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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.

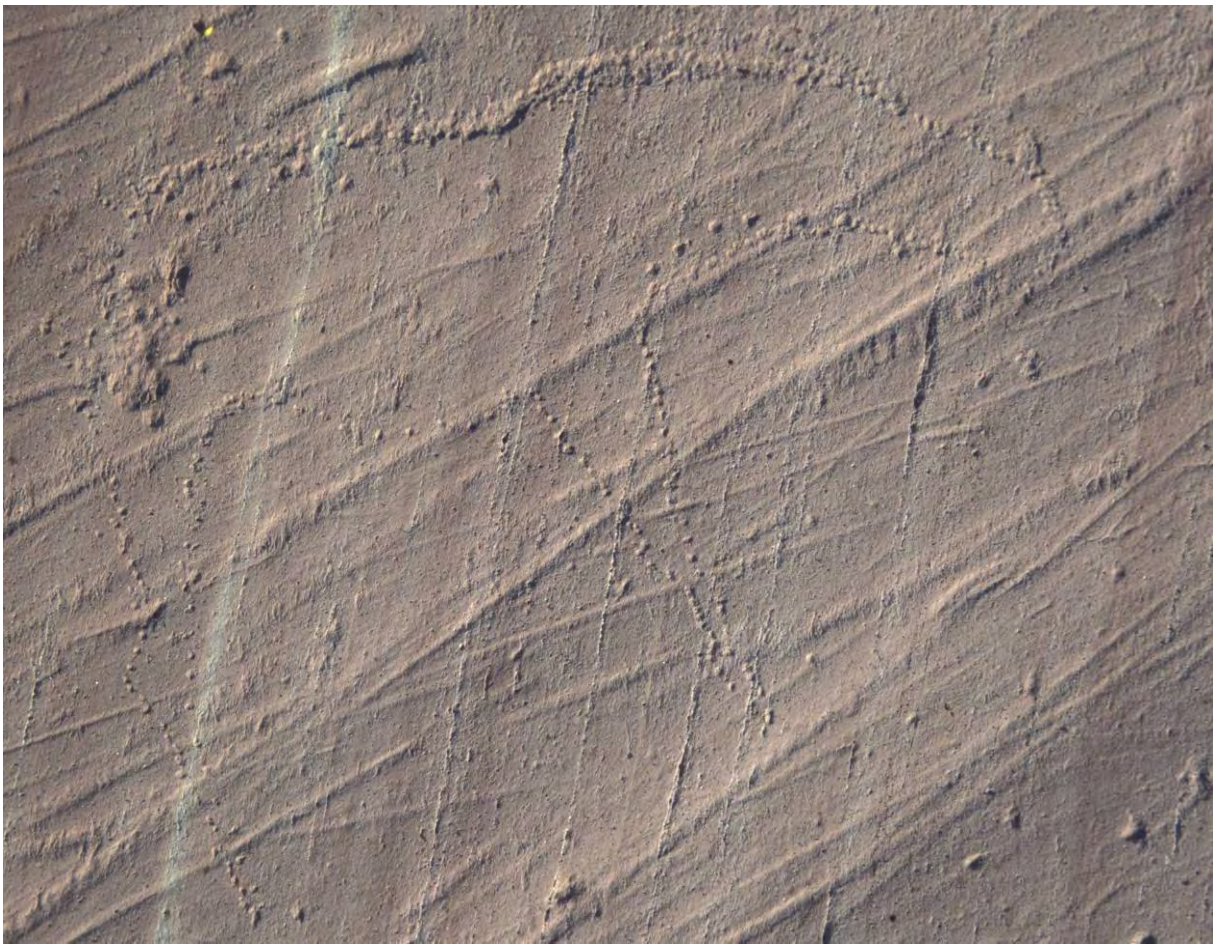

Figure 6 The drilling technique from Ytre Kåfjord, Alta, northern Norway. Photo: Jan Magne Gjerde.

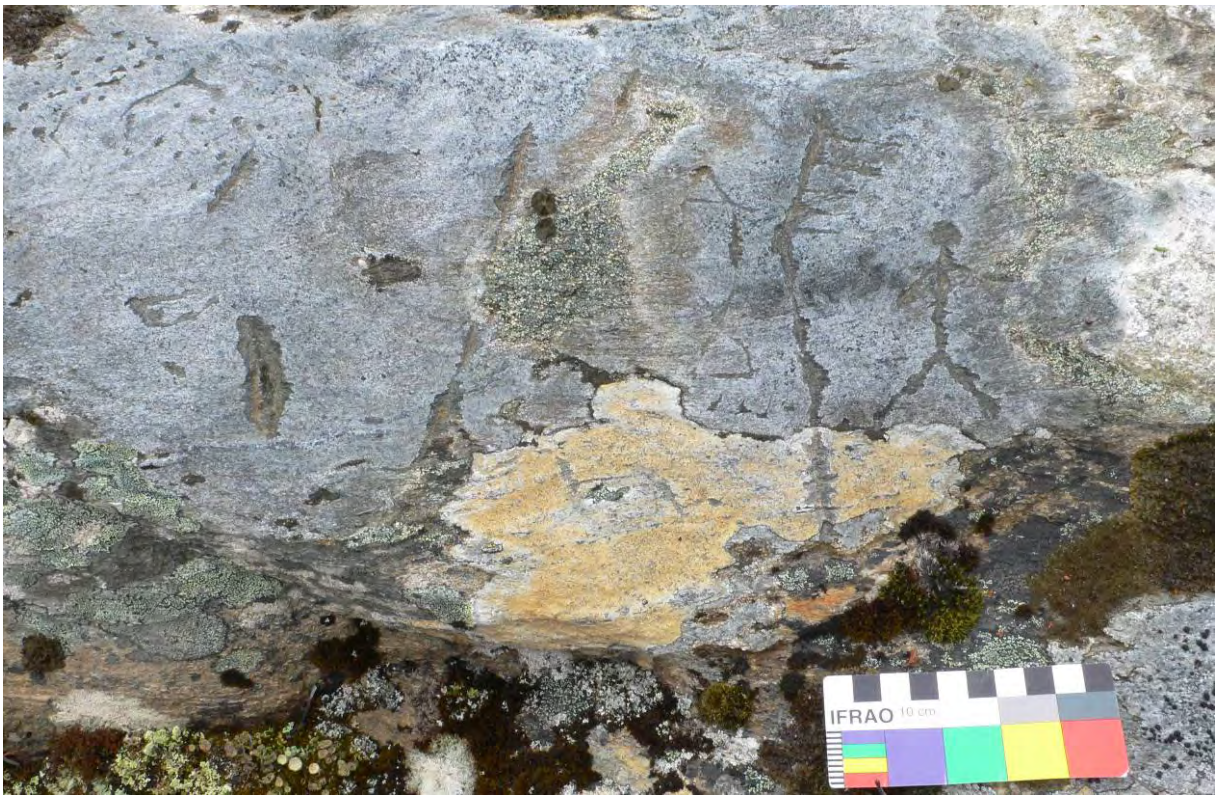

Figure 7 Incisions at Reinøya, northern Norway. The figures are estimated to be maximum 200 years old. Photo: Jan Magne Gjerde.

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.

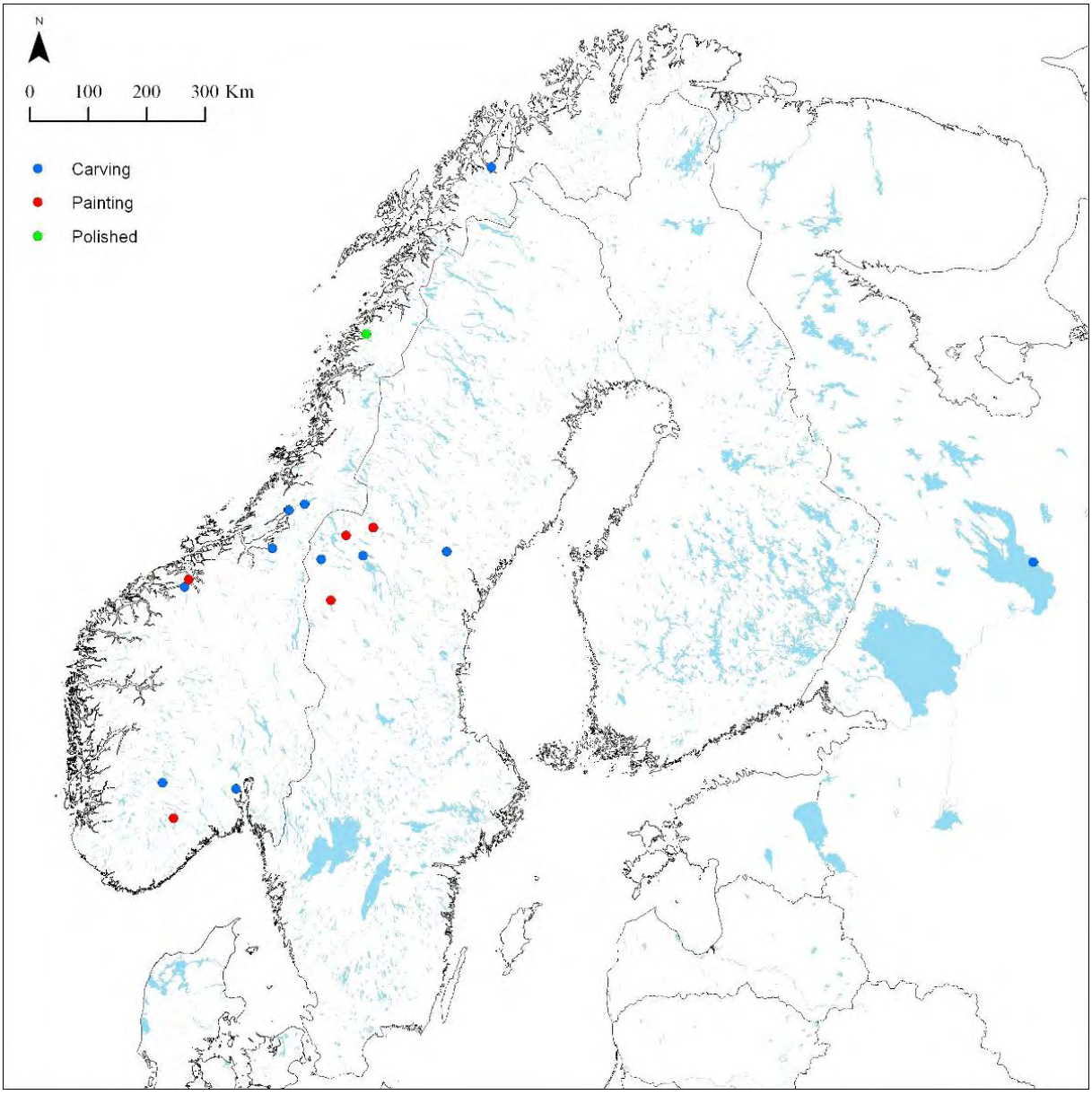

Figure 10 Stone Age rock art discovered before 1900 in Fennoscandia. Two of the sites in northern Sweden are situated so close at this scale that they appear as one mark on the map. Illustration: Jan Magne Gjerde.

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.

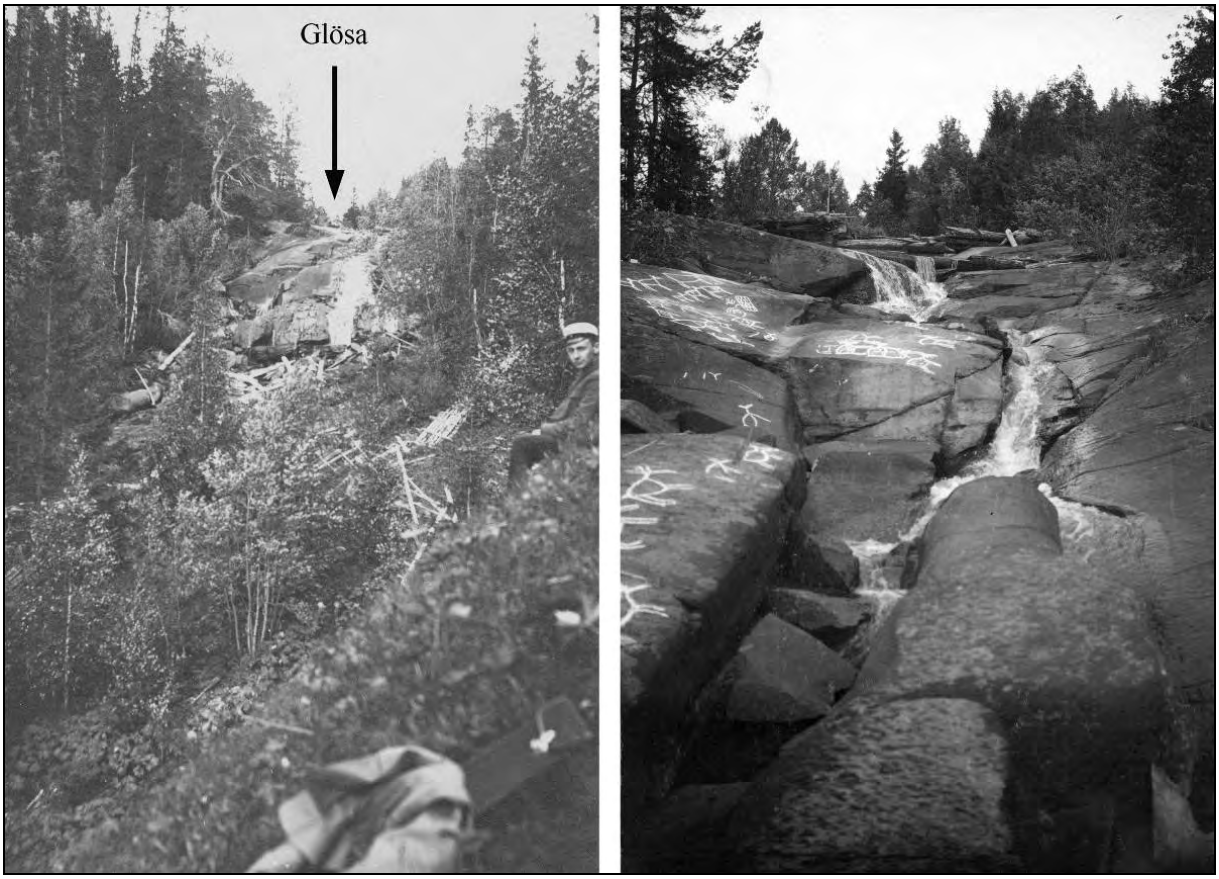

Figure 11 The Glösa site. The photo to the left shows the steep cliffs and the location of the carvings. The photo to the right shows the main area with carvings at Glösa. The site is dominated by deer-animals. They have been interpreted as both elks and reindeer. There are also geometric grid patterns 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).

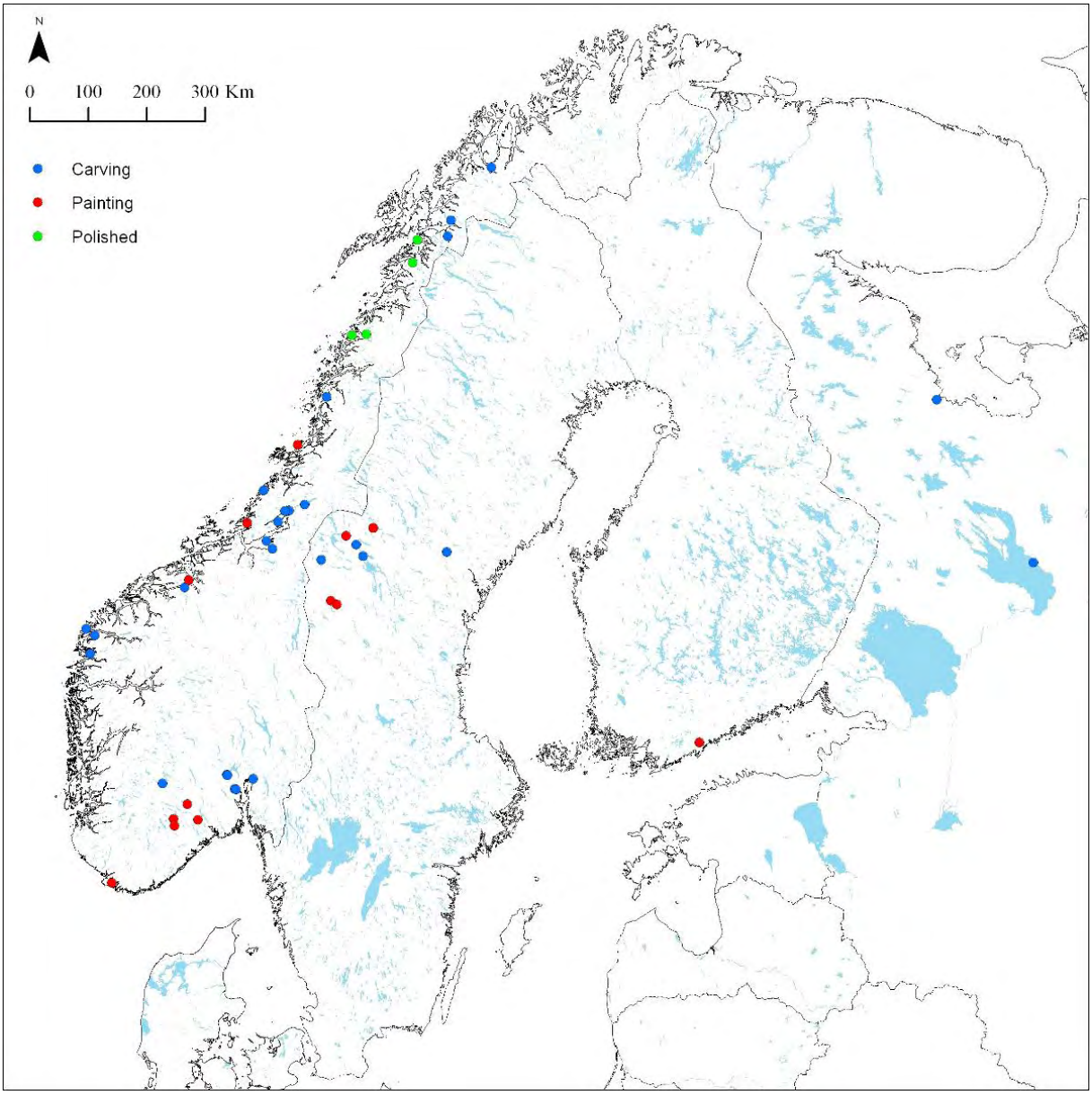

Figure 13 Stone Age rock art sites known before 1930 in Fennoscandia. Illustration: Jan Magne Gjerde.

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).

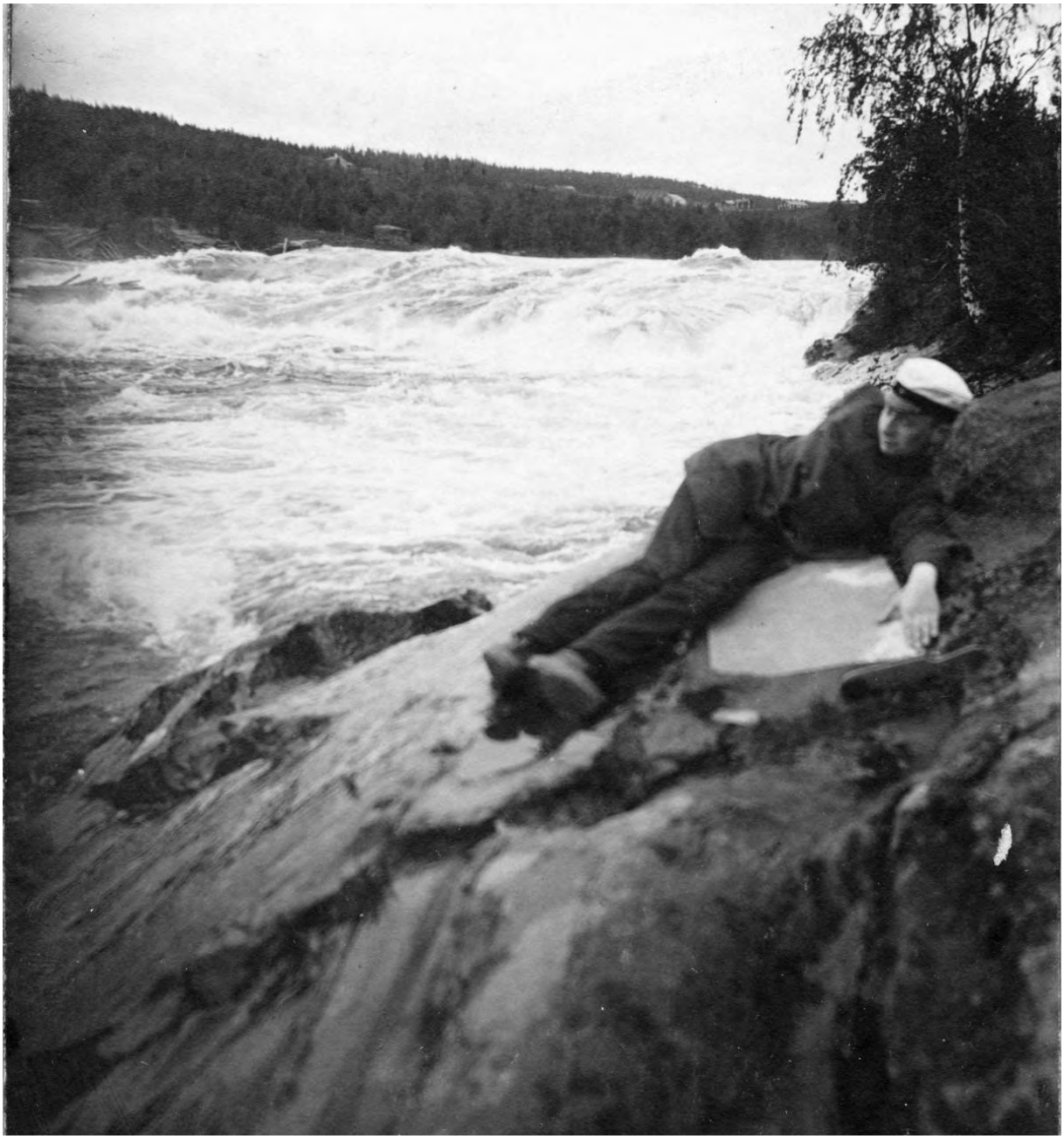

Figure 17 Part of the documentation at Nämforsen. Keeping the tracing paper dry must have been a challenge next to the rapids of Nämforsen. Photo: Gustaf Hallströms archive, Research Archive, University of Umeå, northern Sweden.

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.

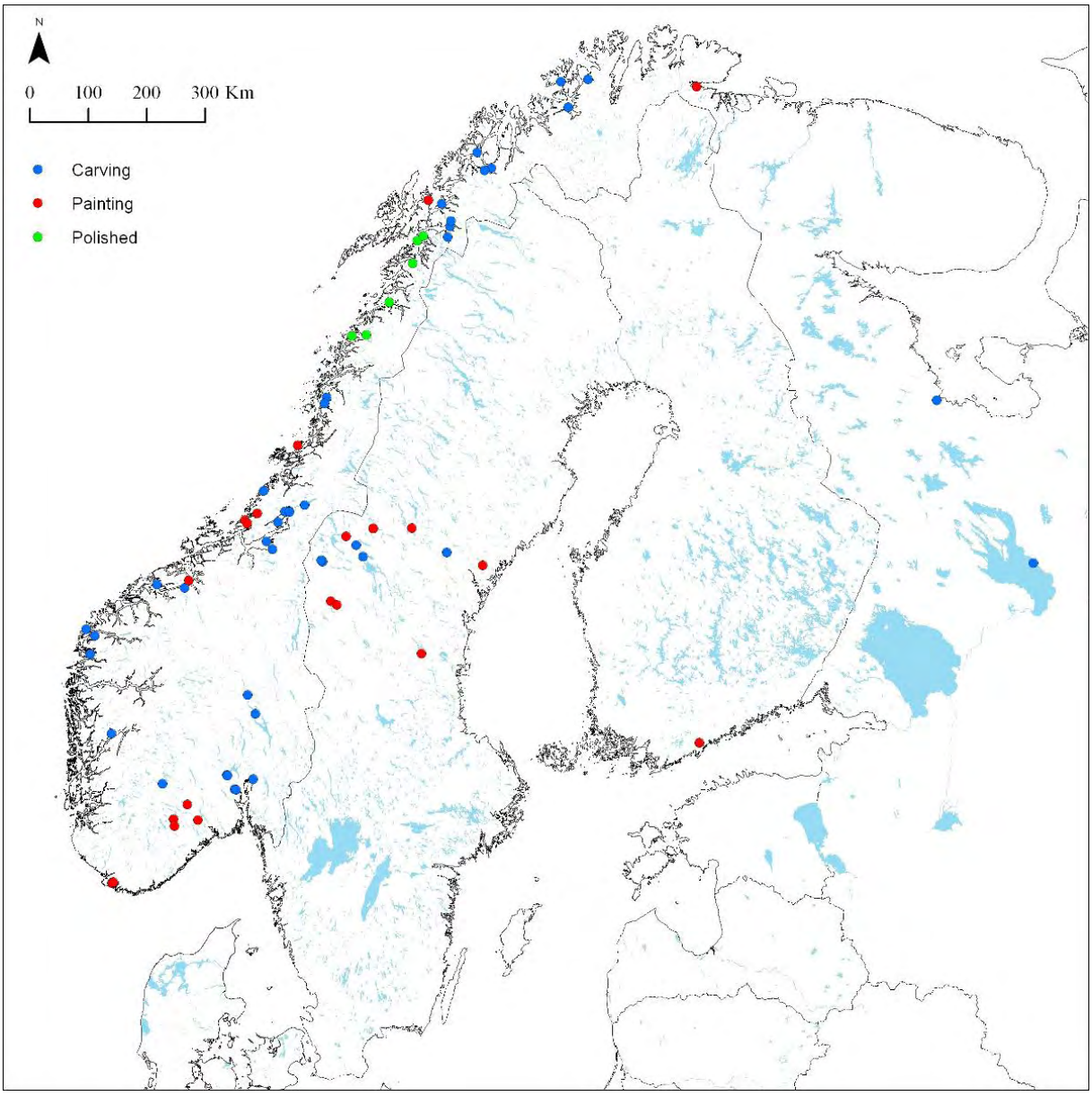

Figure 18 Stone Age rock art in Fennoscandia discovered before 1960. Illustration: Jan Magne Gjerde.

[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.

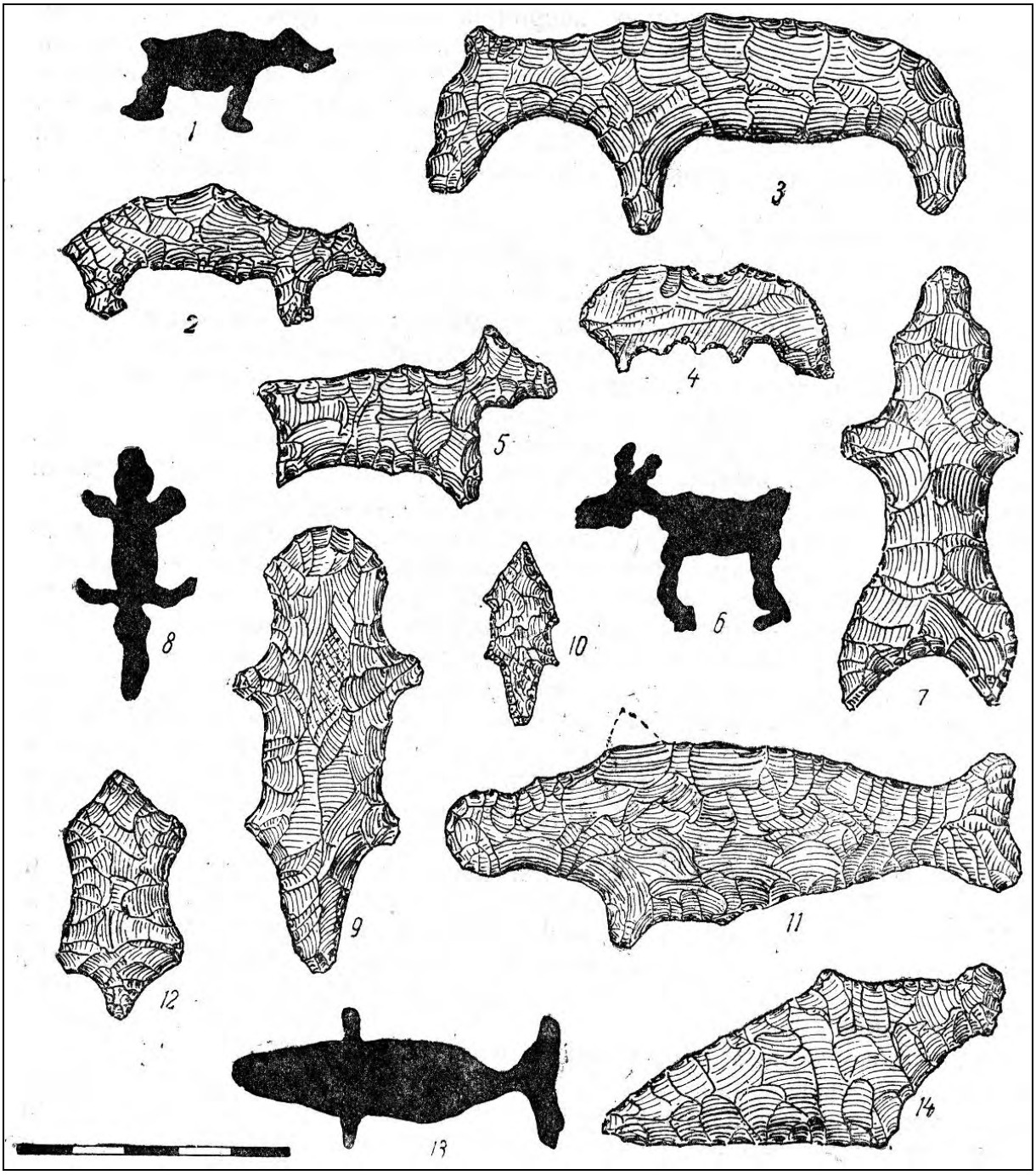

Figure 19 One of the comparisons by Zamyatnin of the flint figurines from Late Stone Age settlements from the White Sea-region and rock art from Onega and Vyg. In this illustration (1) is from Besovy Sledki, Vyg and (6,8) is from Peri-Nos, Onega and (13) is from Besov-Nos, Onega. The division in the 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.

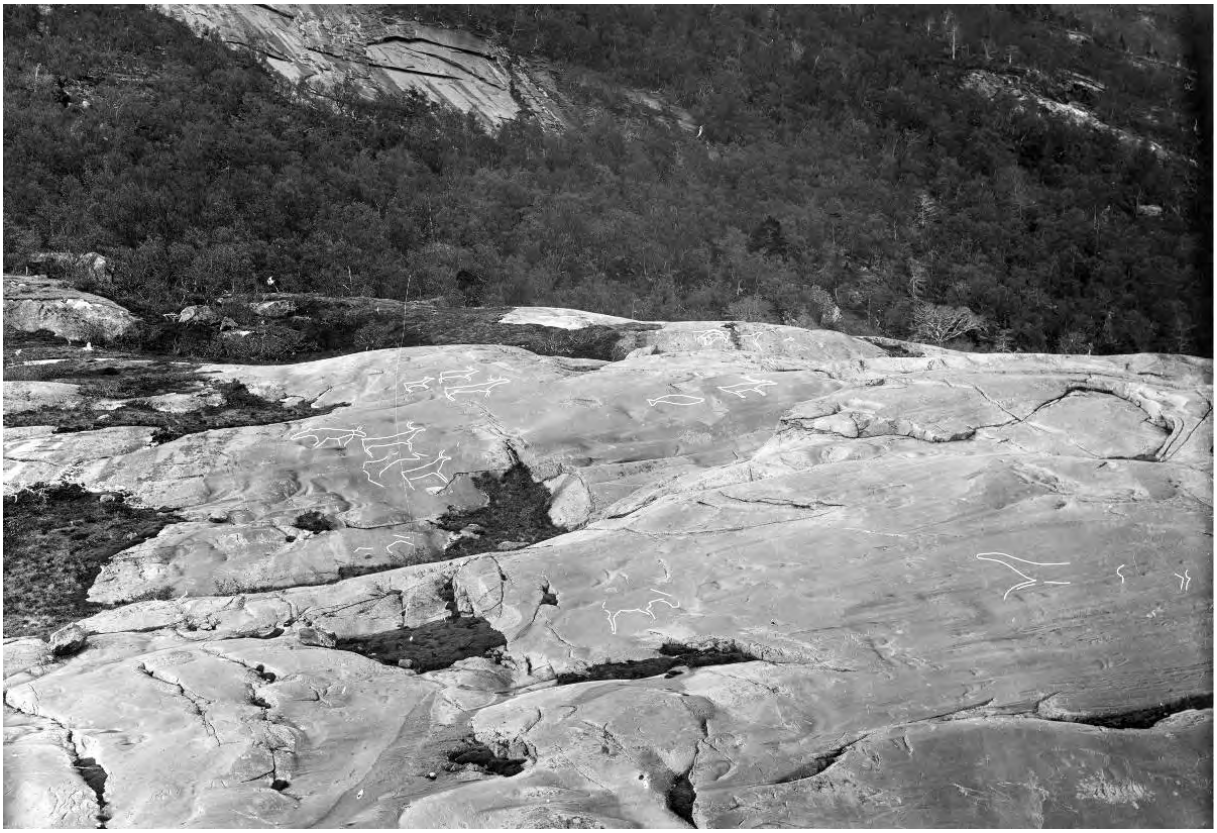

Figure 20 The main area with polished carvings at Fykanvatn. Photo by Gustaf Hallström, 1908. Photo from Gustaf Hallström archive, Umeå, Sweden. Some of the figures were chalked by Hallström before the photo was taken. The figures have been traced in white colour and the figures behind the sea mammal 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.

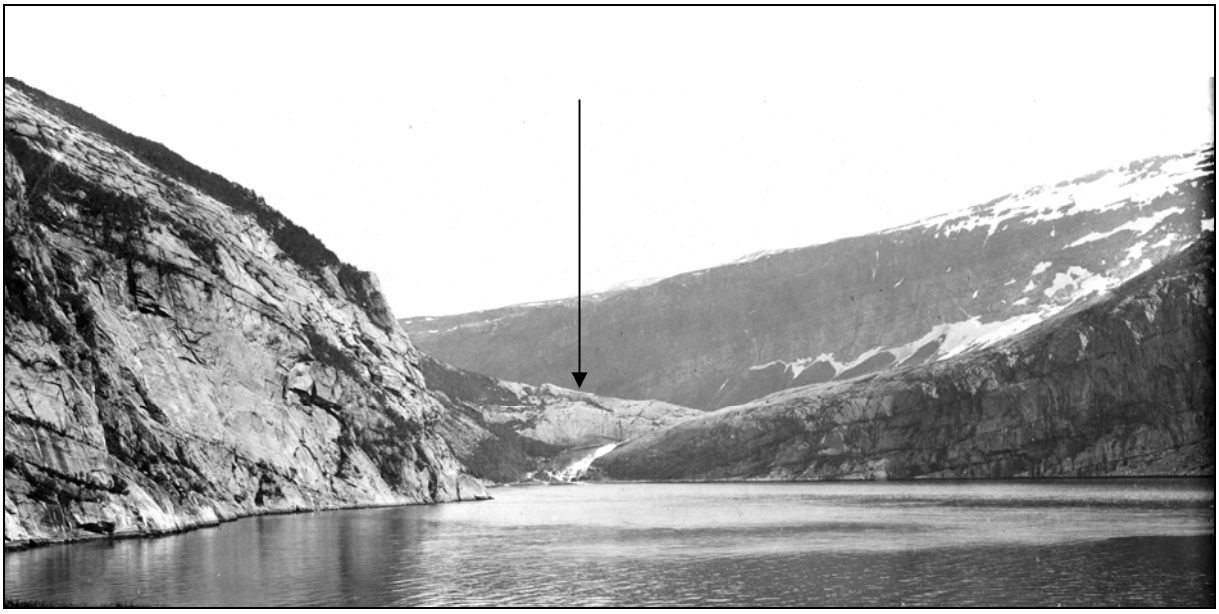

Figure 22 The landscape setting in the Glomfjord area with the Fykanvatn site with polished carvings dated to the Early Stone Age on the smooth rock surface situated slightly below the middle of the photo indicated by the arrow. Compare with figure **Figure 21** Photo by Gustaf Hallström, 1908. Photo 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.

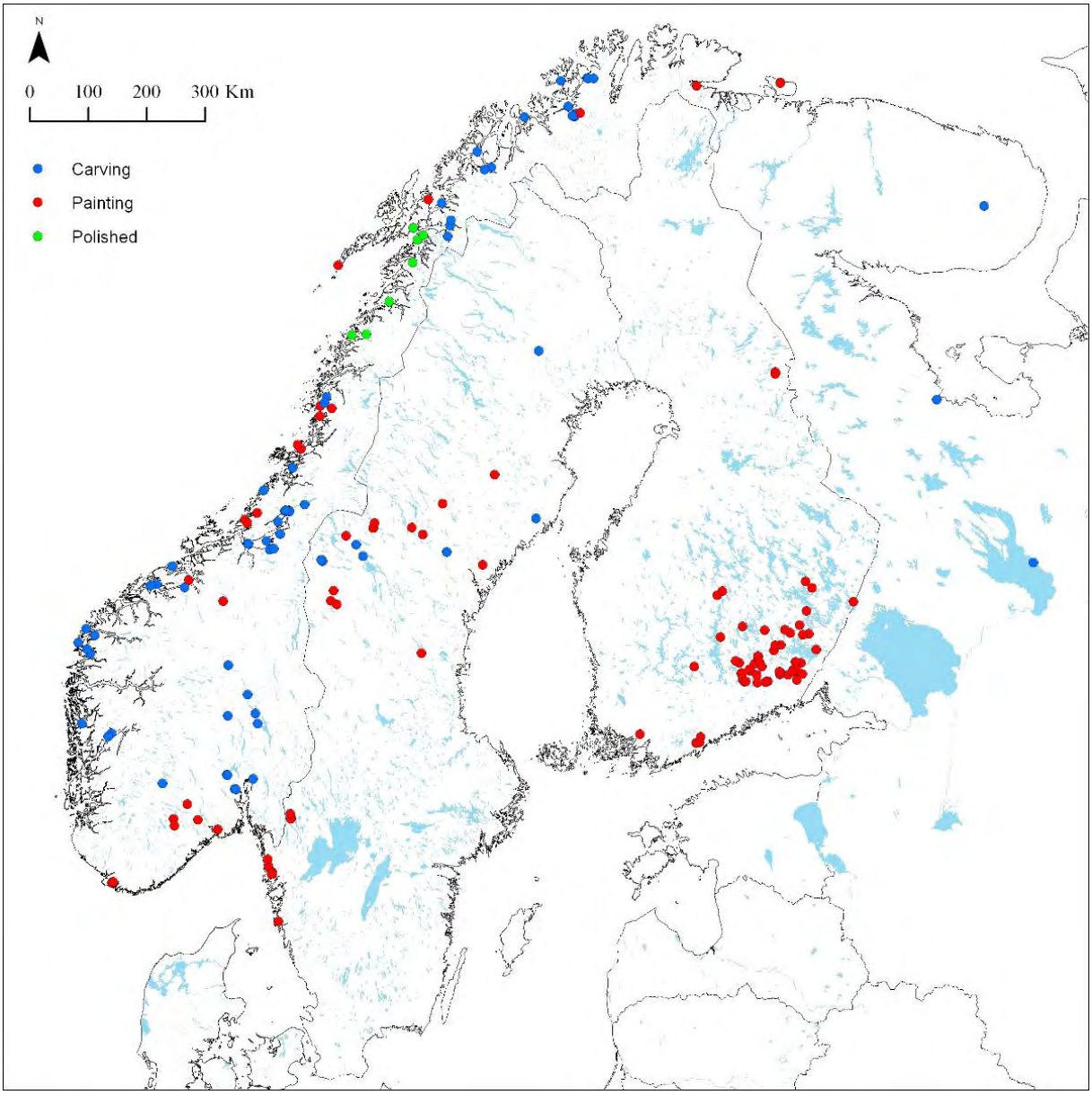

Figure 23 Stone Age rock art discovered before 1990. Illustration: Jan Magne Gjerde

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.

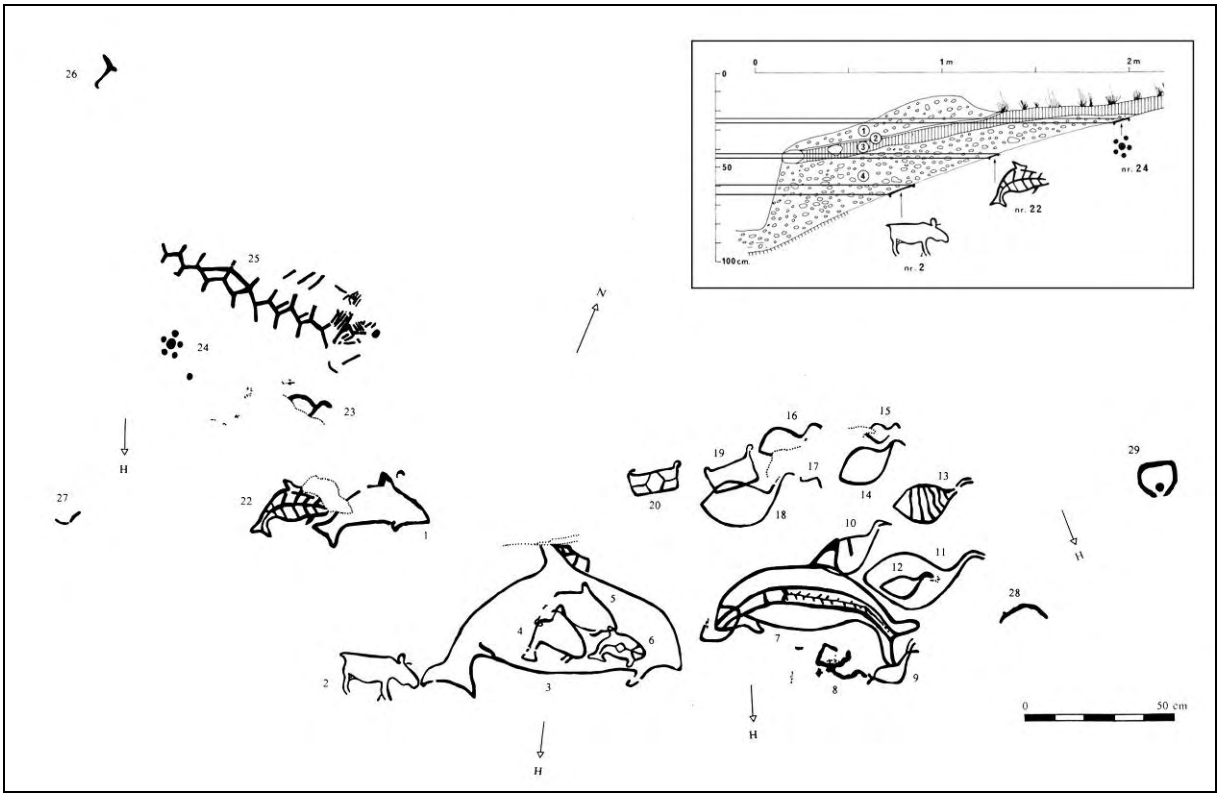

Figure 24 Bakka's tracing of Hammer VI after Bakka (1988:plate V) in 1988:plate nr. V. Illustration upper right reworked from Bakka (1975b:14, fig. 9). The elk figure (nr. 2) is between 59-65cm, the sea mammal figure (nr. 22) is between 42-45cm and the cupmark figures (nr. 24) is between 23 and 27cm.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

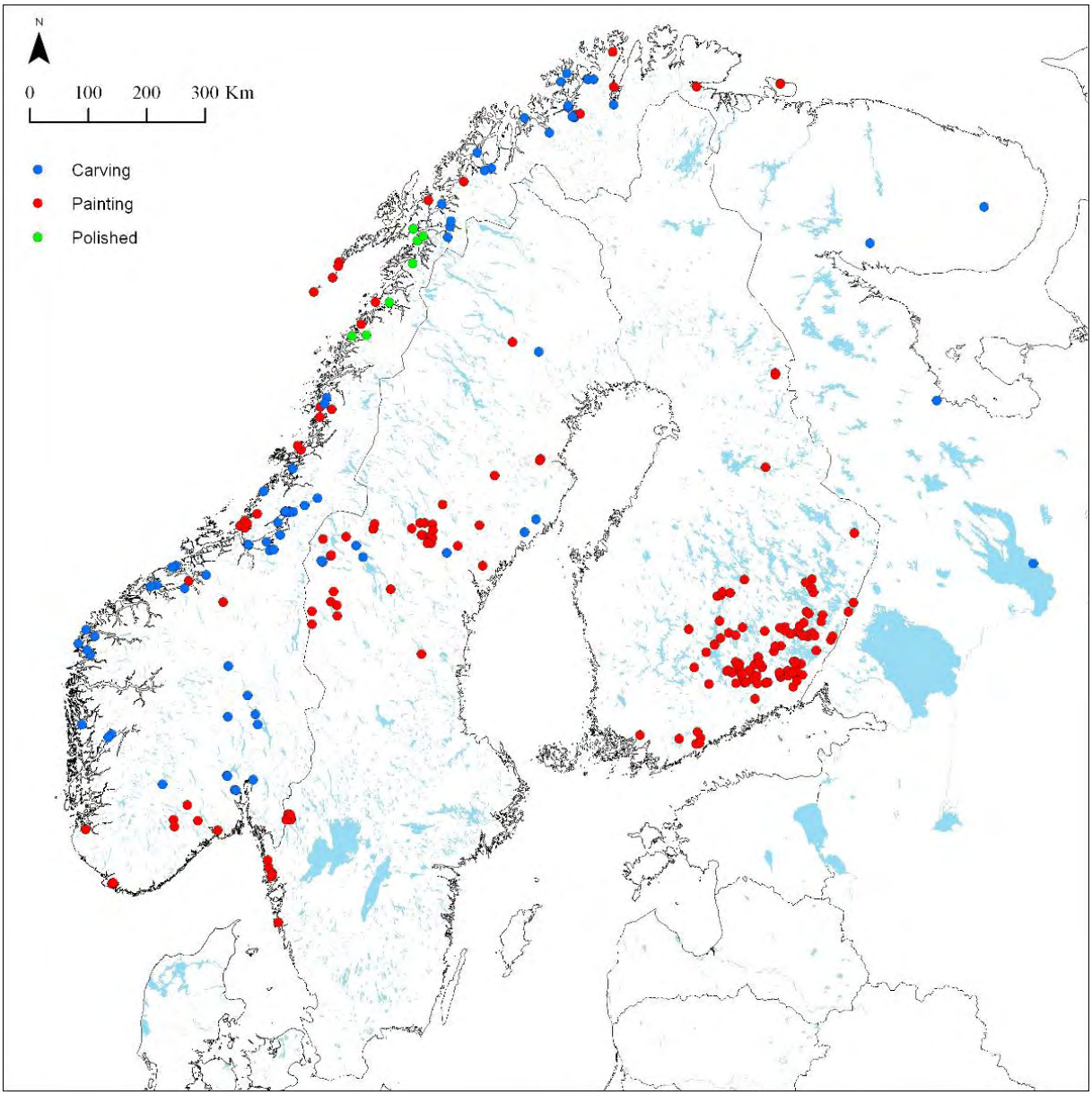

Figure 26 Stone Age rock art sites in Fennoscandia of 2010. This overview is presented with place names in **Figure 90** and a larger version with place names appear in an inlay at the back cover of the thesis. Illustration: Jan Magne Gjerde.

[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.

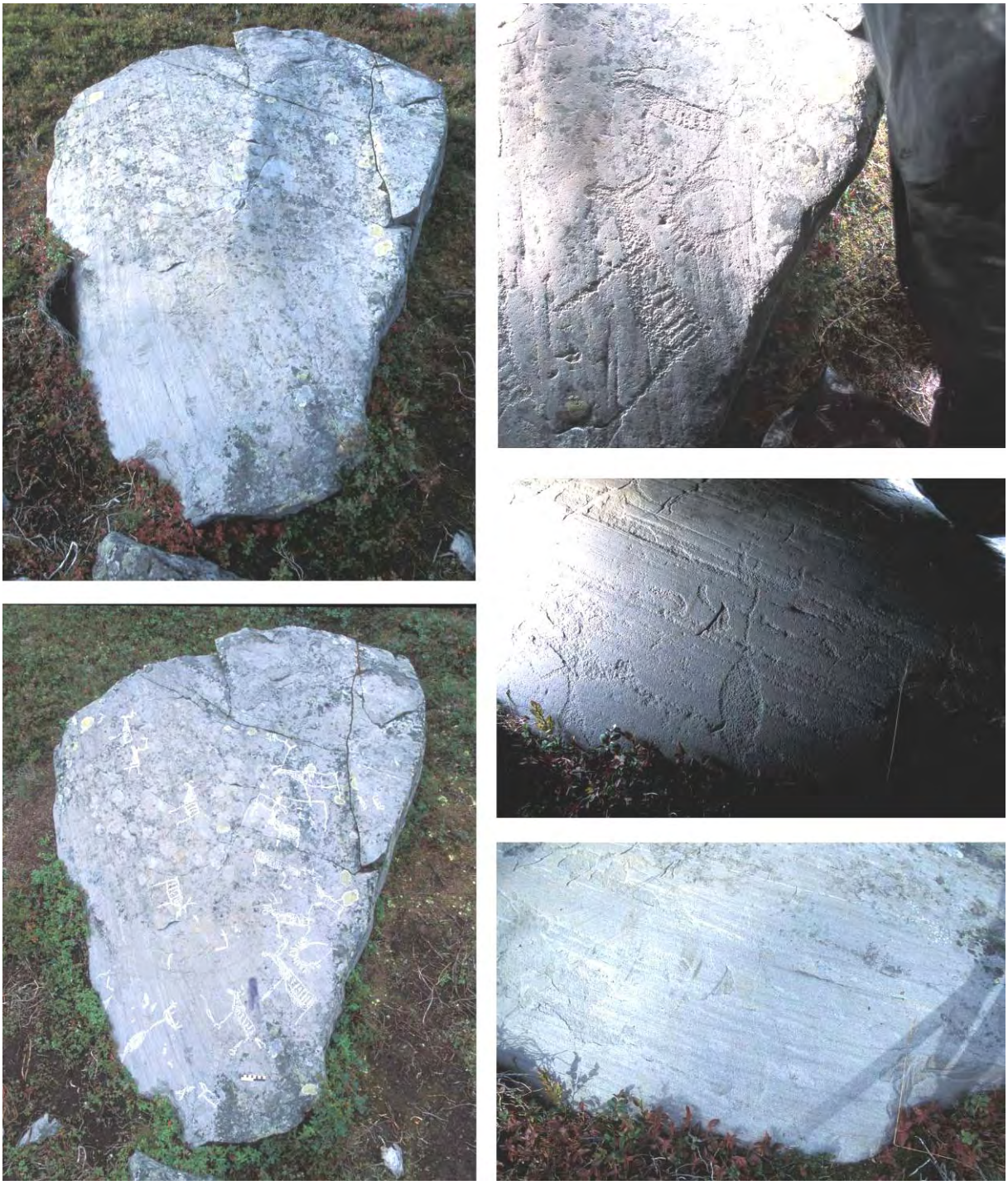

Figure 29 Photo of Bergbukten 1 in daylight and photo of Bergbukten 1 under black plastic. The boulder was chalked after working with black plastic. In photo middle right, one can see is depicting the halibut fishing scne that is invisible on photo bottom right. All the figures on the boulder are chalked 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).

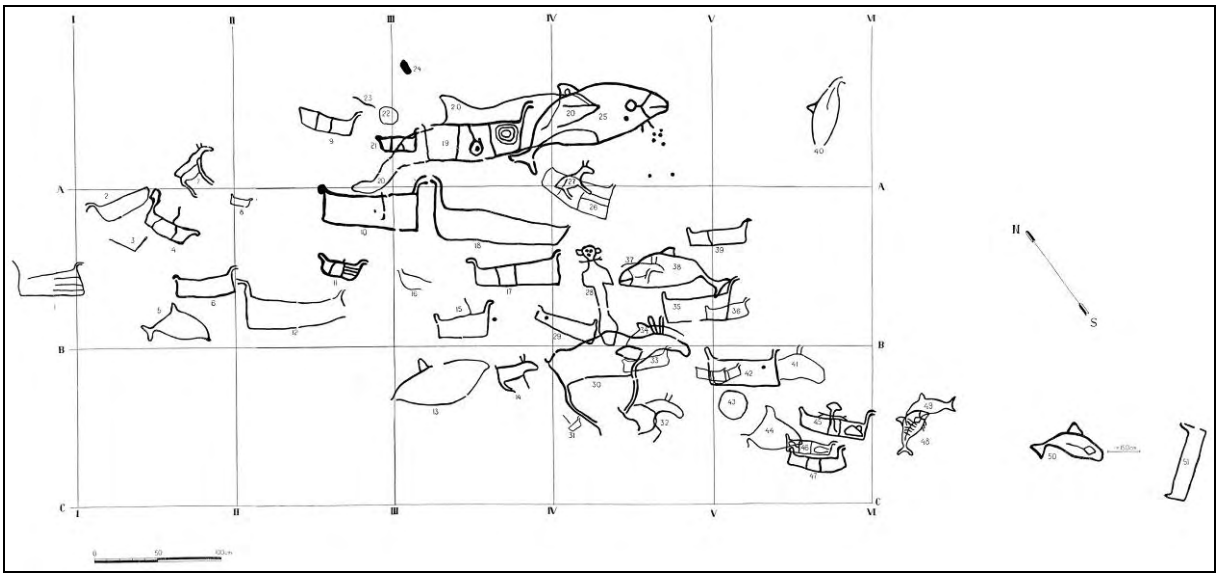

Figure 31 Tracing of Evenhus, middle Norway by Gjessing (1936a:pl. LXXVII).

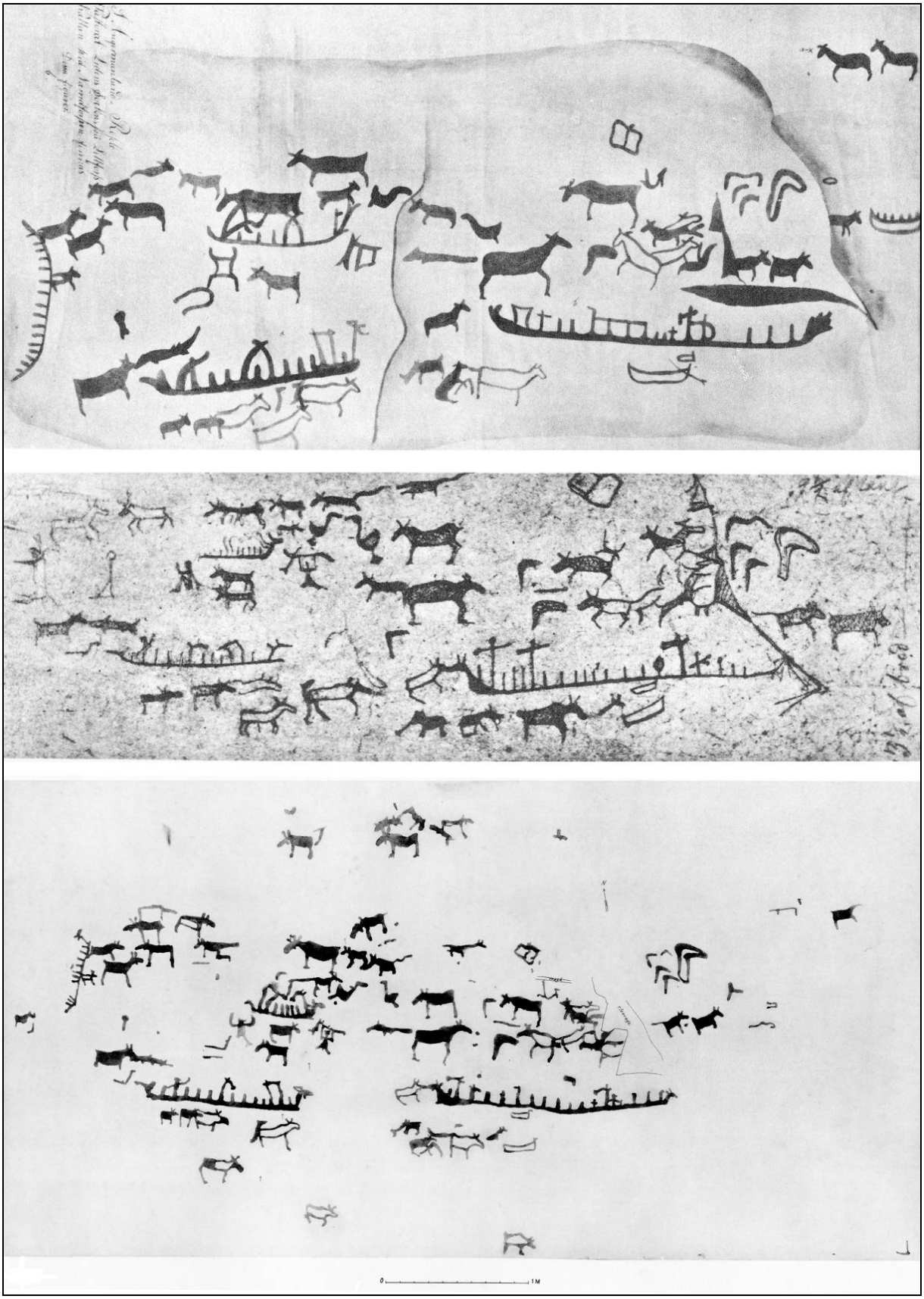

Figure 32 Documentation of the largest panel at Lillforshällan, Nämforsen, northern Sweden. Top: free-hand drawing by Ekdahl (1828). Middle: free-hand drawing by Mandelgren (1868). Bottom after Hallström (1960). All figures after (Hallström 1960:fig 79, 80 and pl. 13). One can see that the documentation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

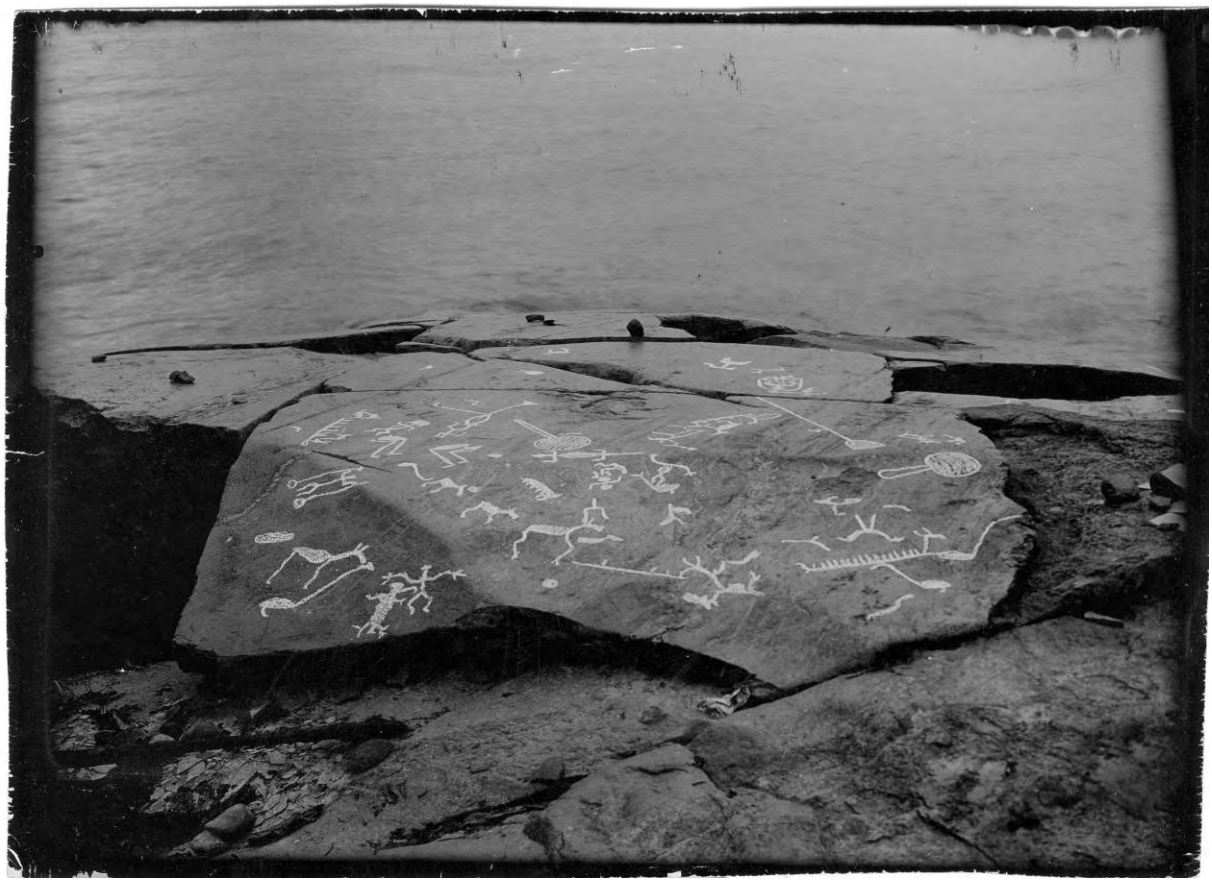

Figure 33 Documentation of Peri Nos, Onega (the Hermitage rock since it was later taken to the Hermitage In St. Petersburg) of Gustaf Hallström in 1910. With kind permission of the Gustaf Hallström Archive, Umeå University.

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.

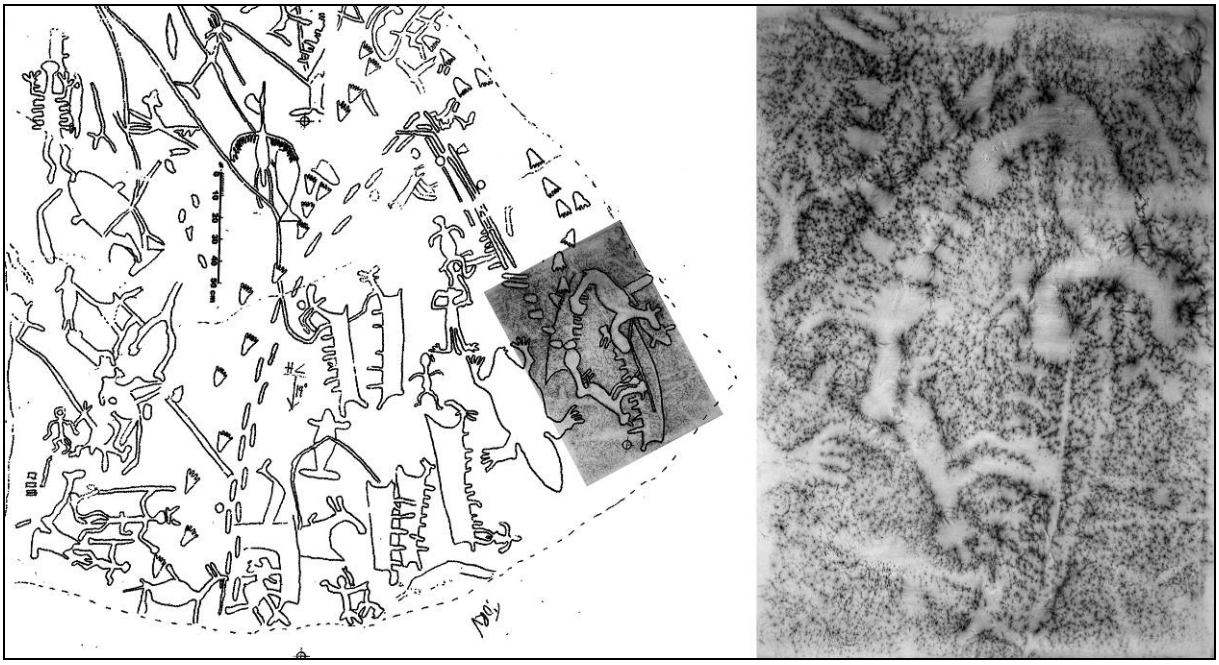

Figure 34 Frotage and tracing of a bear hunting scene from Kanozero (Kammeny 7). One can clearly see that the bear and the man is superimpositioning the Beluga hunting scene from two boats. Tracing, frottage and illustration: Jan Magne Gjerde.

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).

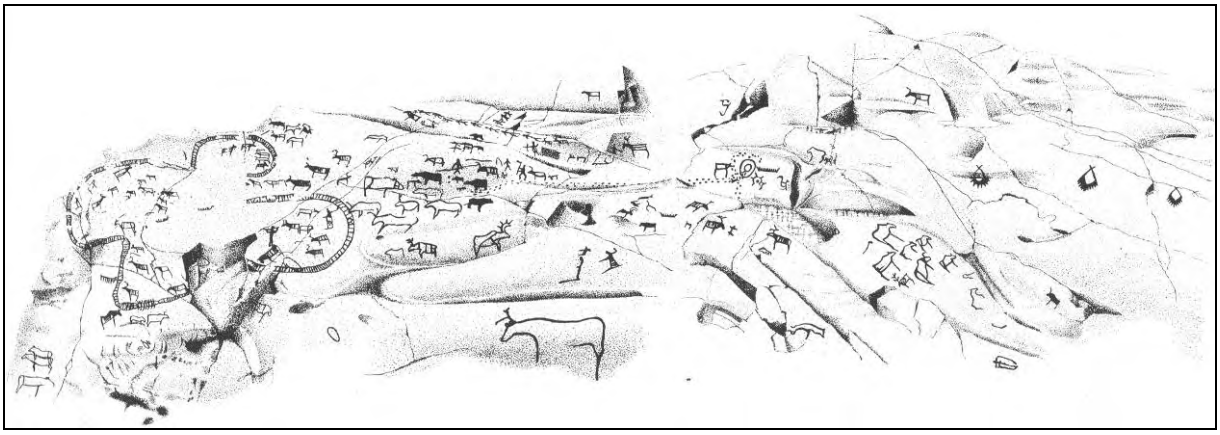

Figure 38 "3D"-drawing of the Bergbukten 1 panel in Alta, northern Norway. After Helskog and Høgtun (2004:30-31, fig. 7).

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.

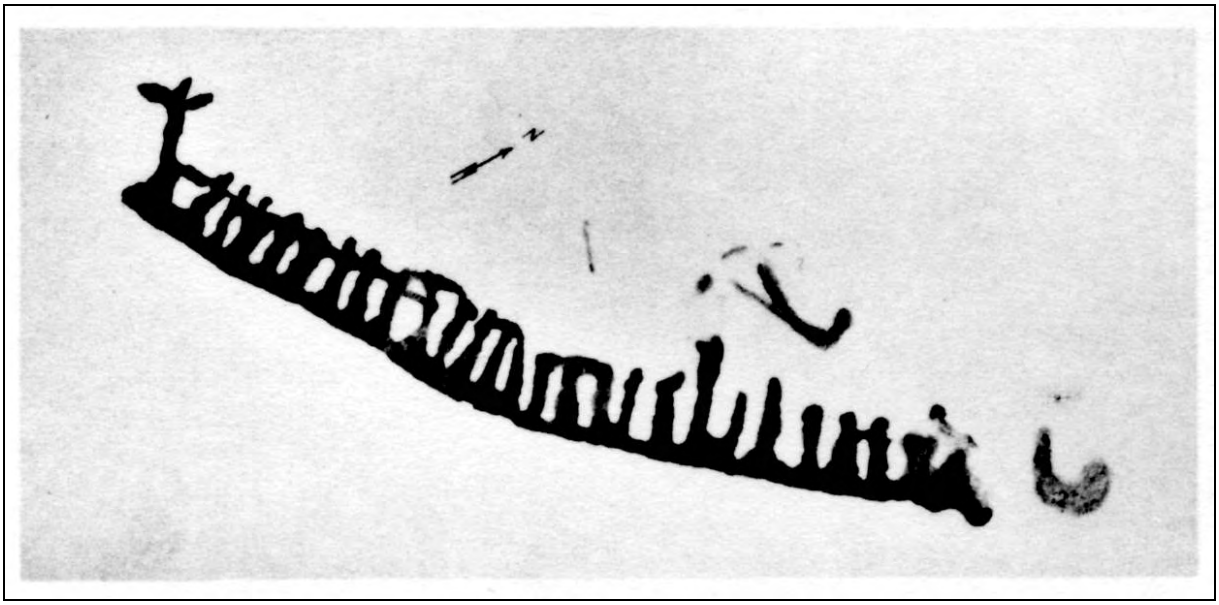

Figure 39 A boat figure from Bradön (B:2), Nämforsen, northern Sweden. Tracing after Hallström (Hallström 1960:pl XXIII).

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.

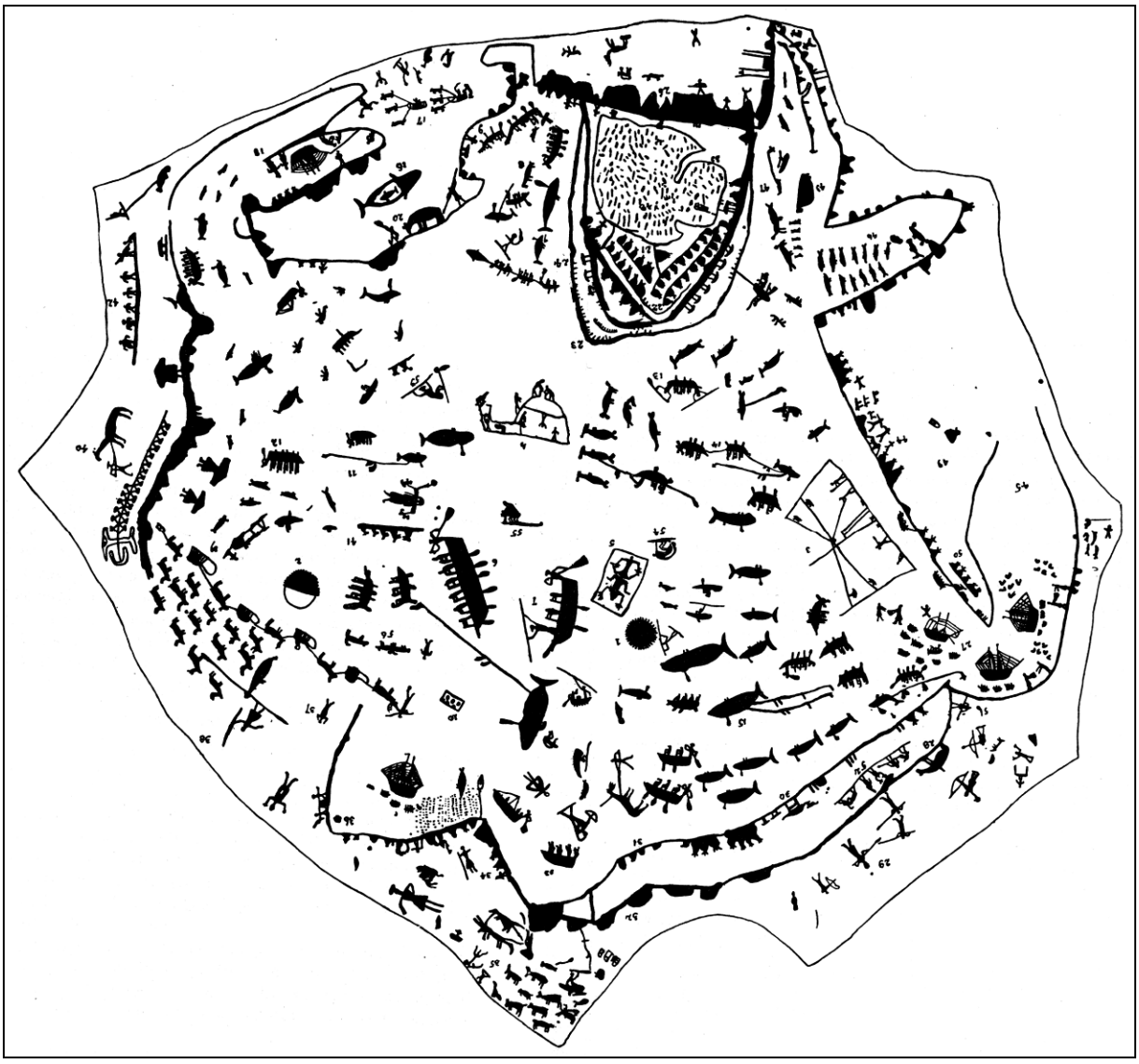

Figure 44 Hide painting from Chukchi presenting a "History of a Year of the Chukch" (Hoffman 1897:938ff), graphics after Hoffman (1897:plate 81).

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