current past the panel must have been very strong, hence included a distinct loud sound when the tide was changing. This would have enhanced the character of the place as a special place separated from its surroundings by the forceful stream and later "rapids". Studies of Hallströms photographs from the site is vital because of the road and bridge that is built in the vicinity of the polished figures hinders a clear view of the area today.

When looking at Hallströms photos the link between the landscape and the figures become more evident. In Figure 114 one sees where the polished figures are situated, on the eastern bank of the river. The area on both sides of the Sagelva where the carvings are located (see Figure 114) are generally flat compared to the otherwise steep fjord/mountain landscape. The area west of the carvings would be such a favourable area for settlement and should be further surveyed (See Figure 117).

Reconstructing the sea-level to about 48masl, the height of the lowest part of the carvings the long lake "Nervatnet" would have been a narrow fjord stretching for about 9km inland. The figures on the Sagelva panel is of reindeer. According to Kalstad, the area had three crossing places for reindeer with many connected hunting pits[117]. These were only msarked on a map and no thorough survey has been conducted. The problem of dating reindeer pits are evident since they contain few chronological traces. The long "Nervatnet fjord" has three such crossing places (see Figure 118). The hunting pits for reindeer indicate that the area was good hunting grounds for reindeer. The geographical link to the placing of the reindeer images at the "entrance" to such a favourable hunting area for reindeer and reindeer is striking. They are marking favourable places connecting animals to the landscape. Very rarely do we have such a link in the archaeological record where traditional knowledge of the landscape (here: animal crossing places) can be connected to rock art.

Crossing the hefty tidal stream would not be preferred by reindeer. Further up the present lake there are three such crossing places where prehistoric reindeer hunting pits are located. There is no chronological link between these places, however the migration of reindeer and the spatial relevance makes this a favourable place for hunting reindeer connected to such crossing places (see Figure 118). The reindeer figures would then act as reference points in the landscape, here also connected to forceful streams and rapids. Initially the tidal stream, later due to the land uplift the context of the reindeer figures would change and the forceful rapids at Sagelva would still be such a reference point in the landscape. The reindeer is depicted as if they are running along the waters edge as they would do in this fjordal mountain landscape (see Figure 116 and Figure 118).

[117] According to Johan Albert Karlstad, (personal communication 2007), his father, a reindeer herder, had told him why the reindeer were made on the rocks. They were there because the place was a dangerous place for the reindeer due to the current and the waterfall.

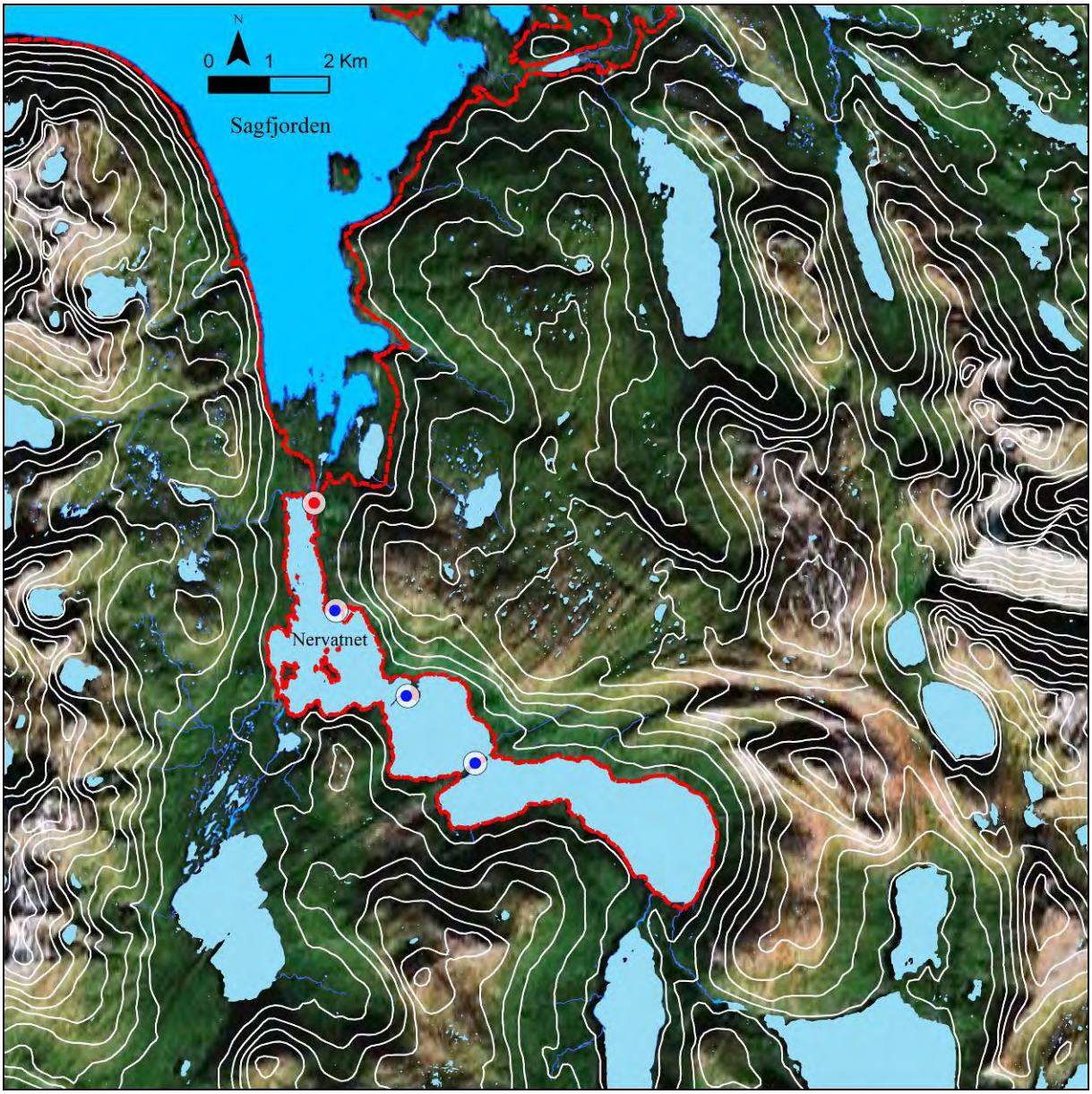


Figure 118 The Sagelva site with the sea level reconstructed at 48masl marked with red line. The Sagelva site is marked in white with red dot in the narrow sound between the Nervatnet lake and the Sagfjorden fjord (compare with **Figure 117**). Notice the long fjord of about 9km where Nervatnet is today. The three crossing places for reindeer with hunting pits are marked in white with blue dots. Background satellite image after Google Earth. White contour lines at 100m interval. Notice how the steep terrain would force movement in the landscape. Illustration: Jan Magne Gjerde.

Sletjord[118]

The Sletjord site is located at the Sletjord farm at Herjangen. Sletjord is located at a flat area at Sletjord on the northern side of the inner parts of the Herjangen-fjord. To the north of Herjangen are steep cliffs with the mountain Ramnfjellaksla straight above at c. 262masl. To the northeast of Herjangen are several mountains, with the highest at Storfjellet at

[118] The Sletjord site also is named Herjangen in litterature (Askeladden ID-nr 47016 and 67268).

1037masl. There are three panels with carved rock art at Sletjord[119]. They are all located on the rocky outcrops that runs east-west where the hilltop Sletjordhaugen is prominent. One can see this ridge with outcrops clearly today due to the fact that the avalible areas north and south of this ridge are cultivated by agriculture. The end of this ridge is today entering the sea at the small peninsula Herjangsholmen (see Figure 121).

Sletjord 1 originally consisted of two carved rock panels. One of these rocks were blasted during road-works and the rock with rock art moved to Oldsakssamlingen in Oslo in 1905. The figures were of a reindeer and a small whale figure (Hallström 1909:154-155, fig 50; Hallström 1938:43). 20 m WSW of this panel was another figure that a local informant interpreted as a close-by point, Segelnes. Hallström was surprised by the rock art motif of a landscape feature (Hallström 1909:156). Later it was interpreted as a whale figure (Hallström 1938:43). Sletjord 2 includes seven figures where three large elks are dominating the panel. Erosion has hindered defining the figures on the middle of the panel[120] while the ones on the bottom right has been interpreted as fish-sinkers due to a comparison with the Forselv halibut-fishing scene with a fish-sinker. New finds at Forselv (see Figure 127) suggest that these figures most likely are elk tracks. The Sletjord 3 panel was lately found (2005). However, no clear motif could be made out from the documentation, but it could be parts of an elk figure[121].

Figure 119 Photo of Sletjord 2. Notice the elk-tracks in the lower right of the photo (compare tracing in **Figure 136**) Photo from 1908 from Hallström's research Archive at University of Umeå (photo 68).

[119] The naming and numbering at Sletjord can be a bit confusing. While Hallström named them Sletjord after the farm and Gjessing followed the sitename, Gjessing altered the numbering, hence switched site 1 with site 2
[120] Hallström interpreted these as remains of eroded human figures (Hallström 1938:49).
[121] Bjørn Hebba Helberg, personal communication 2008.

Figure 120 Photo of Sletjord 2 from 2008. The large greyish spot on the rock outcrop is from a caster mould of the large elk figure (the middle of the photo in **Figure 120**). Photo: Jan Magne Gjerde.

The rock art at Sletjord is made on slightly sloping panels (Hallström 1938:47). Since the Sletjord 1 has been removed from its context, it is not included here. During the latter years, the area at Sletjord has gradually been overgrown by macro-vegetation (see Figure 122). This makes it somewhat hard looking at the landscape setting. Even when Hallström visited the site in 1908, macro-vegetation had covered some of the sites known by local people located in the Sletjord area[122] (Hallström 1938:41f).

When raising the shoreline to about 36masl one see that the at Sletjord 2 site would have been a coastal rock slope. The carvings, when made would have stood out from the rock surface and due to the inclination of the rock and the size of the figures, they would have been visible from the sea. The photos in Figure 119, Figure 120, Figure 122 and Figure 123 shows how the figures is seen from a distance and how much the vegetation has changed in the area even during the last 100 years. The rock at Sletjord 2 has a red varnish. Assuming the rocks had a "reddish" varnish in prehistory, the "white" figures when made would have contrasted with the red rock surface making them visible at some distance. The size, the slope of the cliff and the colour contrast would have made these carvings visible from sea when approaching the place by boat.

Some of the hunters rock art sites are related to the migration routes for animals depicted on the rocks. Sometimes they have been interpreted as located at the places where

[122] These sites have never really been surveyed for, however, the new find from 2005 would advocate for a morre thorough survey of the area.

elks are coming onto land after swimming over water or at favourable hunting places (e.g. Farbregd 1980; Mikkelsen 1986). The two elk tracks in the lower part of the panel fits such an interpretation. The elks come onto land represented by the tracks in the low tidal zone. Thereby the elks are depicted when entering land from the sea. This interpretation shows how the wider landscape interact with the figures in question. There are several examples in rock art from northern Fennoscandia depicting elks or reindeer swimming (e.g. at Kirkely at Tennes and at Bergbukten 3 in Alta, northern Norway).

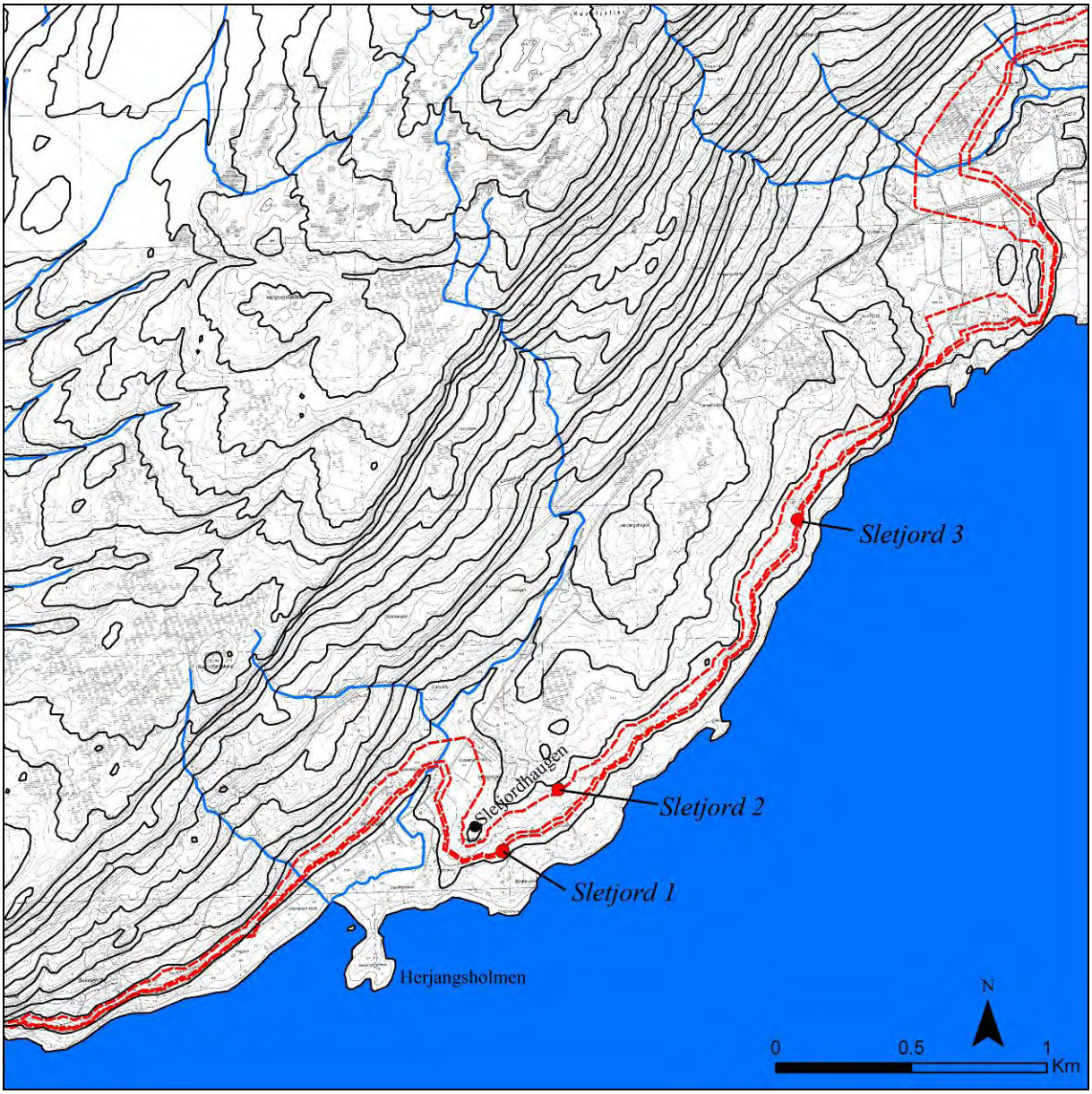


Figure 121 Reconstructed landscape at Sletjord with red dashed lines at 24masl, 26masl and 36masl to show how the sites would have been located with a raised shoreline. The Herjangsholmen would be submerged when the carvings were made, and the Sletjordhaugen hilltop would have been a protruding point with a secluded bay west of the carvings. Contour lines at 20m. Illustration: Jan Magne Gjerde.

Figure 122 Location photo of Sletjord 2. The elk figures can be seen slightly left of the middle of the photo on the rock outcrop. Photo from 1908 from Hallström's research Archive at University of Umeå (photo 74).

Figure 123 Location photo of Sletjord 2. Photo from 2008. One can see the vegetation since Hallströms visit 100 years ago and I could not take the photo from the same angle further back due to the growth of trees. Photo: Jan Magne Gjerde.

Forselv[123]

The site is located on the Forselv farm on the western side of the narrow Skjomen-fjord, a small tributary fjord that cuts away southwards from the Ofot-fjord at the narrow strait Trongskjomen between high, steep mountains. On the eastern side of the fjord, a ridge of high mountains dominate, with Skjomtinden at 1575masl being the highest. On the western side of the Skjomen fjord, the Reintind mountain at 1416masl is located where the glacier Frostisen can be seen. The Frostisen glacier is at its lowest today at 840masl while the top of the glacier is located about 1710masl. Based on the current data, the glacier Frostisen must have been larger and nearer the Skjomen fjord when the carvings were made[124].

On the western side of the fjord the steep mountains enters straight into the fjord, making it impossible to walk along the fjord on the western side. This can also be said for parts of the eastern side. Now, as in prehistory the most convenient approach to the Forselv area is by boat. The site at Forselv is located about 100m from the sea and the lowest carvings are measured to 32masl. East of the panel, the small river Kulåkerelva is running.

Totally, Gjessing found about 40 figures at Forselv (Gjessing 1931:280; Gjessing 1932:plate X). In 1971, new figures were found when unearthing a section of the panel (Simonsen 1978). During recent conservation work, the panel was unearthed and covered to remove lichen. New figures appeared and were documented as part of my fieldwork in 2005. The site is heavily eroded at places, and one assumes that more figures were once made at Forselv due to all the fragmentary lines and the heavy erosion on parts of the panel. Today the site includes about 100 figures (see Figure 127). The animals depicted include elks, reindeer, halibut, porpoise and bears. Adding to this there is a large human figure and small representations of anglers in a boat. One of the more interesting compositions is the halibut fishing scene. Returning to the site in 2007 during the excavations, frotage (see Figure 75 and Figure 126) and night photography (see figure Figure 93 and Figure 125) was tested, and details and new figures appeared. Therefore, to get a more complete documentation of the Forselv site the whole panel should be redocumented with both night photography and frotage.

[123] The Forselv site is also named Skjomen and Sommerbo in literature (Askeladden ID-nr. 56752).
[124] Jacob Møller, personal communication, 2009.

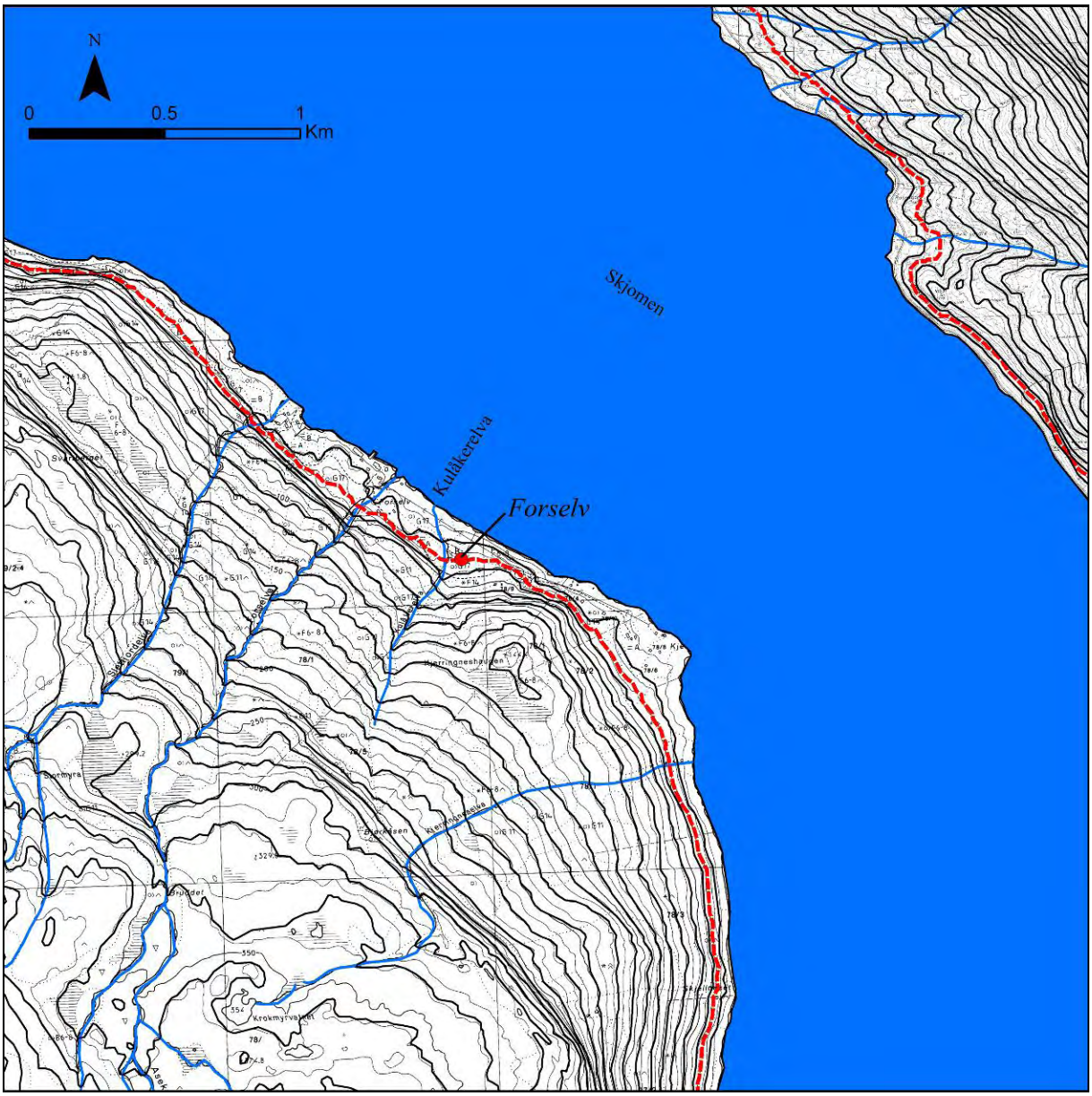


Figure 124 Reconstructing the lost relations at Forselv with a raised shoreline to 32masl. The dashed red line is at 32masl. Background map 20m contour lines. In the background the map has 10m contour lines.Illustration: Jan Magne Gjerde.

Figure 125 Night photo of section of the Forselv site with a large reindeer to the left and halibut fishing to the right (Compare tracing **Figure 127**). Photo: Jan Magne Gjerde.

Figure 126 Reindeer figure at Forselv found in 2005. One can here see that the elaborate antlers were not documented during the tracing (compare with figure in the right end in **Figure 127**). The stripes moving from the upper left to the lower right are striation marks. Both striation marks and erosion complicates the documentation of the Forselv site. Frotage: Jan Magne Gjerde.

With a raised shoreline, one sees that the panel would have been located close to the bay where the river Kulåkerelva enters the bay (see Figure 124). The site would have had a similar context as a bay beneath the panel for a long time when the land uplift had effect on the surroundings. The water from the sea would have been present beneath the ridge on the northern side of the panel where the rock drops more than 5m. This might explain why figures were made over some time at the Forselv site. To observe the figures, one needs to walk along the panel. The halibut fishing scene is located on the rock at its most vertical inclinated part, vizualizing the fishing line going into the sea. At several places striation marks has been included as parts of the figure and old lines were used to make out parts of other figures (this was also observed by Gjessing (1932:26)).

When looking at the technique, most likely there are two main techniques with pecked carvings. The large animals are made with broad lines that generally are more eroded than the thinner lines of the fishing scenes and the geometrical grid and frame figures. At the largest geometrical figure, one can observe that the grid-figure superimpose the previously carved large reindeer figure. Rock art was probably made at Forselv for a considerable time at the same panel. The steep edge below the panel facing the fjord, about 5m high, made the rock outcrop keep its shore bound location even after the waves were no longer dashing onto the rocks where the carvings are situated (see Figure 128 and Figure 129). The figures at Forselv therefore most likely were made at different times. The boat type at Forselv shows similar traits with the earliest boats in northern Fennoscandia and the earliest boats in middle Norway. Most likely they belong to the earliest parts of the Late Stone Age (Gjerde 2008).

Figure 127 Tracing of the Forselv site. Top tracing, Gjerde after fieldwork 2005. Bottom tracing after Gjessing (1932:plate X). The new documentation more than doubled the amount of figures at Forselv. However, the use of night photography and frotage in 2007 on parts of the panel (see **Figure 93** and **Figure 125**) revealed details that were not perceived during the tracing and a few new figures. Therefore a new documentation should be made at Forselv based on tracing, frotage and night photography. The top of the new figure found during excavation in 2007 (see **Figure 98**) was located between the legs of Gjessings figure 1. Illustration: Jan Magne Gjerde.

Figure 128 Tentative situation with a reconstructed shoreline at Forselv. The figures are related to the positioning at the rock outcrop. It seems like the elks and the reindeer are coming ashore at Forselv, perhaps after crossing the Skjomen fjord. They are all facing land. Photo is taken from a tree at the end of the site. Notice the steep edge at the right side of the panel, a cliff at most 5m high. Tracing, photo and illustration: Jan Magne Gjerde.

Figure 129 The Forselv site. Notice the cliff at the right side of theis panel. This would have been a steep cliff linking the panel to the shore location after the sea retreated from the panel where the carvings are situated. Compare with **Figure 128**. Photo: Jan Magne Gjerde.

Vik

The Vik carvings[125] are situated on the eastern side of the Island Rolla facing the sound Bygda between the islands Rolla and Andørja. Above the site the large mountain ridge Drangen with the highest top, Stortinden at 1022masl. The figures at Vik 1 is situated on a vertical cliff c. 21masl. There are 6 figures on the Vik 1 panel (see Figure 130). Two grid-patterns, two deer-animals (most likely elk by the morphology), a line that looks like an acute angle and several lines classified as one figure by Simonsen (Simonsen 1958:15f). The identified figures represents elks and grid patterns[126].

When reconstructing the landscape by raising the shoreline, one observes that the Vik 1 site is located virtually at the entrance of a bay. There would have been a passage beneath the figures at mean water level or at low tide[127]. Observing the terrain during fieldwork shows that this area is a good place to pass through the area since this forms a natural ledge when

[125] Initially two panels with rock art was found at Vik, however I agree with Simonsen when he rejects Vik 2 as natural cracks in the rock (Simonsen 1958:14,16).
[126] At my visits to the site, water was running over the panel and lichen and moss growth made it hard to see all the figures.
[127] A local inhabitant, Henry Johansen, who grew up close to the Vik site informed me that when the elks returned to the area, their ”natural” path was just in front of the panel.

walking in the north-south direction. It is therefore a natural line of movement, in an area where the higher elevated hilly grounds are fairly steep (see Figure 131).

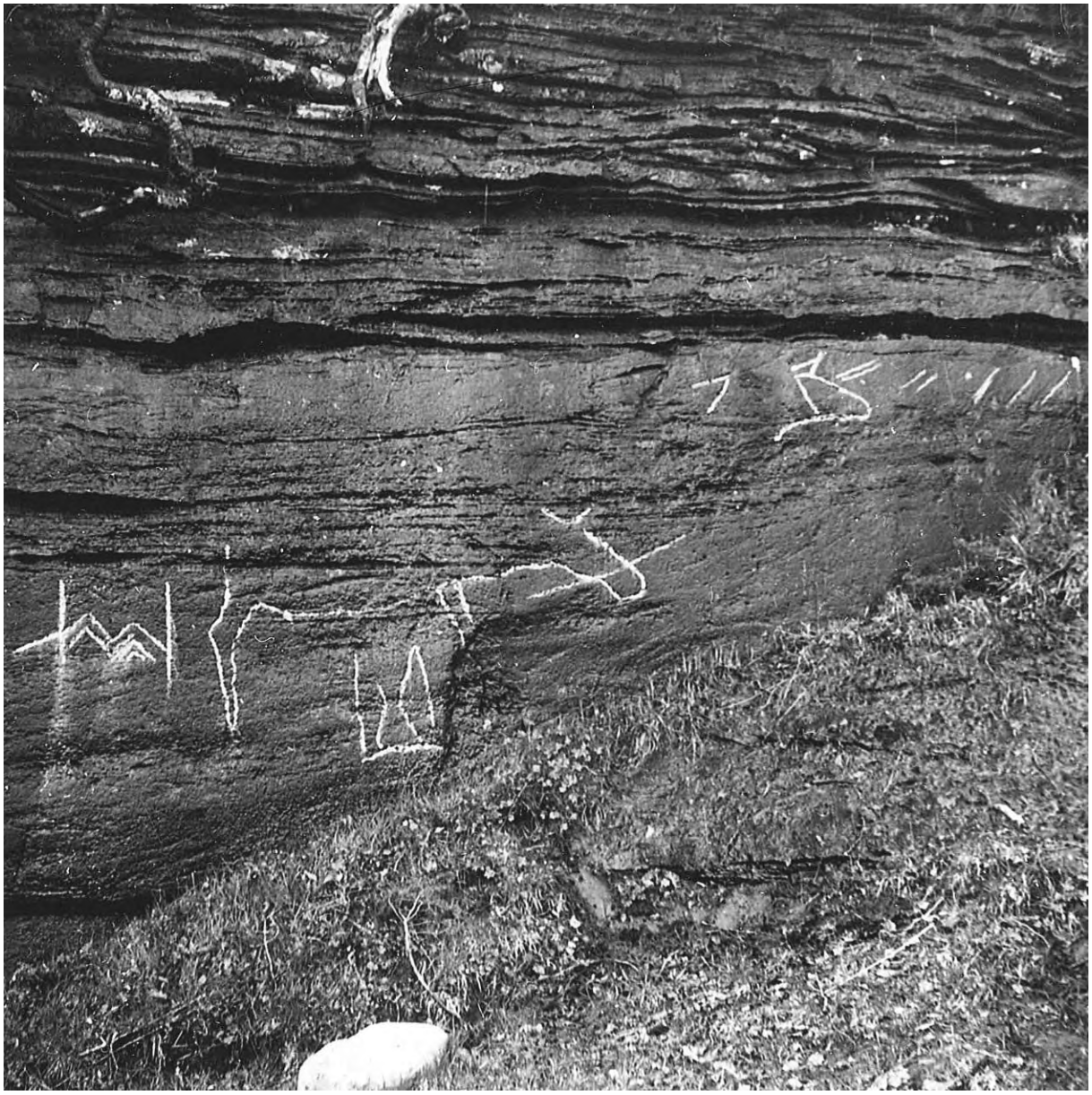


Figure 130 Photo of the figures at the Vik 1 site. Photo by Povl Simonsen. The erosion makes it hard to detect the complete figures. However, by looking carefully at the photo one can see that there are part of the carvings that were not chalked by Simonsen. Part of the grid pattern to the left in the photo has not been documented. However, the zig-zag line can be seen on the photo. Top.ark. Tromsø Museum.

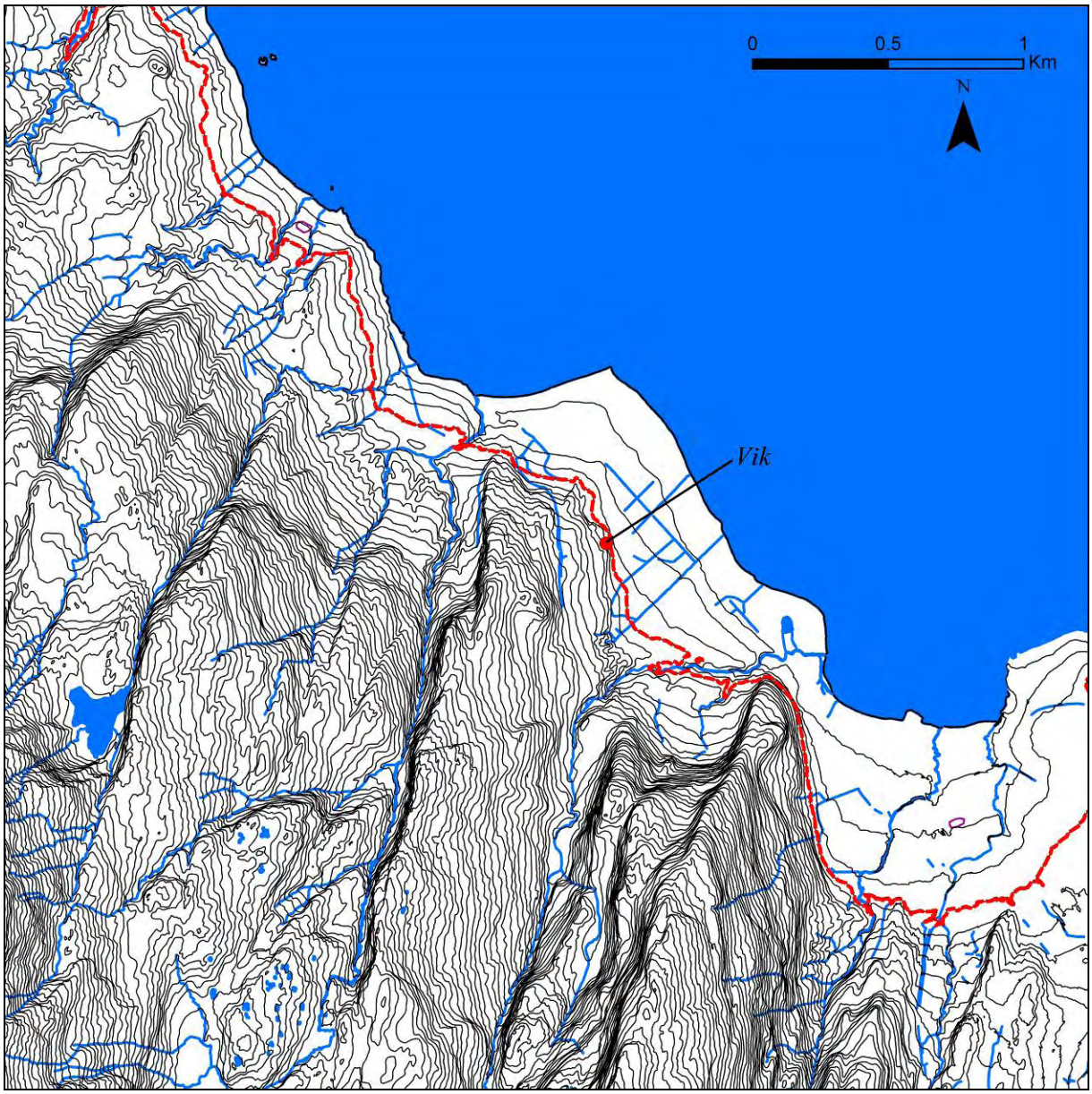


Figure 131 Reconstruction of the landscape at Vik 1. The red dotted line is at 20masl. Illustration: Jan Magne Gjerde.

Brennholtet[128]

Brennholtet includes only one large elk figure (see Figure 132). The peninsula where the city Narvik is situated runs virtually east-west with Narvik situated in the eastern end of the peninsula where the peninsula ends into the Herjangen fjord (see Figure 133). The peninsula is located on the southern side of the Herjangen fjord between two tributary fjords, the Rombaken fjord to the north and the Beisfjorden fjord to the south. A chain of mountains is central on the peninsula and the mountains rise high from the fjord, the most prominent of these is the Beisfjordtøtta mountain at 1448masl. The Brennholtet site is located south of the

[128] Also known as Gundershaugen (Askeladden ID-nr. 56314).

Vassvika bay at 27,5masl. It is located on a vertical cliff facing north on a rocky hill sloping northwards. This hill is named Brennholtet, thereby the name of the site. From the Brennholtet site, one has a clear view of the Sletjord area across the Herjangen fjord (inner part of the Ofoten fjord). The Brennholtet site and the Sletjord 3 site are fairly contemporary (see Figure 99).

Reconstructing the shoreline shows that the site is placed on a small promontory. Along the panel one could enter the area from sea. Placed on the vertical rock, the elk would have been visible at a distance (according to the experience at Jo Sarsaklubben as much as about 300m) when approaching the area by boat from the sea. The elk could then act as a landscape marker. Based on the topographical setting this may be a crossing place for animals after crossing the fjord where the elk is marking the place / area. The elk figure is also depicted as if it is coming ashore (see Figure 137).

Figure 132 The large elk depiction at Brennholtet. The elk figure is 2,15m tall and 1,85m long. The carving is pecked into the rock with the pecking technique.Photo: Jan Magne Gjerde.

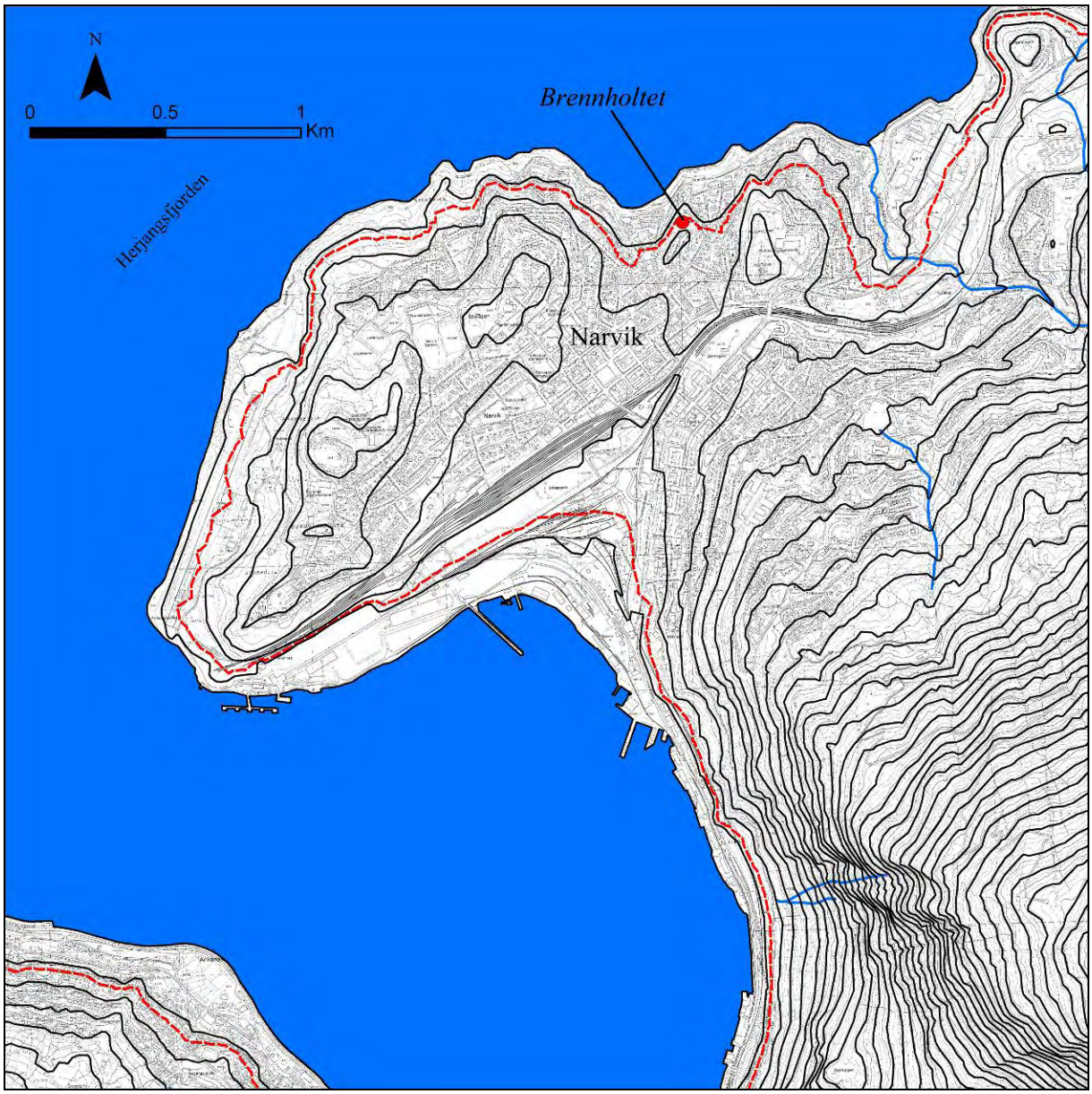


Figure 133 Reconstructing the lost relations at Brennholtet in Narvik with a raised shoreline with a dashed red line at 27masl. 20m contour lines. Illustration: Jan Magne Gjerde

Microlandscape in Ofoten rock art

When it comes to the microlandscape in relation to the rock art in the Ofoten area, I have chosen to focus on some of the sites where this is best observed. Most sites are located as if they could have been seen from the sea with a raised shoreline. The best example is at Jo Sarsaklubben and Leiknes. However, also Brennholtet and Sletjord 2, Vik would be seen from the sea. The size of the figures and that they would appear visible in contrast to the surrounding rock, would make it possible to see these "landmarks" at distances of several hundred metres when located on "vertical" cliffs in the shoreline (see Figure 96) and the modern carving contrast to the rock (see Figure 287).

At the tiniest level, one can see at Jo Sarsaklubben that the only crack on the rock surface is most likely representing the mouth of the reindeer (see Figure 134). It could be that the reindeer was present in the rock outcrop in the mind of the hunter-fisher-gatherer represented by the "mouth" and the rest of the figure only needed to be added to the outcrop. Attributes of animals have been applied as reference points in the landscape by the Saami (Hætta 2008). At Leiknes 2 the swans[129] are placed on a quartz line. I do not think this is accidental. When observing the two swans, I interpret the swans as one of the first animations in the rock art of Northern Fennoscandia. The part of the swan that will be under water when swimming is under the quartzline while the part of the swan over the waterline is over the quartzline (see Figure 135). The two swans also overlap as in an animation making this a scene that most likely represents a swan swimming on water. The quartzline then represents the waterline. Looking at the rock surface around the swan there is plenty of space so that the placing of the swan is deliberate on the quartzline.

Figure 134 Photo of the reindeer at JoSarsaklubben. The reindeer is c. 1.80m long. Standing in front of the panel, the only thing one observes is the rock art and the rock surface due to the high inclination of the rock. Compare with **Figure 97** to see the wider context of the rock art site. Notice the only crack at the rock outcrop that represents the mouth of the reindeer. Photo: Jan Magne Gjerde.

[129] The swans have also been interpreted as gees, however I will refer to them as swans since it is most likely when comparing the morphology of the figures to the birds.

Figure 135 Photo of the swan figures at Leiknes 2. Notice the quartz line crossing the figures on the lower part of the swan. Photo: Jan Magne Gjerde.

At Forselv, the halibut fishing scene shows clearly that the inclination and the direction of the fishing scene is related to the rock surface. The line is hanging down in relation to the place where the rock surface is virtually vertical. The elk tracks are also placed as if they are walking upwards following the rock. It seems as if the elk is coming from below, maybe after crossing the fjord, coming onto the rock surface at Forselv (see Figure 128). The knowledge of such crossing places makes this most likely a reference point to the actual place in the landscape (see chapter 4). Interpreting these figures as elks footprints makes me move to the Sletjord panel where such a figure is carved at the lower right end of the panel (See Figure 136). This is at present a known crossing place for elks and elks are also depicted on the rock surface[130]. One cannot be sure that the elks crossed here in prehistory, however cervidae shows a long-term pattern when it comes to such places. This motif could then represent such a place where the elks came ashore after crossing the fjord. The steep fjordal landscape in the Ofoten area forces cervidae to cross the fjords on its migrations. The elk foot prints could then be a place where the elks come onto land acting as a reference point in the landscape related to the elks at the panel (see Figure 136). The elk figure at Brennholtet

[130] Not far from the Sletjord 2 panel local hunters gather for the annual elk-hunt.

when related to the landscape with a raised shoreline also seems to be located at a place visible from the sea perhaps showing such a crossing place for elks (see Figure 137). The landscape at Sagelva would also force the reindeer to move along the natural lines of movement.

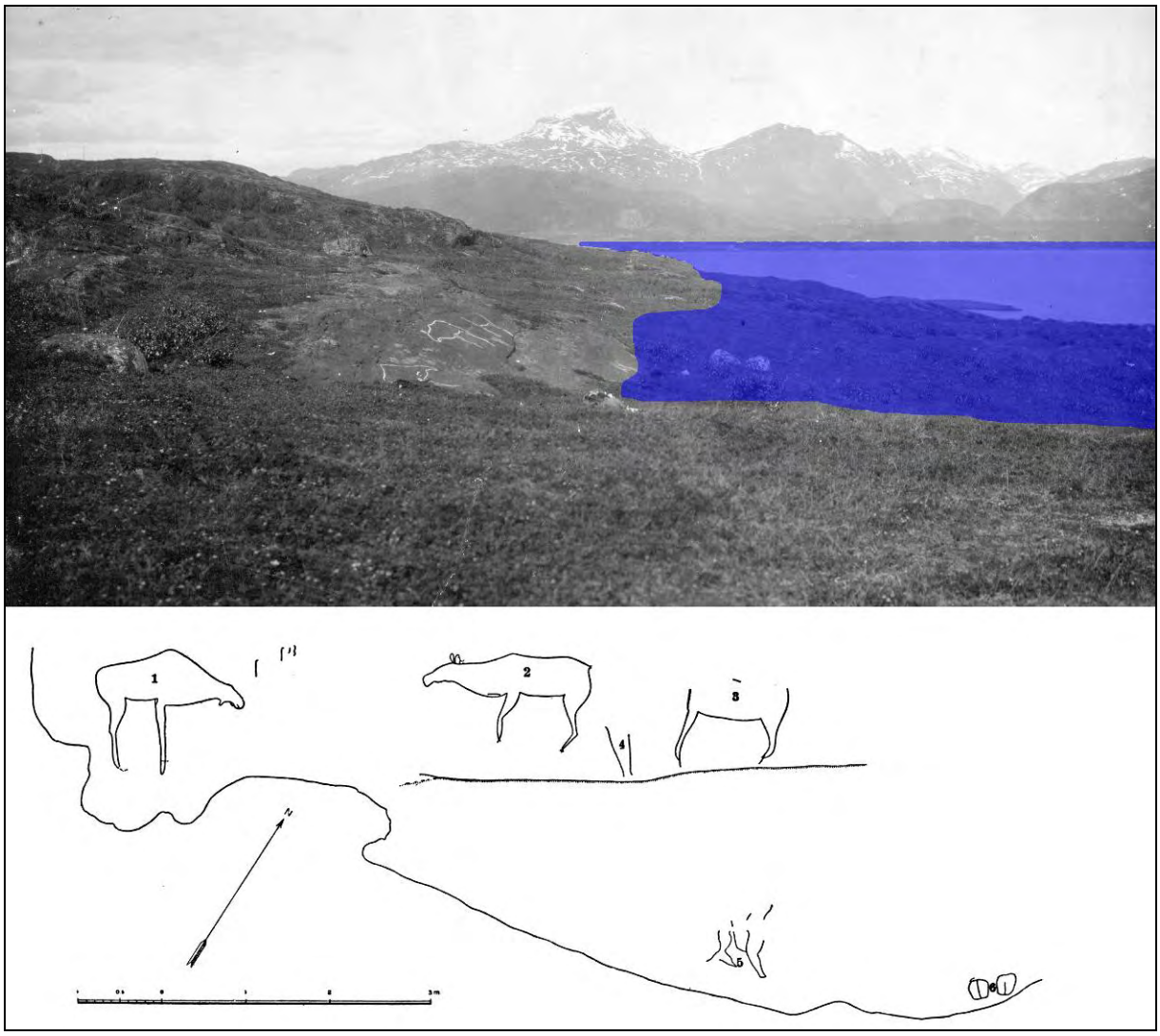


Figure 136 Tentative reconstruction of the lost relations at Sletjord 2 in relation to the figures. The elk tracks are located at the waters edge. The two elk-tracks are most likely referring to the two elks further up the panel. Notice that the elevation difeerence between the lowest and the highest figures are less than 2m. Background photo after Hallström archive, Umeå. Tracing after Gjessing (Gjessing 1932:plate 17). Illustration Jan Magne Gjerde.

Figure 137 The Brennholtet site with the large elk figure. The elk is depicted as if it is moving along the cliff coming onto land, perhaps after crossing the Herjangsfjord. For a tracing of the figure, see **Figure 100**. Photo: Jan Magne Gjerde.

Summary of the Ofoten fjord rock art

Based on the geological dating presuming the rock art was made in the shoreline, rock art of Ofoten covers about 8000 years with the initial polished rock art as early as 9250BC, and the last known carvings at Sletjord to about 3530BC. That means that rock art was made in the area from the first pioneers visited the area throughout the Stone Age. The time span that the carvings kept their meanings is however uncertain. The visibility of the figures at e.g. Jo Sarsaklubben, Leiknes or Valle shows that they are prominent even today.

The landscape changed much due to the rapid land uplift. At the Sagelva site, the rapid land uplift must have transformed the landscape. At 48 masl, the area in front of the panel would have been a strong tidal stream. At about 45masl, the fjord inland of the carvings would become a line of lakes and the rapids at Sagelva would have become stronger, disembarging into the Sagfjorden fjord. Later, at about 40masl, the rapids would be the main characteristic at Sagelva (See Figure 138 and Figure 139). Even if the place would change its character and loose its seashore context, it would still be related to the river / rapids. The Sagelva site could therefore remain a reference point in the landscape (See Figure 139). This can be illustrated by the dating at Sagelva where when the carvings were made, the water

level most likely was at 48masl giving a shoreline dating to c. 8200BP, calibrated with 2sigma to c. 7300BC-7080BC. Then at 45masl, the shoreline dating is c. 8100BP, calibrated with 2sigma to c. 7075BC-7055BC and at 40masl, the shoreline dating is c. 7900BP, calibrated with 2sigma to c. 6755BC-6680BC. That is, the land uplift changed the landscape, transforming the entire area with the long fjord inland of Sagelva to a lake disembarking in powerful rapids would have occurred within about a 500 year time span, maybe as rapid as 300 years changing the whole landscape (see Figure 138). This would make the long fjord a line of lakes and the tidal stream became rapids in a forceful river.

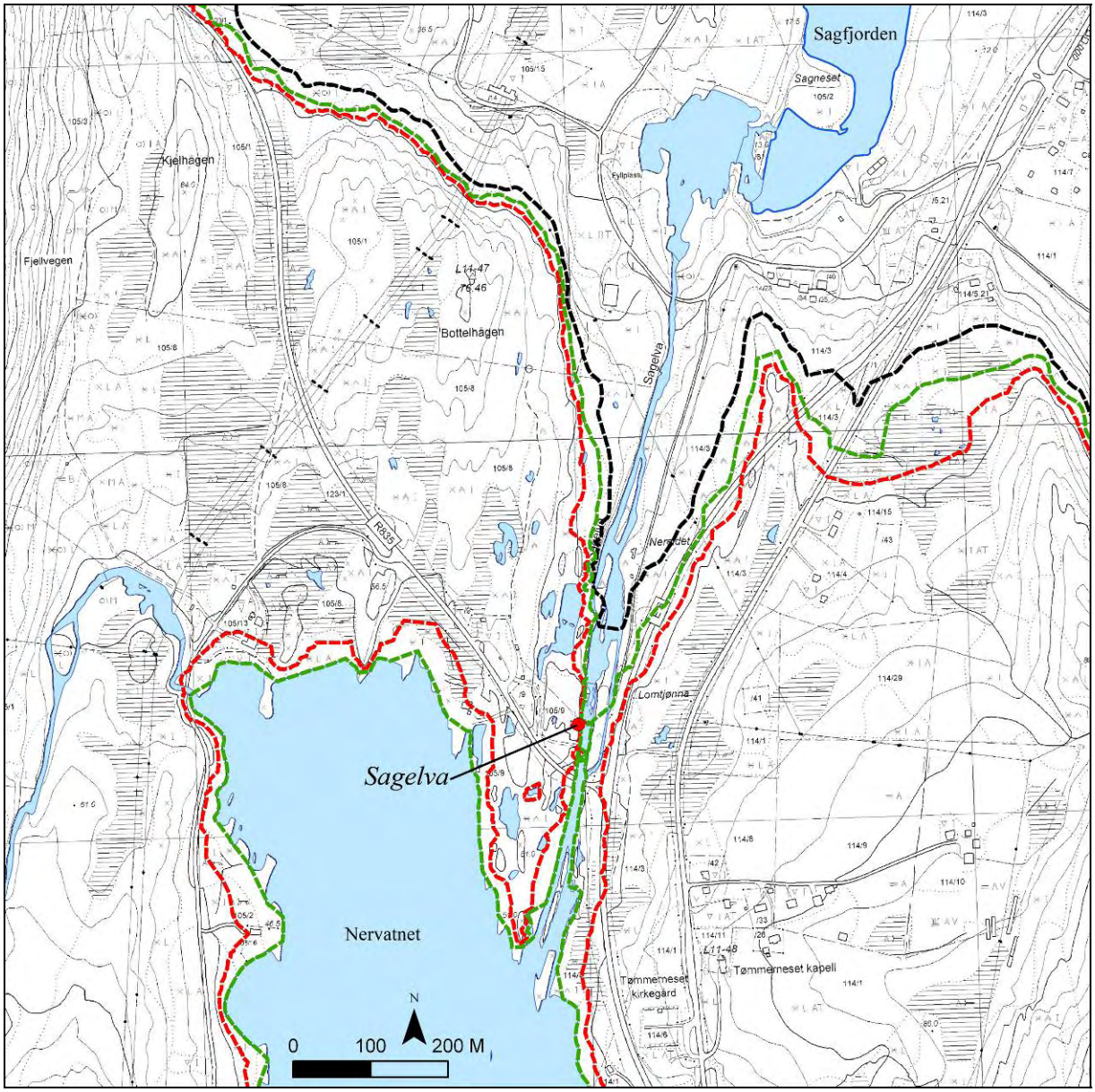


Figure 138 The Sagelva site represeted with three shorelines. The red dotted line is at 48masl, the green dotted line is at 45masl while the black dotted line is at 40masl. This is to illustrate the large changes at te Sagelva site that transformed the fjord to a lake and the tidal stream became powerful rapids. Illustration: Jan Magne Gjerde.

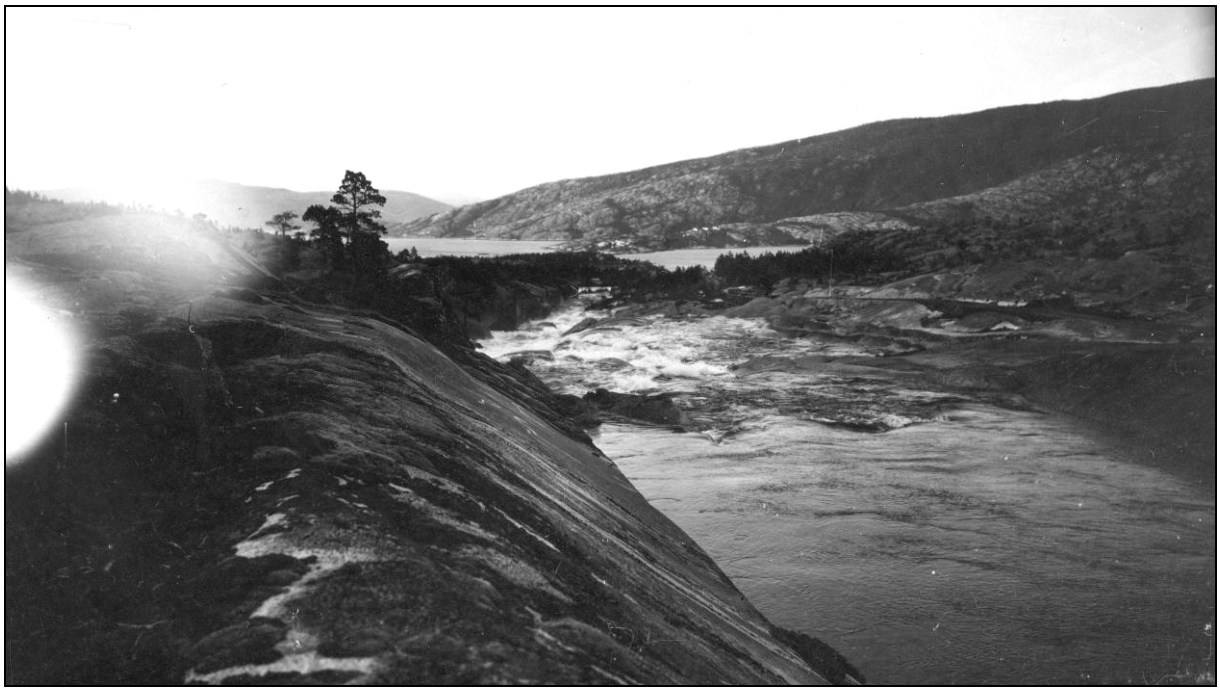


Figure 139 The Sagelva site in 1908 before the hydro system was altered. The panel with the carvings are facing the river in the lower half of the photo. The rapids are seen in the middle of the photo. In the background, one can see the Sagfjorden fjord. Photo after Hallström archive, Umeå.

At other places where the land uplift removed the rocks from the shoreline context, new rock art were made in the shoreline, like at Leiknes and Sletjord. By reconstructing the landscape one may find favourable places for settlement in an area virtually empty of settlement sites from the Early Stone Age. The pioneer phase in this area was a time of rapid landscape change. The land uplift and the deglacation must have been observed by the hunter gatherers entering the new land. The steep mountains entering the fjords and glaciers calving would leave few favourable places in the area. By reconstructing the past shorelines to the elevation of the carvings one see that they are located at points related to favourable places, such as secluded bays or flat areas in an otherwise steep landscape. At Jo Sarsaklubben, Nes, Leiknes and Valle this is very evident. The small secluded bay at the Nes Fort sites (See Figure 106) and at Leiknes (See Figure 109) could have been marked or socialized by the rock art as favourable places. When looking at the landscape today, more than 10000 years since the first polished rock art were made one can see that the landscape of the pioneers in the Ofoten area would have been scarcely vegetated (See e.g. Figure 104, Figure 105, Figure 110, Figure 111). When we also know that this rock art could be seen at a distance of about 300m positioned on virtually vertical cliffs, they become landscape markers.

Reconstruction of the landscape based on the land uplift data applying GIS and modern maps has shown how different the landscape would have been from today. The area

around Valle where one today is overlooking a large bay with the archeopelago would be submerged and the two panels would be located in the small bay where a small river came up beneath Valle 1. Gjessing claimed that the polished carvings were located at wild places where it was impossible to live, while the pecked carvings were located in sheltered, flatter and more convenient places, often close to arable land. According to Gjessing, the polished rock art was located at hunting places while the pecked carvings were located close by settlements (Gjessing 1945:314ff). Looking at the placing of the polished rock art sites it seems that they are located as reference points adjacent to good or favourable places for hunter-fisher-gatherers. I am suggesting that by their appearance in the landscape, being visible from a distance, they could act as reference points in the landscape referring to favourable places (see Figure 103 to Figure 105 and Figure 114 to Figure 118). The inadequate surveying for settlements in the area makes this area very interesting for future surveying, maybe giving the pioneer settlement record in the Ofoten area a fair chance.

Figure 140 The vegetation picture of the Forselv area. The location of the site is marked in red in the centre of the photo. To the right in the photo, the large Forselva river is dominant and in the upper right of the photo, the mountains more than 1700masl where the Frostisen glacier is today. Photo and illustration: Jan Magne Gjerde.

While the early sites have one or few figures (with the exception of Leiknes 1 with about 35 figures), there are no clear-cut rock art centres in the Ofoten fjord at first glance. However, at Sletjord when visited by Hallström he was given information on several sites in Sletjord area, although overgrown already at Hallströms visit in 1908 (Hallström 1938:41f). He only documented two of them. Later a third site was found. The problem at the Sletjord area is that the whole area is today virtually covered by vegetation. The same situation is found at Forselv where the whole area is covered by macro vegetation (see Figure 140). If

there is rock art on the rest of the outcrops at either Sletjord or Forselv only a large scale survey and connected excavation would uncover this. If we look at the research history at the large rock art centres like Alta and Vyg, the sites would only be made up of less than 500 figures without massive removal of soil. At Zalavruga at Vyg, north-western Russia the large scale excavation removed about half a metre of sand covering the carvings. The new finds at Forselv and Sletjord advocates for search of new rock art in the area.

Several places, the natural elements are applied as parts of the figures and acts as part of the rock art narrative, like the crack that makes out the mouth of the reindeer at Jo Sarsaklubben, or the quartz-line that visualize the waterline where the swans are swimming. By its location, the large rock art figures dated to the Early Stone Age act as reference points in the landscape by being seen from as much as 300m distance.

Alta

Rock art in Alta

Initially, the find-history of the rock art sites in the Alta-fjord-region will be presented before the main area at the head of the Alta-fjord will be presented (see Figure 141). The first rock art in the Alta-fjord region was found on a boulder in the 1938 during roadworks at the farm Leirbukt in Kvalsund. It was found at an elevation of 13,5masl from the seaweed edge, that is 14m above mean water level (Gjessing 1938:138). The boulder was water-eroded when found according to Gjessing, which indicates that is previously was located in the shore-zone.

Then the Isnestoften site was found about 1950[131] and only a few years later, the Gåshopen site was found including two boulders with carvings (Simonsen 1958:48). Then the paintings at Transfarelvdalen 1 was found in 1966 (Simonsen 1969). The Kvalsund carvings were found about 1970 (Helskog 1977:6). The large Alta complex was discovered in 1973 and onwards, and soon revealed its place as the largest rock art concentration from the Stone Age in northern Europe. The four boulders at Slettnes was found in 1991 / 1992 and is important due to its chronological relevance since they were covered by marine sediments most likely from the tapes transgression. At Langnesholmen a boulder with rock carvings were reported in 1998[132]. Then, about 2000, a painted site was discovered at Tollevik (Komsa) and the Transfarelvdalen proved to include five panels with rock carvings in the vicinity of the one found about 40 years earlier. Then in 2008 three new boulders with rock

[131] http://www.alta.museum.no/sider/tekst.asp?side=71&valgtmenypunkt=64
[132] The boulder is today located at Alta Museum.

art was discovered at Langnesholmen[133]. New rock art is still found at Alta and by no means do I think the last figures to have been discovered.

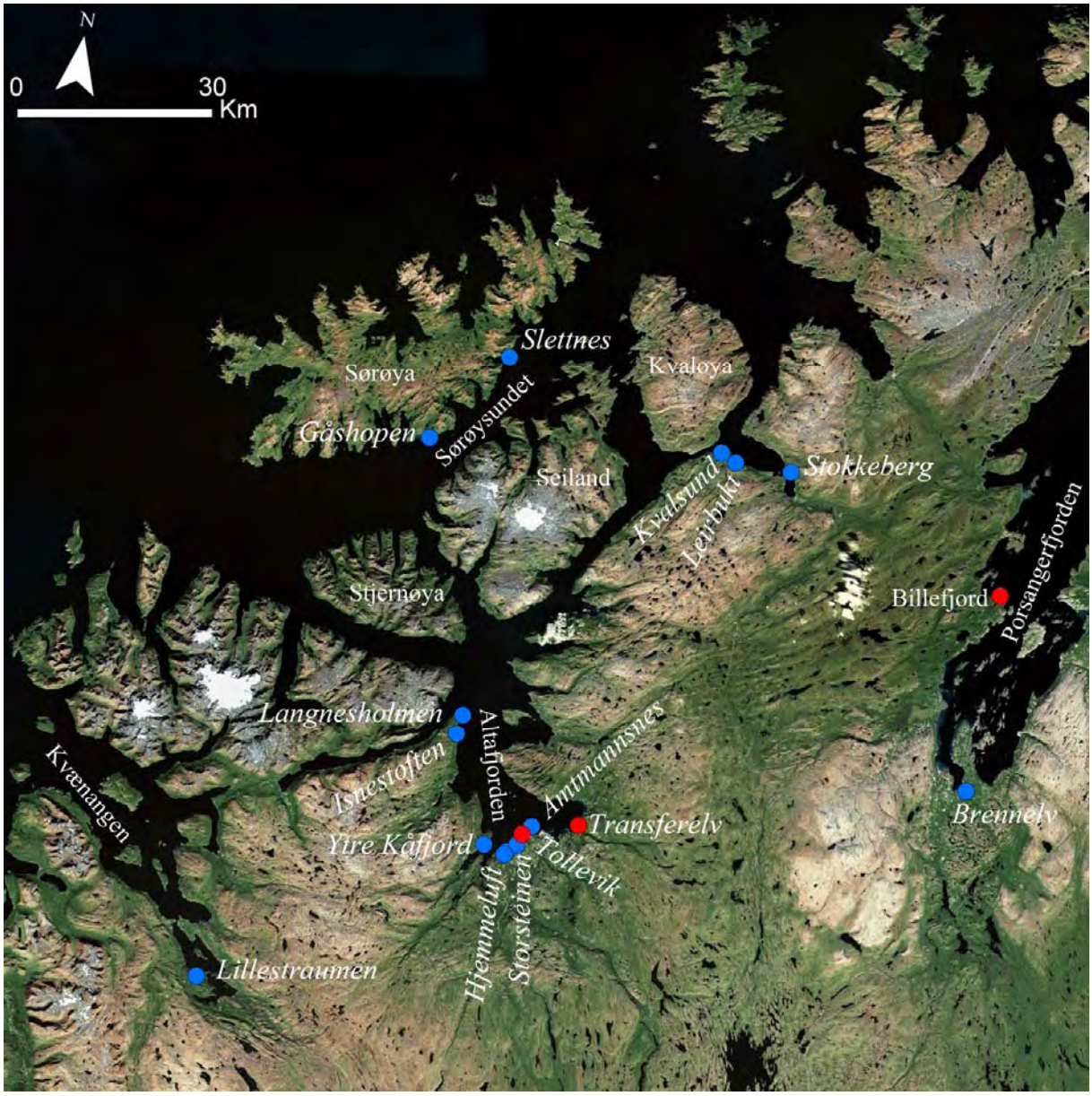


Figure 141 Map of the rock art sites in the Altafjord region[134]. The carvings are marked in blue while the paintings are marked in red. The majority of the carvings are situated at the head of the Altafjord (Altafjorden). Hjemmeluft is the largest concentration. For an overview of the Hjemmeluft sites, see **Figure 169**. The rock art in the Porsangerfjorden fjord (3 painted sites and a carving) and the Kvænangen area with one carving is also marked since they are close to the Altafjord area. Background satellite photo after www.bing.com. Illustration: Jan Magne Gjerde.

[133] http://www.alta.museum.no/sider/tekst.asp?side=71&valgtmenypunkt=64

[134] Askeladden Id-nr for the sites in Figure 141: Lillestraumen (18987), Gåshopen (63596), Slettnes (101682), Langnesholmen (128690, 128692, 128693), Isnestoften (68064), Ytre Kåfjord (8163), Hjemmeluft (for the sites in the Hjemmeluft area, see Figure 169), Storsteinen (8633), Tollevik (112590), Amtmannsnes (38000), Transferelv (47688, 101457, 101461, 101462, 101463, 116260), Kvalsund (101687), Leirbukt (101686, 68492), Stokkeberg (68492), Billefjord (101820 (Sátnjaluokta), 101818 Ruksesbákti (på Indre Sandvik/Cuoppogieddi), 101819 Gálggosluokta (Ytre Sandvik)), Brennelv (9283).

Looking at the adjacent fjords, known rock art is virtually absent (see Figure 141) in relation to the Alta-fjord. The large fjord east of the Alta-fjord, the Porsanger-fjord has two sites with rock art, Billefjord and Brennelv. The painted sites at Billefjord[135] was found in 2001 and 2002, while the Brennelv site was discovered in 1991[136] while the Billefjord site was discovered in 2001 (Schanche 2004:102). West of the Alta fjord is the Kvænangen fjord where one rock art site was discovered in 2000 (Grydeland 2001:84, fig. 51). The Lillestraumen site is a boulder that includes two figures. It is located in between a row of Stone Age house structures. Based on shoreline dating and the connection to the adjacent house structures it is dated to the Late Stone Age (Arntzen 2007). The distribution of sites along the Alta-fjord, and the recent finds, suggest more boulders with rock art is to be found in the area between Alta and Sørøya.

The first rock art in Alta was the painted site Transfarelvdalen 1, discovered in 1966 (Simonsen 1969). Then only a few years later, in 1973, the first rock carvings was found at Storsteinen in Alta when a blaster was called to assess the removal of the large boulder due to its location in the midst of a residence area (Helskog 1976). The discovery initiated the search for more rock art in the area. Carvings were found in the Hjemmeluft area the same year, and the following year's discoveries multiplied the material record. There are 2 sites with paintings, Tollevik with one panel and Transfarelvdalen with six panels. Then there are 10 sites with carvings with more than 6000 figures spread over 100 panels (Tansem & Johansen 2008). Parts of the large Alta material appears in numerous works (e.g. Helskog 1983; Helskog 1984; Helskog 1985b; Helskog 1987; Helskog 1988; Helskog 1989b). However, the material awaits full publication. For the Alta material, I have applied the classification of the sites and panels by Helskog (1988; 2001a; in prep), information from the Askeladden cultural heritage database at the Directorate for Cultural Heritage and VAM (World Heritage Rock Art Centre Alta Museum). Large parts of the Alta rock art was inscribed on the UNESCO World Heritage List in 1985. To make it easier to relate to the large rock art material in Alta, the reference to the different sites and panels in Alta will follow the previous system.

The carvings are located at several sites. For a general overview of the different sites with carvings in Alta, see Figure 166 and Figure 169. The Amtmannsnes site with 3 panels are treated as one area. Storsteinen is the large boulder with rock art. The Ytre Kåfjord site is

[135] Billefjord now includes three painted sites in the same area.
[136] Information from Askeladden. Askeladden is the cultural heritage database at the Norwegian Directorate for Cultural Heritage.

located at the eastern side of the Kåfjord fjord. The largest area with rock art in Alta is the Hjemmeluft area which includes 8 sites with numerous panels; Apanes, Mellom Apanes og Bergheim, Bergheim, Ole Pedersen, Bergbukten, Mellom Bergbukten og Deccastasjonen and Apana Gård. All the carved sites in Alta are all located between 8 and 26m above present sea-level (Helskog 1988).

The dominating motifs in Alta are reindeer, elk, human representations, boats and bears. But also other animals occur, such as small whales or salmon (see Figure 142). Human figures are sometimes depicted with artefacts, such as bow and arrow or elk-head sticks (see Figure 187). A large number of figures in Alta (including Hjemmeluft and Ytre Kåfjord) appear in scenes and very complex compositions. The scenes include reindeer corrals with reindeer hunting, elk hunting (Figure 187), bear hunting (Figure 143 and Figure 175), whale hunting (Figure 145) and halibut fishing (Figure 146). There are also a many representations of animal tracks and one can follow bear-tracks several places and at the most for more than 8m (see Figure 178). Human representations are depicted in many different activities, like hunting or dancing? (Figure 144). The majority of the boat figures are depicted with an elk-stem in the front of the boat.

Figure 142 The small whales or salmon diving into a water pool or a maelstrom or rings in the water naturally formed as part of the background bedrock. Previously presented by Tansem and Johansen (2008:80). Photo Jan Magne Gjerde.

Figure 143 Some of the figures at the Bergbukten I, Hjemmeluft, Alta. In the middle of the photo is the bear-hunting scene. To the middle right one see the natural feature (oval in the rock) interpreted as a bear den. The bear-tracks are recently found and thereby not visible (compare **Figure 175**). Notice how the black discolouring shows where the miniature river runs in the valley at the lower part of the photo. Photo: Jan Magne Gjerde.

Figure 144 Some of the figures at the Ytre Kåfjord site, Alta, northern Norway. In the middle of the photo a group of people is holding hands standing in a circle. In the middle of this circle could be a human figure or a bear. Photo: Jan Magne Gjerde.

Figure 145 Photo of the whale hunting scene from Ole Pedersen 1, Hjemmeluft, Alta. The figures are filled in with white chalk during documentation. Photo: Karin Tansem.

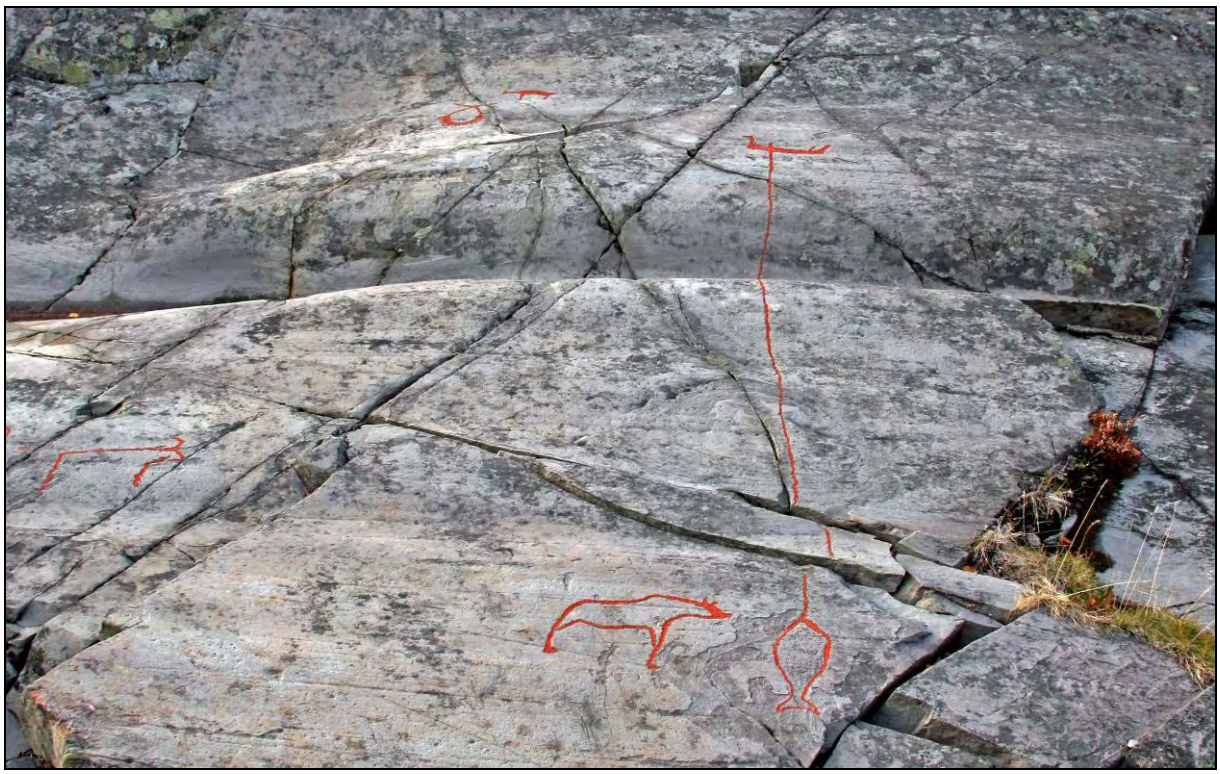


Figure 146 The halibut fishing scene at Bergbukten 4. This seems like a representation of the three worlds, the upper, middle and the lower world where the reindeer and the "necklace" is in the upper world. The people in the boat fishing in the middle world and the halibut and the elk situated in the lower world. It also brings the real aspect in as the halibut fishing is performed at deep water. Looking at all the halibut fishing scenes, this is by far the longest fishing line representing deep-sea fishing. It is also the one which is depicted furthest towards the fjord in relation to the interpretation of Bergbukten 4 in **Figure 181**. This also shows the elk depicted with the halibut in the Lower World. Photo: Jan Magne Gjerde.

Dating the Alta rock art

By statistical analysis, stylistic analysis and mainly by the shore displacement data, Helskog has through a study of the Alta material suggested a dating for the Alta material from about 4200-500BC (Helskog 1983; Helskog 1985b; Helskog 1988; Helskog 1989a). Helskog divided the Alta rock art into 4 phases (Helskog 1983; Helskog 1988:33; Helskog 1989b; Helskog 2000), mainly based on the strong sequential argument of the elevation of the carvings in the Hjemmeluft bay. The carvings at the same level above present shoreline showed a similarity in style. This is best illustrated in the Hjemmeluft area by the bear tracks and the reindeer corals that only occur at certain levels above sea, about 23-25masl (phase 1), while these scenes are not present at a higher or lower altitude (Helskog 2005).

Helskog finds the rock art phases in Alta to be contemporary the chronological phases within Late Stone Age Finnmark developed from the Late Stone Age data in the Varangerfjord-area, Eastern Finnmark (Helskog 1980). This similar dating suggestion between the rock art and the settlement record have been criticized by Olsen (1994:45-47). The “standstill” in the shore displacement curve and the similarity in the figures from Alta (Helskog’s phase 1) with the carvings at Slettnes (Hesjedal 1993a), made Olsen suggest that the carvings from phase 1 in Alta is older than Helskogs suggested dating. Hence, the earliest carvings at Alta should be dated to phase 3 of the Early Stone Age. Olsen meant that by these comparisons, the earliest carvings in Alta could be up to 2000 years older than suggested by Helskog (Olsen 1994:46-47). The carvings at Slettnes is older than the tapes maximum at c. 5000BC, hence the earliest carvings at Alta should be from the same age (Olsen 1994:45-48).

Later, Helskog has revised the dating and the phases (Figure 147), hence, “The five diachronic phases (I-V, previously called I-4B) are based on visual inspection of their geographic and altitudinal location, and statistical analysis of morphologically classified carvings, and shoreline-displacement” (Helskog 2000:7). When comparing the two presentations (Helskog 1988:32; Helskog 2000:6, figure 2), the change from earlier works is the internal dating between the phases. The new data is related to the new shoreline data, although with the same starting phase set to 4200BC in both 1988 and 2000, with a possible start as early as 4500 BC (Helskog 2000:6).

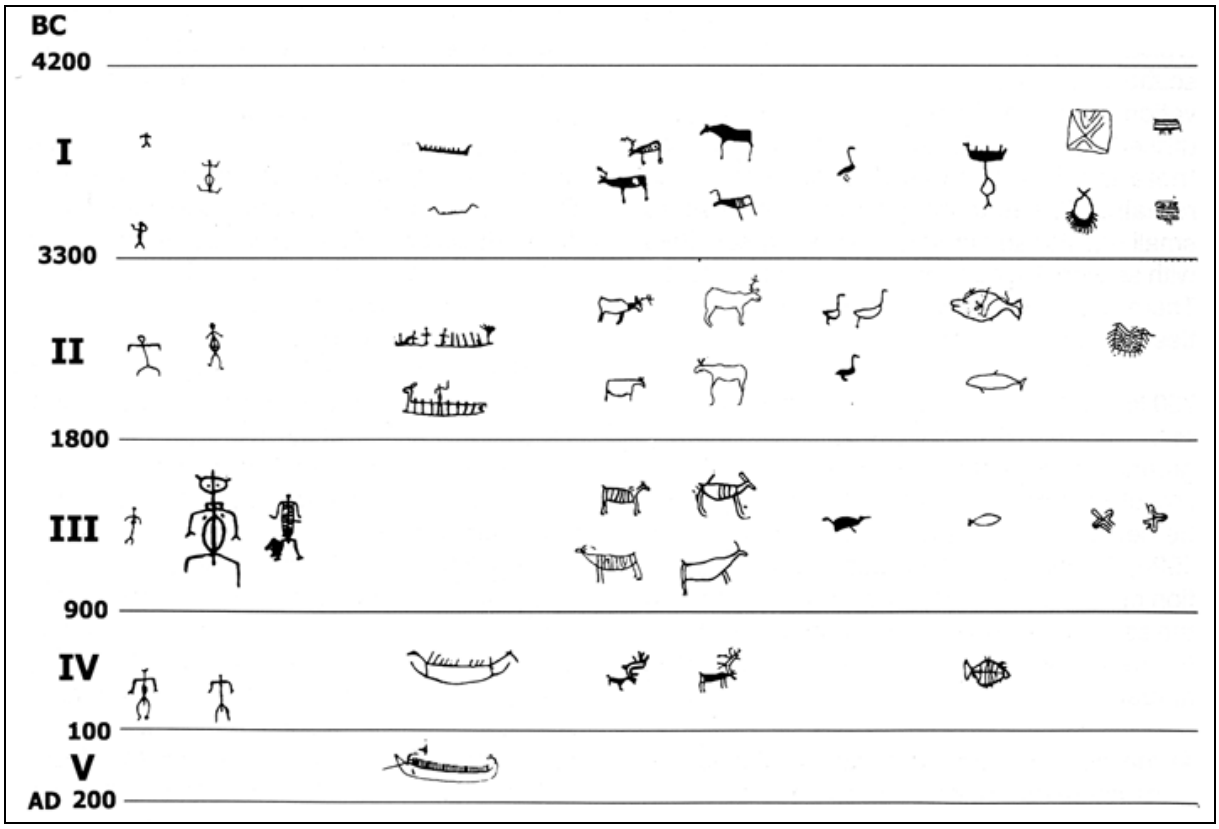


Figure 147 Helskog's chronology for the carvings in Alta as presented in Helskog (2000:figure 2).

At the large excavations at Slettnes in 1991-1992, four boulders with rock art (Slettnes 1-4) was found covered by beach sediments. The unique context makes it important for the dating of rock art in general and for the Alta material. Slettnes is a low promontory at the eastern side of the large Sørøya Island in the same fjord-system as the Alta carvings (see Figure 141). The boulders with rock art at Slettnes was situated between 11.81masl and 12.5masl (Hesjedal et al. 1993:81). The marine sediments covering the boulders have been assigned to the tapes transgression. After the deposition of the gravel by the transgression, late Stone Age dwellings were dug into the sediments (Slettnes IVB). The higher elevated Slettnes IVA area is likely to be partly contemporaneous with the rock art.

Water erosion can clearly be seen at the lower part of the Slettnes 2 boulder (Hesjedal et al. 1996:78-79; Hesjedal et al. 1993:81), see Figure 148. The eroded side of the boulder is facing the sea, which strengthens the evidence for a location at the shore when and after they were made. It has been suggested that this was a sudden transgression by a storm (Helskog 2004b), however then it is more likely that they would have been equally eroded both on the lower and higher part of the boulder. Water erosion on rock carvings seems to be the situation at several places in Hjemmeluft similar to the Slettnes situation, although not as visible (see Figure 149).

Figure 148 The boulder with carvings at Slettnes 2, northern Norway. One can clearly see that the figures on the lower parts of the boulder are more eroded than the higher elevated ones. The leg of the big elk and the bear paw is clearly more eroded than the upper parts of the elk. Photo: Jan Magne Gjerde.

Figure 149 The different erosion of the figures at Ole Pedersen 1, Hjemmeluft, Alta where the reindeer clearly is carved into the surface after the human figure. The erosion of the human figure shows that it must have been water eroded after it was made for some time before the reindeer was carved into the surface. However, the striation marks can be seen clearly as opposed to some of the higher elevated ones (see **Figure 150**). Photo Karin Tansem © VAM.

Figure 150 The polishing of the glacier marks, but not the figures. From Bergbukten 4, Hjemmeluft, Alta. One can see the furrows (remains of striation marks) going virtually horizontal in the photo. The most prevailing is the one that is seen as a line where the reindeer's antlers are. Then virtually in the middle by the big bears head is and beneath the bears in the lower part of the photo. The rock art in this photo shows most likely a reindeer and a bear with two cubs. The bear tracks is coming out of the large crevasse in the left of the photo as if it is appearing from the lower world. Photo: Jan Magne Gjerde.

The shoreline data from the computer program SeaLev (Møller & Holmeslet 1998), has proven to be problematic the further east and the further inland from the data origin one tries to apply it due to the extrapolation of the isobase data[137]. We know from studies of lake sediments from 8 lakes between Kirkenes and Nikel that "… the isobase maps and previous shoreline correlations are inaccurate" (Corner et al. 1999:163). The ^{14}C-dates from the settlement record of Varanger-fjord region indicated that the extrapolated curves in Møller (1997) were problematic. The settlement record for the Varanger-fjord fitted with the isobase 22 curve, while the extrapolation in Møller (1997) was isobase 28. The curves were extrapolated from the western coast of Northern Norway towards the east; this would mean that the isobase for the Alta-region should be adjusted. This would push the shoreline dating of the Alta-carvings even further back, suggesting an older initial phase. The data from Slettnes and Melkøya (close to Slettnes) do not show the divergence at the same level. This would indicate that the extrapolated isobases are more correct in the outer coastal regions than in the inner fjords.

[137] Jacob Møller, personal communication 2009.

The data from Melkøya, Hammerfest, northern Norway, suggests that the transgression was as early as 7000BP-6500BP (Hesjedal et al. 2010). Relating the elevation of the boulders at Slettnes with the elevation of the settlements suggest that the carvings at Slettnes 1-4 was made about 6500BP or just after during the initial regression phase. Calibrated 6500BP means c. 5485BC-5470BC[138]. The dating results from the Slettnes rock art adding the excavation results and the tapes maximum date from the excavations at Melkøya and Slettnes must have implications for the dating of the Alta material.

From 2004 to 2006 an excavation was conducted in Tollevika adjacent to the rock carvings in Alta not far from the Komsa-mountain. The central result from these excavations is the Gressbakken house structure at about 16masl that is dated to the latter phase of the Late Stone Age (Helskog 1980; Schanche 1994:95-99). Activity areas were also documented nearby the house structure in Tollevika. Nine ^{14}C samples were dated from the excavations (Bell 2004; Bell 2005; Bell 2006). Two ^{14}C dates from Hjemmeluft have also been analysed, hence they are applied in the dating discussion. One of the ^{14}C dates is from the area of Nummedals excavations, adjacent to the Ole Pedersen carvings (although slightly higher elevated), and the other one is from Apana Gård[139]. These are also marked in Figure 151.

Since the evidence argue for a shoreline location of the rock art, the new data from the excavations combined with new information on the shore displacement and transgressions from Slettnes and Melkøya are applied to date the Alta carvings. The ^{14}C data from the excavations are important for the dating of the Alta carvings. Even if they are few, they give us information regarding the shore displacement curve. The settlement data of the Gressbakken house and adjacent ^{14}C dates from the midden of the house structure and activity areas are situated under the shoreline according to Møllers extrapolated isobase 27. I have therefore plotted the ^{14}C dates from Alta (see Figure 151) and related them to the geological data from Møller and Holmeslet (1998) in Figure 151. The elevation data of the panels with rock art in Alta can be found in Askeladden[140]. By evaluating the data presented in Figure 151 it seems like it is isobase 23-24 that would fit better to the ^{14}C excavations at Tollevik. However, if one includes the transgression data from Slettnes and Melkøya with the Tapes maximum from Marthinussen at about 28masl, when the carvings started to be made, the data fits Møllers isobase 25. This is better in accordance with the ^{14}C data from the area near Ole

[138] Calibrated with Ox.Cal ver 3.51 with 2 sigma
[139] The ^{14}C date from the Ole Pedersen area was situated at 26,5masl with the date 5107±36BP and the ^{14}C date from Apana Gard at 12masl was dated to 2138±32BP (Knut Helskog personal communication 2009).
[140] Until 2006 the data could be found in the Rock Art Database by the Directorate for Cultural Heritage, however they are now included in the Askeladden Database of Norwegian Cultural Monuments.

Pedersen in the Hjemmeluft area and the excavations by Nummedal adjacent to the Ole Pedersen 1 site.

Since the majority of the carvings are above the elevation of the excavations, I have showed in Figure 151 that by applying Mølles isobase 27, the activity areas in Tollevika would be submerged. When the house structure is located at 16masl, it is not likely that the mean-water level at the time of the house would be higher than 13masl based on the high tide and the topographical setting of the house structure in Tollevika. I have applied a reading of the rock carving material based on isobase 25 from Figure 151 presented in Figure 152 which presents a new dating suggestion for the carvings in Alta.

The data from the excavation are very interesting in relation to the dating of the Alta carvings. This also shows that we need to perform more excavations and compare the data with the geological data to get a better dating suggestion for the carvings assuming the were shore related. Helskogs divisions of the phases are well accounted for. The new dating does only change the internal dating between the phases. The relative chronology still can be argued for in the line of Helskogs divisions. With the new dating suggestion for the Alta material, the carvings from phase 1-3 can be dated to the Stone Age (see Figure 152) with the initial carvings in the Hjemmeluft area dating to about 5200BC.

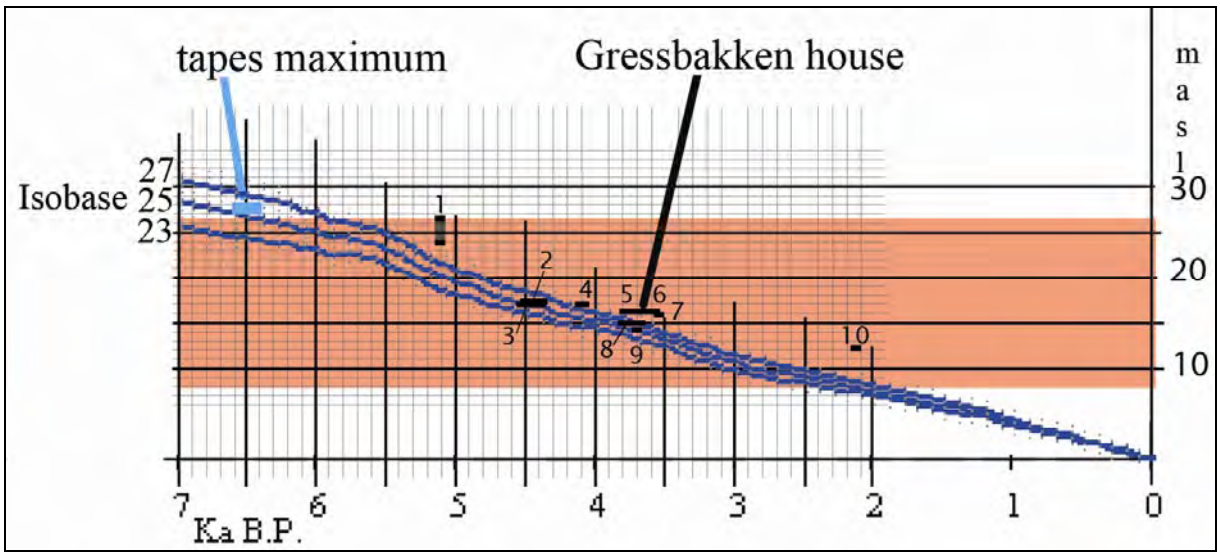


Figure 151 Dating suggestion for the Alta carvings. Shoreline data after Sealev 32 (Møller & Holmeslet 1998), where isobase 23, 25 and 27 are marked. The current isobase 27 and the suggested isobase 25 are applied in the dating discussion for the Alta carvings. Tapes maximum after Tanner and Martinussen marked with blue (Marthinussen 1945; Marthinussen 1960; Tanner 1906:114, plate 4). ^{14}C data after Bell (2004; 2005; 2006). from the Tollevika area, number 2-9 and Helskog (personal communication 2008), number 1 from Ole Pedersen area in Hjemmeluft and 10 from Apana Gård area in Hjemmeluft, are marked with black lines including the deviation. ^{14}C data: 1: 5107±36BP, 2: 4455±90, 3: 4463±114, 4: 4120±44, 5: 3747±92, 6: 3638±55, 7: 3546±40, 8: 3744±82, 9: 3700±40, 10: 2138±32. The ^{14}C samples from the Ole Pedersen area at 26.5masl is part of the same settlement excavated at 24masl, hence the elevation difference is marked for ^{14}C number 1 in the illustration. The Gressbakken house had four ^{14}C dates: number 5 and 6 is from the fireplace, number 7 is from

the house floor and number 9 is from the midden. Elevation of the carvings in Alta marked in light red based on Helskogs data (Helskog 1983). Illustration: Jan Magne Gjerde.

Based on the adjustment of the shore displacement curve one can assume that Møllers isobase 24 or 25 will be "right" when dating the Ytre Kåfjord site. The carvings at Ytre Kåfjord is made between 18 and 26masl. Being aware of the pitfalls by applying Møllers isobases, I have applied isobase 24 based on the tendency from Alta. The dating of the figures at Ytre Kåfjord is then based on shore displacement at isobase 24, between 18 and 25masl. Since the highest figures are at 26masl one can assume that they are made when the mean water level was about 25masl. That relates more to the highest section of the Ytre Kåfjord site (see Figure 155). Even if it can be argued that the figures at Ytre Kåfjord is slightly older than the figures in the rest of the Alta material, the difference is minor and with the precariousness of the geological data and the scarce ^{14}C dates from Alta, I will when discussing the Alta material apply the dating suggestion from (Figure 152).

Phase		**Masl**	**Reading isobase 25 from BP**	**Dating with new shoreline data. Calibrated with OxCal**		**New dating suggestion BC**
	Helskog			68,2% BC	95,4% BC	
1	I	22-25.5	6200-5400	5220-5070 4325-4255	5220-5070 4330-4240	**5200-4200BC**
2	II	17-21	5300-4400	4230-4050 3090-2940	4230-4040 3090-2920	**4200-3000BC**
3	III	14-17	4400-3700	3090-2940 2135-2040	3090-2920 2140-2030	**3000-2000BC**
4	IV (IVA)	11-12.5	3400-3000	1740-1685 1290-1210	1745-1680 1305-1210	**1700-1200BC**
5	V (IVB)	8.5-10	2900-2200	1115-1050 360-200	1130-1025 360-200	**1100-200BC**

Figure 152 New dating suggestion for the Alta carvings applying isobase 25. Dating suggestion based on the data from the large Melkøya and Slettnes excavations in relation to the geological data and the elevation of the carvings in Alta. The different phases are based on Helskogs division according to elevation (Helskog 1983).

The reading from Møller adjusted by the data from Alta, Melkøya and Slettnes shows a tendency that the carvings at Ytre Kåfjord was made between 5300-3500BC. Some of the

carvings may have been made later, since this is the maximum dates based on the shoreline data. The Ytre Kåfjord site shows similar traits (bear-tracks and reindeer corrals) with the Hjemmeluft phase 1 and seems to be contemporary with the Hjemmeluft phase 1. The highest figures at Kåfjord is then the oldest carvings in the inner region of the Alta-fjord. The carvings at Ytre Kåfjord could then be related to Helskogs phase 1 and phase 2. Although, when comparing the carvings from Ytre Kåfjord with the rest of the Alta material, some seem to belong to Helskogs phase 3. One of the figures that occur at Storsteinen, in Ytre Kåfjord and at Amtmannsnes is a cross-shaped figure. In Hjemmeluft this figure do not occur in phase 1 or in phase 2. Thereby, as suggested by Helskog, it occurs at Amtmannsnes that is dated to phase 3, this motif belongs to phase 3. At Ytre Kåfjord a superimposition that suggest that this cross-shaped figure was the latter figure in the superimposition (see Figure 154). However, it may also indicate that the cross-shaped figure was made in phase 2 and phase 3. The elevation of the scene with figures most likely from phase 2 at Ytre Kåfjord (see Figure 155), is located at about 22masl.

The Storsteinen boulder has a diameter of c. 7.8m and the top surface is c. 50m2. The tilted surface is situated between 21 and 22masl. The sides of the large stone are virtually vertical. It would have a drop on the lower side of the stone (facing the ocean) of c. 4m and on the upper side of c. 1.5m. This suggests that Storsteinen boulder would have been located in the tidal zone between 17masl and 22masl. This could explain why we find figures from phase 1, 2 and 3 superimpositioned on the boulder. This also suggest that carvings were made on the boulder during 2-3000years. The frequency of superimposition and “layers” of figures has been carved on top of each other distinguishes this panel form the rest of the Alta material.

The carved surfaces at Amtmannsnes are situated between 14masl and 17masl. Hence, Amtmannsnes belong to Helskogs phase 3. The Amtmannsnes panels show a vast amount of superimposition. The superimpositions that occur more frequent at Amtmannsnes, in Kåfjord and not the least at the Storsteinen site suggest that these panels has a long period of use. While new suitable coastal rock slopes appeared in Hjemmeluft, this was perhaps not the case at Kåfjord and surely not in the Storsteinen area (see Figure 163).

Based on the current dating suggestion, the rock carvings in Alta was made between c. 5300BC and 200BC. The status when it comes to dating the sites in Alta is still founded on Helskogs works on the dating of the Alta material. Although the initial phase has been moved backwards due to new information changing the geological dating suggestion. For the Stone Age rock art in Alta material, I will sum up the dating suggestion in Figure 153.

Site / Area	Masl	Figures belonging to Helskogs phase	Dating suggestion BC
Ytre Kåfjord	18-25	1,2,3	5300-3000BC
Hjemmeluft	8-25	1,2,4,5	5200-3400BC and 1700-2000BC
Storsteinen	"17-22" 21-22	1,2,3	4200-3000BC
Amtmannsnes	14-17	3	3000-2000BC

Figure 153 Summary table of the dating suggestion for the Alta material. Since the limit of my PhD is the Stone Age, the panels from phase 4 and phase 5 in Hjemmeluft will not be further discussed. The highest carvings are situated at 26masl, I apply 25masl when dating the oldest. The Storsteinen would have been connected to the shoreline between 17 and 22masl. However, the carvings are made between 21 and 22 on the falt surface at the top of the large stone.

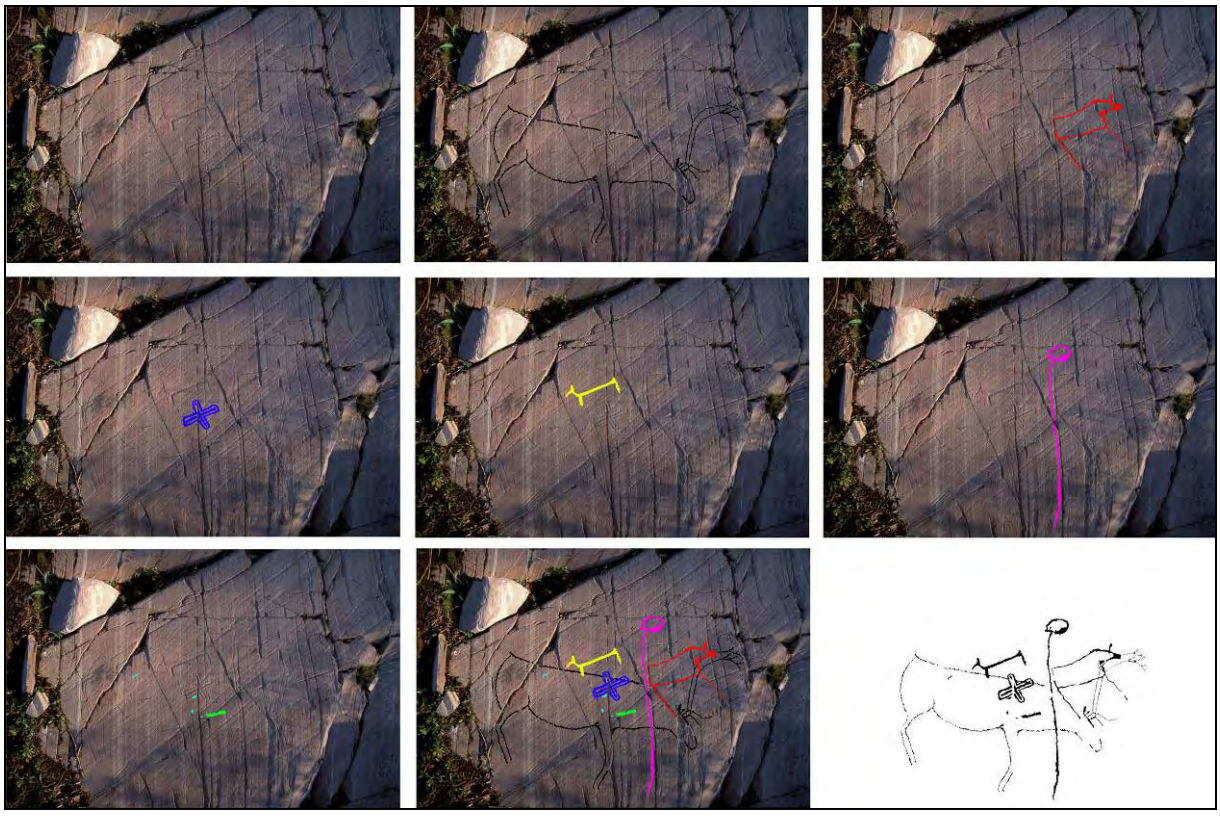


Figure 154 Section of the Ytre Kåfjord panel where superimposition is presented. One can also see how a traditional tracing appears compared to the steps interpreted from *on site* studies of the superimposition. The top left photo shows the rock surface with no markings. The photo is taken early morning to get the right angle of the sunlight to better see the figures. By comparing the tracing from the scanning (see **Figure 155**), it looks like the long line is a fishing line and the figure depicted as a "circle" looks like a boat. Photo and illustration: Jan Magne Gjerde.

Figure 155 Documentation of the Ytre Kåfjord site with elevation marked roughly. One can see how the scenes and compositions roughly fall within 2m in elevation even though they horizontally could run for more than 8m. The scale in the upper left of the illustration measures 1m in total. Illustration Karin Tansem © VAM.

Macrolandscape and microlandscapes of Alta

Macrolandscape

When studying the rock art of Alta in relation to the macrolandscape, the Alta-fjord is central with numerous rock art sites along the fjord (see Figure 141). While the rock art at the head of the Alta-fjord is found on what was once coastal rock slopes, the rock carvings along the Alta-fjord is found on boulders. A recent study of the boulders with rock art in this region showed that the boulders shares similar traits with the rock art in Alta when it comes to motifs and dating (Arntzen 2007). The similarity in motif and style with the Alta material suggest the sites should be discussed in relation to the Alta site. The relative nearness of the sites (within a distance of 75km or less) to the head of the Alta fjord and the dating suggestion to the Late Stone Age (except Gåshopen) strengthens their relation to the large Alta site. Looking at the Altafjord as a major route of communication, they are related. Like the rivers, the fjords and the coast would have been major highways in the Stone Age; the Alta fjord seems to have been one of these Stone Age highways. The distance between the Kvalsund site and the head of the Alta-fjord with the Alta sites is c. 70km as the crow flies and c. 85 km by boat along the coast. The distance between the Slettnes site and the head of the Alta fjord is c. 70km as the crow flies and c. 82km by boat following the coastline. Between the head of the Alta-fjord and the Langnesholmen, the distance is merely 22km in a straight line in the Alta-fjord. Between Slettnes and Kvalsund, the distance is c. 35km as the crow flies and c. 45km by boat. When tilting the land in Google Earth it becomes evident how these sites are related through natural lines of communication and short distances. Comparing the Alta-fjord region in Figure 156 and Figure 157, it becomes evident that both the fjords and the valleys in the inland seems to form a funnel directing movement through the head of the Alta-fjord. The many boat depictions in Alta could describe journeys along the Alta fjord.

The numerous Stone Age settlement sites along the Alta-fjord shows that this was an attractive area during the Stone Age. The recent excavations at Slettnes (Hesjedal et al. 1996) and at Melkøya (Hesjedal et al. 2010) shows that the material record is extremely rich. The large number of carvings at the head of the Alta fjord have led scholars suggest that Alta was a meeting place for people in the Late Stone Age, a place for different kinds of social interaction. Based on ethnographic data, Alta is interpreted as a central place connection inland and coastal groups (Hood 1988). All the rock art sites will not be discussed in detail. Due to the material record, context and related finds, the Slettnes site will be discussed further before moving on to the carvings at the head of the Alta-fjord.

Figure 156 The relations between the sites in the Alta-fjord. The landscape is tilted in Google Earth. Thereby distance relations are distorted. The sites from the Porsanger-fjord and Kvænangen are also shown on the satellite photo. One can here see how the tributary fjords are channelled into Alta and the Alta-fjord. For the distance between the sites, compare with **Figure 141**. Illustration: Jan Magne Gjerde.

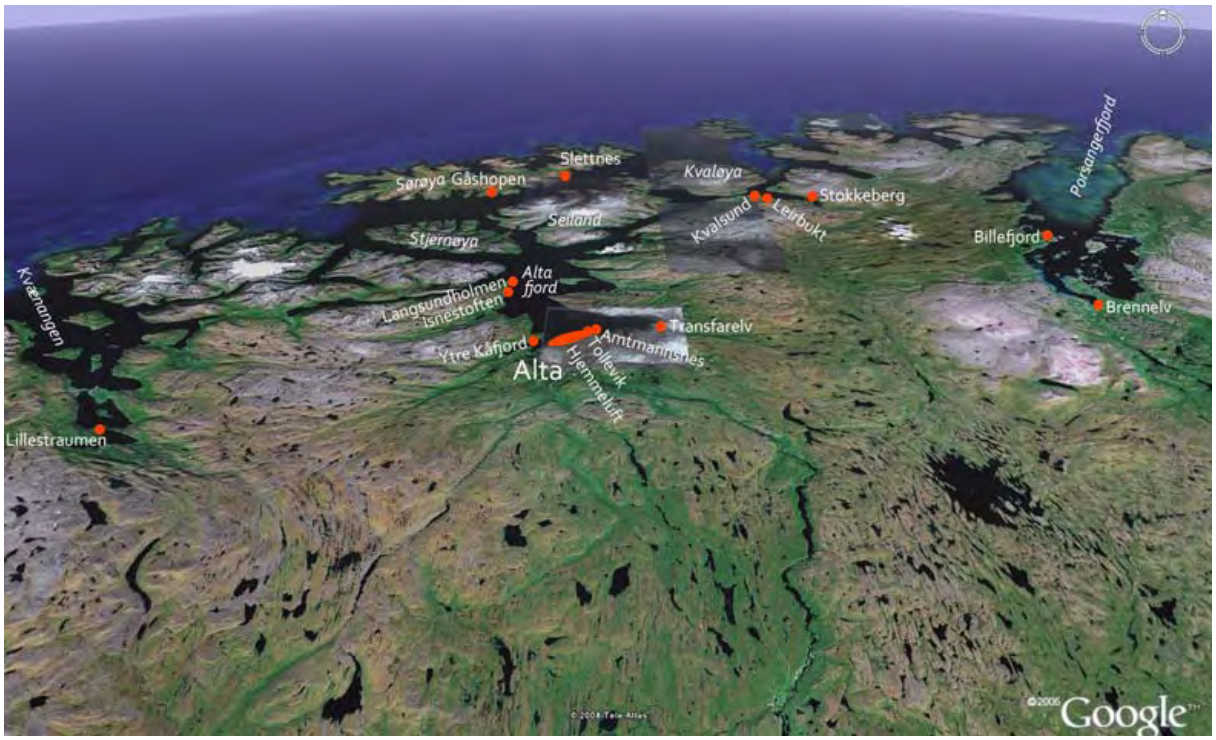


Figure 157 The relations between the sites in the Alta-fjord. The landscape is tilted in Google Earth. Thereby distance relations are distorted. The sites from the Porsanger-fjord and Kvænangen are also shown on the satellite photo. One can here see how the tributary fjords are channelled into Alta and the Alta-fjord. Looking at the macrolandscape from the inland, one can also see that the communication lines are funnelled into the Alta fjord. For the distance between the sites, compare with **Figure 141**. Illustration: Jan Magne Gjerde.

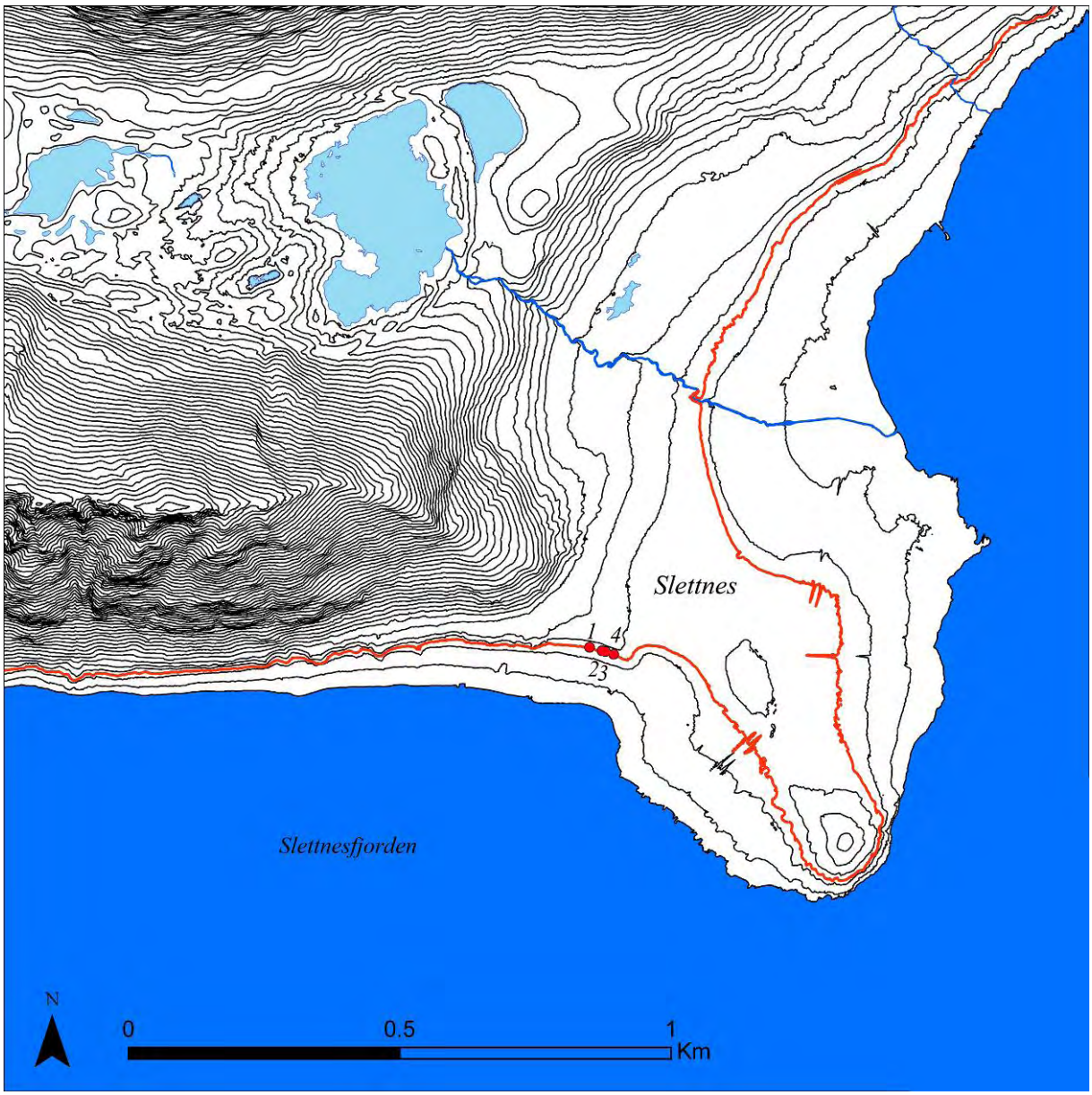


Figure 158 Map of the Slettnes area. The four boulders with rock art is located at the southern side of the Slettnes Peninsula marked with red dots and site numbers. The Slettnes 2 and Slettnes 3 site is only a couple of metres from each other, hence their location becomes virtually the same at this scale (see **Figure 159**) . The area where the carvings were located is defined as Selttnes IVB, while the area on the terrace above the boulders are defined as Slettnes IVA. The data suggests that the carvings are associated with the settlements at Slettnes IVA (Hesjedal et al. 1996:65). The red line marks the 12masl line. Contour lines at 5m interval. Illustration: Jan Magne Gjerde.

Slettnes is situated about 70km north from Alta as the crow flies. Following the coastline, the distance by boat from Alta to Slettnes is c. 82km. Slettnes is located on the northern side of the Slettnesfjorden fjord. This is one of the small fjords on the eastern side of the large Sørøya island (see Figure 141 and Figure 158). The Slettnes site consist of four boulders with carvings. The boulders are located between 11.81 and 12.5masl (Hesjedal et al. 1993:81). The Slettnes 1 boulder has 8 figures including two small whales, one reindeer, two

elk representations, a figure that resembles the elk head boats and a V-shaped figure. Slettnes 2 has 25 figures. There are elks, bears, bear-feet, elk-head boats, human representations, a figure that appears to be an elk-head stick, a bird (most likely a cormorant), geometrical and indefinable figures. Slettnes 3 includes two reindeer figures while Slettnes 4 has 22 figures. Amongst them are bears, elks, bear-feet, boats, human representations, a hare and a bird[141] (Hesjedal 1993a; Hesjedal et al. 1996:75-82). The boulders were covered by marine sediments most likely connected to the tapes transgression. The settlement record suggests that the area that the boulders were found in (Slettnes IVB) was dug into the area after the transgression. Thereby I find it more likely that the settlements within the Slettnes IVA area should be connected to the boulders with rock art. While the Slettnes IVA area was used throughout the Early Stone Age, the ^{14}C data indicates settlements in the Slettnes IVA area that is contemporary with the boulders with rock art (Hesjedal et al. 1996:65).

The Slettnes area shows that the settlements and the rock carvings are situated in the same area. This is relevant since most likely the activities at Slettnes were also most likely shore-bound. A similar location for the activities at Slettnes can be found amongst the Inuit (see Figure 48). Even though there is no rock art in the ethnographic example it visualizes how the settlement and activities were shore-related.

Reconstructing how the boulders at Slettnes (see Figure 159) would have appeared in the shoreline has been done at a similar topographical situation in the present day landscape in Tromsø (see Figure 160 and Figure 161). With the difference in sea-level due to the tidal difference one can see how boulders become islands at high tide. The boulders could have represented islands, then possibly acting as geographical references. The boulders would also be situated in the liminal area between the worlds where they would be covered by water at high tide, while during low tide be available.

[141] Askeladden ID-nr 101682.

Figure 159 The site Slettnes 2 (white arrow to the left) and Slettnes 3 (white arrow to the right) today. Photo: Jan Magne Gjerde.

Figure 160 The situation at the boulders near Tromsø when the boulders would have been in the upper tidal area. The photo is taken at mean water level. The example is not of boulders with rock art. However, the boulders is located in the shoreline like the boulders at Slettnes most likely would have been situated in the upper tidal zone. Photo: Jan Magne Gjerde.

Figure 161 The situation at the boulders near Tromsø march 2009. The left photo is at low tide, the middle photo is the situation at mean water level and the right photo is at high tide. The example is not of boulders with rock art. However, the boulders are located in the shoreline, as the boulders at Slettnes most likely would have been situated in the upper tidal zone. Photo and illustration: Jan Magne Gjerde.

After the deglaciation, the landscape at the head of the Alta-fjord gradually changed when the sea-level gradually receded freeing new coastal rock slopes in Alta. When the initial carvings was made, the sea-level at the head of the Alta-fjord would have been about 25 metres above present sea level (see Figure 167).

Since the Alta site is situated close to the town Alta, and was discovered fairly recently, the probability of archaeological remains being destroyed is evident (Helskog 1988:26). The Alta settlement has removed some of the relations between the settlement record with house-structures and the rock art. This can be seen in the area between the Komsa mountain and the Amtmannsnes site where the Stone Age house structures are removed due to the planning and construction of modern residential areas (see Figure 165). The Hjemmeluft and Amtmannsnes areas are attractive areas for residential planning, but due to the process that lead to the important decision to enlist large parts of the Alta rock art on the UNESCO World Heritage List in 1985 there has been minor development within the rock art area. It has in fact been crucial when compared to the worst case scenario with archaeological eyes: that the whole area would have been freed and developed for residential purposes. An example of how much the area has changed due to residential activity can be seen in the Storsteinen area (compare Figure 163 with Figure 164). By no doubt the head of the Alta-fjord would have had many settlements. We know this from the finds of house structures near the rock art sites adding to the few excavations performed in the area. Early aerial

photographs also shows that areas that today are “destroyed” contained house structures most likely dating from the Late Stone Age (see Figure 165).

For the Hjemmeluft area, which is the central area of rock art in Alta, there are several places with settlements from the Stone Age. At Saltvikneset, the point to the left of the Hjemmeluft bay, a Stone Age settlement was excavated by Nummedal[142]. This was located at 27masl (Nummedal 1929:35f). The elevation of this settlement suggest that it was contemporary with the initial carvings in the Hjemmeluft area in Alta. The material at the Stensvik settlement suggest that it belongs to the latter phase of the Early Stone Age. In Hjemmeluft, there have been excavations close to the panel Ole Pedersen. This is discussed in the dating part of this case study. There are also house structures[143], beneath the main building at Alta Museum, at about 30masl. Excavations have been conducted at Apana Gård. Since the Apana Gård material is younger than the Stone Age, that material is relevant for the rock art at Apana Gård, but not within the chronological scope of this thesis.

When reconstructing the landscape by raising the shoreline to 25masl at the head of the Alta fjord, the most noticeable change is the long fjord that today is the Alta River. This then becomes the *Alta River fjord*. The area west of the Alta River fjord then becomes a large Peninsula, the *Komsa Peninsula*. The carvings in Ytre Kåfjord and at Hjemmeluft (Bergbukten and Ole Pedersen) was the initial places where carvings were made (see Figure 167). As new rocks appeared, new carvings were made at Ytre Kåfjord, Hjemmeluft, Storsteinen and during the latter phase at Amtmannsnes. At about 2000BC, when the seashore was located about 14masl (see Figure 166), carvings were made in Hjemmeluft and at Amtmannsnes. For a better spatial understanding of the making of rock art in Alta compare the dating suggestion presented in Figure 151 and Figure 152 with the maps in Figure 166 and Figure 167. The large Alta River fjord would have been a main characteristic and a Peninsula with the Komsa mountain located at the point of the “*Komsa Peninsula*” would have and still is a landmark in the Alta area. The Komsa-mountain is also connected to myths and stories and is regarded a “holy mountain” by the Saami. From the Komsa mountain one has a view of the Alta-fjord (Figure 162) and inland the Alta River valley (Figure 168). There are no known rock carvings in the Alta River area. The land next to the *Alta River fjord* would consist of moraine masses, hence; “few” rock slopes in the area to make rock art.

[142] Askeladden Id-number 57409.
[143] Askeladden Id-number 74198.

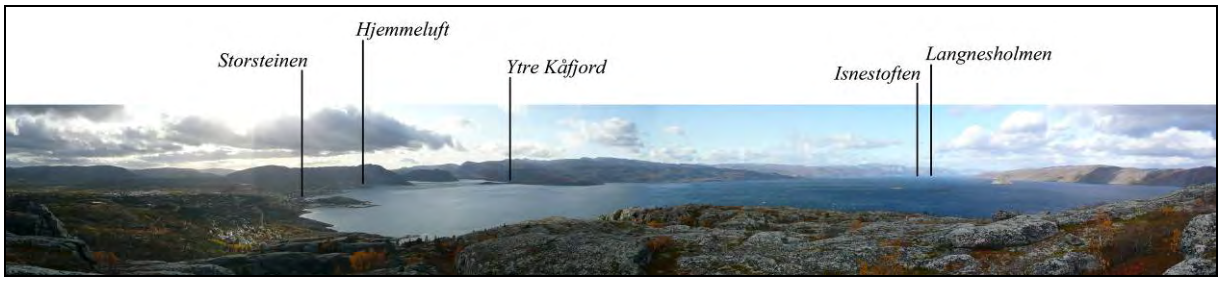


Figure 162 Compiled photos of the view from the Komsa mountain which would have been the point of the Komsa Peninsula with a raised shoreline to c. 25masl. The spatial understanding and geographical knowledge would be easier perceived from mountains like the Komsa-mountain. Photos and illustration: Jan Magne Gjerde.

Figure 163 The Storsteinen area in 1882. The Storsteienn boulder can be seen to the middle left in the photo right of the top of the mast of the boat to the left in the photo. Photo from Alta Museum / Norwegian Directorate for Cultural Heritage.

Figure 164 The Storsteinen area in today (2003). The Storsteinen boulder is located in the centre of the photo beneath a white house marked with red arrow. Photo and illustration: Jan Magne Gjerde.

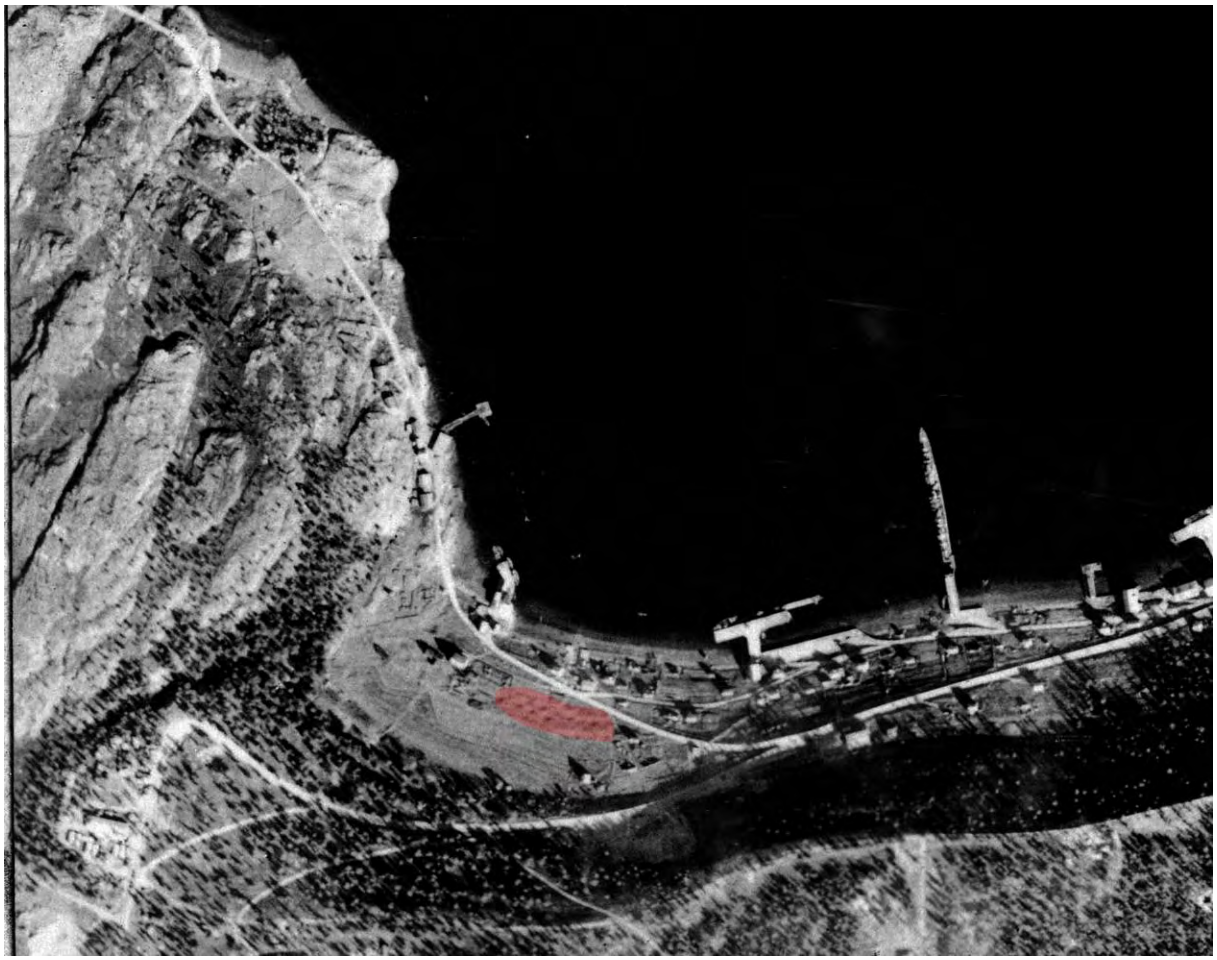


Figure 165 The area Bukta beneath the Komsa mountain near Amtmannsnes at the residential area before the area with archaeological eyes was "destroyed". One can see the house depressions. The area is now a fully developed residential area. The farmstead in the upper left section of the photo is the Stenseng area with Early Stone Age sites. Photo with kind permission Alta Kommune. Illustration: Jan Magne Gjerde.

Figure 166 Map of the rock art sites at the head of the Alta-fjord. The carvings marked with green dots and the paintings with red dots. The red line is placed at 25masl. This is to illustrate the landscape at the time of the first carvings. Contour lines at 50m. Notice how the Alta river becomes a massive flat riverine landscape, virtually like a tiny fjord stretching more than 10km inland compared to the present landscape. The "Komsa Peninsula stands out in the landscape with the Komsa mountain and is located between the Kåfjord fjord in the west and the Alta River fjord in the east. Notice the small island east of the Ytre Kåfjord site (at present named Auskarnes) The point west of the Hjemmeluft Bay is the Saltvikneset. Illustration: Jan Magne Gjerde.

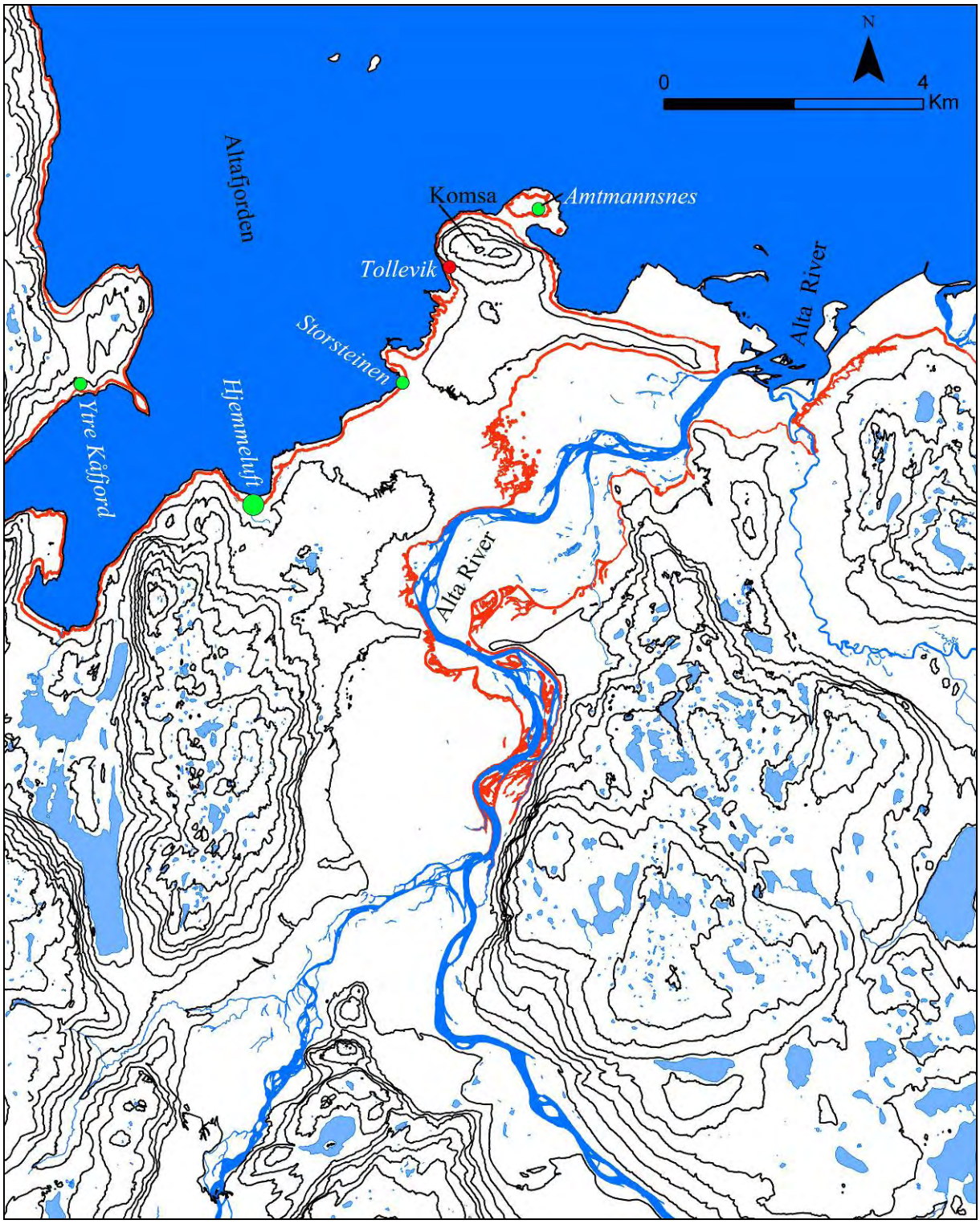


Figure 167 Map of the rock art sites at the head of the Alta-fjord. The carvings marked with green dots and the paintings with red dots. The red line is placed at 14masl. This is to illustrate the landscape at about 2000BC. Contour lines at 50m. Notice how Alta river still is a massive flat riverine landscape, virtually like a tiny fjord stretching about 8km inland compared with the present landscape. The "Komsa Peninsula" now has a flat area in north of the mountain where the island "Amtmannsnes Island" is located where the Amtmannsnes Peninsula is located today. The "Komsa Peninsula" is still situated between the Kåfjord fjord and the "Alta River fjord". Illustration: Jan Magne Gjerde

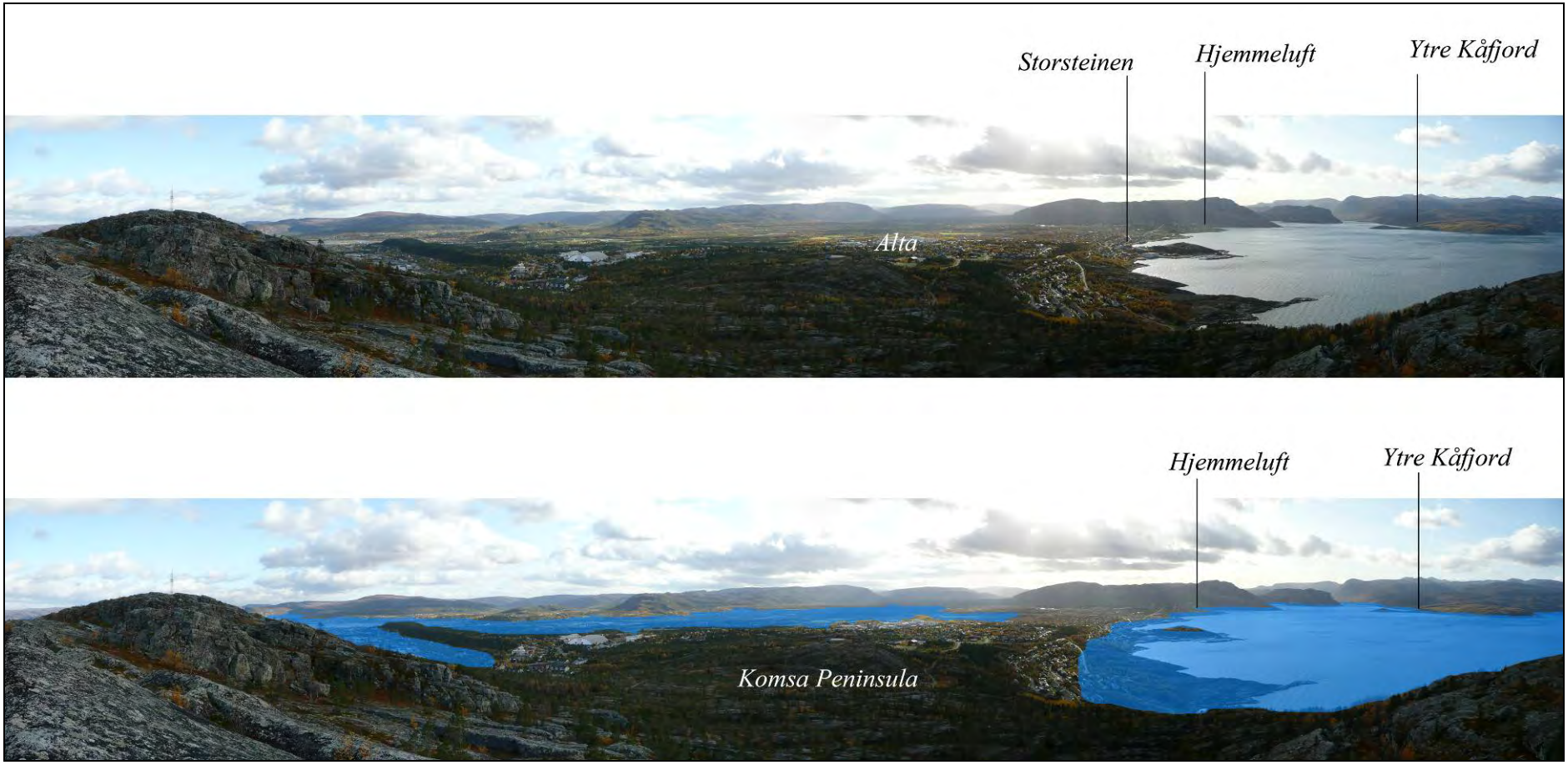


Figure 168 Top photo, compilation of 7 photos from the Komsa mountain. Bottom photo: reconstructed sea-level based on the reconstructed sea-level in **Figure 166** compared to the compiled photo. Bottom photo: Tentative reconstruction of the landscape where the sea is placed like it was at the initial carving phase at 25masl, at about 5200BC. One can then see the Alta River fjord to the left, leaving the *Komsa Peninsula* between the *Alta River–fjord* and the head of the Alta-fjord. The two first places where carvings were made in Alta are at Hjemmeluft and at Ytre Kåfjord. At the carvings at Ytre Kåfjord, the fjord today is named Kåfjord as a small tributary to the Alta fjord. Notice the Auskarnes promontory that then was a small island west of the Ytre Kåfjord site. (see **Figure 141** and **Figure 166**).

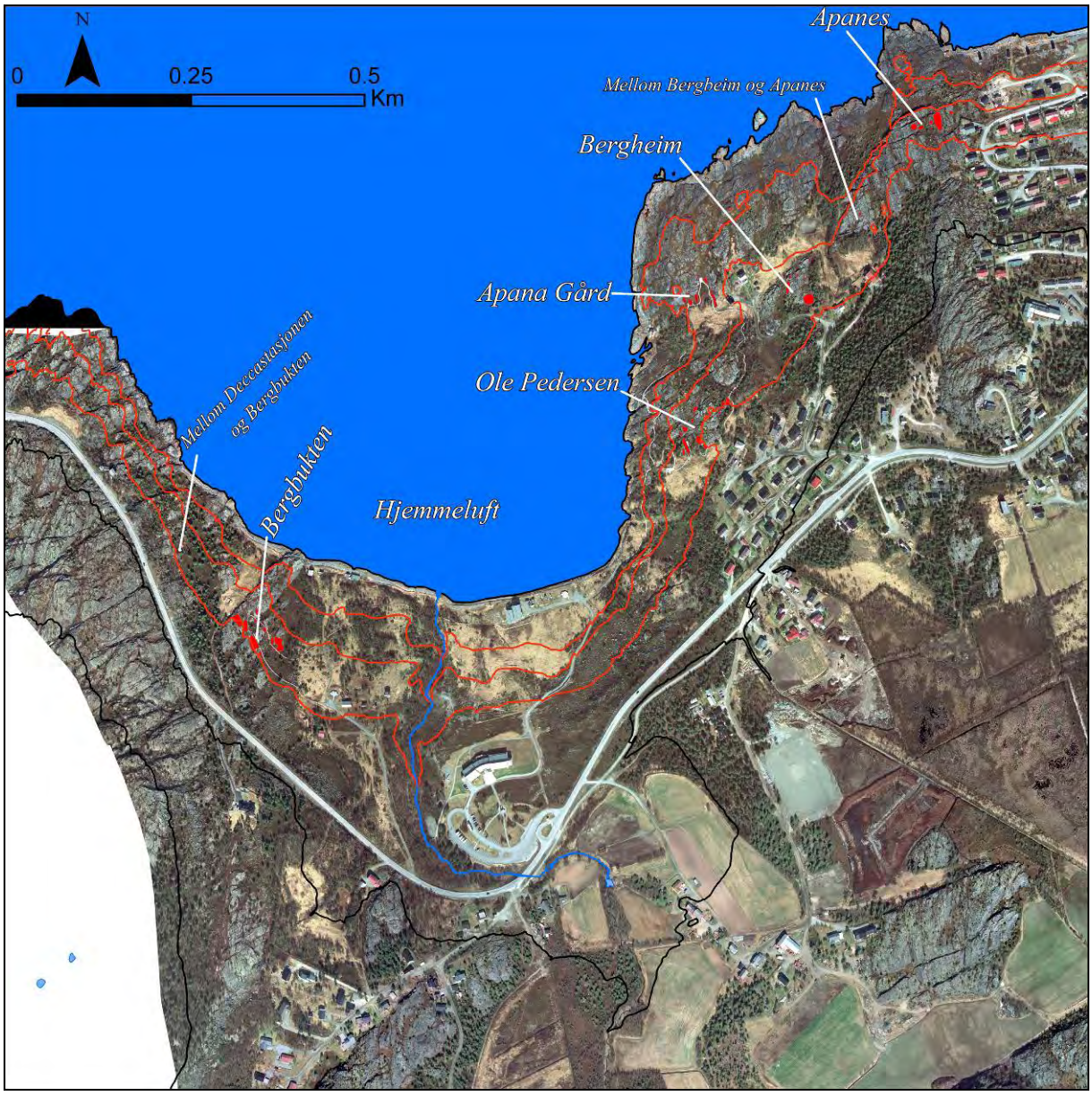


Figure 169 Map of the rock art sites in the Hjemmeluft area[144]. The sites are marked in red. The black contour line is at 50masl interval. The red lines are at 25masl 14masl and 8masl. The lowest carvings at the highest panels are located at 25masl, while the carvings dated to about 2000BC is situated at c. 14masl, while the lowest carvings are located at 8masl (confer with **Figure 152**). This is to illustrate the landscape at the time of the first carvings and how the land uplift gradually changed the landscape in the Hjemmeluft area. Adding to the rock art sites there are numerous settlements in the area. The large building complex in the lower middle of the illustration with connected car parks is Alta Museum. Illustration: Jan Magne Gjerde

After the phases from Figure 152, presenting the dating suggestion for the Alta-material, I will show how the landscape changed at the head of the Alta-fjord, related to where the rock art is located (see Figure 169). The shore-level will be reconstructed at 25masl (representing the level at which the first rock art most likely was made in Alta), 22/21 masl

[144] Askeladden Id-nr for the sites in the Hjemmeluft area: Mellom Deccastasjonen og Bergbukten (8631), Bergbukten (18427), Ole Pedersen (28486, 57415), Apana Gard (57750), Bergheim (68067), Mellom Bergheim og Apanes (28484), Apanes (48028).

(the end of the first phase and the beginning of the second phase), 17masl (the transition between phase 2 and 3) and 14masl (the end of phase 3).

Standing at the flat Komsa mountain plateau, one can move around the mountain and see the whole Alta valley and far out the Altafjord. One can see relations in the landscape that would not otherwise be possible, like in a generally "flat" landscape. Thereby by standing at the Komsa mountain at the head of the Komsa Peninsula in the past (see Figure 166 to Figure 168) one could get a better perception on relations in the landscape than e.g. in the flat landscapes of Karelia. By moving in the landscape where mountains could act as reference points one could observe activity in large parts of the inner Alta-fjord and the Alta-fjord valley (see Figure 162).

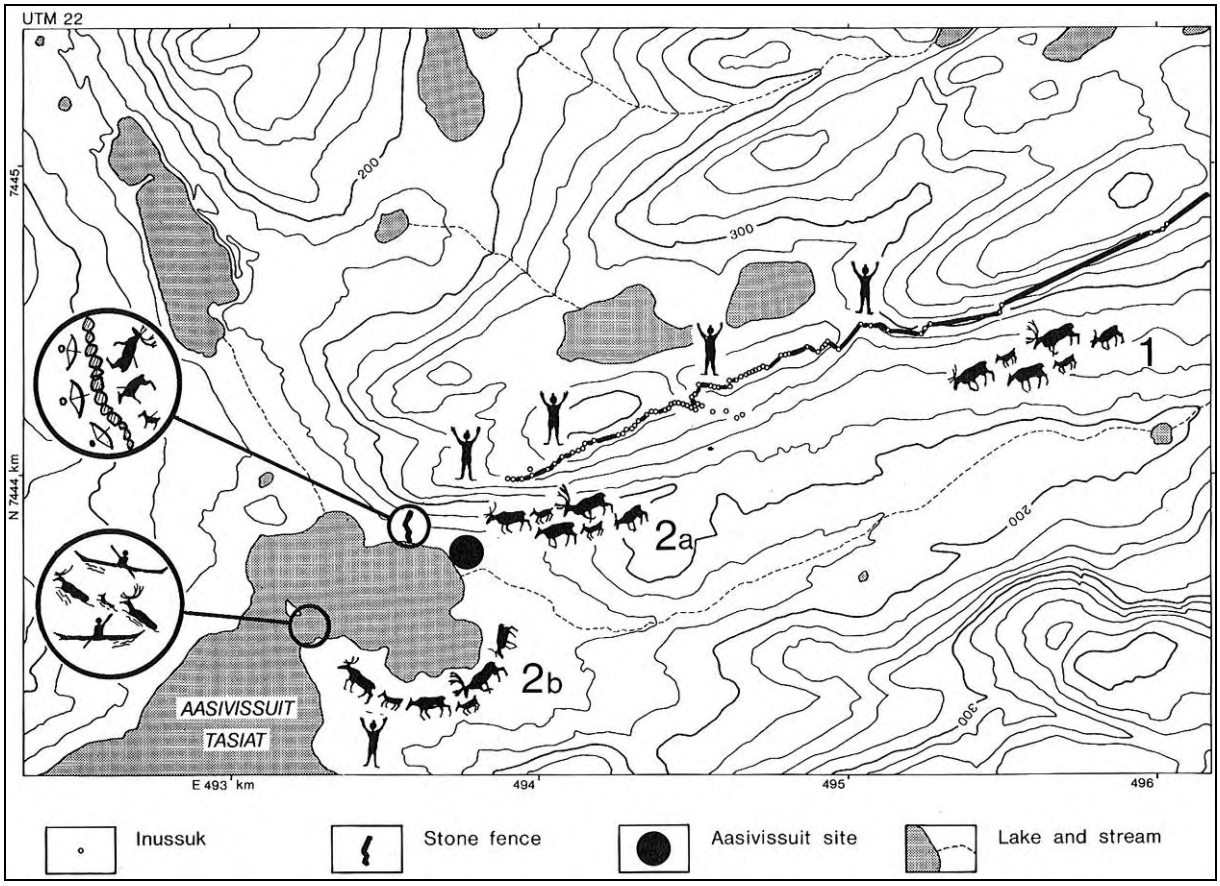


Figure 170 Interpretation of the function of battue structures at Aasivissuit, a caribou-hunting site in West Greenland. After Grønnow et.al. (Grønnow et al. 1983:fig. 45)

Hunting drives for reindeer has proven extremely effective and the technique has been documented in vast parts of the circumpolar area. The schematic representations of such hunting drives (see Figure 170) recorded in the ethnography (Jenness 1922:148ff, fig. 48) and documented archaeologically (Grønnow et al. 1983), show that they are placed at natural crossings and favourable topographical positions in relation to the natural features

constraining movement of the reindeer, like rivers, lakes and hills/mountains (Blehr 1982; Grønnow et al. 1983:fig 45; Popov 1948:plate 6).

Hunting drives for reindeer are one of the large scenes that are repeated in the earliest rock art of Alta. The earliest rock art is located at Hjemmeluft and at Ytre Kåfjord. Could it be that the initial rock art was connected to the favourable areas or crossing places connected with the reindeer corrals inland? The data at present suggest that the reindeer migrate through the Alta area on its seasonal migrations. However, this is the migration of domesticated reindeer. Even if it can be argued that reindeer will follow the topography one cannot know for sure. If one compare the reconstructed map at 25masl for the Alta area (see Figure 166) one can see that the shortest distance crossing the Kåfjord fjord is from the point at Saltvikneset (west of the Hjemmeluft Bay) crossing to the Ausekarnes that then was a small Island, maybe acting as a geographical reference. Could it be that the elaborate depictions of reindeer and reindeer hunting is referring to known geographical places with reference to the Alta area and its wider surroundings? Then this can be seen in the depictions of favourable areas / zones for reindeer, favourable crossing places / hunting places (reindeer corrals). These act as references to known places in their landscape depicted in the rock art. Thereby the rock art becomes a reference to their cosmography as a wide definition of landscape and geographical knowledge.

Microlandscape

The scenes in Alta generally falls within 2m elevation (see e.g. Figure 155). This would be the tidal/upper tidal zone and could explain the manner in which the figures are distributed e.g. at Bergbukten. At the panel Bergbukten 1 in Hjemmeluft, one can see how the rock art is interacting with the microlandscape at several places. That the figures at Bergbukten 1 are related to the micro-topography has previously been argued (Helskog 1999; Helskog 2004a; Helskog & Høgtun 2004). Bergbukten 1 is one of the well documented panels in Alta which is published (see Figure 38). Consisting of several compositions and scenes with a total of about 250 figures, it stands out as one of the more complex rock art panels in Alta. There are elk, reindeer, beer, salmon (small whale), a boat, human figures, human figure in a long line that can be related to reindeer corral as a guiding fence, human figures with bow and arrow, human figures with spears and human figures with elk-head sticks, geometrical or grid-patterns and “necklaces” or tent structures. Adding to this there is a bear hunting scene

connected to a bear-den and a large reindeer corral. The panel is dated by shoreline to phase 1, that is between 5200BC and 4200BC.

At Bergbukten 1, many of the figures are placed according to the micro-topography or microlandscape at the site (see Figure 171 to Figure 177). One can see rivers, lakes, valleys and even a bear-den that interacts with the figures on the rocks (compare Figure 38 with Figure 174). When comparing the tidal zone today, one can see how the microtopography in the tidal zone includes valleys, rivers, lakes etc. (see Figure 176). This has been suggested as an interpretation for rock art in the the Vyg area (Gjerde 2005; Gjerde in press-a), and recently this has been suggested for the Alta area (Tansem & Johansen 2008f, fig. 2).

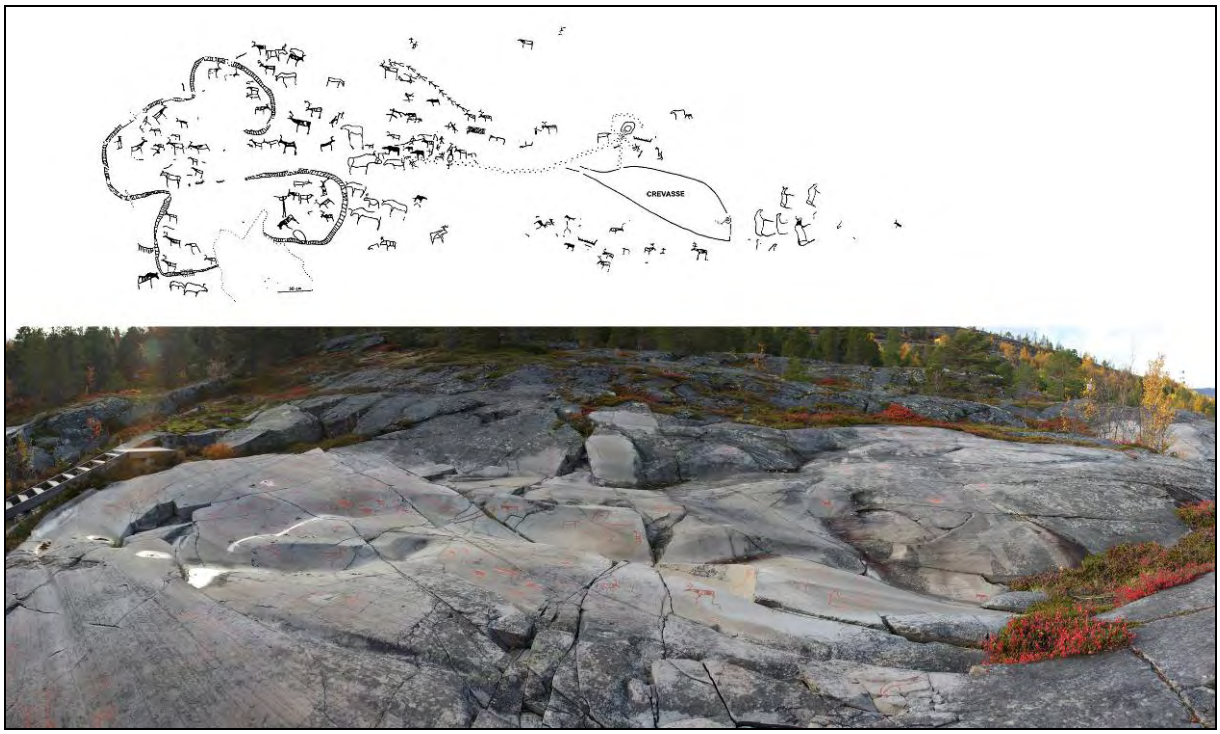


Figure 171 Bergbukten 1. The largest panel at Bergbukten. The tracing above the photo covers about 10m of the large outcrop that is about 20m long, covered in rock art. The size makes the panel difficult to present and the sheer size of the outcrop makes one walk along the panel to see the rock art. Tracing after Helskog (1999:fig. 5). The photo illustration in the lower part is a compilation of 12 photos. The "whitish rock" in the right end of the photo is the Bergbukten 4 site. Photo and illustration: Jan Magne Gjerde.

A documentation by free-hand drawing shows how the figures are placed within the micro-topography of the rocks (Figure 38) (Helskog & Høgtun 2004:fig 6 and 7). At Bergbukten 1, one can see how the figures might be related to the rivers and lakes in the rock surface. In Figure 173, one can see a river with connected lakes where the elks and reindeers are walking next to the river and the lakes. In Figure 174, one see that the little elk representation is standing next to the river in the rocks.

One of the clearest examples of how natural features in the rock surface interacts with the figures have recently been presented by Tansem and Johansen (2008:fig 3). Bear tracks appear from the natural oval formation in the same manner in which it does on the bear-dens depicted at the same surface (see Figure 175).

Figure 172 Bergbukten 1. Here one can see how the valleys, rivers, lakes and hills are interacting with the rock art. Illustration compilated from 3 photos, warped in Photoshop. Photo: Jan Magne Gjerde.

Figure 173 Section of the large Bergbukten 1 composition. One can here see how the valleys, rivers and lakes appear in the microlandscape of he panel. The figures are carefully placed in relation to the micro landscape. It is not unlikely that the upper tide would fill the lower area where the water pool can be seen today. Photo: Jan Magne Gjerde.

Figure 174 The river with the elk standing by the river. The river would have entered the sea virtually where the vegetation is today. Here one can see a small depiction of an elk in the direction as if it is walking up the valley next to the river. Notice the elk track in the lower left part of the section. This can be interpreted as a referring to a crossing place or the place where the elk come ashore after crossing the fjord or a river. It is located in the lower part , in the "shorezone" related to the elks on the panel. Photo: Jan Magne Gjerde.

Figure 175 The natural bear-den at Alta. One can see that the bear tracks (chalked white) are coming out of the den towards the previously discovered bear. A few other figures also appeared Photo: Karin Tansem © VAM.

Figure 176 The tidal zone in Alta and its microtopography with its valleys, lakes, rivers etc. Photo: Jan Magne Gjerde.

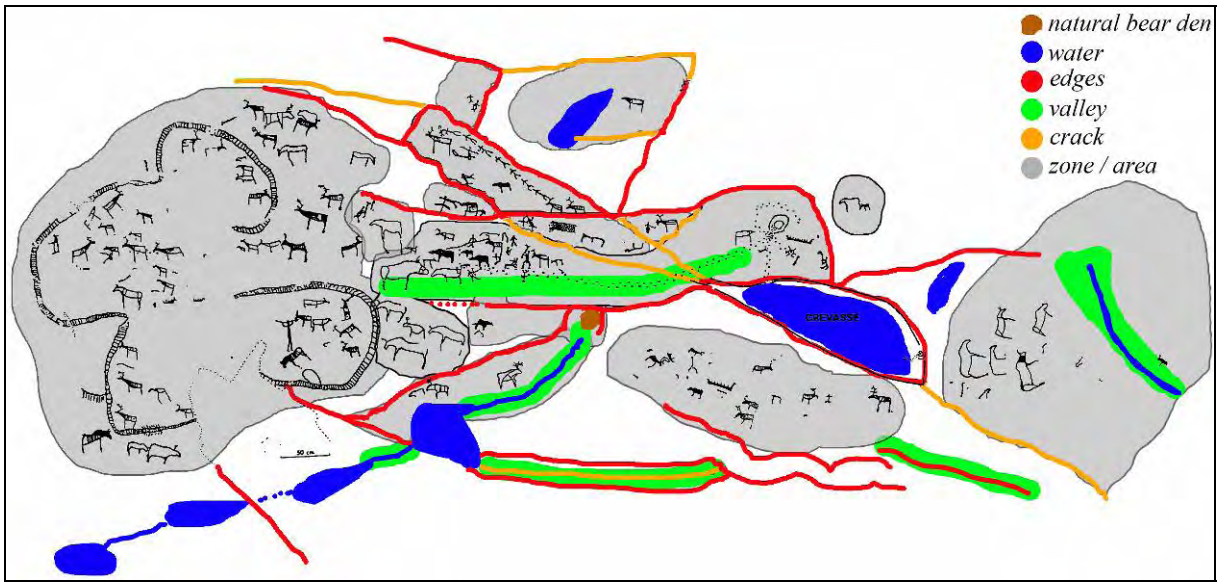


Figure 177 Section of the Bergbukten 1 site, Hjemmeluft, Alta. The natural features and the micro landscape related to the tracing of Bergbukten 1. Compare schematic representation to **Figure 38** and **Figure 175**. The grey areas refer to Collignon's (Collignon 2006b) Inuit perception of landscape (see **Figure 67**). Background tracing after Helskog (1999:fig 5).

The large Ytre Kåfjord site stands out both in extent and compositions in rock art of northern Fennoscandia. The Ytre Kåfjord site includes about 1500 carvings. At Ytre Kåfjord there are unique compositions and scenes. Several reindeer corrals, bear tracks that run for several metres, groups of people that appear to be dancing. Many of the scenes are narrative, and there are many human figures depicted in various activities: hunting with bow and arrow,

hunting with spears, people with elk-head sticks, humans walking with snow-shoes, people carrying a boat that resembles the Inuit umiak boat. Adding to the identified figures, there are numerous lines and geographical patterns.

An area at Ytre Kåfjord stands out and one can see how they have applied the rock surface and arranged some of the rock art in relation to the micro-topography. This is best observed when following the bear-tracks for more than 8m along the rocks and reindeer tracks near the boulder at the site (see Figure 178 to Figure 180). It appears like the bear-tracks are starting from under the large boulder. Then they are moving upwards to a bear den. After this they move from the bear-den, into the large reindeer-corral, where it enters a new bear den (see Figure 178). This has been interpreted by Helskog as representing the seasons of the year of the bear (Helskog 1999). He has also interpreted the whole composition as a seasonal landscape (Helskog 2004a). If we accept that the bear comes from a den, when it enters the panel from a crack under the boulder, this scene could be representing three years when the bear is moving between dens.

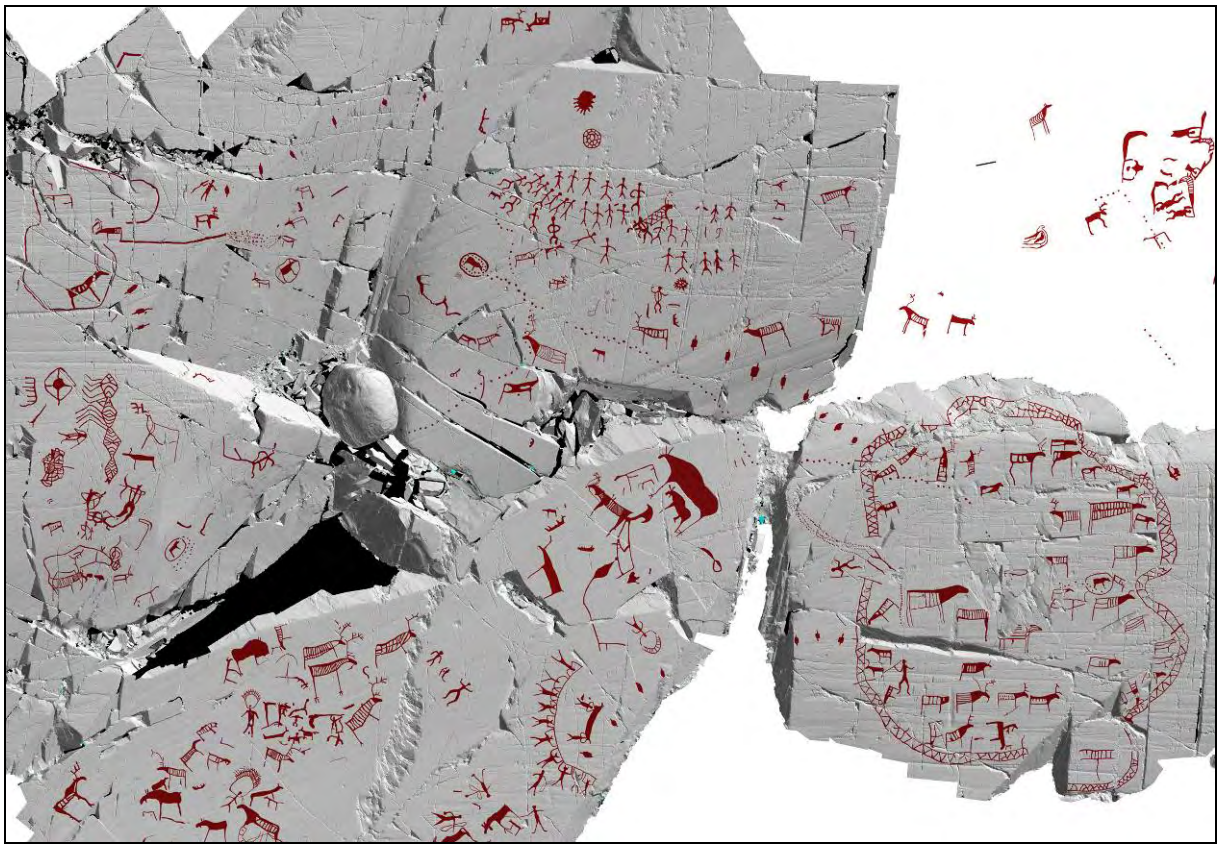


Figure 178 Scanning of a section of the large Ytre Kåfjord panel. Scanning by METIMUR and the figures are traced from the scanning by Karin Tansem, VAM. Top left is the small reindeer corral. To the right is the large reindeer corral. The distance between the entrances of the two reindeer corrals is c. 6.4m. The bear tracks run more than 8m on the panel and the large reindeer corral is c. 3m in diameter. The boulder is situated to the left in the middle. Bottom left of the boulder from a crack can be seen the bear tracks ending in the bear-den, then

continuing to the right into the large reindeer corral. The amount of figures and the size of the composition at Ytre Kåfjord is the most impressive in northern Fennoscandia.

The reindeer tracks coming up to the reindeer corral to the left in Figure 179 indicate the change in the topography when they are walking up the hill separately, then the tracks form a straight line going into the reindeer corral. That the tracks are joining could be the result of the guiding fence that is part of this scene. There is more room to make the figures on the "flat" surfaces, however, they have deliberately chosen to make the figures in relation to the micro-topography. This is best observed for the guiding fences and the reindeer tracks going uphill before they enter the area where they are directed towards the reindeer corral by the guiding fence. Such lines of inuksuks[145] are depicted at reindeer corrals at Ytre Kåfjord (see Figure 178 and Figure 179).

Guiding fences are documented in the ethnography of the reindeer hunters in vast parts of the circumpolar region (Birket-Smith 1929:110f; Grønnow et al. 1983; Popov 1948; Popov 1966:34f; Vorren 1998). The guiding fences could be made up of permanent structures or more temporal arrangements. The inuit apply inuksuk (stone built structures, small cairns, ripraps etc.) that translates to "as a man", where the stone figures could resemble a hunter from a distance. One would also apply large boulders and sticks between the boulders with feathers or leather-striping attached to them. Such ornaments made noise in the wind to direct the reindeer[146] (Blehr 1982:6f).

Where there is a prominent micro-topography in the rock surface, it appears as if the makers of the rock art have taken advantage of this and applied it in telling their stories on the rocks. The reindeers cross the rivers at the same places along natural migration routes. Such places are defined as slaughtering places by the Nganasan of Siberia where they set up different kinds of "artificial slaughters" on the side of which reindeer are expected to arrive (such as long guiding fences). The length and width of these constructions varied and depended on the location. Usually reindeer come down to the river along the channels of streams and brooks. "The trips to hunt wild reindeer are great holidays for the men. The girls and single women ride with the men, and, according to report, they have a gay time." (Dolgikh in Popov 1966:38). An observation of a hunt by the Nganasan reveals the outcome and value of such collective hunting at strategic places, when during 24 hours on the 31st of August 250-300 reindeer passed the Tareya River. The reindeer came in groups of between 26 to 42 individuals. The hunted animals from the slaughtering place meant they were still living

[145] An inuksuk is a stone landmark or a cairn built by humans. Some places they are also made from wood.
[146] Not unlike the plastic-stripings applyed by the Saami to direct the reindeer today.

on the meat in January the following year (Dolgikh in Popov 1966:38). What becomes evident when studying the ethnographical descriptions of traditional reindeer hunting and reindeer hunting drives, is the importance of a collective strategy and the close relation to unique topographical places that were ideal for hunting or slightly altered to become such favourable hunting grounds (Blehr 1982:3f; Popov 1966:35f, fig 6). Reindeer hunts at these collective hunting places would occur during spring and fall during the seasonal migrations (Popov 1966:35).

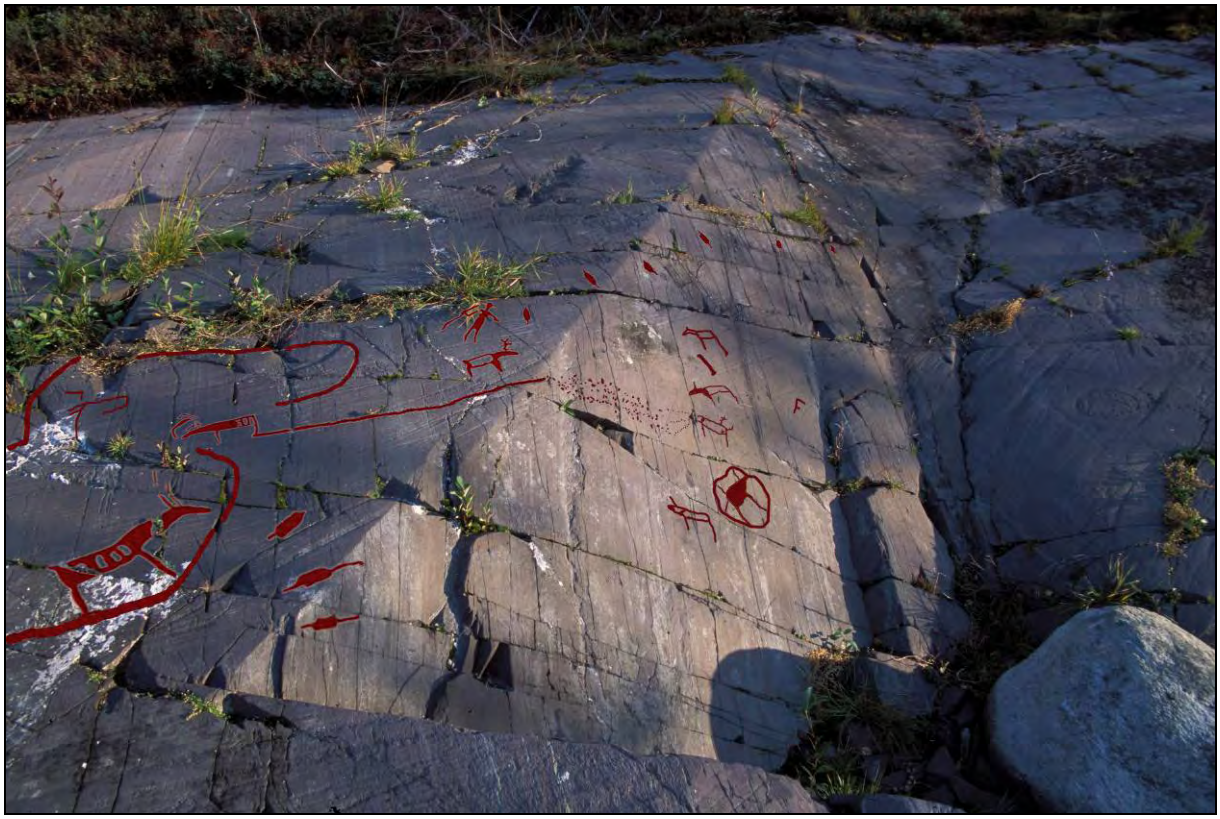


Figure 179 Photo of the area with the boulder and the small reindeer corral at Ytre Kåfjord. The figures of the reindeer corral is fixed on the photo. This means that the size ratio is distorted. The closest figures are larger compared to the ones in the background in relation to real size (Compare with tracing in **Figure 178**. One of the bear dens at Ytre Kåfjord can be seen in the photo above the boulder. Photo and illustration: Jan Magne Gjerde.

In the Alta region this would be the spring and autumn during the large reindeer migrations between the coast and the inland. When looking at the figures, scenes and composition within the area including the two reindeer corrals, the reindeer corrals and the bear den could represent geographic references to known places. The hunters would know where the bear dens were. There are several examples of bear hunting both at Ytre Kåfjord and in Hjemmeluft (see Figure 175). At Ytre Kåfjord, the two reindeer corrals would also act as geographic references. In that manner, they are depicting known places to the people

making the rock art at Ytre Kåfjord. Based on this fact, the reindeer corral to the left in Figure 178 would be located not far from the bear-den or in the same area. The people in the circle above and between the large reindeer corral and the boulder would be inland.

Figure 180 Photo of a section of the Ytre Kåfjord site, centred round the large boulder. The small reindeer corral is situated left of the boulder, the bear den and bear tracks above the boulder and the large reindeer corral is located in the right of the photo (compare with **Figure 178**). Photo: Jan Magne Gjerde.

There are at least eight depicted reindeer corrals in the Alta rock art. They are all found between 24 and 22masl dated to phase 1, and amongst the earliest figures in Alta in Hjemmeluft and at Ytre Kåfjord (Helskog 2005:345). This emphasis on collective hunting is very important. Not only is it a reference to the hunting method itsself, but also to the amount of people engaged in the building and maintenance of the reindeer corrals.

Moving back to the Hjemmeluft area, at Bergbukten 4, (see Figure 181 and Figure 182), more than 150 figures are including a vast variety of motifs (elk, reindeer, boats, human figures with bow and arrow, human figures with elk head sticks), scenes (reindeer hunting, elk hunting, halibut fishing) making up the large composition. What strikes me, when studying the positioning of the figures, was that the reindeers to the left of the panel are positioned in a similar manner as reindeer in the other reindeer corrals (e.g. at Bergbukten 1). When relating this to the micro-topography, one can see that the rock ends left of the reindeer figures making

the natural features represent a reindeer corral. The figures in the lower part of this section resembles the "gates" in the reindeer corral at Bergbukten 1. The composition could include geographical references stored in the figures and scenes that relates to fixed geographical places like at Ytre Kåfjord and Bergbukten 1. The natural "reindeer corral" to the left, is an area with few figures. To the right, one sees boats involved in driving and directing the reindeer[147]. Then further to the right are a couple halibut fishing scenes representing activities connected to the fjord. Under the boats can also be seen what in interpreted as an elk trap, a possible elk hunting pit. Below, there are also humans with elk-hunting sticks. The reindeer corrals appear to be found inland as observed by Vorren (1998). There are large cracks at the Bergbukten 4 panel (Figure 182). None of these cracks crosses the figures, while other smaller cracks do (compare Figure 182 and Figure 183). This makes me assume that the large cracks were there when the rock art was made, suggesting they represent a river, real or cosmological. If one looks at the whole composition, the scene depicts places from the coastal halibut fishing that indicates deep-water fishing to the inland reindeer corrals and elk hunting. In this respect, the figures might represent places important in their geographical knowledge. This panel could act as a memoryscape that were related to their geographical places that also included travels between these places.

Figure 181 View towards the Alta fjord with the Bergbukten 4 panel in Hjemmeluft, Alta in the foreground. In the middle of the photo one can see a line that divides the rock, interpreted as a miniature river. The figures can be seen and the relation to the sea with a raised shoreline is obvious even with the changed landscape of today. Photo: Jan Magne Gjerde.

[147] A human figure in one of the boats have some implement that can be interpreted as an object to make sound, like the clothing as described in the ethnographic sources.

Figure 182 "Reindeer corral" at Bergbukten 4 to the left, the microtopography aiding the interpretation of the congregation of figures as representing a reindeer corral. At the left half of the photo one can see the large cracks interpreted as rivers, real or cosmological. Compilation of 6 photos. Photos and illustration: Jan Magne Gjerde.

The interpretation of this panel as a physical landscape may seem contradictory to the previous interpretation by Helskog where this panel is seen as a representation of their cosmological world (2004a). The cosmological interpretation of this panel is based on a tretier divided in an upper world, a middle world and a lower world. The cosmological river as presented will run through all worlds. This can be represented by a real river. Returning to the Bergbukten 4 panel one can see that the physical interpretation of the micro landscape interaction with the figures as presented in Figure 183 coincide with the cosmological interpretation as represented in Figure 184. The large Alta River may be the cosmological river represented by the cracks running from the upper world through the middle world into the lower world (see Figure 184). In the upper world, one can see a "flying" shaman overlooking the landscape from the upper world. The reindeers are in the upper part of the panel. The activities connected to hunting, cynegetic activities, seen in the middle world represented by the halibut fishing and driving reindeer onto land and by the "reindeer corral". In the lower world the elk is dominating and "shamans" (indicated by the head-gear known from ethnographic sources (see chapter 4) is holding elk head sticks connected to elks as if they are conducting an activity interpreted as a "ritual killing of the elk". One can here see how the physical landscape interact with the cosmological landscape. Moving the interpretation even further, the fjord represented by the micro-landscape and the maritime figures could represent the Alta-fjord while the cosmological river could be the Alta-river or the rivers entering the Alta-fjord. This is strengthened by the placing of the figures where the inland activities / zones according to the theory of Inuit landscape as presented by Collignon

(see Figure 67) is represented by the figures. Here one can see how the macro-landscape is "mirrored" in an interaction between the figures and the micro-landscape that also refers to the cosmolological landscape. This is truly a testament to the complex interaction within Stone Age hunter-gatherer perception of landscape, where knowledge of the universe or their cosmography comes together in one panel.

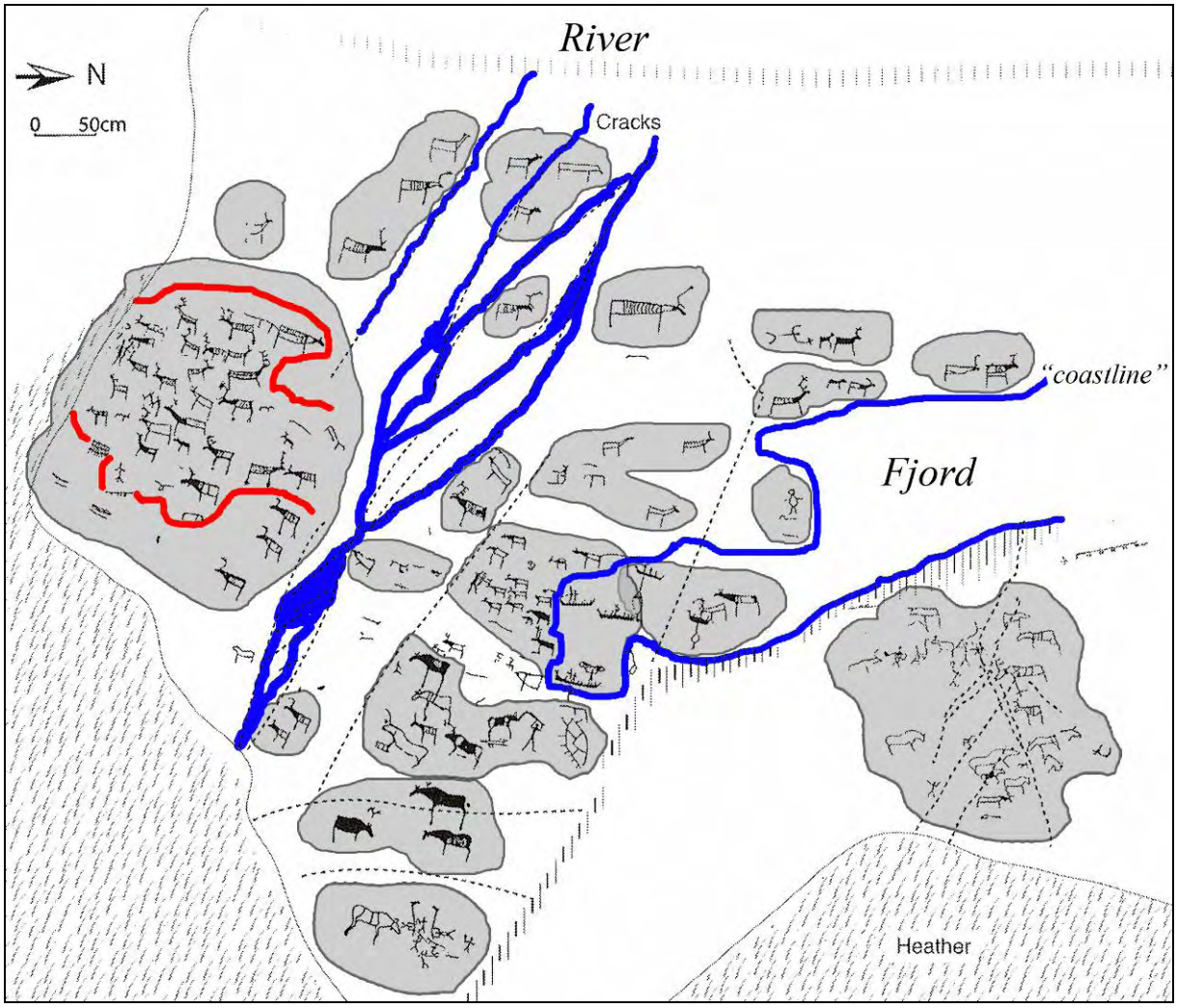


Figure 183 Bergbukten 4, Hjemmeluft Alta. Landscape features interpreted on the basis of the macro and the micro landscape and the figures/scenes in relation to Innanuit perception of territory. Background tracing after Helskog (2004a:fig 13.4). Illustration: Jan Magne Gjerde.

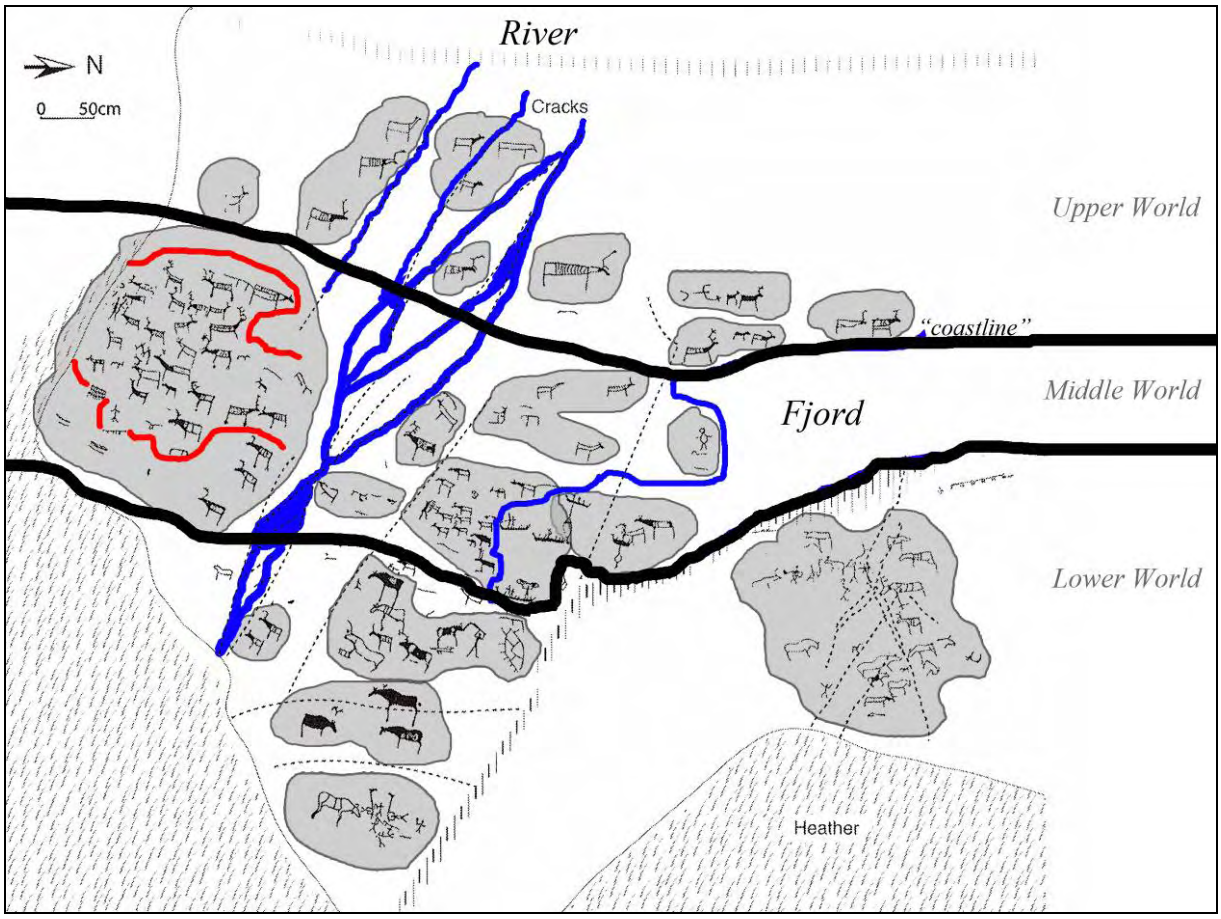


Figure 184 The division of the Bergbukten 4 panel into an Upper World, a Middle World and a Lower World. Background tracing after Helskog (2004a:fig 13.4). Illustration: Jan Magne Gjerde.

Knowledge of crossing places and animal trails are important to hunter-gatherers. They need to know the patterns in which the animals move, that is temporary movements and seasonal migrations. Tracks appear in the rock art of Alta. Most prevailing are the bear tracks, however there are also examples of reindeer and elk tracks. Most often they are depicted as small dots that can be followed for several metres ending up next to the animal (see e.g. Figure 178). The most favourable crossing places like in the ethnography where the fjord meets land (where animals would naturally be more vulnerable). Looking carefully at the panel after the lichen has been removed (compare Figure 185 with Figure 186), more figures appear at the panel (see Figure 187 compared to Figure 188). The placing of the elk-track is exactly between land and water (see Figure 185 and Figure 188). Interpreting the elk-tracks as representing a crossing place, placed where the animals enter from being chased by hunters in boat. It could represent such a crossing place or a place where the animals come ashore after crossing the fjord (see Figure 174 and Figure 185).

Figure 185 Photo of section of the panel Bergbukten 4 with the elk-track that has not previously been documented. The elk-track is situated virtually where the elk would come ashore after crossing. When comparing this scene with the interpretation of the micro landscape and the figures, one can see that this could represent such a crossing place for animals. Notice also that the eroded areas makes part of the figures missing (see especially the stem of the boat in the right of the photo). This is also problematic when figures are applied e.g. in stylistic studies based on tracings and not studies in situ. The main difference on this panel from the tracing is the animal figure above the reindeer in front of the boat figure. The bear tracks ending up in the two cubs located in the middle of the photo and the large elk-track (inside the black circle) interpreted as a place where animals come ashore (a crossing place). Compare with **Figure 188**. Photo: Jan Magne Gjerde.

Figure 186 Photo of section of the panel Bergbukten 4 before removal of lichen in 2003. Compare with **Figure 185**. One can not see the elk-track figure and the lichen covered details in the rock art figures. Photo: Jan Magne Gjerde.

Figure 187 Section of the Bergbukten 4 panel. Compare with **Figure 188**. One can see that when the lichen was removed, more figures appeared and some parts that are missing due to flaking / erosion of the rock surface. At

the lower left is a human (maybe a shaman hunter) with an elk-head stick connected to the elk. The elk appear to be stuck in a hunting pit / trap with its back leg. The figure to the right of this hunting scene might be part of the composition representing a hunting pit / trap from another perspective, seen from above. Photo: Jan Magne Gjerde.

Figure 188 Section of the Bergbukten 4 panel where new figures are added and the interpretation of the relation between the micro landscape and the figures appear to represent the fjord and a place in the landscape where animals come ashore. This is represented by the elk-track. Compare tracing and drawing with **Figure 183** to **Figure 187**. Photo and illustration: Jan Magne Gjerde.

Summary of the Alta rock art

The making of rock art in Alta based on shoreline dating and the relation to the elevation of the settlement finds indicates that the first rock art was made at Ytre Kåfjord around 5300BC and in Hjemmeluft at about 5200BC. This also coincide with the boulders with carvings at Slettnes. The initial carvings were made about 5300BC and the last carvings were made around 200BC. The last carvings include boat figures that show similar traits with the south-Scandinavian Bronze Age boats. That is, rock art was made in Alta for about 5000 years.

Initially around 5300BC, the head of the Alta-fjord was different from today where the present Komsa mountain would have been a large peninsula between the Kåfjord fjord and the Alta River-fjord. The area where the Alta River estuary and about 10km from the shoreline would have been a fjord with a raised shorelevel to about 25masl. The main

characteristics at the head of the Alta-fjord with the protruding Komsa-mountain peninsula would have been a reference point throughout the Stone Age. Even today the Komsa-mountain stands out when entering the Alta-fjord basin.

The head of the Alta-fjord would be central in the communication between coast and inland. Looking at the macro landscape at Alta, the fjords and tributary fjords would act as a funnel directing movement through the head of the Alta fjord. This funnel can also be seen inland where the valleys and rivers route people and animals to the head of the Alta fjord.

The rock art at Alta is many places deliberately placed in relation to natural features in the rocks. Some places it looks like if the natural elements of the rocks interacted with the rock art and the story told in the rocks. Some places these even have references to the wider landscape where the micro landscape or miniature landscape acts like a backdrop to tell stories of their macro topography / macro landscape, interacting with the figures and scenes. One can also see that scenes act as reference point to places in their wider landscape like the halibut fishing, the reindeer corrals and the bear-hunting.

Vyg

Rock art at Vyg

The carvings at Vyg[148] was "discovered" when local people showed the ethnologist Linevskii the Besovy Sledki site by the Shoirukshin rapids near the village Vyg Ostrov in 1926[149]. Liinevski documented the figures at Besovy Sledki (Linevskii 1939). In the 1930's, Ravdonikas documented the rock art in northwestern Russia. He found new carvings at Besovy Sledki (Besovy Sledki South) and two panels with carvings about 400m downstream from Besovy Sledki on the Island Jerpin Pudas. Downstream, about 1km from Jerpin Pudas, at the Island Bolshoi Malinin, more carvings were discovered and the site named Zalavruga. Totally Ravdonikas documented about 600 figures at Vyg (Ravdonikas 1938:7). Later, massive Hydro Power development initiated large archaeological investigations in the lower reaches of Vyg. The surveys and excavations between 1957 and 1970 revealed more than 100 settlement sites from the late Mesolithic to the Medieval Ages as well as more rock art (Savvateyev 1977:67; Savvateyev 1988). At Zalavruga, named New Zalavruga to separate

[148] The site names applied in the text is the english version of the sites. The Russian names are: Vyg = Выг, Besovy Sledki = Весовы Следки, Jerpin Pudas = Ерпин Пудас, Nameless Islands = Безымянных островков *or* Скопление, Zalavruga = Залавруги (Old Zalavruga = Старой Залавруга., New Zalavruga = Новой Залавруга).

[149] It was then named Olonets after the parish and later renamed Besovy Sledki North.

them from the previous finds of Ravdonikas, 26 new panels with rock art was found covered by gravel and sand sediments and evidence of a cultural layer (mainly ceramics and two fireplaces important for dating the site). Savvateyev also found rock art in the area between Besovy Sledki and Zalavruga on four islands with no name; thereafter named Nameless Islands 1-4, while the largest was found at Jerpin Pudas (Jerpin Pudas 3) in 1968-1969 (Savvateyev 1977:69). New figures were found during my fieldwork in 2003 and 2004. Lately, Lobanova has also found new carvings at Old Zalavruga and a new panel not far from Zalavruga (Lobanova 2006; Lobanova 2007). The newly found figures at Vyg, are within the same range when it comes to elevation and motifs[150]. A careful estimate of the Vyg carvings would suggest that there are more than 2300 carvings at Vyg. One of the main motifs at Vyg is that of the Beluga whale[151]. Whale hunting is frequently depicted, and more than 60 scenes of whale hunting from boat have been found.

A general overview of the relation between the sites at Vyg is presented in Figure 189 and Figure 194. The main themes in the rock art at Vyg is large game and hunting. Next to Alta, this is the place in northern Fennoscandia where the narratives are represented in many hunting scenes; Beluga whale hunting (see Figure 190, Figure 191 and Figure 193), elk hunting (see Figure 215), bear hunting (see Figure 190) and hunting of birds (see Figure 192). Motifs at Vyg also include human figures, human figures with artefacts, boat, elk, bear, swan etc. The selection of animals like for the rest of Stone Age rock art focuses on large game.

[150] Alexander Zhulnikov, personal communication, 2005.
[151] The Beluga Whale is also known as the White Whale with the latin name *Delphinapterus leucas* Watson, L., 1981 [1988]. *Sea guide to whales of the world*, London: Hutchinson.The Beluga is still present in the White Sea today Boltunov, A. N. & S. E. Belikov, 2002. Belugas (Delphinapterus leucas) of the Barents, Kara and Laptev seas, in *Belugas in the North Atlantic and the Russian Arctic*, eds. M. P. Heide-Jørgensen & Ø. Wiig Tromsø: The North Atlantic Marine Mammal Commission, 149-69.

Figure 189 The four sites included in the study at Vyg. Satellite image from Google Earth. One can see how the dams connected to the Hydro Power construction and the White Sea Canal has changed the macrotopography at Vyg, leaving the sites on "dry land". The distance between Zalavruga and Besovy Sledki is about 1.4km. Illustration: Jan Magne Gjerde.

Figure 190 The impressive whale hunting scene at New Zalavruga 4 with 12 people in the boat. The whale hunter has just thrown the harpoon and the "rope" is not tightened yet. Beneath it we see a bear hunting scene. Photo: Jan Magne Gjerde.

Figure 191 Two Beluga whale hunting scenes from boat at New Zalavruga 2. In the upper right of the photo a ski track with connected ski pole marks are depicted. Photo: Jan Magne Gjerde.

Figure 192 The hunting of birds at New Zalavruga 6 from boat. Most likely they are hunting geese while they are molting. The hunter is depicted with a bow and one can see the arrows from the hunters in the birds depicted. Photo: Jan Magne Gjerde.

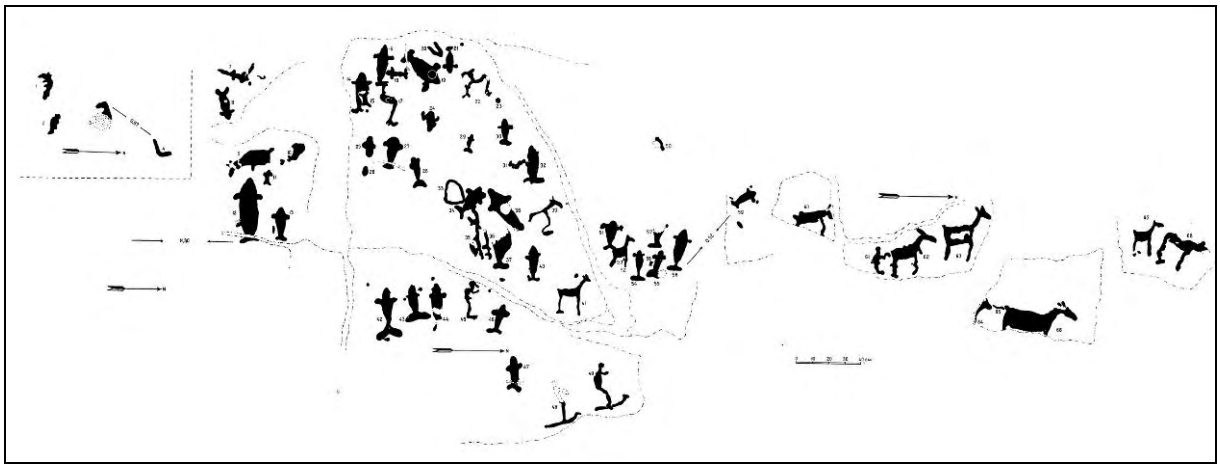
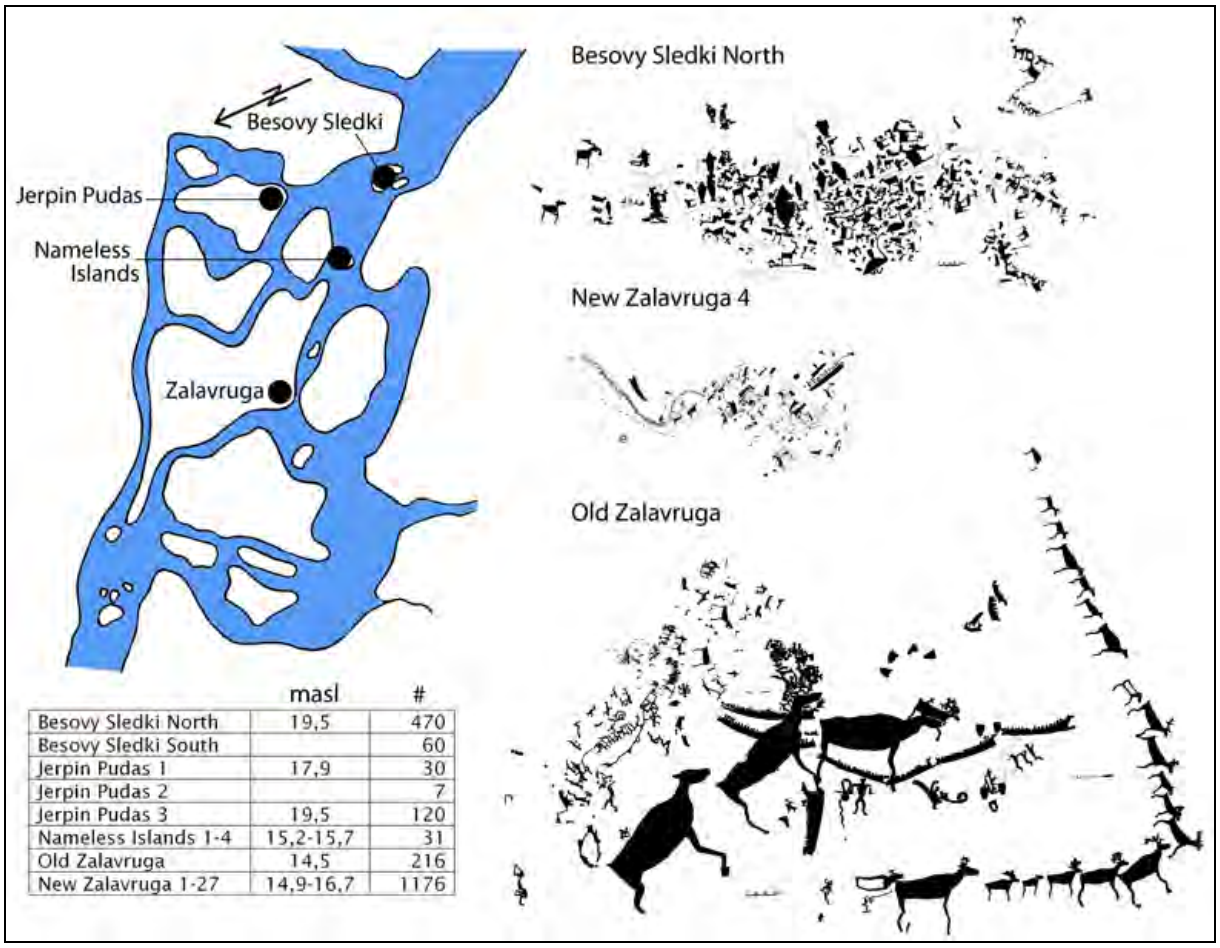


Figure 193 Besovy Sledki South. Notice the congregation of Beluga whales. Tracing after Ravdonikas (1938:plate 32).



	masl	#
Besovy Sledki North	19,5	470
Besovy Sledki South		60
Jerpin Pudas 1	17,9	30
Jerpin Pudas 2		7
Jerpin Pudas 3	19,5	120
Nameless Islands 1-4	15,2-15,7	31
Old Zalavruga	14,5	216
New Zalavruga 1-27	14,9-16,7	1176

Figure 194 Schematic map of the relation between the different rock art sites at Vyg including elevation information. Images from the 3 main areas are presented in the same scale. The large elk figure in the middle of the Old Zalavruga tracing measures 2.8m. The distance between Besovy Sledki and Zalavruga is about 1.4km. Map reworked from Kosmenko et.al. (1996) Sawwatejew in Archaeologija Karelii 1996. Illustration: Jan Magne Gjerde.

Dating the Vyg rock art

The first dating suggestions for the Vyg carvings by Brjussow, Pankrutschev and Ravdonikas viewed them as contemporary and related the carvings at Vyg to the adjacent Late Stone Age (Neolithic) settlements based on the ceramic and the ceramic typology (Ravdonikas 1938:91,101,103). Ravdonikas questioned the stylistic dating of rock art and dated the carvings at Besovy Sledki to be about 4000 years old (Ravdonikas 1938:93-94; Savvateyev 1988:45). While Brjusow and Pankrutschev assigned the rock art to the established typological ceramic chronology of Karelia and the ceramics at the adjacent sites, Linevskii found that the rock art at Besovy Sledki by stylistic comparison was older than the one at Zalavruga found by Ravdonikas (Linevskii 1939).

Rooted in Gjessings (1932; 1936a) typological studies of Norwegian rock art, Stolyar argued that the naturalistic animal figures were first, and that the depictions developed from animalistic to human themes[152] (Stolyar 2000). Savvateev contradicts Stolyar's argument mainly on the basis of the shoreline data as the carvings at Old Zalavruga are figures at the lowest elevations at Vyg[153]. Stolyar and Savvateev represents the two current traditions within dating where Stolyar relates it to typology (size and style), while Savvateev relates the dates to shore displacement.

All the rock art in the Vyg area is located between 21-14.5masl (Savvateev et al. 1978:19, 20). The lowest figures at the highest elevated panels are situated at 19.5masl at Besovy Sledki North and at Jerpin Pudas 3. Savvateev applied shoreline data after Deviatova (1976) to date the Vyg carvings (Savvateev et al. 1978). Based on shoreline data (Savvateev 1977:290, 291; Savvateev et al. 1978:19f) the rock art is dated to between 4700BP-3300BP (Savvateev et al. 1978:19, 20). This is calibrated to between 3520BC and 1530BC. The results of Savvateev is still the current dating suggestion for the Vyg carvings. This is partly supported by both Zhulnikov and Lobanova as they date the initial carvings to be from 6-5 thousand years BP based on the radiocarbon dates, estimating a starting phase at c. 4000-3000BC[154] (Lobanova 2007:134-135; Zhulnikov 2006). Both Zhulnikov and Lobanova relates the carvings at Vyg to the relative shoreline dating previously suggested by Savvateev based on Deviatova's (1976) work.

The lowest figures at the highest elevated panels are situated at 19.5masl, and are by Deviatova dated geologically to between 4700 and 4400BP (Deviatova 1976:plate 1). This is

[152] Abram Stolyar, personal communication 2004.
[153] Juri Savvateev, personal communication 2005.
[154] Nadezhda Lobanova, personal communication 2007.

not a reasonable suggestion since the ^{14}C-date at the Zalavruga 1 settlement site at 16,3masl gives a ^{14}C date of 4775±70, thereby suggesting an older date for the panels at 19.5masl. The data presented as small "transgressions" are not sufficient to explain the convergence between these dates. A re-assessment of the settlement record and available ^{14}C-dates in the Vyg region compared to the geological data questions this date for the initial carvings at Vyg. The ^{14}C dates from the Jerpin Pudas settlement, the cultural remains beneath Besovy Sledki North and the Zalavruga 1 settlement proved important in the dating discussion. Not the least since the cultural remains at Jerpin Pudas covered the carvings at Jerpin Pudas 3 and the Zalavruga 1 settlement covered some of the carvings at Zalavruga. When studying the ^{14}C data, the oldest of the ^{14}C-dates, from the Jerpin Pudas settlement that covered some of the carvings at Jerpin Pudas 3 were excluded in the dating discussion in later publications by Savvateev. Savvateev regard these dates to be too old in relation to the current chronology[155], compare (Savvateev et al. 1978:23) with (Savvateev 1977:290, 291). In general all of these "old" dates were not included in the dating of the Vyg river rock art because they were regarded too old and did not correlate with the dating for the diagnostic material (ceramics) found on the adjacent sites. One had more confidence in the established typological chronologies by Brjussow and Pancrutschev for the ceramics[156].

The river deposits beneath the Besovy Sledki North panel were excavated. They were interpreted as remains from activity at the Besovy Sledki carvings and the calibrated dates all fall between 4350BC and 3090BC. The Besovy Sledki sites (Besovy Sledki North and Besovy Sledki South) were not covered by the transgressions that we can observe other places at Vyg. Superimposition at the panel indicates that figures were added at Besovy Sledki North even after the initial rock art was made. This means that we can not be certain of a final date for the production of carvings at Besovy Sledki.

The carvings at Jerpin Pudas 3 are located between 19,5masl and 21masl. The carvings were covered by natural sediments and diagnostic artefacts (ceramic) dating the deposits to the Late Stone age giving a terminus ante quem for the rock art. The settlement site above and partly covering the Jerpin Pudas 3 panel gave six related ^{14}C-dates ranging from 5560BC-4180BC for the settlement occupation. Thereby, the site above the carvings may indicate a starting phase for the rock art as early as c. 5500BC, although maybe as late as 4200BC.

[155] Juri Savvateev, personal communication 2004.
[156] Nadezhda Lobanova, personal communicaion 2004.

All the carvings at Zalavruga are made between 14.5-16.8masl. The excavated settlement site Zalavruga 1 was located between 15.0masl and 16.7masl. The site was covering part of the area of the rock carvings. Between the cultural layer and the carved rock surfaces, there was a sterile layer mainly of sand. The cultural layer and the Zalavruga 1 site had two fire-places that were ^{14}C-dated. The date 4775±70 (16.3masl) gives a calibrated date to c. 3650-3380BC and 4010±70 (15.3masl) gives a calibrated date to c. 2840-2450BC. This means that all the carvings at New Zalavruga covered by this sterile layer must have been made before c.2500BC. Recent excavations by Tarasov and Murashkin at the outskirts of the Zalavruga 1 settlement site suggest that the site is made up by two cultural layers. The ceramics from the lower layer was water-rolled and interpreted as contemporary with the rock art. Based on this they dated the carvings to 3000-2000BC (Tarasov & Murashkin 2002:44).

The documentation at Jerpin Pudas 3 was done by rubbings (frotage). They were redrawn indoors without comparing this "objective" documentation with the rock surface afterwards[157]. By a thorough study of the panel, applying artificial light and taking night-photographs, one observes two phases of rock art based on the erosion of the rock art. Three of the figures are clearly eroded to such an extent that one can separate them from the others. The figures in question are so eroded that the peck marks are not visible and one can only feel the difference between the carvings and the surrounding rock as a vague edge. The thorough study of the rock surface can reveal information that could be vital for the dating of the rock art. It shows that there most likely is two phases of rock art production at Jerpin Pudas 3 (see Figure 195).

[157] Juri Savvateev, personal communication 2004.

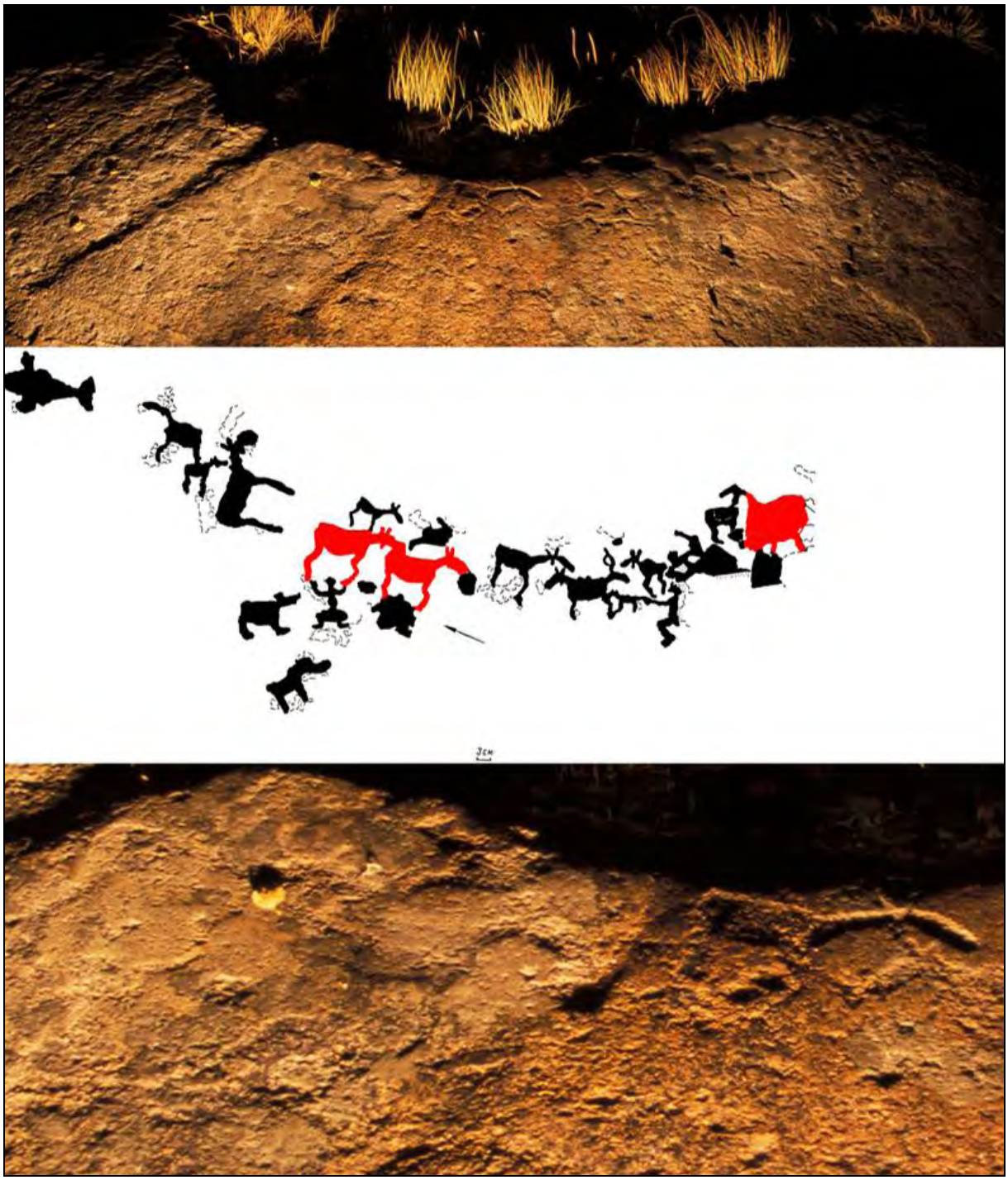


Figure 195 Jerpin Pudas 3 with the 2 phases of rock art witnessed by the erosion of the rock art. 3 of the figures are clearly eroded (marked with red) to such an extent that one clearly can separate them from the others. Tracing after Savvateev (1983:122). Illustration and photo by Jan Magne Gjerde.

The local topography is important for dating at Vyg. The New Zalavruga area has been treated as one unity as opposed to the previously found Old Zalavruga (see Figure 199). If one looks at the horizontal stratigraphy and the local topography in relation to the elevation of the sites one gets another situation (see Figure 196 and Figure 197). Here one can see that the New Zalavruga area can be seen as two entities. This can also be seen when applying the

elevation data to Savvateev's plan of the site with the different sites marked. The topography makes the division as shown in Figure 198. The higher elevated flat part of New Zalavruga was most likely made before the oldest of these ^{14}C dates, 4775±70 (16.3masl) calibrated to c. 3650-3380BC and the lower elevated part of New Zalavruga is older than 4010±70 (15.3masl), which is calibrated to c. 2840-2450BC.

Figure 196 The local topography at Zalavruga shown with photo. Compare with **Figure 197**. The photo is taken from the area between panel nr. XXII and XXVI towards panel nr. IV (see **Figure 198**). This shows that the central area of New Zalavruga is virtually flat. Photo: Jan Magne Gjerde.

Figure 197 The local topography at Zalavruga shown with photo. Compare with **Figure 196**. The photo is taken from the area between panel nr. XXII and XXVI (see **Figure 198**). The Old Zalavruga panel is in the distance behind and to the left of the foremost person slightly left of the middle of the photo. Here you can also see how the central part of Zalavruga is flat. Photo: Jan Magne Gjerde.

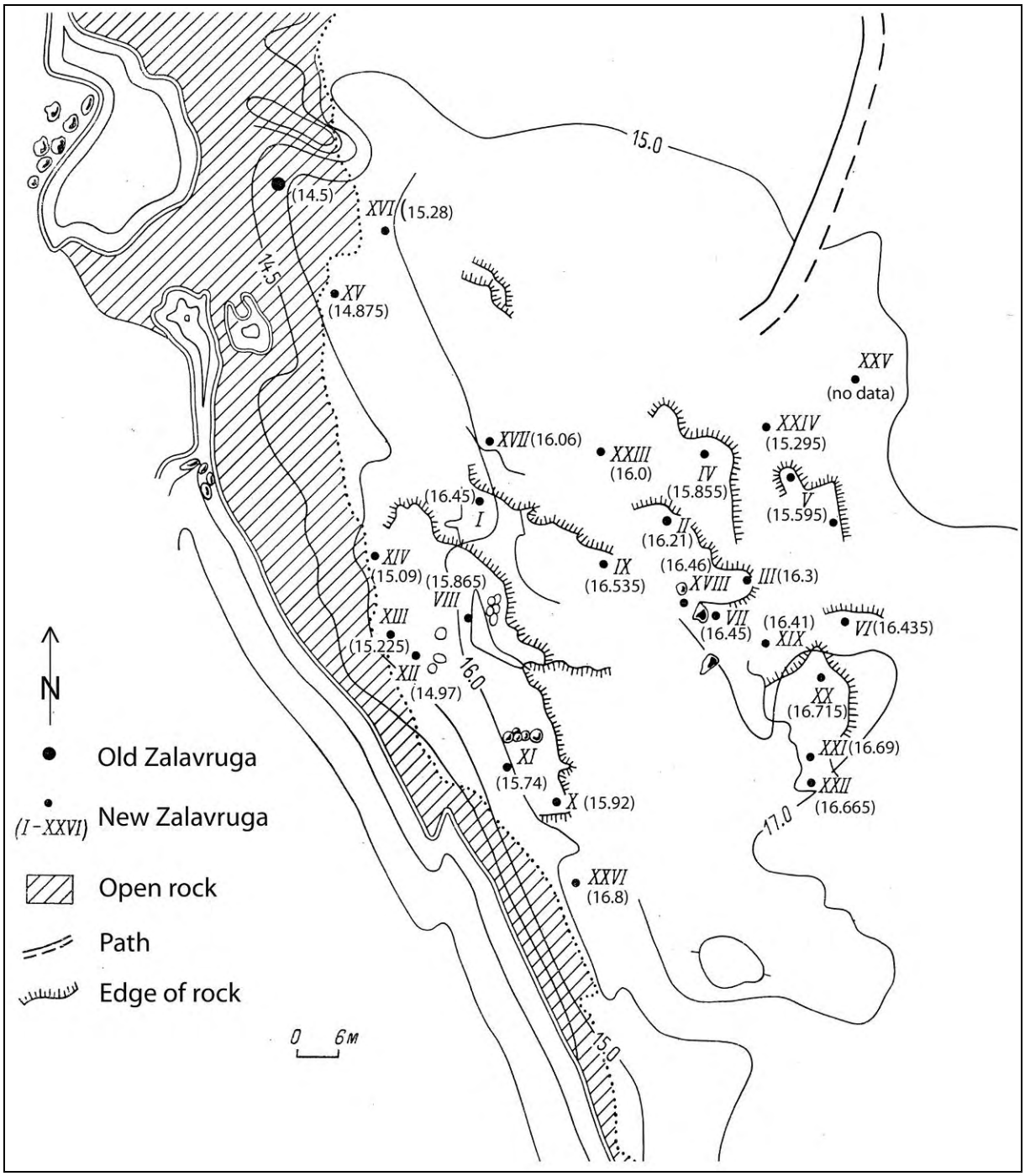


Figure 198 The topography at Zalavruga based on Savvateev's maps show that the whole area would be a small promontory, not a place near the river and that this can be witnessed in the change of the rock art. Map after (Kosmenko et al. 1996:139, plate 29; Savvateev 1970:73, plate 16). In the 1970' publication, the 14.5masl contour line is given as 14.9. This is later corrected. There are also two panels nr. 16. This is corrected to panel nr. 16, and panel nr. 17. The easiest way to see the point with the raised sea-level at Zalavruga ending in the Old Zalavruga area is to follow the 15m contour line.

The sterile layer that was covering New Zalavruga did not cover the Old Zalavruga area. Thereby the carvings at Old Zalavruga are most likely younger than the ones covering the New Zalavruga carvings. The small figures at Old Zalavruga on the northern end are stylistically similar to the rest of the figures at New Zalavruga. The large elks at Old

Zalavruga are clearly over-layering the large boats. Adding to this, a few of the smaller figures are over-layered by the large boats. This clearly shows that the Old Zalavaruga panel is made in at least three stages. A general problem with superimposition is that we cannot establish the time difference between the stages. At Old Zalavruga, the first phase is made up by the smaller figures, the second phase by boats, and finally the massive elk figures were made. By stylistic comparison the two lines of elks meeting in the bottom right of the whole composition is regarded to be more similar to the large elks (see Figure 194).

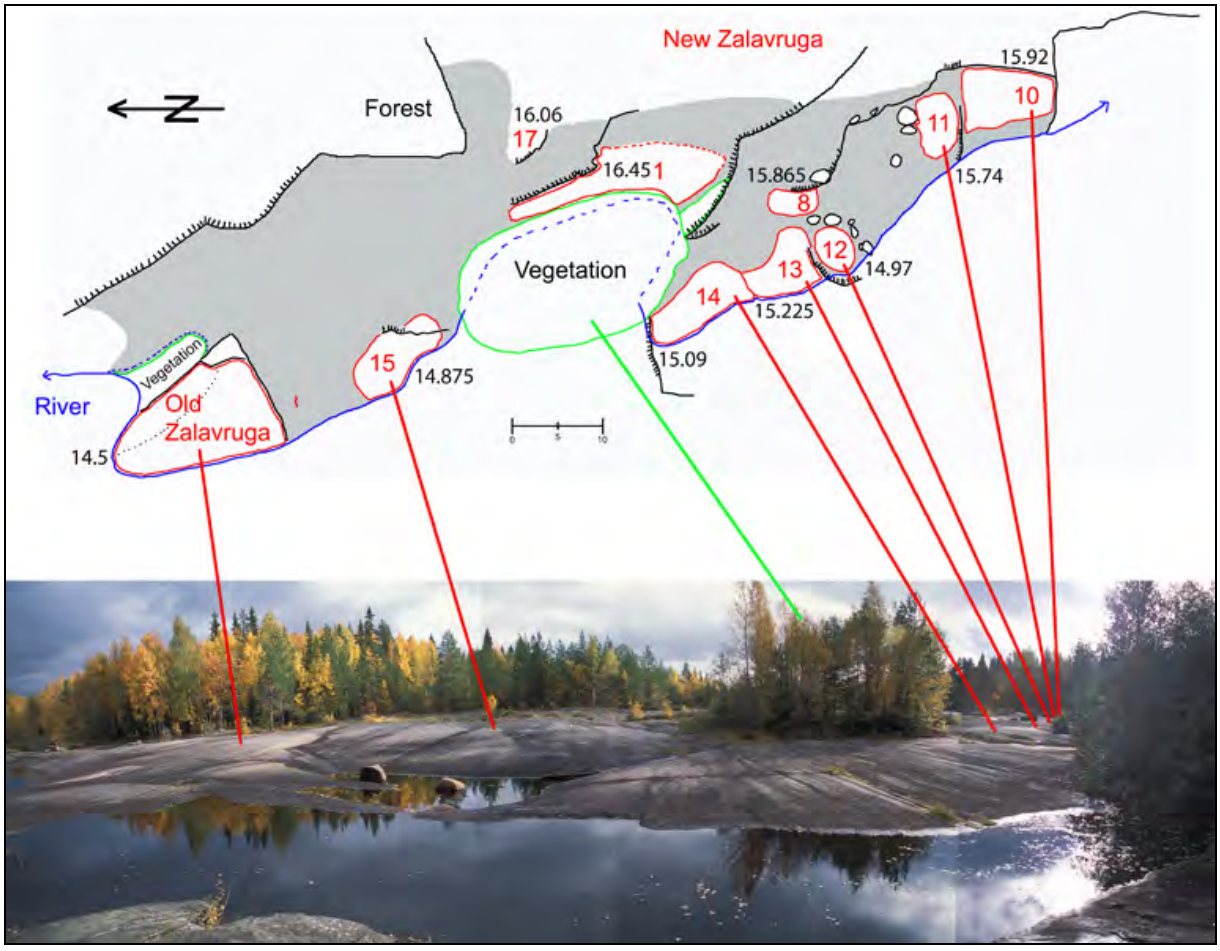


Figure 199 Relation between Old and New Zalavruga. Here you can see the horizontal strategraphy of the northernmost panels at Zalavruga. One can also see that there is a clear difference in elevation and that this western part is situated lower than the flat area of Zalavruga shown in **Figure 196** and **Figure 197**. Photo and illustration: Jan Magne Gjerde.

The large amount of settlement sites in the Vyg area has produced a number of ^{14}C-dates with good elevation data. The first carvings at Vyg would have been made at Besovy Sledki North and at Jerpin Pudas 3. It is most likely that the first rock carvings were made in relation to the shoreline when the Shoirukshin waterfalls by Besovy Sledki appeared. The carvings at Vyg were most likely were made in the shoreline as evidenced by the

transgression covering the panels at New Zalavruga. The erosion at Jerpin Pudas supports this assumption. Since the geological data is somewhat problematic, I have related elevation of the carvings to the ^{14}C dates from the adjacent settlements. The starting phase of the rock art is then related to the settlement covering the carvings at Jerpin Pudas 3. This ^{14}C is from 23.5masl and date to 6510±100BP, calibrated to 5560-5370BC by OxCal v.3.51[158].

A recent study of the shore displacement data in the White Sea (Kaplin & Selivanov 2004:30-32) shows that there has been no drastic sea level fluctuation by over 10m during the past 8ka BP as previously suggested by Deviatova (1976). The transgressions occurred in the White Sea during the Holocene at are dated from the late Boreal – early Atlantic (8.5-7.5 ka BP), late Atlantic (6.5-5.2 ka BP), middle Subboreal (4.5-4 ka BP) and middle Subatlantic (1.8-1.5 ka BP) (Kaplin & Selivanov 2004:31). These transgressions have implications for the dating of the carvings at Vyg as it shows that the land uplift process has been very complex in the White Sea region with several transgressions complicating the material record (see Figure 200).

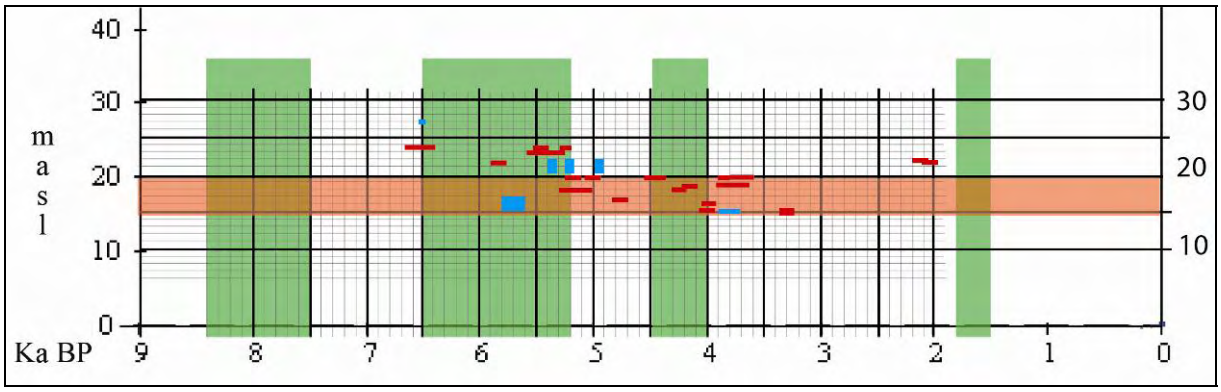


Figure 200 Presentation of the different geological and archaeological dating that have implications for the dating of the Vyg area rock art. The dark red lines are ^{14}C dates from the Vyg area after Savvateev (1970; 1977) and and Savveteev et.al. (1978). The blue lines are geological data after Deviatova (1976). The green areas are representing the transgressions documented by Kaplin and Selivanov (2004). The bright red horizontal line between 14.5masl and 19.5masl is representing the elevation of the carvings at Vyg. Illustration: Jan Magne Gjerde.

[158] A problem when comparing ^{14}C dates and dating in general in north-western Russia is that ”calibration” is most often done by extracting 2000 years from the ^{14}C date (Nadezhda Lobanova, personal communication 2005 and Vladimir Shumkin, personal communication 2005). As shown by Savvateyev, Deviatova and Liiva (1978) where the ^{14}C dates 5840±70 and 5520±60 is referred to as 3.5-3.9 thousand years ago.

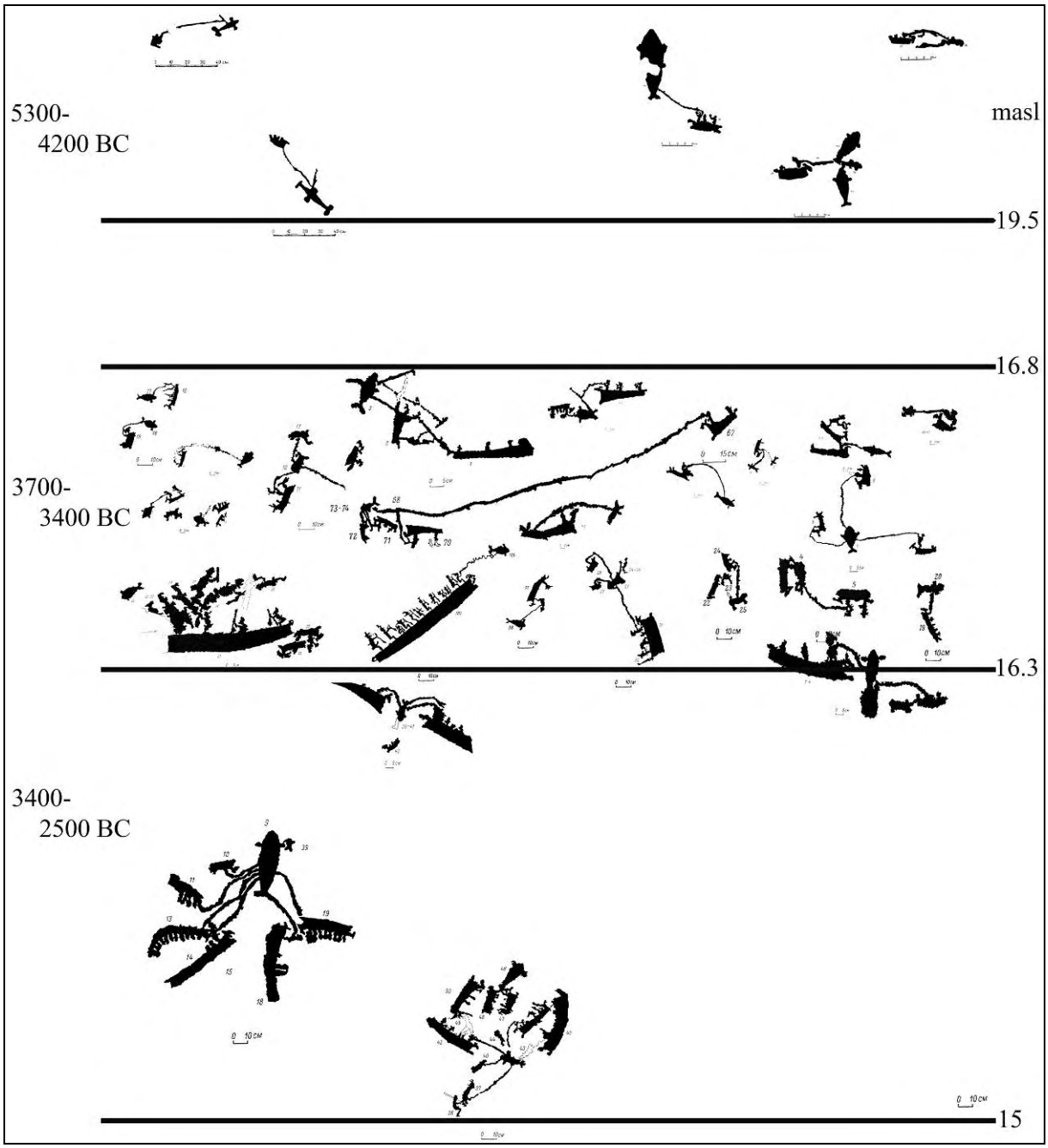


Figure 201 Whale hunting scenes at Vyg. Many of the scenes are fragmented and are not included in the illustration. This illustration includes 31 of the whale hunting scenes at Vyg. The figures are placed in accordance to their elevation. Elevation data to the right and suggested dating to the right. At the top, above 19.5masl are whale hunting scenes from Besovy Sledki and Jerpin Pudas 3. The rest of the hunting scenes are from New Zalavruga. One can clearly see how the whale hunting gradually became a highly advanced hunting strategy where up to 50 people and 6 boats cooperated in the whale hunt. Tracings after (Ravdonikas 1938) and (Savvateev 1970). All the tracings are made into the same scale. The scale in the lower right of the illustration is 10cm. Illustration: Jan Magne Gjerde.

Based on the current data, the initial carvings at Vyg must have been made before 4300BC at Jerpin Pudas 3. On the basis of the overlayering settlement remains and transgressions, it is probable that the earliest rock art at Vyg was made as early as about 5300BC at Jerpin Pudas. The youngest carvings at Jerpin Pudas is from about 4300BC. The

earliest carvings at Zalavruga was made c. 3700BC. This means that when the carvings were made at Zalavuga, most likely the Jerpin Pudas 3 carvings were already covered by settlement remains. The carvings at New Zalavruga has to be older than the latest remains covering them, with a ^{14}C-date of about 2450BC. This means that the highest elevated carvings at New Zalavruga must have been made before about 3380BC. The horizontal stratigraphy at Zalavruga and the shoreline data advocates that the carvings at New Zalavruga were made between 3700 and 2500BC. The carvings at Old Zalavruga was located at c. 14.5masl and would by relative shoreline dating be younger than the carvings at New Zalavruga, estimated to c. 2000BC. Based on these assumptions, the ^{14}C dates from the adjacent and covering settlement record, and the prerequisite that the carvings were shore bound, the Vyg carvings are dated to c. 5300-2000BC. The internal chronology is problematic, although one can relate the figures into phases by the material that shows that some of the figures are made at different elevations and that there is a relational chronology based on the land uplift and the ^{14}C dates from the settlements. This is attempted for the whale hunting scenes at Vyg, that is presented in Figure 201. The whale hunting scenes at Vyg shows that there is a development towards a more complex whale hunting where the latter whale hunting scenes witness a cooperate hunt with as much as 6 boats and perhaps as much as 50 persons taking part in one whale hunt (see Figure 216).

Macrolandscape and microlandscapes at Vyg

Macrolandscape

Many settlements from the Stone Age have been surveyed and excavated along the Vyg River that runs from the Onega Lake to the White Sea. A concentration of settlements from the Stone Age have been documented in the lower Vyg region and many settlements have been excavated in the area of the rock carvings due to the Hydro Power construction (Savvateev 1977; Savvateyev 1988).

From the Vyg site, the distance to the Onega carvings is about 300km. By following the waterway along the Vyg River southwards, one enters the Onega Lake, where a large concentration of rock art with more than 1500 figures is situated on the eastern shores of the Onega Lake (see Figure 202). The recently found Kanozero site on Kola Peninsula follows the Umba River system from the White Sea. The Kanozero site is located about 280km from the Vyg site.

Figure 202 The relations between the sites "related" to Vyg. The landscape is tilted in Google Earth. Thereby distance relations are distorted. Vyg according to leading communication lines from the Onega to the White Sea. The distance as the crow flies from the Onega carvings to the Vyg carvings are c. 300km as the crow flies and the distance to the Kanozero carvings from Vyg are c. 280km. Note that the Finnish rock paintings are not presented in this illustration. The distance from Onega to the closest Finnish rock painting, at Louhisaari situated northwest of Lake Ladoga (see **Figure 90**), is about 300km. Illustration: Jan Magne Gjerde.

The similarity in the rock art at Onega and Vyg was noticed when Vyg was found by Linevski and Ravdonikas (Linevskii 1939; Ravdonikas 1936b). This notion based on stylistic similarity has afterwards been stressed by several researchers (Hallström 1960:350; Savvatejev 1984; Savvateyev 1977; Savvateyev 1982). Hallström also saw a similarity in style between Nämforsen, Onega and Vyg (Hallström 1960:358). The characteristic Onega swans are only found on the earliest panels at Vyg, at the Besovy Sledki North panel. The similarity in the topographical situation at Vyg with the Nämforsen site was mentioned by Hallström (Hallström 1960:350). Vyg is centrally situated when it comes to communication in this generally flat landscape where the waterways were the main communication lines.

The boats at Vyg are often associated with the whale hunt. However, the large boats could also communicate their communication abilities. Some of the larger boats hold more than 10 people and must have been similar to the Umiak of the Eskimoes. The large boats and the actual journeys have been connected to the large journeys and stories of the travels and its rituals when starting or completing a long journey should not be underestimated. The journey in itself has been associated with rituals as suggested by Helms (Helms 1988; Helms 1992).

The distance from Vyg to both Kanozero and Onega is about 300km. The motifs depicted at all three places shows similarity, however they also represent different material.

The large concentration of rock art has been interpreted as a node in the landscape. Hallström interpreted Vyg, by comparison to Nämforsen, to be a node by its unique geographical location (an ideal aggregation place by its location) (Hallström 1960:XI). While Hallström explained the rock art nodes according to the unique character of place, Hagen interpreted these large concentrations of rock art, e.g. at Vyg to result from the fact that they were ecological favourable places related to hunting magic (Hagen 1969:143). Vyg has 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, feast and perform tribe traditional activities (Hagen 1976:127-130).

The unique geographical location at Vyg would make it a node in the Stone Age highways where the rivers would have worked as important waterways for communication. The rapids at Vyg would be a natural stop on the travels along the White Sea and on the major line of communication between the White Sea and the Onega Lake. The Vyg River would have been an ideal communication line between the coast and the large inland lake. The low inclination of the river and the general landscape would have made the boats important when travelling.

When attempting to reconstruct the physical landscape, the main factor is shore displacement due to land uplift. The river estuary at Vyg in the Stone Age would have been similar to the river estuary at Belomorsk today; made up by a massive amount of islands. Belomorsk was previously named Sorokka, which directly translates to 40 islands (the place of 40 islands). The river estuary at Vyg as shown for the Besovy Sledki / Jerpin Pudas area, and most likely for the Zalavruga area, would have been unique favourable locations for the Beluga whale hunting. Similarities between the Besovy Sledki / Jerpin Pudas area with the topographic situation at traditional Beluga hunting places are striking as shown with the comparison with the ethnography from the McKenzie river delta in Canada (Gjerde 2009). The settlement record also shows that people lived in the area and the number of settlements evidence intensive use of the area. We also know from the osteological analysis at the sites that Beluga bones were found at the settlements (Savvateev et al. 1978:17).

Even if the land uplift had left the carvings at Vyg between 14.5-19.5masl, the powerful rapids at Shoirukshin was still vibrant when Linevskii came to Vyg to document the rock art. The shore displacement data and the archaeological data have shown that there were fluctuations during the land uplift and that the transgressions and regressions have left traces at Vyg. The low inclination has left the carvings, once shorebound to the White Sea, about 8km inland. The shore displacement data at Vyg is still controversial. As stated above, they do not cohere well with the adjacent settlement data. Even so, the landscape has changed due to the land uplift. It is interesting that the lowest carvings at the bay in the Besovy Sledki/Jerpin Pudas area is situated at 19.5masl. When raising the shoreline to this area, the bay would have been located in the tidal zone. The frequent settlement record on the islands in this bay (e.g. Brjussow 1957; Ravdonikas 1938; Savvateev 1977) reveals that this was a favourable area for settlement. As the sea retracted, the bay would still be there although regulated by the water-level in the Vyg River. As previously presented, Savvateev accounted for the changing landscape at Vyg by dating the rock art according to geological shore displacement data. Savvateev regarded the carvings to be made in the shoreline based on a comparison with the location of the Onega carvings[159]. Vyg River originates in the Onega Lake. The Vyg River is about 237km long (see Figure 202). The low inclination and few obstacles (e.g. cataracts), makes it unproblematic to travel by boat along the Vyg River. The Vyg carvings are located in what was the river estuary when the carvings were made between 19.5 and 14.5masl. When reconstructing the previous shoreline to c. 20masl and c. 15masl based on Russian Military maps, one can see how the landscape has gradually changed at Vyg during the time when the rock art was made (see Figure 203 and Figure 204). The bay at Besovy Sledki/Jerpin Pudas was dramatically changed when the Jerpin Pudas Island became much larger due to the land uplift, leaving the large bay as part of the river beneath the Shoirukshin waterfall. By comparing the map in Figure 204 with the 1m elevation map by Ravdonikas for the Besovy Sledki/Jepin Pudas area, in Figure 209, one can see how the minor details are not present at the large scale maps[160]. However, the general picture is presented where the area beneath the Besovy Sledki area gradually became a larger Island (Jerpin Ostrov) where the Jerpin Pudas panels are located. The two major man made changes to the area is the White Sea Canal and the large Hydro Power station. The White Sea Canal was

[159] Juri Savvateev, personal communication, 2004.
[160] Since the map is based on a map with 5m contour lines, some details are missing. The smaller Islands are then not present at the map.

built between 1931-1933, just before Ravdonikas did his fieldwork at Vyg. The Hydro Power constructions were constructed in the 1970's.

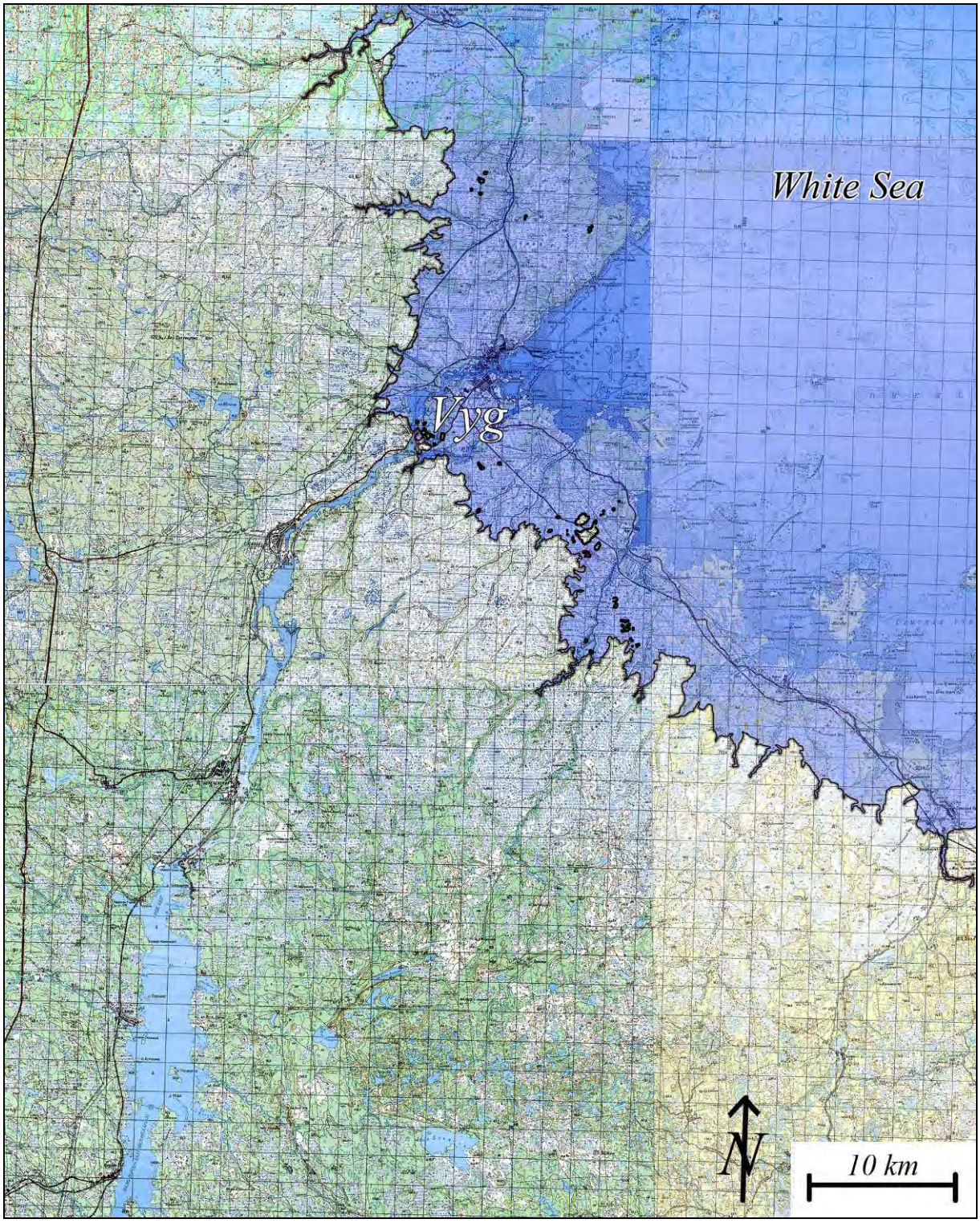


Figure 203 Reconstruction of the physical landscape at Vyg when the first carvings were made at c. 19.5masl. The present day map in the background shows how large the changes have been. The islands with the rock art is located to the left under the V in Vyg in the river estuary area. Map compiled from Russian maps from www.poehali.org with 5m elevation resolution. These maps were not available before end of 2008. Illustration: Jan Magne Gjerde.

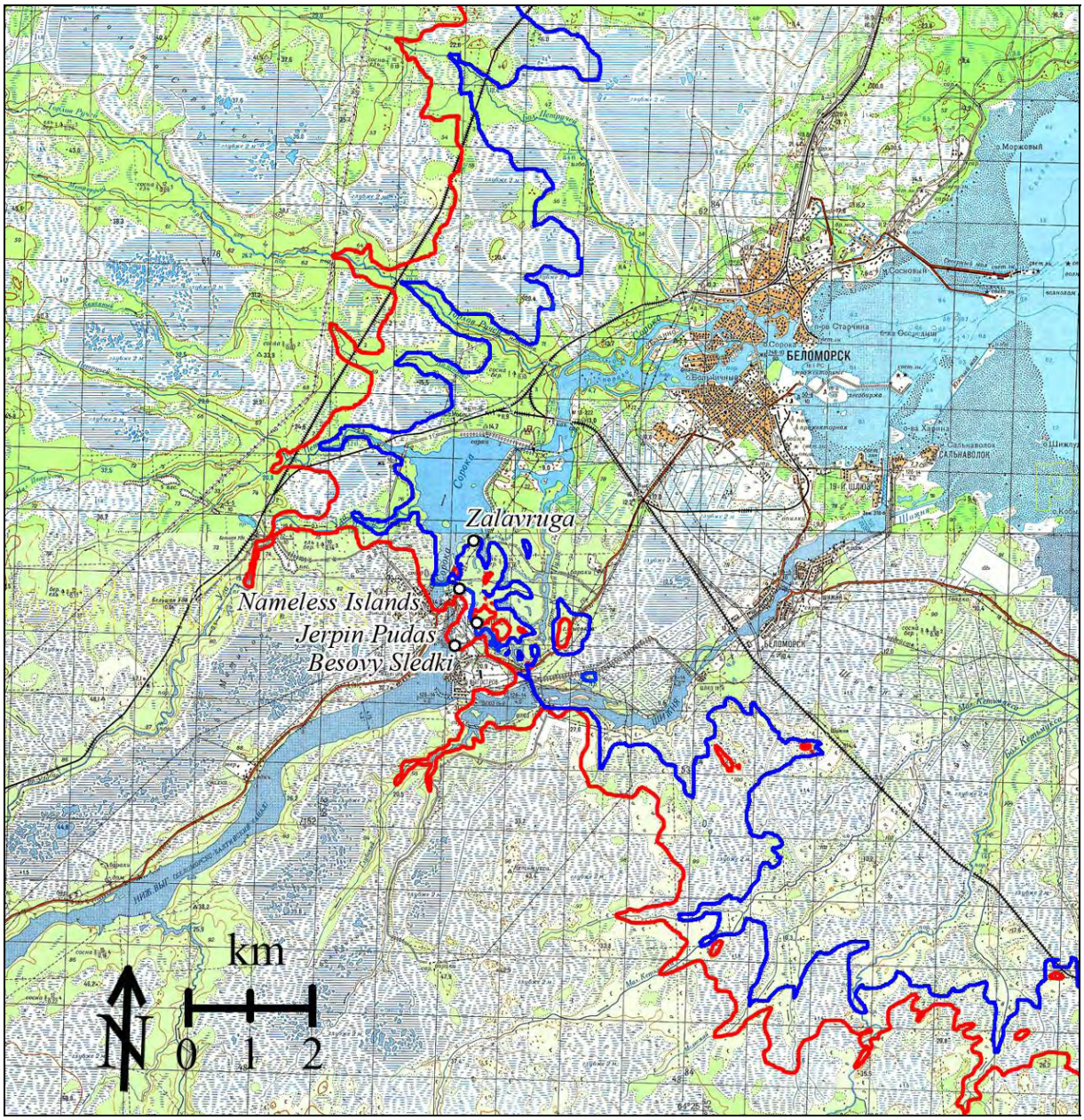


Figure 204 Reconstruction of the physical landscape at Vyg when the first carvings were made at c. 19.5masl and when the last ones were made at c. 14.5masl. The red line marks the 20m elevation curve and the blue line marks the 15m elevation curve. The present day map in the background. Map compiled from detailed Russian maps from www.poehali.org with 5m elevation resolution. These maps were not available before end of 2008. When looking at the difference between the 15m curve and the 20m curve one can see how the area between the Jerpin Pudas island and the Besovy Sledki area looses its direct connection to the White Sea. Illustration: Jan Magne Gjerde.

Revisiting the Vyg site with a landscape bias is somewhat strange since the main character of the landscape, the massive rapids and the river estuary is not part of the present context at the site. The Hydro Power constructions have left the area dry. This has changed the whole area, and it is therefore difficult to imagine how the landscape was like previously. The problematic map-situation in Russia have also left few maps of the area before the building of the White Sea Canal and the Power plant with connected dams. Good maps of the

Vyg area are still hard to get hold of, and it is only in the latter years that some of them have been made available. I have previously claimed that this could be one of the reasons why landscape studies have not been performed in Russia by archaeologists; maps were simply not available to them[161] as I have also experienced. The situation where maps were held back, and even manipulated, in the previous Soviet Union, has recently been discussed (Book 2008; Gentile 2008; Lundén & Elg 2008).

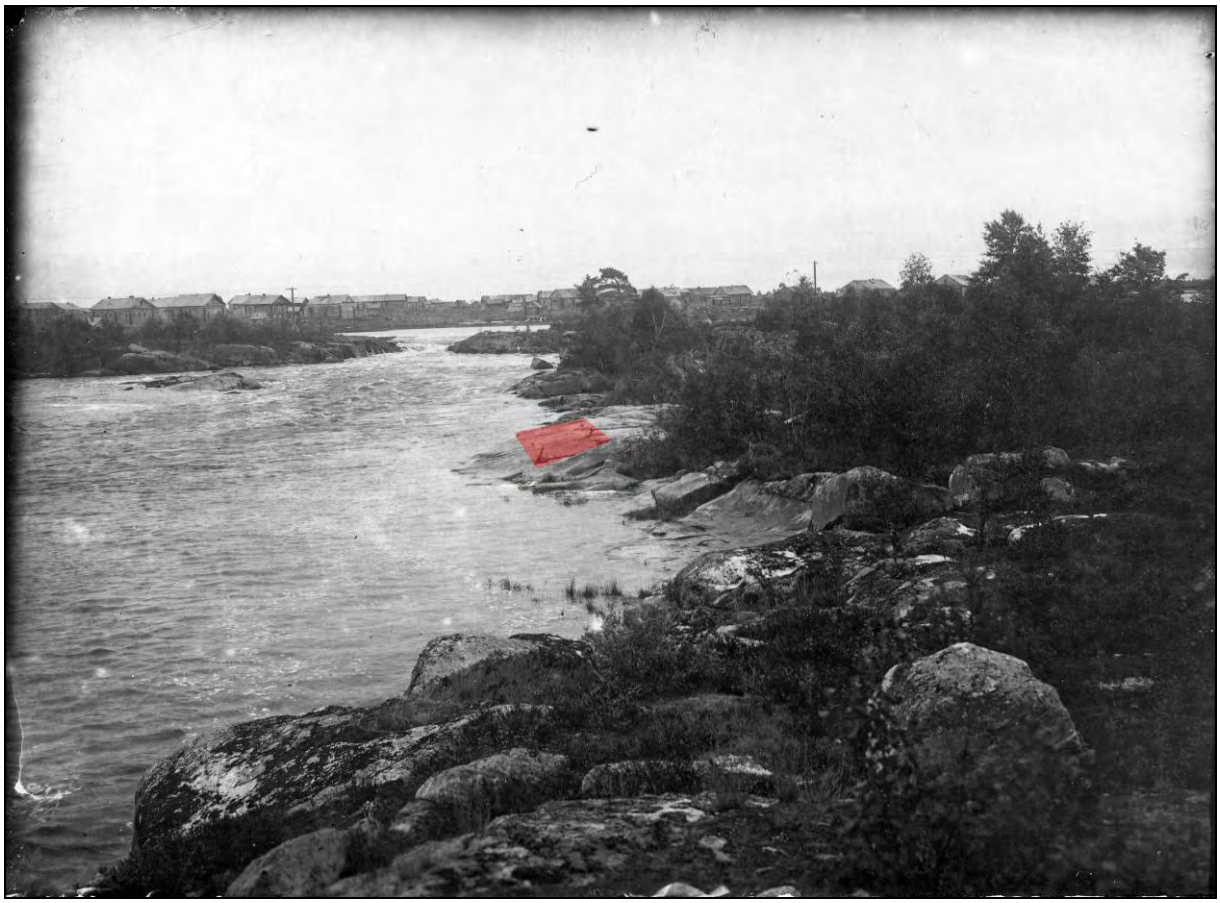


Figure 205 Photo of the Besovy Sledki North after Ravdonikas from Abram Stolyars private collection. The rapids is the one in the middle of **Figure 206**. The carvings are found on the rock slope marked with red colour in the middle of the panel. Location information from Ravdonikas (Ravdonikas 1936b:plate 62). The water from the river flows over the carvings at times. The village Vyg Ostrov can be seen in the background. The photo is also published by Ravdonikas (1936b:plate 62). Illustration: Jan Magne Gjerde.

Few photos exists from the time before the Hydro Power constructions was built. However, a few landscape photos from the Vyg River was taken by Ravdonikas when documenting the rock art at Vyg in the 1930's, showing the powerful river and the bay at the Shoirukshin waterfalls. These photos are stored in the Ravdonikas collections in Kunstkamera, the Institute for Material Culture in St.Petersburg and in the private collections

[161] Juri Savvateev, personal communication, 2005.

of Abram Stolyar[162]. Even though most of the photos focus on the actual figures, a few of the photos hints towards the general riverine landscape in which the rock art was made. The photographic record from the large excavations at Vyg led by Savvateyev is at present in his private collections[163]. However, since the landscape had changed dramatically due to the building of the White Sea Canal and the Power Plant constructions, few of these photos hints towards the landscape, hence, they focus on the rock art figures and the actual labour at the sites uncovering the rock art at Jerpin Pudas and at Zalavruga. The once vibrant and strong Shoirukshin waterfalls are today covered by the Hydro Power construction. The old photos give an impression of the powerful rapids and the physical landscape that today is hard to approach (see Figure 205, Figure 206 and Figure 207).

Figure 206 Photo of the Shoirukshin rapids from the western shore of the River Vyg by Ravdonikas from the 1930's Ravdonikas (1936b:plate 36). Notice the small ponds (miniature lakes) with water and miniature rivers in the lower left of the photo. Photo after (Stolyar 2000:fig 154).

[162] I am very greatful for the help by Anton Murashkin, Vladimir Shumkin and Abram Stolyar for their help making these photos available to my research.
[163] I am greatful to Nadezhda Lobanova and Jurij A. Savvateyev that made it possible for me to explore the photographic record from Vyg in Savvateyev's private collections.

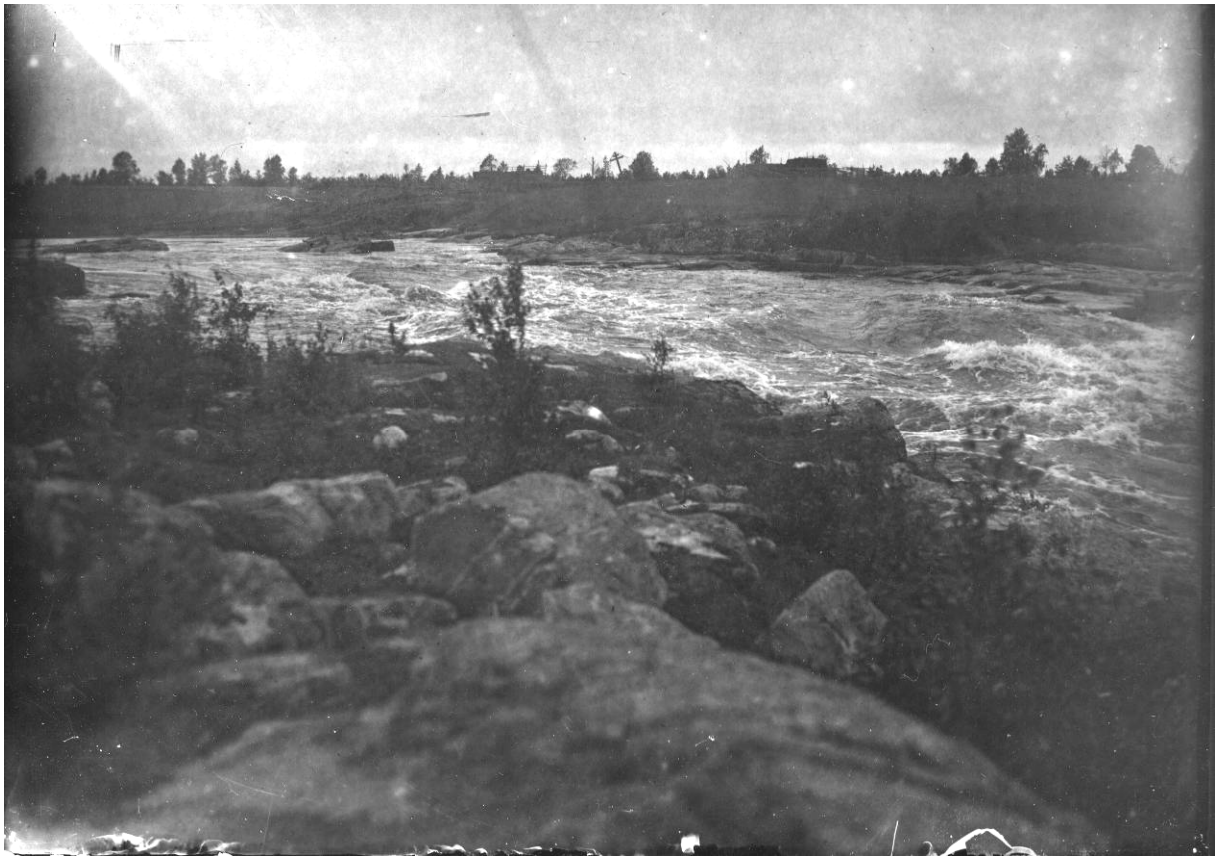


Figure 207 Photo of the Shoirukshin rapids towards the western shore of the River Vyg by Ravdonikas from the 1930's. Photo from Stolyar's private collections. Compare the photo to the map of the Besovy Sledki / Jerpin Pudas area (**Figure 209**).

Figure 208 Photo of the Besovy Sledki / Jerpin Pudas bay today from the roof of the building covering Besovy Sledki North. The Jerpin Pudas 3 site is marked with red colour in the middle of the photo. The area is unrecognisable from the time when Ravdonikas visited the site. However, one can see flat landscape in the horizon and the shallow bay that would have been between the Besovy Sledki area and the Jerpin Pudas area. Compare with map (**Figure 209**). Photo: Jan Magne Gjerde.

A reasonable good map of the Besovy Sledki / Jerpin Pudas area presented by Ravdonikas offer a fairly good presentation of how the area looked like in the 1930's (Ravdonikas 1938:14). With a raised shoreline due to the land uplift, the Besovy Sledki/Jerpin Pudas area would have been situated in the river estuary in the shoreline area. The tide would have influenced the water-level in the bay. The flat area at New Zalavruga would make this area fill in by the tide since the carvings are made in the upper tidal area. Thereby the area with rock art would be dynamic; a living landscape. By reconstructing the landscape with a raised shoreline to the level of the lowest carvings in the Besovy Sledki / Jerpin Pudas area, it would have been a massive river estuary with narrow streams, divided into a complex of narrow channels running between shoals, bars, and small islands or islets (see Figure 209). To the north in this bay, the Shoirukshin rapids would have been an obstacle that in many ways closed the bay. An obstacle when people were moving along the Vyg River in boats. The powerful rapids would have made people carry the boats past the waterfall. The carvings at Vyg are today easy to approach. Due to the massive Hydro Power Station, one can walk along the old river bank, in the areas between the rock art sites (see Figure 208). The carvings at Besovy Sledki South are however not available at present since they are situated under the road of the connected dam as part of the Hydro Power construction. The Besovy Sledki North was protected by a large concrete building that was built to safeguard the carvings. Later it proved to be problematic since concrete fell onto the panel destroying some of the carvings[164]. The site is today covered by a c. 1.5m thick layer of sawdust and planks to protect the carvings. I have therefore not been able to study the Besovy Sledki sites first-hand. The macrolandscape at Vyg changes by the seasons. The waterfall would have been powerfull during summer, and the islands in the rapids area would have been hard to approach at times.

To get an impression of how the Vyg area could have been like today, the rapids in the river estuary by Belomorsk at the outflow of the River Vyg today hints towards how the landscape with the carvings would have been (see Figure 210 and Figure 211), even if the Shoirukshin waterfall / rapids would have been more forceful than the rapids in Belomorsk.

[164] Juri Savvateev, personal communication, 2004.

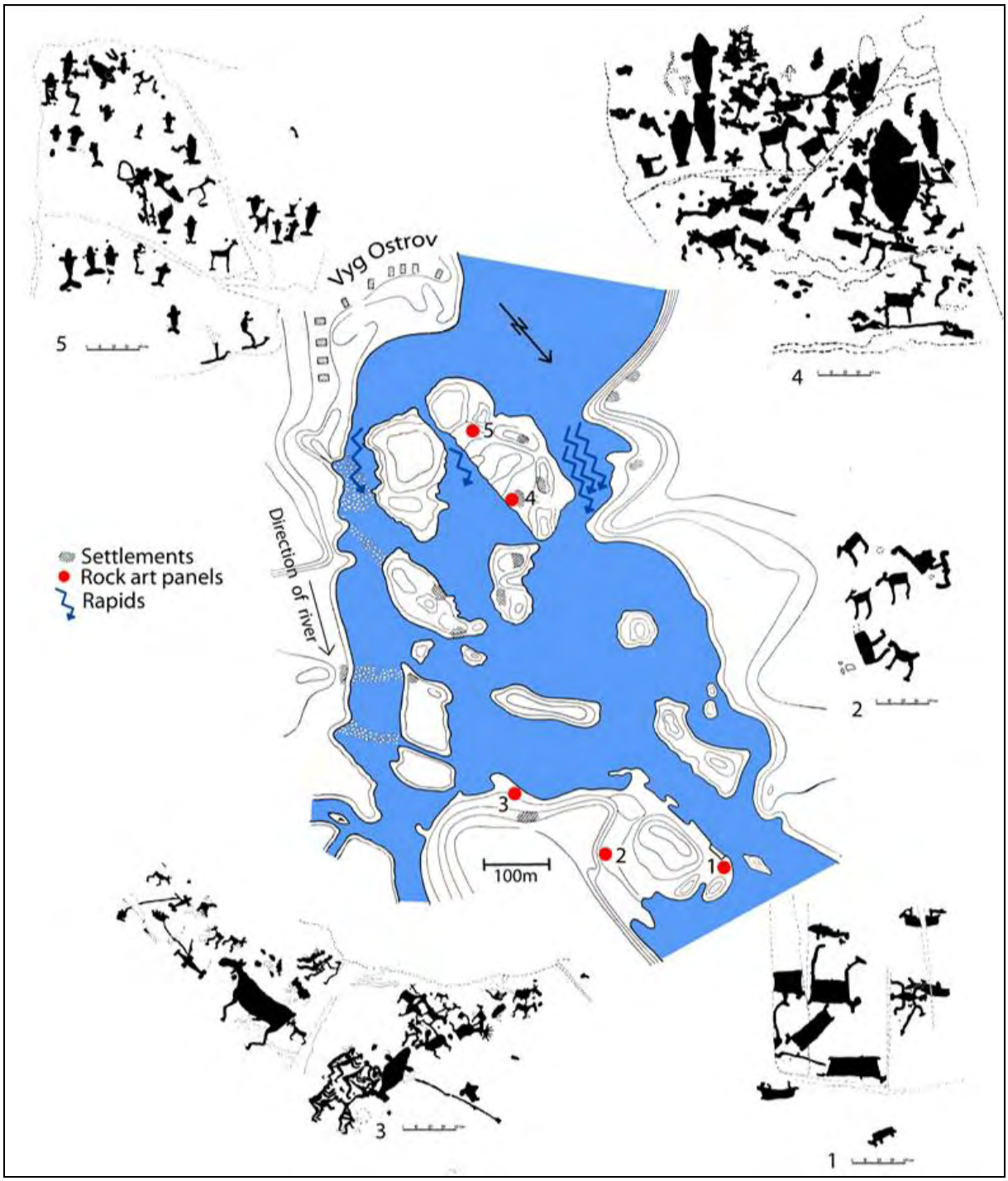


Figure 209 Beluga Landscapes at Vyg. The Besovy Sledki/Jerpin Pudas area. Base map modified from Ravdonikas 1938:14, plate 4 with added information. The different sections in tracing nr. 1 (Jerpin Pudas 1) have been put together in Photoshop (Ravdonikas 1938:plate 20). Tracing nr. 2 (Jerpin Pudas 2) is made from photo with scale in Photoshop. Tracing nr. 3 (Jerpin Pudas 3) is from Savvateyev 1977a:72 figure 15. Tracing nr. 4 (Besovy Sledki North) is a section of the panel from Ravdonikas 1938:plate 22. Tracing nr. 5 (Besovy Sledki South) is a section from Ravdonikas 1938:plate 32. All the tracings are made into the same scale to make it easier to compare the different sites and figures. The scale under each tracing is a total of 40 cm. Illustration: Jan Magne Gjerde.

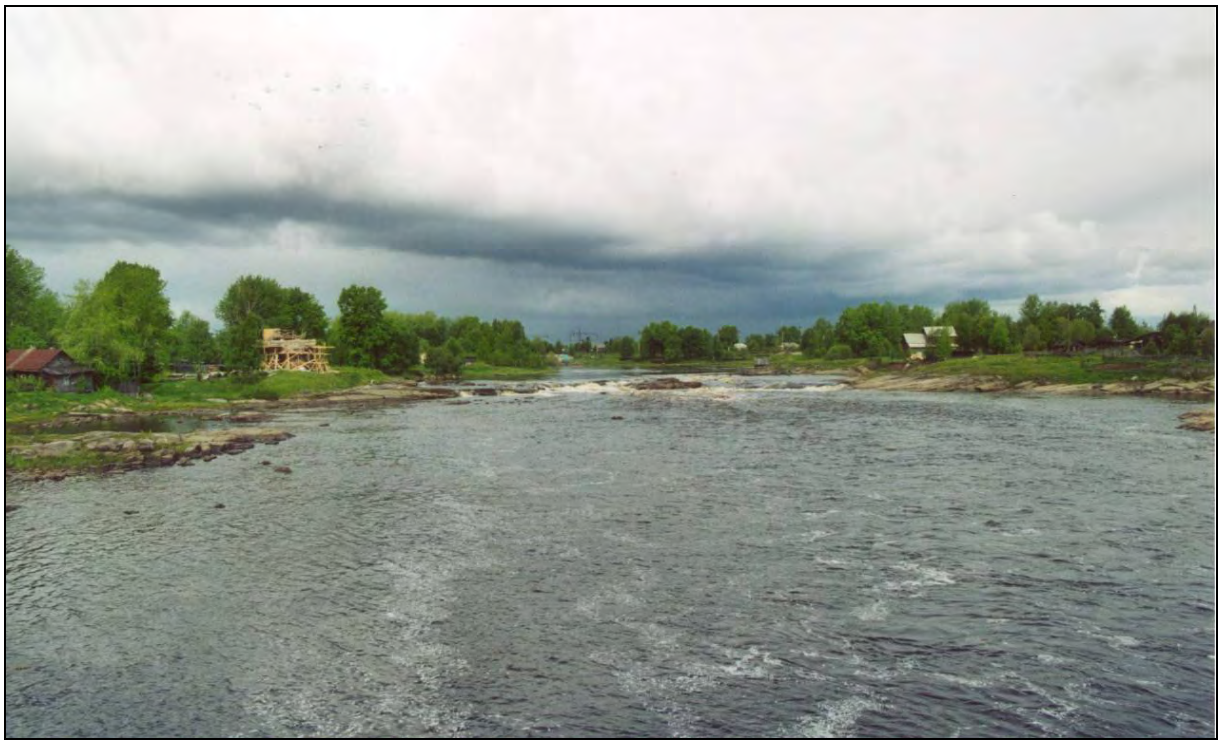


Figure 210 Photo of the last rapids of Vyg in Belomorsk where the river Vyg enters the White Sea today. Notice the extremely flat landscape where the river becomes a major geographical reference. Photo: Jan Magne Gjerde.

Figure 211 Photo of the Vyg River estuary where it enters the White Sea today. Notice the extremely flat landscape where the river is the geographical reference. The houses on the island in the middle of the photo where the settlement is located at the waters edge, like it was also in the Stone Age at the River Vyg. Photo: Jan Magne Gjerde.

When looking at the Beluga whale, the ethnographic descriptions of the traditional hunt are important. I have not come upon good descriptions of this for the Russian Arctic. The best ethnographic record which describes ”traditional” Beluga hunting is from Northern America. The ethnography and archaeology in these areas is therefore also interesting. There are a few places where one still can observe the traditional Beluga hunt or Beluga drives (Arnold 1995; Friesen 1999; Lucier & VanStone 1995; McGhee 1974; Savelle 1995). The topographical setting would dictate whether Beluga drives or individual hunts would be the best hunting strategy (Lucier & VanStone 1995:80). A landscape that is favourable for the hunting of Beluga Whales can also be seen other places (Friesen & Arnold 1995; Lucier & VanStone 1995; Savelle 1995).

One of these large hunting places, or “Beluga landscapes”, is in the McKenzie River Delta area in Canada. McGhee has described the whale hunting and the related landscape, and according to his study from the McKenzie River: “The estuary narrows rapidly upstream, and divides into a complex of narrow channels running between shoals, bars, and flat silt islands. This estuary is rich in fish which is attracted by food carried in the warm fresh water, and the fish in turn attract herds of beluga which can be seen feeding in the bay almost daily during the summer months. This situation forms a unique whale trap which when used by a large and well-coordinated hunting team, could yield a great supply of whale meat and oil with little outlay of effort” (McGhee 1974:19). Whale meat and fish are cached (dug down) to last during winter time thereby securing a year round supply of food (McGhee 1974:22; Stefansson 1914). This place is defined as perfect place for whale hunting. However, the landscape has been changing in this area due to the river estuary changes. Two of the bigger sites were abandoned because the Beluga whale could not penetrate further up the river due to these changes[165]. They most likely moved to Kittegaryumiut because channels were filling up and the topographical conditions were not the same anymore (McGhee 1974:85). There also exists ethno-historical evidence for this. A local informant told (to Stefansson) that when the Beluga no longer penetrated upstream to the villages they moved the villages (McGhee 1974:91; Stefansson 1914). This also shows that shifts due to a change in the topography are likely to have happened several times through prehistory. This is for example seen where settlements have been moved due to changing shorelines. Such changes also occurred due to the land uplift and the changing landscape in the Vyg area.

[165] These sites are dated by ^{14}C to 1030AD-1900AD. Beluga bones and hunting equipment are found on the sites and there is a continuity between the sites. The Radio Creek site (^{14}C 1350AD-1630AD) was abandoned after about 300 years of use.

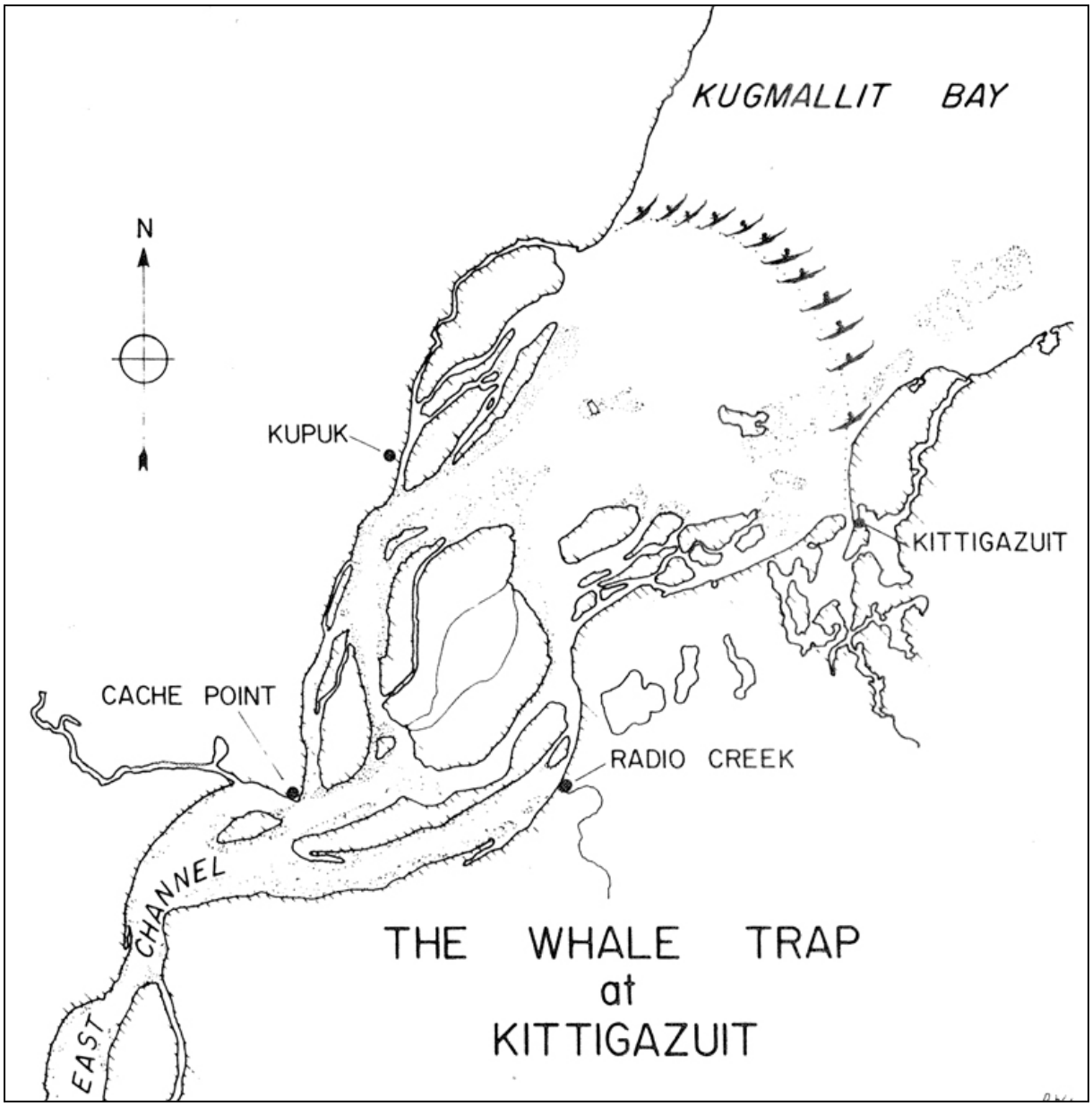


Figure 212 The Beluga Landscape in the McKenzie River Delta. After McGhee (McGhee 1974:21, map 3).

Returning to Vyg, the topographic situation in the Besovy Sledki/Jerpin Pudas area shows a striking recemblence to the topographic situation in the McKenzeie river Delta (compare Figure 209 with Figure 212). Several places could have worked as *cul de sac* places for the Beluga hunt in the Vyg area. The "natural" whale trap would be the area between the rock art sites, Besovy Sledki North and Jerpin Pudas 3, in the bay of shallow water where the waterfalls would be a major obstacle that would have hindered the Beluga whales in going further upstream. The evidence for a direct connection between the topographic situation and the actual presence of Beluga and Beluga hunting is also strengthened by the distribution of the motifs. The panels at Jerpin Pudas 3, Besovy Sledki North and Besovy Sledki South also include Beluga and Beluga hunting scenes, while the rock art site at Jerpin Pudas 1 only

include a depiction of a single Beluga whale and Jerpin Pudas 2 only elk depictions, a human figure and a swan. Hence, the rock art panels that are not facing the hunting places do not have representations of the actual whale hunt. There seems to be a visualization of the whale hunt where it actually happened. This means that there would be a "direct" link between the place of action (the whale hunt) and the action in the rock art (Gjerde 2005; Gjerde 2009).

Figure 213 The area of New Zalavruga. Top image: general view towards the North from the southern part of New Zalavruga. The New Zalavruga 4 panel is marked inside the black circle. Bottom left and right, photo of New Zalavruga 4 with water in front of the panel. Photo and illustration: Jan Magne Gjerde.

Microlandscape

I will now turn to the microlandscape at Vyg. Since the Besovy Sledki North and South is not available[166], I will focus on the Zalavruga area, where the majority of the carvings at Vyg is located[167]. At the time of making, the carvings at Vyg were situated on small islands in the river estuary and on the riverbanks of Vyg. Moving to Zalavruga, it has been problematic "reconstructing" the macrolandscape. We do not have good enough maps from before the Hydro Power constructions as we do for the Besovy Sledki / Jerpin Pudas

[166] The Besovy Sledki South panel is under the dam connected to the Hydro Power construction, while the Besovy Sledki North is under 1.5m sawdust due to preservation causes.
[167] Zalavruga has about 56% of all the carvings at Vyg.

area. The little information we can get from the maps from Ravdonikas (1936b:26-27, plate 5 and 6) and Savvateev (1970:27, plate 3) is not sufficient. From the excavations by Savvateev at Zalavruga (Savvateev 1977) we know that the whole area has been covered by sand making it hard to "imagine" how the landscape would have been before the minor transgression and river sediments covered the site. However, we do know that the area would have been a river estuary, and that the carvings at Zalavruga would have been on a large island. The area of Zalavruga would have been a complex maze of islands between the river banks.

Figure 214 Tracing of New Zalavruga 4 from Savvateev 1970:plate 35. Tracing is modified by marking the area with maritime motifs and figures with blue. Illustration: Jan Magne Gjerde.

The rock surface at the large New Zalavruga area, consist of virtually a "flat" horizontal area of panels where water collects in shallow pools between the panels. There are no carvings in the area where the pools are even when they dry up. There is virtually always water in these pools and it is likely to suggest that they must have been more stable when the shoreline was present. I have previously suggested that these pools were filled by the tide, making the panels with rock art appear as miniature islands (Gjerde 2005; Gjerde 2009). The whole area at New Zalavruga can then appear as an area of islands or islets. The panels with rock art could then be seen as islands[168] (see Figure 213). The panel New Zalavruga 4 would be an island. By visualizing the activities and the figures according to terrestrial and marine activities an interesting pattern occurs. The whole panel could be interpreted as if it is visualizing two islands surrounded by the sea (see Figure 214). The landscape they are depicting on the rock surfaces reflects the surroundings and could be seen as a reflection of a

[168] Not all the panels were chosen for rock art.

physical landscape. This shows that the scenes, compositions and panels could be made up of several landscapes or stories embedded with different meaning interwoven in the rock surface.

Figure 215 Elk hunt during winter. Three hunters are skiing when hunting elks. The skiing scene depicts the movement of the skiers where the ski tracks give reference to the topography. New Zalavruga 4. Photo: Jan Magne Gjerde.

Several scenes make up the composition at new Zalavruga 4. The scene to the left on the panel New Zalavruga 4 represent elk hunting during winter (see Figure 215). Three skiers are hunting elks with spears and bows and arrows. If one takes a closer look, one will sees that in the beginning of this hunt there are three ski-pole marks on either side of the track, then one sees the skiers separate to hunt one elk each. The elks are most likely an elk-cow with two calves, not an uncommon sight during winter. The skiers walked on the flat top of the surface before sliding down a slight slope, then again walking on a horizontal surface and catching up with the elks. This can also be seen by the way the ski-tracks are depicted. Short tracks illustrate walking and “long” tracks illustrate sliding. The ski marks also indicate the changing topography (Bradley et al. 2002a; Helskog 2004a:280; Janik et al. 2007; Savvateev 1970). The winter-hunt of elk on skis from the Stone Age is strengthened by finds of skies dated to the Stone Age from vast parts of northern Fennoscandia (e.g. Naskali 1999; Sørensen

1993). An important find linking the elk to skiing is the find from the site Vis 1 in Russia[169]. One of the skis have an elk carving under the back of the ski (see Figure 72). The sculpture of the elk's head is interpreted as a symbol of rapid movement (Burov 1989:393-397).

The connection between the elk and the skis are interesting since the elkhead reappears in the rock art both through the elk-head sticks and the stem of the boats. Elk head sticks have been found in graves, see (Gurina 1956). The elkhead that most likely is a stem for a boat found at Lehtojärvi in northern Finland (Erä-Esko 1958).

Moving c. 40m southeast from New Zalavruga 4 (see Figure 198), the panel at New Zalavruga 8 (see Figure 216) is made up by several figures. The scene that is most striking and which dominates the panel is the large whale hunting scene. Another scene depicts a man hunting an elk with bow and arrow. One can also see two rows of bears, a whale, two spears or harpoons, a swan, a seabird and human figures. My main focus will here be on the whale hunting scene. It is made up by 6 boats hunting a Beluga whale. The people standing in the boats have harpooned the whale. If one looks at the boats and the human figures, a large part of the area where the humans would have been represented in the boat is eroded. The original number of people most likely exceeds 50. The boats all have an elk-head in the stem. The Beluga whale is most certain a female "mother" visualized by the "newborn" calf on her right side. A thin line between the mother and calf can be interpreted as the umbilical cord[170]. At other whale hunting scenes (e.g. at New Zalavruga 13) the boats are surrounding the whale and the rock surface is virtually flat. At New Zalavruga 8 on the other hand, the boats are connected to the whale by "ropes" from the harpoon hanging behind the whale. The scene can thereby be seen as in "motion". This might give information as to where the hunt took place. A likely interpretation is that the whale hunting depicted at New Zalavruga 8 occurred in the river estuary or in the lower parts of the river. The boats were driven behind the whale by the stream of the river or small rapids while the hunt took place.

The level of inclination of the panel where the whale hunting scene is depicted is c. 10º. This means that the scene could have been placed there in order to visualize the river inclination. The area where the maritime motifs are found has running water gently flowing over it almost constantly (see Figure 216). In other words, this scene depicts a flowing river in a riverine landscape where the Beluga "mother" with her "newborn" calf is hunted while

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

[170] From the ethnographic record of the Eskimo hunting White whale traditionally, we know that they favoured juveniles, calves and even nursing mothers. They were easier to catch and the meat of newborn calves and embryos was considered a great delicacy Krupnik, I., 1993. *Arctic adaptations : native whalers and reindeer herders of northern Eurasia*, Hanover, NH: University Press of New England..

swimming up the river or the estuary. One can here clearly see how the rock surface interacts with the rock art. The information from the behavioural pattern and the annual cycle of the Beluga also shows that this hunt must have happened during mid-summer or autumn.

The inclination of the rock surface interacting with flowing water at New Zalavruga 8 and the flat surface at New Zalavruga 13 shows how there are references to places or areas where the actual hunt occurred. The rock art is interacting with the microlandscape and most likely including geographic knowledge.

Ravdonikas initially discovered what appeared to be an insignificant line at the outskirts of his Old Zalavruga panel (Ravdonikas 1938: plate 19). Later, the line proved to continue at Savvateyev's panel 15 (Savvateyev 1970: plate 70). The composition has been interpreted both as a whale hunting scene and a river[171] (see Figure 217). The boats are connected to this line and the line is bending, twirling through the landscape as the Vyg River is. Along the river besides the connected boats different activities are depicted (see for instance the humans with elkhead poles at the lower part of the composition (see Figure 218). There are no beluga whales in this composition and only one beluga to the far right of this panel. In my opinion based on the figures and their positioning, the best interpretation of this composition is that it depicts a river. This is, to my knowledge, the only place within the hunter's art in northwestern Europe where the motif depicts a physical landscape feature. The different activities depicted along the river, and the bends and turns of the river could be places with in the hunter-fisher-gatherer landscape. This could be related to geographical knowledge of the people that made and communicated through the rock art.

[171] "Durchhaus wahrscheinlich, daß es sich um den Teil eines realen oder mythologischen Flußweges handelt. Damit läge hier eine der ältesten topographischen Skizzen vor, die zwar noch primitiv ist, aber doch monumental und von ewiger Dauer" (Sawwatejew 1984:149).

Figure 216 Tracing and photo of New Zalavruga 8. Some of the figures in the tracing can be seen in the photo. In the photo, the whale is situated slightly above the middle. One can here see the "miniature" river running over the whale hunting scene as a geographic reference to where the hunt occurred in the lower parts of the river or in the river estuary. Tracing after (Savvateev 1970:fig. 48). Photo and illustration: Jan Magne Gjerde.

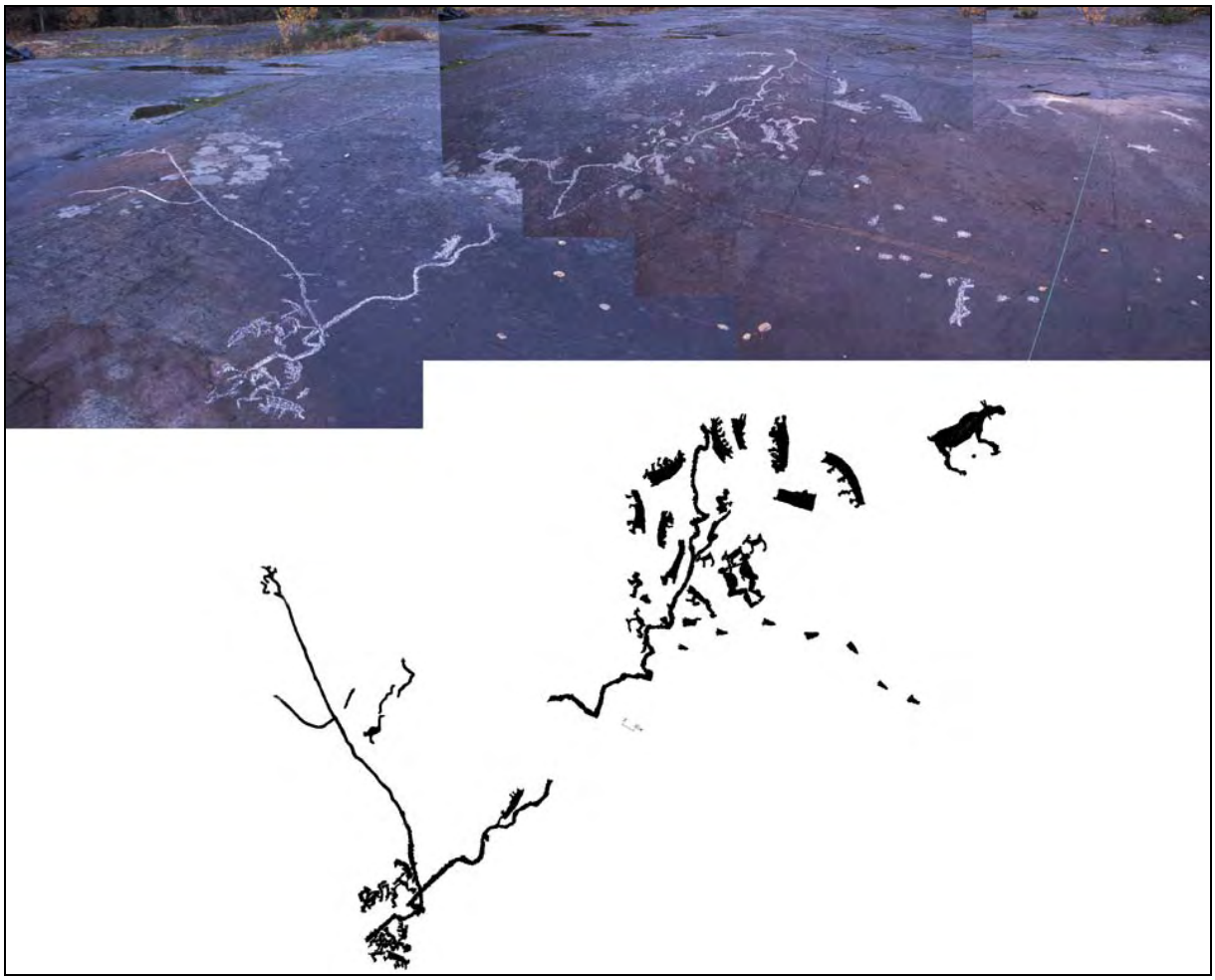


Figure 217 The "river" at Vyg. Tracing of New Zalavruga 15. Tracings from Savvateyev 1970:plate 70 and Ravdonikas 1938:plate 19. The tracings from Savvateev and Ravdonikas are reworked and joined together. The left part of the "river" is Ravdonikas documentation. One can here clearly see that Ravdonikas and Savvateev documented the carvings with different techniques. Above photo compilation of the same composition where the carvings have been marked with white chalk to make them visible on photo. Photo and illustration: Jan Magne Gjerde.

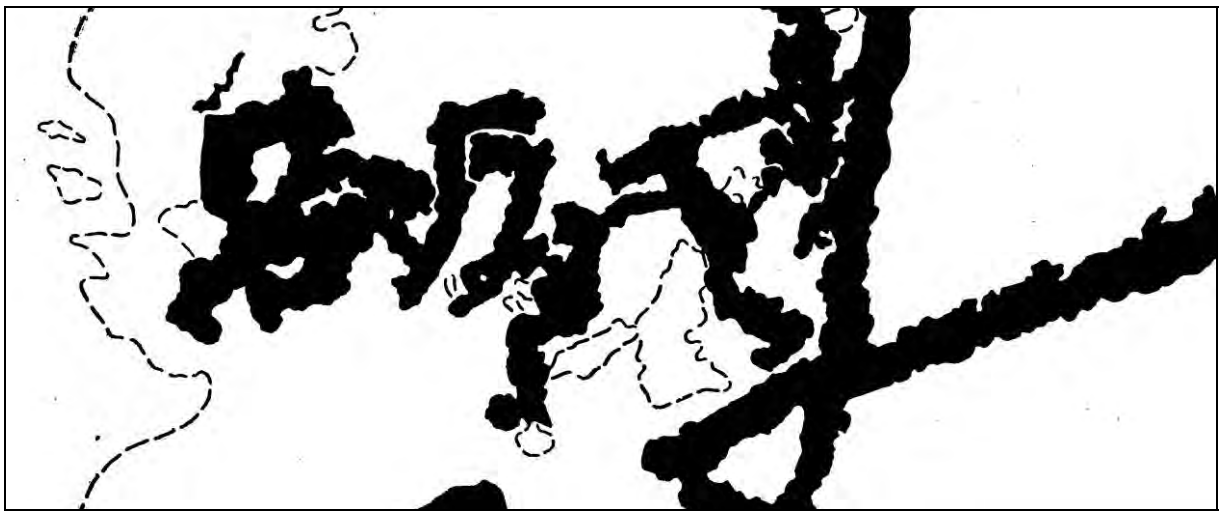


Figure 218 Human representations with elk-head sticks at New Zalavruga 15, Vyg. Tracing after Savveteev (1970:62).

Summary of the Vyg rock art

The making of rock art at Vyg, in the Besovy Sledki / Jerpin Pudas area, based on shoreline dating and the relation to the elevation of the settlement finds indicates that the first rock art was made at Vyg around 5300BC. The initial carvings were made about 5300BC and the last carvings were made around 2000BC. That is, rock art was made at Vyg for about 3000 years.

Initially around 5300BC, the Shoirukskin waterfall and the bay at Besovy Sledki / Jerpin Pudas was situated in the Vyg River estuary. Gradually, the land uplift changed the topography and the shoreline gradually moved away from the Besovy Sledki / Jerpin Pudas waterfall. Carvings were made at new places connecting the rock art to the shoreline with the final rock art being made at Zalavruga (Old Zalavruga). The Shoirukshin waterfall would still have been a landmark in the Vyg River and a place people would have to carry their boats past the waterfall. The land uplift has left the Vyg area rock art about 8km from the White Sea, however, when made the White Sea would have washed onto the rock slopes.

The Vyg River is one of the main communication lines in northwestern Russia, following the waterways connect the White Sea to the Onega Lake 300km to the east.

The rock art at Vyg is at many places deliberately placed in relation to natural features in the rocks. Some places it looks like if the natural elements of the rocks interacted with the rock art and the story told in the rocks. Some places these even have references to the wider landscape where the micro landscape or miniature landscape acts like a backdrop to tell stories of their macro topography / macro landscape, interacting with the figures and scenes. One can also see that scenes act as reference point to places in their wider landscape like the whale hunting from boat, the geese hunt from boat, the winter elk hunt and the bear-hunting.

Kanozero

Rock art at Kanozero

The first carvings at Kanozero[172] was found on the Island Kamenniy in 1997 during an expedition to the Kanozero Lake organized by Revda Museum (Likhatchev 1999). It was soon realized that this was a major discovery of rock art. An expedition to document the carvings were organized by Revda Museum and the Kola Archaeological Expedition in 1998[173]. In 2005, the documentation was a cooperation between Kola Archaeological Expedition and Tromsø University Museum. I will briefly introduce the reader to the sectioning of the material, thereby making it easier to follow the text when referring to figures, panels and sites. The sites are situated on three islands; Kamenniy, Eloviy, Goreliy and on the "mainland" rock Odinnokaya (see Figure 219 and Figure 220). I am much obliged to the Kola Archaeological Expedition for the exchange of documentation after our joint fieldwork in 2005. I have applied their naming and numbering of the figures, panels and sites at Kanozero.

Figure 219 Location photo of the Kanozero sites from helicopter. The clearing to the left of the middle of the photo is Kanozero village. Note the general flat landscape in the area. Photo and illustration: Jan Magne Gjerde.

[172] The site names applied in the text is the english version of the sites. The Russian names are: Kanozero = Канозеро, Eloviy = Еловый, Goreliy = Горелый, Kamenniy = Каменный, Odinnokaya = скала Одинокая.
[173] New carvings have been found and expeditions to document the carvings have was conducted in 1998, 1999 (2002), 2005 and 2007 by The Kola Archaeological Expedition.

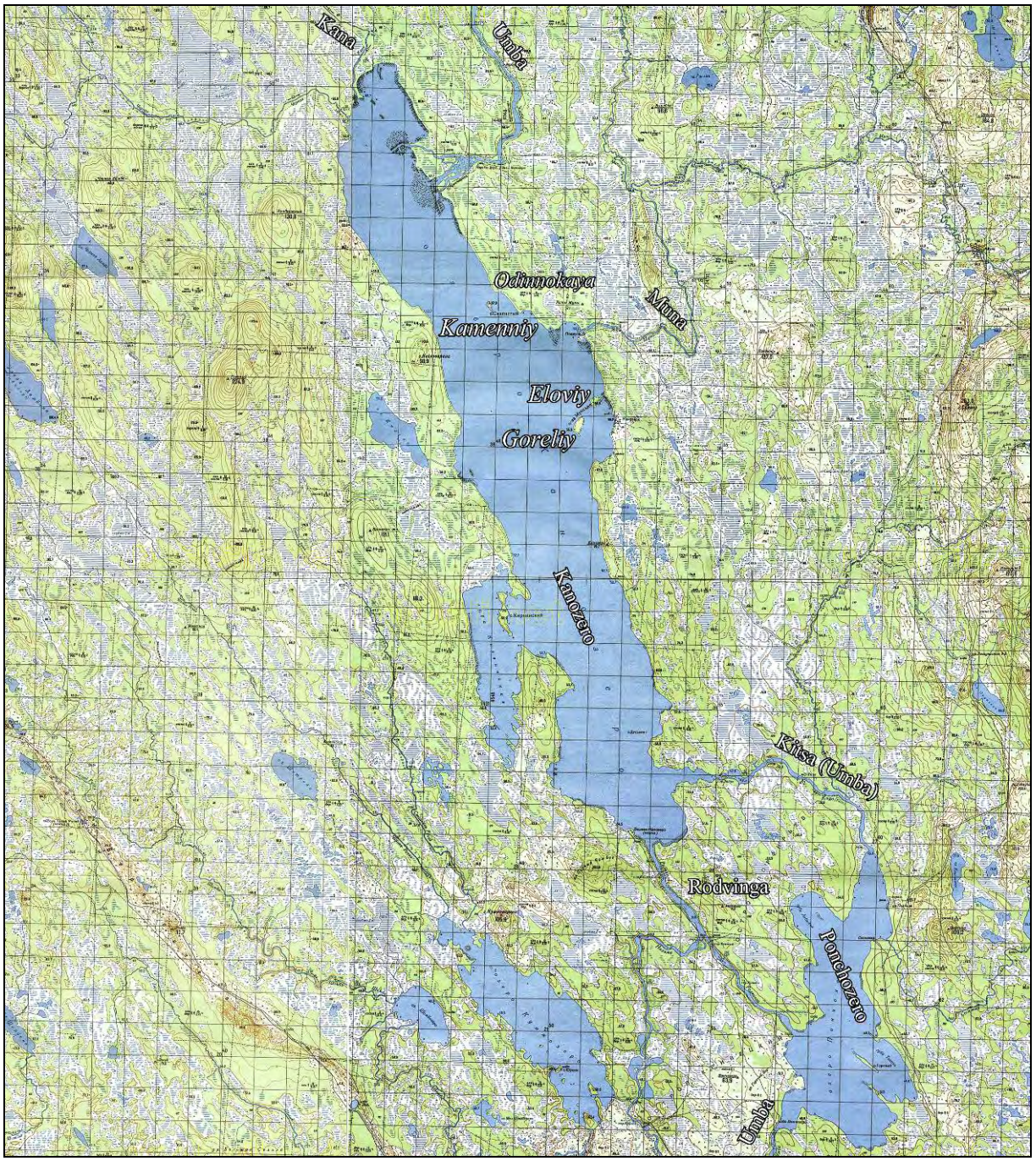


Figure 220 Map of the sites at Kanozero. Map is compiled from 4 maps from www.poehali.org. Scale: the squares are 1km in size. The lines in the map is also showing the compass points. The Kamenniy island is located above the **e** in the Kamenniy place name and the Odinnakaya is located at the shore below the capitol O in the placename. Illustration: Jan Magne Gjerde.

Kolpakov, Shumkin and Murashkin have just presented an overview of the figures at Kanozero (Kolpakov 2008; Kolpakov et al. 2008; Kolpakov et al. 2009). The latter of these overviews states that there are 1140 figures. Of these, 291 (26%) are not identified as motifs, but are defined as vague figures. Leaving out the unidentified figures, 25% of the figures are animals, 21% are boats, 21% are tracks and footsteps, 16% are human figures (see Figure

224), 9% are “abstract” figures (wheel crosses, crosses, axes etc) and 8% are cup-marks (Kolpakov et al. 2009:246-272). Of the animal figures, 67 are equivocal. There are 67 whale figures, 11 fish figures, 25 elks, 16 reindeer. There are also bear, snakes, beaver, hare, foxes and otter amongst the animal figures[174]. The animal occurring most frequently on the panels at Kanezoro is the Beluga Whale (White Whale). This motif is also frequently depicted at Vyg. There are several hunting scenes at Kanozero (see e.g. Figure 222 and Figure 223), with the 28 Beluga whale hunting scenes from boats prevailing. One of the most impressive scenes at Kanozero, at Kamenniy 7 (see Figure 221), however, depicts a bear hunt on skies during winter (see Figure 226). There is also a fishing scene and hunting elk with spears. The largest site at Kanozero is the Kamenniy 7 site with more than 430 figures (see Figure 225).

Figure 221 Rock art at Kanozero. Section of the Kamenniy 7 panel. There are figures on this side of the outcrop, and on the top stretching to the back of the outcrop. A total of 430 figures are documented at the Kamenniy 7 panel. Compare with tracing in **Figure 225**. The dark line at the lower part of the site is the shadow of a tree. Photo: Jan Magne Gjerde.

Figure 222 Section of one of the whale hunting scenes at Kamenniy 7. The illustration is made up of 3 frotage sheets. The lenghth of each sheet is about 1m. The total lenght of this scene is about 3m. Frotage and illustration: Jan Magne Gjerde.

[174] According to Kolpakov et.al (2009:258,259), a dog is also depicted, although it seems to be a young reindeer. The few hare representations could also be questioned.

Figure 223 The large whale figure at Kamenniy 7. Lines from the whale shows that this is a large Beluga whale hunting scene. Compare with the tracing in **Figure 225**. Photo: Jan Magne Gjerde.

Figure 224 Central part of the Eloviy 1 site. Right of the large cracks in the middle of the photo one can see several human representations and elk-head boats. There are also whale figures and reindeer at the site. To the left of the cracks are reindeer, whale figures, elk-head boats and a cross-shaped figure. Photo: Jan Magne Gjerde.

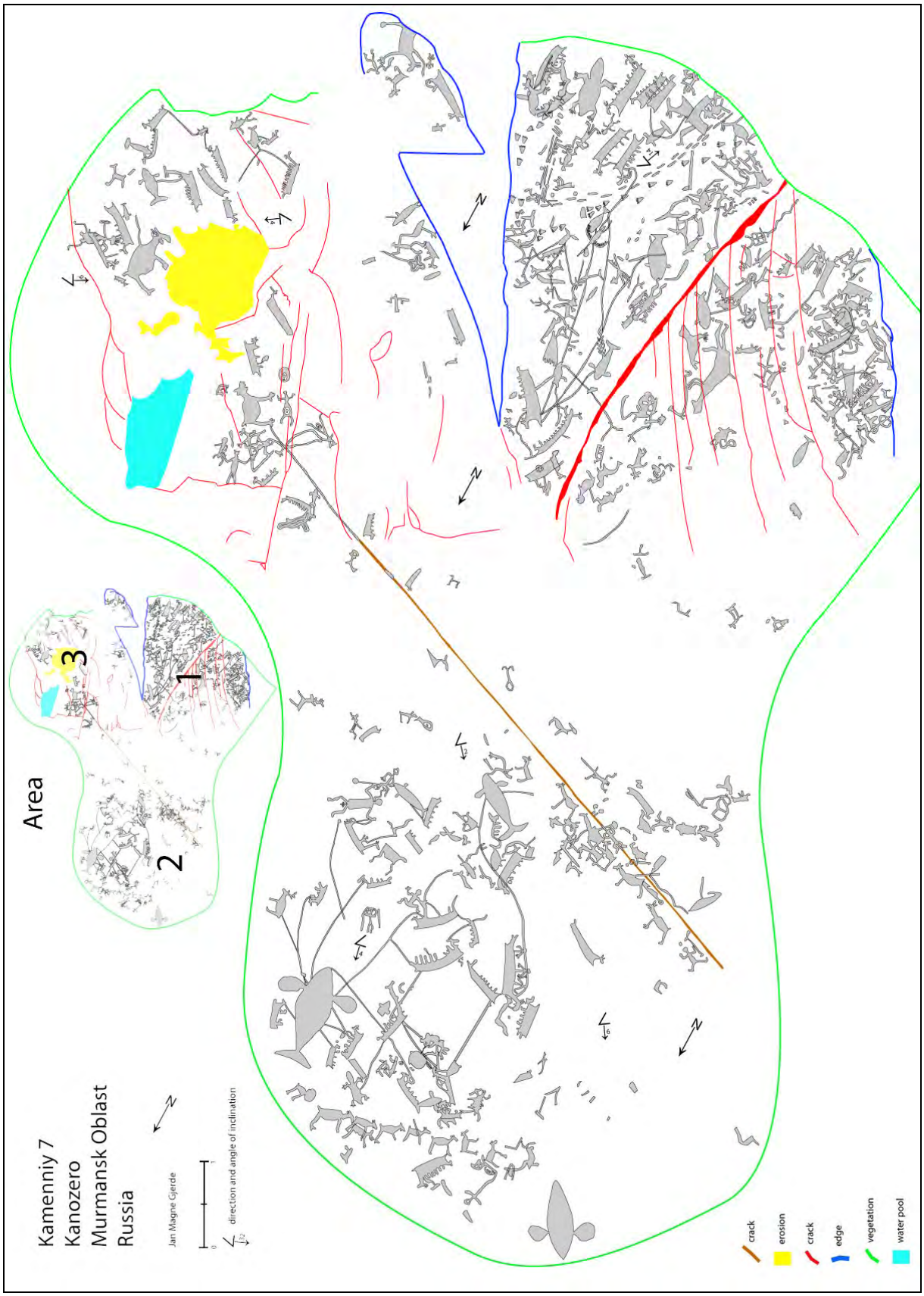


Figure 225 Tracing of the Kamenniy 7 site. The number of figures (about 430) and the amount of superimposition makes it virtually impossible to number the individual figures when presenting the site at this scale. Therefore to make it easier to follow the references to Kamenniy 7, I have divided the site into 3 areas, Area 1-3 (see middle left in the illustration). Tracing and illustration: Jan Magne Gjerde.

Dating the Kanozero rock art

There has been discussions whether Kanozero was ever connected to the White Sea. According to Møllers shoreline computer program (Møller & Holmeslet 1998), isobase 39 should be applied for the Kanozero area. A reading from Kanozero would then be c. 8000BP. However, through recent studies the computer program has proven inadequate for the Kola Peninsula (e.g. Corner et al. 1999) and can not be applied since it is inaccurate for this area[175]. Geologists have not performed studies at Kanozero Lake and the estimations based on data from surrounding areas is not conclusive. The geologist Matti Saarnisto suggest that the Kanozero lake was separated from the White Sea at c. 8600 calendar BP (Saarnisto, personal communication in Kolpakov et al. 2008:86). However, recent studies by geologist Vasilii Kolka in the Umba region shows that Kanozero was never part of the White Sea, but have always been a freshwater lake (Kolka et al. 2008f). Ruling out the possibility to apply shoreline dating for the Kanozero rock art, one is left with stylistic and comparative analysis.

Shumkin dated the rock art from Kanozero to be from a long time period based on stylistic similarities with rock art mainly from northern Norway and northwestern Russia. He found the earliest carvings at Kanozero to be from c. 6000-5000BP (Neolithic) and the latter belonging to what he calls the Saami medieval age, c. 200-300 years ago (Shumkin 2004:378). Based on similarities and dissimilarities with neighbouring assemblages of rock art, Kolpakov et.al (2008:88) has concluded that the first carvings were made at Kanozero during the Neolithic time (Late Stone Age) (2008:88). Later, a suggested date also based on similarity with Ponoj, Onega and Vyg, the rock art at Kanozero is generally dated to the Neolithic time (Late Stone Age) and the Early Metal Age (Kolpakov et al. 2009:300). The dating suggestions are based on similarity with other rock art sites; however, they do not suggest the link or why they place the rock art to such a date.

Like the Onega site, the Kanozero rock art was shore bound, however related to an inland lake. Thereby, I am left with superimposition and the never-ending stylistic problems when dating Kanozero. However, erosion should also be included in the internal dating since adjacent motifs on the same panels are differently eroded suggesting difference in age. Based on the similarity to the rock art at the better-dated Vyg site by the White Sea, I will compare the rock art Kanozero with the Vyg rock art and thereby suggest a date for the Kanozero rock art.

The clearest case of superimposition at Kanozero can be found at Kamenniy 7 (confer Figure 226 and Figure 227). When studying the panel it is evident that the Beluga whale-

[175] Jacob Møller, personal communication, 2009.

hunting scene including two fully crewed elk-head boats was made first. After this, the bear-hunting scene was made partly destroying the whale-hunting scene. This shows us that the bear-hunting scene was made last at this panel. However, the time difference can not be established.

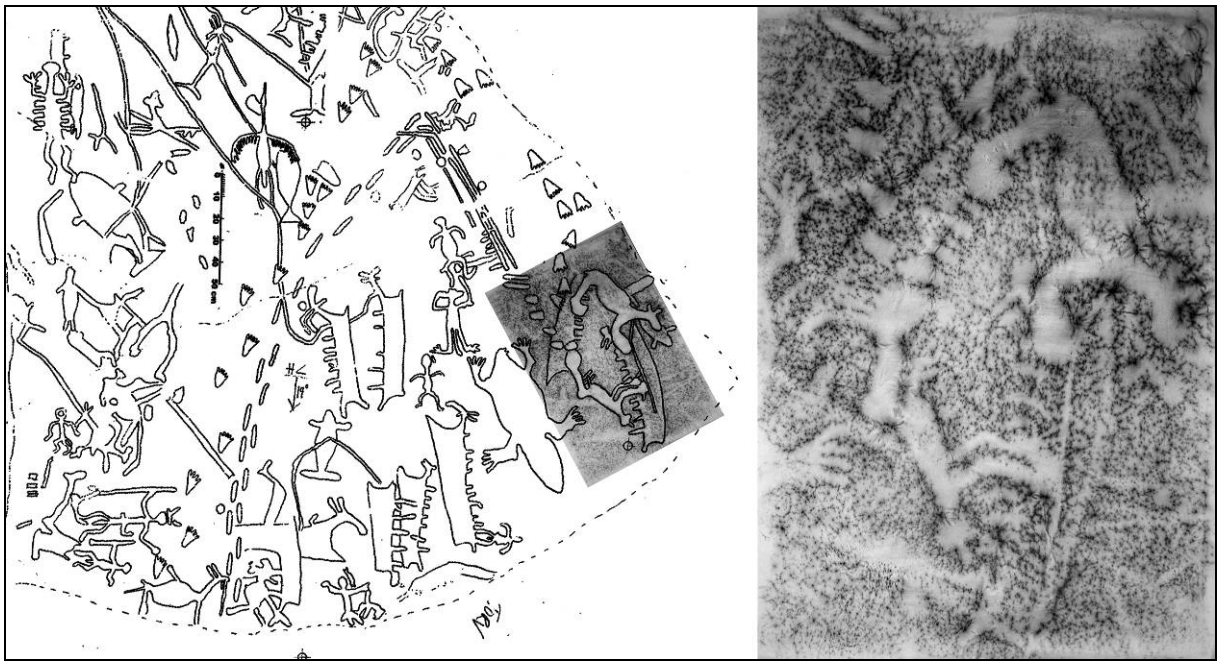


Figure 226 Superimposition at Kamenniy 7 visualized by tracing and frotage (rubbing). The tracing is fitted onto the rubbing of the bear-hunting scene. The figures are fully carved, however to better show the superimposition, they have not been filled in. Tracing, frotage and illustration: Jan Magne Gjerde.

At Kamenniy 7 there are also difference in erosion and at some places it seems like there are 3 layers of carvings. With strong erosion it becomes very difficult to discern what was made first and last at the panel (compare Figure 221 and Figure 227 and with the tracing in Figure 225). The heavy eroded figures also makes documentation virtually an impossible task (see Figure 228 and Figure 229). However, the difference in erosion indicates that figures were made at the panels for a long time. Adding to the superimposition this strengthens the notion that rock art was made at Kanozero for a considerable time. The superimposition also suggest such a proposition. Three phases of rock art can be discerned from the Kamenniy 7 panel. At Eloviy one can also discern difference in erosion that suggests difference in age.

Figure 227 Section of the Kammeniy 7 site. One can see that the bear-and the bear hunter superimpositions the Beluga whale hunting scne underneath. The photo also shows that there is a large difference in the erosion at the panel. Photo: Jan Magne Gjerde.

Figure 228 Odinnokaya with Kamenniy in the background. One can see how the water/ice have polished the rock surface and the lichen growth is only present in the striation marks. An eroded elk head-boat is seen inside the black circle in the middle of the photo (Compare with photo in **Figure 229** and tracing in **Figure 230**). Photo: Jan Magne Gjerde.

Figure 229 A footprint and an elkhead boat figure at Odinnokaya. The figures are figure 60 and 61 in tracing of the site (see **Figure 230**). Notice the smooth surface due to water and ice activity. Photo: Jan Magne Gjerde.

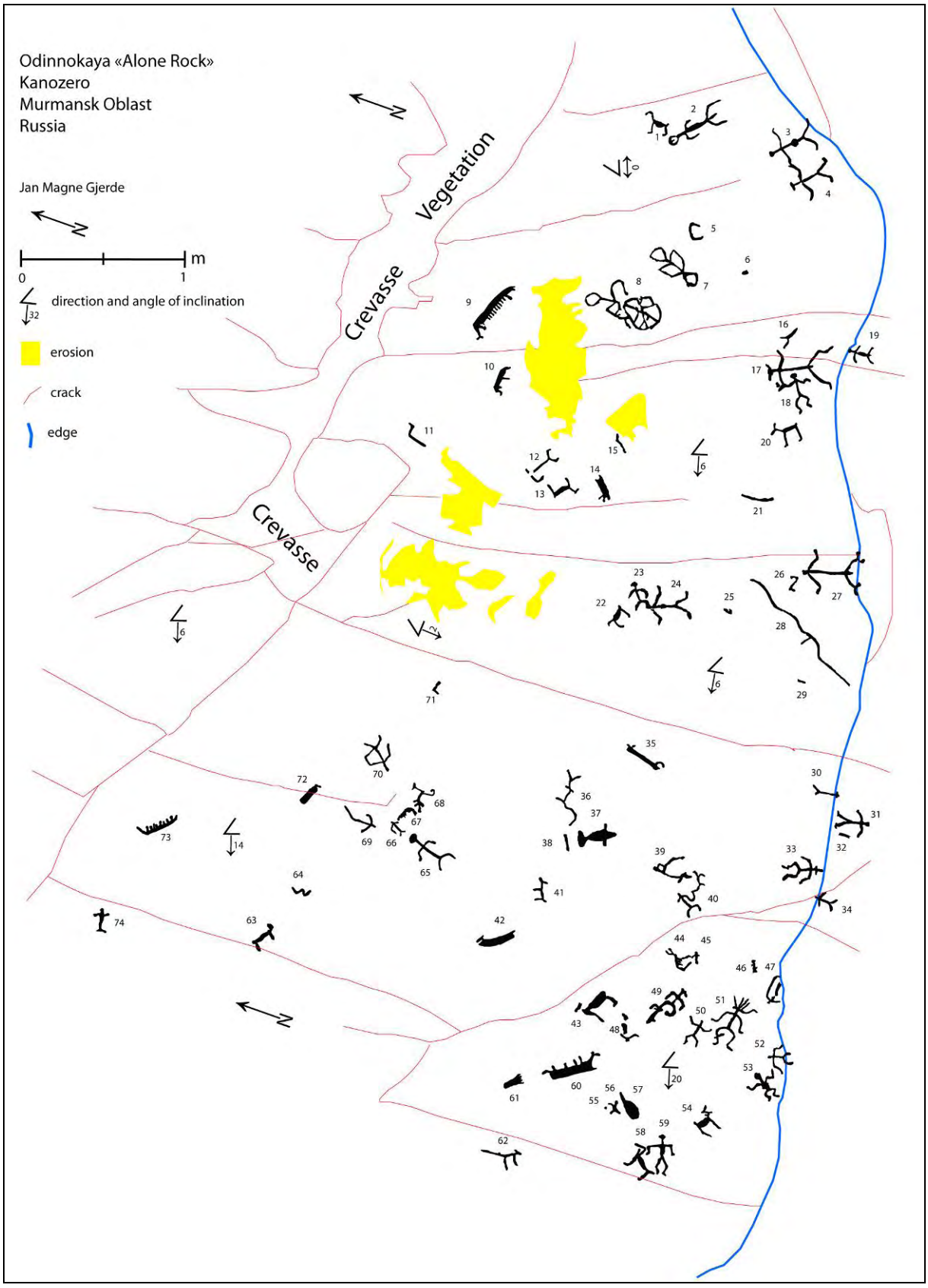


Figure 230 Tracing of the Odinnokaya rock at Kanozero. The lower area is heavily water / ice eroded. Compare the boat and the footprint in the lower half of the illustration (nr. 60 and 61) with photos in **Figure 228** and **Figure 229**. Tracing and illustration: Jan Magne Gjerde.

At Kanozero the dating of the carvings are controversial. We have to look at the comparative stylistic argument to see if there are any indicators from other sites that may aid in the dating of the carvings. The cross figures that in the material record only has its counterparts in Alta is present both at Kamenniy 7 and at Eloviy 1 (see Figure 224 and Figure 231). They also are very similar in size. This motif is in Alta dated to about 3000-2000BC[176]. The strongest similarity with the carvings at Kanozero is to be found at Vyg. The whale-hunting scenes at Kamenniy 7 evidence large boats cooperating with crew of more than 20 people. Similar whale hunting scenes are found at Vyg (e.g. New Zalavruga 8 and New Zalavruga 13), see Figure 216. The large cooperative whale hunting scenes at Vyg is dated to about 3700-2500BC (see Figure 201). Based on the similarity in the boats and the hunting scenes, the hunting scenes like the ones at Kamenniy 7 could be assigned to a similar date. Another factor is the large figures at Kamenniy 7 that superimpositions younger ones. These show a similarity with the manner in which the large elks superimposition the other figures at Old Zalavruga (see Figure 194). These large elk figures at Old Zalavruga are at Vyg dated to about 2500BC-2000BC. Based on the similarity with the rock art at Vyg, I have suggested a starting phase for the production of rock art to about 3700BC at Kanozero. However, an end phase is hard to evaluate, and the latest carvings may be fairly recent (only a few hundred years old), as suggested by Shumkin (Shumkin 2004:378). The rock art at Kanozero also suggest that the Kanozero rock art area was a place where people made rock art for several thousand years.

Even if a few flakes and a scraper was found adjacent to the Kamenniy 7 site during the fieldwork in 2005, no survey has been conducted when it comes to settlements. The finds were not diagnostic when it comes to dating. A number of Late Stone Age settlements have been excavated at Lovozero and Late Stone Age settlements have been found in the Umba region less than 15km downstream from the Kanozero Lake (Gurina 1987; Gurina 1997:plate 1B).

[176] This cross motif is dated to Alta phase 3 (3000-2000BC), but could also belong to Alta phase 2 (4200-3000BC). See Alta case study.

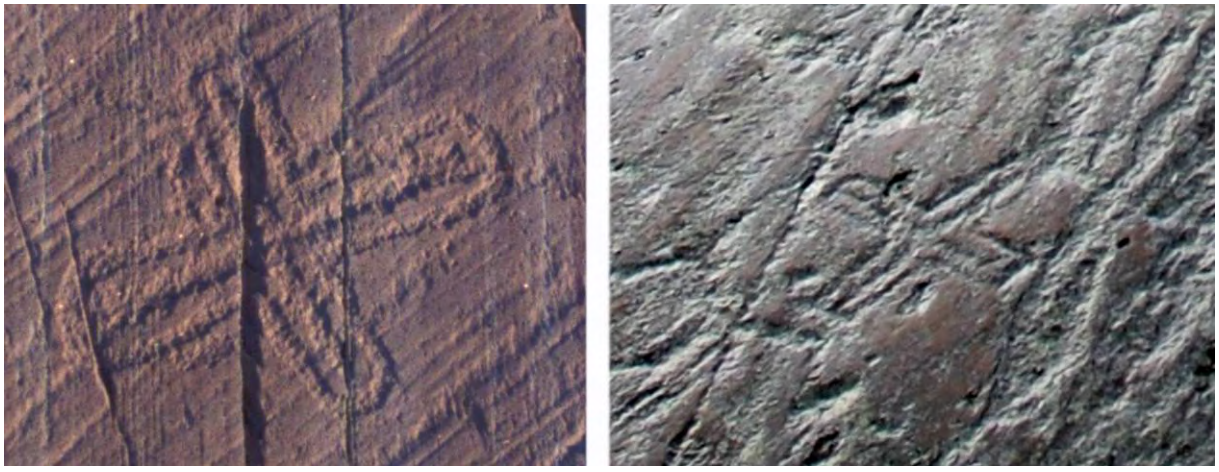


Figure 231 Cross-figures. The left is from Ytre Kåfjord in Alta and the right is from Eloviy 1 in Kanozero. The figures are similar and also are virtually the same size. The Ytre Kaafjord is about 18cm and the Eloviy 1 figure measures about 16cm. The photo to the right is taken at an angle to make the figure appear better. Photos and illustration: Jan Magne Gjerde.

Macrolandscape and microlandscapes at Kanozero

Macrolandscape

Based on the dating suggestion, when the initial carvings were made at Kanozero at about 3700BC, the sea-level in the White Sea by the Umba area would be higher. The recent geological data for the Umba area (see Figure 233) shows that at 3700BC, the sea-level was at about 22masl, and at about 2000BC, the sea level was about 14masl (Kolka et al. 2008:39f). When raising the sea-level according to the levels at the time of the initial carvings, one can see that the Umba area is an archipelago with long fjords with the longest one stretching 18km inland. Raising the shoreline at the White Sea to about 20masl (about the time the initial carvings were made), one sees that the Umba-fjord area stands out at the southern shores of the Kola Peninsula (see Figure 232). The fjords in the Umba area become a massive bay with large and smaller islands. We know that Stone Age people favoured coastal areas and the Umba archipelago would have been an ecological favourable area, especially for sea mammals and thereby sea mammal hunting. Late Stone Age settlements have been surveyed in the Umba area (Gurina 1997). The distance from the inner part of the Umba-fjord is less than 2km from the Panchozero Lake that is connected to Kanozero as part of the Umba River (see Figure 232). At the eastern side of Umba is today the prevailing Turiy Peninsula Peninsula. Most likely, the Turiy Peninsula would have been a reference in the seascape with its highest top at 172masl today. I assume this would have been a landmark / seamark to the people living in this area also in the Stone Age.

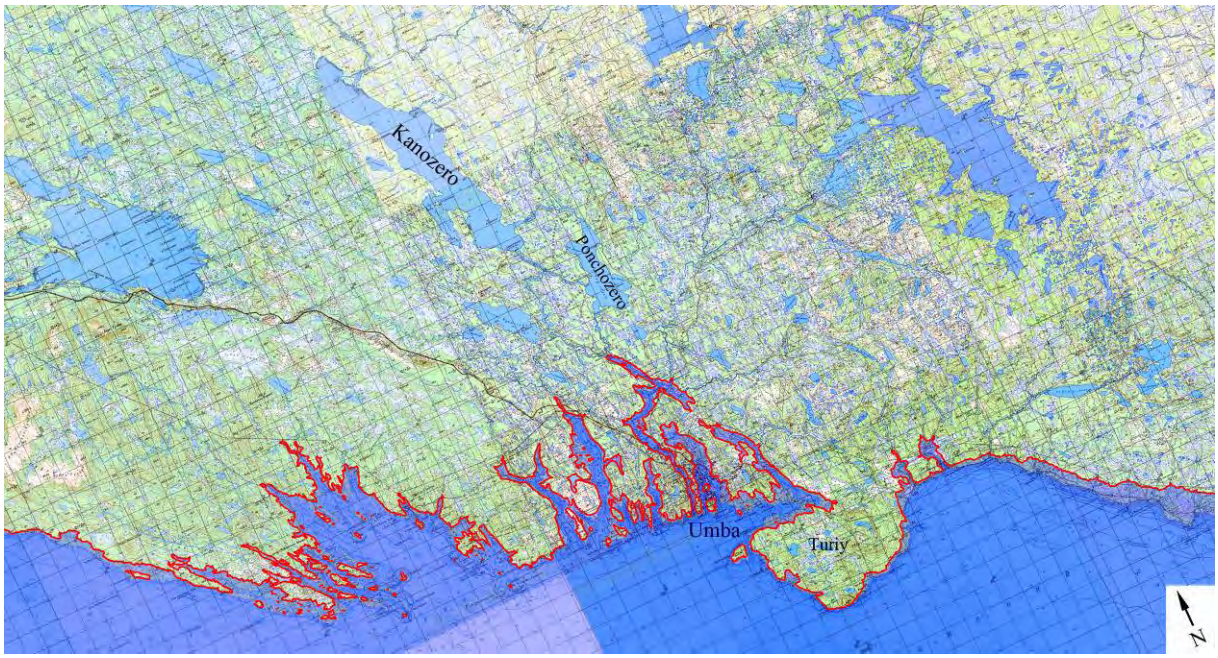


Figure 232 The coastal region between the Kanozero Lake and the White Sea with a raised sea level to about 20masl. Background map is a compilation of 9 maps from **www.poehali.org**. Scale: the squares are 2km in size. Notice that the Umba area where the river Umba disembarks into the White Sea today becomes an archipelago with long fjords penetrating inland. This archipelago would most likely be a favourable ecological area for sea mammals and sea mammal hunting. Illustration: Jan Magne Gjerde.

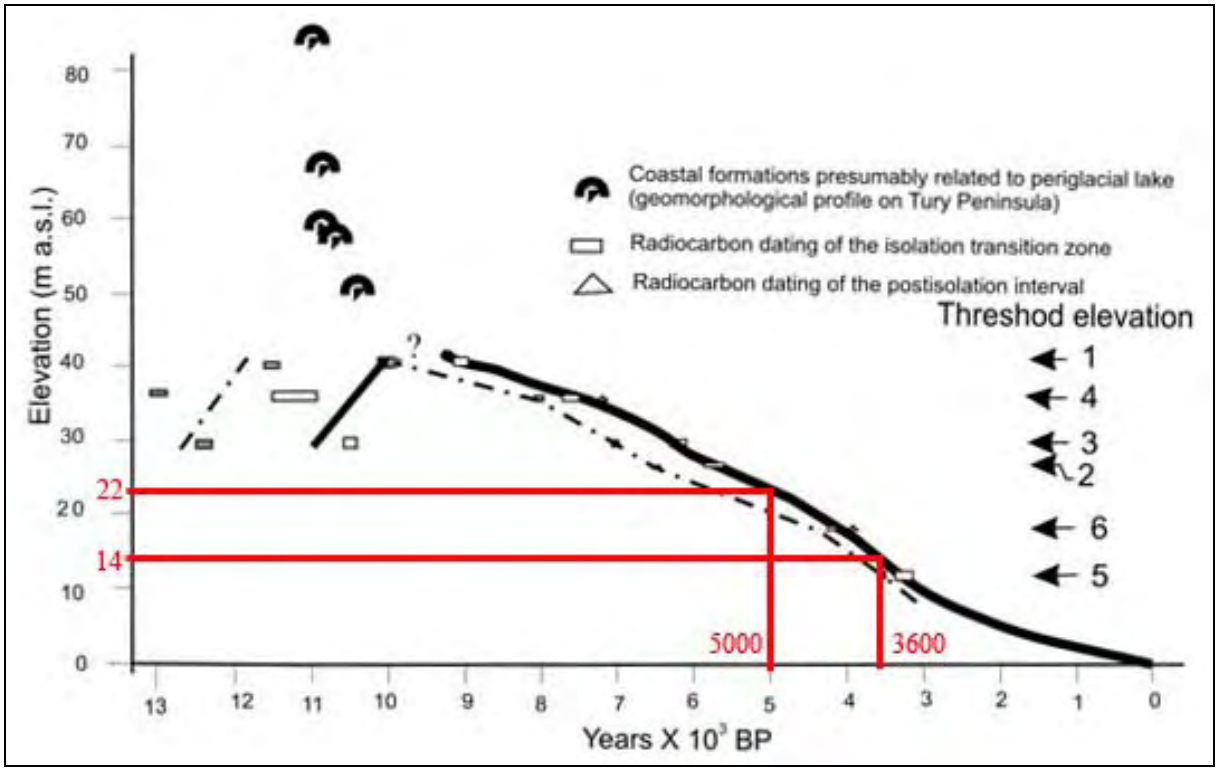


Figure 233 Relative sea level curve for the Umba region after (Kolka et al. 2008:fig.3.8.). I have marked the level at about 5000BP and 3600BP[177]. This shows that at the respective dates, the shore level was 22m and 14m higher than today. Illustration: Jan Magne Gjerde.

[177] By OxCal v3.10, 5000BP is calibrated to 3800-3710 with 2sigma and 3600BP is calibrated to 2020-1900BC with 2 sigma.

The southern end of the Kanozero Lake is situated about 28km from the White Sea. The distance between the White Sea and the Barents Sea is about 285km today. The rivers and lakes from the Umba area to the Voron'ya river forms a continuous waterway between the White Sea and the Barents Sea (See Figure 235). It would have been about 250km in the Late Stone Age due to the land uplift in the coastal regions (see Figure 232). Following the waterway north from Umba, one passes Kanozero Lake. Further, following the Umba River to Umbozero through to Lake Lovozero brings one to the Voron'ya River that has its outflow in the Barents Sea. Central along this waterway (about halfway between the Barents Sea and the White Sea) are also the two massive mountain ranges, the Khibiny Mountains (1200masl) east of the Umbozero Lake and the Lovozero Tundra between Umbozero and Lovozero (highest point at 1116masl) that stands out in the otherwise "flat" landscape. Several Late Stone Age settlements are found along the waterway sketched above and Late Stone Age settlements have been found at Umba, Umbozero, Lovozero and Voron'ya (Gurina 1997:plate 1B). There may be other Stone Age highways at Kola Peninsula, however, the Ponoj River and the Umba-Voronya route seems prevailing when studying the topography of Kola Peninsula at a macro-level.

At the centre of the U-shaped Lovozero Mountains lies the Seydozero lake. This lake is about 8km long and Late Stone Age settment sites have been surveyed by the lake. In the mountainside by the northwestern part of the lake, is a large natural formation in the rock, that is shaped like a human figure (see Figure 234). The dark rock that forms a human figure is about 75m tall and can be seen from a distance of several kilometres. This figure is called Kuyva and is eabled with myths (Hallström 1921).

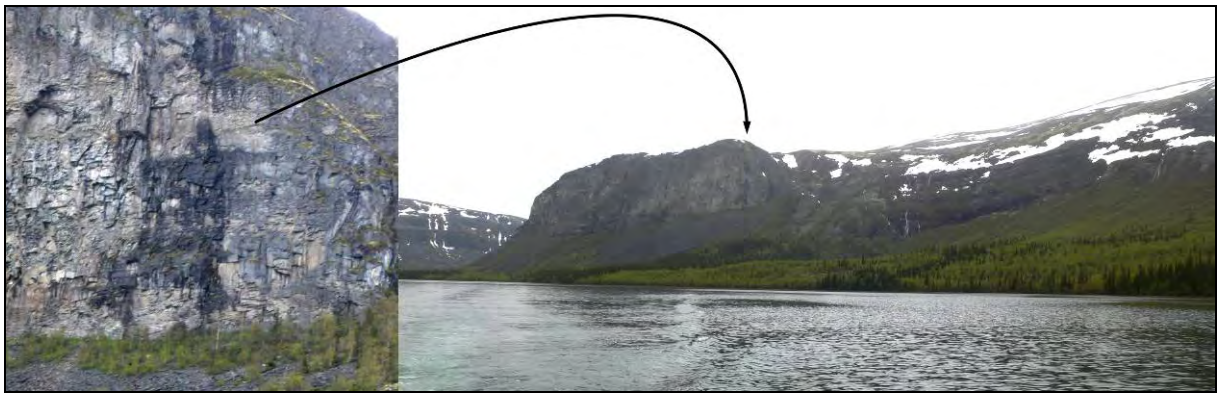


Figure 234 The large Kuyva (the old man) figure in the rocks at Seydozero. Photos and illustration: Jan Magne Gjerde.

About 50km east of the Lovozero Lake lies the Keivy Uplands, the source of the Ponoy River that runs virtually straight east towards across the Kola Peninsula. The rock carvings at Chalmn Varre are located along the River Ponoy near the village Ivanovka about 70km downstream from the village Krasnoshchel'ye (Krasnoštel'e) (Gurina & Stalsberg 2005:17). The boulders with rock carvings (Gurina & Stalsberg 2005) show similar traits, when it comes to some of the reindeer depictions, with the Kanozero carvings. Especially the deer carvings at Eloviy 1 are are made in a similar style to the Chalmn Varre deer figures. The Ponoy River is a central waterway on the Kola Peninsula.

The islands with rock art at Kanozero stand out when moving across the lake. They are always visible and may be used as geographical references. When journeying through the Umba river, the islands become natural places to stop both when travelling from and to the White Sea and travelling further inland towards the Lovozero area and also when journeying further north through the large Voron'ya hydro system ending up in the Barents Sea.

The large number of carvings as well as the focus on boat carvings suggest that Kanozero was a central place in the Stone Age landscape that was important for several thousand years. The topographic situation of the Kanozero Lake makes it a central part of the "Stone Age Highway" between the Barents Sea and the White Sea. The Kanozero site is interpreted as a meeting place where there would always be people travelling to and from. This was a place where people gathered to exchange information through the year, and there would always be people passing by and stopping at Kanozero.

The only change that has been suggested for the Kanozero Lake region is a rapid drop of the water level due to the geological situation after the Ice Age when there could have been a natural clog in the outflow area of Kanozero due to moraine remains. The geological explanation is that there was a clog in the outflow, and when this dam suddenly broke, the water-level sunk very rapidly a few metres in altitude. According to the geologists Kolka and Møller, such formations and a sudden drop in water level in lakes have been documented elsewhere both in northern Norway and in northwestern Russia[178]. That means that the water-level at Kanozero could have been about 5m higher before the break-through than at present. There is currently not good data for the geological assumptions concerning the history of the water-level at Kanozero. However, the rock art at Kanozero proved to reveal interesting results according to this scenario when related to the shore connection.

[178] Vasilij Kolka, personal communication, 2005 and Jacob Møller, personal communication, 2009.

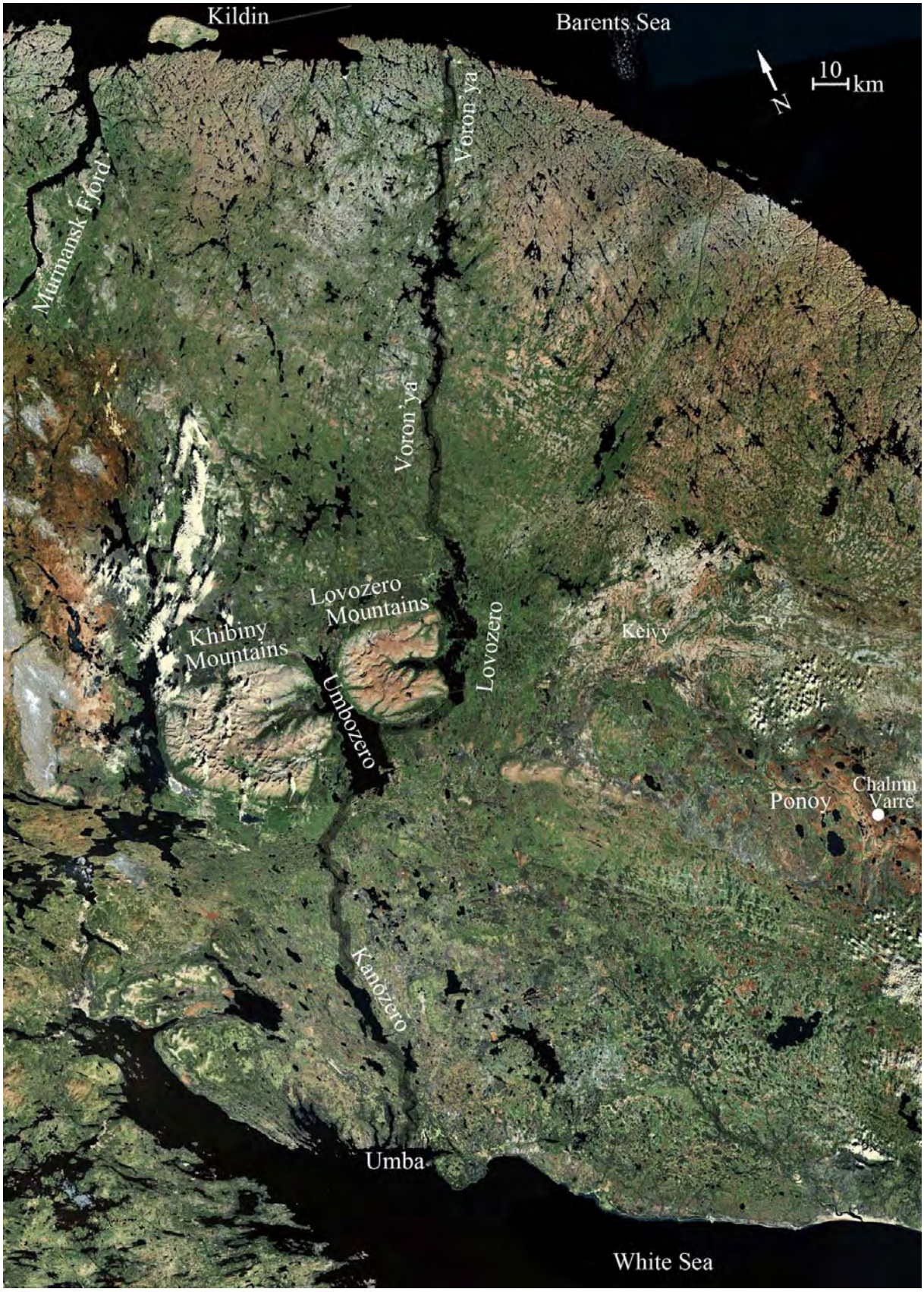


Figure 235 Central part of the Kola Peninsula with the waterway from the White Sea to the Barents Sea slightly indicated. Central at the Kola Peninsula lies the Khibiny Mountains and the Lovozero Mountains. About 50km east of the Lovozero Lake, the Ponoy River has its source at the Keivy Uplands, flowing about 426km eastwards. Along the Ponoj River is the rock art site Chalmn Varre (Ponoj, Ponoy, Chalmi Varre, Čalmn-Varrė) with 10 boulders with carvings. Sattelite images compiled from www.bingmaps.com. Illustration: Jan Magne Gjerde.

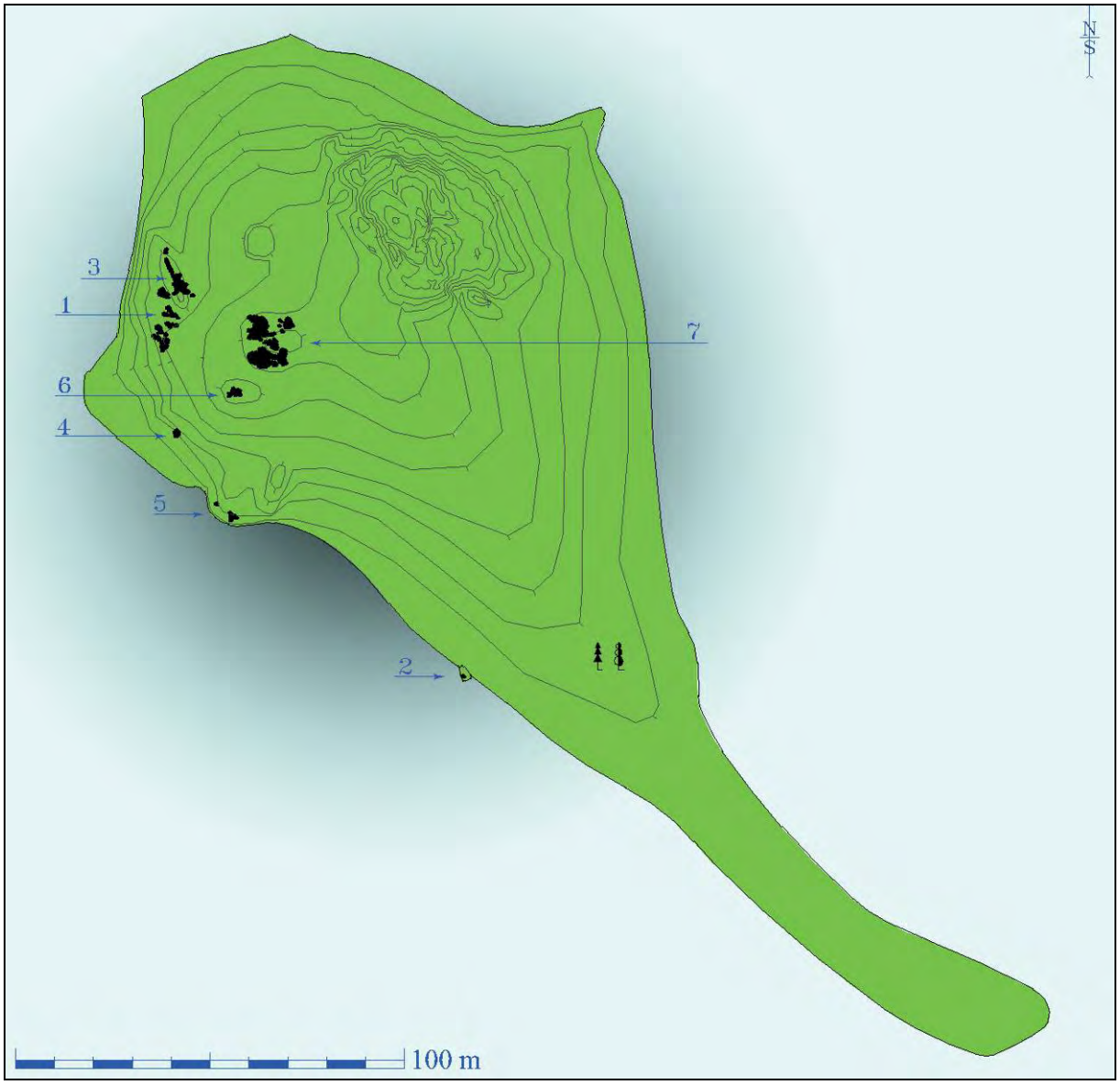


Figure 236 Map of Kamenniy Island with the 7 sites marked. The figures are traced onto the map. Contour interval 1m. Map by Kola Archaeological Expedition. E. Kolpakov.

The strict shoreline connection for the rock art is witnessed at the inland sites in northern Fennoscandia with few exceptions. This can best be observed at Onega where the carvings are placed so close that the annual fluctuations in water level often submerge carvings or rock art sites. At Kanozero, like at Onega, carvings are made on islands. This is not an uncommon phenomenon and several places the rock art sites from the Stone Age are placed on small islands (e.g. Nämforsen, Onega and Vyg). At Kanozero and Onega, the waves still wash onto the rocks and the water is sometimes interplaying with the figures. The movement of the water at Onega makes some of the swans look like they are moving when

the water slosh over the rock surface with the figures (e.g. at Mudosh Island)[179]. The rock art close to the water at Kanozero, e.g. at Eloviy 2, Goreliy and Odinnokaya show results of wave or ice erosion where the lichen is removed and the remains of the figures appear faint in the rock surface (Figure 228 and Figure 229) and frequently the waves wash over the carvings.

In 2005, at Kamenniy (see Figure 236 and Figure 239), a thorough search was done above the highest elevated known panel at Kammeny 7 since there were available rock surfaces above this panel. A survey was also done at the rock surfaces between the known sites. Even though there are available rock surfaces, the carvings at Kanozero are made between 0-2.2m above the lake level and 4.3-8m above the lake level (see Figure 237). That is, there are no carvings made between 2.2m and 4.3m. Natural dams after the glaciers or eroding river deltas have been put forward by geologists to explain fall in lake-levels. Discussing the Kanozero Lake with local geologist[180], this would mean that when the erosion from the river activity in the southern end of Kanozero broke through the dam, the water level would rapidly drop. If the geological assumption is correct, the panels at Odinnokaya, Eloviy 1-5, Goreliy 1-4 and Kamenniy 2, 4, 5 would have been under water when the first rock at was made at Kanozero. Hence, there would be fewer panels available to make the rock art. With a raised lake-level by c. 4m, the vast areas of the flat surrounding land would be submerged when the lake was 56,7masl instead of 52,7masl., hence making Kanozero a slightly larger lake than it is today. Only minor parts of the island Eloviy and Goreliy would have been above the lake-level. Thereby, during the initial phases at Kanozero, only Kamenniy 1, 3, 6, 7 and Eloviy 6 would have been above the Kanozero Lake before the water-level dropped. In the following I will focus on the carvings at Kamenniy. The Kamenniy Island is seen from the lake at its inflow and outflow. The Kamenniy Island acts like a reference point when moving along the lake since it is a visible contrast (See Figure 228 and Figure 238).

[179] At my visit to Onega in 2005, I was dazzled by the movement of the water over the small swan figures making them ”come alive”.
[180] Vasilij Kolka, personal communication 2006.

Site	m. above lake level at Kanozero	Site	m. above lake level at Kanozero
Kamenniy 1	4.5-5.3m	Eloviy 3	0-0.6m
Kamenniy 2	0.3m	Eloviy 4	0.2m
Kamenniy 3	4.3-6.5m	Eloviy 5	0.4m
Kamenniy 4	1.7-2m	Eloviy 6	4.5m
Kamenniy 5	1-2m	Goreliy 1	0.4-0.9m
Kamenniy 6	6.4-6.8m	Goreliy 2	1.2m
Kamenniy 7	6.5-8m	Goreliy 3	0.5m
Eloviy 1	1.6-2.2m	Goreliy 4	0.7m
Eloviy 2	0-1,5m	Odinnokaya	1-2m

Figure 237 Elevation above the present Kanozero Lake of the sites at Kanozero. Data after (Kolpakov et al. 2009).

Figure 238 The Kammeniy Island seen from the site Eloviy 2. Notice the flat landscape. Photo: Jan Magne Gjerde.

Figure 239 Kammeniy with the different sites marked. Kammeniy 3 is located at the rock ridge and the flat surface beneath the ridge towards Kammeniy 1. Kammeniy 6 and 7 is covered by trees, however, one may get a glimpse of the Kammeniy 7 rock looking carefully at the photo. Kammeniy 4 is slihtly covered by vegetation and Kammeniy 2 is located past Kammeniy 5 about 70m from Kammeniy 5 (see **Figure 236**) Photo and illustration: Jan Magne Gjerde.

Microlandscpes

When discussing the microlandscape at Kanozero, I will mainly focus on the sites at Kamenniy. The carvings at Kamenniy is mainly located at the rock slopes on the north-western side of the Island (See Figure 239 and Figure 241).

Kamenniy 7 is one of the clearest example of how the micro-landscape is applied in the narrative story told. The scene depicts a bear-hunt during winter (Figure 226 and Figure 240). One can follow the bear tracks up the rock four by four and the tracks, the motion, of the bear shows that the bear is walking at different paces. The tracks go upwards to the edge of the rock, and at the edge of the rock, the bear turns downwards. Following the bear is a male hunter on skies. One can see that he is walking upwards due to the positioning of the ski marks. Several times traces of a ski pole can be seen along the ski tracks. When the bear walks downhill, the skier turns, following the bear downhill. One can see that the ski marks are represented as if sliding down the hill. One can also see marks of the ski pole on the left side of the ski track. Then the hunter stops, he leaves his skies, walks four steps and puts the spear into the bear (see Figure 226). The inclination of the rock in combination with the narrative element in the figures visualizes the terrain and the skiing during this bear-hunt

during spring. This hunt could refer to a known place in the landscape where the bear was hunted (bear-den?). Under the bear and the bear hunt is a Beluga Whale hunt. The Beluga hunting-scenes are most likely referring to the Umba Bay where it is likely that the hunt occurred. However, the reference point may as at the Onega carvings be referring to the Beluga Landscapes of Vyg.

Figure 240 The bear-hunting scene at Kamenniy 7. One can see how the skier and the manner in which the ski tracks are reflecting the topography that also is present in the microlandscape of the rock surface. The skiers marks reflects the topography of the rock including the inclination in the rock art scene. The dark line at the lower half of the photo is the shadow of a tree. Photo: Jan Magne Gjerde.

The Kamenniy 3 site is characterized by the ridge the figures are placed (See Figure 239). There are figures at the top of the ridge and on either of the sides. At the top of the ridge several footsteps are depicted as if a person is walking up the ridge (see Figure 242 and Figure 243). With a higher water-level at the Kanozero lake it becomes evident that the person (footsteps) is appearing from the lake, “from the underworld”.

The inclination has been applied as part of the rock art story told at Kamenniy where the skiers movements follows the inclination in relation to tracks of the skies are depicted. At Kamenniy 3 one can also see that natural lines are applied in 3 of the reindeer representations

(see figure 24, 26 and 28 in Figure 243). At Kamenniy 7 another natural line (the most prevailing striation mark) is applied and the natural line is modified closer to the large elk where it ends (see Figure 244). Following the striation mark (see Figure 225), it starts where a person is standing with an elk head stick (Kamenniy 7, area 2). The line is incorporated in an animal-track and then a human figure is carved as if the body is formed by the natural line. In this area there are figures that appear depict various elk-hunts. Finally, the long line ends up in the back legs of the large elk (in Kamenniy 7, area 3). This could be interpreted as the natural line is marking the shamans journey, either real or cosmological.

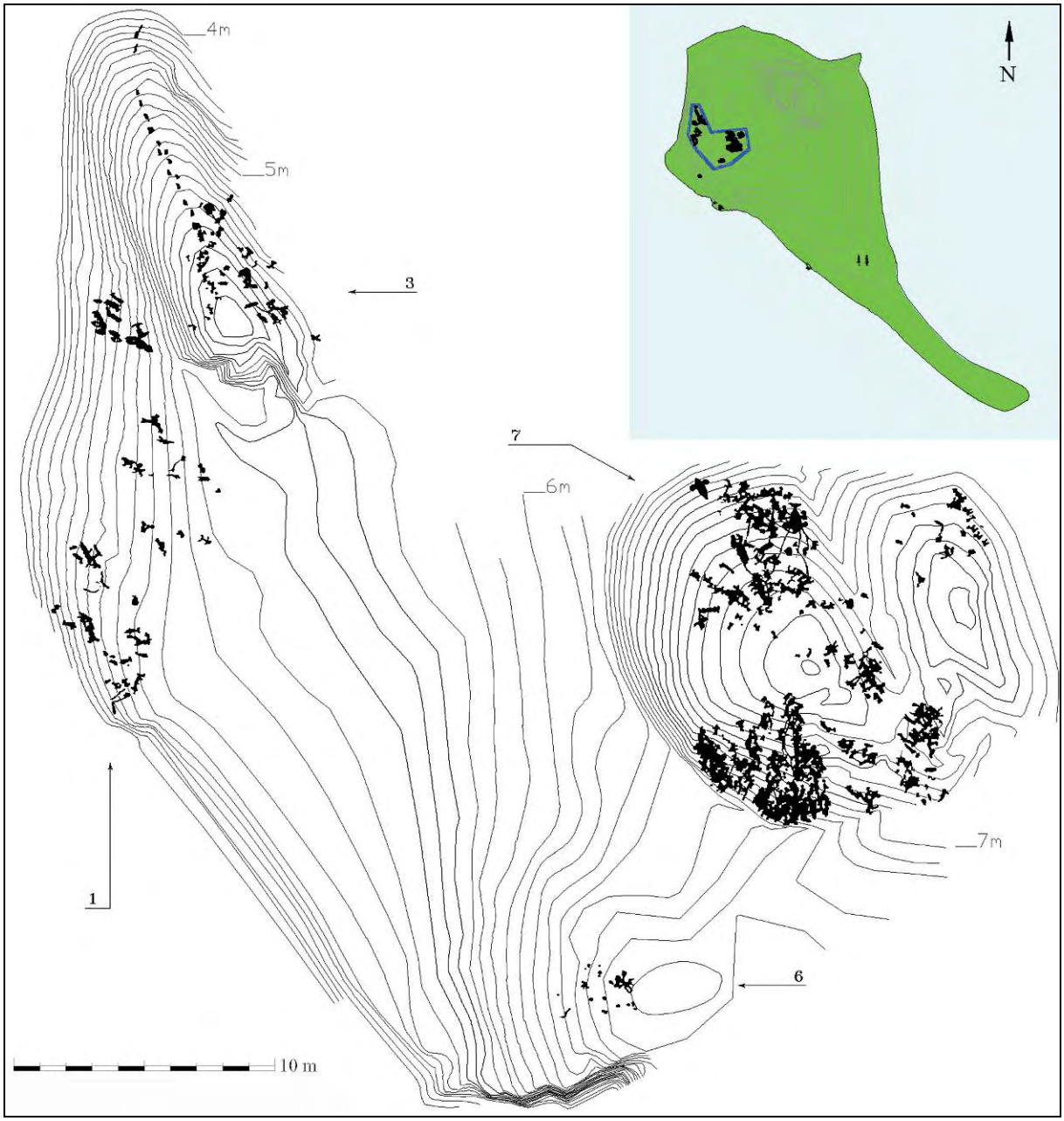


Figure 241 Soutwestern part of Kamenniy with the placing of the figures at Kamenniy 1, 3, 6 and 7. Contours at 10cm interval. Compare with **Figure 239**. Notice how the footprints that can be seen in the tracing at **Figure 243**

appear as if they are walking up the rock ridge at Kammeniy 3 (see **Figure 242**). With a higher water-level in the lake, these would come from the lake. Today, they are about 4m above the water level at Kanozero. Illustration: Kola Archaeological Expedition, Evgenev Kolpakov.

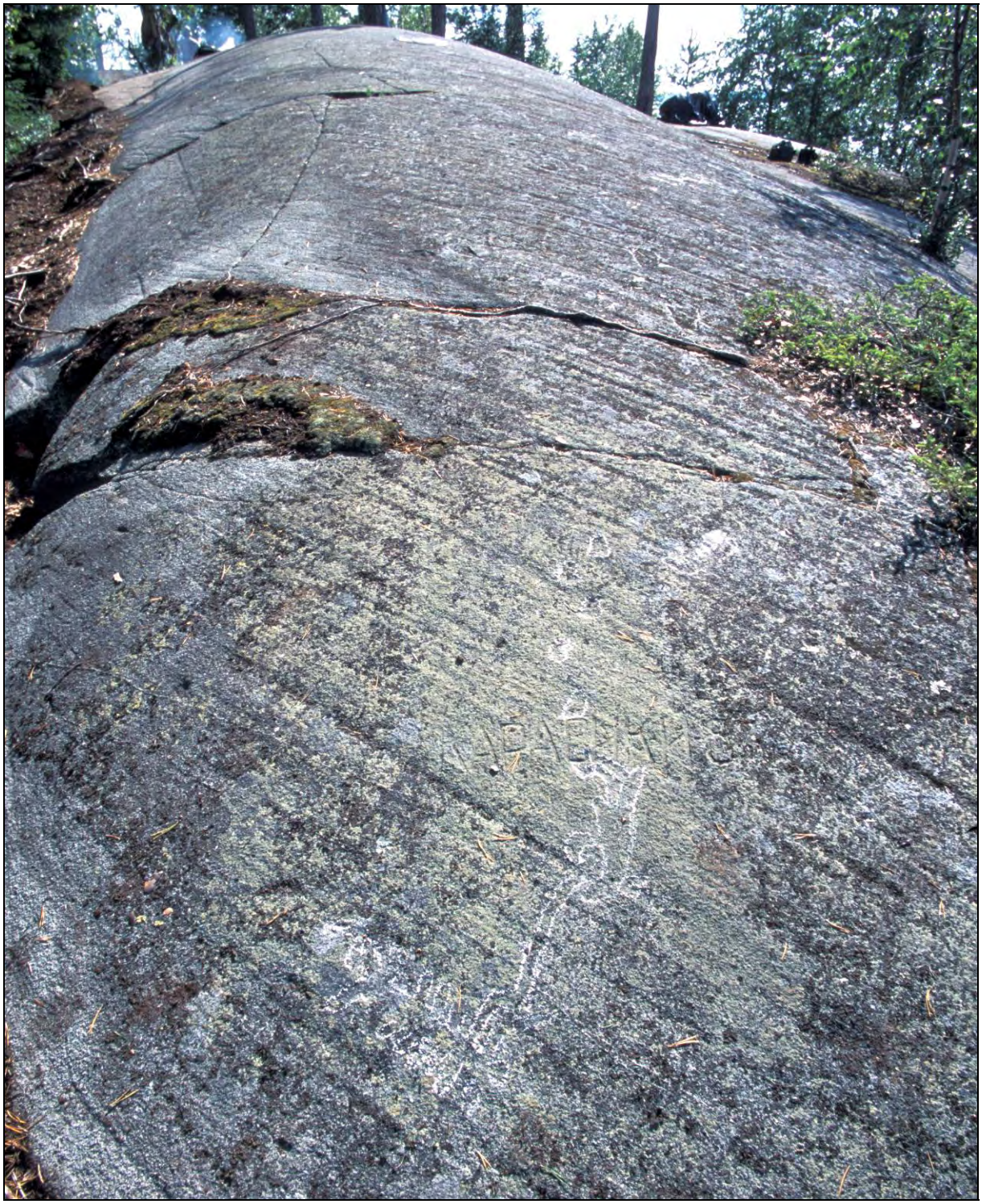


Figure 242 Kamenniy 3 seen from the lowest carvings. There are figures on both sides of the rock ridge at the flat surface in the upper right of the photo. At the lower part of the photo, a reindeer hunting scene is depicted. 15 footprints are depicted as if they are walking up the rock ridge. The footsteps start above the crack to the left of the green grass in right of the middle of the photo. For a general distribution of the figures, compare with the tracing in **Figure 243**. Photo: Jan Magne Gjerde.

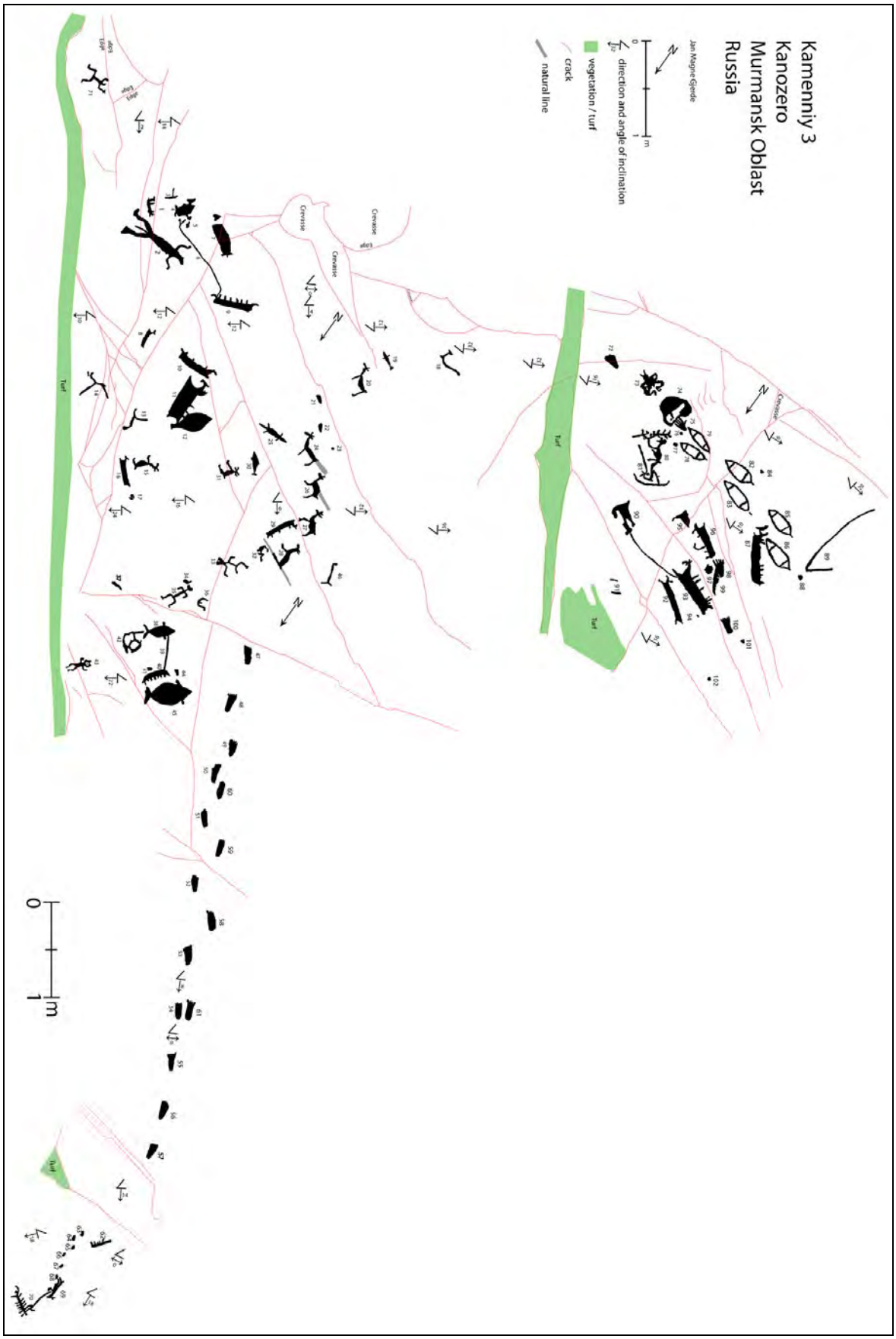


Figure 243 Tracing of the Kamenniy 3 site. The lowest figures depicting a reindeer hunt is seen in **Figure 242**. The footprints are walking up the rock as if it is appearing from the lake. For the general distribution of the figures, see **Figure 241**. Tracing and illustration, Jan Magne Gjerde.

Figure 244 The natural line connected to the large elk figure at Kamenniy 7 (area 2). Compare tracing in **Figure 225**. Photo: Jan Magne Gjerde.

Summary of the Kanozero rock art

The making of rock art at Kanozero cannot be dated by shoreline dating. By comparison to the Vyg rock art area a reasonable dating suggestion places the initial carvings at Kanozero to the Kamenniy sites dated to about 3700BC. The end-phase is hard to estimate, but could be quite recent and is placed to about 1800AD. That is, rock art was made at Kanozero for about 5500 years.

Initially around 3700BC, the Kanozero Lake was slightly larger. However even if the lake size changed slightly, Kanozero with its inflow and outflow rivers seem to have been an ideal communication ore between the White Sea, inland to the Lovozero Lake and north as far as the Barents Sea. The islands with rock art act as reference point from a boat when moving around the large Kanozero Lake.

The rock art at Kanozero is at several places deliberately placed in relation to natural features in the rocks. Some places it looks like if the natural elements of the rocks interacted with the rock art and the story told in the rocks. Some places these even have references to the wider landscape where the micro landscape or miniature landscape acts like a backdrop to tell

stories of their macro topography / macro landscape, interacting with the figures and scenes. One can also see that scenes act as reference point to places in their wider landscape like the skier on a bear hunt, at Kamenniy 7, where the figures narrative interact with the inclination of the rock outcrop.

Nämforsen

Rock art at Nämforsen

The carvings at Nämforsen were first mentioned in 1705. Several researchers paid interest in Nämforsen and published free-hand drawings with descriptions. It was however not before midsummer 1907, when Hallström visited Nämforsen for the first time (Hallström 1960:134), that the scientific investigations started[181]. For a detailed overview of the research conducted at Nämforsen before 1960, I will leave the reader in the hands of Hallström (1960:130-136). Hallström documented 1750 figures at Nämforsen, of which c. 375 in his own words are obscure and inexplicable and more than 300 are unfinished lines or remains of figures. Hallström estimated the numbers of figures to exceed 2000 (Hallström 1960:283). Later more carvings have been found. In 1997, Lindqvist documented more than 100 new figures when the carvings at Nämforsen were repainted (Lindqvist 1999:105) A re-documentation of the Nämforsen site has lately been conducted by Larsson[182], however this documentation awaits publication. Only sparse accounts have been published, but these show that more figures heve been found and that Nämforsen now has more than 2300 figures (Larsson & Engelmark 2005). I have applied Hallströms documentation to get an overview of the carving area. Hence, I will briefly introduce Hallströms sectioning of the material so that the references to figures, panels and sites will be clearer to the reader[183]. Hallström grouped the carvings of Nämforsen in three main groups that reflect his work at Nämforsen. Due to the forceful rapids (see Figure 246), he could not get to the Bradön during his first visits. Thereby the sectioning is not spatial, however, a reference to his history of documentation (Figure 245, Figure 247 and Figure 248):

[181] Hallström documented Nämforsen and his lifetime meticulous documentation (Hallström 1960) was published in full only two years before he died. Hallström had previously published parts of the Nämforsen site (Hallström 1945).
[182] Thomas B. Larsson, personal communication 2004.
[183] To make it easier to the reader to locate the examples applied from Hallströms documentation, I have chosen to refer e.g., when referring to main group I and subgroup G1 after this pattern Hallström IG1.

Group I: The carvings on the island Laxön and on the northern and southern riverbanks.

Group II: The carvings on the island Notön

Group III: The carvings on the island Bradön

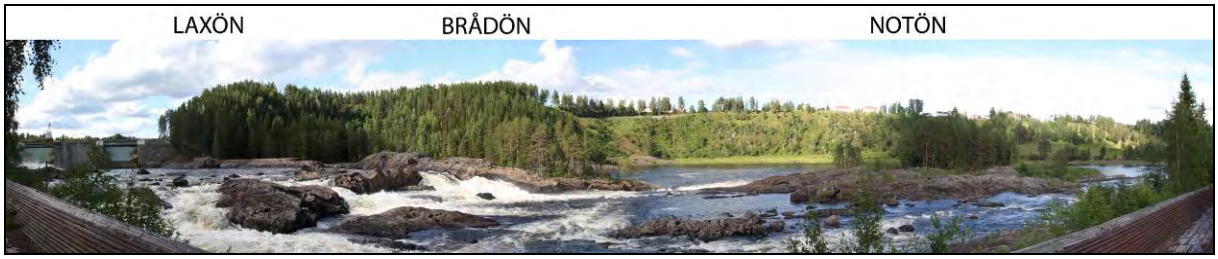


Figure 245 Panoramaphoto of Nämforsen from the area where Ställverksboplatsen once were. Compiled from 6 photos. Photos and illustration: Jan Magne Gjerde

Figure 246 The rock art area of Nämforsen and its surroundings. The rock art is situated on the islands in the rapids area and on the river bank on both sides of the river. Photo from Gustaf Hallströms Archive at the Research Archive, University of Umeå, Sweden.

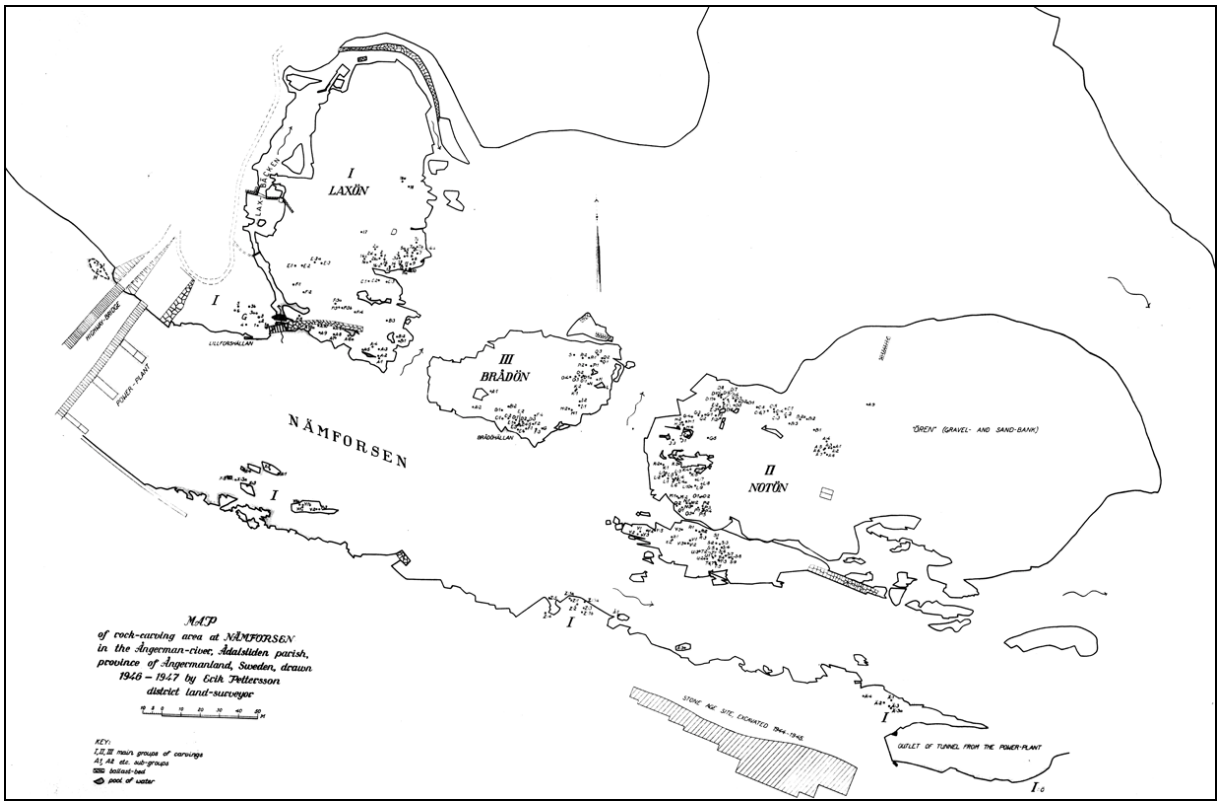


Figure 247 The rock art area of Nämforsen. to show where the carvings are located in relation to the waterfall. The shaded area in the lower part of the drawing is the excavated Ställverksboplatsen. Map from Hallström (1960:129, XXVIIa).

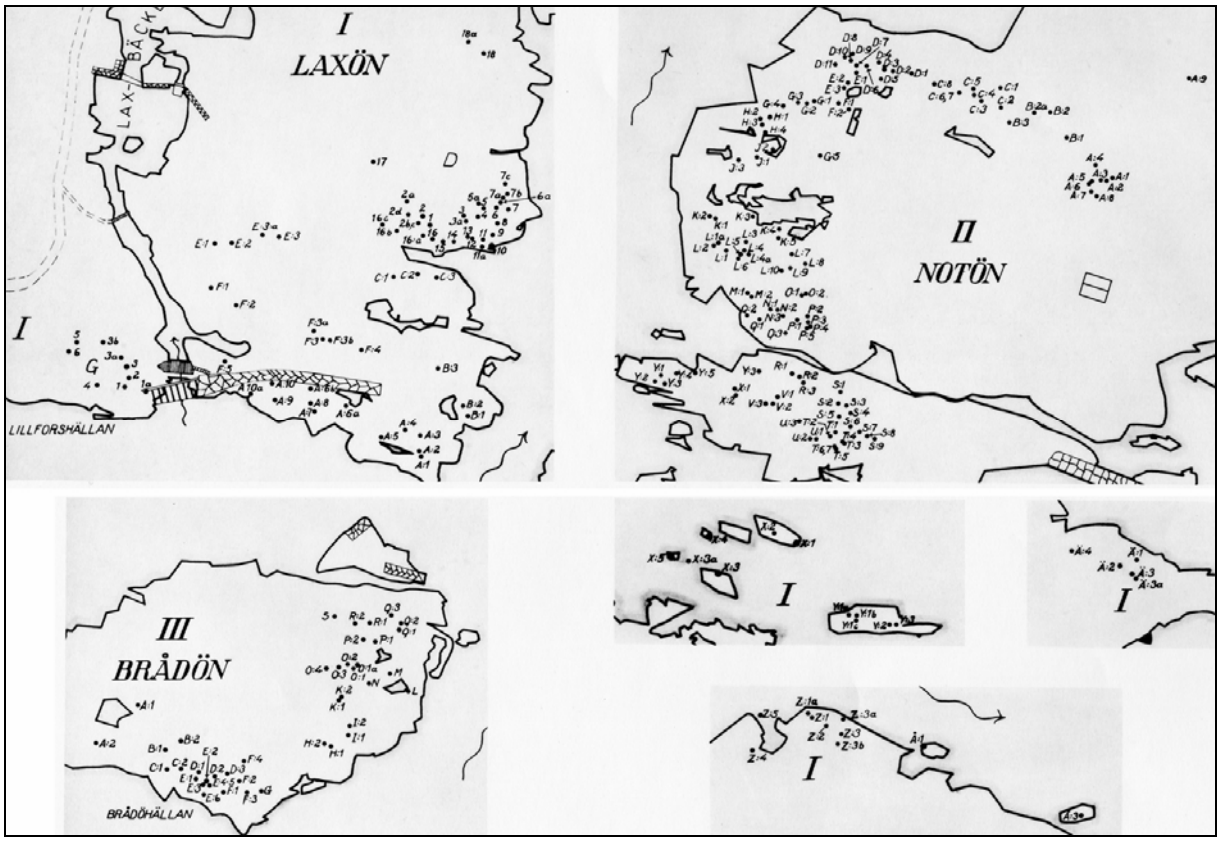


Figure 248 Map of the different groups at Nämforsen. Map from Hallström (1960:129, XXVIIb).

According to Baudou, the carvings at Nämforsen is made between 87-73masl (Baudou 1993:247). However, due to the building of the Hydro Power Station some of the carvings (Hallström group H) were destroyed. They were located at c. 90masl[184].

By far the dominant representation is that of the elk (see Figure 250). There are a few representations of other animals such as bears and salmon. Human figures are also frequently depicted, sometimes with artefacts such as the well-known elk-head sticks. There are also numerous boat depictions (see Figure 249). The elk-head boats with an elk representation are dominant, but a few examples of the "traditional" South Scandinavian boats also occur. There are also foot soles and wheel-crosses that are associated with the South Scandinavian Bronze Age carvings. An overview of the figures that could be identified at Nämforsen, presented by Lindqvist (1994:183) shows that of the 1180 identified figures, a staggering 585 are elks (c. 54%), 337 boat figures (c. 31%) and 99 human figures (9%). That is, c. 95% of all the figures at Nämforsen represents elks, boats or humans. When a motif is so dominant as the elk at Nämforsen it is important to relate the rock art to the animals morphology. The elk is depicted in many different positions at Nämforsen, single individuals and in groups.

The elk seems all-embracing since it also occurs as elk-head-sticks and on the boats with an elk-head in the stem, where the whole boat looks like an elk. At some places one can also see that the antlers of the elk is depicted like boat-representations as suggested by Tilley as ambiguous figures (Tilley 1991:68). That antlers are depicted as boat representations has also been presented for other parts of Fennoscandia (Lahelma 2007:117-119).

Figure 249 Rock art at Nämforsen. Lillforshällen (Hallström IG) at Laxön with some of the earliest figures from Nämforsen. Compilation of three photos. Photo and illustration: Jan Magne Gjerde.

[184] Hallström group H is Ådals-Liden 4:1 in http://www.fmis.raa.se/cocoon/fornsok/search.html.

Figure 250 Rock art at Laxön, Nämforsen. The elk antlers have been interpreted as boat representations. Photo: Jan Magne Gjerde.

Dating the Nämforsen rock art

Accounting for the land uplift, Sidenbladh found that the river was less accessible by ship from the coast and surmised that there was no direct shipping lane after c. 4-5000 years ago, concluding with an ancient date for the carvings (Sidenbladh 1869:206f). Sidenbladh's suggestion dated Nämforsen to the Late Stone Age, however, most dating suggestions for Nämforsen placed the carvings in the South Scandinavian Bronze Age. This was mainly rooted in the boat motif (Hallström 1907b:164, 177). In general in Hallströms early works, he dated all the rock art at Nämforsen to the Bronze Age (e.g. Hallström 1907b). Later, Hallström (1960) accepted the geological data after Liden (1913; 1938) where the shore displacement in the Ångermanland district determined that the rapids were uncovered during land elevation between 3850BC-3125BC. Hallström saw this as the maximum date for the carvings at Nämforsen, which would place the initial carvings at Nämforsen to the Late Stone Age compared to the carvings with the rock art of northern Fennoscandia (Hallström 1960:372).

The few figures belonging to the Bronze Age are focal in the dating discussions on Nämforsen (e.g. Malmer 1975; Malmer 1981). The few Bronze Age figures were dated; hence representative for the site. Malmer could not break free of the dating suggested by Hallström,

placing the rock art in the Bronze Age. Hence, Malmer (1981)[185] entered Nämforsen in what appears to be a "*South Scandinavian Bronze Age boat of type AIIIc1*". For the animal figures Malmer followed Hallströms relative chronology where the older carvings were outlined, followed by a later phase with internal patterns, and the youngest with scooped out animals dated to the Bronze Age (Forsberg 2000:60). Less than 50 figures of the more than 2300 figures can be assigned by stylistic comparison to the Bronze Age. It is therefore noteworthy and surprising that the few motifs are emphasized in the discussion on dating. A solution to the problematic dating could be to neglect it or under-communicate it, like Tilley has done in his study of Nämforsen (Tilley 1991). I do not regard this as a fruitful option since this would place rock art in what too often seems like a diachronic void that cannot relate to the rest of prehistory.

The latest dating suggestions for the Nämforsen carvings was presented virtually at the same time by Baudou (1993), Forsberg (1993), Lindqvist (1994) and Ramqvist (1992). They are all based on shore displacement data. Being more aware of the fact that figures from different times could occur on the same panels at Nämforsen, Forsberg combined land uplift data, superimposition and seriation analysis. For a thorough presentation of the superimposition at Nämforsen, see Forsberg (1993:218-223). The pattern presented by Forsberg shows that the scooped out figures are older than the line-drawn ones (see Figure 251). This concurs with Lindqvist results when he sectioned the figures at Nämforsen into three main styles (style A-C). Style A can be found between 78-88masl, style B can be found between 72-78masl (he also separated style B into B1 and B2) and style C can be found at 73-80masl. Lindqvist also observes that the few "clear" South Scandinavian designs at Nämforsen occur together with the outlined figures and not the scooped-out figures which should have been the case if they were contemporary (Lindqvist 1994:213-220). The thorough work on dating has strengthened the argument that the majority of the carvings at Nämforsen date to the Late Stone Age. The general acceptance that the boat-motif at Nämforsen could belong to the Stone Age as a result of the finds at Vyg in northwestern Russia and in Alta in northern Norway, can, in my opinion, be read between the lines in the above mentioned Swedish works.

[185] Malmers work was written in 1972, however not published before 1981. This might explain his strong stylitic focus. This also might explain why he did not look north for similarity in the boats. The carvings in Alta, northern Norway was yet to be found when he wrote his dissertation.

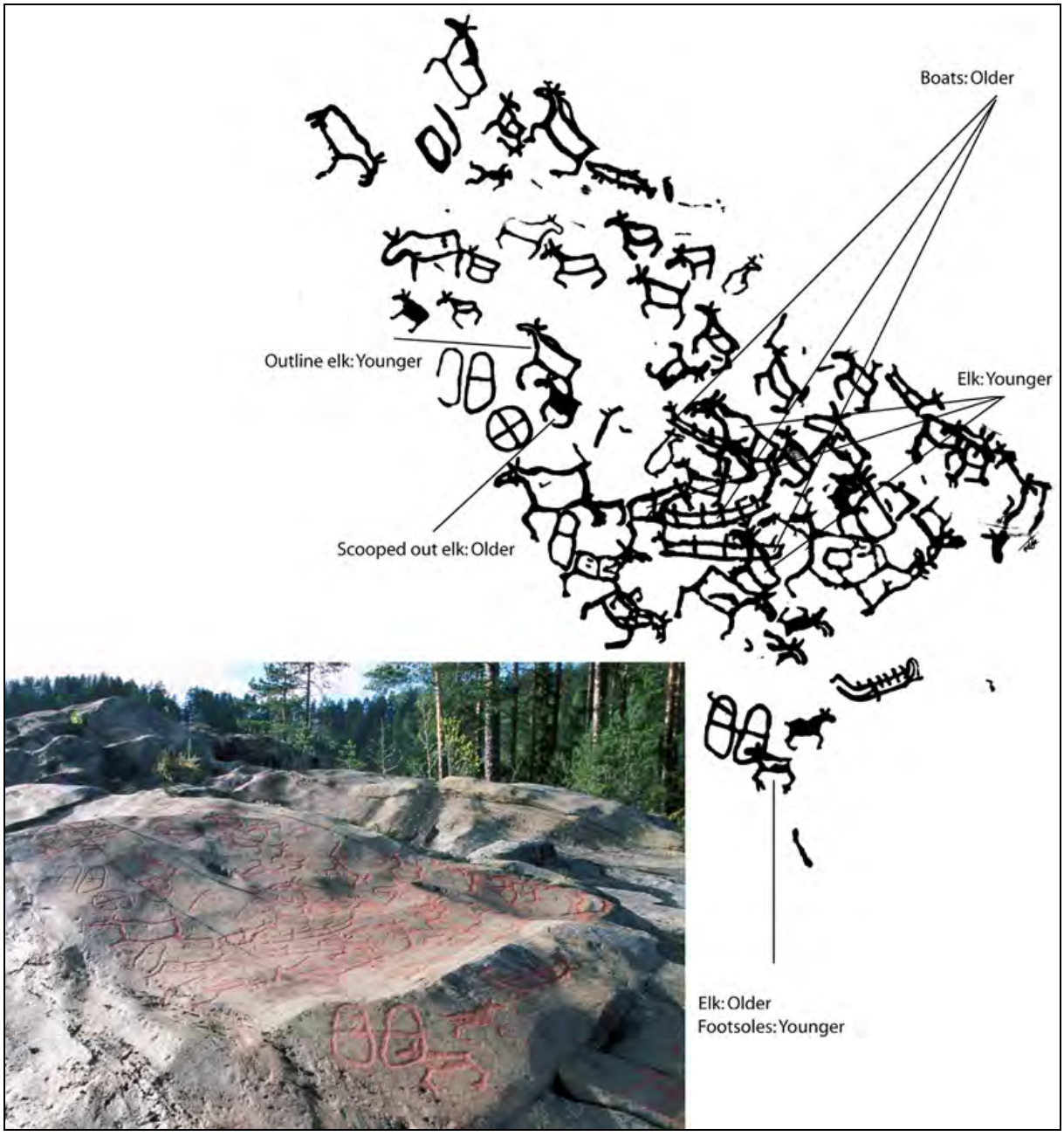


Figure 251 Carvings at Bradön in Nämforsen where the three styles (Lindqvist style A-C) of rock art is situated. The superimposition of the carvings shows that the scooped out elk is superimpositioned by an outline elk almost in the middle of the illustration. In the lower part of the illustration one can see how the outline elk is superimpositioned by the footsole motif. This panel is vital to the internal chronology between the figures at Nämforsen. Section of tracing after Hallström (1960:plate 25), superimposition documented by Forsberg (1993:222, fig 18). Photo and illustration: Jan Magne Gjerde.

A re-assessment of the material excavated in 1944 at the nearby "Ställverksboplatsen"[186] (Raä 10) site at 84-86masl indicates that the settlement was in use from 4000BC to about 0AD based on diagnostic artefacts and raw material (Käck 2001; Käck

[186] Ådals-Liden 10 after http://www.fmis.raa.se/cocoon/fornsok/search.html.

2009). Based on the find distribution and stratigraphy at the large "Ställverksboplatsen" site, Käck concludes that the highest elevated part of the site, the western part (above 85masl) was used between 4000BC to 2300BC and the eastern part between 2300-1800BC. Later the whole settlement area was utilized between 1800BC-0AD (Käck 2001; Käck 2009). This settlement is still today the richest documented settlement from the Stone Age in northern Sweden (Baudou & Selinge 1977:72; Käck 2001:26). Recent excavations at the site Ådals-Liden 158:1 on the northern riverbank of the Ångermanälven, in close vicinity of the Nämforsen rapids (see Figure 262), revealed extensive red ochre production. The site at Ådals-Liden 158:1 was situated between 75-80masl (George 2005). Excavations at this adjacent site to Nämforsen has proved that the area was utilized at least as early as 4200BC. The three distinctive layers with red ochre was dated by ^{14}C to 4200-4000BC, 3700-3500BC, 2800-2400BC (Larsson & Engelmark 2005). This would suggest that the activities related to the Nämforsen area was at c. 4200BC. However, when the first carvings were made at Nämforsen, given they were shore related, the settlement and activity areas at Ställverksboplatsen and Ådals-Liden 158:1 was under water; hence the first carvings should be older.

Nämforsen as a natural phenomena is located between 70 and 90masl. Previous geological data applied for the dating of Nämforsen, e.g. in Lindqvist (1994) was based on geological data c. 65km further east, from the Anundsjö-region by Miller and Robertsson Robertsson (1979). With the difference in land uplift, these gave a too young date for the Ångermanälven region. New geological data has recently been presented for the south-eastern part of Ångermanland (Berglund 2004). Based on the data from Berglund and extrapolation of the shore displacement curve relating the curve to Näsåker in the Nämforsen area, a more accurate shore displacement curve has been extrapolated (see Figure 252). The rock carvings at Nämforsen today is located between 87masl and 73masl. However, before the dam was built at the Power Station at Nämforsen Hallström had observed carvings at a slightly higher location at the H-group of main group I at c. 90masl[187] (Hallström 1960:180f, plate XXVII Group I H). This would indicate a maximum age for the carvings to about 7000 calendar Years BP based on an extrapolation of Berglund's shore displacement data, which is about 5000BC. That is, the earliest rock art at Nämforsen could have been made as early as 5000BC

[187] Some of these were blasted out and moved to the State Historical Museum in Stockholm in 1944. Their inventory number is 23362 (Hallström 1960:180). The carvings at Hallström group H is registred in the Riksantikvarieämbetet database as Ådals-Liden 4:1.

and that the islands with the lowest situated carvings was available at 4200BC. The Nämforsen area with its rapids and islands was formed before c. 4200BC.

The shore displacement information from the Nämforsen area makes it inevitable that all the rock art was related to the seashore. They are however clearly shore bound to the waterfall. The waterfall as landscape characteristic remained similar for a long time, strengthening the notion of this as a similar place for a long time after it was coast-related. The few Bronze Age figures present at Nämforsen can be explained through the character of the place. The rapids at Nämforsen were unchanged even for thousands of years after it lost its coastal location (see Figure 264), and forces in the waterfall must still have been evident. This was still a place people travelled to.

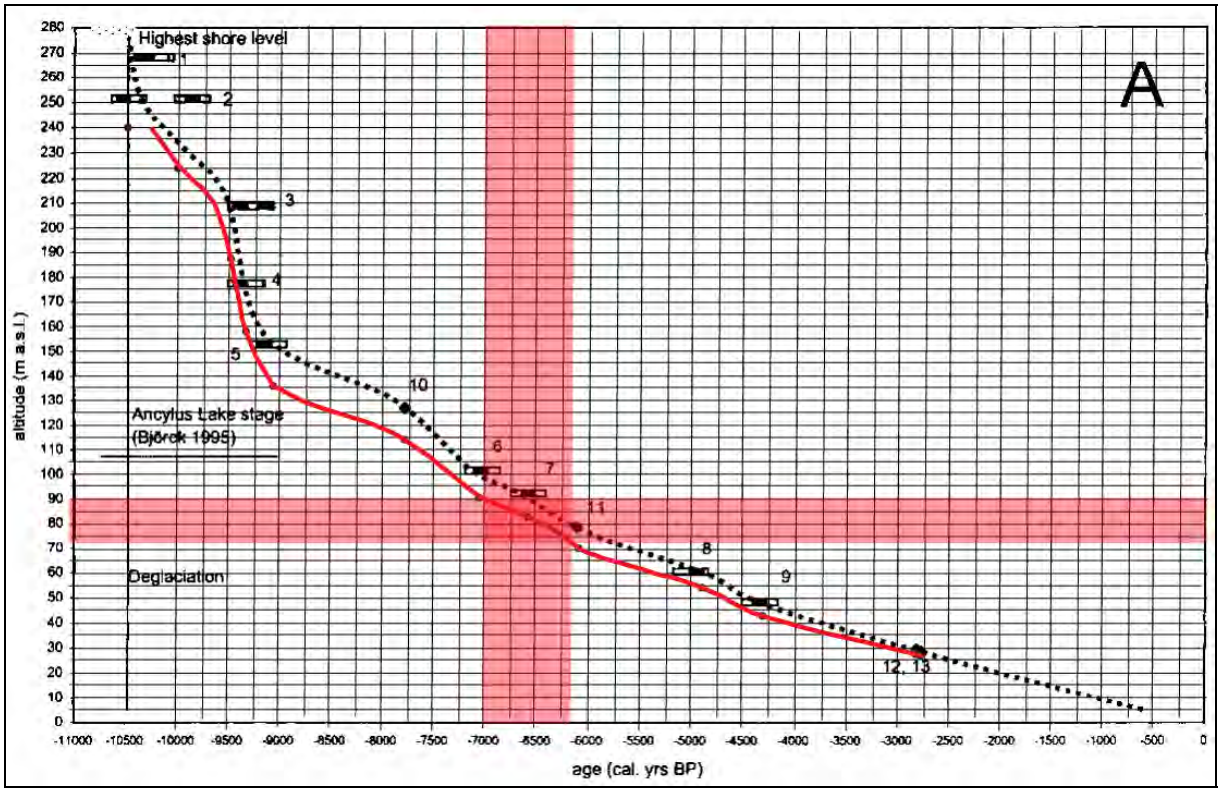


Figure 252 Shore displacement curve for the Näsåker / Nämforsen area. Based on data from Berglund (Berglund 2004:fig 5A) and Berglund (personal communication 2009). The numbers 1-13, marked with dots and dashed lines, are the dating results of the isolation event of core sediments from lakes making up the shore displacement curve. The data in Berglunds figure is given in calibrated years. Based on the data from Berglund and extrapolation of the shore displacement curve relating the curve to Näsåker in the Nämforsen area, a more accurate shore displacement curve, for the Nämforsen area, has been extrapolated marked with a red line[188]. The elevation between 90masl and 73masl is marked by giving a date to between 5000BC and 4250BC. That was the time when the rocks at Nämforsen was "coast-bound". Illustration: Jan Magne Gjerde.

[188] The highest coastline is 275masl at southeastern Ångermanland at 10500BP, this gives an average of 0.0262m/year. The highest coastline at Näsåker (Nämforsen) is 240masl. at 10200BP, this gives an average of 0.0235m/year. 0.0235 divided by 0.0262 gives a difference of 0.0897. This is the data that should be applied to extrapolate the curve (Berglund, pers.comm).

The internal dating between the panels and figures at Nämforsen is problematic. However, we can assume that the first carvings were made as early as 5000BC and the latter during the Early Bronze Age. Based on the shore displacement at Nämforsen and that the carvings initially was shore related, one may assume that the carvings at the higher elevated panels are the oldest. The boat figures e.g. at the panel Lillforshällan (Hallström, Main Group I, subgroup G1) has boat representations that are not present at lower elevations (see boat figure in Figure 249). The so-called Bronze Age boats at lower elevations are mirroring this fact, hence they are not represented at the highest elevated panels.

Studying the boat representations shows us that boats were made at Nämforsen most likely throughout the whole rock art production period from about 5000BC-1000BC. That is about 4000 years. Even if the boat typology and chronology of Nämforsen is problematic, a few major changes in the boat representation can be observed. Forsberg has presented the internal chronology between the figures at Nämforsen based on *Older / Younger* types mainly by superimposition. Both Forsberg and Lindqvist conclude that the scooped out figures at Nämforsen are older than the outlined ones (Lindqvist 1994; Forsberg 1993). While Baudou, Forsberg and Lindqvist finds it likely that the hunters carvings and the so-called agrarian Bronze Age carvings are not contemporary (Baudou 1993:261, table 2; Forsberg 1993; Lindqvist 1994:79) one can not exclude as Malmer suggested (Malmer 1975) and Käck also mentions (Käck 2009:143) that the latter hunters carvings could be contemporary with the first Bronze Age carvings. This is also supported by the figures of both traditions that are adjacent at the same panel at Bradön[189] (Figure 251).

There seems to be an acceptance for a relative chronology at Nämforsen where the scooped out figures located on the highest elevated panels are the oldest. They are older than the outline figures, and finally, after the so-called hunters carvings were made, the few Bronze Age figures were made. There are overlapping figures from the styles at the same panel (e.g. at Bradön). However, even with the few exceptions or discrepancies to this relative typology, the majority fits the pattern. Raising the sea-level to c. 78masl, shows where the figures from phase A are situated, at the higher elevated areas. It also shows that the waterfall was already a main feature and a characteristic in the landscape (Figure 253). Based on Berglunds data, 78masl represents about 4600BC. Based on Hallströms photos and the elevation data presented by Hallström, it shows that the rapids would have been forceful and the waterfall would have been a characteristic feature even earlier, at a higher elevation (see Figure 17).

[189] At the lowest panels in Alta (Apana Gård), one can also see hunters carvings and agrarian carvings at the same panel.

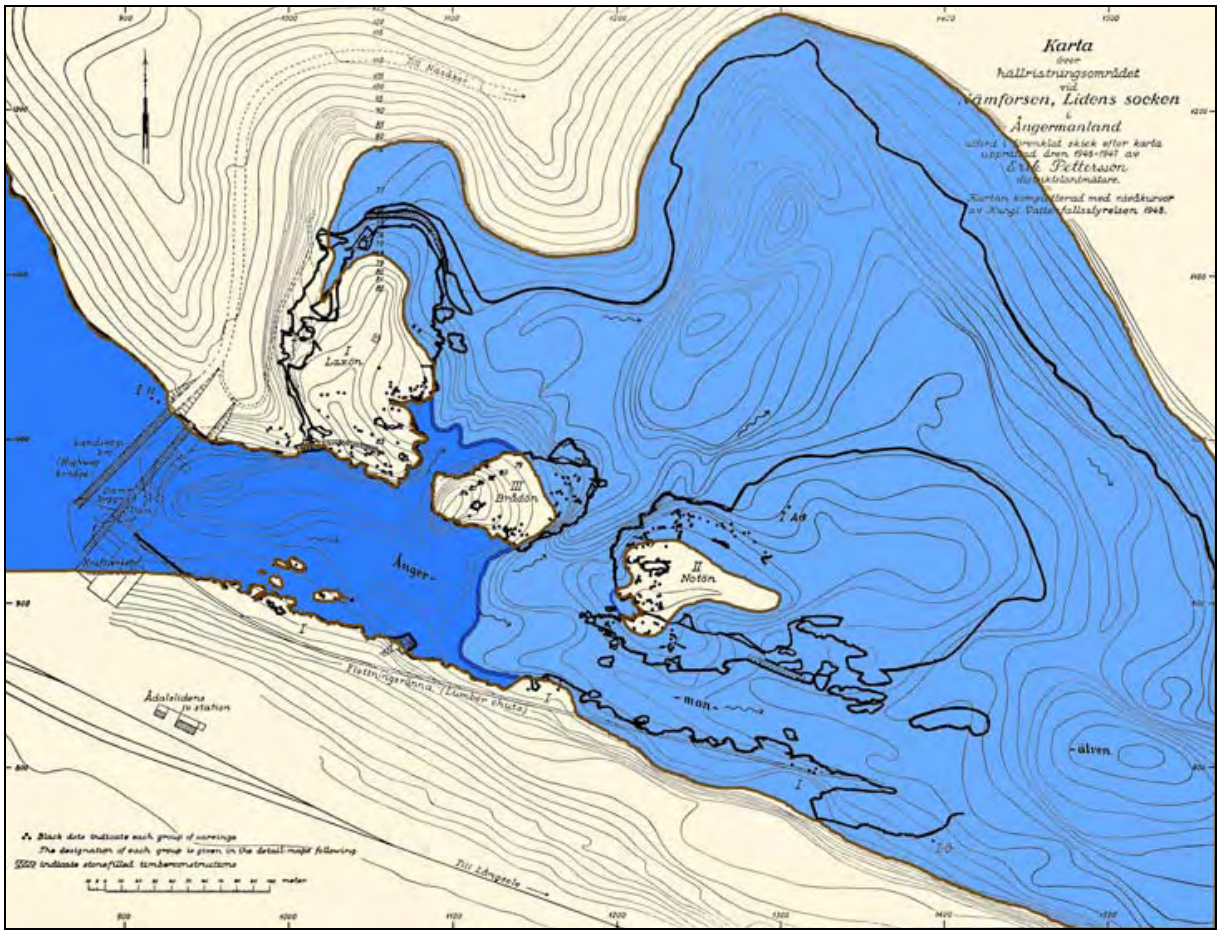


Figure 253 Sea-level reconstructed at 78masl at Nämforsen. At 78masl, the dark blue is the river and the light blue is the sea in this illustration. Base map after Hallström (1960:129). The scooped out figures are located above 78masl (with few exceptions) suggesting they are the oldest and made between c. 5000 and 4600BC. It also shows that the area adjacent to the Bradön and Notön islands would have been less dramatic than later. It also shows that the Notön island was in the sea, not in the river. Illustration: Jan Magne Gjerde.

I find the typology presented by Forsberg and Lindqvist to be as close as we today can approach a relative dating of the Nämforsen material based on the current data (Figure 254). New shore displacement data has given the opportunity to re-date the initial phase of Nämforsen. Most likely people started making carvings at Nämforsen about 5000BC. This sets the starting phase of the Nämforsen carvings back about 800-1000 years. This means that people made carvings at the Nämforsen site for nearly 4000 years. After the initial rock carvings were made between 5000-4200BC, the sea had retreated from the Nämforsen water-falls. The people living by and revisiting Nämforsen continued making rock art in close connection to the rapids of Nämforsen. Based on stylistically similarity with south Scandinavian Bronze Age boats, the latter figures at Nämforsen were made c. 1000BC. The majority of the carvings at Nämforsen must have been made between 5000BC and 2000BC within a hunter-gatherer Stone Age ideology.

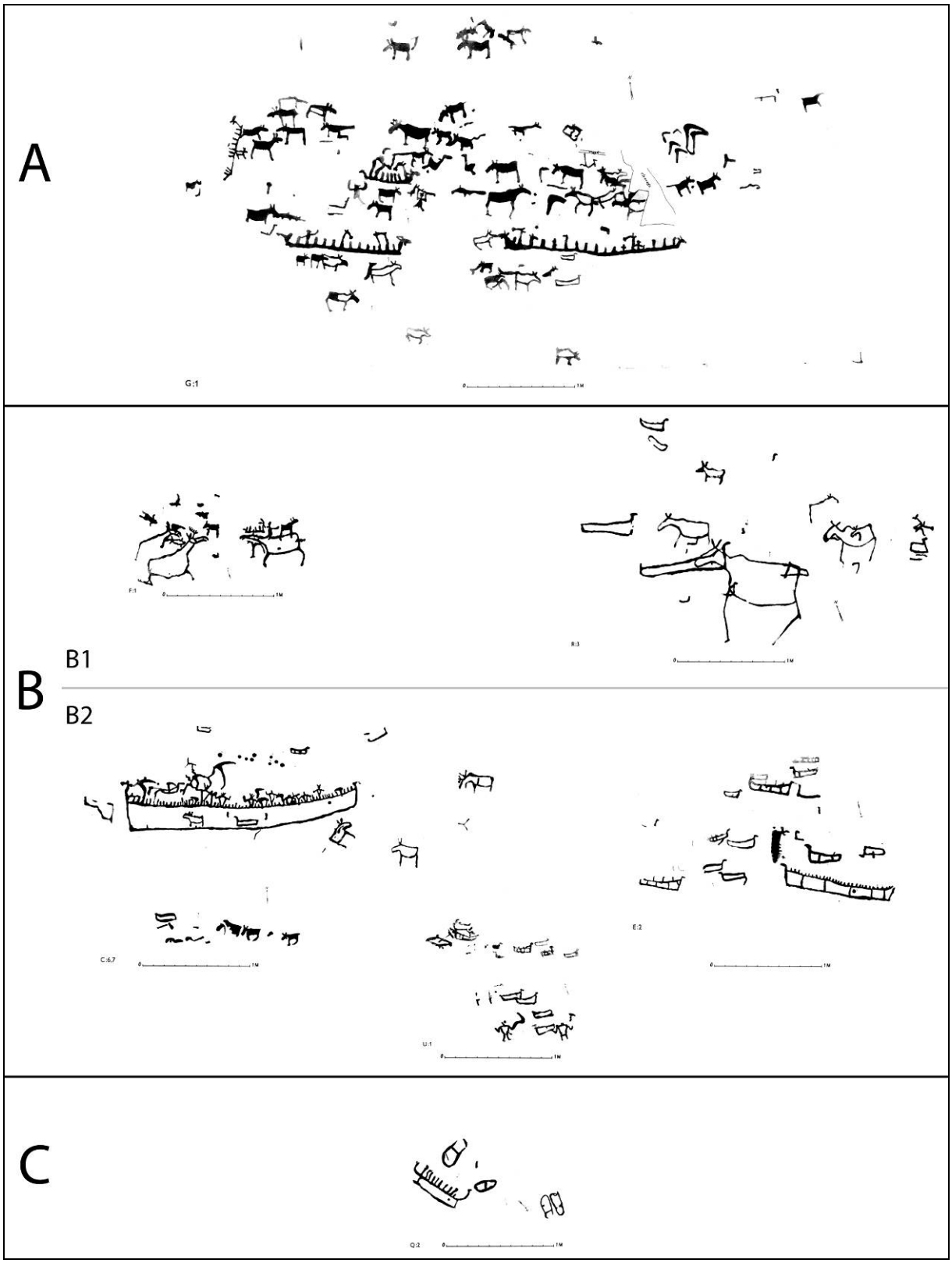


Figure 254 Relative chronology of the figures at Nämforsen. The typology is based mainly on Lindqvist (Lindqvist 1994:213-220). Tracings reworked after Hallström (1960:plate XIII, XIV, XXI, XVII, XXII, XVIII, XXVI). The figures belonging to phase A are the oldest. Figures of phase A and B type belong to the Stone Age while the figures belonging to phase C are the youngest with a Bronze Age origin. The first carvings at Nämforsen could have been made as early as 5000BC, while the latter was made in the Early Bronze Age. The internal chronology between the different styles can not be separated further than with the older / younger line of argument. Illustartion: Jan Magne Gjerde.

Macrolandscape and microlandscapes of Nämforsen

Macrolandscape

Sidenbladh (1869) had already noted the land uplift regarding the dating of Nämforsen. He also assumed that the boats depicted was proof of seagoing vessels that came into Nämforsen with a higher raised sea level. Hallström paid notion to the changing landscape when he accounted for the land elevation that had taken place at Nämforsen and that it was located at the head of the fjord when the sea penetrated as far as the foot of Nämforsen (Hallström 1960:128). The shore displacement data for the Nämforsen area shows that the land uplift was a relative rapid event. The rocks appeared and the waterfall was formed between c. 5000-4200BC. Due to the flat landscape, the land uplift both during and after the "making" of the waterfall, made the present Ångermanälven a narrow fjord. This long fjord would have been ideal for the communication between coast and inland groups. After a while, the narrow Ångerman-fjord became a river and saltwater would no longer penetrate to the rapids of Nämforsen. At about 2000BC, the sea would have been c. 40masl based on Berglunds data (see Figure 252). The fjord would have retracted due to the land uplift and now reached just north of present Sollefteå, about where Ångermanälven and Faxälven meet (Figure 255). Even with this change in land uplift, due to the calmly running river below Nämforsen, one could still go by boat c. 140km inland from the coast. By reconstructing the landscape at c. 70-75masl, the communication ore of the Ångermanälven-fjord stands out (Figure 255). The situation for the Ångermanälven-fjord between 90 and 73masl would not change much due to the waterfall with a 16m drop. The situation further south where the Faxälven and Ångermanälven meets would not have changed much either due to similar elevation difference. Thereby this communication line from the coastal region to the inland would have been very stable. The main difference would be how far the sea penetrated up the long Ångerman-valley. Even if the land uplift changed the landscape, it seems that the Ångermanälven (Ångermanälven-fjord) was "constant", although it must have been deeper than the present river. The flat landscape and the clear communication line due to the ridges on the side of the rivers made these communication lines more stable. The importance of the fjord / river as a communication system would still be important and could be the reason why the boat motif is depicted from the earliest carving phase until the latest.

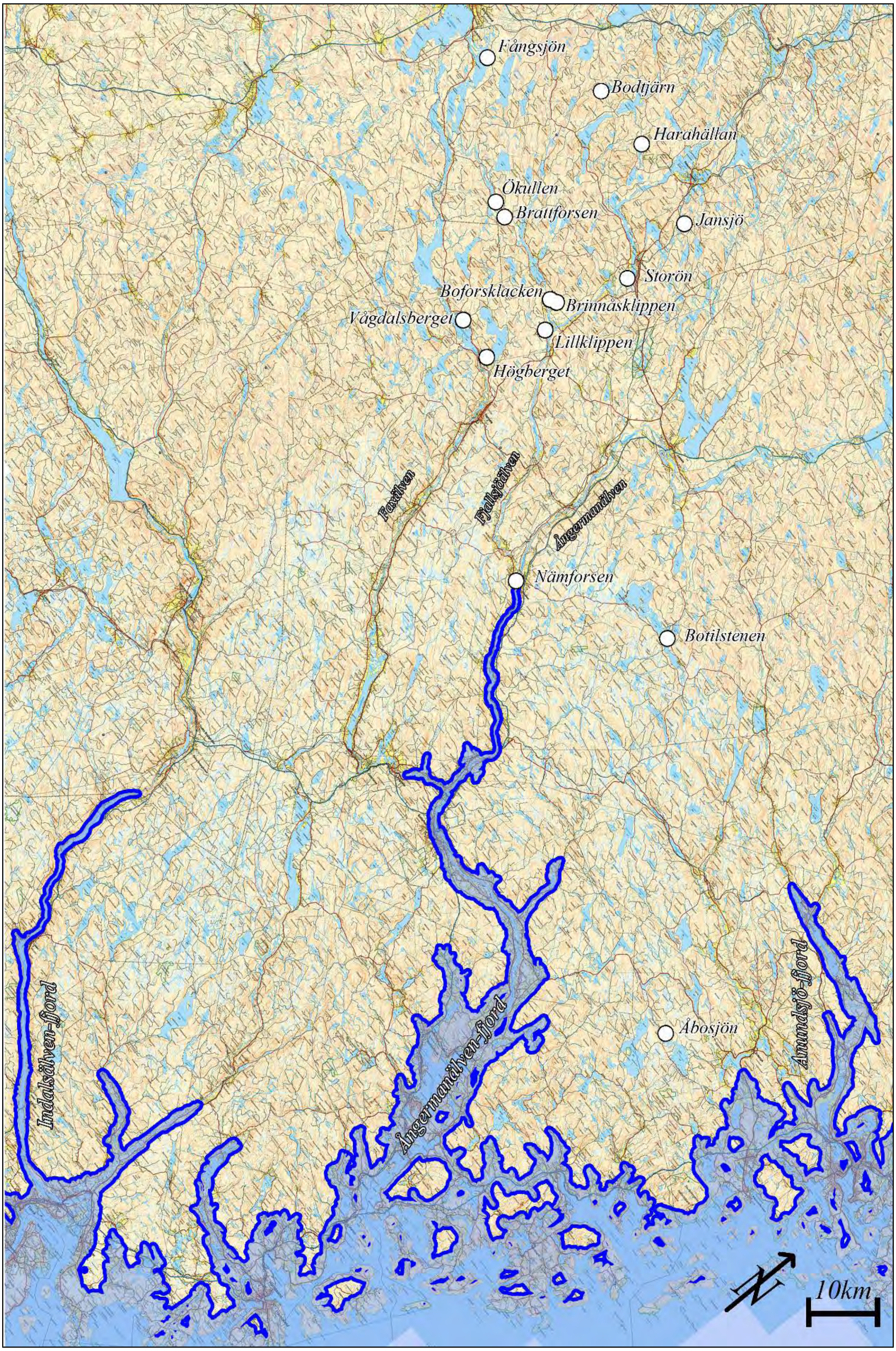

Fångsjön
Bodtjärn
Harahällan
Ökullen
Brattforsen
Jansjö
Storön
Boforsklacken
Brinnåsklippen
Vågdalsberget
Lillklippen
Högberget
Faxälven
Fjällsjöälven
Ångermanälven
Nämforsen
Botilstenen
Indalsälven-fjord
Ångermanälven-fjord
Åbosjön
Åmundsjö-fjord
N
10km

Figure 255 Previous page. Rough schematic map based on 70-75masl from the Gulf of Bothnia to inland of Nämforsen with rock art sites[190]. Map based on data from http://www.fmis.raa.se/cocoon/fornsok/search.html. The map follows the 70-75masl elevation for the entire area. The gradual difference in land uplift at the coast has not been accounted for. However, this shows a tentative map of the shoreline situation from the coast to Nämforsen when the carvings were made. The present day map in the background shows how minor the changes in the macro topography would be between the present situation and the situation with a raised shoreline. The Nämforsen site is the only site with carvings, while the others are paintings. Illustration: Jan Magne Gjerde.

Due to the difference in land uplift, the outer regions of Ångermanälven would have been at c. 77masl when the Nämforsen area would have been at c. 70masl. The difference in the landscape at this level, when it comes to the fjords and the coastline, is minor when studying the topography from maps. This means that at the given time, when the Ångermanälven area was about 70masl, the elevation of the Indalsälven-fjord area would have been slightly less and the elevation of the area north of the Ångermanälven area at the Anundsjö-fjord would be slightly more due to the difference in the land uplift. A reconstruction shows how the long fjord ends up at Nämforsen (Figure 255).

The many Stone Age settlements along the Ångermanälven and connected water systems shows that this area was attractive during the Stone Age. In total more than 1000 Stone Age settlements had been surveyed according to Baudou, although not all the tributaries have been surveyed (Baudou & Selinge 1977:68f). The large settlements at "Ställverksboplatsen" (e.g. Baudou & Selinge 1977), and the recent excavations with massive concentrations of red ochre, defined as a red ochre factory at Ådals-Liden 158:1 (Larsson et al. 2003) shows that activity was intensive at Nämforsen not only by the vast numbers of carvings in the area. Adding to this the large settlement site at Råinget (c. 3km upstream from Nämforsen) and clusters of settlement at places where the rivers meet, at waterfalls and at places where the river narrows or changes character shows an intensive use of this area during the Late Stone Age Figure 262). The related settlements shows intensive elk hunting where bone material are conserved (e.g. Råinget and Bastuloken). The large amount of hunting pits and hunting pit systems along the Ångermanälven and connected Fjällsjöälven shows that these areas were favourable ecological places (Figure 258). These areas must have been ideal for people living by a hunter-fisher-gatherer strategy.

[190] Id-nr from Riksantikvarieëmbetets Fornsök http://www.fmis.raa.se/cocoon/fornsok/search.html: Åbosjön (Sidensjö 1:1), Botilsstenen (Anundsjö 696:1), Nämforsen (Ådals-Liden 4:1, Ådals-Liden 169:1, Ådals-Liden 193:1), Högberget (Ramsele 160:1, Ramsele 161:1, Ramsele 180, Ramsele 181), Lillklippen (Ramsele 182), Vågdalsberget (Ramsele 179), Brinnåsklippen (Fjällsjö 218:1), Boforsklacken (Fjällsjö 196:1), Jansjö (Fjällsjö 219), Brattforsen (Fjällsjö 191:1), Fångsjön (Ström 332:1, Ström 332:2, Ström 332:3). Information of the sites at Bodtjärn, Harahällan, Storön and Ökullen from reports by Viklund (2004b, 2004c, 2006) that is not yet present in the Riksantikvarieämbetet Fornsök (Archaeological site register).

Figure 256 The relations between the nearest sites "related" to Nämforsen with waterways viewed from inland towards the Gulf of Bothnia. The waterways are slightly highlighted The landscape is tilted in Google Earth. Thereby distance relations are distorted (Compare with **Figure 255**). With a raised sea-level, the fjord would have come all the way to Nämforsen where the present Ångermanälven runs. These waterways most likely were the Stone Age highways of northern Sweden. Illustration: Jan Magne Gjerde.

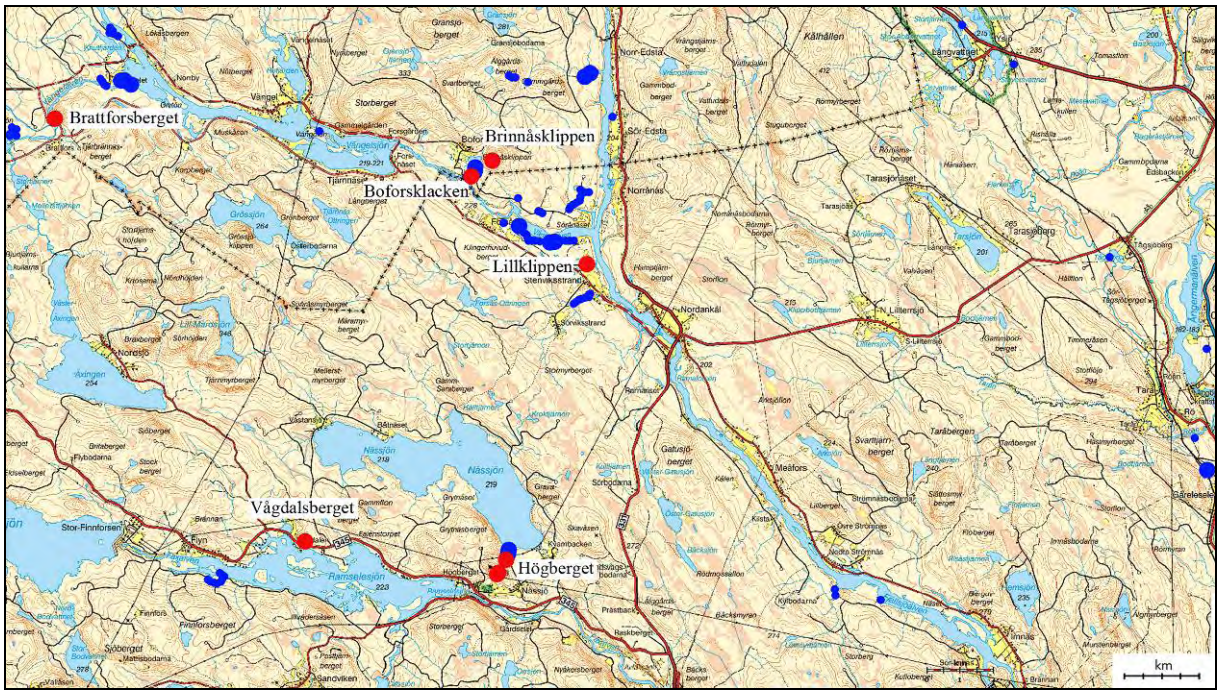


Figure 257 The relation between the Bastuloken area with the sites Brinnåsklippen, Boforsklacken and Lillklippen and the Högberget area with the sites Högberget 1-4. The distance between the Bastuloken area and the Högberget area is c. 10km. The distance from Nämforsen to Högberget is c. 30km. The red dots are rock paintings while the blue dots are hunting pits and hunting pit systems. Data from http://www.fmis.raa.se/cocoon/fornsok/search.html. Illustration: Jan Magne Gjerde.

Inland, not far from Nämforsen, a concentration of rock painting sites have been discovered through intensive surveying (Viklund 1999; Viklund 2002; Viklund 2003; Viklund 2004b; Viklund 2004c; Viklund 2004e; Viklund & Tjärnström 2006). Common for all these sites is that they all depict elk and encompass only a few figures. Viklund has defined this area as the space of red ochre or *Alces Ocra* (Viklund 2004d). When Hallström studied the Monumental Art in Northern Sweden, only one of these sites were known, the Fångsjön site that was discovered in 1950. Brattforsberget was found in 1980 while the remaining has been discovered between 1996 and 2006. The number of sites makes this area a favourable study area. Eleven sites including 18 panels with paintings are discovered inland within 75km distance of Nämforsen (Figure 255). The short distance between the sites, the similar style of the elk figures, a similar dating suggestion (Late Stone Age) and the relation to the connected waterways justifies to discuss these sites in relation to the large Nämforsen site (see Figure 256). When relating the waterways to the reconstructed landscape in Figure 255 with a raised sea-level to about 70-75masl it becomes evident how the "Ångermanälven fjord" was a major route of communication. The waterways in northern Sweden must have acted as Stone Age highways for the people living in these areas. The connection to the other sites makes me briefly move inland from Nämforsen entering a couple of these areas in order to relate them to Nämforsen. It seems that there is a close relation between settlements, elk-hunting and rock art in this area. The two areas that will be discussed further are the Bastuloken area and the Högberget area (Figure 257).

The Bastuloken area

The Bastuloken area is located c. 35km northwest of Nämforsen along the Fjällsjöälven River. The Bastuloken area consists of four sites with paintings; Brinnåsklippen 1-2, Boforsklacken 1-3 and Lillklippen (see Figure 258). The figures at Lillklippen are two elk representations and some paint fragments (Viklund 2004e). The figures at Boforsklacken includes three panels that are made up by a total of 7 elk depictions, a human representation and fragments of paint (Lindgren 2004; Viklund 1997). Brinnåsklippen 1 is made up of an elk figure, a zigzag-pattern and a human representation. Brinnåsklippen 2 includes an elk and fragments of paint (Viklund 2004c). Lillklippen, Brinnåsklippen 1 and most of the figures at Boforsklacken are located on vertical cliff surfaces. Brinnåsklippen 2 and the figures to the

left of the Boforsklacken is located at small glacier boulder cave[191] ("bouldercaves"). The sites are dominated by the elk motif painted in red colour (most likely ochre).

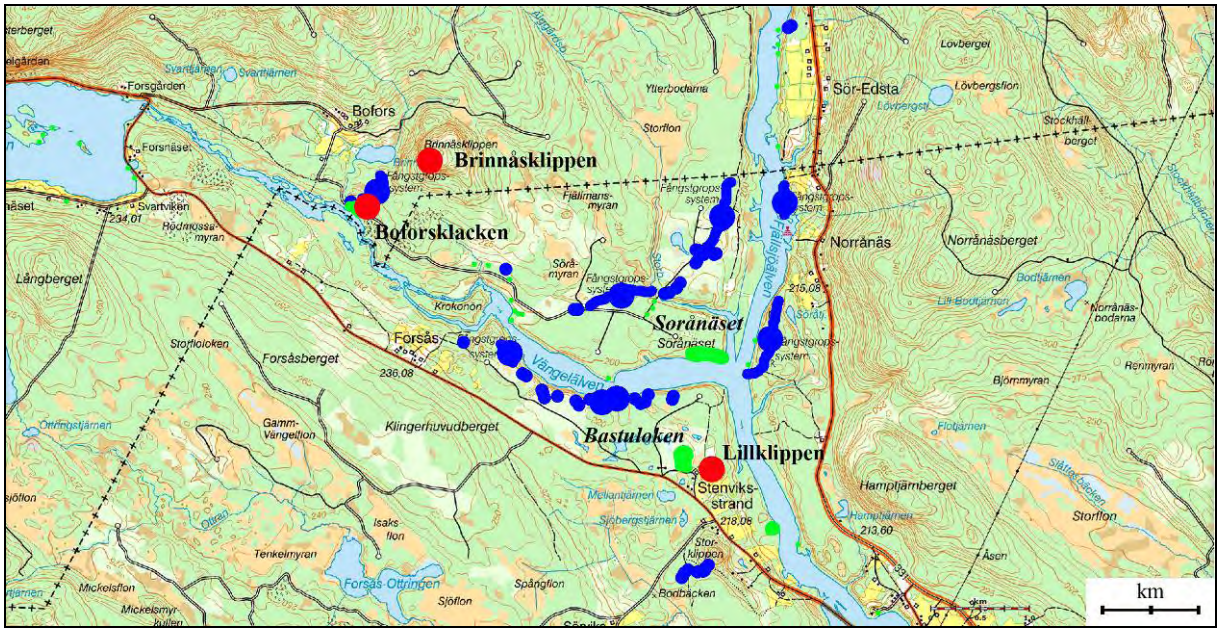


Figure 258 Map of the area with the three rock painting sites Lillklippen, Boforsklacken and Brinnåsklippen marked in red. The hunting pits and hunting pit systems marked with blue. The two large settlements Sörånäset and Bastuloken marked with green. Other minor settlements are marked with small green dots. Data from http://www.fmis.raa.se/cocoon/fornsok/search.html. Illustration: Jan Magne Gjerde.

Bone material from settlements in northern Sweden suggests that the elk was regularly hunted in large numbers (Ekman & Iregren 1984:11). The recently excavated settlement site at Bastuloken evidence a remarkable hunting intensity connected to a large hunting pit system. The excavated test-pit was one by one m. It was 80cm deep and dug in 10cm layers (layer 1-8). Two ^{14}C dates were analyzed; from layer 2 (2175±75BP) and layer 5 (4125±40BP). Vast numbers of elk bones appeared during the excavations at Bastuloken and the bone material consists of 98% elk bones. Adding to this a large number of fire-cracked stones and artefacts (mainly of slate) were found (Engelmark & Harju 2005:10-13). The ^{14}C dates are calibrated by OxCal ver. 3.51 this means that layer 2 is between 360-170BC[192] and layer 5 is between 2860-2620BC[193]. The cultural layer is up to 30cm deeper than layer 5 indicating that the initial settlements phase is older. In layer 6 to 8, one also found small traces of red ochre. The red ochre could be connected to the nearby painting practice. The stone tools indicate a Late Stone Age date for the diagnostic material (Sjölander 2007:5). The

[191] The large boulders forms small caves between the boulders.
[192] Calibrated with 68.2%probability. With 95.4%probability the result is 370-110BC.
[193] Calibrated with 68.2%probability. With 95.4%probability the result is 2880-2570BC.

Lillklippen rock painting site is located only c. 400m southeast of the Bastuloken settlement area (Viklund 2004a:4). Within a radius of 2.5km are 4 panels with rock paintings, two large Stone Age settlements and 7 large pitfall systems with a total of 164 pitfalls surveyed in the area. To my knowledge, none of the pitfalls are dated, hence only a geographic connection is suggested. Although a connection between the settlements, the hunting pits and the paintings can be advocated. There are several traces of settlements. However, the extent of the two large settlements (Bastuloken and Sörnäset) adjacent to the intersection between the rivers Vängelven and Fjällsjöälven are extremely large[194] (Figure 258).

The Bastuloken area shows how settlements, hunting areas and rock paintings are located in relation to each other (Figure 258). The rock paintings are dominated by the elk motif and I see no reason why they could not be related to the intensive elk hunting and related activities in the Bastuloken area. The rock paintings with elks are connected to the elk hunting grounds. This must have been a favourable ecological place in regards to the hunter-gatherer strategy. It is also located where two rivers meet, at a favourable location as a focal place in peoples interaction with the environment.

The Högberget area

Moving c. 10km south of Bastuloken, four panels with rock paintings, Högberget 1-4, are located at the southern end of the Nässjö Lake, about 30km northwest of Nämforsen. Högberget 1 includes two elk representations and fragments with paint (Viklund 1997). Högberget 2 consist of three small surfaces with 3 elks (Viklund 1999). The Högberget 3 site includes an elk representation and a human figure and fragments of paint (Viklund 2004d). At Högberget 4 it is not easy to detect the figure, however at good light conditions it has been noted that an elk figure can be seen (Lindgren 2004). Högberget 1 and Högberget 2 are situated on vertical cliffs, while Högberget 3 is located on the outside of the glacier boulder cave with settlement remains[195]. Högberget 4 is located on a glacier boulder.

[194] The size of the Bastuloken area (RAÄ Ramsele 183) is 360x20-160m and the Sörånäset (RAÄ Ramsele 14:1) is stretching about 100m along the Fjällsjöälven River and about 400m along the Vängälven River (www.raa.se).
[195] http://www.fmis.raa.se/cocoon/fornsok/search.html. Ramsele 185.

Figure 259 The hunting pit system and rock paintings at Högberget. The Högberget hilltop is located between the two lakes Nässjön and Ramselesjön slightly left of the middle of the map. The hunting pit system is marked blue. The sites with paintings are marked white. The settlement (Ramsele 185) that was excavated in 2003 is connected to the Högberget 3 site. A Stone Age settlement (Ramsele 20:1) is located at the other end of the southern part of Nässjön. Map and data from http://www.fmis.raa.se/cocoon/fornsok/search.html. Illustration: Jan Magne Gjerde.

The association between settlement, hunting pits and rock art is also clear at the rock painting site where the motifs at the panel is of elks and while the hunting pit system ends in front of the vertical cliff with rock paintings (see figure Figure 259 and Figure 260). The hunting pit system consists of 36 hunting pits covering a distance of about 355m in length (Ramsele 16:1). The one closest to the rock paintings are located less than 10m from the panel. One of the adjacent hunting pits in front of the rock painting site Högberget 1 was

excavated and the date was slightly younger than the paintings (Eriksson 2005)[196]. During the excavations at Högberget 1, a slab with red paint was found, that had fallen from the above cliff with rock paintings. Charcoal directly under this slab was dated to 3790-3490BC calibrated. Lindgren relates the Högberget 1 site to be this ^{14}C date and dates the rock art to be older than 3490BC by ^{14}C [197] (Lindgren 2004:31). The excavations at the site Ramsele 185 settlement, next to the paintings at Högberget 3 site, was dated to 4340-4210BC. At the site was also found red ochre (Holmblad 2005) that could be connected to the paintings (Ramsele 185). There is no evidence that concludes that the settlements, hunting pits and rock art is contemporary. However, the hunting pits indicate that this was a favourable place for elk hunting regardless of the internal connection between the archaeological remains.

The paintings at Högberget depict elks. The elks are depicted facing the major crack at the middle of the panel from both sides. The elks to the left can be seen clearly, while the elk figure to the right is less detainable due to lichen and moss (Figure 261). There are two or three elks depicted on the left side of the crack and one elk to the right of the crack. The elks on the left of the crack are depicted as if they appear from the crack in the rock. This could represent that they are positioned as if they are coming out of a valley. The elk to the right of the crack is depicted as if it is running down the ledge that can be seen in Figure 261 and this ledge might represent a valley. Thereby the elks are coming from the valleys entering the river valley that is represented by the large crack in the middle of the panel.

The crack resembles the natural line of movement round the Högberget hilltop as if representing the macrolandscape (Figure 261). Only a small part of the panel have been applied; hence the location of figures have been carefully positioned in relation to the microlandscape of the rock. The panel with the rock paintings at Högberget 1 is c. 6m high. The macrolandscape at Högberget would have forced the elks to move along the Högberget mountain, passing Högberget 1 where the hunting pit system started. The placing of the figures here seems to represent the areas macrotopography where the elks walk along the long rock wall that stretches along the lower parts of this section of the Högberget hilltop. The strategic location regarding hunting is striking. The placement of the elk figures indicates that they are placed in relation to natural features that could be references to places related to their geographical knowledge.

[196] The reuse of elkpits and the general lack of datable material makes the dating problematic. The hunting pit was dated and calibrated to c. 3100BC (3095±35BC) (www.raa.se).
[197] A slab with rock painting was found upside-down during the excavation. Direcly under the slab a ^{14}C sample was dated to 3790-3490BC calibrated. A date from above the slab was dated to 2200BC-1000AD calibrated. A date 0.4m NE of the slab from an activity area was dated to 3650-3330BC calibrated (Lindgren 2004:31).

Figure 260 Photo of the Högberget 1 site with the Högberget hilltop in the background. The panel with paintings are situated just right of the middle of the photo marked with black arrow. The hunting pits are located in front of the panel with rock paintings. The nearest hunting pit is less than 10m from the vertical cliff with rock art under the black arrow in the photo. Photo and illustration: Jan Magne Gjerde.

Figure 261 Photo of the Högberget 1 site with the hunting pits in front of the rock art site. The large crack in the middle of the photo is interpreted as a river. To the left of the crack one can see the red paint that is depicting the elks. The elk figures are depicted just above another crack that forms a small ledge as if they appear from a valley. The paintings to the right of the crack is somewhat dubious due to lichen and moss covering the surface. They are placed as if they are standing on the small ledge. Photo: Jan Magne Gjerde.

Returning to Nämforsen

Returning to Nämforsen and the surrounding area shows a large number of settlements dated to the Late Stone Age. Several hunting pit systems are to be found in the surrounding area of Nämforsen. About 650m and c. 1.5km northwest of Nämforsen on the terrace above the

Ångermanälven River two large elk hunting pit system are found. The nearest consist of 12 hunting pits and stretches for about 360m, while the other is made up of 14 pits stretching for more than 390m in length[198]. The amount of elk hunting pits connected in large hunting system inland of Nämforsen is innumerable, and since the landscape is densely forested, many are probably yet to be found (Figure 262). The large Råinget settlement, the Ställverksboplatsen and the recently excavated Ådals-Liden 158:1 site where the so called "red ochre factory" (Larsson et al. 2003) was found shows that this area was intensively used for settlement during the Late Stone Age (Figure 262).

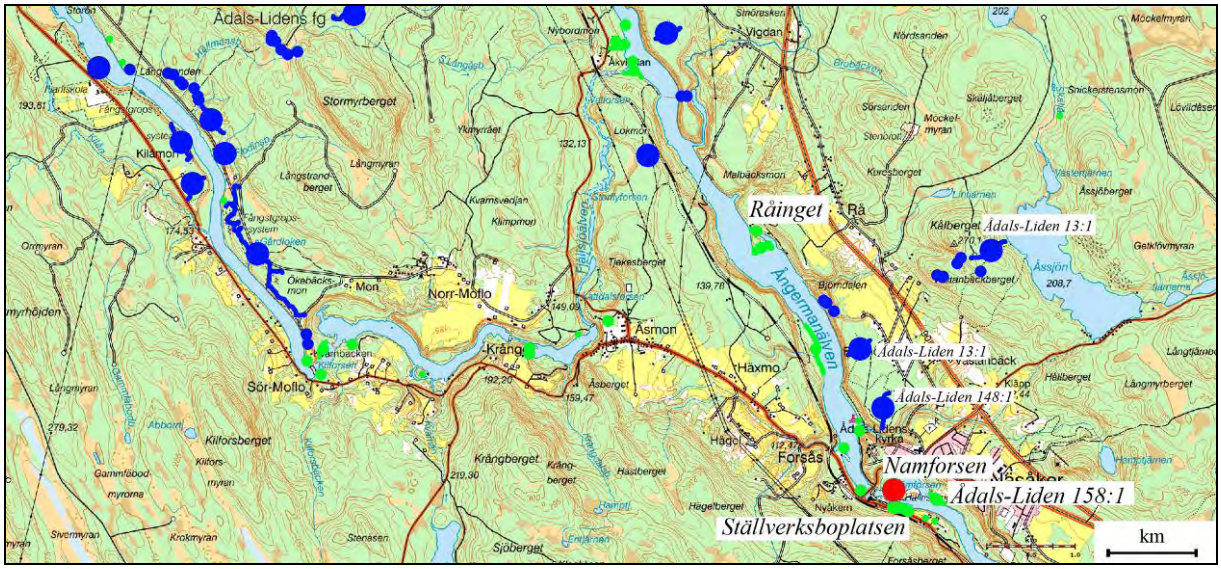


Figure 262 Map of the Nämforsen area with connected sites. Settlements marked with green dots. The Nämforsen site is marked with red colour, and the hunting pits and hunting pit systems marked with blue colour. Råinget (Ådals-Liden 123:1, 123:2). Ställverksboplatsen (Ådals-Liden 10:1). Map and data from from http://www.fmis.raa.se/cocoon/fornsok/search.html. Illustration: Jan Magne Gjerde.

The "making" of the Nämforsen waterfalls between c. 5000BC and 4200BC, made it a distinct character emerging from the sea where the rocks appeared from the calmly running river Ångermanälven. The emerging rocks from the sea and the enactment with the powers of Nämforsen could be one of the main forces why Nämforsen was such a special place that was revisited for generations. The powerful rapids at Nämforsen then came from the sea, hence, land had to be defined and negotiated to pacify the spirits. The Nämforsen waterfall with a drop of 16-17m appeared during the 800 years between 5000BC and 4200BC. The tidal effect at Nämforsen would have been next to none[199]. However, the seasonal fluctuations in the water level from the river would have made the water-level at the rocks differ according to the

[198] Raä Ådals-Liden 13:1.
[199] Today the difference between high tide and low tide is c. 30cm at the outflow of the Ångermanälven.

seasons. When the islands "came from the sea" and gradually appeared in the rapids area, they would at times have been inapproachable due to the powerful rapids, and at times even under water[200] (Figure 264). The seasonal fluctuations in the water level has been observed to be c. 6m at its highest[201]. When Hallström visited Nämforsen in 1907, the Bradön island was inapproachable due to its location in the midst of the powerful rapids (Figure 264) causing Hallström to delay the documentation of the Bradön until his next visit to Nämforsen, in December 1916 (Hallström 1920). Powerful rapids have in ethnography from Siberia been described as Shamanskiy [Shaman] Rapids[202]. Two large boulders in these rapids include the carvings of large elks (Okladnikov 1970:90). For the Evenki the importance of dangerous rivers with rapids link the three worlds in their universe. Rapids and whirlpools are doors or thresholds between their worlds, where the rivers are linked to their cosmology. The three worlds described in Evenki cosmology are connected in the shamans or the clan river (Animosov 1963; Vasilevich 1963; Tilley 1991:130-135). The carvings and the location of the engravings at small islands in the middle of the rapids have been interpreted as evidence of shamans visiting an isolated dangerous place (Forsberg 1993:244). In my opinion, such dangerous places important in their cosmology also became important in their geographical knowledge linking cosmology and geography.

The rocky outcrops and islands in the waterfall at Nämforsen initially came to be a landscape characteristic that stood out from the rest of the land, hence it became a node in the landscape for more than 4000 years. The watercourses were waterways that connected people together by the central means of communication, the boat. Along the waterways, land uplift changed the land making new rivers, new lakes and thereby new waterways. However, the Ångermanälven was to remain a "stable", and important communication line. Moving between the coast and the inland by boat would force them to stop at the rapids of Nämforsen. This was the first stop coming in the long *Ångermanälvenfjord*, and this was a place they would have to carry their boats past in order to go further inland. This would be a transition place, a place where the waterfall would act as a threshold to the inland. As other researchers

[200] Carved surfaces with carvings dated to the Stone Age are generally situated at the waters edge. Due to seasonal fluctuations in the water level at rivers and lakes, the carvings are situated under water at times. Thereby they become unapproachable. I have observed this at the Landverk site in northern Sweden and at Onega north-western Russia. At the Chalmn Varre site the boulders with carvings are under water during part of the year (Shumkin 1990).

[201] The water level varied between 76.29masl and 70.36masl depending on the flow of water (Hallström 1960:128).

[202] The Markha River is a tributary of the Vilyuy River in the drainage basin of the Lena River in the Republic of Sakha (Yakutia), Siberia, Russia.

have pointed out (e.g. Forsberg 1993; Tilley 1991), Nämforsen would be a liminal place at many levels.

Revisiting the Nämforsen site with a landscape focus is somewhat bizarre since the main character of the landscape, the massive rapids (Figure 263 and Figure 264), are regulated by the power station. Some of the carvings at Nämforsen are today easy to approach, mainly due to the fact of the Hydro Power Station that shuts down the water-fall. The physical changes at Nämforsen are many. I have already accounted for the natural setting with the land uplift, consequently leaving Nämforsen 140km from the present coastline. In 1918, a bridge was built over the Ångermanälven River at Nämforsen. If the initial plans for the Hydro Power Station would have been executed, the majority of the carvings would have been lost. The Central Office of National Antiquities (now Riksantikvarieämbetet), prevented this and the construction plans were slightly altered[203]. The construction of the power plant took place between 1944-1947. The massive changes at Nämforsen has made it vital to study Hallströms photos of the area before modern constructions domesticated the waterfall[204]. The massive changes in the landscape has made Nämforsen a different place from how it would have been when the carvings were made. It is therefore vital to explore these changes and reconstruct the landscape of Nämforsen. The force of the water-fall at Nämforsen has been discussed by Goldhahn, where the audio-visual aspect of the carvings at Nämforsen have been stressed (Goldhahn 2002a; Goldhahn 2002b). By no doubt, the sound and the rapids at Nämforsen made this place as "special" to people in the past as today. As Hallström puts it: "On the rock laid bare by the river on the shores of Nämforsen and on the islets in the middle of the rapids, the multitudinous rock-carvings have been applied; it is these which together with the beauty of the rapids have made the locality so famous" (Hallström 1960:130). Baudou has reconstructed the Nämforsen landscape by raising the shore-level to 90masl, 85masl, 80masl and 75masl (Baudou 1993:Figur 2a, 2b, 3a, 3b). The rapids at Nämforsen were already present at 90masl, then Bradön came from the sea when the sea-level was at 86masl while the Notön island started to appear when the sea-level was at 79-80masl. The lower part of the rapids and the waterfall was revealed at c. 73masl. Then the sea slowly retracted due to the land uplift. Hence, the Nämforsen waterfall and the area with the rapids were stable for more than 6000 years before the Hydro Power Station was built.

[203] Compare maps in Hallström 1960:129 and 137.
[204] The photos of Hallströms documentation is today stored in the Gustaf Hallströms Archive at the Research Archive, university of Umeå, Sweden.

The landscape at Nämforsen changes immensely by the seasons. During summer, the waterfall is powerful and it is hazardous to approach the islands with carvings and it must have been connected to danger. During winter however, the water runs calmly (see Figure 263).

Figure 263 The landscape view at Nämforsen where changes are observed. The top left photo shows Nämforsen in 1916 during spring. The top right photo shows Nämforsen in 1924 during winter. Now the bridge has been built. The bottom left shows Nämforsen in 2004. The rapids are shut down by the power Station. In 2008, I got the chance to experience a glimpse of the massive rapids of Nämforsen again. The changes in the landscape can be quite comprehensive. Top photos by Gustaf Hallström by courtesy of the Gustaf Hallströms Archive at the Research Archive, University of Umeå, Sweden. The bottom two photos: Jan Magne Gjerde.

Figure 264 The massive rapids at Nämforsen with the island Bradön midsummer 1907 from the Notön island. Photo by Gustaf Hallström by courtesy of the Gustaf Hallströms Archive at the Research Archive, University of Umeå, Sweden.

Microlandscape

At the main concentration of rock art at Brådön Island (Hallström IIIB-G), there are small rivers running through the areas where the rock art is situated. With no water, the area where the water is running gets a dark greyish patina due to the discolouring of the rock (Figure 265). Some of the elks are placed as if they are running along this miniature river (Figure 266). There are no figures where the water would be running at this place. The figures are located as if they are representing a miniature landscape that would resemble the surroundings at Nämforsen (Figure 265 and Figure 266). The miniature river could then act as a link between the surroundings and the stories told in the rock art.

Figure 265 The surroundings at Nämforsen and the miniature landscape with the river. The Ångermanälven River can be seen to the left in the compiled photo. The dark lichen where the water runs are representing the river in this miniature landscape. Photo and illustration: Jan Magne Gjerde.

Figure 266 The miniature river at Bradön is situated slightly left of the middle of the photo. It stands out by the discolouring in the rock. When it is raining water runs in these "rivers". One can here see how the elks are places along the river as if they are moving along the shore of the river. Photo: Jan Magne Gjerde.

On the south-western side of Notön, facing the southern riverbank, one of the large boat representations at Nämforsen in northern Sweden is located at the Island Bradön within the rapids of Nämforsen. The boat was immaculately documented by Hallström (Hallström 1960:pl XXIII). The elk boat representation at Bradön is common in northern Fennoscandia. This boat representation with 25 lines most likely representing people suggests that this was a large boat (Figure 267). The boat is located where the water runs when it is raining and where water from the rapids would run[205] (confer Figure 264). The dark blackish lichen represents where the water runs. Here one observe that the boat figure is placed where the water would be running in a miniature river on an island in the waterfall. Looking carefully at the micro topography in the rocks it resembles the macro topography at Nämforsen. I doubt the placing of the figures is a coincidence. Here one can see that by documenting or observing the rock art anew, one might get a good impression of the landscapes character and tell us why they made the rock art exactly where they did. One can here see how the figures are related to a micro-landscape that most likely acts as a miniature or a representation of the macro-landscape at Nämforsen.

[205] Today this rarely occurs due to the Hydro Power that regulates the quantity of water.

Figure 267 Documentation of a boat figure at Bradön, northern Sweden where the boat is situated in a miniature landscape. Tracing top left after Hallström (1938: plate XXIII). Photos and illustration Jan Magne Gjerde.

One of the largest compositions and the one with most human figures includes about 42 elk figures, 30 human representations, two boat representations and a at least 3 elk-head sticks (poles). At this large panel (Hallström IIQ1) with rock art, on the south-western side of Notön the composition is made up of at least two scenes that shows how the figures are located in relation to a miniature landscape. The outcrop is defined as belonging to Notön, however, it would be a small island with water running at both sides of the outcrop with the waterfall present. The lowest elevated figures are boats that, by their position at times would be under water. At the right part of the panel is a human and an elk walking on the largest quartz line on the panel. This quartz line most likely represents the water line. Interestingly,

both the boats on the panel is depicted below this line where the water runs. They are thereby depicted in their “right” element. This is in my opinion one of the best examples of a “direct” link between a rock art composition where the interplay between the figures and the natural features represent the environment and its surroundings. The panel represent activities from the coast to the inland. From the panel one can also see the shore on the other side of the small bay below Nämforsen. This shore can best be seen in the background to the left of the panel (Figure 268). The inland activities with the communal elk hunting occurrs inland, on the “flat landscape” on top of the terrace. The eroding sandbank between the terrace and the shore is most likely also represented by there not being any figures on the panel between the elk and man walking on the shore and the large communal elk hunting scene.

The two large scenes on this panel are interpreted as depicting a communal elk hunt. Looking closer at the scene, some of the humans taking part in the hunt also are equipped with elk-head sticks. None of the elks in the panel has antlers. The antlers fall of the elks during winter. The beard of the male elk is a diagnostic feature among the elk, and even if the female elk also have a small beard, it looks like this is one of the distinctions between the sexes of elks depicted in rock art. The elks depicted looks like both male and female adding to the smaller elks most likely representing calfs. Looking at the elk-head boats, they generally never have beards, thereby representing female elks. The time all the elks are gathered in flocks is during winter. If one then looks at the whole panel, the elk-hunt occurred inland as is also depicted while an elk and a human is standing by the “ocean” or waterline and the boats are at the river / coast. The rock art composition where the figures interact with the natural features representing a section of the land with inland and coastal activities. Such a representation where the figures in themselves relates to activity areas where the coastal / river figures represented by the boats and the elks representing the inland possibly as geographical references can also be seen at Notön (HII:C3). The boats are placed at the right of the panel while the elks are placed to the left of the boats (Hallström 1960:plate XVI).

Figure 268 The miniature landscape at the the Notön panel (Hallström IIQ1). The boats are depicted where the water occasionally is, at the lower part of the panel. A human figure and an elk is placed on a quartz line as if they are walking along this line that might represent the shore. Compare with **Figure 269** and **Figure 270**. Photo: Jan Magne Gjerde.

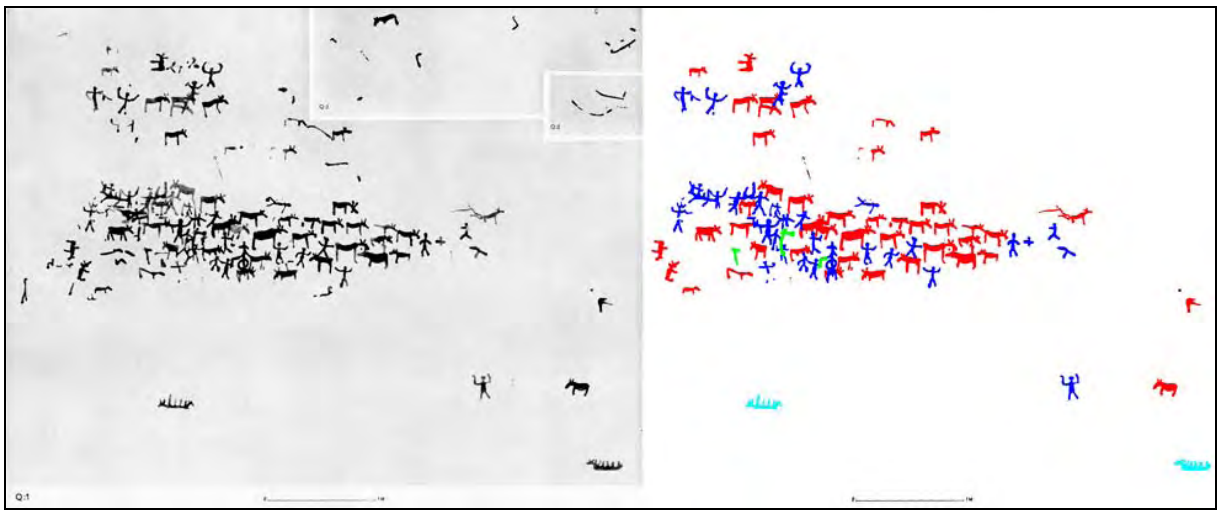


Figure 269 The elk hunt at Nämforsen (Hallström IIQ1) after Hallström (1960:plate 20). Tracing to the right reworked colouring in the different types of figures to more clearly visualize the elk-hunt scenes. Illustration: Jan Magne Gjerde.

Figure 270 The figures are traced onto the photo to show how they are related to the rock surface at the panel (Hallström IIQ1). The figures are given different colour to better visualize the elk-hunt. Compare with **Figure 268** and **Figure 269**. Photo and illustration: Jan Magne Gjerde.

At Laxön (Hallström ID6) water collects in a large pool where the carvings are placed on the small ridges around the pool edges. One can see how the whole area represents a miniature landscape where the pool acts like a lake with connected river systems. This area was named "Nedre Hällkaret" by Lindqvist when he also noted that the water represents lakes, tarns, river, tributaries, watercourses in a rocky Stone Age landscape in miniature, inhabited by elks, salmon and humans with their elkhead-stem boats (Lindqvist 1999:107-108, planch I, Figur 1A). One can see how the elks are walking along the rivers. The dark lichen shows where the water runs and collects in pools (Figure 271 and Figure 272). The inland of Nämforsen includes numerous rivers and lakes. The carvings are placed in relation to this miniature landscape and the composition might include geographical references connected to the natural features.

How the figures are related to such miniature rivers and valleys can also be seen at the panel HID:9 (compare Figure 273 and Figure 274). The traditional tracing only shows the figures, and does not reveal its locational attributes. Here one sees how the figures are placed, interacting with the micro-landscape. The discolouring in the rock shows two parallel rivers where water runs and here the elks are placed in relation to the rivers. One of the elks is on its way along the river up the valley, while the others are moving to the right beneath the hilltop that can be seen above the elks. These natural features could be related to valleys and rivers in

the hunter-gatherer landscape in the vicinity of Nämforsen and might act as geographical references.

Figure 271 The pool with connected rivers and lakes at Laxön by Hallström (ID6). This might represent the macrolandcape where the figures are placed in a microlandscape within a miniature Hydrosystem. Photo: Jan Magne Gjerde.

Figure 272 The pool with connected rivers and lakes at Laxön by Hallström (ID6). This might represent the macrolandcape where the figures are placed in a microlandscape within a miniature Hydrosystem. Photo: Jan Magne Gjerde.

Figure 273 Tracing of the panel at HID:9. Tracing after Hallström (1960:plate XI) .

Figure 274 The elks placed in relation to the micro-landscape at HID:9. The rivers and valleys can be seen both to the right and to the left of the elks. The elk at the upper left is deliberately placed as if it is moving round a hilltop along a valley. Photo: Jan Magne Gjerde.

Summary of the Nämforsen rock art

The making of rock art at Nämforsen based on shoreline dating and the relation to the elevation of the settlement finds indicates that the first rock art was made at Nämforsen at about 5000BC. According to the motifs wit a South Scandinavian Bronze Age character, the last rock art was made at Nämforsen about 1000BC. That is, rock art was made at Nämforsen for 4000 years.

Initially around 5000BC, the upper parts of the rapids were where the first carvings were made at about 90masl. The rapid land uplift changed the character of the Nämforsen area from hefty rapids to a vibrant waterfall with a 500m rapids area and a drop of about 16-17m was formed due to the land uplift leaving the rock shores and the islands in the waterfall area. This formation of the Nämforsen waterfall took about 800 years, between 5000BC and 4200BC. The main characteristics at Nämforsen, the waterfall was still vibrant until the building of the hydro power construction. Even when the land uplift made the sea retract from the Nämforsen waterfall and the Ångermanälven fjord became the Ångermanälven River, this worked as a major communication line from the Gulf of Bothnia stretching about 140km inland to Nämforsen.

The Nämforsen area is a place that stands out by its forceful waterfall, and the landscape character would most likely have been important and acted as a reference point for people inhabiting the Ångermanälven region and beyong during the Stone Age as it has astonished visitors even until today when the waterfall is present.

The rock art at Nämforsen is many places placed deliberately in relation to natural features in the rocks. Some places it looks like if the natural elements of the rocks interacted with the rock art and the story told in the rocks. Some places these even have references to the wider landscape where the miniature landscape acts like a backdrop to tell stories of their macro topography interacting with the figures and scenes. At one occasion one can also see that they relate the story in the rock to a reference to what their landscape is as observed from the rock surface where the rock surface and its figures depicts their local topography. One can also see that scenes act as reference point to places in their wider landscape like the elk-hunt at e.g. Bastuloken, Högberget where settlements, hunting pits and rock art are placed in clear relation to each other.

Chapter 6 Discussing the case studies – including the rest of northern Fennoscandia

From East to West - Crossing the borders

Before I enter the discussion of the case studies, I will draw attention to what I name *crossing the borders*. Important when setting out on this rock art journey, was breaking down the border between east and west. I will approach what I regard the fallacy of distance and the east-west paradox in rock art with Nämforsen as the vantage point. The Nämforsen site has an advantage since it has been well published and discussed during the last century. Malmer suggested Nämforsen was a site for trade and exchange mainly on the basis of elk hides in return for Bronze objects from Southern Europe. Malmer claimed that in prehistoric Northern Europe new impulses normally spread north-wards from the south; hence he suggested that the ship motif supported such a spread of innovations from south to north (Malmer 1981:21-22).

Tilley, in his study of Nämforsen, criticizes Hallström for his Russian comparison (Onega) based on Hallströms stylistic studies: "So a connection between rock carvings more than 800km distant (as the empiricist walks – or in this case must also swim across the Gulf of Bothnia) is possible while one involving distances of 5 to 10 cm is ruled out of court" (Tilley 1991:13). Tilley advocates a maritime exchange between Nämforsen and southern Scandinavia (Tilley 1991:158-159) based on Malmers studies and dating of the Nämforsen site (Malmer 1975:44-45; Malmer 1981:107). If all contact in the Bronze Age is south-north, why are Russian Bronzes and Bronze moulds found in northern Sweden (Bakka 1976:17-25, plate 16). It is for most researchers still easier to consider south-north relations than relations between east and west. The distance between Nämforsen and the northern tip of Jutland in Denmark as the crow flies is c. 750km. When Tilley belittle Hallströms eastern affinities, he also question Stone Age seagoing ability by not being able to cross the Gulf of Bothnia. I find the assumptions of Tilley based on Malmers studies for the Nämforsen rock art questionable when it comes to dating, distance, communication and the interpretation of Nämforsen as a trading station during the Bronze Age. First, the distance between Onega and Nämforsen is about 800km, virtually the same as the distance as between Nämforsen and Jylland (northern Denmark). Hallström had dated the earliest carvings at Nämforsen to the Late Stone Age (Hallström 1960:372). A Stone Age origin for the boat motif in northern Norway was already advocated for in the early 1930's (Gjessing 1931:285). The earliest boats depicted in rock art

in northern Europe dates at least to 5000BC as can be seen in the Case study of Alta, Nämforsen and Vyg. Clearly, a motif that occurs more than 3000 years earlier in rock art in northern Scandinavia than in southern Scandinavia cannot have a south-Scandinavian origin. Dating suggests that less than 50 figures of about 2300 figures at Nämforsen belong to the Bronze Age. Hence, I find the Bronze Age trade as suggested by Malmer and backed up by Tilley, as a sole explanation for the Nämforsen site to be highly questionable. If that was the case it would have been the worst outcome strategy ever performed by hunter-fisher-gatherers of the north.

Hallström had undertaken several journeys to northwestern Russia and participated in several Stone Age excavations (Hallström 1960:358). Thereby he could identify Russian flint when found in northern Sweden (Hallström 1925:90f, 107). New finds backs the finds of Hallström, and flint with both south Scandinavian and Russian origin has been found dating to the Late Stone Age in northern Sweden. The Russian flints most likely originates from a source at the eastern part of the White Sea or the southern end of Lake Onega (Huggert 1984:59-60, fig 8), close to the area with rock art from Onega and Vyg. At about 5200BC the first rock paintings occur in Finland (Lahelma 2008:40). This concurs with the dating suggestion for the starting phase at Nämforsen. The paintings in Finland show similar traits with the north Swedish rock art, e.g. the boat figures. The Finnish paintings could link Onega to Nämforsen. Based on the factors presented above, I am therefore not unfamiliar with the idea that these nodes in the landscape, or Stone Age meeting places, could have been visited by people not just at a regional scale but also at an inter-regional scale. The similarity in the material between Onega and Nämforsen, that is thoroughly discussed by Hallström (Hallström 1960), strengthens this idea. Not only ideas travel, artefacts and people travel. Based on the similarity in the rock art over large distances, I regard it as realistic that people in the Stone Age visited both Alta, Nämforsen, Onega and Vyg, including journeying vast distances.

By this preamble to the discussion of the rock art in this thesis, I hope it has routed the reader to important threads of the lost relations in rock art. Knowledge of the material record, not only within present administrative boundaries, but across boundaries is advocated. A focus on dating helps relate rock art to the cultural context; for Stone Age rock art in northern Fennoscandia this is a northern hunter-fisher-gatherer context. Being aware of the natural background or the landscape as it was, is important when distancing time and space. Today it is much easier for me to travel to Sweden or Finland than to Russia, but surely, there were no

such “borders” in the Stone Age. Finally visiting the sites with the landscape clearly in mind is of utmost importance when discussing rock art and landscape.

This discussion will originate from the results from the case studies where they will be discussed in relation to three main points; time, macrolandscapes and microlandscapes. I will first discuss time since it has implications for the interpretation of the macrolandscape by the land uplift that has changed the context of the rock art sites from the time of the making until today. I will throughout this discussion include some of the material from the rest of northern Fennoscandia where I find it imperative. The discussion will then relate to the main topics discussed in chapter 4 in relation to the rock art of northern Fennoscandia where the Case studies will be emphasized. The theme of lost relations will run as a thread through these discussions. This is reflected in the interpretations of dating, the macrolandscape, the microlandscape, and the ethnographic parallels where the inclusion of lost relations might help us get a better understanding of rock art and landscape and how they interacted in the past.

Time

The initial rock art

In this thesis, shoreline dating has been of crucial importance in order to get a grip on the age of the sites at the different Case studies. A summary of the dating suggestion, based on the results from the Case studies, is presented in Figure 275 to get a better overview of the dating relevant for this thesis. The initial rock art can be ascribed to the pioneer phase of the settling of Fennoscandia after the last Ice Age. The oldest sites in the Ofoten Case study is dated to about 9200BC. The common factor for all of the early dated sites is that they only depict large game and that they, in general, are large in size. The largest whale figure at Leiknes 1 (see Figure 96) is 7,63m long. There has been a longstanding idea that the 7 sites with polished rock art in northern Norway, was by far the oldest belonging to the Early Stone Age and discontinued before the carving tradition started. The study of the polished carvings and the carvings in the Nordland / Troms region in Northern Norway was conclusive stating that the polished carvings were made, several thousand years after the polished rock art, at about 4000BC, the carving tradition started (Hesjedal 1990; Hesjedal 1994). As the study of the Ofoten sites showed, for the few sites in question, the polished rock art sites is by far the oldest.

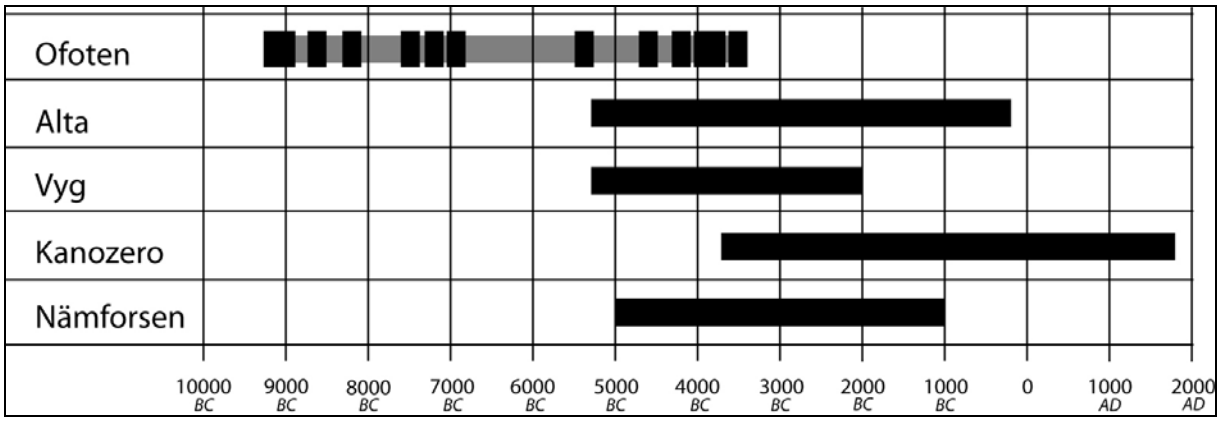


Figure 275 Overview of the dating suggestion for the rock art from the Case studies in this thesis. The Ofoten Case is marked in bright grey for the total rock art production. The different sites maximum dates are marked as 200 year intervals. Based on the dating of the sites, I do not consider there to have been a "long" discontinuity period of rock art production in the Ofoten area even if there are no sites with a maximum date between 6830BC and 5485BC. Illustration: Jan Magne Gjerde.

Moving out of Ofoten, where the chronological relation between the polished carvings and the carvings seems to be straight-forward is important. Relating the earliest rock art to the rest of Fennoscandia is important since there are very few sites that can be ascribed to the Early Stone Age in Fennoscandia. This is a problem when it comes to representativeness of the material record. In the rest of northern Norway there are the polished site at Fykanvatn (see Figure 20), the Vågan site and the Klubba site (see Figure 95). These sites are all dated to the early part of the Early Stone Age by shoreline dating. All of the polished sites in Nordland, northern Norway, are situated above the tapes transgression. By shoreline dating, the Vågan site is dated to 7520BC-7480BC[206], the Klubba site is dated to about 7740BC-7610BC[207], and the Fykanvatn site to between 9050BC and 8740BC[208].

Near Tromsø, new figures have been found at the large rock art site with carvings at Skavberg (Skavberget). It was previously dated by Simonsen and Hesjedal[209] who found that the carvings belonged to the Late Stone Age, connecting them to the adjacent Stone Age site[210]. Hesjedal dated the Skavberg 1 site to 5800BP, the Skavberg 2 site to 5500BP and the Skavberg 3 site to 4300BP (Hesjedal 1994:table 2). Based on recent excavations in the

[206] Vågan is located at 52masl. With isobase 30 from the SeaLev programme, the site is dated to 8400BP calibrated to 7520BC-7480BC with 2sigma.
[207] The figures at Klubba is located between 52masl and 65masl. At Klubba with isobase 27 the date for the site at 52masl is 8700BP 7740BC-7610BC. At 65masl at isobase 27, the carvings are dated to 9300BP. Calibrated this is 8620BC-8480BC calibrated with 2sigma.
[208] At Fykanvatn, the gological dating has been questioned for the highest elevated figures. At this level, the geological data is very uncertain. The figures at Fykanvatn is situated between 96masl and 138masl. At isobase 33, the dating for the sites is 12000BP at 138masl and at 96masl the date is 9500BP is calibrated to 9050BC to 8740BC calibrated with 2sigma.
[209] Hesjedal extracted 2m from the elevation of the lowest carvings when applying shoreline dating for the site.
[210] The Stone Age site is located at about 11masl while the rock art panels are located at 18.54masl,17.17masl and 11.87masl.

Tromsø area it seems like isobase 15 is more correct than isobase 17 for the Skavberg area[211]. The shoreline dating of Skavberg 1 based on isobase 15 is 8500BP, at Skavberget 2, 8400BP and at Skavberget 3 4900BP. Studying the isobase curve for the Skavberg area however shows that the land uplift is virtually standstill (including the deviation in the data) between about 8500BP to about 5400BP. This makes it problematic to apply shoreline dating for the Skavberg site. The direct reading of the shoreline data is not sufficient, one needs to look at the shoreline curve (isobase) to interpret the data (see Figure 276). The rock art at Skavberg 1 and Skavberg 2 seem to reflect figures from both the Early and the Late Stone Age. The newly found elk figure of about 2.9m in length at Skavberg 2 (see Figure 276 to Figure 278), and the large bear figure at Skavberg 1 would stylistically back such an old date. The shoreline data suggest that the carvings at Skavberg could have been made over a long period of time. This would explain why figures at Skavberg 1 and Skavberg 2 include both large naturalistic figures, human representations and geometric figures otherwise only found in relation to the Late Stone Age in northern Fennoscandia. The Skavberg site, backed up by some of the sites from middle Norway and northern Sweden, suggest that there is no clear cut discontinuity between the polished rock art and the carvings.

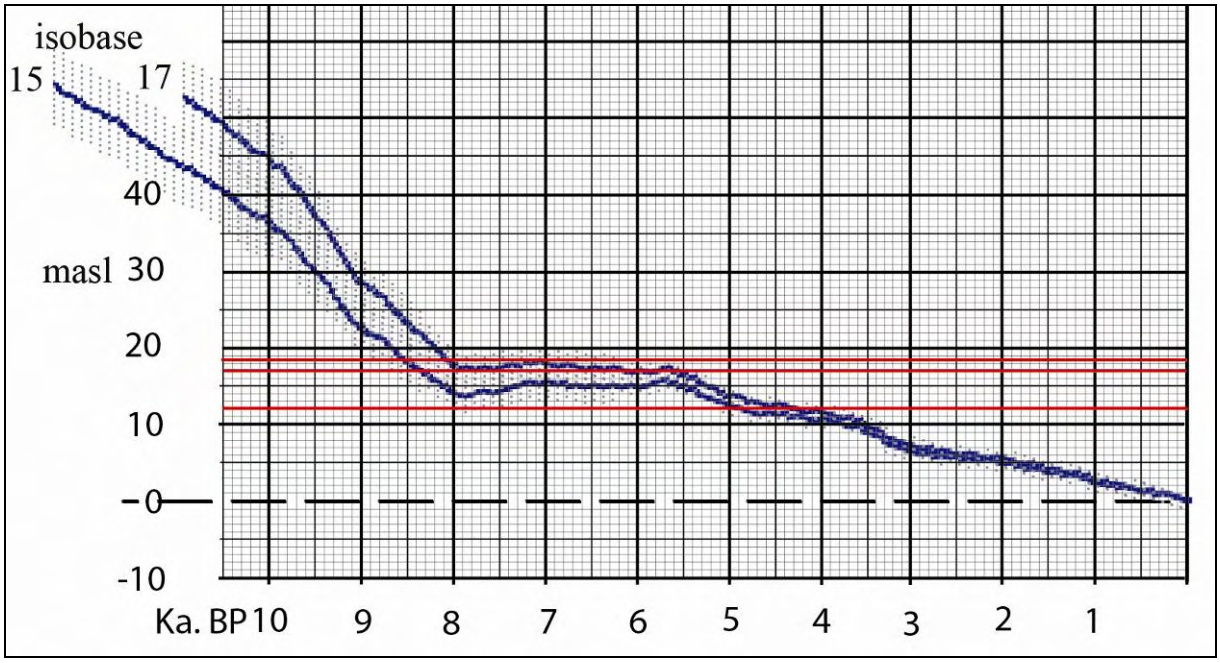


Figure 276 Shoreline dating at the Skavberg site. The isobase 15 and 17 curve in blue. The elevation of the Skavberg 1 site at 18,5masl, the elevation of the Skavberg 2 site at 17masl and the elevation of the Skavberg 3 sitye at 12masl in red. This shows that the shoreline at the Skavberg area is virtually standstill between about 8500BP and 5400BP. Thereby the carvings at Skavberg 1 and Skavberg 2 could have been made between 8500 to 5400 assuming they were shorebound. Data after SeaLev (Møller & Holmeslet 1998). Illustration: Jan Magne Gjerde.

[211] Jacob Møller, personal communication 2009.

Figure 277 The Skavberg 2 site before removing the lichen (top photo from 2003) and after removing the lichen (bottom photo from 2007). The previous documentation is painted red on the rock surface and visually dominates the rock surface making it difficult to see the vague lines that appeared clearer after the removal of the lichen (compare night photo in **Figure 278**). Photos and illustration: Jan Magne Gjerde.

Figure 278 The large elk figure at Skavberg 2 when first found in august 2008. One can see that some of the lines were already painted in red (compare **Figure 277**). Looking carefully one may see the elk figure in **Figure 277** by comparing it with the night photo. The bear figure under the elk becomes clear on this photo. One can see vague lines on the rock surface, however it is hard to discern motifs due to the erosion on the rock surface. The night-photo is taken after the figure was marked. The elk figure is about 2.9m long. Photo: Jan Magne Gjerde.

Including the rest of northern Fennoscandia, there are figures in northern Sweden that have been connected to the large naturalistic polished rock art in Northern Norway. The Gärde site was early connected to the Early Mesolithic by its size and naturalistic form (Hallström 1960:52). In northern Sweden, Forsberg, by stylistic arguments, have backed Hallström and dated the Landverk and Gärde site to the Early Stone Age based on style (Forsberg 2000:68f). At the Gärde site there are large figures carved into the rock surface on an island in an area with rapids (see Figure 279 and Figure 280). They can only be dated by stylistic comparison and the argument of size. They appear to be similar in style and size to the earliest rock art in Ofoten in northern Norway (compare Figure 279 with Figure 100).

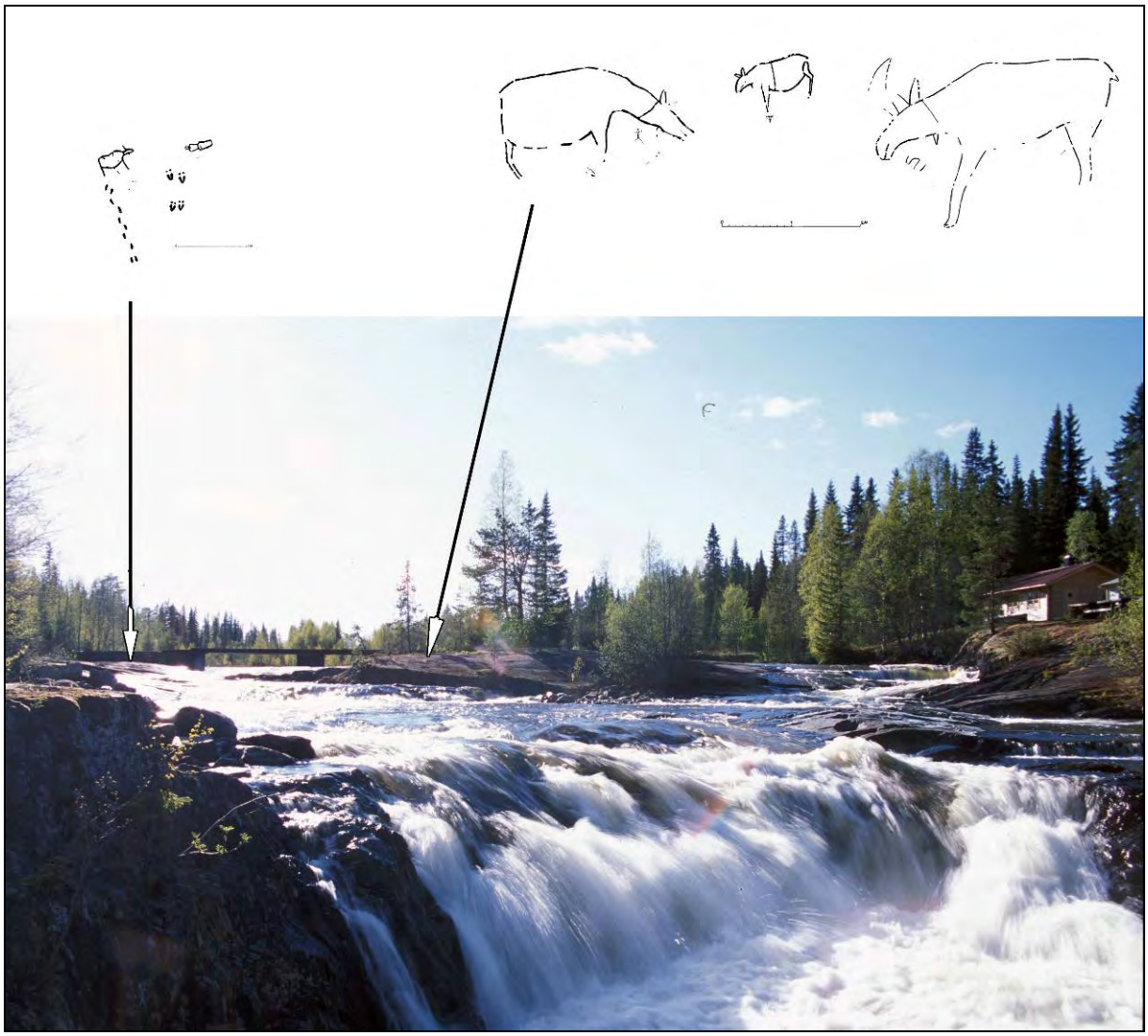


Figure 279 The Gärde site in northern Sweden. The carvings appear in three groups. The group with the large elk figures is located at the island. The large elk figure to the left could be a bear. The carvings with the elk and elk tracks are located at the riverbank to the left in the photo. The third group is made up of lines that cannot be identified as a motif. Tracings after Hallström (1960:plate 3 and 4). The figures are made into same scale. The scale to the right under the large elk figures measure 2m. The largest elk to the right measures 3.65m. Photo and illustration: Jan Magne Gjerde.

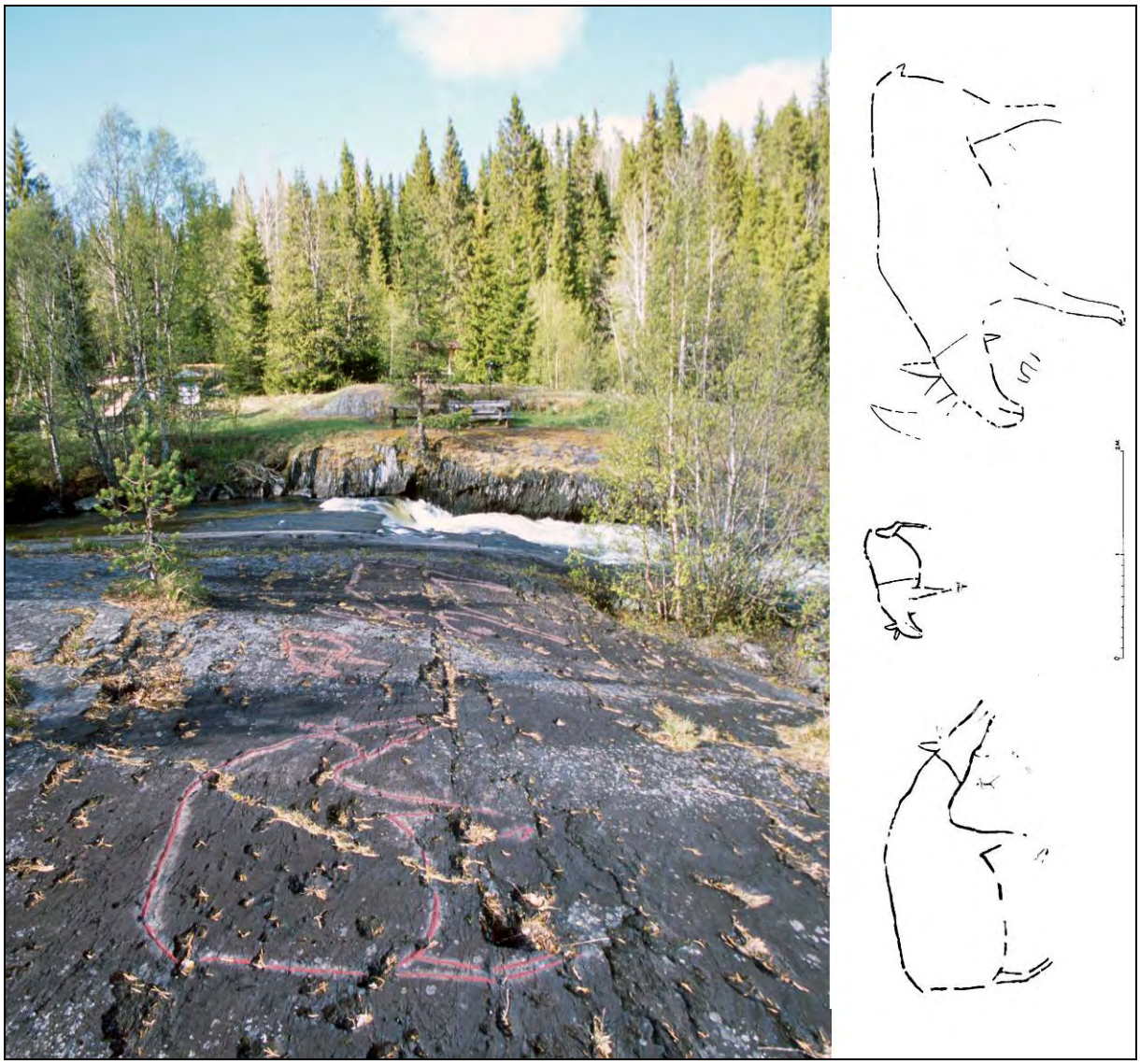


Figure 280 The large elk figures at Gärde. Tracing to the right after Hallström (1960:plate 4). The scale to the right of the tracing measures 2m. The largest elk figure is total 3.65m long. Photo and illustration: Jan Magne Gjerde.

Moving west from Gärde one finds the sites in middle Norway. The first carvings dated by shoreline dating (Sognnes 2003a) seems to appear at about 5000BC at Stykket (5800BP), Lånke 1 (6300BP), Bardal 1 (6300BP) and Bardal 3 (7600BP). The paintings could date from the Early Stone Age with Mølnargården (8800BP), Gjølga (8200BP) and Varghiet (8200BP) if they were shore bound. This early date for the paintings is questioned by Sognnes who dates these paintings to the Late Stone Age (Sognnes 2003a). A more thorough study of the relation between carvings and paintings in middle Norway is advocated. The carvings at Bardal 1 are some of the largest rock art figures in Fennoscandia, with the large elk figure measuring 3.35m and the large whale figure 7.05m. The earliest rock art at Bardal 1 is dated to 6300BP, which is calibrated to 5315BC-5220BC by OxCal. The Bardal site is unique in

Fennoscandia since rock art seems to have been made at the same panel that covers the longest rock art tradition at one single panel in Fennoscandia. The figures seem to be made at least 4 time periods. There are figures from the Early Stone Age, the Late Stone Age, the Bronze Age and the Early Iron Age. People visited the Bardal site making rock art for about 5000 years.

It has been argued that some of the sites in Eastern Norway belong to the latter phase of the Early Stone Age (Mikkelsen 1977; Paasche 1999), in Western Norway (Bakka 1966; Bakka 1973; Gjerde 2002; Lødøen 2009; Lødøen 2003), in middle Norway (Sognnes 2003a) and in Northern Norway (Hesjedal 1993b; Hesjedal 1994). It has not been established that there is rock art belonging to the Early Stone Age in Northern Finland, however the earliest paintings in southern Finland has lately been suggested dated to the latter phase of the Early Stone Age (Kivikäs 2005:20; Seitsonen 2005b:407). The brief summary of the earliest rock art in Fennoscandia show that there are rock art sites dated to the Early Stone Age at many places. The dating of rock art in northern Fenoscandia presented in this thesis shows that there is a continous production of rock art and not separate phases of production representing a long discontinuity of rock art production as previously suggested by Hesjedal (1994) for northern Norway.

Period of use

Many of the sites in the Case studies advocate a long utilisation period. Leiknes in the Ofoten Case study includes two sites, and according to shoreline dating people made rock art at Leiknes for about 1500 years, between 8300BC and 6830BC. Then at Sletjord in the Ofoten Case, the three sites indicate that people made rock art in this area for about 2000 years, between 5485BC and 3530BC. The shoreline dating and the dating in general of rock art constitute a problem since we are dating the maximum date of the rock art site. This is "verified" by the shore connection that is evident in all the Case studies with the strongest examples from Alta, Ofoten and Vyg. It is important to look at the location of the rock art sites. At Nämforsen the first rapids appeared at about 5000BC and the landscape characteristics did not change much between about 4200BC when the waterfall appeared in full until about 2000BC. The location at Nämforsen and at Besovy Sledki at Vyg indicates that the shoreline connection was justified by its location by the rapids. This seems to be backed by rock art at the inland lakes like Kanozero and Onega in northwestern Russia, Landverk in northern Sweden (see Figure 15), Sporanes in eastern Norway and from rivers or

waterfalls like Gärde and Nämforsen in northern Sweden and at Katsundholmen, Møllerstufossen from eastern Norway.

The location of Forselv where the coastal rock slope was connected to the sea by its shape and steep drop at the highest part of the rock surface may explain why people made rock art maybe for a couple of thousand years at Forselv. The variation of motifs backs up this interpretation. This can also be seen at the Storsteinen boulder in Alta in northern Norway (see Figure 163), where the drop is about 4m, hence connecting the large boulder to the shoreline for about 2200 years. From the Case studies, we know that people returned to the large rock art areas to make rock art for many thousand years (in Alta most likely for about 5000 years from about 5200BC until about 200BC). At Skavberg this can be seen at the three sites at different elevations like at Sletjord in the Ofoten Case Study. The conclusive dating of motif and theme observed in the Ofoten area and the earliest rock art that can be dated by shoreline dating is important for the dating suggestion for inland sites like Gärde in northern Sweden. Style will always include information and I do not think we can enter the post-stylistic era in rock art research. The sites where one can observe change in the motifs depicted at the same place is important when it comes to the period between the initial rock art by the pioneers (about 10000BC) and about 5500-5000BC when the large rock art areas is initiated e.g. at Alta, Nämforsen and Vyg. The rock art sites where rock art is made at the "same places" at different elevation is important when studying change in rock art motif, theme, relations between rock art and cultural contact. However, dating rock art is crucial before such lost relations can be studied.

At some places rock art was made for thousands of years. The results are conclusive when it comes to the debate whether sites were made during one visit or whether they were revisited. Another question is whether all the figures in a panel was made in one go. Looking at panels like Bradön at Nämforsen, Kamenniy 7 at Kanozero, Bergbukten 4 in Hjemmeluft, Alta, Forselv in Ofoten, of course rock art was made at the same panel for some time and not during one visit. However there are sites where figures could have been made at one visit, such as at Jo Sarsaklubben, Sletjord 2 or Valle in Ofoten. While at some places it looks like people made rock art for a short time or the rock art could be the result of one visit (even if I assume they returned to the site after the initial making), most of the sites evidence revisiting.

Chronological variation: The rock art explosion

Before about 5500-5000BC only large game in virtually naturalistic size and "morphologically correct" had been depicted in the rock art of northern Fennoscandia. Even if the large naturalistic figures were still being depicted at places like in the Case study of Ofoten (e.g. at the sites Brennholtet and Forselv) after about 5000BC, one now can observe a change in the material record. Since it is only in the Ofoten Case Study in my thesis that the sites are dated to before about 5000BC, this is where the change can be observed. A similar change can be observed in the material from middle Norway when comparing the Stykket site with the Evenhus site and in Northern Sweden when comparing the Gärde site with the Glösa site.

This change included the first human depictions and human activities, an explosion in the number of motifs, an increase in the number of sites and the large concentrations of rock art at places like Alta, Nämforsen and Vyg was initiated. Quite a few sites can be dated to this period and by looking at the dates of the sites compared to the material record, one finds a transmission phase where large figures are still made, but the variation of motifs increases and eventually the life-size naturalistic figures are no longer being made. The best examples of this from the cases studies is from Forselv (see Figure 127) and at Ole Pedersen in Alta (see Figure 71) in northern Norway. Moving to the rest of Fennoscandia, good examples of such "transmission" sites are Gärde in northern Sweden, Bardal and Hammer 5A (see Figure 281) in middle Norway and Ekeberg 2 (Figure 307) and Skogerveien (see Figure 308) in Eastern Norway. At Bardal and Hammer 5A the time difference becomes evident since the large figures are more eroded than the smaller ones; hence they are interpreted to be of a younger date.

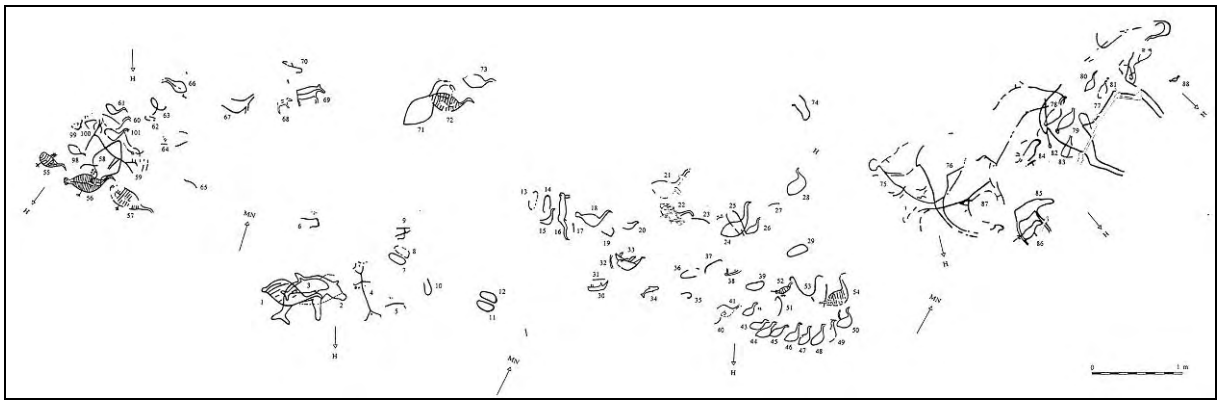


Figure 281 The Hammer 5A panel at Hammer, middle Norway. Scale at the lower right in the tracing is 1m. Tracing after (Bakka 1988:plate iv). The large life size figures to the right in the tracing.

One may argue that this change is the most exciting change in the rock art of northern Fennoscandia. It is so groundbreaking that I have named it a "rock art explosion". In northern Fennoscandia, the first rock art where the motif and theme expands from that of solely large game, to include a wide variety of motifs. Human representations were now depicted and large scenes included many figures that clearly were related. This is best observed at the Forselv site in the Ofoten Case study where there is clear evidence of a site where figures were made for a long time. Of the large rock art areas in my case study, the three largest originate at virtually the same time. People started making rock art in the Altafjord area, Nämforsen and Vyg between about 5500BC and 5000BC. At Vyg, the earliest carvings could be as old as 5500BC. Including the Slettnes site that is dated to about 5500BC and the first carvings in the Ofoten area at Sletjord 1 dated to about 5500BC. The Sletjord 1 site is the first panel with other motifs than large game (see Figure 119). The motif is interpreted as elk-tracks.

This all inclusive change coincides with the first paintings in Finland, dated to about 5200BC, and connected to the latter phase of the Early Stone Age by adjacent excavated archaeological sites and shore displacement (Kivikäs 2005:20; Lahelma 2008:35; Miettinen 2000:79f; Poutiainen & Lahelma 2003; Seitsonen 2005a; Seitsonen 2005b:407). The other large area with rock art in northern Fennoscandia is the Onega carvings on the rock slopes at the eastern side of the Onega Lake. These carvings have been dated to the Neolithic by adjacent settlement sites (Lobanova 1995a; Lobanova 1995b). Lobanova grounds her dating on the artefacts (mainly pottery), ^{14}C-dating, palynological and geomorphological observations. Her dates are based on the contemporary chronology of the adjacent Pit-Comb Ceramic finds, and the Pit-Comb Culture, dating to c. 4200-2700BC [212] (Lobanova 1995a:103). By calibrating the data given by Lobanova with OxCal, the initial carvings at Onega would have been made between about 5220BC and 5070BC. This means that the first carvings at the large rock art area at Onega can be assigned to the period between around 5000BC and the latter to the final stage of the Stone Age at about 2000BC. In western Norway, at the Vingen rock art area, recent excavations have dated the house structures to the latter part of the Late Mesolithic with ^{14}C-dates indicating that the site was in use from about 5000BC to 4200BC (Lødøen 2009; Lødøen 2003). Previous dating of the Vingen site (Bakka 1973:176; Bakka 1979:118f), argues for a date of the rock carvings in Vingen to start in the Late Mesolithic and Early and Middle Neolithic, is backed by Walderhaug (1998:288ff)

[212] This is based on uncalibrated data (BP) which gives us an uncalibrated date to 6200BP-4700BP for the entire rock art production at Onega according to Lobanova (personal communication 2005).

where she states that: “As the evidence stands today, Bakkas’s dating of the Vingen site to the latter part of the Late Mesolithic, Early and Middle Neolithic is as good as we can get” (Walderhaug 1998:290). The starting phase in Vingen, according to Bakka (1973; 1979) and Walderhaug (1998), would fit the data presented by Lødøen, while according to Walderhaug (1998), rock carvings were made in Vingen until about 2400BC. The ^{14}C-dates from the house structures, presented by Lødøen (Lødøen 2009; Lødøen 2003), indicates that the site was in use for only 800 years. However, I find it more likely that Vingen, with more than 2100 carvings, have a long tradition like the other large rock art areas in Fennoscandia, and that rock art was made in Vingen between about 5000BC and 2400BC.

Viewing northern Fennoscandia in relation to the rest of Fennoscandia, this change in motif, extent and the introduction of large rock art areas occurs over a large area virtually at the same time. The rock art areas show a clear similarity in the selection of motifs where large game animals are the main focus. However, they also show a dissimilarity in the selection of motifs. The clearest example of this is the Nämforsen site, where the majority of the figures are of elks and in Vingen in western Norway where they clearly focused on depicting red deer. While the different rock art areas all focus on large game, one can also see that they focused on different animals.

An important motif that occur in northern Fennoscandia for the first time about 5500BC-5000BC, is the boat motif. The boat has until recent decades been associated with the South Scandinavian Bronze Age. The boats at Nämforsen was ascribed to the Bronze Age by Hallström (1907b) even if he later suggested a Late Stone Age date (Hallström 1960). The bold dating suggestion put forward by Gjessing (1931) for the Forselv boats where he dated them to the Late Stone Age, was passed by in silence by contemporary scholars. The boats discovered at Vyg was dated to the Late Stone Age by Savvateev (1970). However, this had little impact on the Scandinavian research, as evidenced in Malmers study of North European Rock Art where Malmer dated all the boats to the Bronze Age (Malmer 1981). The conclusive dating put forward by the Russians for the Vyg material (Savvateev 1970), and the dates put forward by Helskog (e.g. 1985b) for the Alta material showed that the boat as a motif dates to the Late Stone Age. Growth of the material both in northern Norway and in northwestern Russia includes boats that rarely have been discussed in a wider context with the exception of Helskog for the Alta material (Helskog 1983; Helskog 1985b), Malmers chorological study (Malmer 1981) and Lindqvist (1983; 1984; 1994). The general assumption that the boat motif has a South Scandinavian origin is rejected by the material record. Reviewing the rock art in

northern Fennoscandia strongly suggest that the first boat was depicted in rock art more than 3000 years before the Bronze Age (Gjerde 2008).

Awareness of the cultural context of rock art is important. The boat motif, central in the Late Stone Age rock art of northern Fennoscandia, has often been placed in a Bronze Age context due to the South Scandinavian Bronze Age rock art boats and comparative studies such as by Malmer (1981). An example that shows how important dating is for rock art is the study of Nämforsen by Tilley (1991) where he applied Malmers suggested dates and rejected the Stone Age dates for this site as put forward by Hallström (1960:372). Tilley suggested that the boat motif came from the south as a package-deal that introduced a new symbol set, including boats, shoe soles and scythe-like tools (Tilley 1991:163f). Unfortunately for Tilleys art of ambiguity, works on the dating of Nämforsen stating a starting phase to about 4000BC (Baudou 1993; Forsberg 1993; Helskog 1989a; Lindqvist 1994) was published just after his study of the Nämforsen rock art. Malmers and Tilleys interpretation of the Nämforsen site becomes a flawed *ex oriente lux* of rock art that is not backed up by the current scientifically accepted date of the Nämforsen site. Boats were being depicted at Nämforsen as much as 3000 years before the Bronze Age started.

The elkhead boat is the dominant boat-type in northern Fennoscandia (see Figure 282). The practice of connecting animals to boats can be found in the ethnographic record from large areas of the Arctic. Animal parts, amulets or figurines were also put in the boats as a token or an offering, connecting the boat to the animal world (Brandstrup 1985:148-149, 156, 158). Amulets or figurines of the whale, elk and bear made in flint is found in Late Stone Age sites by the White Sea, northwestern Russia (Zamyatnin 1948:106). The animals represented on the stem or in the boat as charms or amulets varied. Stuffed seals have been put onto the stems (Thornton 1931:165), and wolf sculls, dried ravens, vertebras 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). Prehistoric sculptures shaped as elk-heads or bear-heads are found in vast parts of northern Fennoscandia (e.g. Carpelan 1975) and could be connected to journeys both on land and at sea since they are mobile artefacts.

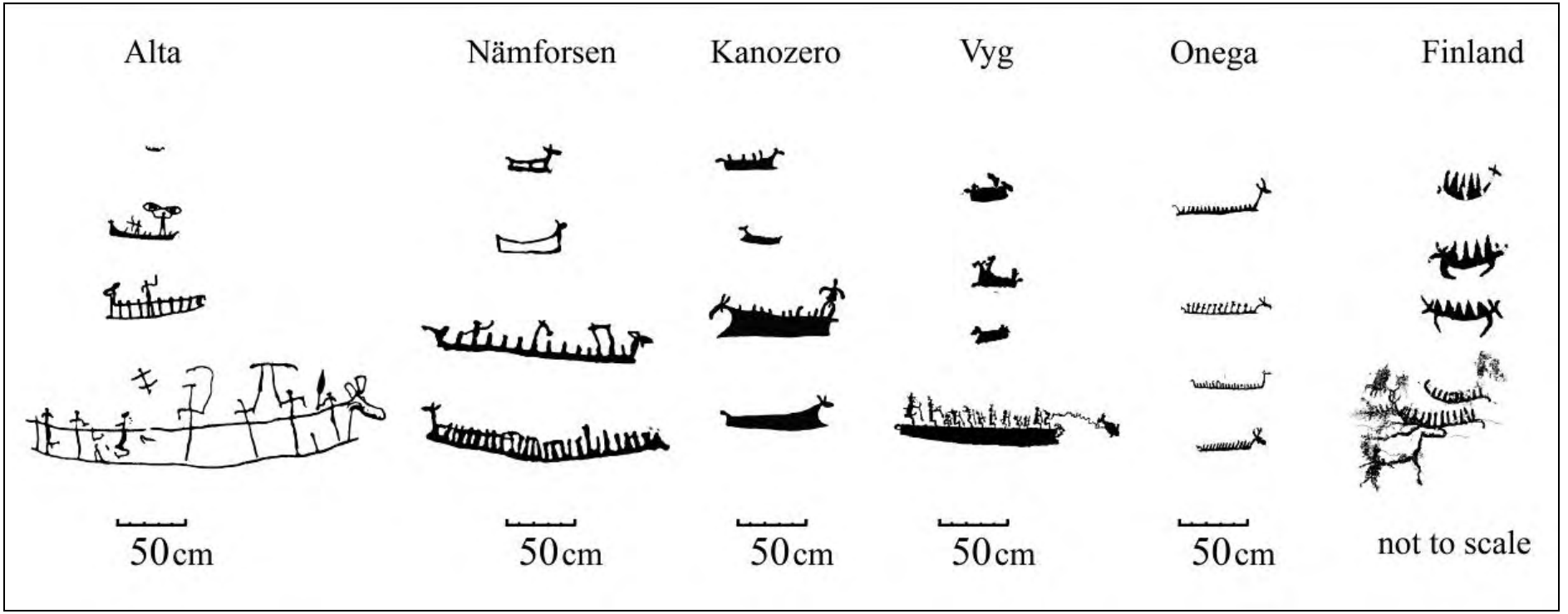


Figure 282 Examples of elk-head boats from the north dated to the Late Stone Age. Boats from Alta, northern Norway after Helskog (1989b:fig. 4). Boats from Nämforsen, northern Sweden after Hallström (1960). Boats from Kanozero, NW-Russia after authors' tracings. Boats from Onega, NW-Russia after Hallström (1960:plate XXVIII) and Ravdonikas (1936b:plate 1 and 13). Boats from Finland are from top to bottom from the sites: Patalahti, Saraakallio, Saraakallio, Pyhänpää after Lahelma (2005b:fig 1). The Pyhänpää boat figure is depicted as the antlers of an elk and is included in this overview to show the link between the elk and the boat. Illustration: Jan Magne Gjerde.

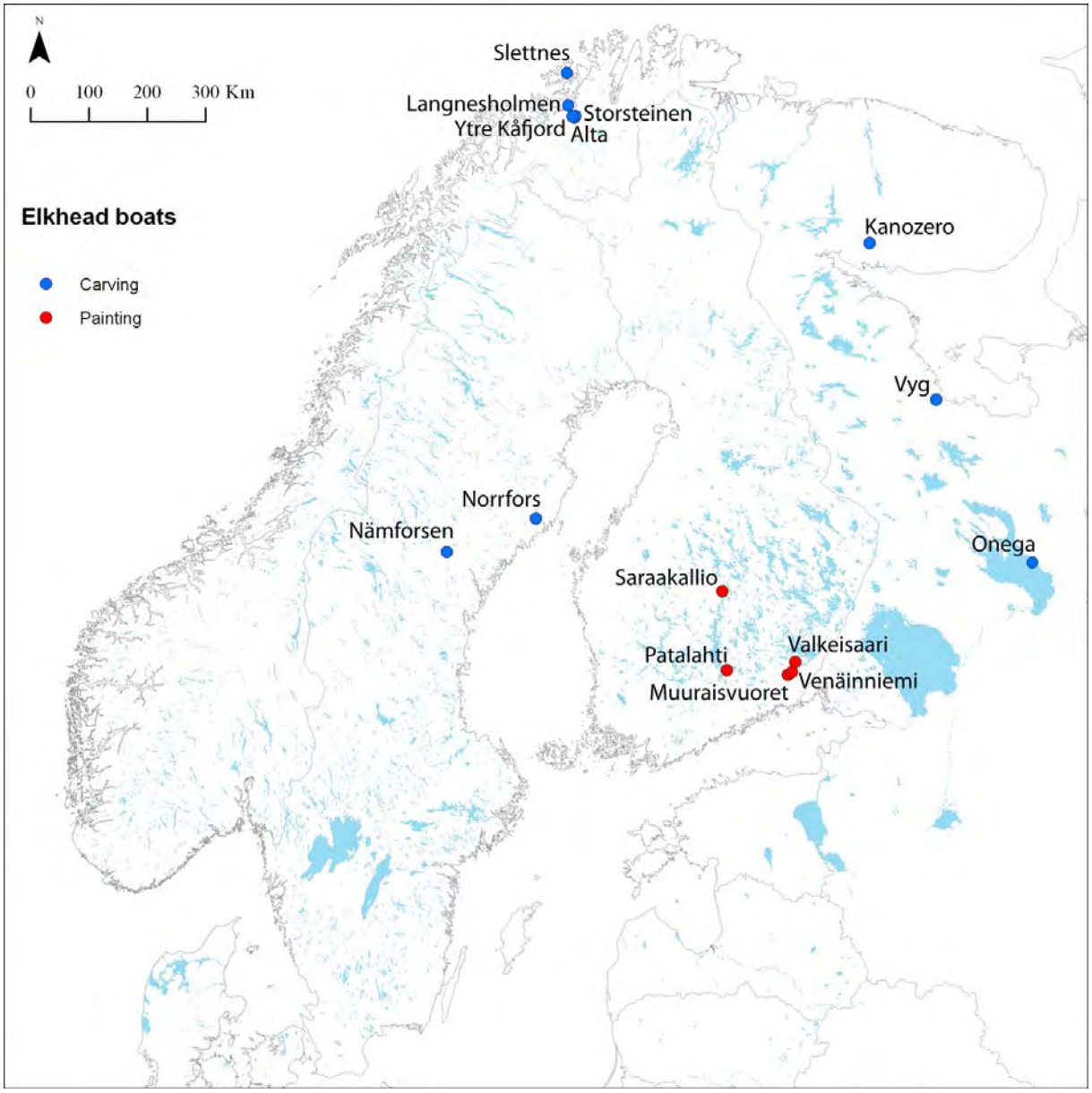


Figure 283 Distribution map of sites with elkhead boats in Fennoscandia. This show that the elkhead boat is clearly an eastern phenomena. Compare with distribution map of all Stone Age rock art sites (see **Figure 90**) to see the clear eastern distribution of elkhead boats in relation to the distribution of Stone Age rock art. Alta in this map also includes the sites in the Hjemmeluft area. Illustration: Jan Magne Gjerde.

The elkhead boats are found only in the northeastern parts of Fennoscandia including northern Norway, northern Sweden, Finland and northwestern Russia (see Figure 283). No such boat depictions have been found in the Trøndelag-region in middle Norway or in southern Scandinavia. Dating is crucial when looking at innovation, origin and spread of material culture. It has been suggested that the earliest boats in southern-Scandinavia (Sognnes E-type and Mandt A1-type) dates to the latter part of the Late Stone Age, even though most researchers end up with an Early Bronze Age date (Fett & Fett 1941:137; Fett & Fett 1979; Mandt 1991:334; Marstrander 1963:137; Sognnes 1987a:76; Sognnes 2001).

Graves where similar boat-types are found are dated to the Early Bronze Age (Linge 2004; Linge 2006; Linge 2007; Mandt 1983; Marstrander 1978). The similarity between Stone Age boats and the oldest Bronze Age boats have previously been forwarded (Sognnes 1990:64f; Vogt 2006:224). Even though Sognnes accepts that similar boat types are found in northern Fennoscandia, he regards the boats from middle Norway and western Norway as a seperate group of West-Scandinavian boat figures (Sognnes 1990:65). I question this notion by Sognnes, and claim that the boat types we see depicted along the Norwegian coast has a northern origin, that dates back to the latter phase of the Early Stone Age. The earliest depicted boats in middle Norway and western Norway date to the latter phase of the Late Stone Age or the earliest phase of the Scandinavian Bronze Age.

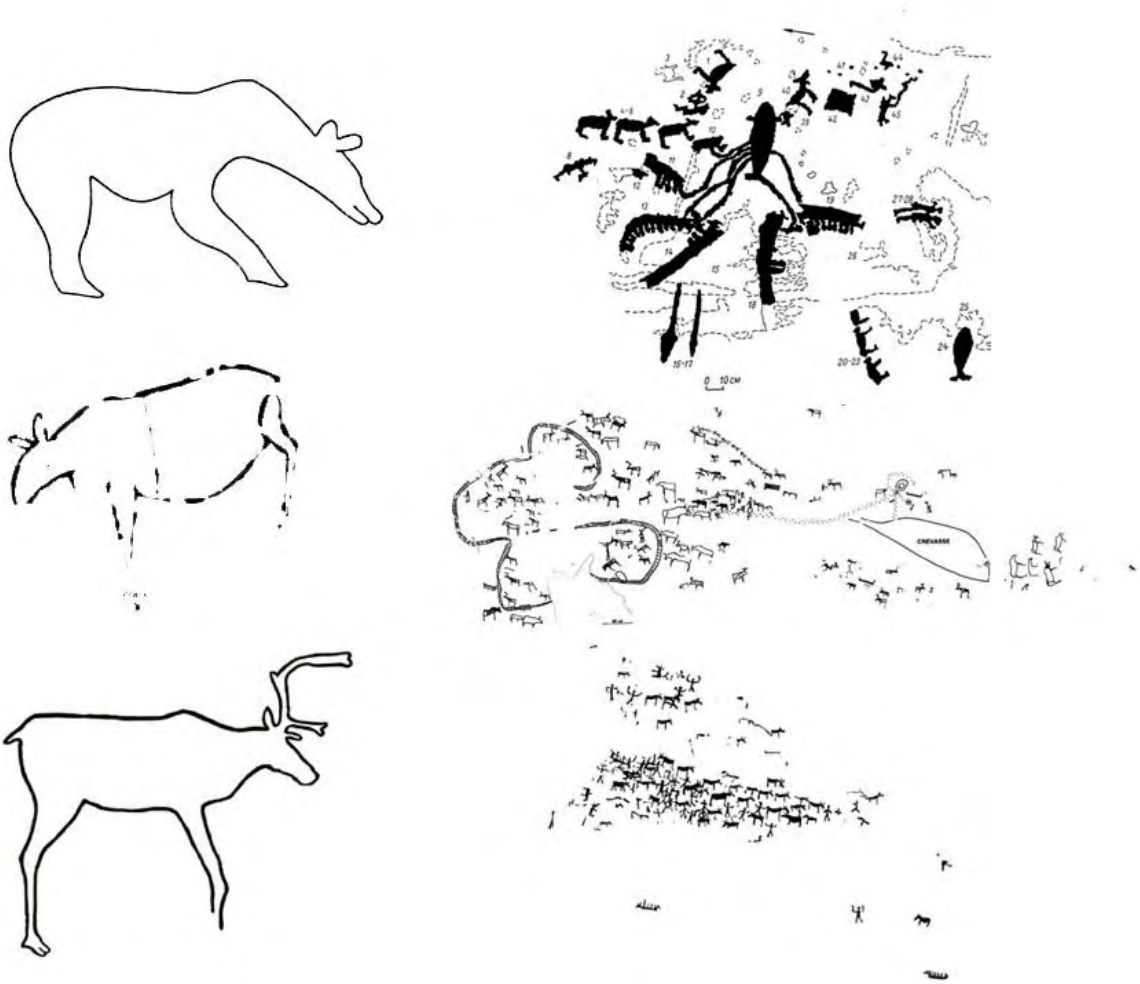


Figure 284 The clear difference between the "Early Stone Age" and the "Late Stone Age" rock art. Images are not presented in the same scale. However, the Early Stone Age animal depictions are with a few exceptions much larger. Thereby this illustration shows a relative difference in scale. Top left: Polished bear from Valle (Finnhågen), northern Norway, after Gjessing (1932:plate XXVIII). Middle left: pecked elk from Gärde, northern Sweden, after Hallström (1960:plate IV). Bottom left: Pecked reindeer from Bøla, middle Norway, after Gjessing (1936a:plate LIII). Top right: pecked whale-hunting scene from New Zalavruga 8, Vyg, northwestern Russia, after Savvateev (1970:plate 48). Middle right: Pecked reindeer corral and bear hunting scene, Bergbukten 1, Alta, Northern Norway, after Helskog (1999:figure 5). Bottom right: pecked elk-hunting scene from Nämforsen, northern Sweden, after Hallström (1960:plate XX). Illustration: Jan Magne Gjerde.

The rock art explosion when it comes to the increase in motifs, the large number of sites and the large rock art areas with concentrations of rock art, occurs virtually simultaneously in all of northern Fennoscandia, between 5500BC and 5000BC. This is also the time when the sites become large (by number of figures), human are involved in various activities (hunting, dancing, journeying etc.), clear scenes and compositions and the first sites that evidence a long continuous tradition where rock art is being made in the same area for several thousand years, like in Alta, Nämforsen and Vyg. The difference between the "Early Stone Age" sites and the "Late Stone Age" sites are presented in Figure 284. Concluding from the dates, the large rock art areas is initiated virtually simultaneously and people returned to these places to make rock art for thousands of years.

Vegetation and research intensity are problematic when it comes to the representativeness of the material record. The large figures at the polished sites in the Ofoten area are visible due to good preservation conditions. This must be bore in mind when looking at the Stone Age sites in general. The research activity in some areas has revealed large rock art concentrations by deturfing large areas of rocks. Without the deturfing of the rocks in Alta, the Alta area would have included "only" a few hundred figures. The excavations at Vyg revealed most of the rock art in the Vyg area, and we know that most of the large sites have been deturfed to find more rock art. One must be aware of the fact that areas with many small sites may prove to be large concentrations if one was to deturf rocks in the area. Examples of such areas from the Case studies is e.g. the Sletjord area in the Ofoten Case study where Hallström was told there were several more sites, but at his visit in 1908 they were overgrown. Other such examples could be the Tennes area in Troms, northern Norway where there are four sites with rock art but rock outcrops between the sites have not been investigated. In middle Norway, the Hammer site includes 16 sites that date from the latter part of the Early Stone Age to the Bronze Age. With this in notion in mind, one sense that more large rock art concentrations can be found in Fennoscandia. A good example of this is the Kanozero case study where the first rock art was discovered in 1997 and now the site includes more than 1000 figures.

Macrolandscapes – the wider picture

Location of rock art

Dating sites is important when it comes to the macrolandscape. Fennoscandia has undergone large changes in the landscape due to natural processes. The main change has been the land uplift, leaving rock art sites up to 100masl and like at Nämforsen more than 140km inland. Important for this thesis has been reconstructing lost relations. Reconstructing the landscape by raising the sea level has shown that the landscape has changed since the time of the making of the rock art. At some places it is problematic to see how the landscape would have been due to the changed landscape context both when it comes to natural and human intervention. The land uplift combined with the building of large hydro-power systems at Nämforsen and Vyg has left the landscape contexts somewhat unrecognisable to the ones in the past (Figure 208). It is therefore crucial to include lost relations when interpreting past landscapes.

When it comes to location for the rock art in the Case studies, there is one common factor for all the large rock art areas; the shore connection as presented by Helskog (1999). The only sites that do not have such a location in the shore zone, are a few of the paintings in northern Sweden. The polished rock art and the carvings are almost exclusively bound to the contemporary shoreline and, like at Nes and Valle in the Ofoten Case study, they are located at the same elevation even where there is no visibility between the sites. One would otherwise assume that carvings were made at different elevations if they were not shore connected. The Slettnes site and much of the rock art at Vyg were covered by transgressions, which backs the shore connection. There are several sites along the coast of Norway that were covered by marine deposits; amongst them are Kvalsund (Gjessing 1938) and Kirkely (Simonsen 1958) at Tennes in northern Norway and Hammer VI and VII (Bakka 1975b), Strand (Gjessing 1936a) in middle Norway. Several sites have also been suggested to be worn by the waves like at Slettnes in northern Norway (see Figure 148), Kirkely[213] at Tennes in northern Norway (Simonsen 1958) and Strand (Gjessing 1936a) in middle Norway. The similarity in selected motifs and scenes at the same elevation (phase) in Alta like the reindeer corrals and the bear-hunting scenes that occur at the same elevation , links the dating to the previous shoreline. At the Nämforsen site, even after the land uplift had removed the seashore from Nämforsen, the shore connection was upheld by the large waterfall. At Kanozero the carvings are also made

[213] At the Kirkely site the ”wave erosion” is evident by the higher elevated figures not being eroded while the lower elevated figures are ”wave eroded” like at Slettnes.

with strictly connected to the shore. The vegetation free zone was ideal since they were always available. The tidal effect is different in the Ofoten area, the Alta area, Nämforsen and at Vyg by its coastal location. It is interesting that virtually all the rock art compositions and scenes were most likely made within the sea-spray zone as argued in chapter 4 (see Figure 80). All the large compositions at the coastal locations in the case studies at Alta, Nämforsen, Ofoten and Vyg fall within 2m elevation, even if the largest scenes and compositions could be as long as 8m at the bear hunting scenes or the reindeer corrals in Alta. Even at the large composition at Leiknes 1 the figures seem to follow the same 2m interval (see Figure 96). At the inland case study at Kanozero, the scenes and compositions never break with this sea-spray zone. This is also the case when compared to the rest of the rock art in northern Fennoscandia. At Onega the annual fluctuations of water level in the lake varied as much as 80cm. This meant that some of the figures were submerged during one of my visits. The same was observed by Hallström as many of the figures were submerged during his initial visit to Nämforsen at midsummer 1907 when the forceful rapids prevented his approach to Bradön Island. At the spring time, parts of the figures or the entire panel at the inland sites, like at Duved[214] and Landverk in northern Sweden, are submerged due to high water-levels and the shore connection of the sites. The examples of shore connections between Stone Age rock art in northern Fennoscandia is numerous; hence I have argued that the majority of rock art in my case studies were shorebound when made.

It has been argued by Sognnes, using examples from middle Norway, that rock art sites from the Stone Age are located by conspicuous topographical features (Sognnes 1998:154ff; Sognnes 2002:202ff, fig 10.4). Some of these topographical features would stand out in the landscape, like the Hell site that is located at an island on a vertical rock cliff that could be seen from the sea. According to Sognnes, the topographical features chosen for making the Stone Age rock art may not be large, but frequently would be easily spotted by people paddling along the sound and fjords (Sognnes 2002:202). Other such conspicuous topographical features that has been connected to rock art is the rapids / waterfall (Goldhahn 2002b; Hallström 1960; Ramqvist et al. 1985b), such as those at Nämforsen and Vyg (see Figure 207 and Figure 264). The Stornorrfors site was found in 1985 by Swedish scholars searching for rock art in locations similar to Nämforsen where one have islands in waterfalls / rapids (Ramqvist et al. 1985b). By no doubt, many Stone Age rock art sites are located on islands in large rivers or at waterfalls (e.g. Glösa, Gärde, Nämforsen, Stornorrfors in middle

[214] At the Duved site, the whole site was submerged during my fieldwork in May 2004.

Sweden, Vyg in northwestern Russia). However, in the Ofoten area, the Kanozero area and the Alta area, they are not. Many of the rock art sites are located on small islands, such as the Goreliy, Jeloviy and Kamenniy sites at Kanozero, the Bradön and Notön island at Nämforsen, the Besovy Sledki, Jerpin Pudas and Nameless islands with rock art at Vyg. This is also found in middle Norway when reconstructing the land uplift, like at e.g. Hell, and in northwestern Russia at the small islands Guri and Mudosh at Onega. Sites are located at vertical rock cliffs (Jo Sarsaklubben at Nes, Valle 1 and 2 and Vik in Ofoten). This is also found in middle Norway at e.g. Hell and Stykket (see Figure 285). The majority of the sites are located at coastal rock slopes. This is also evident for large parts of the Stone Age rock carvings in the rest of Fennoscandia. There are also boulders with rock art located in the shorezone in the Alta-area (e.g. Slettnes 1-4, Langnesholmen 1-4). This is also found at e.g. Chalmn Varre on Kola Peninsula, Reppa in middle Norway (Sognnes 1981) and e.g. at Botilstenen and Åbosjön in northern Sweden.

There is no *one* common location factor of rock art sites except the suggested shore connection and the obvious fact that to make rock art, one need available rocks. In northern Norway there are also a few sites with cave paintings (most likely dated to the Bronze Age) (Hesjedal 1990:129). Rock art in northern Fennoscandia are located on vertical cliffs, horizontal coastal rock slopes, islands and on boulders. The one factor that is necessary when making rock art, the rock itself, has rarely been considered and should be explored in future rock art research. In ethnography, there are examples of people communicating with the spirits and communicating with stones (see chapter 4). However, returning to the conspicuous topographical features, many of the sites are located at locations that is in some way separates from the rest of the surrounding landscape. The caves, the waterfall / rapids, the vertical cliffs, the coastal rock slopes, the islands, the boulders all have one common denominator; they stand out from the rest of the landscape. They are located at places where the landscape character changes; like the waterfall / rapids or the island or boulders that appear from the sea. They are located at liminal places in the landscape. From the ethnographic record, we know that such places are laden with meaning. Some of these rock art sites stand out from a distance when moving in a landscape, while others only appear at close range. However, not only conspicuous topographical features make rock art stand out in the landscape. The large rock art images like at e.g. Sagelva or Jo Sarsaklubben, Nes in the Ofoten Case could be seen at a distance of up to 300m when paddling along the sound and fjords.

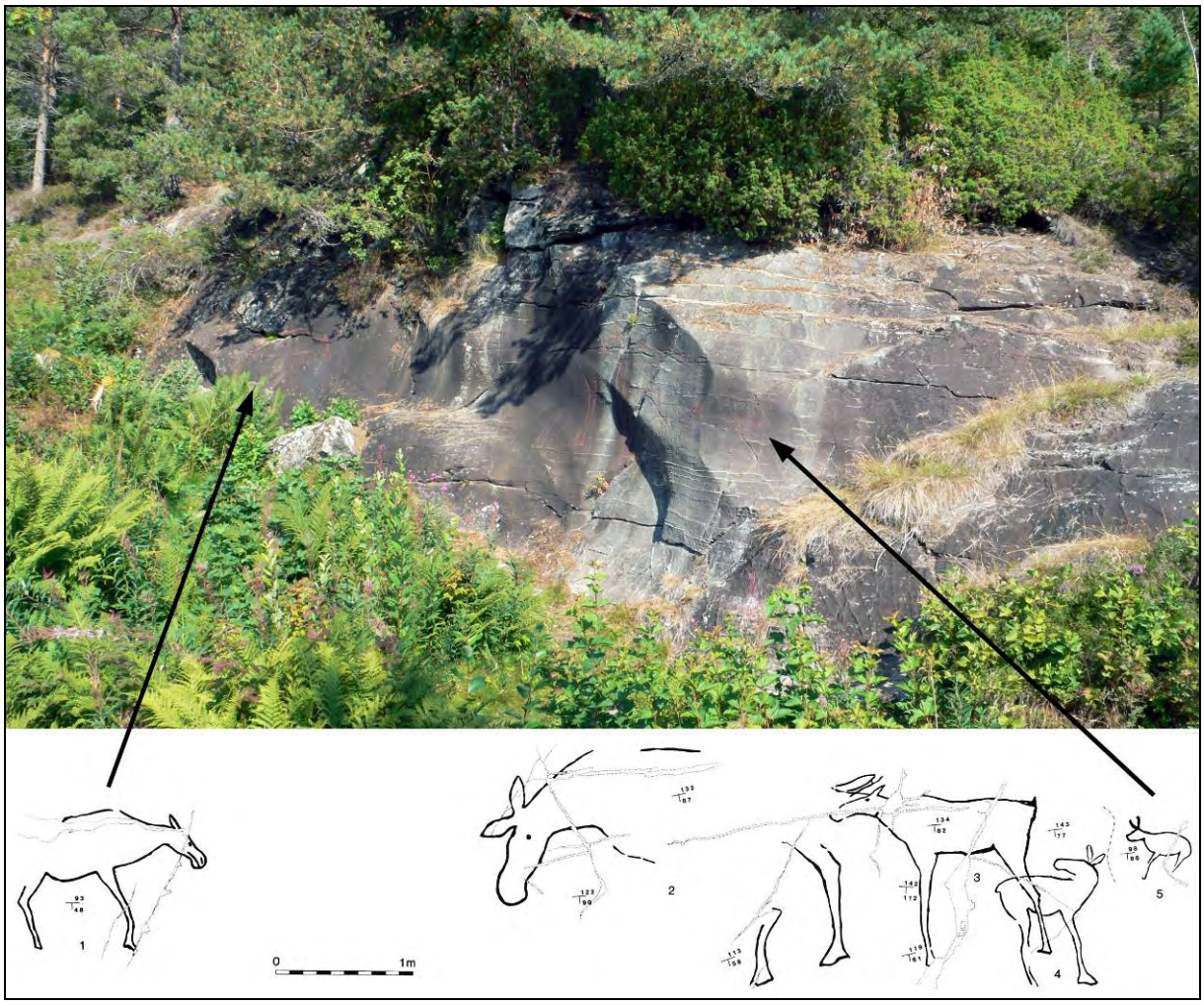


Figure 285 The Stykket site in Trøndelag, middle Norway. Tracing after Sognnes (1981:fig 7). The original tracing did not show the relation between the elk in the rest of the figures. The distance is about 2m. The figures can be seen at about 50m distance. In this illustration, the relation between the figures are fixed and the two initial tracings joined together. Photo and illustration: Jan Magne Gjerde.

The main problem with a locational interpretation as presented above, is that we need to know the natural background in relation to the cultural background. What are the conspicuous features of a landscape? This is different in the different areas of northern Fennoscandia. What is conspicuous in one landscape may not be conspicuous in another or may not even exist in another. The two opposites in my case studies are the steep fjordal mountain landscape of Ofoten contrasting the flat landscape in the Vyg region. The change in the landscape also makes it important to view the sites in relation to the lost relations (e.g. the Vyg rock art that today is located 8km inland where the whole landscape character is changed due to the land uplift and the Hydro Power construction contrasted to when they were made in the rapids of Vyg and in the river estuary of the Vyg River).

A critique of the western gaze of nature has been put forward by Smith and Blundell for the interpretation of the macrotopographical features in relation to rock art (Smith &

Blundell 2004). However, as I have also argued elsewhere (Gjerde 2006; Gjerde 2009), one needs to account for both the large topographical features and the less conspicuous ones. The main problem is that we, in our "out of the office" experience in a landscape, often regard all features as conspicuous, special and meaningful. We do not know the cultural code of the natural features that could have been laden with meaning in the past. An example of this is the two different landscapes of northern Norway as viewed through the eyes of a reindeer herder and an angler, where the same topographical features were connoted with different meaning (Meløe 1990). Sognnes' notion that the rock art sites are located at conspicuous topographical features (Sognnes 1998:154ff; Sognnes 2002:202ff, fig 10.4), seems to be the case for many of the sites, but as for the rock art in general there is not one locational factor that could explain the location of all the sites other than the shore connection.

Symbols and signposts – socializing landscapes

During fieldwork, I became aware that some of the sites were most visible from the lake or the sea. This became evident at the sites where the situation was more similar to the one in prehistory like at the inland lakes (see Figure 82). At the Landverk site (Figure 15), the two large elks were visible from a boat, but not from land. At Jo Sarsaklubben and Valle, I became aware that these figures could be observed at a large distance contrasting the rock. This can also be seen at the large paintings, e.g. like the large salmon figures at Honnhammer in the northern part of western Norway (see Figure 286). The large natural sized figures situated on vertical cliffs seemed to be best observed from a distance and often from a observation point from boat at sea. With a raised shoreline, this constituted a methodological problem. A revisit to the Ofoten area by helicopter showed that figures could be seen at as much as 300m distance at a vantage point similar to the elevation of the polished carvings (see Figure 104 and Figure 105**)**. When freshly made, the polished carvings, the carvings and the paintings would contrast the surrounding rock making them visible at a large distance. The best example in the Case studies comes from the Jo Sarsaklubben site. Looking at recent carvings in the shore zone, like at Onega, one can see how clear the carvings would appear in contrast to the rock surface even years after they were made (see Figure 287).

Figure 286 The large salmons at Honnhammer III (Honnhammerneset), northern part of western Norway. The salmon figures measures between 1m and 1.20m. The vertical cliff stands about 5m up from the small ledge beneath the paintings. Illustration is compiled from 5 photos. The lowest salmon seems to appear from the crack where the red line in the rock twirls like flowing water. The salmon above this also seem to appear from this same natural feature possibly referring to the flowing river? Photos and illustration: Jan Magne Gjerde.

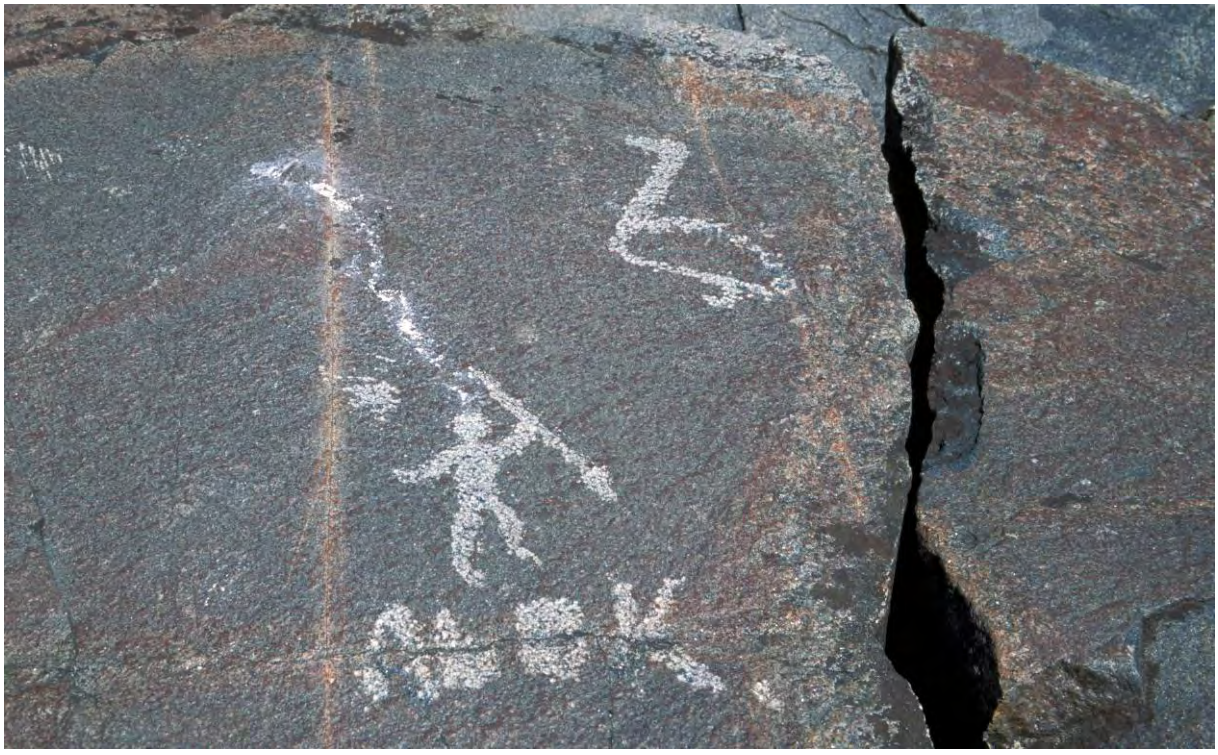


Figure 287 Modern carving from Lake Onega in northwestern Russia. This carving was made more than 20 years ago according to a local informant. The person holding the spear is about 20cm tall. Photo: Jan Magne Gjerde.

By reconstructing lost relations, like the land uplift, one has a better opportunity to see how the landscape was in the past when the rock art was made, not only the present landscape. This is important since otherwise one would not see how the rock art sites were located in the past and place the interpretation of rock art in the context of the present landscape, making flawed relations between the rock art and its landscape.

The first rock art sites are located so that they can be seen from a vast distance. They are also located at the point or near a favourable bay for settlement (see Leiknes, Forselv, Jo Sarsaklubben, Nes Fort Øst, Nes Fort Vest, Vik, Fjellvika sites in the Ofoten case study). The Early Stone Age sites and many of the sites dated to the transition between the Early and Late Stone Age seems to be located at a point where the distance crossing the fjord or river is shortest (e.g. Brennholtet and Sagelva from the Ofoten Case study). This is also the case for other sites in northern Fennoscandia, as suggested by Farbregd (1980), where rock art is located at both sides of such a crossing place for elk. The earliest carvings in Alta were made on both sides of the Kåfjord fjord where the Ausekarnes point (then a small island) is the shortest crossing place (see Figure 168). This location resembles the cherished crossing places found in the ethnographic sources; fjords, lakes and rivers have certain places favoured by large game animal when it comes to crossing waters. This is found in several ethnographic sources describing the favoured crossing places for cervidae (elk, deer, reindeer) over large parts of the circumpolar area (Grønnow et al. 1983; Popov 1948; Stewart et al. 2004). It seems like the earliest rock art is located at favourable places for animals. These were places where animals would “appear from the rock” or in the adjacent area or zone. The early rock art sites depicting large game animals on vertical cliffs that can be seen from a distance acted like signposts when moving in this coastal landscape. Based on the case studies and the Inuit perception of territory (Collignon 2006b), which have counterparts in other circumpolar hunter-gatherers perception of landscape, the early rock art is about marking favourable areas or zones, e.g. at Jo Sarsaklubben the reindeer can be seen standing at the vertical cliff as a symbol a reindeer area. Similar, the large reindeer at Sagelva could refer to the crossing places inland from the Sagelva site (Figure 118). These places would be places where knowledge of the land were inscribed into the rocks acting as memoryscapes.

Before I enter the interpretation of central places or meeting places, I will direct the reader to the relative and cultural preconception when it comes to distance. Distance and the perception of distance are culturally conditioned. It relates to how one moves in the landscape and the concept of spatial relations. Today modern communication lines and political and

administrative boundaries often hinder the knowledge of lost relations when it comes to moving in the landscape.

Meeting places

I am inclined to suggest; that even if large rock art areas like Nämforsen must have had its peak certain times of year when it was visited by many people, this was a place where people met at all times of the year exchanging information. The unique geographical location in relation communication and the large settlement record argues that there were always people at the large rock art areas like at Alta, Nämforsen, Kanozero and Vyg; hence, here one would always meet people.

The rock art sites in Nordland, northern Norway, with relatively many figures (Fykan, Klubba, Leiknes) were early on interpreted as places where people gathered and made the polished carvings and, at occasions, painted them with red colour. According to Gjessing, this most likely occurred at certain times of year when people repetitively visited the places followed by ritual cult (Gjessing 1945:313). The large number of carvings and the focus on boats has validated the interpretation that Nämforsen was a node in the Stone Age landscape that was also central into the Bronze Age. It has been suggested by several researchers that Nämforsen was a meeting place for several groups during the Stone Age (Baudou 1993; Forsberg 1993:242; Hagen 1976:127-130; Hallström 1960; Ramqvist 2002b:154-156; Tilley 1991:108-113).

As mentioned earlier, the large concentration of rock art has been interpreted as nodes in the landscape. Hallström interpreted Vyg, by comparison to Nämforsen, as a node because of its unique geographical location (ideal aggregation places by its location) (Hallström 1960:XI). While Hallström explained the rock art nodes in relation to the places' unique character, Hagen interpreted these large concentrations of rock art, e.g. at Vyg, to be a result of the fact that they were ecological favourable places related to hunting magic (Hagen 1969:143). Vyg has 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, where coast and inland meet, would have been ideal meeting-places for dispersed groups with common traditions. This would be places where they could get together to hunt, fiest and perform tribe traditional activities (Hagen 1976:127-130). The Alta site has also been

interpreted as a meeting place for social interaction between coastal and inland groups during the Late Stone Age (Hood 1988).

When it comes to the early sites, most of them include few figures and solely large game. Even if this cannot be established, the early sites also seem to have been made (and possibly) in use during a rather short time (see the Ofoten Case, e.g. for the Jo Sarsaklubben site). Based on the current suggested dates, the large rock art areas of Alta, Kanozero, Nämforsen and Vyg were large rock art areas where it in this thesis has been shown that rock art was made for several thousand years. These sites were nodes in the landscape that people returned to make rock art for generations.

Stone Age journeys

Returning to the "unique geographical location" of the large rock art areas, one sees that they are all centrally placed when it comes to travelling. The Alta sites are located at the head of the large Alta-fjord that acted as a funnel both between the coast and the inland where the natural lines of communication met in Alta (see Alta Case study). The Nämforsen site is located at the head of the long Ångermanälven-fjord which would have been a "Stone Age highway" for people moving inland from the Gulf of Bothnia (see Case Study Nämforsen). When it comes to the Russian sites of Kanozero and Vyg, the similarity in the material record connects these sites to the large Onega site. They are all central areas in the major waterway systems in northwestern-Russia where the distance between the large rock art centres is about 300km. While the Onega carvings are located where the rivers enter the Onega sea from the East, the Vyg site would have been located at the Vyg estuary where it entered the White Sea. Further north, and connected to the large waterway crossing the Kola Peninsula, is the Kanozero site that is located at the Kanozero Lake as part of the Umba-Varzuga waterway between the White Sea and the Barents (see Figure 288 and Figure 235).

An important aspect of such a meeting place, is that people or groups of people journeyed to and from such nodes in the Stone Age hunter-gatherer landscape. The boats at Vyg are often associated with the whale hunt. However, the large boats could also communicate their communication abilities. Some of the larger boats room more than 10 people and must have been similar to the Umiak of the Eskimoes. The large boats and the actual journeys have been connected to the large journeys and stories of the travels and its rituals when starting or completing a long journey should not be underestimated. The journey in itself has been associated with rituals as suggested by Helms (1988; 1992).

The large variety of figures that has its counterparts in large areas of northern Fennoscandia supports the idea that Kanozero was a meeting place. The strategic geographical location also advocates the meeting place idea. Kanozero is in wide terms a place for cynegetic activities. I am convinced that Kanozero was a place where people knew others would meet, a meeting place where people could exchange information and ideas both functional and ideological.

Figure 288 The relations between the sites "related" to Vyg. The landscape is tilted in Google Earth. Thereby distance relations are distorted. Vyg according to leading communication lines from the Onega to the White Sea. Note that the Finnish rock paintings are not presented in this illustration. The distance as the crow flies from the Onega carvings to the Vyg carvings are c. 300km as the crow flies and the distance to the Kanozero carvings from Vyg are about 280km. Illustration: Jan Magne Gjerde.

In northern Norway, Bjerck (2007; 2008; 2009a; 2009b) claims that there seems to be a delayed colonization of the inner fjordal areas based on studies on settlement location along the coast of Norway. The settlements clearly have an outer coastal location. The explosion in rock art sites and the focus on journeys in rock art could be describing the intensity of journeys and the manifestation of familiarizing the landscapes. By about 5500-5000BC people in the north had an extreme knowledge of the land and by cynegetic activities their knowledge were manifested at places through the rock art in a manner similar to what Taçon (1994) defines as socialising landscapes in Australia where it became increasingly important to mark the land and this was performed by making rock art.

In his description of Finland, the land and the people, Nordenskiöld describes the communication by land and water in Finland as similar to the Kanozero area of Kola Peninsula: “Characteristics of Finland are the so-called winter-roads, which are used when the lakes are frozen over. By travelling partly by land and partly on frozen lakes long detours can be avoided”. The numerous watercourses in Finland have been of extreme importance as highways of communication ever since the Stone Age (Nordenskiold 1919:374).

It is no problem finding boats involved in some form of hunting or fishing, like the halibut fishing at Forselv, the driving of reindeer in Alta or the whale hunting Vyg. However, the majority of the boats depicted are not part of such hunts. They simply depict boats (see e.g. Figure 289 and Figure 290). At Nämforsen, Hallström related the small boats to the fishing and hunting, while the large boats with a number of crew (see Figure 289) could illustrate the long journeys to and from the waterfall (Hallström 1945:33).

Figure 289 Boat image from Lillforshällen, Laxön in Nämforsen. These large boats made Hallström suggest they were illustrating long journeys. This boat has about 15 crew members. The boat measures about 1.8m in length. Photo: Jan Magne Gjerde.

I find my initial critique of current rock art research validated due to its interpretation that everything must always mean something *much* more than what is actually depicted in the rocks. A good example is when Tilley in his discussion on the Nämforsen material draws

attention to the ambiguity of the boat (elk-head boat and antlers as boats) (Tilley 1991:68). Tilley then continues in his cosmological quest of rock art: “Just as the vast herds of elks depicted did not exist, neither did these accumulations of small vessels nor the massive ships. What we are dealing with is not reality but a cosmological depiction of it” (Tilley 1991:77). I do not question that cosmology is included in Stone Age rock art, however, the large herds of elks exists in the forested area near Nämforsen, the reindeer flocks at Alta are real, the bear hunts were not part of peoples imagined world and the whale hunts at Kanozero or Vyg are not solely a cosmological incident. In his works on Nämforsen, Tilley strands in his boat moving along the cosmological river never considering the fact that a boat could actually be a boat.

The Case studies show that the large rock art areas are located at places that favours boats as communication. They are located at central places in relation to large waterways (rivers or fjords) or at coastal locations. These large waterways must have acted like Stone Age highways. This can best be seen at Nämforsen where the large Ångermanälven River when accounting for the land uplift, becomes the Ångermanälven-fjord that cuts about 140km inland to Nämforsen. No other fjord prove to be such a Stone Age highway connected to the Gulf of Bothnia during the Stone Age. This would have been an ideal line of communication between people living along the fjord and on the outer coast. The large waterfall at Nämforsen would be a natural stop before one could go further inland. The low inclination would make it possible to carry the boats past the waterfall and journey further inland making the Ångermanälven-fjord and the Ångermanälven River stable and one could travel by boat to Nämforsen during the Late Stone Age. The boat would have been central to the people settling the Ångermanälven region in the Stone Age. This could be one of the reasons why the boat is frequently depicted. In addition, it is the large boats with many people that are depicted where they could represent what Helms ethnographically refers to as the long journeys often connected to rituals (Helms 1988). Recently Lindgren has stressed the importance of being a traveller during the Stone Age when it comes to acquiring and exchanging raw materials and knowledge (Lindgren 2007). The importance of travelling, communicating, storing information, and then retelling the stories at certain places or at certain times is connected to certain people in society as suggested by Barth in Southeast Asia and Melanesia (Barth 1990).

The long journeys I suggest for the Stone Age has previously been suggested when it comes to acquiring raw materials like flint or “elite objects” such as amber. Long distance travelling have been suggested for the Bronze Age (Kristiansen 2002; Kristiansen 2004;

Kristiansen & Larsson 2005). However, rarely have long range travels during the Stone Age been discussed, although large boats rooming many people are depicted in the rock art. Long journeys can be connected to rituals and the importance of being a traveller when it comes to acquiring knowledge. Communication, and especially long-range communication should be stressed more for the Stone Age. Knowledge of the landscape would have been extremely important for people during the Stone Age. Examples from the Inuit world, suggest that it is the male hunters that through cynegetic activities are holders of the "wisdom of land" (Collignon 2006b). Through journeys, individual and communal hunting they had a geographical knowledge that must have been vital to them as hunter-fisher-gatherers.

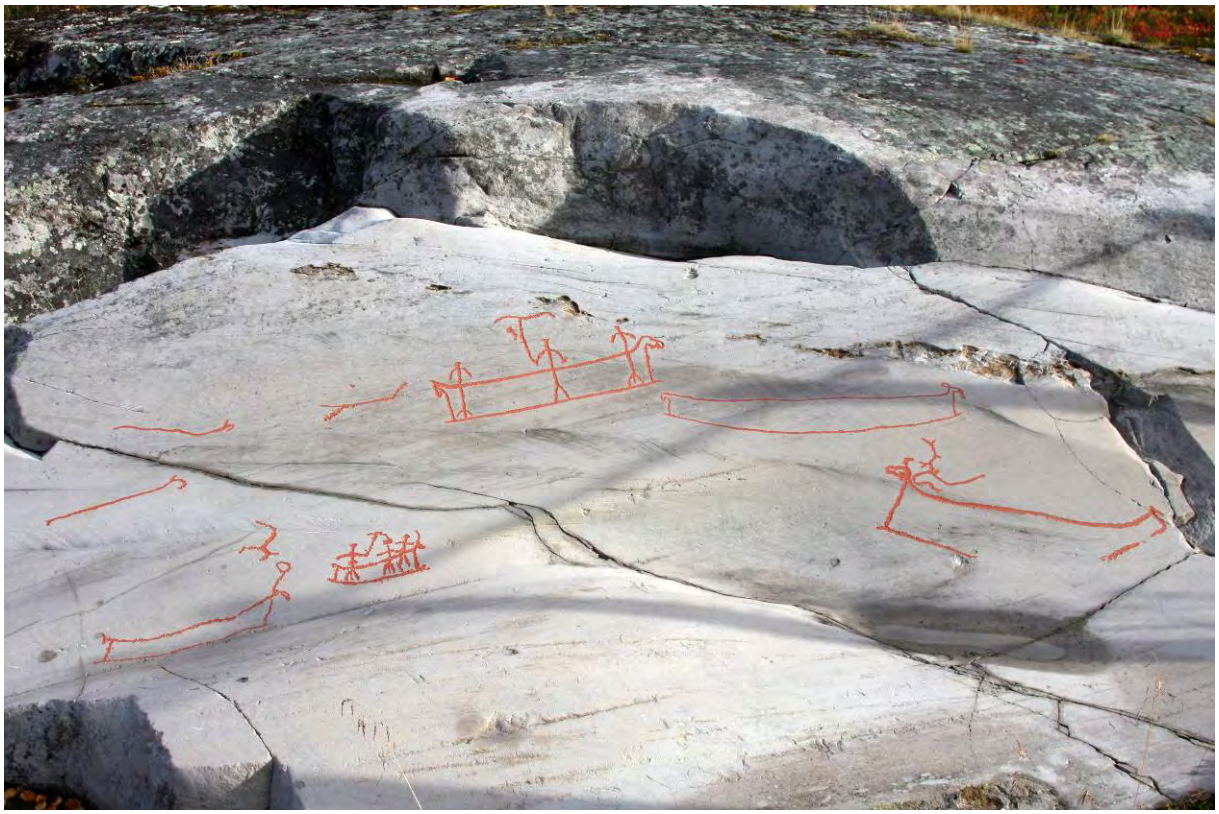


Figure 290 Boat images at Bergbukten 3 in Hjemmeluft, Alta. The size of the large boat, above the middle of the photo, with three crewmembers, is about 67cm long. These boats belong to phase 2 and is dated to about 4200BC-3000BC (see **Figure 152**). Photo: Jan Magne Gjerde.

The head of the Alta-fjord would have been an ideal stop for people journeying between coastal and inland areas. The wider Alta area shows a unique geographical character were the inland valleys and the fjordal tributaries to the Alta fjord acts as funnels routing people through the head of the Alta-fjord through its natural lines of communication. The head of the Alta fjord by its location and the rock art has been interpreted as a meeting place

and according to Hood, Alta would have been an ideal place for communication between different inland and coastal groups (Hood 1988).

Moving back to the rock art in relation to journeys, by no doubt some of the stories of the rocks most likely represents stories that occurred in the vicinity or at the actual place where the rock art is depicted. I have suggested this for the whale hunting scenes at Vyg (Gjerde 2005; Gjerde 2006; Gjerde in press-a), a theory that is supported by whale bones found at adjacent settlements. Thereby the whale hunting tells stories from the actual rock art place. But, as the case studies shows, the stories do not merely depict the actual place and the activity where it occurred, as presented in the hunting place theory of rock art. Even if there are places where I am convinced the hunting place would have been where the rock art site is located (e.g. Høgberget 1, Jerpin Pudas 3 (Vyg), Jo Sarsaklubben) they also depict activities that would have occurred in the area, thus referring both to the rock art place and their understanding of the macrolandscape. An example of this is from Bergbukten 4 where inland reindeer corrals are depicted, while the area where the rock art is located and the coast is represented by halibut fishing scenes (see Figure 183). Another example is from Nämforsen, where the landscape is depicted as seen from the Nämforsen site with the "inland" elk hunting and the elk and man walking on the shore and the boats depicted on the fjord. The figures are depicted as a cross-section of the landscape (see Figure 262 in relation to Figure 270).

When it comes to the travels of stories and the telling of stories about cynegetic activities, I will direct the reader to the Besov Nos panel at Onega where whale hunting is depicted. We know that the Beluga whale was not present in the Onega Lake. Most likely this is a story of and by people taking part in the Beluga hunting at the White Sea, perhaps at Vyg, linking the two sites stronger together. There are three whales at Besov Nos in Onega. Two of them were discovered by Ravdonikas (1936b:plate 25, 30). When revisiting the Besov Nos site, a part of a whale can be seen and what was interpreted as a human figure most likely is a boat with a hunting line (see Ravdonikas 1936b:plate 28 figure 56). The best visible whale hunting scene can be seen at Besov Nos (Ravdonikas 1936b:plate 30 figure 60 and 61). Another whale is depicted to the right of the whale figure, however, one can only see the whale and the hunting line since the rest of the figure is eroded. The area with other figures (Ravdonikas 1936b:plate 25), then most likely depicts three whale hunting scenes, where the best preserved is the middle one (see Figure 291). While the hunting scenes at Vyg is telling stories of cynegetic activities connected to the site, the whale hunting scenes at Onega tells stories of travels and hunting the white whale by the White Sea, some 300km away. As seen

in the case studies, there seems to be a geographical reference in the rock art that sometimes relate to areas, zones or the places where the activity occurred.

Figure 291 The whale hunting scenes at Onega. Only the whale hunting scenes are chalked to make them more clear on the photo. This is the left and the middle whale hunting scene at Besov Nos. Scale in the middle of the photo is 10cm. Tracing of the figures at Besov Nos can be found in Ravdonicas publication on the Onega carvings (Ravdonikas 1936b:plate 25). Photo: Jan Magne Gjerde.

Hallström early on accounted for Russian flint in northern Sweden by suggesting travels over the Bothnian Sea (Hallström 1925:89). By adding the motif similarity and stylistic comparison of the rock art and the elk-head sticks found at the Olenii Ostrov burial site in Onega, Hallström suggested that a connection could hardly be doubted (Hallström 1960:317). Large boats and the actual (long) journeys may have been associated with rituals, as suggested by Helms (1988; 1992). In Hallströms work, when he suggests a similarity between the carvings from Nämforsen and Onega and the brief account of the long journeys to and from such meeting places, I am of the mind that what 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, and hence, witnessed the similarities, not from the tracings in a book, but by first hand knowledge. Through my fieldwork, it has been of crucial importance to see the rock art *in situ*, to travel to and from the sites spending time in the landscape.

Microlandscape – miniature worlds

As shown in the numerous examples from the case studies there is no doubt that rock art interacted with natural features in the rock surface, from the tiniest crack up to the microtopography in the rocks acting as miniature landscapes or miniature worlds.

Some places, it seems like the animals appear from cracks interacting with the layering in the rock surface, like at Flatruet (Figure 292 and Figure 293) and Högberget 1 (see Figure 261) in northern Sweden or at Gjølgjavatnet (see Figure 294) and Hunnhammer 3 (see Figure 286) in middle Norway. In the light of ethnography, the rock surface acts like a membrane between this and the other world (Lewis Williams & Dowson 1990). Steps, cracks and the like were construed as pathways which connected the world and could only be followed by shamans and inhabitants of the spiritual world (Ouzman 1998:36) This has been well documented several places in the world, e.g. in South Africa (Lewis-Williams 2002a) and North America (Arsenault 2004a:299f).

Figure 292 The Flatruet site in northern Sweden where one can see how the figures are placed in relation to cracks and ledges as if the animals appear from cracks in the rocks. At a closer look it seems like the human representations and the elk figures are appearing from the cracks connected to the ledges from inside the rock surface, the “other world” Photo: Jan Magne Gjerde.

Figure 293 One of the elks at the Flatruet site in northern Sweden where the elk is appearing form the crack interacting with the elemnts in the rock. Photo: Jan Magne Gjerde.

Figure 294 Painted figures at Gjølgjavatnet middle Norway. Notice how the large elk figure appears as if it is coming out of the rock. Photo: Jan Magne Gjerde.

As seen in the Ofoten Case study, the tiniest crack or line in the rock could be included in the rock art like the mouth of the reindeer at Jo Sarsaklubben (see Figure 134) or the quartzline indicating the waterline where the swan is swimming at Leiknes (see Figure 135). At Bergbukten 1 in Hjemmeluft, Alta, bear tracks appear from a natural formation in the rock (see Figure 150), while at Vyg, the water runs over the rock surface indicating the river (see Figure 216). At Kanozero the inclination of the rock relates to the actual skier and relates to the topography (see Figure 240) and at Nämforsen (HIIQ1), a quartzline represents the shoreline where a human and an elk is standing at the shore (see Figure 268). These examples show that rock art interacts with natural features. However, this does not mean that I regard all the rock art to be solely dependant on the natural features. The natural elements are included in rock art at many, but not all places. This argues for a study of human interaction with the rock itself. We have to consider that we do not know what features were part of the rock art story at any given time. We do not know the cultural code at any given time of the rock art and of the natural features.

What I find most interesting concerning the interaction of the elements, natural features and rock art, is the interplay with the macrolandscape. In all my case studies, I find places where rock art and the natural elements interact as rock art and natural elements seems to describe the figures in relation to a wider landscape, the macrolandscape. The rock art and the elements interact creating miniature landscapes or miniature worlds of the world in which the hunter-gatherer lives. At Bergbukten 1 in Alta the miniature lakes, valleys and rivers interact with the figures representing miniature worlds. At Nämforsen the HIIQ1 site appear as a representation of the landscape seen from the rock art site (see Figure 262 in relation to Figure 270). Numerous examples relate the rock art to the natural topography in the area. At Bergbukten 1, one can also see how the rock art refers to topographical features through its positioning. In my opinion, when studying Stone Age rock art, both the motifs, scenes and the interaction with the microlandscape are references to places, areas and macrolandscapes. Like the bear dens in Alta, the reindeer corrals in Alta, the boats in the miniature river at Nämforsen, the whale hunting and the hunting of elk at Vyg and the hunting of bear at Kanozero. They are all reference points to the macrolandscape and places in their real world. This brings me to the geographical knowledge and the memoryscapes stored in the rocks.

The miniature landscapes of the rocks were applied as a backdrop to tell the stories; such as the inland hunting for elks at Nämforsen (Hallström IIQ1) (Figure 270), or the inland reindeer corrals at Alta (see Figure 171), the open sea halibut fishing scenes from Forselv (see Figure 75), and the Beluga whale hunting in the river and river estuary at Vyg (Figure 216).

The placement of activities and figures in relation to miniature water systems shows that the figures were placed in relation to the micro-landscape in order to tell stories related to the macrolandscape, to actual and imaginary places. Examples of this at can be found other places as shown through the examples from Nämforsen at Laxön ("Nedre Hällkaret") (see Figure 271), Bradön (see Figure 265, Figure 266, Figure 267). Many of the stories at Nämforsen depicts cynegetic activities and knowledge with the microlandscapes as a backdrop, telling stories of their interaction with environment. The stories acted as memoryscapes related to geographical knowledge of the environment.

Reconstructing Stone Age hunter-gatherer landscapes

Ethnographic landscapes

Rarely do we have the opportunity to look at the landscapes of the past. One need to account for the changes in a landscape and relate to the activities in a landscape. Rock art contains an important door into the lived landscapes of the past. Accepting that at least some of the rock art depicts reality, one way of getting closer to the past as experienced in the past is through ethnography. I will exemplify this with whale hunting that is relevant for large parts of the scenes at Kanozero and Vyg. When trying to get a better understanding of Stone Age hunter-gatherer landscapes we need to find similar landscapes that include similar activities or manners in which to approach the world.

It is important to look for societies that live in the same "animal worlds" when seeking relevant analogy and ethnography (Helskog 2001b:4). Similarity in environment cannot be stressed enough. This has been somewhat neglected when it comes to rock art. It has been easier to compare and draw analogies in a south-north direction. Hence, it has been easier to apply ethnographic analogies from South-Africa and Australia rather than from the circumpolar area. An exception to this are some of Helskog's work on northern rock art (e.g. Helskog 1999; Helskog 2004a).

Accepting a slight repetition of some of the results from the Vyg case study that may also have implications for the Kanozero case study, I will dive into the "Beluga landscapes" in the ethnography in relation to the rock art. When looking at the Beluga whale, the ethnographic descriptions of the traditional hunt are important. The ethnographic record of these large hunting places, or "Beluga landscapes", where a well-coordinated hunting team, could yield a great supply of whale meat and oil with little outlay of effort (McGhee 1974:19). Whale meat and fish are cached (dug down) to last through the winter, thereby securing a year

round supply of food (McGhee 1974:22; Stefansson 1914). These landscapes are places that are defined as perfect places for whale hunting.

Returning to Vyg, the topographic situation in the Besovy Sledki / Jerpin Pudas area shows a striking recemblence with the topographic situation of the Canadian Beluga landscapes as shown in the Vyg Case study (see Figure 209 and Figure 212). Several places could have worked as *cul de sac* places for the Beluga hunt in the Vyg area. The "natural" whale trap being between the rock art sites, Besovy Sledki North and Jerpin Pudas 3, in the bay of shallow water where the waterfalls would be a major obstacle and would have hindered the Beluga whales in going further upstream. The evidence for a direct connection between the topographic situation and the actual presence of Beluga and Beluga hunting is also strengthened by the distribution of the motifs. There seems to be a visualization of the whale hunt where it actually happened. This means that there is a "direct" link between the place of action (the whale hunt) and the action in the rock art.

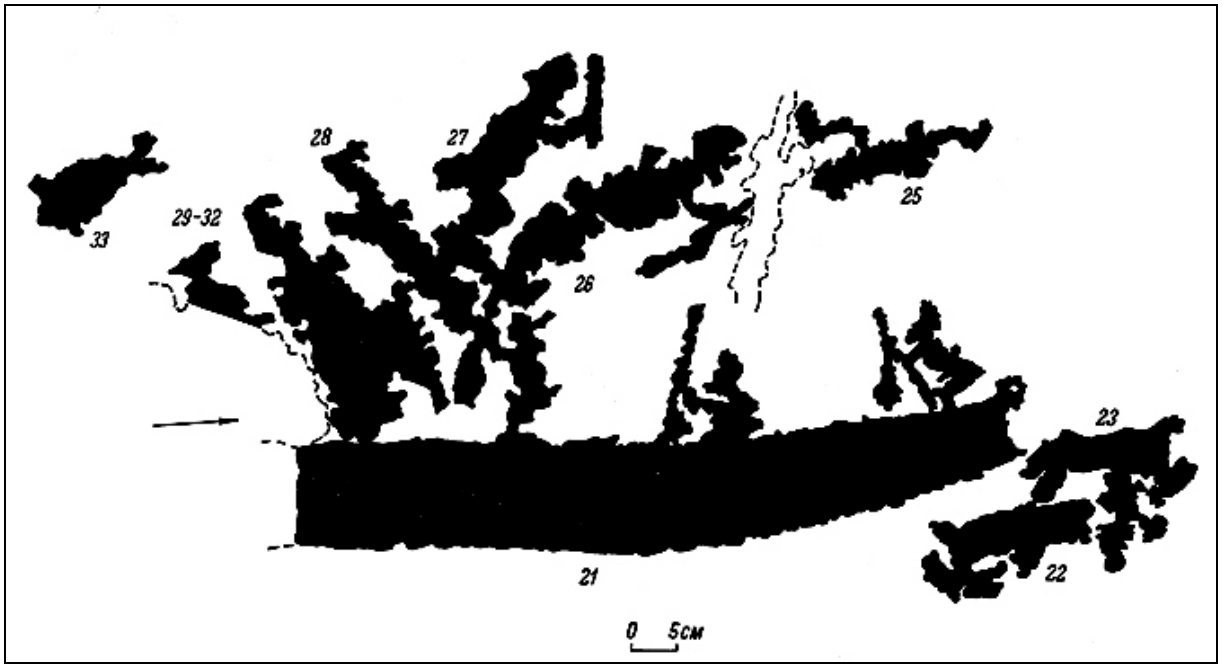


Figure 295 After Savvateyev (1970:253, plate 51). A whale hunting scene from New Zalavruga 9, Vyg. It appears as if the people have been thrown out of the boat during the hunt. The front of the boat is eroded.

In the ethnographic record, the dangers connected to the whale hunt are described vividly; "… accidents were common but drownings rare" (Lucier & VanStone 1995:82). A hunting scene representing this can be observed on New Zalavruga 9, Vyg (see Figure 295), where people are "thrown" out of the boat in connection with the whale hunt. The ethnographic record descriptions of the rituals connected to the whale hunt are elaborate

(Lantis 1938; Lantis 1940; Lucier & VanStone 1995:56-58). I would suggest that the dangers inherent in the whale hunt could be one of the reasons why the rituals connected to the whale hunt are so elaborate.

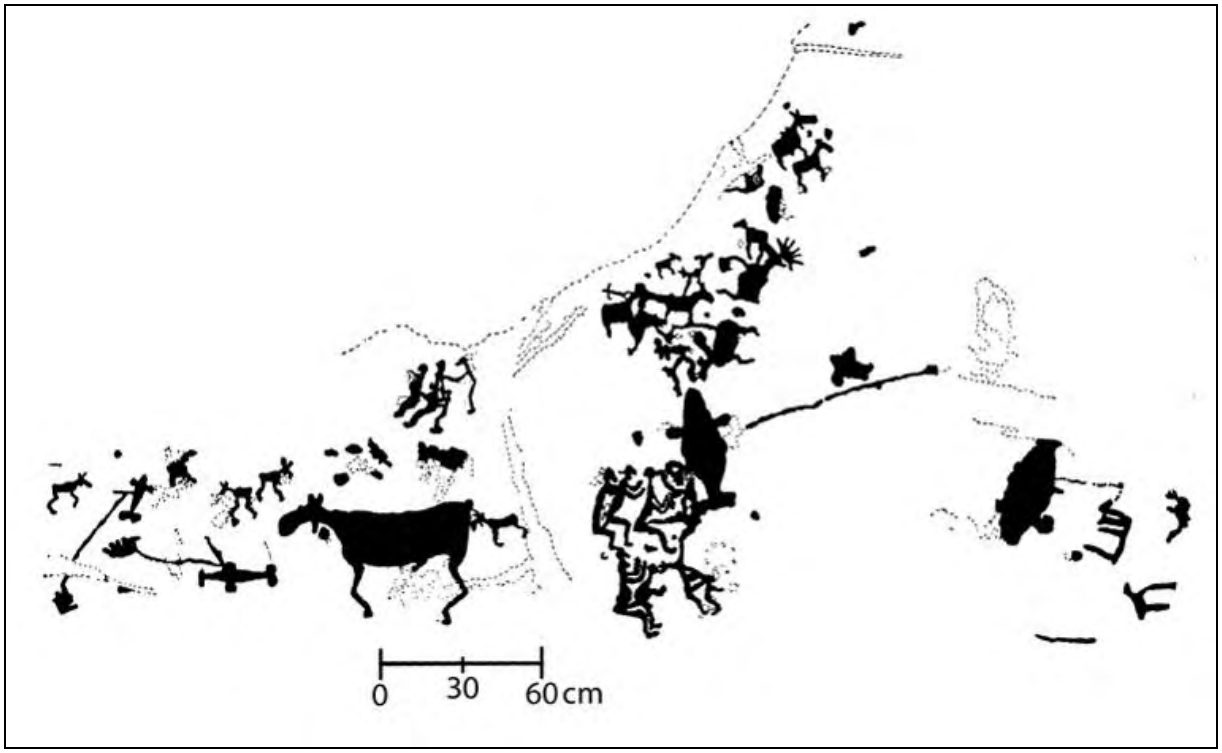


Figure 296 Section of Jerpin Pudas 3. After Savvateyev (1977:72). The copulation scenes connected to the Beluga Whale can be seen in the middle of the tracing.

Figure 297 Rubbing of the large whale hunting scene at New Zalavruga 4. This has been interpreted as a training or initiation scene of the whale hunt. Note the clear erection on some of the male hunters. Rubbing: Jan Magne Gjerde.

The mentioned rituals in the ethnographic record are also connected to numerous taboos related to the whale hunt. One of the interesting observations is the distancing between the male hunter and his wife before and during the hunt (Lucier & VanStone 1995:59). After the successful hunt, the feasting also includes the "meeting" of man and woman. This could be what we see at the Jerpin Pudas 3 site where four copulation scenes are depicted next to a

Beluga and one of the couples is virtually on its way into the whale (see Figure 296). The connection between fertility, rituals and rock art have previously been suggested. The copulation scenes at Jerpin Pudas 3 at Vyg is one of the most direct links in the rock art of Vyg. Looking at the hunting scenes from Vyg, many of the hunters are depicted with an erection (e.g. Figure 297), perhaps emphasizing fertility and power. We know that hunting in hunter-fisher-gatherer societies have been associated with elaborate rituals. The ethnographic record sometimes vividly describes rituals connected to the hunt. They also describe elaborate rituals in relation to the hunting practices and the importance of communication between man and animals. We see that the boats and the elk-head sticks are associated with the elk. This can be explained through the elk morphology, that it is a good swimmer and moves fast both on land and at sea (Brandstrup 1985; Farbregd 1980).

The abundance of Beluga hunting scenes (more than 60 scenes of Beluga hunting from boat in the Vyg area (see e.g. Figure 297), shows that people have hunted Beluga from boats, sometimes also combined with hunting from the shore. From the ethnographic record we know that the gathering for the Beluga hunt reinforced hunting partnerships, cemented relations between participating societies and minimized inter-societal conflict (Lucier & VanStone 1995:86). Some groups of people would live in the areas all the time while others would migrate to the Beluga hunting landscapes during the hunting season (Lucier & VanStone 1995:3, 11; McGhee 1974). In traditional hunting societies the hunting leader or shaman (often the same person) could come from any of the societies that cooperated in the Beluga hunt (Lucier & VanStone 1995:51, 86). Such cooperation would strengthen the relations between the inland and coastal groups, as suggested for the Alta rock art area by Hood (1988). An increasing amount of people living at these favourable nodes in the landscape of hunter / gatherers could have triggered changes of many aspects in society and may even have advocated a change within the social organization. From the ethnographic record we know that large amounts of people gathered at adjacent favourable ecological places during the hunt. The Vyg area could be one of these places already as early as 5500BC. Most likely few people lived there year round, hence, people gathered at Vyg during the hunt as described in the ethnographic sources from northern Canada (Lucier & VanStone 1995; Nelson 1983[1899]). Vyg would then be such an important node in the hunter-gatherer landscape ideal for inter-societal relations where social interaction was important. The communication line along the Vyg River makes me suggest that this was a central place in the hunter-gatherer landscape where people met due to the fact that there would always be people

on the move to and from the Vyg area. This would be a place where information was exchanged and communication in a wide sense was practiced.

The Beluga hunting scenes in the Besovy Sledki / Jerpin Pudas area are represented by single boats containing one person. This is also the situation at Zalavruga, but in addition, at Zalavruga you also find representations of collective hunting where several boats takes part in the hunt for one whale. One of the hunting scenes at New Zalavruga 4 has also been interpreted as depiction of training or initiation of the whale hunters[215] (see Figure 297).

According to Ingold: "A place owes its character to the experiences it affords to those who spend time there – to the sights, sounds and indeed smells that constitute its specific ambience" (Ingold 2000:192). But how are we to witness or describe the experiences or the atmosphere of the past? The collective hunting, the communication and cooperation between the people, the smells, the colours, the perceptions of the whale hunting so visually expressed in the rock art, or the rituals associated with the whale hunt. The bay filled with red blood set against the white colour of the whale. The blood washed up on the "red beaches" that would stay red for a while. The sounds of the animals, the loud whirling from the beluga herd. The "rolling raven call" when the shaman or watch-leader saw the Belugas and the silent visual "language" and low-level voice communication where the hunters formed quickly for attack and altered the hunt as belugas veered or turned about. The complete silence until the sign was given and it was appropriate to frighten the prey. Then, the "exiting events", with animals dashing about in shallow water, sometimes causing the kayaks to overturn and people to be injured. According to the ethnographic sources, feasting and social events followed a successful hunt (Lantis 1938:446; Lucier & VanStone 1995:69, 82-83). The majority of these experiences will remain foreign to us. However, we must try to interpret the rock art in the light of ethnographical sources.

Hunting the largest animals

Based on the main theme in Stone Age rock art, large animals and hunting scenes, it is evident that they tell stories of hunting. Furthermore, it is not just any hunt that is depicted, it is stories of hunting the largest animals. Depictions include the "hunting" or fishing of halibut at Forselv (see Figure 75) and at Alta (Figure 146). There are bear hunting scenes from Alta, Kanozero and Vyg. Elk hunting is best illustrated at Nämforsen, but is also depicted in Alta,

[215] Abram Stolyar, personal communication, 2005.

Kanozero and Vyg. At Kanozero one finds reindeer hunting, and at Alta also, reindeer hunting by boat and in reindeer corrals.

The hunting theme is apparent in all the Case Studies. What strikes me is that the hunting interpretation that was manifested in the 1930s became less valid for rock art research after the hunting scenes appeared in the material record[216]. Could this be related to the research aims, of the majority of researchers, where the knowledge of the material record gradually was granted less importance in the interpretation of rock art? It seems like researchers "washed out" hunting and fishing when they distanced and discarded the hunting magic / sympathetic magic theory. Bear in mind that what we are studying is rock art by Stone Age hunter-fisher-gatherers. In northern Fennoscandia their economy was mainly based on hunting and fishing. By returning to the rock art and its lost relations one can discern other aspects of the past. In this thesis one has tried to gain a better understanding of prehistoric landscape conception and its conceivable role in northern Fennoscandian Stone Age hunter-fisher-gatherer cosmology.

Reconstructing the landscape of the largest animals involves the morphology of the animals. Common for all the large animals that appear in the rock art, is that they are migratory animals that come and go by the season. They often migrate along the same lines in the landscape, along natural lines of communication, like the reindeer do between the coast and inland areas in northern Norway, or at Vyg where the Beluga whale gather at late summer / early autumn. These lines of communication would be guided by the macrolandscape as to where it is possible to and where it is favourable to move during these migrations.

In the Arctic, there are between 6 and 8 months of winter. The returning animals have always been appreciated by the people inhabiting these areas. Knowledge of the animals morphology, when and how they migrate, would have been of great importance for the first people that entered northern Fennoscandia after the last Ice Age, and it is still vital for anglers or reindeer herders today. The areas where certain animals would be at a given time have always been crucial for hunter-fisher-gatherers. In northern Fennoscandia today there are virtually only domesticated reindeer present. The Beluga whale populations were slaughtered to a minimum during the 1960s. It is therefore hard to imagine what an impact these animals would have had on people living in these landscapes. There are other areas where animals are abundant. These areas and animal worlds can be used to get a glimpse of how it must have been during the migrations. We can apply ethnographic sources to get a better understanding

[216] Most prevailing is the bear hunting and reindeer hunting in Alta, northern Norway and the Beluga whale hunting at Vyg in northwestern Russia.

of the animal worlds depicted in the rock art, like the large flocks of Beluga whale or the large herds of reindeer that appeared in the landscape at given times every year. They are lost relations of the hunter-fisher-gatherer landscape depicted in the rock art. Herds of elk can still be observed in northern Sweden, however herds of Beluga whale like in Figure 311 or herds of wild reindeer like in Figure 312 is long gone from these landscapes.

Before 5500-5000BC we only see large game animals depicted but after about 5000BC collective hunting appear in the rock art. We see the reindeer corrals in Alta, Beluga hunting at Kanozero and Vyg and elk hunting at Nämforsen. These are depictions of a hunting strategy that involved a vast number of people. The investment in the large hunting pit systems for elk connected to the rock painting sites in northern Sweden, the communal hunts depicted at Vyg with about 50 people participating in the hunt and the building and maintenance of the large reindeer corrals in Alta suggest that people were cooperating during the hunting. We know that these hunting periods for the migrating reindeer or Beluga whale were confined to a rather short hunting season. Ethnographic examples show that many people gathered at favourable ecological places during hunting seasons, such as among the Nganasan in Siberia where groups of people cooperated in the reindeer hunting (Popov 1948; Popov 1966), or amongst the Inuit where large groups gathered during the Beluga whale hunting season (Nelson 1983[1899]; Savelle 1995) and in Siberia where people gathered during the Geese molting (Popov 1948; Popov 1966; Storå 1968).

Within a hunter-gatherer landscape there are favourable zones or areas in relation to animals. This is either where large groups of animals congregate at certain times of the year, like the Beluga in river estuaries (McGhee 1974), or places where reindeer gather like the calving places[217] or the *jassat*, where reindeer cool down on snowy patches during hot summer days to avoid the heat and insects (Anderson & Nilssen 1998; Kalstad 1994; Kalstad & Brantenberg 1987:17; Meløe 1990), as seen in Figure 298, or the feeding / resting grounds for migrating geese (Bollingmo 1991; Storå 1968). Returning to the earliest rock art (e.g. Valle in Ofoten and the clearest example from Fykanvatn in northern Norway, these sites would have been situated adjacent to the glacier and even now the steep mountains makes these areas hold *jassat* ideal for the reindeer to cool down and "get away" from the incects (see Figure 298). Places connected to the seasonal migration of reindeer are connected to landscapes where reindeer migrate; certain valleys, bogs, crossing places (over fjords, lakes and rivers). These places are among the Saami named *suopháš* and relate to such favourable

[217] Johan Albert Karlstad, personal communication 2007.

places (Manker 1960; Sommerseth 2009:248; Vorren 1998:135). Such favourable places connected to the annual migration of large terrestrial game can be found in vast parts of the circumpolar area (Benedict 2005; Blehr 1982; Collignon 2006b; Grønnow et al. 1983; Popov 1948; Popov 1966; Stewart et al. 2004).

Figure 298 View of a typical aggregation of a large group of reindeer occupying an entire *jassat* (snow patch) during a hot summer day from Kvænangsfjellet in Troms, northern Norway, 1985. Notice how the reindeer congregate and virtually ”fill” the jassat but are not standing outside the *jassat*. Photo © Arne C. Nilssen, Tromsø University Museum.

The large rock art centres depicts congregations of animals. These are also depicted in areas where such animals are abundant or most likely would have been in prehistory. When viewing Stone Age rock art from all of Fennoscandia the selection of motifs show a regional variation where some animals appear in abundance in the different regions. One common animal is the elks are “everywhere”, even though they are more prevailing in Finland, northern Sweden, eastern and middle Norway. Even if it is highly subjective, a simplistic model of such congregations of favoured animals represented in the different areas rock art is presented in Figure 301. Here one finds the reindeer in Alta, northern Norway, the Beluga whale at Vyg, northwestern Russia, the elk at Nämforsen in northern Sweden. Looking at the

rest of Fennoscandia, the red deer at Vingen in western Norway[218] (see Figure 302), the geese at Hammer in middle Norway (see Figure 281), the halibuts at Kvennavika, middle Norway (see Figure 300), the elks in Eastern Norway (see Figure 307 and Figure 308) or the swans at Onega[219] (see Figure 299) all reflect the congregations of large game or important animals and most likely refers to favourable places both adjacent to the rock art but also in the wider landscape or area / zone.

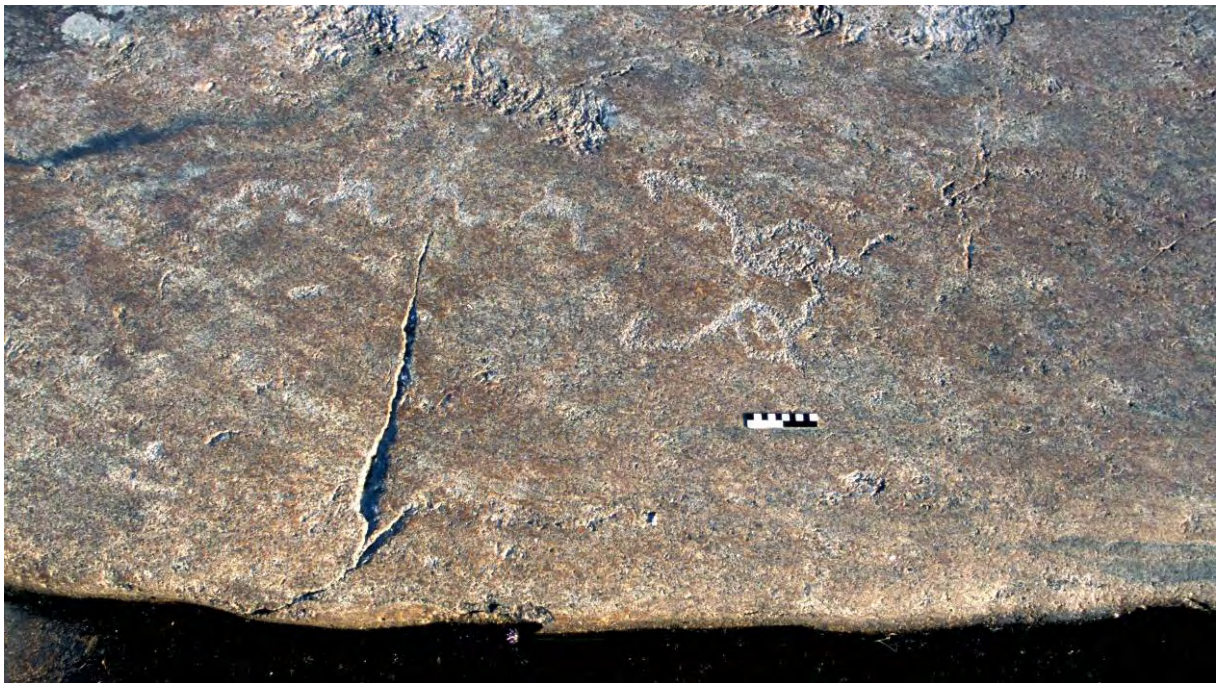


Figure 299 Swan figures at Peri Nos 3, Onega. Photo: Jan Magne Gjerde.

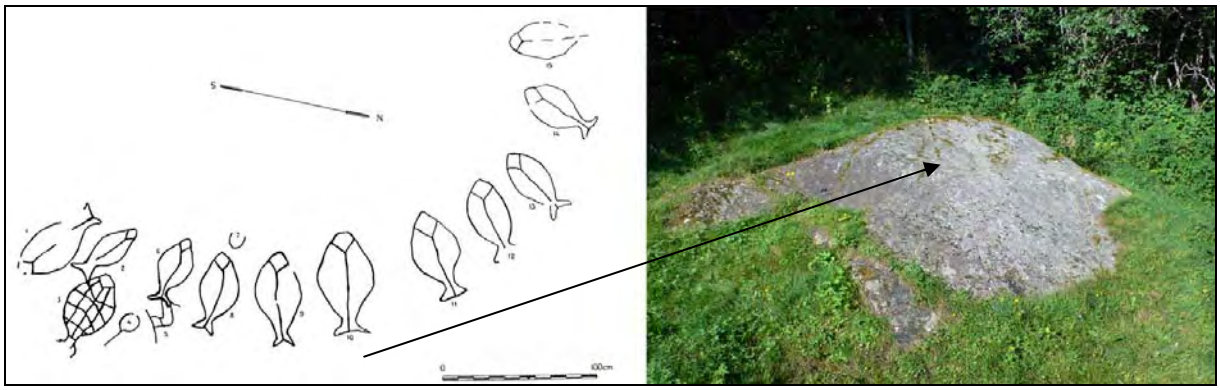


Figure 300 The "collection" of halibuts at Kvennavika, middle Norway. The halibut figures are depicted on the upper half of the rock outcrop. The position of figure nr. 10 is indicated by the black arrow. When made, the sea-spray would most likely wash over the rock outcrop at high tide. Tracing after Gjessing (1936a:pl. LXX). Photo and illustration: Jan Magne Gjerde.

[218] A local informant in Vingen, Helga Vingelven, informed me that it was normal to see groups of red deer coming down in the Vingen area. The largest group she had counted consisted of a group of 87 animals.
[219] The sheer number and domination of motifs led researchers to name an area with rock carvings at Onega the Swan Cae.

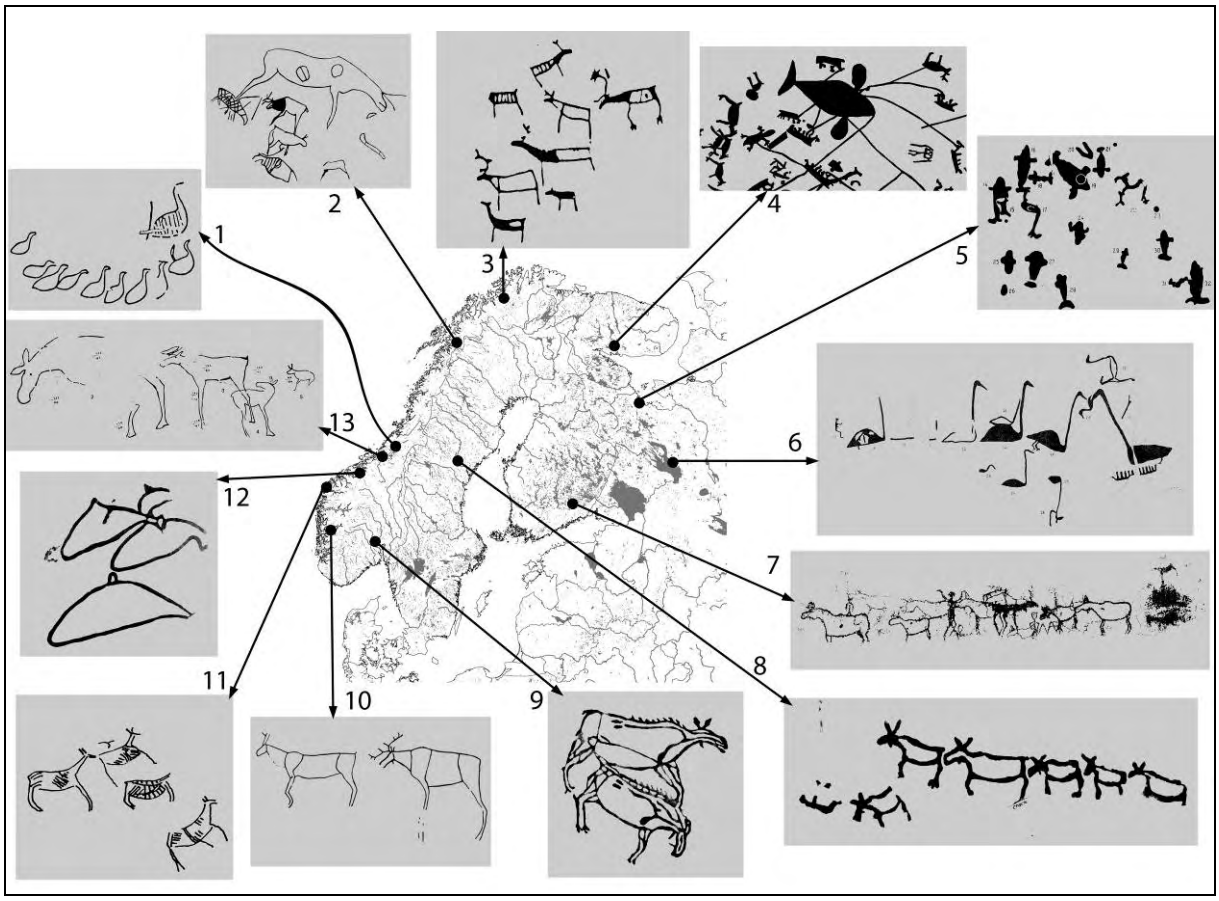


Figure 301 A selection of the regional variation of animals in Late Stone Age rock art in Fennoscandia. Animals in rock art in Fennoscandia: 1: Hammer 5A after Bakka (1988:iv), 2: Forselv, authors tracing 3: Bergbukten 4, Hjemmeluft, Alta after Helskog (1988:44), 4: Kamenniy 7, Kanozero, authors tracing 5: Besovy Sledki South, Vyg after (1938:plate 32), 6: Besov Nos, Onega after (Ravdonikas 1936b:plate 27), 7: Verla after Miettinen (Pentikäinen & Miettinen 2003:41), 8: Notön, Nämforsen after Hallström (1960:plate XXVI O:2), 9: Katsundholmen (Kløftefoss) after Engelstad (1934:Planche LIV) , Vangdal 2 after Mandt (1972:pl. 38a), 11: Elva, Vingen after Hallström (1938:plate XXXVI), 12: Bogge 2 after Hallström (1938:plate 33) , 13: Stykket after Sognnes (1981:fig 7). Illustration: Jan Magne Gjerde.

One of the large rock art concentrations where one animal is clearly favoured is the Vingen rock art area (see Figure 303), where the red deer is frequently depicted (Figure 302). Of the identified motifs in Vingen, the red deer dominate and an overview of the Vingen material by Viste (Viste 2003:43, tabell 4.1) shows that more than 50% of the identified figures are red deer[220]. Vingen was by Brøgger in line with the hunting magic / hunting place theory interpreted as a hunters heaven (Brøgger 1925:78). The region where Vingen is situated is one of the areas with the highest numbers of red deer in Norway (Meisingset 2008). Not necessarily Vingen as such, but the Vingen area might be a favourable place that was central in the Stone Age hunter-gatherer landscape (Gjerde in prep-a).

[220] According to Viste there are 2159 figures in Vingen. Of these 564 are unidentified figures (lines and fragments of figures). Removing these, there are 1595 identified figure as Vingen. Of these are 941 animal figures where 859 are cervids and 756 represents red deer. Of the animals depicted in Vingen, the red deer make out more than 80%.

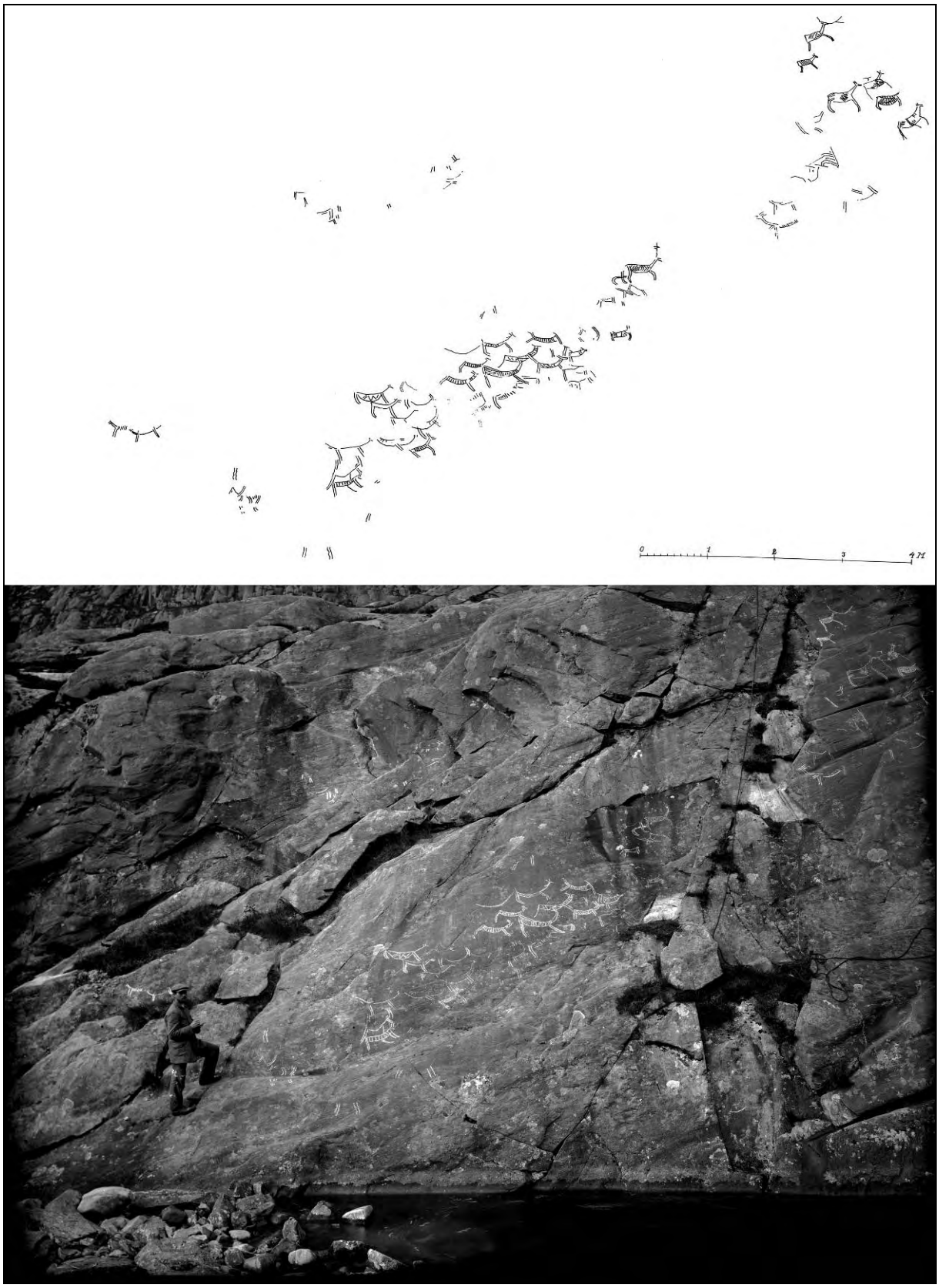


Figure 302 The Elva site in Vingen after Hallströms documentation. Notice how the red deer is following the ledge running up the ”valley” interacting with the landscape. The whole Vingen area is dominated by such ledges (see **Figure 303**). Tracing after Hallström (1938:plate XXXVI). Photo from Gustaf Hallströms Archive at the Research Archive, University of Umeå, Sweden. Illustration: Jan Magne Gjerde.

Figure 303 Vingen in western Norway. Main parts of the carvings are located on rock slopes and cliffs. The Elva site is marked and the figures in **Figure 302** are situated on the left side of the Vingen River. The white arrow marks the outflow of the Vingen River. Notice the ledges that are restricting movement for man and animal walking between the coast and the mountain area. Photo and illustration: Jan Magne Gjerde.

Further applying the term *suopháš* or favourable places, they are connected to the animals. They are found in close relation to the large hunting pit systems for reindeer and elk. In northern Sweden, the Glösa site was first interpreted as a hunting place connected to driving elks over cliffs (Wetterberg 1845). The Glösa rock carvings are located on rock slopes in a small river a few meters from where the river ends in a vertical cliff that would have been an ideal hunting place using the hunting drive technique. Such hunting drives for elk is described in Sweden from historic times where they chased elks over cliffs (Granlund 1940). Through the case study of the Nämforsen area it is justified to assume that hunting of elk at least occurred adjacent to the rock art cliffs depicting elk (see e.g. Figure 258 and Figure 259). The Sagelva site depicting reindeer is one of the places in the Case studies that connects such favourable places to the rock art. Many of the rock art sites in the case studies are connected to such favourable places. Moving back to the rock carving site at Glösa in northern Sweden (Raä Alsen 13:1), situated about 145km west of Nämforsen, the site includes about 30 elk figures and a few geometrical motifs. The rock art site at Glösa has been dated to the Late Stone Age by stylistic means (Baudou 1995:fig 13; Forsberg 1993:228f; Forsberg 2000). About 500m southeast of the rock carvings at Glösa, a large hunting pit system for elks with more than 100 hunting pits starts. The system stretches for more than 6km between the two lakes Näldsjön and Alsensjön (see Figure 304). The problematic dating of the hunting pits suggests that the hunting pits could be younger than the rock art. The large amount of hunting pits and long use of the pits suggest that these grounds were good hunting grounds or

favourable areas for elk hunting for a long time (Jensen 1977:278; Jensen 1989:208). By diagnostic artefacts and material, a few small settlements have been found in the area where the hunting pit system enters the Näldsjön lake. The Glösa site could be referring to a favourable area next to the rock art site connected the crossing places or lines of movement for elk. The other motifs at Glösa are geometric symbols interpreted as elk hunting pits seen from above (see Figure 305).

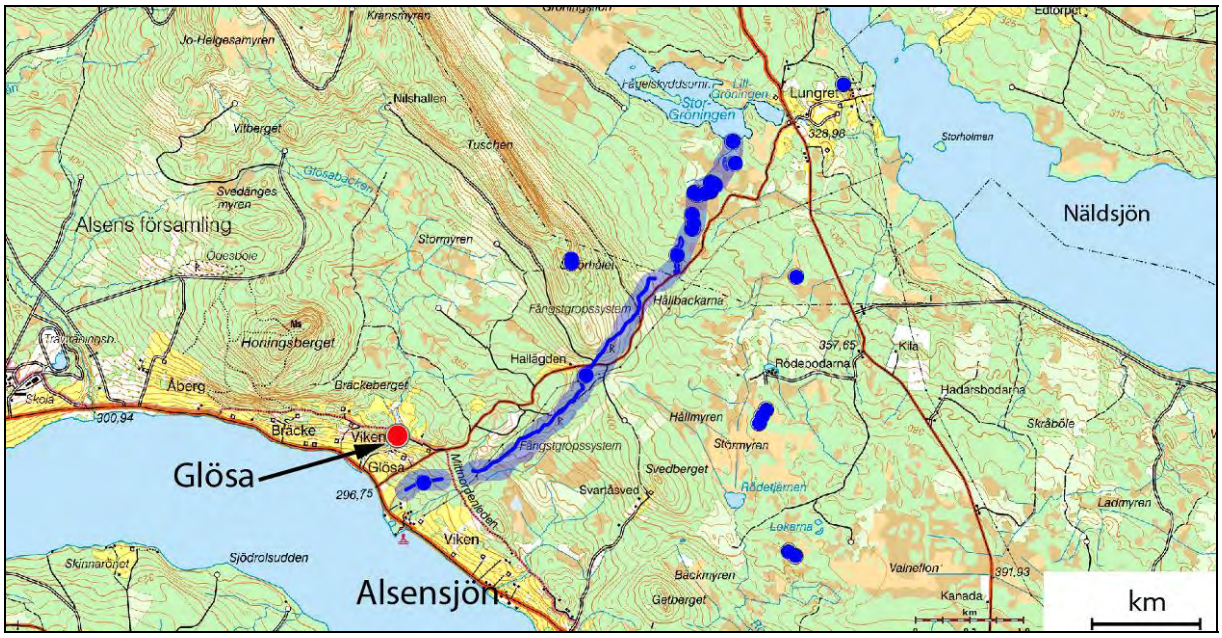


Figure 304 The large hunting pit system east of the Glösa rock art site. The hunting pits and hunting pit systems are marked in blue. The hunting pits form a system that runs between the two lakes. The carvings at Glösa are marked in red. Totally 99 pitfalls are surveyed in this hunting pit system. Background map and data after www.raa.se. Illustration: Jan Magne Gjerde

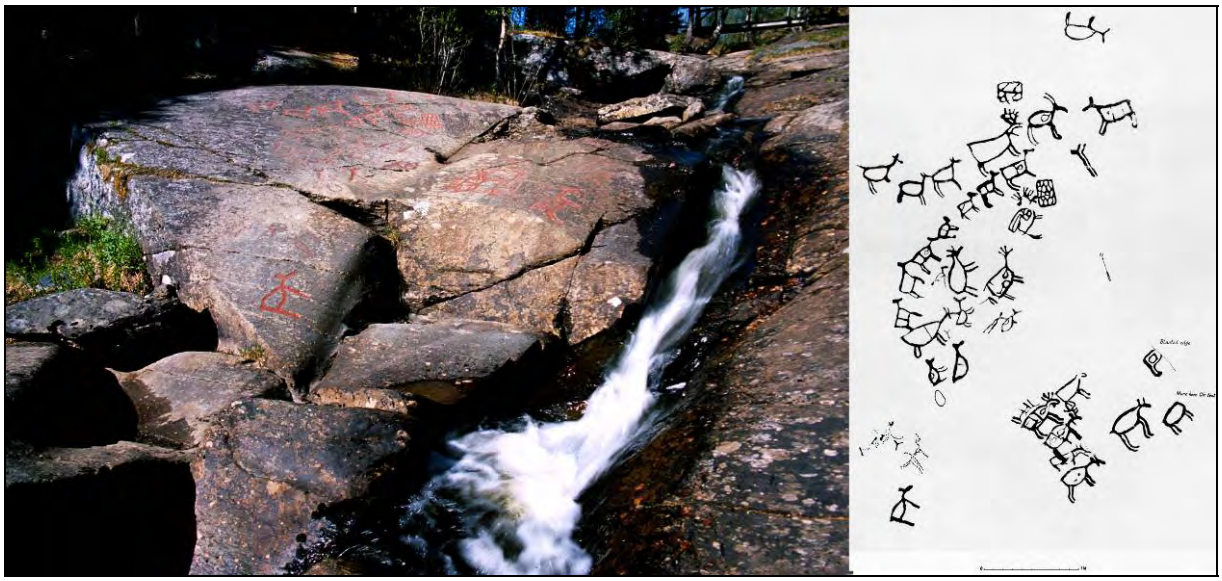


Figure 305 Photo and tracing of the main panel at Glösa (Glösa I). Tracing after Hallström (Hallström 1960:pl. V). Photo and illustration: Jan Magne Gjerde.

To assume that the geometric motifs depicts only one thing or has one meaning would be a bit blunt. Traditionally one assumed that theses geometrical motifs could be hunting pits or hunting nets. However, since the geometrical motifs was interpreted as entoptic phenomena as symbols appearing during trance by the shaman (Grønnesby 1998; Lewis-Williams & Dowson 1988), few has regarded them as anything but representations of entoptic phenomena. They are, however, often associated with animals. Sometimes they can be representations of fishing nets, hunting nets or even hunting traps like at Bergbukten 4 in Alta where it seems that the elk and the hunting trap is depicted connected to a human being with an elk head stick possibly killing an elk stuck in a hunting pit. From the case studies, the Forselv and Vik site has such geometrical figures in close relation to the animals suggesting they are hunting nets or even representations of hunting pits (see Figure 127 and Figure 130). Several of the depictions of geometrical motifs have animals depicted as if they are going into or coming out of them or being stuck in them like in a hunting pit (see Figure 306).

Figure 306 Scenes interpreted as hunting pits from Alta. The left photo is from Bergheim 1, Hjemmeluft in Alta, the middle photo is from Ole Pedersen 1, Hjemmeluft, Alta and the right photo is from Bergbukten 4, Hjemmeluft, Alta. Left photo: Karin Tansem, VAM. Middle photo, right photo and illustration: Jan Magne Gjerde.

Figures interpreted as connected to hunting have been found in other parts of Fennoscandia, e.g. some rock art from eastern Norway have been interpreted as representing a hunting trap by Engelstad (1934:81ff) and Mikkelsen (1973). Looking more carefully at the images, I am convinced that many of the images depicts hunting pits, like in eastern Norway at Ekeberg 2 (Figure 307) and at Skogerveien where it looks like a hunting pit system is depicted connected to elks and elk-tracks (see Figure 308)[221]. Several hunting fences are known from Alta and sections of fences possibly refers to fences like those at Bergbukten 1 (see Figure 171) or at Ytre Kåfjord (see Figure 178) in Alta, northern Norway, is found at

[221] This panel may also have a link to the wider landscape in zones and areas. The small whale could refer to the coast while the elk-hunt and elk tracks could refer to the actual place of the rock art (the crossing place) while the hunting pits and the elk-hunt to the left refer to a place further inland. They would then reflect areas or zones like in Inuit perception of landscape (see chapter 4).

Sporanes in southern Norway (see Figure 310) and at Vasstrand (Sandhalsen) and Evenhus in middle Norway (see Figure 309).

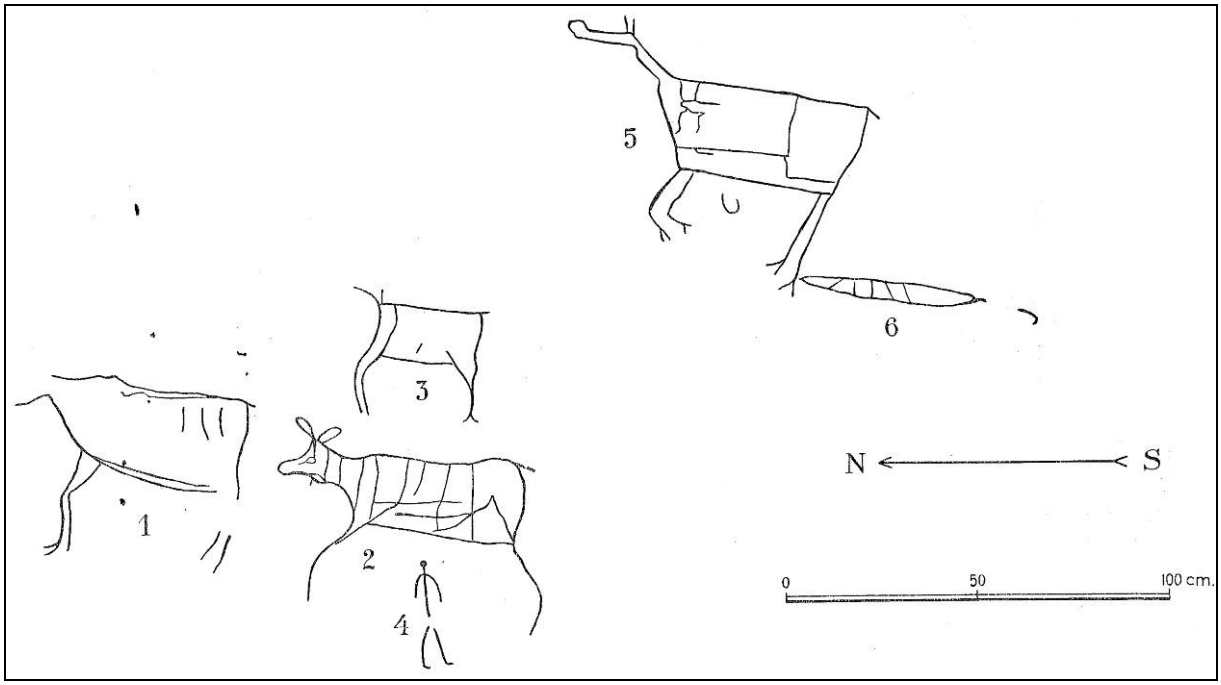


Figure 307 Hunting pit for elk depicted at Ekeberg 2, Oslo, Eastern Norway. Section of the tracing after Engelstad (1934:planche XLIV).

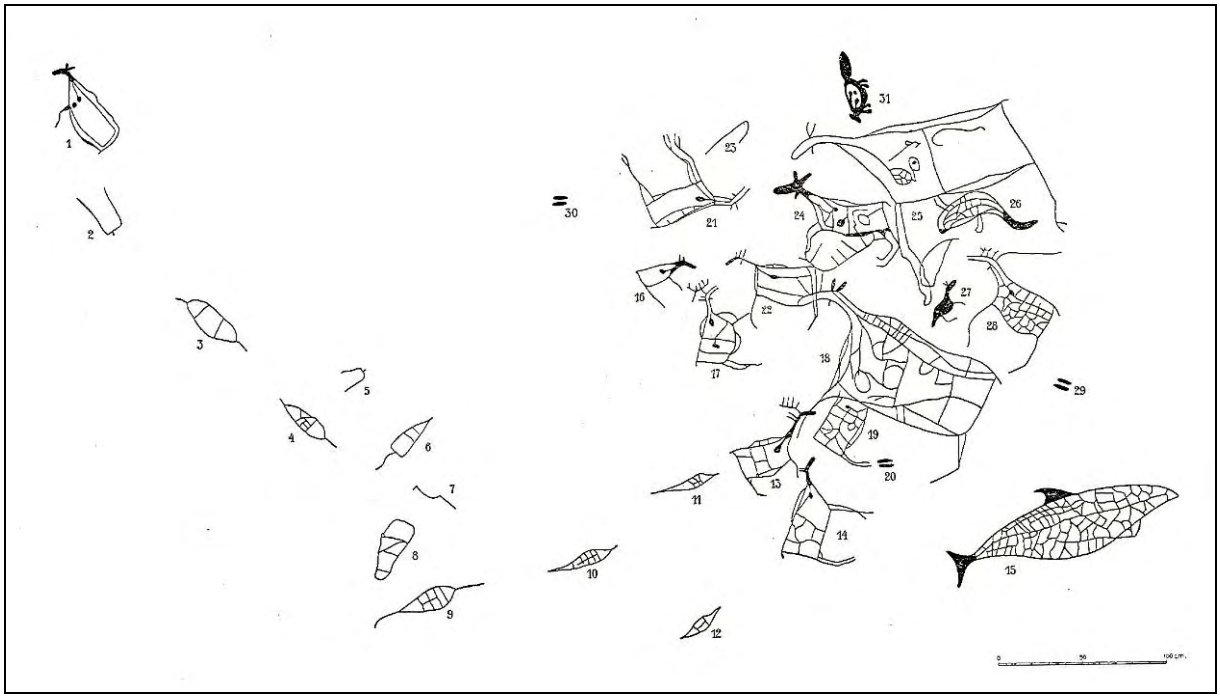


Figure 308 Hunting pits for elks depicted at Skogerveien in Drammen, Eastern Norway. Tracing after Engelstad (1934:Planche XLVII). The scale at the bottom right is 1m.

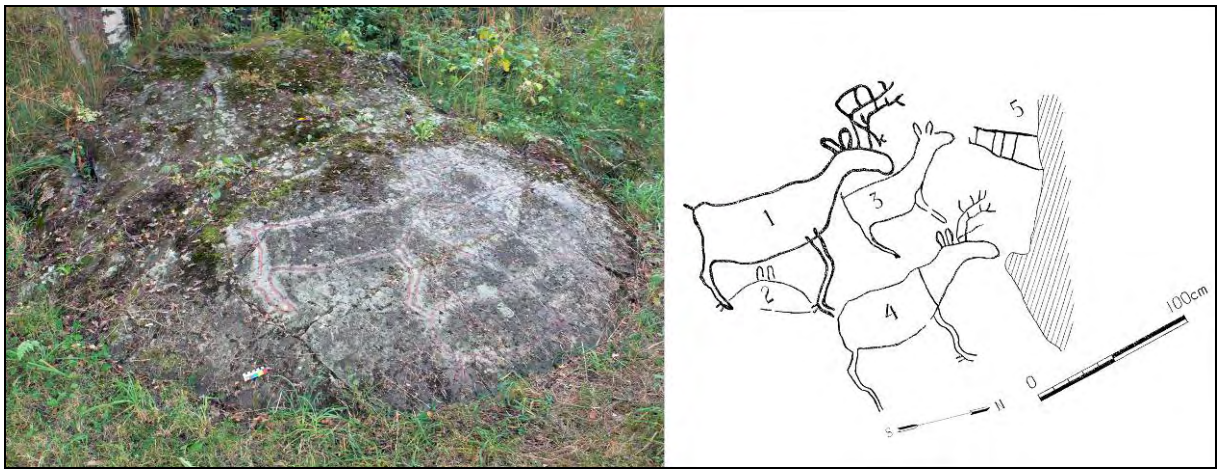


Figure 309 Hunting fence at one of the minor panels at Evenhus, middle Norway. Tracing after Gjessing (1936a). Photo and illustration: Jan Magne Gjerde.

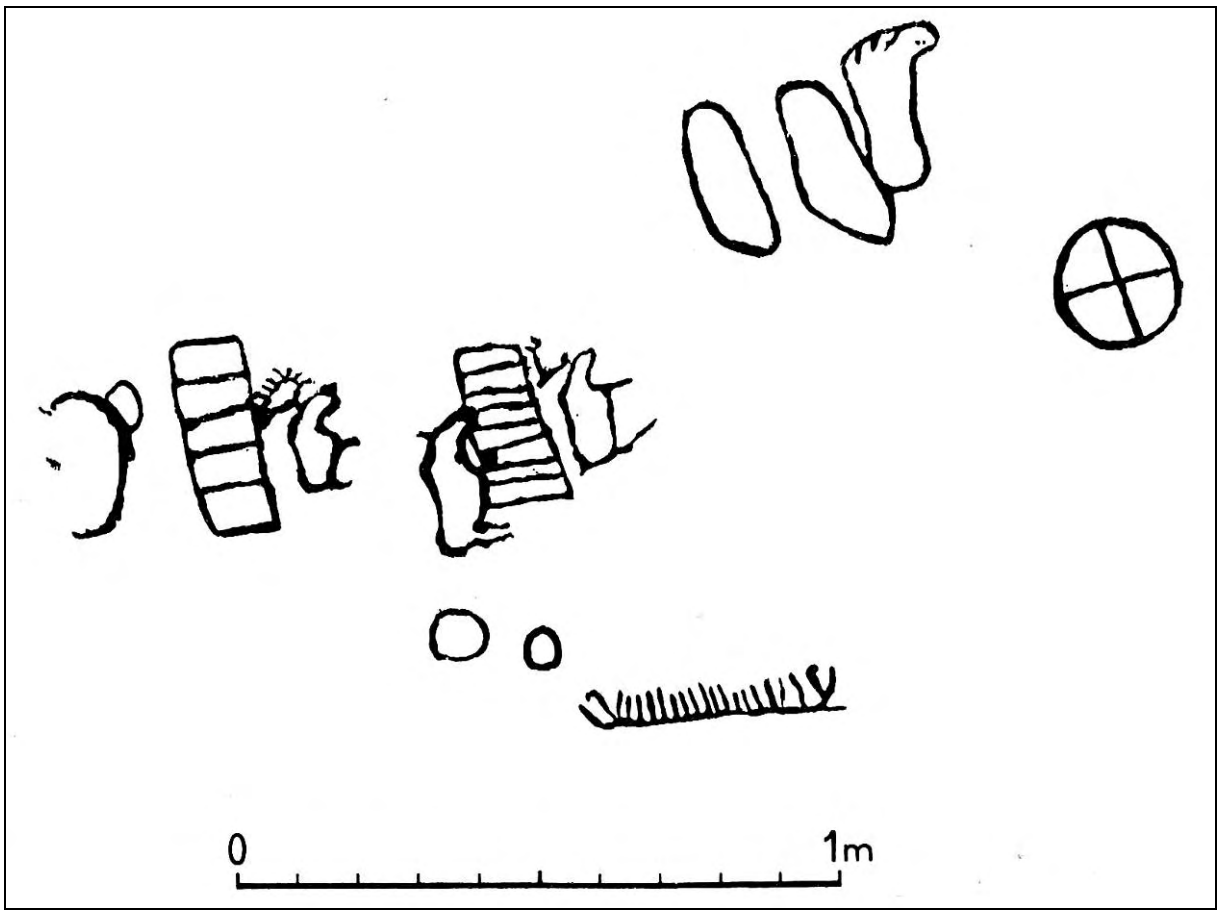


Figure 310 Section of the Sporanes site in Telemark, Eastern Norway. Notice the hunting / guiding fences or elk hunting pits? Where the elks and reindeer are clearly connected. Tracing after Hagen (1969:fig. 64). The site has been dated to the transition between the late Stone Age and Bronze Age suggested by the mixture of motifs that are connected to the different time periods.

The numerous examples of hunting and collective hunting depicted in rock art as seen in the Case studies and other places in Fennoscandia, suggests, that an important theme in the rock art after 5500BC-5000BC was the collective hunting. Most evident is the Beluga Whale

hunting scenes from Vyg. Through several examples I have linked these activities to places, and many of the hunting scenes and depictions refers to places in the hunter-gatherer landscape. The animal tracks may also refer to such places, and I have argued that some of these tracks are referring to large game crossing places. The depicted hunting pits can also link the rock art to hunting places, and undoubtebly some places of rock art is connected to the actual hunting place like in northern Sweden where the elk hunting pits are virtually situated next to the rock art sites. In many motifs and scenes, the successful hunt or the quarry from the collective hunt are depicted.

The animals depicted in the rock art is migrating animals, like the reindeer, the elk, the beluga, geese and even the bear. These are animals that appear and disappear from regions form season to season. The annual cycle is important for hunter-gatherers and their lives are structured in close enactment with the temporality of the year. The seasonal aspect in the rock art with the winter elk hunt (New Zalavruga 4), the summer / autumn Beluga hunt (New Zalavruga 8) and the massive summer / autumn hunt for molting geese[222] (New Zalavruga 6) witness important stories of central aspects in hunter-gatherer societies. The arctic climate with up to 6-8 months of snow would have made hunting more important to the people inhabiting these northern areas.

At Vyg the theme in rock art is dominated by large game and hunting. Some of the stories on the rocks are describe hunting the largest animals. These stories was most likely told and retold acting as mnemic references to the people living and coming to Vyg. At many places the rock surface interacts with the figures on the rocks and could have acted to position the figures or scenes exactly where they are. Sometimes these could be references to actual places and act as memoryscapes for the people that dwelled in the Beluga landscapes of Vyg. According to this notion, the three Beluga hunting scenes are found at Onega where no Beluga hunting has occurred, are a reference to hunting that most likely occurred in the White Sea about 300km north of Onega. This strengthens the idea that people journeyed and took part in the Beluga hunting at Vyg, and telling the stories at Onega.

Our options are limited when it comes to reconstructing the animal worlds of the Stone Age, but, the annual cycles would suggest the importance of being at the right place at the right time when it comes to hunting. The abundance of animals can rarely be seen today mainly due to intensive hunting (like for the Beluga whale) or that species are driven from the

[222] Amongst the Ngasasan in the Taymyr-peninsula in Siberia where traditional hunting lived well into the 20th century, the hunting for molting geese was done from mid july when the molting started un til November (Popov 1966:46).

lands (like for the wild reindeer in northern Norway). However, through analogy we still sometimes get a glimpse of how all inclusive these large congregations of animals would have been and what enormous impact they would have had on hunter-fisher-gatherers in the Stone Age. This can be seen as for the congregation of Beluga whales (Figure 311) or the congregation of wild reindeer (Figure 312).

Figure 311 Belugas gathering in the river estuary on Sommerset island, Canada. With kind permission of © National Geographic Society.

Figure 312 Wild Reindeer at Hardangervidda, southern Norway, in 1966. Notice how the reindeer follows the topography. Photo © Fjellanger Widerøe.

Geographical knowledge and memoryscapes

The environmental changes would most likely make people look for focal places to make their landscape familiar during these changes. Alta, Kanozero, Nämforsen and Vyg could be such focal places fixating memories onto the land with the relations between people and topography. According to Tilley, “Human activity become inscribed within a landscape such that every cliff, large tree, stream, swampy area becomes a familiar place“(Tilley 1994:27). When the environment is rapidly changing, people would have to make changing places familiar. Familiarizing landscapes could be seen as reoccurring “colonization phases” where meanings were adjusted, at times redefined, and constantly interacting with the environment. By “finding” places like Nämforsen, Gärde, Kanozero or Vyg that remained “stable” and main characteristic features in the landscape, I suggest that Nämforsen and other sites of a similar character became places where the inhabitants made unfamiliar landscapes familiar. This was done by manifesting their stories and their memoryscapes into the rocks of Nämforsen. The unique geographical location when it comes to communication for all the large rock art areas made these places central in the Stone Age hunter-gatherer landscape.

When it comes to the location of the rock art sites, the earliet sites, depicting only

large game, seem to have been situated at favourable places for hunting (e.g. Jo Sarsaklubben, Sagelva in Ofoten, Fykanvatn in northern Norway). Many of the early sites are connected to the shortest distance crossing waters (rivers, lakes, fjords) and this seems to be the case for the sites solely depicting large game, like Brennholtet and Sletjord 2 in Ofoten, northern Norway. While the earliest rock art at the large rock at centres also seem to have been connected to hunting and the hunting place, gradually the rock art represents not only a reference to the actual place or location where the rock art and the rock art site is situated but also references to the wider landscape, such as at Alta (see Figure 181, Figure 182 and Figure 183), Nämforsen (see Figure 268, Figure 269 and Figure 270) and Vyg (see Figure 192 and Figure 216). The large rock art areas are located at meeting places with a unique geographical location when it comes to communication and journeying during the Stone Age.

Information could be stored as memoryscapes on the rocks at Nämforsen, communicating and telling stories of geographical knowledge in a way that could be retold over and over again as the stories were manifested into the rock, made visible to the next generations. Journeys like the boats in the rocks at Alta, Nämforsen, Kanozero and Vyg could be laden with stories. The rock art place at Nämforsen could act as a place where communication was central. Inland of Nämforsen were the attractive hunting grounds where elk was hunted in vast numbers (e.g. Bastuloken area). The connection between the elk-hunting, the rock paintings and settlements can clearly be seen at the rock painting sites inland of Nämforsen. Innumerable hunting pits and a concentration of 12 rock-painting sites with 20 panels depicting virtually only elk evidence an extremely rich area for the Stone Age hunter-fisher-gatherers inhabiting the area. The stories at Nämforsen inhabited animals, humans and activities connected to places both coastal and inland. As previously stated, Nämforsen was a place where people made rock art for c. 4000 years. The new finds of rock paintings shows that the rock art of this area was rich and that it acted on different levels in the landscape. The Nämforsen area with connected paintings shows how the environment was included in the rock art of communication by the depiction of stories where the macrolandscape and the microlandscape interacted in the rocks where man, animals and the spirits interacted at several levels mirroring their world.

The landscape along the coast and water systems in northern Fennoscandia often represents a warren of similar small topographical formations. Detailed knowledge of the terrain related to where animals were found was of crucial importance for the hunter-gatherers as presented in chapter 4 based on ethnography from the circumpolar area. With a mobile hunter-fisher-gatherer strategy one most likely stayed at places most likely for a short period

of time, but it was necessary to mark the landscape with information at a detailed level. Some of the rock art places may pinpoint good hunting places. According to Farbregd, this knowledge must have been important to hunter-gatherers (Farbregd 1980:43). I find this a valid interpretation for some of the earliest rock art places since it seems as if they mark favourable places or areas like in Ofoten at Jo Sarsaklubben, Brennholtet and Sagelva. The example by Farbregd from the Gjølgjavatnet Lake in middle Norway has previously been connected to the hunting place interpretation in relation to collective hunting in water (Petersen 1929:34). At the Gjølgjavatnet Lake, the paintings of large game at the Almfjellet and Rauhammaren site are situated on each side of the Lake Gjølgja, where the lake is at its narrowest. They have been interpreted as places where elks were driven over the cliffs and hunted in the lake (Petersen 1929:34). Since hunter-gatherers in northern Fennoscandia would rely on hunting and fishing, such places would be of importance to them. In relation to geographical knowledge, examples have validated the hunting practice in relation to rock art. In relation to ethnography on hunter-fisher-gatherers perception of landscape (Collignon 2006b; Shirokogoroff 1935), hunting places were important and references in the hunter-gatherer landscape.

Rock art could have been made at good hunting places at the locational level like the sites Jo Sarsaklubben. Sites are also found at suitable crossing places acting as reference to adjacent cliffs where animals would cross rivers (Nämforsen) lakes, (Sagelva in Ofoten) or fjords (Brennholtet Forselv and Sletjord in Ofoten). Some places the activity adjacent to the actual hunting place reflects such a hunting place like at Vyg (Gjerde 2009) where Beluga whales most likely were hunted in the bay where Beluga hunting scenes were manifested on the rock slopes. The close connection to the hunting place is also present at the sites with paintings inland from Nämforsen where the elk-hunting pits are closely linked to the cliffs with rock art depicting the red elks like at e.g. Boforsklacken, Högberget 1 and Lillklippen (see Figure 257 and Figure 258 in the Nämforsen case study). The rock art in itself could also relate to such places, e.g. the elk-tracks can likely be interpreted as crossing-places like at Forselv and Sletjord in Ofoten, Bergbukten in Alta, New Zalavruga 4 at Vyg and Kamenniy 3 and Kamenniy 6 at Kanozero. Geographical information could be stored in a motif or a scene like the bear-dens in Alta, the reindeer corrals in Alta and the halibut fishing scenes at Forselv and in Alta. These could be links to places in their macrolandscape. They would know where the reindeer corrals were located, they would know where the bear dens were and they would know where the good fishing places for halibut were. As they had knowledge of the landscape, hunter-fishers would also have a similar knowledge of the seascape or the

maritime landscape. Finally, it looks like the whole panels at times act like memoryscapes where there is a close link to the actual landscape like at Bergbukten 4 in Alta, northern Norway (see Figure 183) at New Zalavruga 8 at Vyg in northwestern Russia (see Figure 216) or at Nämforsen (Hallström IIQ1) in northern Sweden (see Figure 270). At this level it also seems like the miniature landscapes and elements on the rock surface interact and could act as memoryscapes representing the macrolandscape like at Bergbukten 4 in Alta or at Bradön in Nämforsen or New Zalavruga 8 at Vyg. Geographical knowledge was important to the hunter-gatherers in the Stone Age and numerous examples indicate that this information was part of the stories in the rocks.

Relating the rock art of hunter-fisher-gatherers to hunter-fisher-gatherer perception of landscapes as presented by Collignon (2006b), (see Figure 67), is fruitful. Based on her theory the Inuit cannot separate knowledge of the land from knowledge of the animals, and animals cannot be separated from land. Areas or zones include certain animals and some areas are favourable places for these animals. The landscape is divided into zones and includes both rich and empty areas. Moving to the rock art, animals then represent zones or areas. These can be directly linked to the actual place and the animals present, like the paintings of elk, connected to favourable areas for elk, or the reindeer at Sagelva in Lofoten that is related to favourable areas for reindeer. Similarly, animals in rock art appear as “rich zones” and empty zones with no animals (see Figure 177). One can argue that rock art seems to be representations of the hunter-gatherer landscape divided in rich and empty zones. These zones and areas are in rock art related to the miniature landscape in the rocks (e.g. Bergbukten in Alta or Nämforsen at Bradön, Figure 266) and the elements of the rock (like the river at New Zalavruga 8 at Vyg, (see Figure 216). Similarly at Bradön at Nämforsen the panel seems to reflect the empty and rich zones in the macrolandscape as viewed from the vantage point when observing the panel Figure 268). When viewing the rock art from the case studies they seem to reflect the hunter-gatherer landscape as represented by the animals and activities in the rocks related to areas or zones in the macrolandscape.

Cosmology and rituals

Rock art in relation to cosmology has to be approached through ethnography. The studies of Helskog (1999) where he relates rock art to the shore connection, thus linking the location of rock art sites to arctic cosmology seems to be valid for all the sites in the case studies. All the rock art scenes and compositions concur with the upper tidal zone (the sea-

spray or the river-spray) area. The rock art is located in the middle world in the three-tier as discussed in chapter 4. There are also rock art sites that by the distribution of motifs seem to reflect the division of the three worlds as previously suggested by Helskog (1999; 2004a). An example of this is from Bergbukten 4 in Alta (see Figure 184).

Nämforsen is one of the places where the shoreline connection has been apparent up to today, linking the rock art sites to the forceful rapids. A well justified interpretation of the Nämforsen site was conducted by Tilley when he related the location of the Nämforsen rock art to the cosmological river (Tilley 1991). The rock art from the Late Stone Age has often been linked to shamanism (as discussed in chapter 4) and in the Case studies there are examples of representations that could be connected to shamanism. There are human representations depicted with elk-head sticks at Alta, Kanozero and Nämforsen (see e.g. Figure 55). There are examples of human representations that are depicted with a drum (see Figure 58). The drums are referred to as the shamans' equipment for a journey and among the Kemi Lapps there is a description where they refer to the drum as a boat applied by the shamans on their journeys. At Kamenniy 7 there is a human representation holding a boat in his hands and an object that could be a drumstick in the other. He also seem to have some form of headgear that may refer to animal antlers (see human figure in area 3 in Figure 225). There are examples of human representations depicted riding reindeer both at Forselv (see the right end of the left section of the panel in Figure 127) and at Storsteinen in Alta, northern Norway. In Alta there are also examples of what I interpret as shaman journeys (Alta and Kanozero). The best examples are found at Bergbukten where it seems that the reindeer is turning into human representation flying over the landscape and later turning into a reindeer again (see Figure 64). Such "transformations" that coincide with people transferring into animals and vice versa can be found e.g. at Kanozero where reindeer are depicted as if they are linked to humans or combined like the bear-human at New Zalavruga 15, Vyg or the bear-human at Kamenniy 3 at Kanozero.

Numerous examples of what has been interpreted as shamans on their journeys can be found in the rock art from the Stone Age in the Case studies. Since one before 5500-5000BC does not have human representations in the rock art of Fennoscandia, it is hard to relate the rock art to shamanistic practice even if this could be the case. I will briefly turn to the ethnography from Siberia to aid the interpretation of the shamanistic practice and rock art. The association between the hunting practice and rock paintings has been described for the Suruktaakh-khaya cliff (see Figure 84) in the valley of the Markha River, a tributary to the large Lena River in Sibera, Russia (Okladnikov 1970:92f). The association between red paint

and animal blood has been pointed out by several scholars, for South Africa, Australia and northern America. The link between the red paint and animal blood has also been forwarded as relevant for the circumpolar area. Among various primitive tribes, ochre is considered equivalent with blood, the chief element of life and basic source of youth and strength. Indeed, sometimes it is used simultaneously with blood in a ceremony. Among the Chukchi, for instance, the drawings of animals on the magical panels which serve for their "multiplication" were formerly done with blood or ochre, since the figures were to take on vital forced genuine reality thanks to the blood (Sarychev 1802:161 in Okladnikov 1970:102). Hunting large animals was sometimes connected to danger and the animal should be hunted in the proper manner to obtain a balance between man, animals and the spirits. The hunting practice or the cynegetic activities (Collignon 2006b) were often incorporated into elaborate rituals. One description of such a ritual is the Shingkelavun amongst the Evenki of Siberia.

The Shingkelavun was performed to obtain luck and success in hunting. The Shingkelavun rite was described by Animosov (in Russian) in 1949 and retold by Okladnikov in 1970 (Animosov 1949:177 in Okladnikov 1970). Brief references to the ritual is also later made by Animosov (1963a:178; 1963b:109). The Shingkelavun rite lasted for many days, and was carried out by the entire clan near the rock, cliffs, and trees sacred to it—the bugady. On the first day, the shaman “walked” under the bugady asking the dunne-mushunin (that is, the bugady-woman, ancestress) for help in the hunt, but she sent him to another, a zoomorphic bugady which roamed in the form of a giant female elk, or wild doe among a herd of wild animals of the particular species. With the permission of the she-elk bugady, the shaman caught animals in her herd with a lasso. On the shaman's return, if the number of the animals proved inadequate, he revisited the dunne-mushunin, and by stealth stole magical strands of wool which then turned into animals as soon as the shaman shook them out on the home territory of his clan.

The second stage of the ritual included all the males of the clan. The Evenki hunters wore ritual costumes, with caps made from the skulls of reindeer or elks, imitating the heads of these animals. The hunters performed a pantomime dance, portraying the characteristic movements of the animals, and accompanied it with an improvised song addressed to the beasts. The central figure of the rite was the best of the dancers, an actor-hunter. He represented the leader of the animal herd, and his pantomime was supposed to bring all the animals of the taiga to the clan's hunting grounds after the fashion in which he was leading his fellow dancers. At the end of the dance, the group of hunters, embodying the figures of animals in living forms and plastic movements, headed by their leader, who apparently played

the part of the master of the animals, the bugady, developed a new theatrical action, different in character but analogous in aim. The hunters went into the taiga and returned laden with rose willows and young larches, from which they built a kind of decoration representing the taiga surrounding a new clearing covered with bushes, the favourite grazing place of the elk and wild reindeer. Among the rose willows sprang up herds of elks and wild reindeer, represented by wooden figurines. Other animals and birds were to be seen in the larch taiga. Meanwhile, the old men, without pause, recited stories and legends, and to their measured, rhythmic speech, small wooden figures were placed beside the she-elks, representing their calves. The other animals also had plentiful offspring. Thus the magical multiplication of animals took place, and the taiga was filled with life. The final act of the Shingkelavun ceremony began with the hunters again going to the taiga, carefully searching for the tracks of animals. The hunters then performed a hunting scene with figurines before several sacrificial reindeer were slaughtered, and their skins hung on long poles as offerings to the supreme deity Oshkori, the lord of all taiga. The meat was eaten by all participants (Anisimov 1949:177 in Okladnikov 1970:97-98). Living tradition by shamans performing rituals at rock carving sites has recently been documented in Siberia (Célestin-Lhopiteau 2009).

According to Okladnikov, the necessity of such ceremonies for the multiplication of animals during the Neolithic (Late Stone Age) must have been the sacred paintings on cliffs serving as clan shrines, depicting the animals in the same positions in which they were probably represented by the hunters in the Stone Age, who performed their religio-magical pantomines before the matriarchal clan deity represented on the sacred cliff—the "she-elk," the bugady (Okladnikov 1970:98). The performance of the hunt with dancing and imitation of animals shows that the elk hunting scene at Hallström IQ1 could not just be the representation of a communal elk hunt, but also a ritual where the people performed rituals similar to the described Shingkelavun. People that appear to be dancing or walking in procession is also found at New Zalavruga 11 at Vyg and at Ytre Kåfjord in Alta (see Figure 178). Another such “dance” or performance can be witnessed at Bergheim 1 in Hjemmeluft, Alta where five people are “dancing” round an elk-head boat where one of the dancers are holding a long spear and two of the dancers are holding the elk-head boat. The “initiation” of the boat and rituals connected to the hunting season and / or during the launch of the boat is described in various ethnographic sources (e.g. Thornton 1931:165ff) and it is likely that such initiations before the hunt occurred at Bergheim 1, Hjemmeluft, in Alta during the Stone Age (see Figure 313). The spear or harpoon seen at Bergheim 1 in the hands of one of the “dancers” can also

be seen at a seal hunt at the contemporary Bergbukten 1 panel in Hjemmeluft Alta (see Figure 314).

Figure 313 The ”dancers at Bergheim 1 in Hjemmeluft, Alta. Two of the dancers are holding an elk-head boat and the person at the top is holding a long spear / harpoon. The boatfigure is ca. 30cm. Photo: Jan Magne Gjerde.

Figure 314 A seal hunt from an elk-head boat at Bergbukten 1, Hjemmeluft, Alta. A person is holding a spear / harpoon aiming for the seal. The seal is slightly eroded and could be a small whale. But by comparison to other figures it appear to be a seal. The boatfigure is 16cm long. Photo: Jan Magne Gjerde.

Vast amounts of red ochre found at Nämforsen dated to between about 4200BC-2400BC indicating large production of red ochre at Nämforsen during a long time period (George 2005; Larsson et al. 2003). Inland from Nämforsen there are several cliffs with elks painted in red on the cliffs similar to the painting on the cliffs in Siberia (Sarychev 1802:161 in Okladnikov 1970:102). The rock paintings inland from Nämforsen could be ritual places connected to the hunting of elks similar to the bugady of the Evenki. From the ethnographic records from the circumpolar area, we know that the seasonal hunting events were connected to elaborate rituals that encompassed various social interaction. The most elaborate descriptions is connected to the Inuit whale hunting (e.g. Lantis 1938; Lantis 1940), however we know that the elk hunt (Animosov 1963a; Okladnikov 1970) and reindeer hunting (Popov 1948; Popov 1966) in Siberia was connected to elaborate rituals. The bear hunting represented in the Stone Age rock art, at e.g. Alta, Kanozero, Onega and Vyg, can also be connected to elaborate rituals (Elgström 1971; Hallowell 1926; Honko et al. 1993).

The animals in the rock art of the case studies reflect the animals central place in arctic cosmology and rituals. It is therefore not far-fetched to link both the rock art and the location of rock art among arctic hunter-fisher-gatherer cosmology. As rock art includes the cosmology it is also in close relation to reality. Regarding rock art simply as reflection of cosmological depictions would be to diminish the reality and the geographical knowledge in rock art. These factors are intertwined.

Cosmography of rock art - from reality *or* cosmology to reality *and* cosmology

According to Websters Encyclopedic Unabridged Dictionary of the English Language (1994), *Cosmography* can be defined as a science that describes and maps the main features of the heavens and the earth, including astronomy, geography and geology or a description or representation of the main features of the universe (description of the world).

The rock art in all case studies are made by hunter-fisher-gatherers where hunting and fishing were central parts of their lives. Knowledge of the land and knowledge of the universe is therefore important. Central to this knowledge and wisdom of the universe is in virtually all ethnographic studies from the circumpolar area focused on some form of shaman. This must not be equalled with shamanism. The shaman was a holder of wisdom and he or she had knowledge of the universe. A central function for the shaman was connected to hunting and

thereby the large game that people in the past relied on to return every year. This was crucial for surviving as hunter-gatherers, specially in a harsh robust arctic climate where winter-time normally covers 6-8 months of the year.

Studying the Stone Age rock art in northern Fennoscandia, the theme that seems to fit most of the rock art is depicting large game and cynegetic activities (connected to hunting) as introduced by Collignon representing Inuit perception of landscape (territory) (Collignon 2006b) for the description of hunter-fisher-gatherers knowledge of the land. Adding to Collignons cynegetic activities is the cosmology (the knowledge of the universe).

Cosmography would include the knowledge of both cosmology and reality. The scenes in the rock art depicts actual hunts (like the bear-hunting at Kanozero, the Beluga whale hunting at Vyg, the elk hunting at Nämforsen, the reindeer hunting in Alta and the halibut fishing at Forselv in Ofoten). Closely related to these hunting scenes are the other parts central to the cynegetic activities, representations of journeys, these be real, like the numerous boat depictions where many of them would refer to actual journeys, or cosmological represented by some of the boats, the elk-head sticks, shaman-drums and journeys by shamans like at Kamenniy 7 at Kanozero or at Bergbukten 4 in Alta. Some places one can also see what can be referred to as the transformation between human and animals and connected to one of the characteristics of the shaman where he could transform from human to animal and vice versa. This also included travelling between the worlds. By wide definition, what is depicted in the Stone Age hunter-gatherer rock art are stories reflecting their cosmography.

In the Early rock art, rock art both by location and theme seems to reflect the cynegetic activities located at places connected to hunting or so-called favourable places for animals. They could act as signposts in the landscape. Gradually the stories on the rocks related to places that not necessary was the actual place of the rock art, but could act as memoryscapes relating to real and cosmological places as part of their cosmography, like the inland reindeer corrals and the open sea halibut fishing at Bergbukten 4. Through the case studies, the best example of how the cosmography is represented at one panel is at Bergbukten 4 site (see Figure 183 in relation to Figure 184) where all the three worlds similar to the ethnographic world view is depicted but also clearly refer to the real world with elk-hunting, reindeer hunting and halibut fishing. The rock art including the microlandscapes, at times with clear links to the macrolandscape truly represents interacting landscapes centred around Stone Age hunter-gatherer cosmography.

Chapter 7 The Author's Reflections[223]

Towards an understanding of lost relations of Stone Age Rock Art in northern Fennoscandia

From the beginning, crossing borders and studying the rock art anew has been central to this thesis. Most studies of rock art in northern Fennoscandia is based on documentation that was conducted with different research aims. The central theme was the motif, not its surroundings. In this thesis I have argued that landscape is a central element to rock art at different levels from the canvas of the rock to the wider landscape through viewing rock art in relation to the natural background of northern Fennoscandia. The approach is centred round an understanding of lost relations of hunter-gatherer Stone Age rock art in northern Fennoscandia. The approach relies on the reconstruction of past relations in the landscape in relation to rock art. The reconstruction of the lost relations have focused on reconstructing the natural background (mainly through reconstructing the landscape changes by the land uplift), including ethnographical sources to interpret the rock art at different levels in relation to landscape and a thorough documentation of the rock art and its lost relations. Central to this has been to study the sites *in situ*.

In **chapter 2**, I searched the research history for clues as to which rock art and landscapes had been studied in the past. As with all research this thesis rests on the shoulders of giants. When it comes to northern Fennoscandia this thesis on rock art would have been completely different if I was not triggered by the aims of Gustaf Hallström when he in 1906 set out to study all known rock art in Fennoscandia crossing the national borders. As for Hallström, the recent growth of the material record witnessed during my initial overview was overwhelming. As stated by Bjerck (2002) the shift from where one before could know "all" of the material culture within large regions to the individual shortcomings of knowledge due to the increasing growth of the material record and increasing knowledge production has led to a shift in focus to local and regional studies during the last decades. The lack of the opportunity to grasp large regions crossing national boundaries has also been stressed by Ramqvist where he sees this as a virtually impossible task (Ramqvist 2002b). The problems encountered crossing boundaries have been numerous. However, to get to grip with the material record much time have been spent visiting numerous sites in northern Fennoscandia.

[223] *The Author's reflections* was Hallström's final chapter in his second volume of Monumental art (Hallström 1960:366) where he summed up some of his ideas on rock art in relation to his life-long work. In many ways I have experienced and walked along the footsteps of Hallström in this thesis and it is in the honour of Hallström that I have initiated the summary of this thesis in the words of Hallström.

Since the final work of Hallström in 1960, few have tried to cross administrative and political boundaries in which the results from this thesis advocates in further research.

The representativeness is problematic when looking at the find distribution of rock art. I am convinced carvings will appear in Finland sooner or later. Some areas have many sites due to large research activity. Within the material record, this is best evidenced by the distribution of rock art on both sides of the Finnish border (see Figure 90). I am amazed if not sometime in the near future, more rock art is found in northwestern Russia. The newly discovered site at Kanozero shows the potential for finding new rock art in this large area. Vital to the research history has been visiting the sites that is the basis for the increasing knowledge of rock art. The importance of the opportunity to visit Kanozero, finding more rock art making this one of the large known concentrations of rock art in northern Fennoscandia is yet to be fully realized. Visiting the photoarchives in St.Petersburg and in Umeå has given me the opportunity to see many of the rock art sites before modern constructions ruined the landscape context of some of the sites. Therefore, some of the sites have been better investigated through the eyes of Hallström and Ravdonikas.

In the research history chapter I have tried to view the growth of the material record because I find this important since there is no general overview of this enormous material record. Central has been to relate how rock art has been dated, thus relating it to its wider archaeological context. Knowledge of the material record is vital in comparative studies, and it is therefore problematic that most comparative studies in rock art has accepted that there is similarity in the material record without even suggesting what grounds their assumtions are based. Through the research history I have focused on how landscape has been studied in relation to rock art. Already in 1906, Hallström saw that there could be an interaction between the elements and rock art, however, it was to take just less than a century before this was appreciated and included in the interpretation of rock art. Accepting that natural elements is part of the storied rocks made me enter the art of documentation.

In **chapter 3**, a revision of the documentation of rock art was investigated. Most of the rock art studies base their analysis on old documentation with completely different research aims and thereby also results. The available documentation was mainly aiming to document the figures in the most accurate manner in which to identify the motifs. At many of the sites new figures appeared that was not included in the initial documentation. New techniques has made it possible to see more of the actual figures at the sites, and many sites need to be re-documented. In many regards, the interpretation of rock art is never better than the documentation. With a new research aim, the landscape of rock art, I needed to revisit and

redocument rock art sites. Central to the documentation (mainly based on photography) was to take a step back to be able to grasp the landscape of the rock art. To get a better understanding of rock art and landscape I followed the advice by Fett "Everything is allowed, as long as it gives a good impression of the landscapes character and tells us why they made the rock art exactly where it is [my translation[224]]" (Fett 1934:80). I do not reject the accurate tracing of figures, however, as a means to get a better foundation for the understanding of rock art, the landscape of rock art may include more information than how many crew members are in a boat in Alta or whether there are 15 or 17 elks in a group at Nämforsen. Documentation and the art of documentation is important since it reflects the research aims and also guides the interpretation and the understanding of the lost relations in the rock art.

Even if the aims of documentation is problematic, my major concern and also one of the main problems in getting an overview of the material record and crossing borders, is the lack of material publication. A rough estimate suggests that more than half of the material record of the rock art in northern Fennoscandia remains unpublished. This is a major obstacle when performing any studies at a regional or an inter-regional level.

In **chapter 4**, the core of the approach to the study of rock art and landscape was presented. In this chapter, I discussed the term landscape and the term landscape in relation to rock art. After an initial approach to the understanding of the indefinable concept of landscape oozing of ambiguity, one moves to the lost relations of landscape and rock art. Since dating rock art sites is crucial for the interpretation of the lost relations in a landscape, I briefly discussed dating in relation to rock art and landscapes. Since rock art in northern Europe has a long tradition of rock art production, it would be problematic studying the polished rock art site at Jo Sarsaklubben and the Aldon[225] site in northern Norway since the distance in time is more than 10000 years. Within the lost relations, change is a major topic. The natural short term changes, or the temporality is discussed in relation to landscape and rock art where e.g. the seasonal aspect in relation to rock art and landscape is discussed. Short term changes seem to be important in the rock art. The majority of the rock art in northern Fennoscandia is located in the shore or the shore spray zone less than 2m above the upper tide, so the shore connection is important. The seasonal aspect is also represented in the rock art as witnessed by the "seasonal" activities in the winter-hunting for elk, the spring time hunting for bear and

[224] "Alt er tillatt, bare det gir et godt inntrykk av landskapets karakter og forteller hvorfor risteren ristet akkurat der" (Fett 1934:80).
[225] Aldon is a rock art site most likely not more than 200 years old. The figures include reindeer, a Saami peron with a shotgun and "modern" boats with sail. It is situated on the Saami holy Aldon mountain in Varanger, northern Norway.

the Beluga whale hunting at late summer / early autumn. By being located in the shore zone this would also mean that the carvings was available throughout the year. However, there are also examples where rock art is most available through the winter months, like the islands in the rapids of Nämforsen or the cliff walls most easily observed standing on frozen lakes during winter.

Accounting for lost relations also includes long-term changes, like the large natural changes and the modern man-made alterations to landscape. The reconstruction of the landscape by accounting for the land uplift has shown for many of the sites that the location of the rock art sites has changed dramatically. Applying old documentation (photos) in order to get a better understanding of the landscape has aided the knowledge of the landscape setting before modern alterations such as hydro-power constructions, modern housing or roadwork.

Central to the reconstruction of lost relations of Stone Age hunter gatherer landscapes has been embracing ethnography. Through ethnographic landscapes of the circumpolar area one may observe analogies to their cosmology which is central to the understanding of rock art. The selection of the animals in Stone Age rock art is also key animals in circumpolar ethnography. Cosmology has been discussed and found important in relation to rock art. Numerous examples show that most likely "shamans" are depicted in the rock art over vast parts of northern Fennoscandia. Central to the shaman performance are knowledge of the universe. This includes knowledge of land. Such knowledge is achieved through journeys, both real and cosmological.

Within the knowledge of the shaman and the hunter-gatherers is the knowledge of land or geographical knowledge. The shaman in this thesis is understood as a holder of knowledge or a holder of wisdom practiced through communication with humans and the spirits. Through a comparison between Inuit knowledge of landscape (territory) (Collignon 2006b) there seemed to be clear similarities between how Inuit perceived the landscape and how Stone Age rock art included information on landscape centred round important animals. According to the Inuit perception of landscape animals cannot be removed from land. They define their landscape or areas and zones within a landscape in relation to animals. Why a rock art site is located at its location or why rock art is positioned at the rock surface in clusters and focus on few areas on a panel instead of being evenly distributed has puzzled researchers. The deliberate placing of the images may refer to such rich and empty zones or areas in Stone Age hunter-fisher-gatherer landscape. Adding to this, some of the motifs or scenes include information that most likely refers to known places in the landscape like the bear-dens in Alta, the geese-hunting at Vyg, the reindeer corrals in Alta and the elk-hunting at Nämforsen. The

makers of the rock art would know where such places were. Adding to this, natural elements or the microlandscapes of the rocks were applied as a backdrop to tell the stories. Numerous examples from the Case studies evidence this. Even if we are not able to pinpoint the actual place like at Nämforsen (see Figure 270) or at Onega (see Figure 88), they are references to places in their landscape. By studying the different levels of landscape one gets closer to an understanding of the rock art including the natural elements that were included in their landscapes of rock art referring to their surroundings or the macrolandscape. The different levels of landscape shows that information interacting with the rock art could be stored in the tiniest crack in the rock surface to the location of the sites.

In **chapter 5** the "cracking" landscapes of rock art in northern Fennoscandia is presented in five case studies. Even though the starting point was crossing boundaries between east and west centred on northern Fennoscandia and the sites. The selection of the case studies was not a straight-forward task and hindsight would *maybe* change the extent and / or selection due to the time consuming fieldwork. Returning to the starting point the concentration of paintings in southern Finland could perhaps have been included. The case studies chosen includes rock art sites that cover all of the Stone Age from the initial pioneers settled northern Fennoscandia to about 2000BC. Central in the case studies was to get a comparable study of large contemporary concentrations of rock art in northern Fennoscandia. The thread in the case studies was the lost relations of rock art through the dating. Dating is also important for the reconstruction of the macrolandscape. Then the scales of rock art and landscape is presented where the macrolandscape and the microlandscape is discussed in the case studies. This was to show how rock art and landscapes interacted at several levels.

Chapter 6 is a discussion of the case studies. The results are viewed in relation to chapter 4 and related to the rest of Fennoscandia where I find it justified. As the case study in Ofoten indicates, the intial rock art in northern Fennoscandia was made in the pioneer phase when people entered to Fennoscandia after the Last Ice Age. About 10 rock art sites are known that can be dated to before 5500 BC in Fennoscandia. The rock art sites includes only large game animal and the figures are generally large, depicted in life-size, like the large killer whale at Leiknes more than 7.5m long and the large elk figure from Gärde in northern Sweden of more than 3.5m in length. Then at about 5500-5000BC, what I have named the rock art explosion, there is an enormous increase in the number of sites and motifs. This is also when one gets the large concentrations e.g. at Alta, Nämforsen and Vyg. Now the variation in motifs are multiplied. However, like the Ofoten case study shows the depiction of large game at close to life-size is still being made. The initial rock art at the large rock art

areas had previously been dated to about 4200-4000BC and the results from this thesis advocates for an origin of the first rock art at these places between 5500BC to 5000BC. That is, the large rock art centres and the change from few large game motifs to more complex compositions including humans and human activity. It is at this point we see collective and communal activities in the rock art like dancing, processions, collective hunting etc. This incident that seems to be all-inclusive seems to occur simoultaneously over large areas at the same time suggesting a rapid spread of ideas and people.

With the new dating suggestion, this shift in rock art or the rock art explosion occurs virtually simultaneously over vast parts of northern Fennoscandia. This incident also seem to concur with the rest of Fennoscandia, even though more research should be made for the results to be conclusive.

The large concentrations of rock art seem to be located at unique geographical locations suggesting they were ideal for meeting other people living by a mobile strategy. These were places where people met and they were central places in the Stone hunter-gatherer landscape. At Alta, Nämforsen and Vyg they are clearly located at unique ecological locations referring to reindeer, elk and Beluga whale.

Knowledge of the landscape would have been extremely important for people during the Stone Age. Ethnographic examples from the Inuit world, suggest that it is the male hunters that through cynegetic activities are holders of the “wisdom of land”. By journeys, individual and communal hunting they had the geographical knowledge that must have been vital to them, living as hunter-fisher-gatherers. The rock would work as a membrane between the worlds communicating their activities with the spirits. The rock art would work as memoryscapes that stored information for others to see and communicate. Stories were told and retold over and over since they were manifested in the rocks. New stories were constantly added. The stories of the Stone Age rock art in northern Fennoscandia included animals, humans and activities connected to places both coastal and inland. The miniature landscape and the microlandscape was applied as a backdrop to tell stories like the winter-hunting for elk (see Figure 215) or the Beluga hunting in the river estuary (see Figure 216). Rock art was made at the large rock art areas for more than 3000 years being part of the long memories of people that inhabited the area.

Stone Age rock art includes stories of reality and cosmology. Rock art seem to be narrating an intertwined cosmography of Stone Age hunter-gatherer lives. To get a better understanding of the cosmography of rock art one need to be aware of the lost relations of landscape and rock art. It all boils down to getting to grips with the lost relations of landscape

and rock art, including ethnography. Entering such a large area opens a “landscape” for further comparative studies.

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