



Figure 1 The last elk at Apana Gård 12. Photograph: Sascha Camilla Gade 2019

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The Last Elk

A Comparative Study of The Elk

Motif in Rock Art at Hjemmeluft Bay

in Alta, Arctic Norway.

Abstrakt

Oppgaven er en studie av helleristningsfeltene i Hjemmeluft bukt i Alta i Nord-Norge. Det er det største helleristningsfelt registrert i Norge. Samtidig er helleristningsfeltet i Hjemmeluft også den eneste forhistoriske lokaliteten som er registrert hos UNESCO i Norge med følgende fem områder Hjemmeluft, Storsteinen, Kåfjord, Amtmannsnes og Transfareldalen.

Lokaliteten har 3000 registrerte figurer. Siden registreringen hos UNESCO i 1985 har antall registrerte figurer doblet seg til 6000 fordelt på 10 felt med totalt 100 paneler.

I oppgaven fokuserer jeg på elgmotiver i helleristningsfeltene fra sein-mesolittisk tid, 5000-4200 f.Kr, ettersom elgen er et gjentakende motiv i helleristningsfeltene i Hjemmeluft. Da jeg var i Hjemmeluft i forbindelse med feltarbeid, observerte jeg at elgmotivene forandrer form og uttrykk fra et felt til et annet. Samtidig varierer frekvensen av elgmotivene. På grunn av disse observasjonene har jeg følgende problemstilling i oppgaven:

Hvilke mulige fortolkninger er det av helleristningene i Hjemmeluft, og kan de teoretiske tilnærmelsene i oppgaven bekreftes gjennom en komparativ analyse av elgfigurer i helleristningene?

I 2010 publiserte Jan Magne Gjerde sin doktorgradsavhandling innen bergkunsthistorikk i Fennoskandia med en ny og banebrytende funksjonalitetsmodell. I funksjonalitetsmodellen hans fungerte bergkunsten i Alta som steinalderkunst med referansepunkter til det omkringliggende landskap. Gjerde's funksjonalitetsmodell brøt med en forskningshistorikk hvor fortolkninger har vært dominert av et perspektiv på bergkunst som en rituell handling i forbindelse med sjamanistiske reiser mellom dimensjoner og jaktmagi, andre nevneverdige tolkninger er bergkunst som gjenspeiler fortidsmenneskers kosmologi og sosiale strukturer.

Det er vanskelig å vise til bergkunsten som steinalderkunst. Det er mer sannsynlig at bergkunsten har vært fortidsmenneskers metode å fortelle om viktige livshendelser og om deres historie på. Funn av elgfiguriner fra andre steder enn Alta og elgmotiver i helleristninger i Alta viser at elgen har vært et viktig og mulig hellig dyr for fortidsmennesker, og frekvensen av elgmotiver kan vise til sosial og kulturell endring hos fortidsmenneskers samfunn som folkevandring og overgang fra jeger-sanker samfunn til husdyrhold. Elgmotivene i helleristninger viser at bergkunst og det mikro-topografiske landskap fungerer som et narrativ om forandringer i sosial struktur og kulturelle endringer.

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Chapter 1 Introduction

I attended an expedition to a rock art panel in the fall of 2015. As we observed the rock art panel, I noticed that the natural features on the rock seemed to be related to the motifs and the placement of the figures on the surface. As a result, the synergy of the natural features and arrangement created a narrative told through the rock art motifs, and I wondered why the particular panel concerning the natural features of the rock surface and the depictions of animals, such as the elk, was chosen.

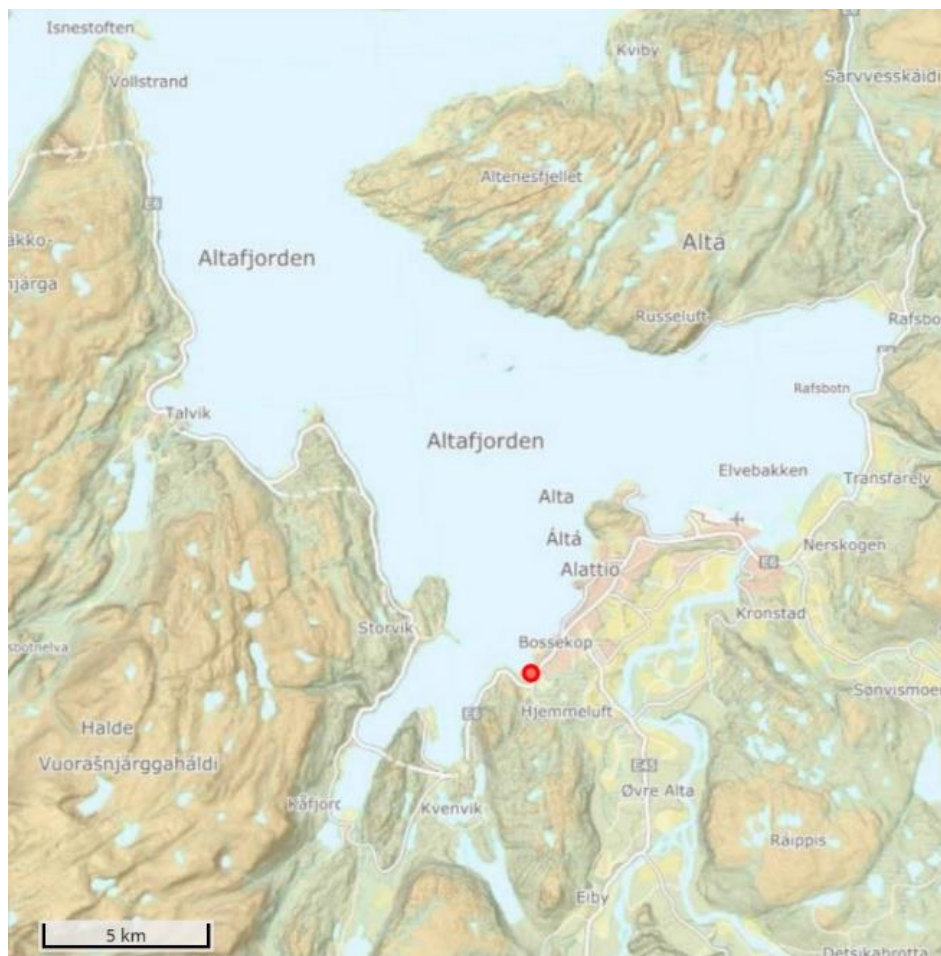


Figure 2 Map of the Alta fjord region. Illustration: Sascha Camilla Gade 2020.

The question came closer to an answer when I was introduced to Knut Helskog (Helskog 2014; Helskog 2004a; Helskog 2004b; Helskog 1999; Helskog; Helskog 1988; Helskog 1985; Helskog 1983a) and his former student Jan Magne Gjerde. In Gjerde's doctoral thesis on Stone Age rock art in Fennoscandia (Gjerde 2010), he argues that rock art sites, such as Hjemmeluft in *figure 2*, functions as Stone Age rock art maps (Herva 2019: 26; Gjerde: 270, 373). In a private discussion with Gjerde (private discussion at conference 23rd March 2017), Gjerde referred to the symbology in rock art (Herva 2019; Helskog 2014; Helskog 2004a;

Helskog 1999; Helskog 1988; Gjerde 2010) and the symbology's importance for rock art maps. As when one relates the placement and the rock art's symbology to the shorelines (Sognnes 2003; Simonsen 1958; Helskog 2014; Gjessing 1945), one can observe the rock art maps come alive in the micro-topography on the rock surface (Gjerde 2010: 100). As a result of this theory, the curiosity about rock art and landscape reached new heights.



Figure 3 Map for Norway with the Hjemmeluft area marked in red. Illustration: Sascha Camilla Gade 2020.

The location of the rock art panels at Hjemmeluft also intrigues the mind, as the head of the Alta fjord locates it in association with ancient shoreline levels (Mandt & Lødøen 2010: 23; Helskog 2014: figure 25; Helskog 1988; Gjerde 2010: 246). The shoreline levels are important because it is possible to date the rock art to land upheaval, which has been nearly continuous since the last Ice Age (Simonsen 2000: 20; Mandt & Lødøen 2010: 22). The

natural landscape surrounding the rock art panel, such as the sea and its ancient shorelines, must have been influential elements when making the rock art since it is likely that the placement went along with old shorelines levels. Thus, these elements must appear in the evaluation of rock art regarding the micro-topography and natural landscape. Therefore, the topic of the thesis is the synergy between micro-topography of the rock surface and the natural landscape surrounding the rock art panels at Hjemmeluft through an analysis of the elk motifs in rock art.

The World Heritage panel of Alta in *figure 3* consists of a total of five areas of rock (Hjemmeluft, Storsteinen, Kåfjord, Amtmannsnes, and Transfarelvdalen), which are all located in the inner parts of the Alta fjord. In the nomination, the estimated number of figures was more than 3000. Ever since the rock art got on the list, the number of motifs has doubled, and today 6000 motifs have been registered spread over 100 panels (Tansem & Johansen: 66; Gjerde 2010: 242).

1.1 Aims and methods

The research aims to clarify if the rock art's micro-topography references geographical, natural landscape features, such as valleys, mountains, rivers, and lakes, as argued by Gjerde (Gjerde 2010: 270). The rock art panels at Hjemmeluft are particularly important because Gjerde explains the rock art maps to be present at the panels of Bergbukten 1 and 4b (Gjerde 2010: 270, 278). He further explains that one can observe a close interaction between the natural landscape and micro-landscape. It was a necessity to travel to the rock art panel of Hjemmeluft Bay, Arctic Norway, to reassess the rock art through first-hand observations, as well as collecting the available data of registered rock art figures at Alta Museum.

The intention is to reassess the rock art panels at Bergbukten 1 and 4b, in addition to Ole Pedersen 9 and Apana Gård 12 at Hjemmeluft bay, in a comparative analysis particular of the elk motifs to observe the rock art panels through space and time. On this basis, I will discuss: What possible interpretations of rock art are there at Hjemmeluft, and can the theoretical approaches in question get confirmed through a comparative analysis particular of the elk motifs in rock art?

The analysis will happen on a background of the aforementioned theoretical approaches by Gjerde (Gjerde 2010) and Helskog (Helskog 2014; Helskog 2004a; Helskog 2004b; Helskog 1999; Helskog 1988; Helskog 1985; Helskog 1983ba; Helskog 1983b). While evaluating the theoretical approaches, it is vital to address that one cannot justify that the numerous amounts

of rock art at Hjemmeluft was created, acted, and applied in the same manner (Gjerde 2010: 61). For the analysis, I rely on data collected at the time of fieldwork and additional literature, which will conceivably address the broader context of rock art research.

1.2 Focus

Time and area

The panels at Hjemmeluft is located between 8 and 26m above the present sea level (Helskog 2014: 43; Helskog 1988; Gjerde 2010: figure 169). The panels of Bergbukten 1 and 4b and Ole Pedersen 9 are dated to ca. 5200 BC - 4200 BC, and the panel at Apana Gård 12 are dated to 3000-2000 BC based on shoreline dating, and artefacts found in culture layers (Helskog 1988; Gjerde 2010: 271).¹ The culture layers also contained hearth's (Helskog 1988; Gjerde 2010) carbon-dated to the Mesolithic-, Neolithic- and Bronze Age periods (Helskog 2014). The dating is not a focus of the thesis; however, it is vital to include dating to understand how rock art and its placement in the natural landscape changed through time.

Rock art and the natural landscape

It is important to include the natural landscape in interpretations of the elk in the rock art, to attain a more comprehensive understanding of rock art concerning the elk and micro-topography. As previously mentioned, the location of Hjemmeluft bay is at the head of the Alta fjord (Helskog 2014: figure 22; Helskog 1988), and it is the fjord which is surrounded by mountains that dominates the natural landscape setting of rock art. The Alta fjord is the main fjord, but several side fjords are leading up to and away from the fjord. The natural landscape of the fjord is dramatic with mountains and steep coastal rock slopes, as the scene protects the fjord against harsh weather and wind. When observing the fjord, it is clear why people travelled inland by boat instead of sailing outside of the fjords on the rough open seas (Gjerde 2010: 414). There is abundant animal life in Alta by sea and land, which is particularly dominated by elk and reindeer (Helskog 2014: 28), in addition to birds, halibut, and whales (Gjerde 2010: 241). The natural landscape of Alta consists of valleys, which in the past used to be sea- or riverbeds in some areas (Gjerde 2010: figure 158). In continuance of the land rising, the seabed became part of the mainland, and it became available for settlements.

¹The intention was to include the pagenumbers, but there is several references to published literature where the page numbers are missing. Unfortunately, due to the Covid-19 and restrictions, the literature is not accessible, and I cannot check which pagenumber the reference should refer to.

Rock art motifs at Hjemmeluft

The rock art panels at Hjemmeluft are incredibly rich in the number of figures, and several motifs appear in complex compositions, particularly those of the panels at the Bergbukten area. The intricate scenes include corrals, and hunting or fishing scenes by reindeer, elk, bear, whale, and fish (Helskog 2014: 14; 1988; Gjerde 2010: 243). There are also several depictions of animal tracks, and at several panels, it is possible to follow the tracks moving around on the rock surface (Gjerde 2010: 275). The dominating motifs are reindeer, elk, human representations, boats, and bears (Helskog 2014: 14 1988; Gjerde 2010: 243). Nevertheless, other animal motifs occur, such as whales or fish (Helskog 2014: 88), and human motifs with human-made artefacts, such as elk head staffs (Gjerde 2010: 280). The human motifs are engaged in activities, e.g. hunting (Gjerde 2010: 243), and most of the boat motifs have an elk stem in the prow of the boat (Helskog 2014: figure 84; Helskog 1988; Helskog 1985: figure 2).

The elk motifs

Helskog has previously analysed the elk motifs in terms of classification and chronology (Helskog 1983b: 15). However, other research with a focus on particular the elk motifs at Hjemmeluft is scarce. The elk must have been extraordinary, because of the depictions in rock art and representations in Neolithic artefacts, such as the Lithuanian elk head axes (Mantere & Kashina 2020: 2). The elk has been of high social value to past societies, along with showing more extensive connections due to the elk head axes. The initial interpretation of the elk motifs was as a result of hunting magic and rituals (Helskog 2014; Gjerde 2010: 61) due to the complex hunting scenes including human activity and elk head staffs (Gjerde 2010: 59).

The elk is a highly frequented rock art motif of Hjemmeluft (Mandt & Lødøen 2010: 21; Helskog 2014: 68; Helskog 1988; Gjerde 2010: 243). Is it possible that the elk motifs relate to a particular rock, and does it change over time, and why? While walking along with the panels at Hjemmeluft, the elk motifs changed its form and expression. At the beginning of the hiking trail at the oldest rock art panels of Bergbukten, the elk is depicted as naturalistic and static with straight legs, besides being present as elk head staffs engaging in human activity. However, at the panel of Ole Pedersen 9, the elk changes its form and expression from static to dynamic, as one can observe an elk motif run across the rock surface away from a hunting scene. It is the only elk depicted in this compelling way on the reassessed panels.

1.3 Structure of the thesis

Chapter two concerns the rock art material in Norway and the approaches to rock art throughout the Norwegian history of research, as it presents how processualism and post-processualism in Archaeology have affected interpretations of rock art. Eventually, a shift of paradigms in approaches to rock art happened, which allowed other ways of interpretations to rise. In chapter three, there is an introduction to the area of research and a selection of rock art panels at Hjemmeluft, and a presentation of important terminologies in the study of rock art, as well as recent interpretations of rock art.

Chapter four concerns the dating and chronology of rock art and includes the problematics and recent work to provide an understanding of the long-term changes of the rock art motifs. The fifth chapter presents the methods applied in this study to collect the data for the comparative analysis of the elk motif through my fieldwork at Hjemmeluft. Chapter six presents the dataset of the analysis are presented with a focus on the patterns and frequency of the elk and elk-related motifs in rock art. Chapter seven contains the interpretive discussion of the empirical dataset for the analysis and contextualisation of Alta with a comparison of rock art across Europe. The eighth chapter will be the final chapter of the thesis, as it contains the conclusion for the analysis, the possible ways forward for future research.

I will argue that the elk motifs are more likely to be a part of a narrative than related to a micro-topographical landscape in rock art. It could be that rock art functioned as Stone Age rock art maps in past societies, and it is equally likely as a functional narrative. However, it is easier to show their function as a narrative of past societies' lives, than rock art maps with references to the natural landscape of rock art panels.

Chapter 2 Research history and theoretical approaches to rock art

For a better understanding of rock art and landscape, it is important to present the researchers' approaches to rock art and to present their methods. The dominating tradition in documenting rock art has been tracing, and photography of rock art. In addition, the long-term impact of various theoretical approaches constitutes a vital foundation for the analysis of the elk figures. A common way of documenting archaeological panels at present is by surveying. However, few surveys in documenting undiscovered rock art panels have acquired positive results, because of most rock art panels being discovered by accident (Viklund 2004; Sognnes & Haug 1998; Gjerde 2010: 59).

A selection of methods and researchers' approaches to rock art will follow. The latter is divided into "before the 1990s" and "after the 1990s", because of the introduction of post-processual archaeology. It is not the work of each archaeologist that is the focus; it is the set of general ideas of the renowned researchers, as it is indispensable to include the essence of this in the current evaluation of rock art and landscape.

Rock art research has evolved very much, both methodologically and theoretically. The methodology part includes the dating of rock art, which has been a topic of previous research and is for this reason only briefly summarised here, and also the recording methods, which I will briefly outline here before moving to the theory.

2.1 Tracing the rock art

The first documentation of rock art consisted of determining the figures by pen and paper drawn in freehand, as chalk was applied to mark the pictures making them easier to draw. There is a sense of beauty in the illustrated figures. However, the lack of accuracy in the drawings is evident, as details and relations between motifs are excluded - the pictures represent an idealistic depiction of the rock art figures, and a vital part of the whole context in rock art is missing (Gjerde 2010: 69).

The drawing of rock art eventually evolved to the figures being drawn to scale on chalking paper, then reducing them to a comprehensible size, such as the drawing by Ekdahl from 1828 and Mandelgren in 1868 from Lillforshällan in Nämforsen (as quoted in Gjerde 2010: 69; Hallström 1960). Although technology and methods have evolved through the 1800s and 1900s, tracing is still the leading method in documentation in Scandinavia (Gjerde 2010: 73).

2.2 Frottage and casts of figures

The technique of frottage or rubbing became popular when documenting the Zalavruga site in northwestern Russia in the 1960s, where all surfaces were rubbed. Although time-consuming, it is possible to achieve an excellent result. An occurring problem with frottage is to distinguish natural lines, such as erosion or damage, from rock art figures. At Zalavruga in Russia, the interpretation was made from the frottages of rock art figures afterwards. There was no panel investigation following up the frottage to question it, and as shown later, parts of the pictures documented were in fact erosion (Gjerde 2010: 72).

Different types of casts were applied to rock art, such as papier mâché (Hallström 1960: fig 82-86), plaster casts (Engelstad 1934: 14; Fett 1934 according to Gjerde 2010: 73), and

silicon-based moulds (Storli et al. 1996: figure 80; Devlet 2008: 128), to obtain accurate copies for future exhibitions and conservation. However, it is time-consuming and expensive, and occasionally, it leaves damage on the rock surface. In Scandinavia, it is a standard method to trace the rock art figures onto tracing plastic, then reducing them to a suitable scale (Gjerde 2010: 73).

2.3 Photographic documentation

The first photographs of rock art were taken already in the 1890s (Nordbladh 1980: 20). However, it was the works of Hallström that were groundbreaking, resulting in an invaluable record of the rock art in the first part of the 1900s. Photography further supplemented the significant material publications in the 1930s (Ravdonikas 1936: 1938, as quoted in Gjerde 2010: 74; Hallström 1938; Gjessing 1932; Gjessing 1936; Engelstad 1934).

In the 1930s, Fett (1934, as quoted in Gjerde 2010: 74) presented an overview of vital influences when photographing rock art. His aims are similar to the current standards regarding photography and rock art, as he shot rock art at three levels. His photographic record contains information on the depth of the carving, technique and rock type.

Additionally, Fett photographed both groups of carvings with a focus on the placement of rock art on the rock surface, and landscapes to show how the location of the panel is related to the natural features of the terrain (Fett 1934: 80, as quoted in Gjerde 2010: 74). These are essential elements in the photography of rock art today.

Night-time photography of rock art was explored by Hallström (Hallström 1938: 15), as the method can be beneficial whenever it is challenging to see rock art during the day, such as when rock art is shone upon by direct sunlight. Night-time photography is a different method which complements other documentations above. However, a problem occurs when determining how to natural lines and weathering are relating to the figures. Researchers such as Burenhult questioned the method (Hallström 1938:15), as Burenhult argued the technique to be “the most subjective reproduction of rock art” (Burenhult 1973:13) because night-time photography is subject to more debatable interpretations than daytime photography of rock art.

The present use of digital photos has changed the overall picture. By taking digital photographs at different light conditions and night, it is possible to gain instant access to photographs that could help with the documentation and research of rock art, as it is possible to compare the digital photography while documenting a rock art panel. Digital photos help to

trace the figures on panel, which is a great asset (Ramqvist 2002; Slinning 2002). The advantages are numerous, as the most cost-effective documentation of rock art is different types of photography. I have also chosen to use digital photography in the field, as will be further explained in the section on methods used below.

Different kinds of recording developed with the theories, e.g. with early schematic drawings, the rock disappear as a factor in interpretation; therefore, new recordings were needed to help with the new interpretation.

2.4 Before the 1990s: Initial perceptions of rock art

At the beginning of the 1900s, archaeologists investigated rock art to ascertain its relevance for the archaeological discipline and material record (Shetelig 1922; Hallström 1938; Gjessing 1936; Engelstad 1934). The initial publications are descriptive as the respective researchers compared the stylistic features by rock art figures to adjacent panels on a national level (Shetelig 1922; Hallström 1938; Gjessing 1936; Engelstad 1934). A general perception defined the rock art as first naturalistic and schematic depictions (Gjessing 1936; Hallström 1938; Shetelig 1922; Engelstad 1934), which expressed the importance of religious rituals and hunting magic at sacred places in past societies (Engelstad 1934; 93). As the material record of Norwegian rock art expanded the archaeologists concluded that because of the scarcity and diffusion of panels, there was a possibility that the rock art originated in the Early Stone Age (Shetelig 1922; Hallström 1938; Gjessing 1936; Engelstad 1934).

Ethnicity and identity of the societies which made rock art is not a focus of this thesis, however, it is important to note that it was a significant theme to contemporary archaeologists (Bergsvik 2006: 2). The material record was related to ethnic groups (Gjessing 1936; Hallström 1938; Shetelig 1922; Engelstad 1934; Bergsvik 2006), as deviations and similarities figures in rock art was interpreted as differences in ethnicity and culture (Bergsvik 2006: 2).

In the 1930s, there were several publications of rock art research (i.e. Hallström 1938; Gjessing 1936; Engelstad 1934). One of the early pioneers of rock art in northern Scandinavia was the Swedish archaeologist, Gustaf Hallström, who has documented most rock art in north Scandinavia (Hallström 1938: 1960; Gjerde 2010: 58). Hallström's (1938) studies of Norwegian rock art were necessary for the understanding of stylistic similarities in the rock art over vast distances (Hallström 1938; Hallström 1960), although Hallström's initial studies at Nämforsen were published 54 years after he had begun them (Hallström 1960).

Hallström noted the relation of micro-topography in rock art to macro-landscape, as well as the possible symbolism: “Several pictures by Nature, have attracted the attention of the Lapps, who patronised the rock art and certain stones as sacrificial panels where they could communicate with their deities” (Hallström 1938:19). Johannes Bøe mentioned that uneven surfaces and lines in the rock were applied and included in the rock art (Bøe 1931:19, as quoted in Gjerde 2010: 42). Gutorm Gjessing noticed a line in the rock surface included in parts of the reindeer and the front leg of a bear-figure at Forselv, Narvik in Nordland county, northern Norway (Gjessing 1932: 26). Researchers accepted the relations of natural features to figures in rock art, but the features themselves remained undiscussed.

Contemporary researchers were aware of long-term changes in the natural landscape due to land uplift. However, there were few attempts to reconstruct the rock art locations by virtually elevating the present sea level to ancient shorelines. Gjessing was the first to attempt this at the Forselv panel, which he concluded to have been located in a small bay if the present sea level were elevated to an ancient shoreline about 30m higher in the landscape (Gjessing 1931; Gjessing 1932: 49). Gjessing’s (Gjessing 1942; Gjessing 1945) publications in the 1940s substantiated the theory of rock art being created in the Stone Age period.

From the time at the late 1930s to the late 1950s, few studies and excavations were published and carried out. It was the research, and literary work of the researchers in the 1930s (Hallström 1938; Gjessing 1936; Engelstad 1934) which acted as the framework of later researcher’s publications and interpretations. Although it is possible to observe a development in approaches to rock art, the researcher’s explanation of natural features in the rock surface was determined to be a result of cost-effectiveness while creating the rock art (Gjerde 2010: 42). A traditional, functional model of hunting magic dominated researchers’ interpretation of rock art. The “hunting magic” -hypothesis has been further developed and used through time by other scholars (Hesjedal 1992; 39).

An intense focus on motif and style in dating rock art are evident at the time. However, the general approach in archaeology still favoured the hunting magic/hunting place interpretation (Gjerde 2010: 50). Shoreline dating also had its breakthrough as the discovery of the Alta rock art area in 1973 (Helskog 1988) was central to research in this period. Helskog initiated the documentation of the Alta material in the 1970s (Helskog 1988; Gjerde 2010), it was realised that there was more rock art in the area than initially thought.

Helskog has through a line of works discussed the chronology and the stylistic development in Alta (Helskog 1983ba; Helskog 1988). Based on the analysis of relations between

structures and shoreline data, has provided a relative dating in successive phases from circa 4200 BC to 500 BC, which suggests a continuous tradition of rock art (Hesjedal 1992: 39) making Alta a key area for the north Scandinavian rock art chronology (Helskog 1985: 184). While Helskog argued for the use of shoreline analysis in Alta to obtain new data related to dating rock art, Povl Simonsen argued for a stylistic approach (Simonsen 1991). According to Simonsen, Alta rock art could not be older than 3000 BC, because of the rock arts naturalistic development (Simonsen 1991). He also presented farmer and hunter art as two opposites (Simonsen & Munch 1973: 157; Goldhahn 2002b: 47), e.g. seeing hunter art as wild motifs with hunting scenes and agrarian art as domesticated motifs to include boats (Gjerde 2010: 39).

Simonsen argued that the motifs of southern Scandinavian agrarians overlap the northern Scandinavian hunters' motifs - and that the two groups, therefore, had not lived side-by-side (Simonsen & Munch 1973: 155). Later research presented by Anders Hesjedal (Hesjedal 1994: 5-6; Hesjedal 1992: 132) made Simonsen reluctantly accept the earlier dates although not rejecting the stylistic development (Gjerde 2010: 52), by insisting on the continuance from the oldest to the youngest phases of rock carvings (Hesjedal 1992: 39).

At this time, the theme of natural features on rock surfaces was also further explored. Ju. A.² Savvateev (1970) viewed the large elk hunting scene at New Zalavruga 4 concerning the rock surface where the micro-topography acted as a replication of the natural environment which seemed to be a part of the composition (Savvateev 1970: 202, as quoted in Gjerde 2010: 50). A. D. Stolyar observed that some of the boats at Vyg northwestern Russia were parallel with the water level in the river and that the striation lines were applied to mimic water (Stolyar 1977: 32-33, as quoted in Gjerde 2010: 50). A breakthrough regarding the location of rock pictures and the landscape was Pekka Sarvas' observation of the rock art panels as representations of faces. Several rock art scenes are placed on rock surfaces with human attributes (Sarvas 1975:46-47, as quoted in Gjerde 2010: 50). Rocks with human-like features have later been observed in Sweden and Norway (Slinning 2002) hence suggesting that rock art is interacting with the stones. The different levels of the landscape that were interacting with rock art were therefore observed, though not grasped in their full significance in rock art research from the 1990s and onwards that the setting of rock art was accorded a central place (Hood 1988).

² I could not find Savvateev's or Stolyar's first name in the available digital sources.

2.5 After the 1990s: A shift of paradigms

The shift in paradigms concerns that context is important to the understanding of past human activity (Renfrew 2016: 72). An increasing interest in rock art evidenced by the fast-growing list of publications has initiated papers and books presenting current rock art research (e.g. Wrigglesworth 2011; Walderhaug 2018; Mandt 1992; Lødøen 1995; Hagen 1990; Goldhahn 2006; Strecker et al. 2008; Fossati & Bahn 2003; Fossati & Bahn 1996).³ Kalle Sognnes' two papers (Sognnes 1996; Sognnes 2003b) summarising rock art research in the 1990s in Northern Europe were complemented by Joakim Goldhahn (Goldhahn 2008) and Ekaterina Devlet (Devlet 2008). Within this period, the material record has also grown immensely, as the Alta site in northern Norway now exceeds 6000 figures (Helskog 2004b). When reassessed, the Nämforsen panel in northern Sweden has grown from 1500 to more than 2300 figures (Larsson & Engelmark 2005, according to Gjerde 2010: 51). In Norway, Sweden and Finland, the number of panels has increased (see, e.g. Viklund 2004; Schanche 2004; Lahelma 2008).

The research history for northwestern Russia is represented for the Onega rock art by Enn Ernits and Väinö Poikalainen (Poikalainen 2004; Poikalainen et al. 1998). Discoveries at Lake Onega in northwestern Russia supplemented the number of registered rock art (e.g. Poikalainen et al. 1998). The Kanozero panel at northwestern Russia registered in 1997 entered the record, as one of the large rock art centres with more than 1000 figures (Likhatchev 1999, according to Gjerde 2010: 51). The research history for Onega rock art is summarised by Ernits and Poikalainen (Poikalainen 2004; Poikalainen et al. 1998). Several studies dealt with the dating of rock art regionally during this period (Sognnes 2003a; Seitsonen 2005b; Seitsonen 2005a; Ramstad 2000; Mandt 1992; Kupiainen et al. 1999, according to Gjerde 2010: 51; Larsson & Forsberg 1993; Larsson & Forsberg 1993, as according to Gjerde 2010: 51).

Christian Lindqvist (Lindqvist 1994) attempted to present an overview of hunters' rock art in most of Fennoscandia, as he dated the panels by the *tapes transgression maximum*. However, his work was rightfully criticised by Morten 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

³ I intended to acknowledge Morten Ramstad's Masters' dissertation for this section. Unfortunately, due to the Covid-19, his dissertation is not accessible.

approach, stating that the Alta rock art could not be older than 3000 BC (Simonsen 1991). The conclusive results presented by Hesjedal (Hesjedal 1994; Hesjedal 1992; Hesjedal 1990:132) made Simonsen reluctantly accept the earlier dates, although not rejecting the stylistic development (Simonsen 2000).

The earliest dates now go as far back as 10000 BC and up to historical times (Gjerde 2010: 57), and there is also a greater acceptance of stylistic diversity - the evolutionistic development was questioned, as mentioned previously. However, new finds at Kanozero showed similar traits as Alta and Vyg (Gjerde 2010: 53). Helskog has in several papers commented on the similarities between northern Norwegian and Karelian rock art (Mandt 1992; Helskog 2004b; Helskog 1999), and argued that the similarities reflect likeness in ideology, belief, and communication over large geographical areas (Mandt 1992; Helskog 2004b; Helskog 1999). The likeness was assigned to the exchange of ideas in northern Europe regarding communication, rituals and religion (Mandt 1992; Helskog 2014; Helskog 1988: 109). However, besides the regional similarities, some differences linked to local continuity with distinctive features (Gjerde 2010: 47). Helskog found it likely that changes in animal types in rock art through time had more to do with ideology (religion) and identity than with the economy (Helskog 2014: 19-20; Helskog 1999).

The functional explanation for the shore-bound locations (Gjerde 2010: 55) was strengthened by Helskog when he convincingly linked the strict shoreline connection to arctic cosmology (Helskog 1999), extending this argument to large parts of northernmost Europe (Helskog 1999: 76). Even those critical of some aspects of coastline dating in rock art (e.g. Sognnes 2003) ultimately apply the method in their research.

Tilley and phenomenological landscapes

In the archaeological field, *phenomenology* refers to how people experience and understand the world (Tilley 1994: 11). Christopher Tilley explored phenomenology in his studies of rock art and landscapes (Tilley 2008; Wayne & Tilley 2004). Tilley suggests the phenomenology is a useful technique to discover how past societies interact with the surroundings in which they lived (Tilley 2008; Wayne & Tilley 2004; Tilley 1994). He further explains the landscape of rock art as a room defined by humans to interact with their cosmology - the earth, the skies, and the constellations, the divinities, birth and death (Tilley 1994: 13). Therefore, archaeologists should enter the landscape that they are studying and use all senses to learn more about how people in the past would have interpreted it (Wayne & Tilley 2004).

Recent research has shown how the panels represent different aspects (Sackett et al. 2002; Myhre 2004; Helskog 2004a; Helskog 1999) where natural features act as the canvas (Poetschat & Keyser 2004), and the rock surface represents natural elements featured in a micro-topographical landscape (Helskog 2004a). Although researchers cannot enter the same landscape like the one that humans in past societies lived in, because of the long-term changes to the environment, phenomenology gives a possible idea of why a particular panel was chosen and allows to suggest where further rock art panels could be (Sognnes & Haug 1998). Andrew Fleming (Fleming 2006) has three critiques of phenomenology: a) it creates a gap between objectivism and subjectivism, b) prehistory is written in the present, c) frameworks are suspect because they do not reflect the mindsets of prehistoric people (Fleming 2006: 271). Fleming further addresses the importance of using basic archaeological common sense, and to ask oneself “Are there other ways of thinking about this which are just as valid?” (Fleming 2006: 278).

Matthew Johnson’s (Johnson 2012) critique of phenomenology concerns that although the sophisticated techniques for mapping field observations are exciting and offer great potential regarding new perspectives, the technique does not tell us more about the past. The problem with much of landscape archaeology is that the field observations are placed as primary and beyond theoretical reflection. He further addresses that he is critical to phenomenology because empirical material and inference are not examined. If critical to phenomenology, do you either a) reject any possibility of exploring past human experience, b) simply impose your assumptions to the past? If you do neither, will you set out the philosophical basis of your approach and open it up to critique (Johnson 2012: 520).

Lewis-Williams and geometric patterns

James David Lewis-Williams and Thomas Dowson’s (Lewis-Williams & Dowson 1990) research rooted in San ethnography showed a relation of natural features and rock art in South Africa, as the natural features would add new meaning to rock art. The spirits are said to travel and communicate across the worlds through crevices in the rock surface, showing that “nature” and “culture” were intertwined (Lewis-Williams & Dowson 1990: figure 3a). One key aspect is ASC (Altered States of Consciousness), which is any condition that is significantly different from a normal waking state (Lewis-Williams 2002: 120; Lewis-Williams & Dowson 1990: 14). In the first stage of trance, people witnessed geometric patterns, such as zig-zag patterns or spirals, and in the second stage of trance spirit animals,

such as the Eland antelope. Lewis-Williams witnessed a specific trance and then saw how people painted what they saw in that specific trance sequence. Afterwards, the geometric patterns and the Eland were depicted at Drakenberg (Lewis-Williams 2002: 124).

Lewis-Williams is widely recognised in the academic field of rock art; however, his theory is culture-specific, and the Eland antelope is culture-specific to the South African rock art. At Hjemmeluft, the elk substitutes elands, and the geometric pattern is found in all cultures, hence the popularity of the ASC model. It is just the later part of the trance – in all cultures, people see complex images, and so these include the culture-specific elements.

Lewis-Williams' theory is not entirely applicable to Alta. Still, it is important because Helskog (Helskog 2014; Helskog 1988) used analogies from Lewis-Williams' studies in South Africa and the rock art in Alta, which will be further discussed detail in the chapter on Alta.

2.6 Cosmology

Helskog has used analogies from rock art studies in South Africa to interpret the rock art motifs at Hjemmeluft, Arctic Norway. As he argues the rock art should be interpreted as a result of specific trance events (2014; 1988; 1985a) and cosmology (Hesjedal 1994; Hesjedal 1990; Helskog 2014; Helskog 1990, as quoted in Gjerde 2010: 115;). Cosmology defines the world view of ancient societies as to how they interpreted and thought the world, and it relates to cultures utilising shamanic practices (Lahelma 2005) or animist and totemic belief systems (Helskog 2014; Helskog 1999; Fuglestvedt 2018; Fuglestvedt 2010; Bolin 2000).

Recent studies have shown the rock surface to interact with rock art (Nash & Chippindale 2002; Høgtun & Helskog 2004; Helskog 2004; Helskog 1999; Goldhahn 2002; Arsenault 2004). Helskog explains the rock art, and its placement on the rock surface to inherit a symbology of past people's perspectives on the natural surroundings as a three-tier universe: an upper world (air) and an underworld (water), in which the dead or spirits lived, and an intermediate world (land) inhabited by the living (Jordan 2003: 136; Helskog 2014: 22; Helskog 1999). People of the past could have believed that spirits influenced all life in the world of the living. Certain people, such as the shaman, performed rituals by going into a trance and travelling through dimensions, as the shaman contacted powers that could ensure a good hunt and influence the future (Jordan 2003: 137). The shaman moved through the dimensions and met spirit animals along the journey (Jordan 2003: 142). When the shaman returned to the living world, he depicted the spirit animals in rock art. Another possibility is

that ordinary people performed rituals associated with special events (Jordan 2003: 100; Helskog 2014: 16), such as the transition from childhood to adulthood; thus the rock art was a result of rites of passage (Gennep 1960; Helskog 2014; Helskog 1999).

Ethnographical data

For their studies at Hjemmeluft, Gjerde (Gjerde 2010) and Helskog (Helskog 2014) have relied on both primary knowledge- and secondary sources (Walderhaug 2018; Taçon & Chippindale 1998: 6). Gjerde applies ethnographical data from indigenous sources in Siberia to gain a broader understanding of rock art and landscape at Hjemmeluft (Gjerde 2010: 111-112). Gjerde (Gjerde 2010) and Helskog (Helskog 2014; Helskog 2004a; Helskog 1999) argue that examples from Sami and Siberian ethnography are vital as a supplement to broaden our understanding of rock art and landscapes in Arctic Norway (Walderhaug 2018; Lahelma 2005: 29, 39).

There are stylistic resemblances regarding motifs of rock art at Hjemmeluft and Sami drums, such as they both depict, humans and one human skier, elk, reindeer, corrals, and birds (Engman & Cocq 2014: 93). The elk has a significant role in Sami constellations and myths, as well as a dominant feature in rock art. In Sami stories, the reindeer has the leading role; however, tame elk are mentioned in stories as a mythological creature which was domesticated by Sami people. The elk was challenging to keep as a domesticated animal, as the elk destroyed tents and grounds. Therefore, the Sami chose to move away from the elk to domesticate reindeer instead (Engman & Cocq 2014: 23). More permanent settlements often contain remains of burned elk bones (Sjöstrand 2011; Engman & Cocq 2014). However, elk bones have not been found during excavations at Alta, and the Sami culture has its archaeological eminence during the two first centuries AD (Olsen & Hansen 2006: 58). The rock art's placement on the rock surface and at the scene suggests parallels to shamanism and associated rituals to some researchers (Herva 2019; Helskog 2014; Helskog 1988). Gjerde explains the micro-topography in the rock surface to show known hunting places, such as reindeer crossing places (Gjerde 2010: 270), which would have been a favoured hunting place during the seasonal reindeer migration.

Animism and totemism

Animism is a system of fundamental beliefs according to which every living being, and every solid thing has a spirit (Fuglestvedt 2010). Through rituals and worshipping the creatures living in the rocks and land formations, one aims to contact the beings, e.g. for a successful

hunt (Helskog 2014; Helskog 1988: 80; Fuglestedt 2018; Fuglestedt 2016: private communication; Fuglestedt 2012; Fuglestedt 2010: 24-25). Animism is typical of hunter-gatherers on the northern hemisphere, as animism is the dominating belief system in indigenous societies on multiple continents (Ingold 2000; Fuglestedt 2018; Fuglestedt 2016; Fuglestedt 2010: 25; Bolin 2000).

Ingrid Fuglestedt (Fuglestedt 2010) explains the rock art to act in a social system dominated by animistic and totemic beliefs. She argues that one can trace a change from an animistic to a totemic belief at Hjemmeluft through analysis of geometric motifs in rock art (Fuglestedt 2018; Fuglestedt 2016: private conversation; Fuglestedt 2012). The outlined motifs, including heartlines and elk-head staff motifs, represent animistic groups, and totemic motifs include geometric grid designs as clan markers (Fuglestedt 2010: 29).

The animal motifs served as an emblem of the totemic clan, and during the execution of totemic rituals, people revitalised the actual figures or new motifs were created (Fuglestedt 2010: 26). Natural features and oppositions serve as templates to categorise people in a social world (Fuglestedt 2010: 27). A totemic system concerns past people's creation myths explaining their cosmological beliefs and further adds a good reason of why a particular scene was chosen (Ingold 2000; Fuglestedt 2010).

Hence, animism and totemism may have existed simultaneously, as the systems may have interacted with one another – the specific animal emblem communicates clan groups among totemic groups, as well as animistic beliefs (Fuglestedt 2010: 28). Fuglestedt argued that the rock art motifs and complex scenes at Hjemmeluft are a combination of an animistic and totemic belief system among past hunter-gatherers (Fuglestedt 2012). Fuglestedt further explained (Fuglestedt 2016: private communication) that the rock art at Alta has a striking resemblance to animistic and totemic styles in Nämforsen, middle Sweden. The similarities could be a result of cultural exchange between Nämforsen and Hjemmeluft (Fuglestedt 2016: private communication; Fuglestedt 2012).

2.7 Micro-topographical landscapes

Gjerde introduces the concept of stratigraphic landscapes or micro-topographical landscapes of rock art which includes the relations between the natural landscape, micro-topography, and rock art motifs on the rock surface (Gjerde 2010: Helskog 1999; Helskog 2004; Høgtun & Helskog 2004). He further defines it as observations of a micro-topographic landscape of hillsides, valleys, and lakes on the rock surface in complex scenes of rock art, such as the

sizeable complex hunting scenes at Bergbukten located at the highest eminence of Hjemmeluft bay. Besides, Helskog has also advocated that the motifs at Bergbukten 1 are related to micro-topography (Helskog 2004; Helskog 1999), as several motifs are placed according to the natural features on the rock at the panel (Helskog 1988: 81). According to Gjerde, the complex rock art scene at Bergbukten 1 with its approximately 250 figures also uses natural features to represent rivers, lakes, and valleys, e.g., a river and lake where the elks and reindeer are walking next to the river and the ponds (Gjerde 2010: 271). Whether this reading applies to other panels, in particular those containing elk, will be investigated further in the course of this thesis.

Helskog has interpreted the panel at Ytre Kåfjord in Nordkapp county to represent the seasons of the year of the bear (Helskog 1999). One can observe how the rock art motifs are arranged according to the micro-topography, as bear tracks run eight meters across the rock. The traces appear as the bear tracks start in a crevice beneath the large boulder before the marks begin to move upwards to a bear den. From the bear den, the trails move into a large corral, where they enter a new bear den. Helskog explains the composition as a seasonal landscape (Helskog 2004), and Gjerde explains further that if one accepts that the bear appears from a den when the traces enter the boulder through a crevice under the rock, this scene could represent three years when the bear is moving between its shelters (Gjerde 2010: 275). The motifs' symbolism and placement on the rock according to the micro-topographic landscape of the rock surface is what Gjerde calls the micro-topographical landscapes of rock art.

2.8 My approach to rock art

The research and interpretations mentioned above constitute the framework for the study and interpretive discussion in the thesis. To summarise, a common understanding in the archaeological field is that hunting is a focal point in hunter-gatherer societies; thereby, the hunting is also depicted in rock art. The key strength of the different techniques is that they provide possible interpretations of rock art, as the interpretation is a necessary fundament in the archaeological discipline. However, the fundamental weakness is that interpretations are subjective and that the primary source for rock art is the rock art itself because the past people who made rock art at Hjemmeluft are long gone. The past is a forgotten country that present people are no longer living in.

It is vital to understand the reality of the interpretations and address that it is not possible to reject any of them. However, it does not mean that all of the interpretations are equally

relevant within the discipline of archaeology today as they are based on similarities in social structures of other societies elsewhere. In this thesis, I will focus in particular on cosmology and micro-topographical landscapes, and comparing how well they work for interpreting the elk motifs in Alta.

In processual archaeology, cosmology was of little interest, while in post-processual archaeology, the interpretations broadened. It is acceptable to interpret artefacts and include all aspects, as long as the interpreter acknowledges bias of subjectivism in the interpretations of the cultural material. Although, accepting the phenomenological technique as valid when working with field observations, the issue of the technique must also be addressed, as present people do not think in the same manner as people of the past (Fleming 2006: 271). The interpretations must be based upon cultural material that is available beyond the presence of the rock art motifs themselves, which addresses the importance of that the interpretations are subjective and determined by the observer. Archaeologists classify artefacts into systems, i.e. scraper A and scraper B, and it is assumed that people of the past did not categorise artefacts in the same manner as we do. A stone scraper could be just a scraper, no matter size or shape. These criticisms may also apply to Gjerde's micro-topography interpretation, which is importantly phenomenology in its origin, because the rock art motifs could, in essence, be just pictures in stone, without the function as micro-topographical landscapes.

To use analogies between Hjemmeluft and other indigenous societies of more recent times is problematic. It is of the essence to raise a critical voice to those who call the rock art at Hjemmeluft "Sami rock art" (Engman & Cocq 2014). Animism and totemism show that geometric and naturalistic patterns are a common trait globally in indigenous societies and that the rock art motif of spirit helpers is culture-specific (Lewis-Williams 2002). One must keep in mind that analogies are secondary sources and a subject of individual interpretation. Although it is a possibility that a pre-Sami culture created rock art at Hjemmeluft, and Sami and Norse cosmology had its roots in Stone Age cosmology, it is not likely. Because of the significant timespan from 5000 BC when the first rock art was created to 200 AD (Helskog 2014; Gjerde 2010) when the first cultural remains of the Sami originated (Olsen & Hansen 2006). Although the use of analogies and ethnographical sources are problematic (Warren 2017; Walderhaug 2018) the technique is still used in newer research (Engman & Cocq 2014; Helskog 2014; Gjerde 2010; Fuglestad; 2018).

Analogies are problematic because researchers applicate their current interpretation of rock art and validate it, as the same interpretation or relation the past people had to rock art. On a

positive note, we can use ethnography to broaden our horizons and to provide suggestions, but not to draw definite every specific link between one modern people and the prehistoric rock art.

Cosmology is a result of several interpretations derived from ethnography, as each society follows their belief-system or cosmology. In essence, cosmology is speculative because researchers are not familiar with what prehistoric people's cosmology was, and researchers rely on the use of ethnographical analogies from modern societies cosmology to explain prehistoric societies cosmology. A second critique is the interpretation of rock art as a shamanistic ritual because of its religious marking. At the same time, human action could be marked by religiosity, and every human action has a religious mark. However, a ritual can be defined in several ways, and culture is of the essence to define if it is a ritual act or not. The rock art panel could be a sacred- and a central place at the same time - nothing is rigid regarding studies of rock art.

The study will investigate whether there are negative or positive patterns of correlations between micro-topography and rock art, which will be reassessed through the analysis of the survey. Some interpretations can be made more likely than others, and I will argue that the stone surface was chosen because of certain natural features because the rock surface acted as a background for the narrative of a story. What the backdrop for the story is, can only be speculated upon, as the same with the story itself. However, micro-topographical landscapes are a possible interpretation. I also agree with the possibility of rock art to represent cosmology, symbology and rituals at Hjemmeluft, and that the rock art could represent relations between the rock surface and its natural surroundings.

With so much research existing already, which is inspired by very general sorts of explanations derived from ethnography and applicable to several hunter-gatherer societies, I thought it would be time to look at some specific detail. One thing is to critically assess the applicability of the one very panel-specific interpretation that there is, e.g. micro-topography, and to do this concerning one particular motif, the elk.

Chapter 3 Introduction to the site

The following chapter introduces the panels at Hjemmeluft and how the rock art panels were discovered. After that, it outlines specific investigation at Hjemmeluft by Helskog and Gjerde,

as Helskog carried out the initial documentation of the rock art panels. Ethnographical data and settlements are presented, as the two constitute a vital foundation for both Helskog and Gjerde. Finally, the natural landscape and climatic conditions are of the essence, as the climatic conditions, affected life on land and at sea. The climatic conditions also influenced rock art because most rock art motifs are representations of animal life.

Hjemmeluft is the most extensive collection of prehistoric rock art in Northern Europe with 6000 engravings distributed across several areas around Altafjord (Engman & Cocq 2014: 79). There are 3000 carvings in Hjemmeluft, spread over 85 panels. Most of the panels are on bedrocks and a few boulders and vary in size from a few motifs to several hundred. The panels are between 8 -26m.a.s.l., which dates them to 5000 BC – 200 AD (Tansem & Johansen 2008). Cultural remains of Stone Age settlements have been registered at the Alta fjord, such as the house structures panels at Stenseng, Tollevik, and Komsa mountain (Helskog 1988: 21).

The archaeological artefacts found at these panels at Komsa mountain, such as large stone flakes and cores, did date the panel to post-glacial times. However, how early or late in the post-glacial period is an open question (Nummedal 1929, as quoted in Helskog 1974: 236), and it did not acquire any more precise dating to the rock art. The fjord was probably an essential route of communication providing access to inland areas and the open sea (Gjerde 2010). Because of the presence of settlements and rock art throughout the Stone Age, the Alta area was suggested to act as a central meeting place, where inland and coastal groups would meet to hunt and trade (Gjerde 2010: 256).

3.1 Discovering the rock art

The first discovery of rock art at Hjemmeluft happened by accident when Åge Nilsen in 1973 was hired to do demolition work on a large boulder located in between two houses. Nilsen detected strangely looking figures when inspecting the block as part of the preparation for the demolition and called the local newspaper, which contacted the Museum of Tromsø to notify them about the find. The museum gave strict orders not to do any work to the boulder before the museum had investigated the motifs (Altaposten 1973). After Nilsen's discovery was known to the public, civilians went searching in large numbers for undiscovered rock art. Two young adolescents, Roar Kristiansen and Stig Esjeholm, were among the eager rock art 'hunters', as they thoroughly searched through the bedrocks at Hjemmeluft. The two young

boys removed layers of turf and scrubbed stone surfaces to see if there were any figures present on the rocks— resulting in their most significant find at Apanes.

According to the boys, it was Kristiansen’s grandfather, Ole Pedersen, who initiated their hunt for rock art. Pedersen had told stories to Kristiansen and Esjeholm about the Pedersen family’s property, and their relations to the figures pecked into stone. An acquaintance of Pedersen, Isak Balandin, had also observed reindeer motifs being lit up by the midnight sun while visiting Pedersen, as the motifs were carved into the stone located downhill from the family house (Helskog 1988: 12-13). Perhaps the grandfather’s stories and Balandin’s observation intrigued their imagination further as they surveyed the Hjemmeluft area for rock art (Altaposten 1977).



Figure 4 Drone picture of Bergbukten 1 (left) and 4b (right). Photograph: Sascha Camilla Gade, 2019.

Bergbukten 1 in *figure 4*, was stumbled upon by a child who played a game of hiding with a friend. While hiding behind a fallen pine tree, the child discovered two lines pecked parallel to each other on the rock surface. The child then removed some of the turfs and found several beautifully pecked reindeer, elk and corrals; the child and his friend continued to remove more grass to see if they would find more rock art, as the 12-year-old Sven Erik Thomassen told Altaposten in 1976 (Altaposten 1976). Helskog at Tromsø Museum was excited to learn

about the find at Hjemmeluft: “The most notable thing about the discovery is the corral motif which we interpret to be a corral for reindeer hunting” (Altaposten 1977).

The findings were unique, and it was necessary to protect them because of the number of visitors to the scene, which endangered the rock art to damages and wears. Knut Helskog was a prime mover to enlist the rock art at Hjemmeluft (Helskog 1988; Gjerde 2010) as a protected area, as the Hjemmeluft site shows unique aspects of lives of the hunter-gatherers, their natural surroundings, and hunting activities in the Arctic area during prehistoric times. According to UNESCO’s homepage: “The great variety of motifs and scenes has a high quality of artistry, and it reflects a long tradition of interaction between the hunter-gatherers and their landscape, as well as the development of symbols and rituals from 5000 BC to 0 AD” (www.unesco.org). The Alta museum was established in 1978, and the museum was built in 1991 to provide information to visitors and record and manage the rock art.

3.2 Specific investigations at Hjemmeluft by Helskog and Gjerde

Helskog has conducted extensive research at Hjemmeluft since the 1970s, including all sections and figures in his studies. He explains that there is still undiscovered rock art left at Hjemmeluft and the dating question will expand along with the evolution of technology and methods. He has also presented a first classification of the rock art at Hjemmeluft (Helskog 2014; Helskog 1999; Helskog 1988; Helskog 1985b; Helskog 1983ba; Helskog 1983b) and its chronology. Helskog’s chronology will be explained further in Chapter 4. Helskog studied the technique of rock art pecked unto the rock considering which figures were overlapping each other (Helskog 1983b), thereby determining which motifs were created first. He also initiated studies of ancient shorelines and the rock art’s placement to the shores (Helskog 1999; Helskog 1988; Helskog 1985; Helskog 1983b). Helskog is by far the one who has conducted the most investigation of the rock art at Hjemmeluft and has created the basic framework for its continuing interpretation.

Gjerde’s research at Hjemmeluft was less extensive than Helskog’s previous studies, as Gjerde documented just the two panels of Bergbukten 1 and 4b as part of more extensive work on rock art sites and landscapes in the whole of Fennoscandia (Gjerde 2010). For the documentation, he applied new approaches (Gjerde 2010: 10), such as photography at night and at different times of day, satellite photography by Google Earth and first-hand observations of the rock art panels using phenomenology (Gjerde 2010: 76). Gjerde used new technology which was not available at the time of Helskog’s studies. Additionally, Gjerde

reassessed the relations of ancient shorelines and Helskog's previous dating suggestion (Gjerde 2010: 103) through carbon-dating and shoreline dating. His investigations at Hjemmeluft resulted in a new dating suggestion of the rock art at Alta which will also be further discussed in Chapter 4, in addition to a new explanatory model to rock art at Hjemmeluft, e.g. Stone Age rock art maps (Herva 2019; Gjerde 2010).

At Bergbukten 1, Gjerde argues that the motifs are placed according to the micro-topographical rivers, lakes, valleys, and a bear-den, which are interacting closely with the motifs. He further argues that the common trait of the rock art located along the coastline in northern Fennoscandia is their proximity to the ancient shorelines (Gjerde 2010: 108, 403), and the sea and water are important to the micro-topographical landscapes in rock art. The micro-topographical landscape in rock art at the tidal zone would change accordingly with the low and high tide because the valleys, rivers and lakes in the micro-topographical landscape were filled by seawater (Gjerde 2010: Figure 176). A few panels, elk and reindeer, are walking next to the river and the lakes on the panel (Gjerde 2010: 271). The investigations by Helskog and Gjerde share common traits regarding shoreline dating and symbolism in rock art, although their respective results differed. To summarise, both Helskog and Gjerde did extensive research in rock art, each including extraordinarily large areas and vast amounts of rock art figures.

3.3 Landscape settings

The Alta fjord stretches thirty-eight kilometres from the town of Alta in the south to the islands of Stjernøya and Seiland in the north, and the rock art is located on bedrocks at the



Figure 5 The Komsa mountain is located in the middle of the picture as it stands out as a node in the landscape. Photography: Sascha Camilla Gade 2019.

inner parts of the Alta fjord at Hjemmeluft bay (Arntzen 2007). At the islands of Stjernøya and Seiland, the fjord splits into two straits before going into the Norwegian sea. The side fjords include Langfjorden, Kåfjorden, and Korsfjorden. The geography of the Alta fjord, such as the mountains, side fjords, and valleys, protects the fjord's land areas and its inhabitants from harsh weather and rough seas. Also, the fjord acts like a natural funnel as it directs movement from the Alta coast (Gjerde 2010: 256) to its inner shores and further into the hinterlands.

A vital node in the landscape at Alta is the estuary of the two-hundred-kilometre-long Alta river located in the town of Alta, which is an essential natural resource to this day. Besides, the macro-landscape surrounding Hjemmeluft bay and the Alta fjord is dominated by the Komsa Mountain in *figure 5* and the Komsa peninsula (Gjerde 2010: 262), which lies circa 3-4 kilometre north-east of Hjemmeluft bay. The Komsa mountain is of the essence because of the settlements and the Komsa culture located from that place 7000-5000 BC (Helskog 1988: 22), which witness long-term use of the area and have possible connections to the people who created the rock art.

At Alta, there is little known information about the prehistoric Boreal climatic conditions and vegetation, except for a few pollen diagrams. The temperature rose as the Ice Cap retreated, and the climatic conditions were warmer and dryer. The birch tree was the dominant tree type, and there was a small amount of pine. Birch and pine had likely been more widespread than today, as, towards the end of the period, there was an increase in pinewood (Rankama & Kankaanpää 2008; Helskog 1988; Hald 2009). Around 8500 BC, the ice cap retreated to the bottom of the Alta fjord. It was during this time that people first settled in the outer parts of the fjord. The fjord is surrounded by steep terrain, which rises to mountain tops located at the height of 900m.a.s.l. It is on flat parts or coastal slopes where cultural remains of the past and present societies are found. At the beginning of the period, the sea was 60 m higher at Alta. Around the year 1 AD, the water level had declined to 6m above today's mark. From the last Ice Age, there has been a series of climatic changes which must have had an impact on the vegetation and the animal life, particularly on land.

Through the Atlantic period from 6500-3700 BC, the temperature continued to rise before it decreased again towards the end of the following sub-Boreal climatic period 3700-500 BC, witnessed through the withdrawal of birch- and pine wood to its current prevalence. The variation in temperature and vegetation in the following sub-Atlantic period resembles the conditions from the later historical times (Helskog 1988). The climatic conditions combined

with the archaeological excavations in Finnmark county make it possible to determine that animal life on land was the same as in the Stone Age as in historical times, with few variations in types of species and their distribution until the present day. The animal life in the sea seems more stable than on land. However, there is always the possibility of change in sea marine life and marine temperature through time (Helskog 1988; Hald 2009). The stability of the marine life indicates the presence of mammals, e.g. reindeer, whale and seal, as well as auk birds and pollock, which would have the same migration patterns as today. It is also vital to note that the present climatic conditions are mild in comparison to other places located at the same latitude as Alta (Helskog 1988; Hald 2009). The changing animal life is of course also represented in the rock art, where it would be interesting to investigate changes over time in the animal compositions depicted. However, the dating of rock art is controversial.

Chapter 4 Dating rock art

Although dating rock art is not a focus of the thesis, it must be understood because it has affected the interpretations of rock art, and their purpose and function. Besides, the dating of rock art is a continuous debate in the archaeological milieu, ever since the initial discoveries. Relative dating is the foremost used in the dating of rock art because the absolute dating of rock art is dependent on carbon samples of either bones or hearths. Although there have been findings of hearths at Hjemmeluft, carbon samples are in general a scarcity regarding the dating of rock art. Also, it is not possible to know how the hearth relates to the creation of rock art. This chapter presents the methods and approaches used to date rock art in general, and the specific research and dating of rock art in arctic Norway is further explored by the classification of Helskog (Helskog 2014; Helskog 1988) and the newer dating suggestion by Gjerde (2010)

4.1 Typology and comparative studies

Typology is a dominant method of relative dating of rock art (Price 2015: 28). Stylistic features are arranged into typological seriations in an evolutionistic development (Renfrew 2016: 133). Typological seriations work well when categorising a variety of stylised images. However, typology must be based on a hypothesis (Price 2015: 27). When discussing and determining the individual phases in rock art, it is a discussion of which style was the first to be created, hence excluding the possibility of different styles being made simultaneously. Regardless, arranging different styles enables identification and investigation of styles related

to one another and belonging to specific cultures. It can be useful in cases of classifying stone tools because stone tools can be found in- or connected to cultural layers while excavating them. Hence it is challenging to scientifically prove the connection of rock art to cultural layers because rock art is situated on bedrock which is not related to the cultural layer. However, Lødøen did an excavation at Vingen where he found a stone tool which was used to create the carvings, and thereby connected the rock art at Vingen to the cultural layer of the stone tool (Lødøen 2017). Also, Richard Bradley addresses the importance of evaluating the context and findings of the shore zone scene while dating rock art, as the carved surfaces have the advantage of still being located at their original placement (Bradley 2009: 206).

The typological suggestions by Gjessing and Hallström in the 1930s are hard to discard because they later have a significant impact on research, but not necessarily now (Hallström 1938; Gjessing 1936). They determined the hunter-gatherer's motifs to be the first motifs created, then followed by agrarian motifs because of the style in which it was shown. Other researchers have followed in Gjessing and Hallström's footsteps and accepted their typological classifications, which works well when combined with the current dating of rock art. Besides, typological classifications (Renfrew 2016: 128) founded the framework for comparative studies and dating of rock art (Simonsen 1958; Helskog 1988; Hallström 1938; Gjessing 1936; Bradley 1997: 57). The strong emphasis on comparative studies and the topic as a focal point led to contradicting dating suggestions because it is a problem to apply motifs or similarities as evidence for the time of production. At present, the typological attributions act as a fundament for rock art studies, as present studies are based on publications over 100 years old (Gjerde 2010: 60).

Along with the discovery of the new material at Hjemmeluft in the 1970s, new results in dating the typological sections of rock art figures, such as the boat motif, was evident. The boat character was previously determined to be created during the Bronze Age period, and now it was thought to originate in the Stone Age (Gjerde 2010: 60). Regardless of, new data and technology, a few researchers such as Povl Simonsen (Simonsen 1958), upheld the typological sequences (Renfrew 2016: 133) by the hunter to farmer classification in the development of rock art, as mentioned earlier.






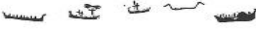
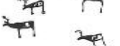







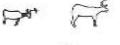





















However, evolutionistic development has dominated dating of rock art, and this has previously been criticised by Hesjedal (1994). He argues that the evolutionary development theory does not apply to Alta and Troms County, because the hunting magic theory is based on functionality, and the evolutionistic development theory explains all the different rock art

in the same way (Hesjedal 1994: 14). He further explains that there is no continuity between the rock art at Alta and Troms because of the vast timespan between the panels according to the shoreline dating (Hesjedal 1994: 5-6). The rock art at Alta should be treated as a text, which makes it possible to look at the different types of rock art as separate historical phenomena in time and space (Hesjedal 1994: 14).

A typological seriation frequency (Renfrew 2016: 135) concerns the presence of stylised motifs and how often the depictions occur at rock art panels. Typological frequencies strengthen if a rock figure is dominant throughout a chronological phase. It is important to analyse the frequency of rock art motifs, to show what dominated ancient peoples' social structure or animal life, and it also shows the change and evolvement of particular motifs. The frequency of rock art figures is important to show economic changes or changes in the social structure of groups or communities. However, the changing frequencies in rock art have not been executed at Alta before.

4.2 Helskog's chronology

Helskog (Helskog 1988) classified the rock art in Alta into four chronological phases, based on comparative studies of one-lined and two-lined figures and the relation of rock art panels

Period					
I					
II					   
III					  
IV					  
V					
VI					 

Period I: c. 5000-4800 BC.
 Period II: c. 4800-4000 BC.
 Period III: c. 4000-2700 BC.
 Period IV: c. 2700-1700 BC.
 Period V: c. 1700-500 BC.
 Period VI: c. 500 BC-100 AD.

Figure 6 Helskog's newest chronology of rock art. Illustration: Knut Helskog 2014: 29.

to ancient shorelines. In 2014 Helskog suggested a new chronology with 6 phases as seen in *figure 6*, based upon the dating suggestion by Gjerde (Gjerde 2010). However, the shoreline dating of rock art is problematic, as the method only provides a maximum dating (Lahelma 2008; Lindqvist 1994; Helskog 2014; Helskog 1999) which does not exclude any later dates of creating the rock art. The one-lined figures at the panels of Bergbukten are classified as the oldest rock art (Helskog 2014), and artefacts found in culture layers while excavating the settlements of Nyheim, Ole Pedersen and Apana 1 (Helskog 1988), were comparatively dated to the same periods as the chronological phases. The finds substantiate the likeliness of the settlements' relations to the rock art, as the excavated settlements are located close to the oldest rock art panels.

The comparative analysis resulted in the determination of six chronological phases: the first phase 5000 – 4800 BC, the second phase: 4800 – 4000 BC, the third phase: 4000 – 2700 BC, the fourth phase: 2700 – 1700 BC, the fifth phase: 1700 – 500 BC, and the sixth phase: 500 BC – 100 AD.

Helskog addresses that his chronology is merely a framework for future research, which will change as new technology evolves, and new data are accessed. Helskog's chronology (Helskog 2014; Helskog 1988) is widely renowned as a foundation for dating rock art in Scandinavia. Hence, Helskog reviewed his 1988 chronology in 2002 (Helskog 2002), when he determined the initial rock art to have originated as early as 4500 BC instead of his initial proposition of 4200 BC. In 2014 (Helskog 2014) he provided yet another reassessment, and the latest dating suggestion was put forward, which include the 6 phases mentioned above. The dating suggestions remains subject to further revision.

4.3 Gjerde's shoreline dating

New data in shoreline dating published by Gjerde (2010) suggests that the earliest rock art at Hjemmeluft was created around 5200-5000 BC. The previous shoreline studies of Helskog substantiate Gjerde's latest dating suggestion. Regarding ancient shorelines, there is a presence of water erosion and sediment layers on the panels which indicate transgression. Transgression is a local phenomenon (Sognnes 2003), and this is one of the weaknesses of shoreline dating, as it is challenging to access accurate data. The accurate data is only accessible when sediment layers on panel contain organic material, such as fossilised seashells, which enables radiocarbon dating of the sediment layer. The sediment layer also

shows that the panel was covered by sediment before it emerged again later, such as the transgression layer at the site of Vyg in Russia, as presented later in chapter 7.

However, given the lack of reliable shoreline data, the historical accuracy for the land uplift has lately proven to be inadequate, assigning a wrong date to rock art (Gjerde 2010: 59). It is important to attempt to date rock art to contextualise it fully (Gjerde 2010: 60). If the rock art were carved at ancient shore zones, it would probably have been a dangerous hazard to do so, being exposed to weather and waves while making the rock art (Løddøen & Hjelle 2017: 195).

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

Figure 7 The new dating suggestion by Gjerde in comparison to the previous chronology by Helskog (Helskog 1983b). Illustration: Jan Magne Gjerde 2010: figure 152, 252.

Gjerde's chronology differs in other respects from the earlier one by suggesting the rock art to be older than initially thought. Gjerde has continued the Helskog's research by adding radiocarbon data according to the elevation of the shoreline data on the previous chronological phases by Helskog (Helskog 1983b) and has based his new dating suggestion upon this. I follow the data scheme by Gjerde because the dataset presented in *figure 7* seems to be valid, as mentioned above, the dating of rock art is a topic that will continue to develop over the years with new data.

4.4 Relations between absolute dating and shoreline dating

Through absolute dating, one can obtain a specific dating through carbon dating of physical or chemical traits in the organic material, such as charcoal, burned bones or trees (Renfrew 2016: 131). However, the carbon dating is not absolute, because there is a fallacy by contamination of the material or samples (Taylor 2001: 27; Renfrew 2016: 149), but it provides the researchers with a valid indication of the period the material belongs too. Carbon dating of rock art is challenging because there is rarely any organic material found in the context of rock art. However, rock art paintings are made of red ochre mixed with fat (Gjerde 2010: 13), which contains mixtures of hydrated oxide of iron with various earthy materials and makes it possible to date them. The total number of registered rock paintings in Norway is scarce, which is a problem. Because of the scarcity of rock art paintings and it is challenging to gather enough organic material for a carbon sample, one is left with the carbon dating of hearths and organic material from settlements, such as the dwellings nearby the rock art at Hjemmeluft.

Carbon dating is vital in studies of shoreline dating because the dates create a fundament to the digital modelling (Møller 1987) of ancient shorelines by carbon samples found at the rock art scene or adjacent panels. The carbon dates are combined with the Holocene shoreline displacement at the coastlines, where the movement of the land and sea is measurable (Larsson & Forsberg 1993; Gjessing 1936; Helskog 1983b; Hesjedal 1992; Lindqvist 1994; Sognnes 1994; Sognnes 2003: 190-191), to determine the shoreline dating of rock art.

Although carbon dating is a vital part of studies of ancient shorelines, there is still much speculation involved in the process of dating rock art. The first problem is creating reliable data for the shoreline displacement curves (Sognnes 2003: 191), as several curves rely on few carbon dates for large areas, and the second problem is the question of whether rock art was made in the shore zone (Sognnes 2003: 192). As previously mentioned, the shoreline dating of rock art provides the maximum dating of when people started creating rock art. It also indicates when the production of rock art came to a halt.

It has been vital for people of the past to express themselves through art and motifs, which is witnessed by the traditions of Palaeolithic art paintings in Europe for more than 30.000 years, such as the Chauvet Cave in France (Robb 2015: 635). There could be several reasons why people stopped making rock art, e.g. other ways to express oneself through new technology, cultural change in the society, and people have moved to new territories and became less

dynamic. There is also the possibility that the increase of the land uplift and the retraction of the ancient shorelines revealed less suitable bedrock for the making of rock art. Having summarised the basic features of the panel, I will now detail my methodological approach.

Chapter 5 Methods applied in this study

The fieldwork carried out for this study started in September of 2019 and lasted for two weeks. The plan was to document all panels at Hjemmeluft by photography at different times of day by a hand-held camera and drone. I wanted to reassess the rock surfaces for natural features that could resemble the micro-topographical landscape of the panels. The natural features could be crevices representing the shorelines, high elevated peaks as mountains and valleys, and blackened lichens acting as rivers. Besides, collecting the data on elk figures in order to test Gjerdre's interpretations to document the change of the frequency of the elk motif through time. In order to record my impressions at the panels and apply a phenomenological approach, I wrote a daily journal concerning my sense impressions of the panels and landscapes, and I took pictures of the wider area. In the journal, I also noted the natural features of the rock surface and numbers of elk motifs at the panel. Particularly that of the elks' constellation regarding elk head staffs and other motifs, and I recorded the panel's altitude above the current sea level on hand-held GPS. However, these data are not accurate, as the hand-held GPS have a fallacy of 2m.

When accessing the data of the elk figures in the archives of the Alta museum, it became apparent that the data the museum had available were incomplete. There was information on the total number of figures, and it was recorded whether motifs were "pecked", "lines", "outlined including filling", "outlined excluding filling", "overlapping", "partial", and "carvings". However, unexpectedly the data excluded the type of character in rock art, e.g. elk or reindeer. The data needed for my analysis was thus not available.

Because of this, the fieldwork was scaled down from analysing all panels just to analyse four panels at Hjemmeluft, as the data had to be manually recounted and catalogued. Although the size of the Hjemmeluft area has previously been presented in detail (Helskog 2014; Helskog 1999; Helskog 1988), I felt optimistic regarding being able to finish documenting the figures during the fieldwork. I soon realised that I was in deep water, as the actual size of the area was astonishing, and the distances involved were considerable.

The first day in Hjemmeluft bay was used to locate and observe all elk figures at Hjemmeluft. Due to overcast weather and rain, it was difficult to see the unmarked rock art. As the weather cleared up, and the sun shone upon the rock art from an oblique angle, it was possible to see all the unmarked motifs. I observed the natural features of the rock, as I recorded the elk figures by photography both close up and of the wider area around the panels, because the natural surroundings- and features in the rock surface, are equally valuable to rock art as the motifs of rock art.

Since the time for fieldwork at Hjemmeluft was limited to two weeks, all effort in the field was used taking photographs, searching Hjemmeluft bay for elk figures and observing the rock art and its relations to micro-topography and natural landscape. From the mountaintops, it was easy to see why Hjemmeluft bay acted as a central location in the natural landscape, as Hjemmeluft bay is easily accessible, but still protected.

5.1 Counting the elk motifs

To process the data, I manually counted the elk figures on the photographs taken at Bergbukten 1 and 4b, Apana Gård 12, and Ole Pedersen 9, which I will focus on for detailed analysis. At Bergheim, Decca, and Mellom Bergheim and Apanes as seen in *figure 8*, I did a brief reassessment to check if there was a stylistic resemblance to the elk figures on other panels. To show the frequency of the elk with other rock art motifs, I entered the data for each panel into an Excel sheet and combined all the panels in one table with the total numbers and percentages of the different figures. The aim is to observe if there are any patterns and change in the way they are represented. I recorded whether the elk motifs were dynamic or static, e.g. did the elk have straight legs or bent legs as they were running across the rock surface, and on which panel, the dynamic elks were represented. However, I did not put this category into the cross-tabulation because the majority of the elk motifs were static and very few dynamic elks.

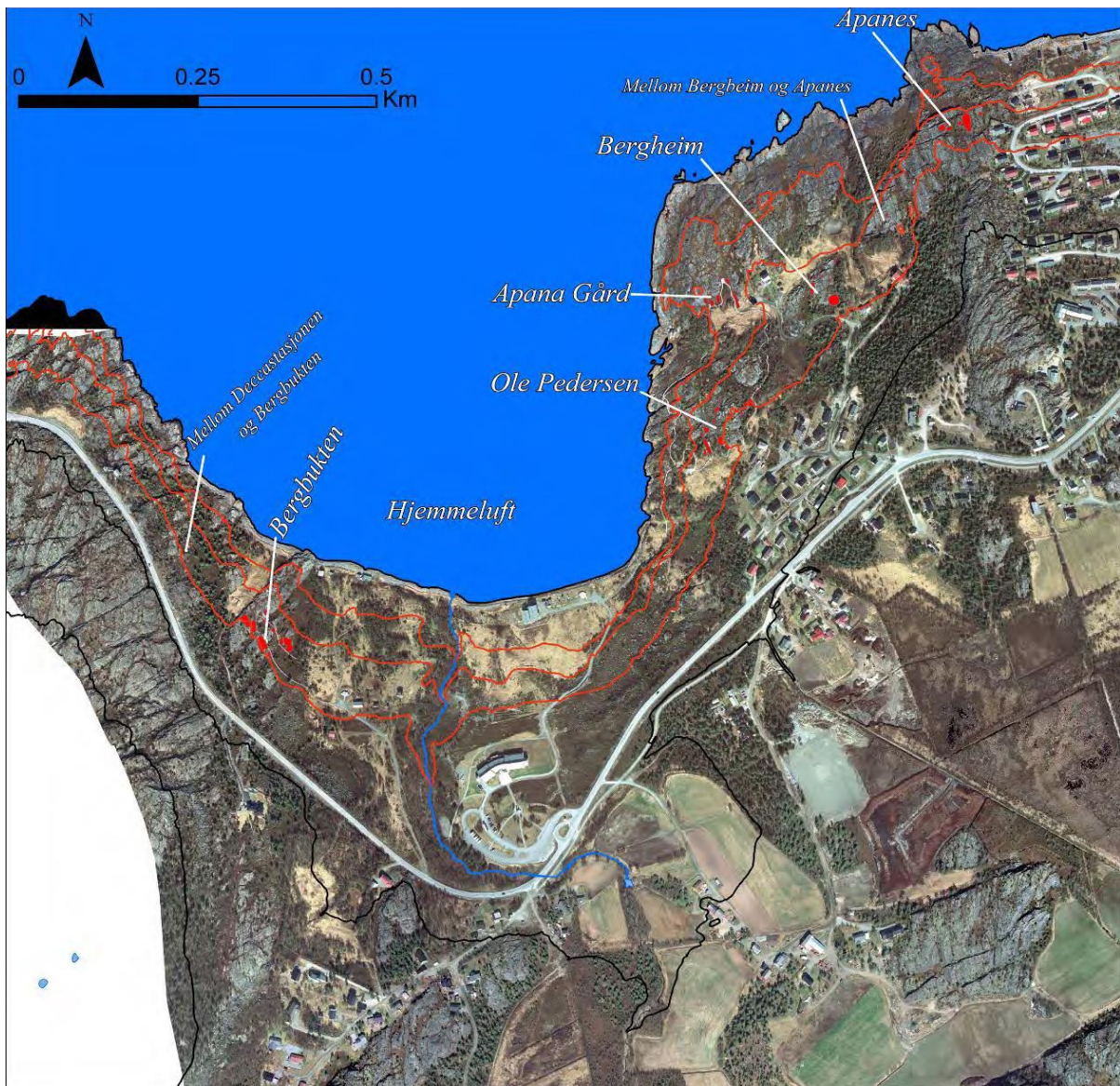


Figure 8 Overview map over the rock art panels at Hjemmeluft Bay. Illustration: Jan Magne Gjerde 2010.

At first, I tested if it was possible to count the elks on the overview photographs taken by camera and drone. However, the overview photographs were not close enough in proximity to distinguish the figures, and the close-up pictures did not provide the necessary information for the landscape setting. Since I used a GPS on each panel, I could tell what close up photograph belonged to which panel and where they were located in height above the current sea level to each other.

The panels of Bergbukten 1 and 4b and Ole Pedersen 9 overlap concerning the altitude above sea level. Bergbukten 1 is located at 26 – 23m.a.s.l. Furthermore, Bergbukten 4b is 22 – 24m.a.s.l., and the panel of Ole Pedersen 9 is also located at the altitude of 23m.a.s.l., which indicates that the panels were created in the late Mesolithic around 6000 – 7000 years ago. Finally, the panel of Apana Gård 12 is located at 8-10m.a.s.l., which indicates the panel was

created around 2000 – 3000 years ago. The last panel of Apana Gård 12 was created later than the other panels for the analysis. Still, it is important for the analysis, as it includes the last depiction of an elk being hunted by a human figure on skis at Hjemmeluft. The particular panel will be discussed further in chapter 7.

The figures were catalogued into the following five categories: “Elks”, “elk head staffs/stems”, “reindeers”, “human figures” and “other figure”. The difference between the category of elk head staff and elk head stem is that the elk head staff is a staff with a handle shaped like an elk head. The staff is either depicted as held by a human or as a single staff. A boat with elk head stem is where the top of the prow is the boat, is shaped like an elk head. The two individual figures are represented as equals for the analysis because it is the elk head which is of interest for the analysis as it acts as a symbol for the presence of the elk. The category of “other figure” includes other animal depictions than elk, boats and abstract figures and fractions of motifs which were challenging to identify. The two categories of the elk, the static and dynamic elk, were defined by the movement of their legs, as previously mentioned.

To identify the elk, I printed out large paper sheets of the calligraphed drawings of the panels and marked the different categories by pen and different colours. The shape of the body identified the elk, as its body is naturalistic and outlined with heartlines. The characteristics of reindeer antlers distinguished the reindeer from the elk, as the reindeer’s antler is larger than the elk’s antler while the body of the reindeer is smaller than the elk’s body. The shape of the reindeer is also naturalistic and outlined, but the body contains a geometric grid pattern. Occasionally, it was challenging to distinguish reindeer and elk, because of what seem to be hybrids of the two; the animal would have the body shape of an elk, but the antlers of a reindeer. In that case, the animal was catalogued as reindeer, as the antlers are the most easily definable characteristic.

To determine the difference between elk head staffs from other staff-shaped lines in the rock art motifs, I compared the physical resemblances of elk head staffs in rock art at Hjemmeluft to elk head staffs found at the Mesolithic burial ground at lake Onega in Karelia (Stolyar 2000: 143), and Neolithic elk head axes from Lithuania (Mantere & Kashina 2020). These are appropriate comparisons because the Neolithic period in Lithuania and Lake Onega overlaps with the Mesolithic period in northern Norway (Hedeager & Brandt 2017: 8). I only included lines or elk head staffs, which had the same features as the elk head staffs and elk head axes, e.g. a bent curve with two ears resembling an elk head.

I had a few questions concerning the change of elk motifs and the frequency of the elk, such as is the elk-related motifs related to the ecological change at Alta or is the elk a sacred animal concerning cosmology. According to which, I ordered and graphically represented the Excel data, to see whether they could be confirmed or falsified through the patterns of the dataset.

5.2 Cross-tabulations of natural features in the micro-topographical landscape

The natural features in the micro-topographical landscape on the rocks was determined by the way they looked and whether they had shared traits to the natural landscape. There are numerous crevices present on the rocks at Hjemmeluft, and the rocks would be recorded if the elk motif was placed within 1 meter to the aperture, which indicates that the rock art could relate to the crack. Gaps that were more than 1 meter apart from the rock art were not recorded. An even rock surface was determined by the rock's smooth and level surface because the stones are not completely flat in many cases, but some stones are more levelled out than others.

The mountains were determined by high elevated grounds or peaks on the rocks, and the mountains also functioned as an indicator of whether there were valleys in the natural features landscape setting. Because if there were to be mountains present, it was also likely to be valleys present. It was challenging to determine the presence of valleys on a panel if there were no mountains present. However, the areas that excluded mountains, there were on occasion elevated ground which shared similar traits to small mountains with valleys. The northern lights at the panel of Ole Pedersen 11a consist of greenstone formations shaped like stripes of different sizes going horizontally across the rock surface and the elk motifs are placed accordingly on top of the northern lights.

The rivers were determined by blackened lichens, and the way the rock art was placed according to the river of lichens, e.g. was the elk motifs identified along the river or near the lichens in the micro-topographical landscape. There were panels with lichens which may resemble a "river", but the panel did not have any elks on it, and vice versa and those panels were recorded as without lichen rivers. The lakes were determined by little ponds or small craters, which contained rainwater, or the cavities could have contained water regarding resembling small lakes. The vortex is only present at Bergbukten 1, and it was determined by a natural stone formation which has the same spiralling pattern as a vortex, and two small whales or fish seem to be swimming into the vortex.

I reassessed if the elk motifs were placed accordingly to the features mentioned above. Another vital observation was the associations of the elk motif to other types of motifs, e.g. does the elk always occur on the same panel as elk head staffs, reindeer and human figures. To reassess this observation, I recorded the numbers of elk, elk head staffs, reindeer and human figures in cross-tabulations in excel to show the associations of the motifs to each other on the different panels.

Based on the first-hand observations at the panels presented above, it seemed like the elk are present on the highest panels, and a few lower areas before the elk gradually fades away and suddenly reappears on the lowest panels at Hjemmeluft. However, the elk motif itself does not disappear, as the elk figure changes shape from a naturalistic motif to elk head staffs or elk head stems. Hence, the elk is expressed differently – and they are no longer the dominating motif. The reindeer and human figures are the most dominant motif at Hjemmeluft.

Chapter 6 Results of analysis

Through my first-hand observations at Hjemmeluft, it seemed like the figures interacted with the natural features on the rock surface at a few panels, such as Bergbukten 1 and 4b. On those particular panels, it seemed clear why the rock art motifs and natural features of the rock surface could be related to the scenery because of the micro-topographical rivers, mountains and lakes. However, it was challenging to see the resemblances of reference points between the natural features of the rock surface and the natural scene in the landscape, e.g. that micro-topographical mountain on the rock shares similar traits with the Komsa mountain in the natural landscape. It became apparent that to recognise reference points in rock art; one must know both the natural scenery and the natural features in the rock art exceptionally well. It was challenging to determine which valley, lake or river in the rock art represented which specific area or mountain in the natural landscape, which is why I decided to see how frequent any associations with micro-topography were. Also, to broaden out possible interpretations beyond just this aspect.

The following chapter presents the result for the dataset of my analysis. The results will indicate the answer to the research question: What possible interpretations are there, and if it is possible to trace landscape in rock art through the analysis of the elk motif and whether my first-hand observations can be substantiated or eliminated. The focal point for the presentation of results is the elk motifs and other motifs which share similar traits of elk, such as elk head staffs, elk head stems and humans holding elk head staffs. The first part of the presentation

shows the total number of panels which includes the elk, and how many panels that include natural features of the rock surface. The second part of the presentation focuses particularly on the data for the four panels at Hjemmeluft concerning the numbers of elk. They are followed by the dynamic elks and phenomenological results, and a summary before moving on to the discussion.

6.1 The elk in different settings

There is a total of 86 rock art panels at Hjemmeluft, and the results are presented out from the total number of panels. A cross-tabulation tells about co-occurrence between motifs, as viewed in the cross-tabulation in *figure 9*, the white fields show how many times two categories occur on the same panels, e.g. the elk occur at one panel along with the pregnant elk. The total number of panels each category occurs on are marked in grey. I investigated 86 panels, and the following elk motifs occur at the following number of panels out of a total of 86:

28 elks, 24 elk head stems, 23 elk head staffs, 15 separate elks, 11 humans holding elk head staffs, 8 herds with elk, and 1 pregnant elk.

Sites	Elks	Elks, pregnant	Elk head staffs, separate	Elk head stems on boats	Humans	Humans with bow & arrow	Humans holding elk head staffs	Reindeers	Boats	Herds with elk	Separate elk
Elks	28	1	12	11	15	9	9	18	11	8	14
Elks, pregnant		1	1	1	0	0	0	1	0	0	0
Elk head staffs, separate			23	12	18	5	6	18	13	4	10
Elk head stems on boats				24	18	5	5	16	20	3	9
Humans					39	10	11	26	20	7	14
Humans with bow & arrow						10	7	8	5	5	9
Humans holding elk head staffs							11	10	5	6	9

Figure 9 The total number of panels at Hjemmeluft including the different kinds of elk motifs. Illustration: Sascha Camilla Gade 2020.

The result is that 28 of 86 panels includes the elk motifs (see appendix: cross-tabulation part 1, for details of which panel contains how many of each motif).

Figure 10 of the cross-tabulations show the total number of panels which includes natural features on the rock surface:

62 crevices, 60 even rock surfaces, 16 valleys, 10 lakes, 6 mountains, 4 rivers, 1 northern light, and 1 maelstrom.

Sites	Elks	Elks, pregnant	Elk head staffs, separate	Elk head stems on boats	Humans	Humans with bow & arrow	Humans holding elk head staffs	Reindeers	Boats	Herds with elk	Separate elk	Natural features: Rivers	Natural features: Lakes	Natural features: Mountains	Natural features: Valleys	Natural features: Northern lights	Natural features: Cracks	Natural features: Maelstrom
Elks	28	1	12	11	15	9	9	18	11	8	14	2	5	1	10	1	24	1
Elks, pregnant		1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0
Elk head staffs, separate			23	12	18	5	6	18	13	4	10	3	3	2	7	1	20	1
Elk head stems on boats				24	18	5	5	16	20	3	9	1	4	3	7	1	24	1
Humans					39	10	11	26	20	7	14	3	6	4	10	0	33	1
Humans with bow & arrow						10	7	8	5	5	9	2	3	1	5	0	9	1
Humans holding elk head staffs							11	10	5	6	9	2	3	0	5	0	11	1
Reindeers								53	20	7	13	3	9	4	12	1	43	1
Boats									29	4	10	2	4	4	8	0	27	1
Herds										8	7	2	2	1	4	0	8	1
Separate											15	2	4	1	7	0	15	1
Natural features: Rivers												4	1	1	2	0	3	0
Natural features: Lakes													10	2	7	0	7	1
Natural features: Mountains														6	3	0	4	6
Natural features: Valleys															16	0	12	1
Natural features: Northern lights																1	1	0
Natural features: Cracks																	62	1
Natural features: Maelstrom																		1

Figure 10 The total number of panels including natural features. Illustration: Sascha Camilla Gade 2020.

As one can see from the result, 62 panels include crevices, and 60 panels have even rock surfaces, which makes these two features the dominant natural feature of the micro-topographical landscape at the panels. However, the minority of the natural features are present at Bergbukten 1 with the maelstrom. At the panel of Ole Pedersen 11a, there is

particularly one natural feature which is only present at that panel, and that is the natural green stone formation in the rock surface, which shares similar traits to the green northern lights in the dark skies during the winter.

The last cross-tabulation in *figure 11* concerning all panels at Hjemmeluft shows the specific correlations between motifs and natural features of all panels. The first question regarding specific relations was: How often do elk and elk-related occur on the same panels?

Of the panels in my research, 8 had the combined motif of elks, elk head stems on boats, and humans. Another 8 panels had elks, elk head staffs, and humans. 7 panels had the combined motifs of elks, humans, and humans holding elk head staffs, and another 7 panels have elks, elk head staffs, humans holding elk head staffs, and reindeer. It was important to show the presence of the elk motif in comparison to the number of reindeer motifs because reindeer are

How often does the following motifs occur on the same panels?	Number of result
Elks, elk head stems on boats, humans	8
Elks, elk head staffs - separate, humans.	8
Elks, elk head staffs - separate, humans, humans holding elk head staffs.	7
Elks, elk head staffs - separate, humans, humans holding elk head staffs, reindeers.	7
How often does the elk occur on the same site as the following natural features on the rock surface?	Number of result
Elks, rivers, lakes, mountains, valleys, northern lights, cracks, malstrom.	0
Elks, rivers, lakes, mountains, valleys, northern lights, cracks.	0
Elks, rivers, lakes, mountains, valleys, northern lights.	0
Elks, rivers, lakes, mountains, valleys.	0
Elks, rivers, lakes, mountains.	0
Elks, rivers, lakes.	0

Figure 11 The specific correlations of the elk motifs and natural features. Illustration: Sascha Camilla Gade 2020.

most frequent and therefore help to show if the elk are reacting atypically.

There are a few other combinations that are notable by being particularly or absent, such as the elk and elk-related and other pregnant animals, corrals, boat with oars, human on snowshoes or human on skis.

The second question was: How often does the elk occur on the same panel as the natural features on the rock surface?

The results were negative concerning if the elk occur on panels with more than one variable, but they occur with a single variable, which is crevices and even rock surfaces. There are no associations with multiple natural features, and it would be very challenging to find a specific correspondence in the landscape.

To summarise, the first result of figure 9 is positive in terms of elk occurring in complex scenes with many motifs. Hence, the idea of

narrative scenes concerning the elk in rock art is likely. However, the result is negative on all points concerning the elk motif and the correlations to multiple natural features.

6.2 The elk in specific settings

The focal point for this section, are the panels with elk motifs and natural features in the micro-topographical landscape of Bergbukten 1 and 4b, Ole Pedersen 9, and Apana Gård 12. The results of the data are presented by cross-tabulation in *figure 11*, which exemplifies whether the elk occurs with specific motifs or natural features for the Bergbukten area (see appendix for details of all panels). Tables and graphs for the number of figures and categories at each panel are also included in this part.

According to the table in *figure 12*, the panels of Bergbukten 1 and Bergbukten 4b have the combined motifs of the elk and elk head staffs, the elk and elk head stem humans holding elk head staffs, the elk in herds, and the single elk. At Bergbukten 1 and Bergbukten 4b, the elk motif occurs with the natural features of lakes, valleys, crevices, and maelstrom with one exception at Bergbukten 4b, where the elk motif occurs along with a micro-topographical river instead of lakes.

At the panel of Ole Pedersen 9 (see appendix: Op 9), the elk motif is represented together with humans holding elk head stems, elk in herds, and single elk. The elk motif also occurs with the natural features of valleys, crevices and an even rock surface.

Finally, the panel at Apana Gård 12 combines the elk motif with elk head stem, single elk separate from other elks, and the micro-topographical features of lakes, valleys and crevices.

Sites	Elk	Pregnant elk	Single elk head staff	Boat with elk head stem	Human	Human with bow & arrow	Human holding elk head staff	Reindeer	Boat	Herd with elk	Single elk	Natural feature: River	Natural feature: Lake	Natural feature: Mountain	Natural feature: Valley	Natural feature: Northern light	Natural features: Crevice
Eb 8c					X												X
Eb 8a	X		X		X						X						X
Eb 8b								X									X
Eb 7b								X									X
Eb 7a	X		X		X			X		X							X
Eb 1	X		X		X			X		X			X				X
Eb 4b	X		X		X			X		X		X					X
Eb 4a	X				X			X		X		X					X
Eb 6					X			X									X
Eb 5								X									X
Eb 2					X			X									X
Eb 3a	X				X			X									X
Eb 3c					X			X									X
Eb 3b					X			X									X

Figure 12 The cross-tabulation for the Bergbukten area show if the elk is occurring on the same panel as single variables (see appendix, cross-tab part 1, for the total number of combinations attested for each panel). Illustration: Sascha Camilla Gade

The results mentioned above summarise that on the more significant panels of Bergbukten 1 and 4b, the elk motif often occurs with elk-related motifs and natural features than on the smaller panels of Ole Pedersen 9 and Apana Gård 12. This particular result was expected because of the discrepancies of the panels, as the panels at Bergbukten 1 and 4b are more significant than the other panels at Ole Pedersen 9 and Apana Gård 12.

However, there is a pattern combination that falls outside the main patterns that I have already established. The pattern combination concerns the occurrence of pregnant animals, which only occurs at a total of 5 of 86 panels at Hjemmeluft. There are 3 instances of pregnant reindeer, and just 1 example of a pregnant bear and pregnant elk at two different places. The location of Ole Pedersen 11a is incredibly exciting because the panel includes a rare combination of pregnant elk and the natural feature of northern lights in the micro-topographical landscape, which only occur on this specific panel. The lights of the north are the most dominant natural feature on the rock, as it adds a significant impact to the story of the greenstone formation, which creates a backdrop for the narrative scene of the pregnant elk walking beneath the northern lights in the sky.

6.3 Main panel summaries

The following data and result are presented by categories and the number of data on each panel. In

Site: Bergbukten 1	Number of motifs	Total number of figures on site	Number of motifs	Percentage of figures at Bb 1
Elks	39	265	39	15%
Elk head staffs and elk head stems on boats	11	265	11	4%
Reindeers	72	265	72	27%
Humans	52	265	52	20%
Other figures	91	265	91	34%
Total number of figures on site	265	265		100%

Figure 13 The data for the motifs and number of figures at Bergbukten 1. Illustration: Sascha Camilla Gade 2020.

Site: Bergbukten 4b	Number of motifs	Total number of figures on site	Number of motifs	Percentage of motifs at Bb 4b
Elks	20	224	20	9%
Elk head staffs and elk head stems on boats	7	224	7	3%
Reindeers	72	224	72	32%
Humans	28	224	28	13%
Other figures	97	224	97	43%
Total number of figures on site	224			100%

Figure 14 The dataset for Bergbukten 4b. Illustration: Sascha Camilla Gade 2020.

these graphs, I have combined the three categories of “elk head staffs”, “humans holding elk head staffs” and “elk head stems” into one category to bring out patterns more clearly. Therefore, the category of a human figure is listed as “humans” excludes those holding elk head. The “reindeer” category is added to the graph to show the presence of the elk motif in comparison to the number of reindeer motifs, and the category for “other figures” includes all other figures besides those explicitly named in the other categories.

Figure 13 shows that out of a total of 265 figures at Bergbukten 1, 39 are elks, 11 include elk-related motifs, 72 are reindeer, 52 human motifs, and 91 other motifs. By the data graphs, it is clear that the elk and the elk-related motifs are the third most common motif after reindeer and humans.

The dataset for Bergbukten 4b in figure 14 is similar to Bergbukten 1 in numbers of the different categories with slight discrepancies in numbers. There are 20 elks, 7 elk-related motifs, 72 reindeer motifs, 28 human motifs, and

97 other motifs. Also, this result of the dataset shows that the elk and elk-related that the elk and the elk-related motifs are the third most common motif after reindeer and humans.

However, there is variety here because of the dominant category of “others”, and also more reindeer and fewer humans.

Site: Ole Pedersen 9	Number of motifs	Total number of figures on site	Number of motifs	Percentage of motifs at Op 9
Elks	12	99	12	12 %
Elk head staffs and elk head stems on boats	3	99	3	3 %
Reindeers	1	99	1	1 %
Humans	42	99	42	42 %
Other figures	41	99	41	41 %
Total number of figures on site	99			100 %

Figure 15 The dataset for Ole Pedersen 9. Illustration: Sascha Camilla Gade 2020.

Site: Apana Gård 12	Number of motifs	Total number of figures on site	Number of motifs	Percentage of motifs at Ag 12
Elks	1	210	1	0 %
Elk head staffs and elk head stems on boats	4	210	4	2 %
Reindeers	0	210	0	0 %
Humans	183	210	183	87 %
Other figures	22	210	22	10 %
Total number of figures on site	210			100 %

Figure 16 The dataset for Apana Gård 12. Illustration: Sascha Camilla Gade 2020.

In my phenomenological research of the natural features and the landscape at the panels in the Bergbukten area, I noted down that the two panels are the furthest away from the sea at present, and it was not possible to hear the ocean. However, the sea was visual from the two panels. The two areas were also more exposed to the wind because the locations are placed in an open, barren landscape in the natural scenery.

When observing the dataset for the panel of Ole Pedersen 9 in *figure 15* and Apana Gård 12 in *figure 16*, one can see that the tables have turned concerning the number of elk motifs and reindeer motifs. The Ole Pedersen 9 panel in *figure 15*, includes 12 elks, 3 elk-related motifs, 1 reindeer, 42 humans, and 41 other motifs. According to the graph, the elk's percentage has not changed much compared to the two panels mentioned above, but the reindeer and humans have changed considering there are just

1 reindeer present and a vast number of 42 humans. The most exciting elk motif is present on this panel, which is that of the separate, running elk across the rock surface. Also, the reindeer motif is surprisingly low in comparison to the Bergbukten area, and the rate of human figures is on the rise.

In the phenomenological observations at the Ole Pedersen area, I noted that the panel is closer to the sea at present. However, it is located at the same altitude above sea level as the

Bergbukten area. The sea was not visible from the panel, and it was not possible to hear the sea as the panel is enclosed by boulders and hillsides in the landscape. Therefore, the panels are more protected against natural terrain.

At Apana Gård 12 in *figure 16* there is 1 elk, 4 elk-related motifs, 0 reindeer, 183 human motifs, and 22 other motifs. The graph shows that this panel is the first of the four areas which does not include any reindeer at all, and where the human figures are the dominant motif. The exciting aspect of this panel is that it is the last panel, which includes a definite shift by the last elk motif and a human figure on skis hunting the elk by bow and arrow.

In the phenomenological observations at the Apana Gård area, I noted that the particular panel is at the closest proximity in the landscape setting to the sea of the four locations, as it is located at the lowest altitude above sea level. The sea was visible from the panel, and it was possible to hear the ocean from the panel. Also, the panel is widely exposed in the open landscape without any innate protection against the natural elements.

I also observed how many motifs, and objects or geometrics there are in the “other” category, to show if this is a case of all animals decreasing over time, such as bears and fish, or if it is just the huntable herbivore mammals, like elk and reindeer. Through my observations, the general trend is that there is a gradual decrease of all rock art motifs over time, concerning other animals, objects or geometric motifs, and humans. However, there is one exception of an increase in objects or geometric motifs from the Ole Pedersen panel⁹ to the Apana Gård 12 panel. Overall, there is a decrease in rock art motifs over time, which does not only concern that of the elk and reindeer motif.

6.4 Dynamic- and static elks of the four panels

At the Bergbukten 1 and 4b, and Apana Gård 12, the elk is mostly depicted as straight legged with a few exceptions of slight bends in hind legs and forelimbs. As viewed in *figure 17*, the Ole Pedersen 9 panel, there is one exception with the elk depicted with its hind legs bent backwards, a curve in the body and its forelimbs stretched forwards, which is one out of two elks expressed this way at Hjemmeluft. The other elk are located on Ole Pedersen 11a, which is not part of the analysis. However, the elk is placed on top of another elk, indicating the mating of two animals instead of running. The running elk at Ole Pedersen 9 stands out because it is separated from the other elks and moving away from its herd. The majority of the

elk on these panels was determined as static because of their straight legs, as there were only two instances of dynamic elks.

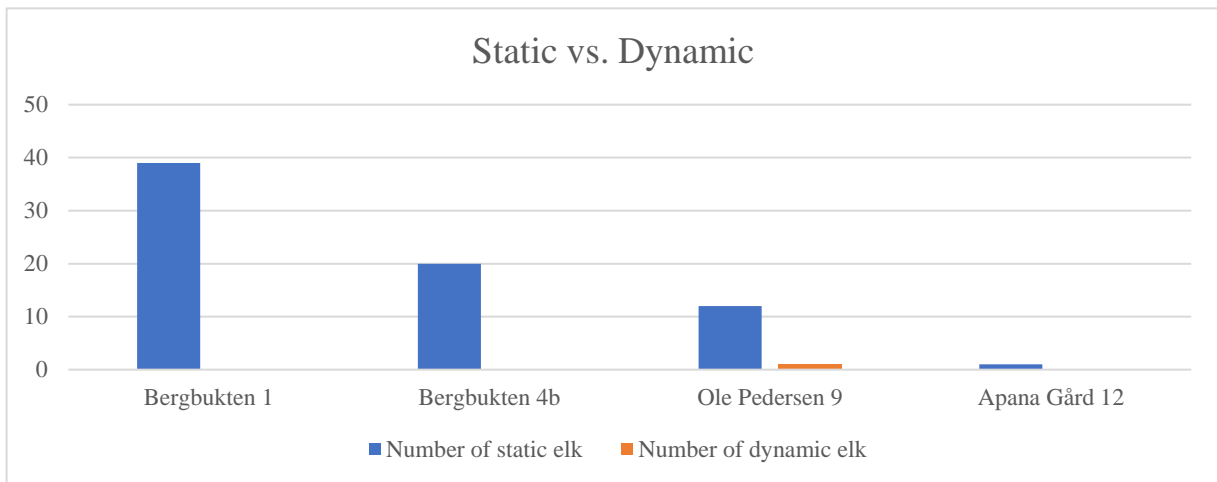


Figure 17 The correlation of static versus dynamic elk. Illustration: Sascha Camilla Gade 2020.

When comparing the dataset for the four panels, it is apparent that the main similarities concern that the reindeer is the dominating motif, followed by humans, and the elk and elk-related motifs at the panels of the Bergbukten area. However, there is a definite change concerning the human and reindeer motifs at the locations at Ole Pedersen and Apana Gård. The elk is present at all of the four panels. Still, the elk and elk-related motifs are gradually decreasing concerning their frequency over time, because the panels at Bergbukten 1 and 4b and Ole Pedersen 9 are dated to 6000-7000 BC, except for Apana Gård 12 which dates to 2000-3000 BC. Although, the decrease over time concerns all the rock art motifs and not only that of the elk and elk-related motifs.

There are multiple main differences regarding the four panels, one of the differences in the number of motifs on each panel with the Bergbukten panels being the most extensive ones, and the other areas at Ole Pedersen being far smaller in the number of motifs. Also, the presence of micro-topography is a significant difference, because the natural features are mostly present at the Bergbukten area, with just a few exceptions of the aperture being present at the Ole Pedersen and Apana Gård area. There is also a massive difference in the static versus dynamic elk with the majority of the elk being static, as there are just one dynamic elk at the Ole Pedersen 9 panel. The decrease in elk and elk-related motifs, and the natural features in the micro-topographical landscape, is a clear indication of that it is necessary to expand the interpretations away from micro-topography.

6.5 The phenomenological results of the four panels

The previously mentioned phenomenological approach was applied, and the observations were noted down while collecting the data of the elk motifs at the panel. The dataset contains sense impressions categorized in the hearing and eyesight observations on the four panels mentioned above. I focused on the visual as the least changed aspect except for the vegetation, and according to my phenomenological research, there was nothing unusual concerning the hearing observations, besides, the modern everyday sounds of traffic, humans walking or talking, birds chirping and the sounds of the waves breaking at the seashore. The hearing observations, except for the waves and the birds, differentiate from the past.

I spent the whole day in the field at the four panels, and the only discrepancies in the hearing observations, were the ones concerning the intensity of the traffic, the power of the sound of the waves, and the smell of fresh seaweed washed ashore by the high-tide. Those specific categoric impressions are significant, according to phenomenologists. Although maybe more to sea mammals and fish and boats on the rock art, not the elk. Still, I checked whether the elk are typical in places not visually or acoustically so strongly associated with the sea. The naturalistic elk is typical on the panels at the Bergbukten 1 and 4b at the highest height above sea level, which results in the least visual or acoustic association with the sea. However, the elk-related motifs, e.g. the boat with the elk head stem, are strongly associated with the panels at the lowest height above sea level, which the areas with the most robust visual and acoustical relation to the sea.

The observations at the panels while walking the “same trail” as past people could have used, helped to provide a new aspect to why the panels were chosen. Observing the rock surface of each panel did provide a greater understanding of the rock art being created at that exact location, because of the shape of the rocks, whether it is level or has elevated points in it, makes a backdrop for the rock art. Also, the different panels varying proximity to the sea, and their placement, and exposure in the open landscape, except for the panel at Ole Pedersen 9, as it would presumably have been easier to observe the rock art from a distance in the open landscape. It was also clear why the natural scene at Hjemmeluft bay was chosen as a central place for the rock art, because of its protected location in the natural landscape setting. In that sense, the eyesight observations were positive, and the hearing impressions at the panels were mostly negative, with one exception at Apana Gård 12.

6.6 The frequency of the elk and elk-related motifs

Two new patterns concerning the frequency of the elk and elk-related motifs emerged while working on the discussion chapter. I was assessing the results of the dataset regarding if there were any indications if the elk motif change over time in the cross-tabulations of the panels which include the motifs of the elk, the elk head staffs, the elk head stems and humans holding the elk head staffs. I checked the chronology of each panel by their current height above sea level and counted the number of times the different motif categories appeared on each panel. Then I compared the chronological frequency of the panels to the specific category of motifs and counted the number of times the correlation of motifs occurred in the different periods.

The results show that the number of panels that include the naturalistic elk is as follows: 7 panels dated to 6000-7000 BC, 14 panels dated to 5000-6000 BC, 1 panel dated to 4000-5000 BC and 1 panel dated to 2000-3000 BC. The majority of the elk are placed at the Ole Pedersen area.

Secondly, the results show that the number of panels that exclude the naturalistic elk, and include the elk head staffs is as follows: 3 panels dated to 6000-7000 BC, 6 panels dated to 5000-6000 BC, and 2 panels dated to 3000-4000 BC. The majority of the elk head staffs are also placed at the Ole Pedersen area.

Thirdly, the number of panels that exclude the naturalistic elk, and include the elk head stems is as follows: 0 panels dated to the 6000-7000 BC, 5 panels dated to 5000-6000 BC, and 7 panels dated to 3000-4000 BC. The majority of the elk head stems are placed at the Apana Gård area.

Finally, the number of panels that exclude the elk and include humans holding elk head staffs is as follows: 1 panel dated to 6000-7000 BC, 1 panel dated to the 5000-6000 BC, and 0 panels dated to 3000-4000 BC. The two panels are equally disputed among the Bergbukten area and Ole Pedersen area.

6.7 Summing up and moving on

The dataset shows that there are differences between the panels concerning the elk and elk-related motifs and natural features. The first pattern is that the elk motif and elk-related motifs are never a majority, but they are still a pervasive motif in some of the patterns. Then the elk

take a sudden drop, but it seems more persistent than the reindeer when compared to the total number of figures at Hjemmeluft concerning the specific four panels.

Another pattern is that the elk motif has a dominating presence of static elks which was determined by their straight legs, on 84 of 86 panels, that shows the scarcity of dynamic elks is limited to 2 places of 86 in total. The majority of the areas that include naturalistic elk motifs were created at the Ole Pedersen panels from 6000-5000 BC. However, the majority of the different elk-related motifs were created 6000-5000 BC at the Ole Pedersen area, and between 4000-3000 BC at the Apana Gård area.

Regarding patterns of natural features and the micro-topographical landscape on rock surfaces, the dominant elements are the crevices and even rock surfaces, which are present on most panels. Other categories, such as mountains, is limited to 10 of 86 panels. As a result, the most specific pattern is the negative results concerning the correlations of the elk, and its occurrence with more than one natural features on the same panels.

Chapter 7 Interpretive discussion

In the introduction, the research questions were defined as what possible interpretations of rock art are there at Hjemmeluft, and can the theoretical approaches of Gjerde's theory concerning micro-topography be confirmed through a comparative analysis of particular of the elk motif in rock art? Is it possible that the elk motifs relate to a specific rock, and does the elk motif change over time, and why? In what follows, I will discuss the prominent trends and patterns that I have noticed during my research and compare the designs at Hjemmeluft to rock art at Vyg and Nämforsen. I will describe both positive patterns of correlation and instances where there are no correlations.

7.1 Does the elk motif change over time?

There is a positive pattern which shows how the frequency of elk and elk-related motifs change through time. Where the naturalistic elk motif is absent, there are mostly elk-related motifs present, e.g. boats with elk head stems or humans holding elk head staffs. When comparing the panels that include the elk and elk-related motifs with the heights above sea level and chronology, we can establish when the elk and elk-related motifs were of particular interest. On this basis, we can check whether the elk were particularly popular at specific times since the elk and elk-related motifs are a minority. It narrows down the area of interest

concerning the elk and makes it easier to check when the elk frequently occurs in different areas of the Hjemmeluft panel.

Overall, the majority of the naturalistic elk motif is depicted between 6000-5000 BC at the Ole Pedersen area, and fewer are depicted at the earlier time 7000-6000 BC at the Bergbukten area and the later stage 4000-3000 BC at Apana Gård and Apanes. Most of the elk-related motifs were created 6000-5000 BC at the Ole Pedersen Area, and from 4000-3000 BC at the Apana Gård area. There are few depictions of the elk-related motifs in the earlier time slice 7000-6000 BC at Bergbukten, Ole Pedersen, Mellem Bergheim and Apanes. The elk is represented relatively rarely, and the change over time in the elk and elk-related motifs could be a result of several causes, e.g. seasonal migrations of the elk or the cultural change from hunter-gatherers to agriculture. The overlapping of the different elk motifs could be a result of changes in the economy. However, archaeological remains dating after the introduction of agriculture or farming in Alta are scarce.

7.2 Why do the elk motifs change over time?

The result of that the elk and elk-related motifs are the third or fourth most frequent motif overall in the rock art motifs at Hjemmeluft was a surprise in the light of my initial impression during fieldwork. A possibility of why the elk initially seemed to be the dominating motif could be that the elk and the elk-related motifs are depicted as more substantial in size than reindeer. The elk at Bergbukten 1 and 4b is mostly depicted as two to five times larger than the size of reindeer. At the panels at Ole Pedersen 9 and Apana Gård 12, there is no reindeer present, but the elk and elk-related motifs are two to three times the size of other animals or humans in the rock art. The difference in size between the more giant elk and the reindeer, or the other rock art motifs, could be a way to enhance the particular elk motifs importance to the people who created the rock art. Also, the elk and elk-related motifs could be more important than the other rock art motifs at the panel, possibly as a result of symbolism or rituals, or the elk could be a significant food resource to people. However, there is no finding of elk bone material at Alta, but that does not mean that the people did not eat the elk, it is merely a question of low conservation or that the material has not yet been found.

Across all periods, the elk motif is mostly depicted as static, which means it has straight legs. There are two exceptions of dynamic elks at Ole Pedersen 11a and Ole Pedersen 9. The elk at Ole Pedersen 11a is not as extraordinary as the other elk at Ole Pedersen 9, because the elk at Ole Pedersen 11a seem to be mating with another elk instead of running. The particular

elk at Ole Pedersen 9 are exceptional because its legs are stretched out as if the elk were running while moving across the surface. The specific locations with the dynamic elk motifs make the micro-topographical landscape and the narrative clearer to the observer. The dynamic elk motifs are placed on rocks which include natural features, such as northern lights and valleys. However, it is impossible to link them to a specific feature which is actually out in the real landscape. Besides, the dynamic elks were not created in the same period, as the running elk at Ole Pedersen 9 are dated to 7000-6000 BC, and the other dynamic elk at Ole Pedersen 11a was created between 6000-5000 BC.

7.3 Is it possible that the elk motifs relate to a specific rock concerning micro-topography?

Based on my research at selected panels, the elk motif and elk-related motifs are scattered throughout a minority of panels at Hjemmeluft, and it is challenging to see a specific pattern of association between elk and a specific rock. The elk motif and elk-related motifs occur on stones which are placed in proximity to the ancient shorelines, and the rock surfaces differ in size and shape regarding natural features from one panel to another. It may be that the elk motif and elk-related motifs relate to a specific rock, but then at other terms than micro-topography. However, most panels seem similar and share similar traits, which makes it a challenge to differentiate the areas with the elk motifs from each other and areas without elks. Therefore, there is no clear positive correlation between elk and a specific rock.

Are the elk and elk-related motifs related to the micro-topographical landscape in the rock surfaces? There is a positive pattern in that most of the elk occur next to crevices and even rock surfaces, which indicate that the elk and elk-related motifs could be placed accordingly to those particular natural features on the rocks. In terms of negative correlations, the elk are least often represented along with three natural features, the mountains at Bergheim 1, the vortex at Bergbukten 1, and the northern lights at Ole Pedersen 11a. Also, the elk motif does not occur with the elk-related motifs or more than one natural feature at the same panel at 8 of the total 86 panels, which is the most specific pattern of the dataset.

At Bergbukten 1, it is apparent why Gjerde previously stressed connections to the micro-topographical landscape at that particular panel, because of the correlation of the elk motif and natural features on the rock surface, e.g. crevices, valleys and a vortex (see appendix cross-tabulation part 1, Bb1). Nevertheless, this is the only panel of a total of eighty-six panels with more than one single variable of the natural features, according to the research of

my dataset. At the other panels at Hjemmeluft, such as Bergbukten 4b, Ole Pedersen 9 and Apana Gård 12, there is seldom more than one natural feature present. As previously mentioned, the majority of all rock surfaces has even rock surfaces and crevices. The aperture could represent a type of symbolism in the narrative scenery or be valuable in the context particular that of the elk, at places where the elk are depicted in close relations to the aperture, thereby the elk could be part of a micro-topographical landscape or a symbolic landscape. However, what type of symbolism the crevice refers to, is left to be determined by the interpreter.

At Bergbukten 4b, there is a human figure hitting an elk on the head with an elk head staff or axe. The human figure holding the elk head staff or axe is placed to a crevice behind the human figure, and an elk head stemmed boat with human figures with bow and arrow is positioned opposite of the human figure behind the elk. The context is that of a large hunting scene of several animals, including elk, being hunted by humans with bow and arrow placed in boats with elk head stems. The elk motifs which are placed along with natural features, e.g. indentations, may indicate the borderlines of the shoreline and the land in the micro-topographical landscape. However, the elk head staffs are depicted as a particular artefact or while held by human figures in rock art, and the elk head staffs are particularly represented on the panels without naturalistic elk with few exceptions (see appendix cross-tab. part 1 and 2). It is challenging to determine whether a micro-topographical landscape is present or not regarding the specific motif of elk head staffs and its placement according to the natural features of the rock.

As initially mentioned, Gjerde (Gjerde 2010: 250) has investigated the two panels of Bergbukten 1 and 4b at Hjemmeluft, as well as including other panels at the Alta fjord, e.g. Ytre Kåfjord in the side-fjord of Kåfjord at Alta. To include more panels gives another result, such as I did for my analysis. The problem with only assessing 2 of 86 panels at Hjemmeluft is that those two panels are not representative, as they are the only two panels with two to four natural features (See appendix cross-tab. Part 1) and the presence of the elk. Both panels have valleys, lakes and crevices on them, and the Bergbukten 1 panel is the only panel which has a vortex on it. The Bergbukten 1 panel is also being more irregular with small parts of even rock surface. At the same time, the panel of Bergbukten 4b has a more level surface with more extensive parts of even rock surface on it. Besides, the Bergbukten areas, the rocks at other areas do at most have one natural feature on them, and the frequency of the elk motif

and elk-related motifs start to overlap in space, which indicates that the Bergbukten panels are not representative of all areas at Hjemmeluft.

The theory of the role of the panels as functional rock art maps applies only to a minimal number of panels. If all rock art were to function as rock art maps, there should have been more specific reference points in the natural features of the rock surface. There are mountains present at a total of six locations (see appendix cross-tab. Part 1), but the mountains are not present at Bergbukten according to the dataset. The different categories of natural features, except for the crevices and even rock surfaces, are occasionally present at various panels other than Bergbukten – but they are not frequently present throughout all areas. According to the data of my research, there is a wider range of contexts of rock art at Hjemmeluft than just rock art maps.

7.4 What possible interpretations are there at Hjemmeluft, and which can be traced through the elk?

The patterns and correlations of the elk and natural features mentioned above could be an indication of symbolism in rock art, such as symbolizing significant power or identity (Helskog 2014: 20), instead of the rock art functioning as an actual rock art map with reference points to geological locations in the natural scenery. The elk motifs and natural features could be reference points to symbolic places in the natural landscape, such as sacred places which were vital to people of the past. However, what the rock art symbolism is or what their functions was, whether being an actual rock art map or having a symbolic meaning – that is exclusively known to the people of the past who created rock art. Still, it is possible to check which interpretation is more likely than others and to speculate on the rock arts purpose and function.

The idea of narratives or stories in the rock art was partially inspired by the ethnographical analogies to the indigenous people in Siberia, where it is presumed that the rock art tells the story of their cosmology, identity and rites of passage. I am aware of the general problematics of using analogies from ethnographical sources. We do not know the ethnicity of the people who created the rock art, and if the ethnographical sources share similar traits in their culture to the people who created the rock art. However, the ethnographical sources in Siberia are assumed to be related to Arctic Norway, because they are the closest indigenous source to Hjemmeluft, except for the Sami. Thus, the Sami are present later in the archaeological material in modern time. Although, when I saw the rock art at Hjemmeluft, the idea of the

rock art as replicas of little life stories of the people of the past, immediately came to my mind, and I wanted to check if it was possible to show through the frequency of the elk and elk-related motifs.

The frequency of the elk motifs and the natural features in the micro-topography could act as a backdrop for narrative scenes of the elk in rock art. The scenes could be depictions of life-stories for the people of the past, as each narrative scenes tell a different story of important aspects or changes in their lives, e.g. the great elk or reindeer hunt, or the transition from hunter-gatherers to agriculture or animal husbandry. The idea of agriculture that far north is not all that likely and neither agriculture nor herding of domesticates seems represented in the rock art.

The narrative scenes are not necessarily dependent on having both the elk and micro-topography present at the rock art scene to tell a story. At most, it is sufficient enough to observe the rock art motifs themselves to see the narrative scenes. However, the presence of the natural features in the micro-topographical landscape at particular panels add an extra force to the narrative of the rock art scene.

The elk must have been a significant resource in several ways, e.g. meat for food, bones for tools and skin to stay warm. Therefore, the elk and elk-related motifs could be a symbol of status or relate to rituals. The elk was presumably not people's primary resource for livelihood, based on the elk motif's frequency in the rock art compared to, the more dominant reindeer. Also, no elk bones were found at Hjemmeluft. As previously mentioned, there were hearths and stone material in the settlements nearby the rock art, such as scrapers (Helskog 1988; 21), which indicate that people have prepared and tanned skin, despite the missing bones. The elk was important enough to be depicted and to get a clearer idea of what this importance may have been, and we also need to look at the elk in other contexts.

7.5 Contextualising Alta: Comparing rock art across Northern Europe

The following panels are vital to contextualise the rock art panels of this study, concerning the elk motifs, and the motifs' correlations to the micro-topographical landscape in rock art. Through my fieldwork and analysis, I learned about the rock art and its closeness to the sea and ancient shorelines in Alta, which show that the sea or waterways were important to the people who created the rock art. Besides, the elk motifs and the correlations to natural features in the rock surface are a minority at Hjemmeluft, because each panel at Alta only has one recognisable natural feature. Furthermore, at Hjemmeluft, there is a narrative of large game hunting, such as hunting for elk and reindeer. For this case study, I assess two other panels which are similar to Hjemmeluft regarding its closeness to the water, and the narrative and correlation between the elk and natural features. The panels are located at Vyg in Northwestern Russia and Nämforsen in Middle Sweden, as viewed in *figure 18*, as it was not possible to carry out fieldwork at Vyg and Nämforsen, this comparison is based on published literature.



Figure 18 Overview map of the three rock art panels of the case study.
Illustration: Sascha Camilla Gade 2020.

Rock art at Vyg

The rock art located at proximity to Vyg River in Karelia, Russia, includes four panels Besovi Sledki, a panel of nameless islands, Jerpin Pudas, and Zalavruga, which includes 35 panels (Savvateyev 1977: 69, according to Gjerde 2010: 287). The rock art was created from 5300BC to 2000 BC, making the initial timeline at Vyg overlap with the timeline at Hjemmeluft. The Vyg River is one of the main communication routes in northwestern Russia, connecting the Karelian people with the shores of the White Sea to Lake Onega, and the rock art panel was placed near to the ancient shoreline of the White Sea during the Late Mesolithic. However, the long-term changes caused by land upheaval have moved the coastline of the White Sea 8km from the rock art panel at present (Gjerde 2010: 321). I have chosen just one motif because it happens to fit the elk in the micro-topographical landscape setting, and narrative in rock art. Otherwise, the rock art at Vyg is mostly motifs of whale- and game hunting (Gjerde 2010: 287) which includes the presence of humans, boats with elk head stem (Lahelma 2007:117-119), and elks present in the rock art.

New Zalavruga 4

The rock art panel at New Zalavruga 4 in *figure 19*, was covered by a sterile layer of sand, which resulted in the panel being dated to circa 2500BC (Gjerde 2010: 296). The panel corresponds with the dating of the youngest rock art panels at Apana Gård at Hjemmeluft.



Figure 19 Elk hunt hunting scene with three hunters on skis. The scene shows the movement of the skiers where the ski tracks add references to the micro-topography at New Zalavruga 4. Photograph: Jan Magne Gjerde.

The panel also shares similar traits to Hjemmeluft, because of the narrative in the hunting scenes (Gjerde 2010: 287), such as the elk hunting scene with human figures skiing downhill on the rock surface and holding bows and arrows.⁴ Another exciting aspect of the elk motifs is the elk traces behind the elks, the arrows and spears fastened in the elks back, and the elks front legs are bent forwards as they were running across the rock surface and away from the skiers.

The ski tracks follow the natural features of the rock surface, as the tracks are short at the beginning with three ski-pole markings visible on each side of the tracks. Then the ski track changes from short to long, sliding tracks as the skier was accelerating downhill. The next change occurs where there is a curve in the ski track, and the skier changes direction from going downhill to uphill because the sliding ski tracks end and the track is interrupted and short tracks are again visible with ski-pole markings on each side. At this particular panel, the narrative of the elk hunting scene and the skiers come alive by the rock art motifs interaction with the natural features on the rock surface, hence showing a reference to the micro-topographical landscape and narrative in rock art.

As mentioned previously, the dominating motifs at Vyg, are those which includes whale- and game hunting. According to the data of research, the panel at New Zalavruga 4 is the only panel at Vyg that fits the micro-topographical landscape setting, and the narrative setting of the elk hunt. However, there may be other panels at Vyg that are more applicable to the micro-topography and narrative setting, but I had no more detail available while assessing the panel.

⁴ The intention was to make my own illustrations for this section, but the University campus is closed as a result of the Covid-19, and I cannot gain access to the necessary data programs ArcMap or QGIS. Therefore, I used Gjerde's (2010) pictures and illustrations as a last resort.

Rock art at Nämforsen

The shoreline data from the Nämforsen in Ångermanland, Sweden show that the rock was once related to ancient shorelines.⁵ However, this particular site has undergone massive landscape changes caused by the land upheaval, which created large waterfalls and small islands, as seen in *figure 20*, located amidst the rapids during the time between 5000 to 4200 BC. The sea gradually retracted from Nämforsen, and the Ångermanälven fjord changed into the Ångermanälven river. The river remained a significant communication route from the Gulf of Bothnia towards Nämforsen 140km inland from the coastline at present. The waterfall was the prominent landscape feature at Nämforsen until the construction of the hydropower station (Gjerde 2010: 371), which allowed the rock art to be assessed in more detail after the massive rapids were silenced. The earliest rock art at Nämforsen was dated to 5000 BC, and the islands, which have the lowest situated carvings was available at 4200BC (Gjerde 2010: 355). The rock art is placed to the waterfalls and rapids at Nämforsen.⁶ At present, more than 2300 figures have been registered at Nämforsen (Larsson & Engelmark 2005).



Figure 20 The rock art area of Nämforsen. to show where the carvings are located in relation to the waterfall. Map from Hallström (1960:129, XXVIIa).

⁵ The intention was to make my own illustrations for this section, but the University campus is closed as a result of the Covid-19, and I cannot gain access to the necessary data programs ArcMap or QGIS. Therefore, I used Gjerde's (2010) pictures and illustrations as a last resort.

⁶ Unfortunately, Ylva Sjöstrand's research at Nämforsen was inaccessible due to University library closures related to Covid-19. Therefore, I depend more than I would like on the research of Forsberg (1993) and Gjerde (2010).

The dataset of the land upheaval from the Nämforsen area shows that rock art was connected to the ancient shorelines (Gjerde 2010: 355). The dating of the rock art panels and motifs at Nämforsen is problematic because of discrepancies in the relative chronology and the shoreline dating of the area. Presumably, the rock art at the highest elevated panels are the oldest ones, and the boats which are dated to the Bronze Age at the lower elevations are not represented at the highest elevated panels (Gjerde 2010: 356).

The relative chronology of the boat motifs at Nämforsen shows that boats were created from 5000BC to 1000BC. Forsberg has presented the chronology of the rock art motifs at Nämforsen based on *Older* and *Younger* types particularly by the overlapping of the motifs. Both Forsberg and Lindqvist conclude that the hunters rock art, e.g. the scooped-out motifs, at Nämforsen are older than the agrarians rock art, e.g. the outlined rock art motifs (Lindqvist 1994; Larsson & Forsberg 1993).

According to Baudou, Forsberg and Lindqvist, it is likely that the hunters rock art and the agrarian rock art are not contemporary (Larsson & Forsberg 1993: 261, table 2; Larsson & Forsberg 1993; Lindqvist 1994: 79). At the lowest panels in at Apana Gård 12, Hjemmeluft, there is also the presence of hunters' rock art and agrarian rock art at the same panel.

The elk motif is dominant in the rock art at Nämforsen (Gjerde 2010: 347), but there is also the depictions of bears, salmon, and humans holding elk head staff, and there is also boats with elk head stems. Lindqvist (1994:183) shows that of the 1180 identified figures, 585 are elks (54%), followed by 337 boat figures (31%) and 99 human figures (9%). A total of 95% of the motifs at Nämforsen are elks, boats and humans. The elk seems all-embracing since it, besides the elk, additionally occurs as elk head staffs and on the boats with an elk head stem, where the whole boat looks like an elk. (Gjerde 2010: 350). As mentioned previously, boats with elk head stems are particularly common in the contemporary rock art at Vyg in Russian Karelia, and they also present in Nämforsen, Sweden, and in Alta, Norway (Lahelma 2007:117-119).

The boat motif at Bradön

The first panel of the only two panels here are at Nämforsen with these specific landscape settings, is located at Bradön, which has a boat with an elk head stem as shown in *figure 21*, and the panel is dated to 4600 BC (Gjerde 2010: 356). The logic reasons for my choice was the specific interaction between the boat motif and the rock surface in the micro-topographical landscape, which I based on four primary variables which are vital for this particular panel and its context concerning micro-topography; a) the elk head stemmed boat, b) the micro-topographical river of blackened lichen, and c) the panels location in proximity to the water, and d) the rain. The boat is placed in a micro-topographical river made of lichen and water wear, and when it rains, the water flows downhill in the river of lichen. As a result, when it rains, or the rapids are allowed to flow freely from the HydroPower station, the boat seems to be sailing upstream in a river in the micro-topographical landscape (Gjerde 2010: 374).



Figure 21 The boat motif placed in the lichen river at Bradön. Photo from Gjerde 2010: figure 267.

The elk hunt at Notön

The second panel is located at Notön, in proximity to the rapids of Nämforsen, which is dated to 4600 BC. The panel (Gjerde 2010: 376).⁷ The logic reasons for the choice of the panel is the specific correlation between the elk- and human motif in the micro-topographical landscape, as viewed in *figure 22*, which I based on five primary variables which are vital for this particular panel and its context concerning micro-topography; a) the elks, b) humans, and c) the elk head staff, d) the panel's nearness to the water, and f) the striation line of quartz.

The panel includes a large elk hunting scene and the presence of a human figure and an elk placed along the striation line of quartz as if the two motifs are walking along this line. The striation line has a striking resemblance to the shoreline of sand located behind the panel, as seen in the background of the picture in *figure 23*, and this may be a direct correlation from the rock art scene and the quartz line to the natural setting.

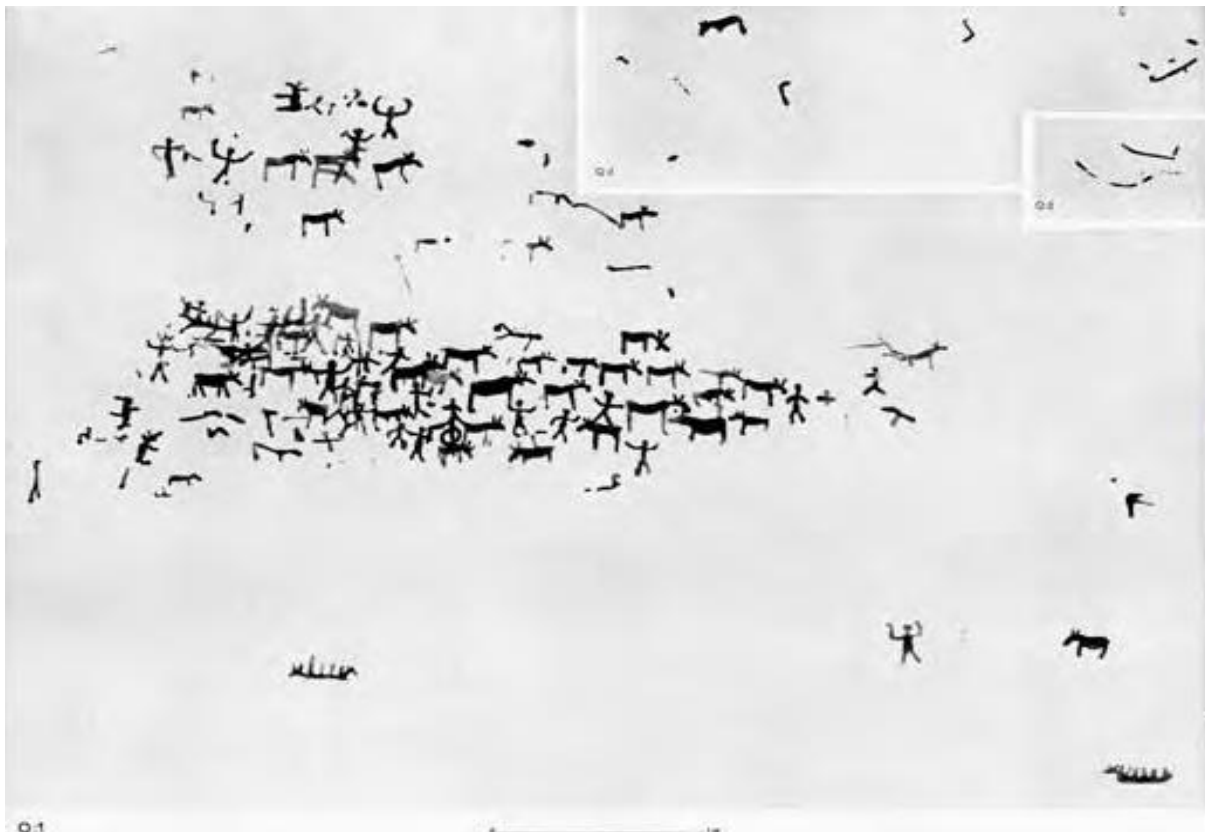


Figure 22 The tracing of the rock art at the Notön panel from Hallström 1960: plate 20. Compare with figure 23.

⁷ I contacted the Faculty of Geography to ask if they had any maps available for the areas of the case study, as I cannot access the literature from the library. Unfortunately, the Faculty did not have any maps of the current areas, and yet again, I have to rely on Jan Magne Gjerde's maps and illustrations. I am fully aware that I am depending too much at Gjerde at this section as well. I would have made my own illustrations if I had access to the ArcGIS or QGIS.



Figure 23 The Notön panel with the striation line in the rock art resembling the shoreline located behind the panel. Photograph from Gjerde 2010: figure 268.

Without the context of the motifs being placed where they are on the rock surface, they would not have had the same impact on the narrative of rock art. They would have been just another picture on the stone. The rock surface and its natural features add an extra punch to the story, and it makes the rock art come alive. Especially in the example with the boat in the lichen river.

The panels from Vyg and Nämforsen, and their correlation to the elk

At the panel of New Zalavruga 4 in Vyg, there is a complex scene of elk hunting, which is exciting because the rock surface acts as a natural scene, and the storytelling background for the narrative of the elk hunt in the micro-topographical landscape. There is a specific pattern of the human figures, the elk and the ski tracks placed accordingly to the micro-topography of the rock surface. The panel of New Zalavruga 4 shares similar traits with Hjemmeluft and the location of Apana Gård 12, because of the presence of the elk, the human figures on skis and the elk hunting scene, the topography of the rock surface acting as a background for the micro-topographical landscape and the rock art, and the panel's closeness to the Vyg river. The rock art at Vyg could have functioned as rock art maps with a reference points point to the natural landscape surrounding the panel. However, the natural landscape seems to be a barren heathland with hills and mountains, and it is challenging to determine the landscape

and the whole context of rock art through digital and literary sources without experiencing the landscape through fieldwork. The specific pattern is similar to Hjemmeluft, as topographical features of the rock are made of us – but not in terms of reflecting the exact particular landscape around the site.

At the two panels of Nämforsen, the most exciting part at Bradön concerning the micro-topographical landscape is that of the boat motif with the elk head stem placed in the river of blackened lichen where the water flows over the boat figure, adding an extra force to the narrative. It is when the water flows that the story of the boat in the river can genuinely be experienced. The boat motif's close alignment to the rapids of Nämforsen, and its placement in the river of lichen, is vital for the context of the boat motif sailing through the micro-topographical landscape. The micro-topographical landscape could reference the rapids and primary communication. The boat motif shares similar traits to the elk head stemmed boats at the different areas at Hjemmeluft, where there are only three rivers of lichens present all without a boat or other elk motif related to them. The boat with elk head stem is a motif that is shared over broad areas. That gives it kind of one level of meaning, maybe a shared story. However, then the way it is incorporated differs at each site. At Nämforsen, it is much closer to the perhaps more immediately impressive local topography than at Hjemmeluft.

The panel at Notön is exciting concerning micro-topography because of the giant elk hunting scene with humans holding elk head staffs and the striation line in quartz which has a striking resemblance to the shoreline behind the panel. An elk and a human figure are placed accordingly to the striation line, and it seems that the figures are walking along the shoreline of the small bay. The striation line acts as a reference point in the micro-topographical landscape, which shows a closer relation to the immediate and recognizable landscape than at Hjemmeluft. Along with Hjemmeluft and Vyg, the panels at Bradön and Notön are aligned with the water and ancient shorelines.

Since the water is a significant shared trait among the places in Russia, Arctic Norway and Sweden, the waterway must have been one of the essential characteristics for people of the past. If the striation line at Notön acts as a symbol for the shoreline, it is possible to trace the natural scenery through rock art and place the elk motifs accordingly to this particular rock in the natural surroundings. People of the past must have known the landscape well to find a suitable location which shares similar traits between the natural scenery and the rock surface. I have looked at very selective panels for this contextualization. The question is, does the point of selectivity I made for Hjemmeluft also apply here? If we looked outside these pre-

chosen panels, would the pattern be different? The point could be that some of the rocks which have a particularly striking similarity to the immediate landscape are always marked out, and elk are of such “supercharged” scenes. However, this is not what all the rock art and all the elk are about; they kind of work at different levels.

7.6 The importance of the elk in Palaeolithic and Mesolithic carvings

As previously mentioned, the finds of the Mesolithic elk head staffs from the Baltic area, share a striking resemblance to the elk head staffs and elk head stems in the rock art at Hjemmeluft and Nämforsen. At New Zalavruga 4, there are not any elk head staffs present, but human figures are hunting naturalistic elks. The particular elk hunting scene, combined with the use of the natural features on the rock surface shares similar traits with Hjemmeluft. The Mesolithic elk head staff’s purpose and function are widely debated. Several interpretations have been suggested, e.g. the elk head staff as a ritualistic artefact of a shaman, an elk head axe, or symbol of power (Mantere & Kashina 2020: 14; Herva 2019: 75-77; Forsberg 2000: 85) - all the mentioned suggestions are equally possible.

The depictions of the elk head staffs could be about showing powerful persons, or it could be about narratives to do with elk, such as the elk being an important animal in people’s cosmology (Terberger et al. 2011: 152). The elk as a sacred animal is substantiated by the most renowned finds of elk head staffs at the Mesolithic burial ground at Oleni Ostrov at Lake Onega, Karelia (Veil 2012: 669). However, the archaeological record of elk figurines from the western Baltic are scarce, except for one find, that is the amber elk head from Egemarke on Zealand (Terberger et al. 2011: 159-160), and the elk figurine is related to the Maglemose culture. However, the elk is not a typical motif of the Danish Mesolithic, although the elk was among the most typical species of the north during the Late Palaeolithic (Terberger et al. 2011: 160). The data show that the Egemarke elk could be a Late Palaeolithic or an early Preboreal, circa 9500 BC, and are interpreted as a sacrifice of hunted elk (Veil 2012: 669; Terberger et al. 2011: 159-160, 162).

7.7 Elk figurines and elk head staffs

In Germany, there were found three worked antlers at the sites of Twedt-Buschau, Verchen and Krzyz in Germany, are interpreted as elk head staffs, because of their shared characteristics to the elk. The antlers were radiocarbon dated to the early Boreal at circa 8400 to 8100 BC. (Terberger et al. 2011: 158). Another figurine of a presumed elk was found at Oberkassel near Bonn. However, it was challenging to determine the species because the head

was missing. Still, it is interpreted as an elk because of the outline of the body and engravings. The Oberkassel elk was radiocarbon dated to 11 700 and 12 200 BP, which is the end of the Final Magdalenian. (Veil 2012: 667).

A third finding of an amber horse at Dobięgniew in west Poland is assigned to the Mesolithic or Neolithic period. However, the anatomical details are similar to that of the elk, and the Weitsche amber elk figurine (Veil 2012: 664). The above mentioned Weitsche amber elk figurine found in a Federmesser context at a site in the Elbe Valley Germany and the figurine has a geometric design that resembles schematic representations of the Magdalenian (Terberger et al. 2011: 161). Fragments of the Weitsche amber elk figurine was found with flint tools and bone fragments, and all three categories are assumed to belong to the same occupation. The stone tools are typical for the Federmesser culture and date the site to the woodland phase at the end of the last ice age, between 11 800 and 11 680 BC, putting the bones into the early Allerød period (Veil 2012: 663). Furthermore, the characteristics of the Weitsche elk figurine resembles the few Late Palaeolithic animal drawings from western Europe and shares similar traits with the Oberkassel elk, which seems closer to the Federmesser culture (Veil 2012: 669). Also, the dating of the Oberkassel elk supports the assemblage to the Weitsche figurine dates.

The particular elk figurines from Weitsche and Oberkassel represent a new type of artistic object which were intended to be attached to the top of staffs and the development of which may well have taken place in connection with changing rituals (Veil 2012: 669). The Weitsche material indicates that the occupations and activities, generally assigned as characteristic attributes in the Magdalenian era may well have occurred in the Federmesser culture (Veil 2012: 670). The elk figurine and pendant of Weitsche turn out to represent an important, hitherto missing link between the late Upper Palaeolithic art of western Europe and the Mesolithic art of northern Europe (Veil 2012: 672). Towards the end of the Atlantic period, circa 4000 BC, the elk lost its importance as it was replaced by the bear in the archaeological record in the western Baltic (Terberger et al. 2011: 162). The different findings that of the elk, such as elk head staffs and elk figurines from different sites and periods in Germany and the Baltic, shows that the elk was an important animal through time and different cultures. It also shows a definite shift away from the elk to other animals, such as the bear.

7.8 The narrative of the elk as a sacred animal

The idea of a potentially deep history of the elk and the elk's connection to the late Palaeolithic and Mesolithic carvings much further south to Alta is exciting. It could likely be the result of people bringing elk-related myths with them when they settled this part of Norway, either from the south or from the Baltic (Malmström et al. 2018: figure 1, figure 2). The people of the Stone Age are presumed to have lived a nomadic life, and the primary communication routes in the Stone Age spread both far and wide through the lands and crossing seas. Influence from elsewhere was spread to the north with the people on the significant trade and supply routes. People of the north could be inspired or influenced by the idea of the elk as a sacred animal.

As mentioned previously about cosmology and shamanism, animism or totemism could be assigned to the elk head staff in rock art, and clearly shows that the elk is a significant part of their cosmology or world view. The rock art was made after the ice cap from the last Ice Age retracted, which shows that the people who settled at Alta must have come from elsewhere and that they brought their ideas and cosmology with them to Alta. Alta has been a giant mixing pot of different peoples and cultures who arrived in different waves and at different periods (Persson et al. 2019: figure 1, 13, 26). Although there are no archaeological remains after the agriculture, there could have been other types of animal husbandry, such as reindeer herding, which are part a significant part of the lives of the modern Sami.

The elk, as a sacred animal evidenced through rock art, and different kinds of elk figurines, show that there are different ways of narratives of the elk, which are told at different times. The common trait of the narrative of the elk is that the elk are important to different cultures through time, as it is worshipped as a sacred animal.

Chapter 8 Conclusion

8.1 Possible interpretations at Hjemmeluft

I aimed to check what possible interpretations there are of the rock art at Hjemmeluft, and if the previously applied theoretical approaches, notable the micro-topography, could be confirmed through a comparative analysis of the elk. Based on the data of my research, the patterns of the elk motifs rarely occur with the natural features that mirror the specific landscape at Alta. I have accepted the micro-topography approach for some panels and shown that it is not sufficient to explain all of the rock art.

Therefore, as far as the elk is concerned, the approach of rock art motifs and natural features as rock art maps is partial. It was important to characterise the diversity of contexts for elk, to provide a new aspect to rock art concerning the correlations between elk motifs and natural features in the micro-topographical landscape. This was achieved by cataloguing all the different rock art motifs, particular that of the elk motifs and natural features on the rock surfaces, focusing on Bergbukten 1 and 4b, Ole Pedersen 9, Apana Gård 12. I then searched for patterns to widen the possible interpretative options.

It was vital to assess whether the elk motifs relate to a particular rock and whether they change over time. There was no correlation to a particular rock type. The elk motifs do correlate with two specific natural components, the aperture and the even rock surface. However, the elk is not the only motif displayed together with the natural terrain, as all of the other categories of motifs can also occur. Elk is often shown with other elk-related motifs, and they do change over time and space. The majority of the naturalistic elk are static, and most of them were created at the Ole Pedersen area between 6000-5000 BC. The majority of the elk-related motifs were created at Ole Pedersen and Apana Gård, dated to 6000-5000 BC and 4000-3000 BC. The elk motif is also more pervasive and persistent compared to the reindeer motif.

The elk was important to past people, and the changes that it undergoes could reflect several things. They could, for example, relate to social transformation and cultural change, or status, or mythology and sacred animal, or ecological change, in the next step, we need to investigate this further. However, the specific reading of the narrative theory concerning the elk is supported by the patterns and frequency of the elk and elk-related motifs, which apply to the elk being a symbol of status or a sacred animal. The rock art creates a narrative of little life stories where the elk is a persistent motif, and the narrative was naturally preserved by the rocks for thousands of years. The elk had a significant impact or status to people of the past, witnessed by the frequency of different elk motifs at the rock art panels at Hjemmeluft, which communicates a story of social transformation and cultural change, or possibly ecological change.

There is little known information about the ecological changes during the prehistoric Boreal climatic conditions and vegetation at Alta. The temperature rose as the Ice Cap retreated, and the climatic conditions changed (Rankama & Kankaanpää 2008; Helskog 1988; Hald 2009). Through the Atlantic period, the temperature continued to rise, and the ecological changes towards the end of the Atlantic period resulted in the dense mixed oak forests that developed

in the western Baltic. The elk presumably migrated and retracted along with the colder climatic conditions, and probably lost its importance along with its migration (Tergberger 2011: 162). If there were fewer elk in the landscape, does it make sense that the observed changes in depictions somehow relate to ecology? It seems that the elk stay important despite actually disappearing in the landscape.

The social changes at Alta are widely debated along with the ethnicity for the different cultures that created the rock art and laid the foundation for the Komsa culture. The Komsa culture is a mix of archaeological finds which was determined to have originated in the east, e.g. the Baltic, Sweden, Russia and Finland. Because of the lack of similar finds or settlements elsewhere at Finnmark and Troms county (Helskog 1988), which provides an opportunity to link this with the Russian rock art site, or the Baltic elk head staff. The social context and change in rock art are not known despite the find of settlements at Hjemmeluft. Considering the overall time frame of creation of these elks, and the other technological changes in the course of the Mesolithic, and the genetic evidence, then it seems like the changes I observe over time could be linked to the same periods when culture change takes place. The rock art, the elk head staffs and so on from further east can play a part here. For example, the fact that elk are present from very early could be linked to elk being a Big Thing in the Palaeolithic and Mesolithic on the north European plain, and I have discussed evidence for this. Then the elk head staffs could be linked to a later cultural influx from the east, and status and the Oleni Ostrov burials in Russia.

The changes in the motifs could very well be a result of changes in myths or cosmology in which the elk was assigned an important role. The narratives of the elk and elk-related motifs in the rock art and the findings of the elk figurines and elk head staffs show that the elk was important to several cultures and tell stories of their cosmology through time. The elk's importance is particularly narrated through narrative scenes of the elk and elk-related motifs in the rock art at Hjemmeluft.

My study has contributed with a new perspective of rock art as a narrative and witness of past people's lives and cosmology. I have achieved a widening of interpretive possibilities for Alta, which may apply elsewhere. The rock art is the black box of archaeology, and we will probably never be able to find the right key to open the black box because the original context is long gone. However, it is at that point, when it is challenging to determine the rock art, it is important to assess the rock art from new perspectives, e.g. the patterns of particular motifs or natural features. A simple rock carving does not necessarily have a complicated explanation,

and an intricate carving does not necessarily have a simple reason. Hence the purpose, function, and dating of rock art is a complex subject that will be continuously debated in future research. Thereby, the results of this study open the door to other possible ways forward in the research of the rock art at Hjemmeluft. The recommendation is to do a new categorization of all the motifs at all panels by detail to enable new perspectives to rock art.

8.2 Possible ways forward

There are four main ways in which rock art research can go forward. One is widening the interpretive frame, which I have tried to do here, but which of course could be taken further, e.g. by the more systematic ethnographic study. Another critical problem is dating because it remains hard to correlate changes in rock art with other social changes, which are better dated. Finally, it would be great to do a more prominent study with more motifs than just the elk, and then more excavation is needed to correlate rock art with other activities in the same landscape.

As mentioned previously, the purpose and function of rock art are exclusively known to ancient peoples. However, it is important to continue discussing and researching the different topics in rock art. The main concern about rock art through the past decades has been the dating of rock by cataloguing stylistic images in typological frequencies and seriations, and studies of shoreline dating. It is important to address that the current technology cannot provide an exact date to rock art. Still, the method of carbon dating and studies of shoreline dating does provide indications of when the area surrounding the rock art was active. Without a doubt, the archaeological methods and the technology will continue to evolve, and it may be that someday the technology will be able to provide exact dating to rock art. Specifically, to the few rock art paintings present in Norway, through small samples of the “paint” or ironized gravel, they used for paint. Until the technology has come thus far, the dating will be continuously debated and speculated upon on in future research.

It is vital to obtain the details of the specific motifs by cataloguing them to do further research on the change of frequency of the different motifs in rock art. However, we need a broader context, as did people live around the rock art panels. Because no one seems to have excavated much at Hjemmeluft, it was clear that the elk motifs did change through time, why should this change apply only to the elk motifs? It is possible that the other motifs at Hjemmeluft also changes in frequency through time, and in that case, why do the other motifs change? It is not possible to determine what possibilities there are or rule out the possibility of

this topic before any further research is executed on these topics. I am eager to do further investigations concerning the frequency of motifs at Hjemmeluft and publish the results, as well as to continue cataloguing the motifs to check if any new patterns might step forward.

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