

# RITUAL LANDSCAPES AND BORDERS WITHIN ROCK ART RESEARCH

PAPERS IN HONOUR OF  
PROFESSOR KALLE SOGNES

edited by

**Heidrun Stebergløkken, Ragnhild Berge,  
Eva Lindgaard and Helle Vangen Stuedal**



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ARCHAEOPRESS ARCHAEOLOGY

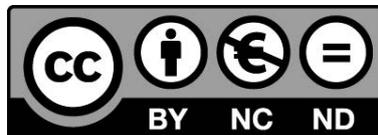
ARCHAEOPRESS PUBLISHING LTD  
Summertown Pavilion  
18-24 Middle Way  
Oxford OX2 7LG

www.archaeopress.com

ISBN 9781784911584  
ISBN 978 1 78491 159 1 (e-Pdf)

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Cover image: Crossing borders. Leirfall in Stjørdal, central Norway. Photo: Helle Vangen Stuedal



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## Editorial preface



KALLE SOGNNES, AUGUST 1970. PHOTO LARS G. STRÖMBERG.

We are proud to present this anthology in honour of Professor Sognnes, in recognition of his research and academic career as well as his contributions to the preservation of panels and dissemination of rock art to a wider public. In September 2015 Karl Johan Sognnes or ‘Kalle’, as he is best known, turns 70. On this occasion we wish to present to him this anthology as a sign of appreciation of his many efforts within the field of rock art. Sognnes’ career has been long and covered many topics in archeology. However, we wanted this book to concentrate on rock art, which has been his main research area for the last 40 years.

Since the 1970s Kalle Sognnes has worked with the rock art of central Norway, and has made rock art from this area known through a variety of international and domestic publications. Kalle was one of few pioneers bringing into Norwegian rock art research new thoughts and methods inspired from the concepts of New Archaeology, which meant a fertilizing and innovative approach and an incentive to re-thinking rock art studies. The grounds for this new mindset were laid during a longer stay in the USA and also exchanging ideas and thoughts with colleagues on the continent and the British Isles. Continuing Scandinavian contacts were also an impetus. From the 1970s and through the following decades Kalle Sognnes stood out as one of the most influential in this part of Norwegian archaeology. He brought Norwegian rock art to international academia, but he also made rock art sites of central Norway a gathering place for international researchers. One of these occasions was the *Vitark International Rock Art Seminar: Rock art in landscapes – landscapes in Rock art* held in Trondheim in 1998. At a more local level he played a significant part in the establishment of the Museum for rock art *Bergkunstmuseet* at Stjørdal, central Norway, which is centered round the sites of Leirfall and Bardal. Sognnes has been an active speaker, and has expressed the importance of communicating rock art to local communities.

Kalle Sognnes has also served as Head of Department of different archaeological departments at NTNU, and has mentored numerous master students. He was among the initiators of the archaeological study program at NTNU, which started in 1994. The degree program is still characterized by a profile which integrates theoretical studies and practical skills.

Emphasizing the prehistoric periods and rock art studies in particular, he advocated a central Nordic perspective and encouraged students to look beyond national borders. Kalle also generously has invited students to take part in his research, both on home grounds, but also in projects which have brought students as far as Maya cenotes at Yucatán, Mexico.

We believe that Professor Sognnes deserves an attention for the effort he has made not only for NTNU and the archeological environment in the Trondheim-region, but also for his work at a national and international level. Drawing up the lines for this book we aimed for a strong academic profile, where the selection of authors would reflect the range of Kalle's network, and invited both national, Scandinavian and international authors. We sought a variation of writers both in terms of theoretical and methodical orientations, but also with respect to nationality, age and gender. The contributions in this present book is a strong testimony to Kalle's influence and personal engagement in the field of rock art archaeology. We warmly thank the authors of this volume for your enthusiastic response to the plan for the book and for your cooperation and patience during the process of getting from idea to finished product. We likewise heartily thank the referees for your meticulous work – anonymous, but indispensable. We thank Terje Brattli, Martin Callanan, Sophie Bergerbrant, Marek E. Jasinski and Lise Bender Jørgensen for support and advice along the editorial process. We are also thankful for the support and cooperation of our publishers at Archaeopress.

For funding this book we are grateful to the Department of Historical studies, NTNU; the Faculty of Humanities; NTNU, The Royal Norwegian Society of Sciences and Letters and The Norwegian Archaeological Society (Norsk arkeologisk selskap).

Finally we will take this opportunity to congratulate Kalle so much on his 70th birthday.

Happy birthday Professor! Rock on!

***The editorial committee***

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# Introduction

Ragnhild BERGE and Heidrun STEBERGLØKKEN

This book opens with reflections on a Nordic field course in rock art studies by Jarl Nordbladh, describing the early 1970s as period of change in the research of prehistoric images. His article *Knowing by learning by being there – The course which formed a new generation of rock art researchers* is an appropriate angel to this anthology as it draws up backgrounds for the scholarship of a whole generation of researchers, antiquarians and museum curators with special interest in rock art. Focus changed from primarily stylistic studies toward a multifaceted approach. Topics such as symbolism and power relations, ritual landscapes, different aspects regarding societal borders and methods came on the agenda to a greater extent and in new ways. Today studies are conducted on all these areas of research. The contributions in this book are all adequate examples of how this has developed during the last four decades. The fact that the articles may be grouped in several ways illustrates that they address several aspects simultaneously. This shows a greater range and combination of approaches than previously.

However, the content of this book has to be arranged in one way or another and as such for practical reasons the articles have to be placed in categories. They all deal with different aspects of the book's outset; ritual landscapes and borders within rock art research. Based on the contributions' themes and research questions we have identified five categories: power relations and symbolism, theory and methods, hunter-gatherers-agriculturalist, land-sea/water and style.

The first three articles deal with issues concerning power relations and symbolism. In *Contested worlds – A chronotopic essay about mortuary monuments and cultural change in Northern Europe in the second millennium BC* Joakim Goldhahn studies the significance of mortuary monuments and memory praxis in the transition from a society ranked by kin in the Early Bronze Age to Chiefdoms in the Middle Bronze Age in Northern Europe. The analysis is an overall focus on social strategies related to the creation of new monuments and the destruction and reuse of older monuments. *Art and intimacy within the prehistoric landscapes of Norway: how hunter/fisher/gatherers organised their ritual and political worlds through art* by George Nash & May-Tove Smiseth brings into discussion the location of a selected number of rock paintings in Norway. The authors argue that the position of the panels was chosen in order to control the accessibility to these sites. Rockart was part of an order to maintain social and political control and thus reinforcing tribal

hierarchies in hunter/gatherer societies. Mark Sapwell and Liliana Janik put forward a new approach on how to understand the accumulation of images at panels over time using examples from Laxön, Nämforsen in Sweden and Zalavruga in Russia in their article *Making Community: Rock Art and the Creative Acts of Accumulation*. New perspectives on rock art are combined with new methodologies. They argue that for both rock art landscapes there exist consistent patterns in how motifs are placed in relation to each other, and demonstrate selective acts of accumulation where the community used art in the act of including and excluding ideas.

Two of the contributions discuss aspects on theory and methods respectively. Through a critical reassessment of earlier research on the engravings in the cave of Les Trois Frères in Ariège, France, Paul Bahn in *Bow and Errors* warns against dangers of poorly-founded interpretations and of arguments from authority in rock art studies. Using ethnographic and artistic evidence from southern Africa, he examines the basis of Henri Breuil's original interpretation that it depicts a player of a musical bow. In *The method and physical processes behind the making of Hunters' Rock Art in Western Norway: the experimental production of images* Trond Lødøen presents results from the experimental production of rock art, making images on sandstone with a stone chisel. The article takes its point of departure in the rock carvings of the hunter's type, at the site of Vingen, in Bremanger, Western Norway. He combines a background on the research on the production of rock art with special focus on time and production.

The next two articles share a critical approach towards the traditional idea of division between rock art produced by hunter-gatherers and by agriculturalists. In *Boundless rock art – symbols, contexts and times in prehistoric imagery of Fennoscandia* Ulf Bertilsson studies the dichotomous relationships between the traditional blocks of hunter-gatherers' and farmers' rock art, by presenting so far unknown examples of images, symbols and panels that seem to transcend the boundaries of these established concepts. *Subsistence in central Norway elucidated through rock art excavation and documentation*, by Eva Lindgaard presents a case study on rock art sites from Beitstad, central Norway holding rock art from both Stone Age hunter-gatherers and Bronze Age agriculturalists. The division between these traditions is challenged by recent rock art research and the absence of cereal cultivation indicators prior to the pre-Roman Age. By combining analyses of rock art with research on early agriculture,

Lindgaard seeks to investigate continuity and discontinuity within subsistence.

Relations between land and sea/water are treated in three articles where rituals and the liminal are central issues. Melanie Wrigglesworth explores the relations between maritime interactions and cosmology in *Between land and water: the ship in Bronze Age West Norway*. Four rock art sites dated to the Bronze Age in Hardangerfjord, Western Norway are presented and discussed. The ship's importance in everyday life and in cosmology is reflected in motives on rock art panels, which the author sees as sites for rituals influential to the regulation of maritime networks. In *The motif of the boat in Valcamonica Rock Art. Problems of chronology and interpretation* Angelo Fossati discusses the Alpine ship images in relation to a general Alpine chronology. The article places ship images into a detailed chronological framework and further, other water-related images like waterfowls are discussed. He identifies several problematic issues and concludes that there is a need for continuous analysis to ascertain the scope of the ritualistic value of these themes in rock art. *Contrasts of the maritime environment. Possible implications in prehistory* by Christer Westerdahl puts forward the view that maritime communities' two poles of subsistence is reflected in a cognitive dual structure sea/water-land. Various details of the rock carvings, such as the heads of land animals on the ships, may illustrate negotiation between these

two perspectives. Their representations, in the form of great animals etc. are understood as liminal agents passing from one sphere to the other. The main source material is maritime folklore documented during historical times.

The section of articles ends with two contributions representing new approaches to the traditional topic of style. In his article *Rock art and the importance of style. Style complexes and group identity – South-Western United States and Mid-Scandinavia – a comparable approach* David Vogt makes a comparison between the rock art at Sears point Arizona and the rock art in Trøndelag, Norway. He analyses rock art style as a medium for sending coded and multilevelled messages between people against a background of social stress and conflicts. The article *Memory and destruction. Patterns of practices during the latest stylistic phase within the north Swedish rock painting tradition* presents results concerning long term changes in expressing and depicting the elk. Ylva Sjöstrand suggests that the role of red ochre pictures during the late Neolithic functioned as a complex semiotic tool, used for appreciating the balance between tradition and revitalization.

The final section of the book is a bibliography of Professor Kalle Sogndes' papers, articles and other publications compiled by Eva Lindgaard.

# Knowing by learning by being there – the course which formed a new generation of rock art researchers

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## Abstract

*A Nordic field course in rock art was organized in West Sweden and East Norway in 1970 which subsequently became very influential for research in prehistoric images, particularly petroglyphs. The course had a threefold organisation with lectures on interpretational problems and different geographical areas of rock art, field trips to well-known and newly-discovered sites – both in daylight and artificial illumination at night, and finally a section on documentation techniques. The course became influential as a great deal of the almost fifty people attending it later became researchers, antiquarians and museum curators with a special interest in rock art. One of the pioneers was Kalle Sognges.*

## Introduction

A unique Nordic field course for students in archaeology based entirely on rock art research was organized in Bohuslän, Sweden, and Østfold, Norway, between the 20th and the 29th of August 1970. This course may be understood as the preparation of a new generation of rock art researchers who entered the stage after 1970.

## The situation of the students from a Swedish perspective

When my generation, born during and just after the Second World War, entered university for further education, the prime cause was to find and imbibe an attractive subject in the form of an academic discipline. This change of life, from a formal, not always appreciated school system with a hidden agenda to sort people according to intelligence and social endowments, to a more individual way of getting at knowledge was symbolically marked with a new title: you became a *candidate*, and were addressed as such. Your main influences came via your teachers, who were rather few at the time. The number of lessons was also limited, as were the handbooks (if they existed at all); Carl-Axel Moberg's *Introduction to archaeology* being an important exception (1969). The levels of education were not separated when it came to lectures or seminars. The latter were something new and an exciting but scary experience where various questions could be or even should be discussed – and criticized. It was a rather protected milieu, a sort of workshop which offered an opportunity to test your knowledge and opinions on your teachers and fellow-students. Most books in the curriculum were original academic works and it was a challenge to pass by the often rather self-asserted descriptive power of the texts. Quite remarkable – from the perspective of today – was that the candidates very seldom discussed future possibilities for employment or even income. Even if after some study

time you were asked to work for payment, for example at a museum, this did not always awake any enthusiasm. We were at the university to study and we wanted to stay there as long as possible. As the state had organized academic education, the students naively thought that they were much needed and there would be jobs waiting for them after examination. It was too early to think of specialization. Instead a sort of general cultural academic position was planned for with a combination of subjects such as archaeology, ethnology and art history.

## It was all small scale

There was a small number of students, few universities, few academic teachers – some of which were the heads of museums at the same time, limited economic resources, limited premises and limited literature – mostly national and Nordic. You decided and planned your own studies according to rather vague instructions and almost all students who applied for academic studies were let in. Any skill with languages was almost restricted to written texts. Because of the experiences from the World War, German was not that attractive as a scientific language for archaeology and English subsequently became the main means of international expression; French was also rare. The situation for academic students was quite similar in all of the Nordic countries.

## Academic culture

Upon entering an academic institution it was necessary to learn the culture of academia as well as the local institutional culture at your place of study. When this was done – and it took some time – you thought you were on track and the curriculum would guarantee the direction, extent and quality. You didn't reflect very much on the academic courses as they were, they were seen as a



FIGURE 1: SOME PARTICIPANTS OF THE COURSE LISTENING TO ERLING JOHANSEN IN FRONT OF THE SOUTHERN SITE OF SKOGERVEIEN, DRAMMEN. SOME INDIVIDUALS ARE REMEMBERED BY THE AUTHOR. FROM THE LEFT, SVERRE MARSTRANDER, KALLE SOGNES, GRO MANDT LARSEN, GÖRAN BURENHULT. (PHOTO LARS STRÖMBERG)

given. Afterwards you could look back at your hopefully favourable study years and discover that they were highly interesting and surprising, but to a certain degree also boring. You might realize that you were sometimes lucky enough to have been part of something unusual, remarkable and important. The teachers came down to us students from their Parnassus, talked about what was not written in the texts and let us take a part of their own experiences, from studying books, visiting archives and working in the archaeological field. As a witness, I will use my experiences from a unique Nordic field course based entirely on rock art research which was organized in Østfold, Norway and Bohuslän, Sweden in August 1970. It is my intention here to give a background to the new generation of rock art researchers entering the stage after 1970. On this occasion I met Kalle Sognes for the first time.

### Nordic rock art just before 1970

The Nordic rock art research situation up to the time of this field course is described in the following. Rock art research was rather limited in Denmark as the archaeological focus was placed on other themes. P. V. Glob had just written the first comprehensive book on Danish rock art (1969), long after the initial work by Henry Petersen (1875).

Rock art images were painted and not carved in Finland and so only a few sites were known at the time (Taskinen 2000).

In Norway there was quite a different situation, and the amount of rock art sites of course affected the archaeological

field. The research had several geographical centres of gravity such as Oslo, Bergen, Stavanger, Trondheim and Tromsø. The many dissertations and regional studies made this country outstanding in surveying and publishing. There was also more cooperative planning, where A. W. Brøgger wanted a joint operation in Norwegian archaeology, including rock art studies as a prominent theme. This concentration of research forces suggested in 1927 was probably directed towards a presentation of Norwegian prehistory to the incoming gathering of the International Congress of Prehistoric and Protohistoric Sciences in 1936. For the sake of rock art it is possible to identify several assignments (Bøe 1932, Gjessing 1932, Engelstad 1934, Gjessing 1936 and a later contribution from the outsider Hallström 1938, Gjessing again 1939, Fett & Fett 1941, Simonsen 1958, Marstrander 1963 and Hagen 1969).

Rock art research in Sweden seemed to focus on regional studies, even though Oscar Almgren (1927) launched a more general interpretation of a historical-religious character. A small volume on the phenomenon of rock art for a general public was also presented (Fredsjö, Janson & Moberg 1969). There was no national project on rock art, and the engagement of the national antiquarian authority was not formed until the 1970s. A major, early study was Arthur Nordén's *Östergötlands bronsålder* (1925), which had to wait twenty years before it was followed (Althin 1945, covering Scania). A remarkable effort was demonstrated in the eighty years old Gustaf Hallström's work on Nämforsen (1960) which showed how complex, vast and difficult to reach many rock art sites are. It may take a lifetime or even more to produce a 'complete'

documentation. The same reflexion is also valid for Åke Fredsjö's documentation of the Kville hundred (1966-69). Photo documentation with advanced cameras and artificial light had its massive implementation in the 1960s, with many followers (eg. Hasselrot & Ohlmarks 1964).

It is obvious that rock art activities and publications existed, waiting to be studied, but the periods of production and activity were in thin clusters that were often dependent on the availability of financial resources. Furthermore, the Second World War caused an interruption in the activities. Field-work which mainly consisted of surveying was ongoing, but not all activities resulted in quick publications. A special problem was the high cost involved in the reproduction of photos, measurements and drawings. On the other hand, the printing quality of the reproductions was often astonishingly high. From the beginning there was a split between rock art in publications on one hand and in the other rock art as an archaeological object with its setting in the landscape. This would be examined throughout seasonal changes, with different sorts of rock and their colours and structures, with varied light, varied directions, full scale, touching experiences of the rocks and finally the troubles locating the sites and identifying the carved figures and signs.

### National prehistory

At the time of the rock art field course there were comprehensive books based on the prehistory of nations available that had only recently been produced. Internationally there was a demand for national archaeologies and the series *Ancient Peoples and Places* was producing a lot of volumes, including Scandinavian countries. In Denmark Johannes Brøndsted published the three volumes of *Danmarks oldtid* (1966), in Finland Ella Kivikoski published, in Swedish, *Finlands förhistoria* (1964), in Norway Anders Hagen wrote *Norway* (1967) and Mårten Stenberger presented *Sweden* (1962) and *Det forntida Sverige* (1964). All in all it was possible to study Nordic prehistory (on a student's level) with the stories of the prehistory of each nation kept in a sort of balance, despite differences. The individual countries were kept apart but there was one individual at that time who treated Scandinavia as a prehistoric whole, Gunnar Ekholm (1935). However, already at the beginning of rock art research there were already attempts to see the phenomenon as a common, Scandinavian expression (Holmberg 1848; Ekholm 1916).

### Rock art and international conferences

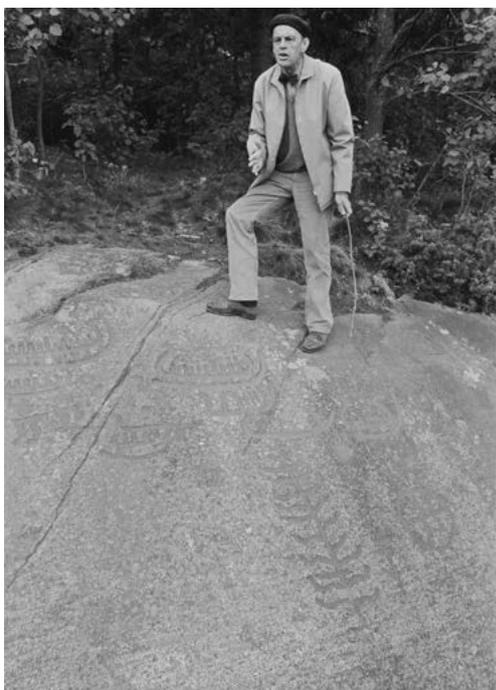
The rather similar Scandinavian languages facilitated academic communication. International congresses and symposia started as early as 1839 (Nordbladh 2009). The northern archaeologists and natural scientists had the possibility to meet. Later on, the specialization developed and the first Nordic meetings for archaeology took place in 1912. Nordic archaeologists took great pleasure in being on the board of some of the continental meetings that began

in 1865. Internationally the first presentation of Swedish rock art was given at the conference in Stockholm in 1874 (Bruzelius 1876). The meetings grew over time and it is possible to see the congresses in Copenhagen (1869) and Stockholm (1874) as the last, almost overpopulated meetings of this kind – in Stockholm there were ca. 1600 participants at least in the files! Several wars also had a strong affect on the congress world. Again, all in all, there were a lot of prerequisites for information and cooperation. In the case of international rock art, the focus was directed towards the paleolithic periods. To which Scandinavian researchers seldom contributed.

Despite the rather nationalistic directions of prehistoric research in the Nordic countries, there was interest among the researchers to take part in the wider referential world of rock art. There was a search for parallel image situations and possible historic connections as well as interest in how rock art research was carried out in other contexts, in terms of documentation methods, chronological investigations and how an interpretative mission could be achieved. At the congress of Union International des Sciences Préhistoriques et Protohistoriques (UISPP) in Prague in 1966 it was decided that a committee for post-paleolithic art should be created. Only two years later such a symposium was held in Valcamonica, Northern Italy, organized by Emmanuel Anati. The symposium resulted in a big and heavy volume of the presentations (Anati *et al.* 1970). Looking at the list of participants, it is interesting for us to realise that Scandinavia was strongly represented in terms of numbers, including contributions from the following leading rock art researchers: from Norway Sverre Marstrander, from Denmark Hans Langballe, from Sweden Bertil Almgren and Pontus Hellström, Åke Fredsjö, Lili Kaelas and Fred Gudnitz. Among other participants there were some who were working with rock art and publications such as Antonio Beltran, Henry de Lumley, Andrée Rosenfeld, Peter Ucko, Alexander Marshack and of course Emmanuel Anati. This was a good chance for the participants to build collegial relations; some of the names would later appear again at the international rock art symposia in Norway. It is quite possible that the Scandinavian delegates became influenced by how the symposium was organized, with lectures, discussions, field trips and the introduction of new documentation techniques, all of which would be introduced to a new generation of students in archaeology back home. And so it would be. The hard work of Bertil Almgren (Figure 2) and Sverre Marstrander (Figure 3) resulted in financial support for this unusual academic course on a Nordic base. After intensive planning, a course in rock art research was announced for August 1970. It may seem surprising that Almgren was so attached to the county of Bohuslän, particularly its middle and northern parts, but this is probably due to the legacy of his father who worked more in Bohuslän than with the closer rock art of Uppland where Uppsala provided him his chair. This part of middle and northern Bohuslän was traditionally a working area for archaeology directed from Stockholm and Uppsala.



FIGURE 2: BERTIL ALMGREN. (PHOTO LARS STRÖMBERG)

FIGURE 3: SVERRE MARSTRANDER AT SOLBERG, SKJEBERG.  
(PHOTO LARS STRÖMBERG)

### Participants of the course

Afterwards, with only some blue-prints saved from the course, it is always difficult to be absolutely sure who really attended. This is a typical problem for all meetings, as memories are recreated or missing. Modern research in memory tells us that people even tend to remember things they have not experienced. We have name lists and some photographs at our disposal, but even with photographs, there is a problem with identification. The list of participants in this case is remarkably long and is produced in a democratic way as everyone is in

alphabetical and not academic order. On some of the available photographs people who are not in the list are seen and recognized, but one person was definitively present, *Cand.mag.* Kalle Sognnes from Bergen! From the list there were forty participants and from a postscript there were two extra attendees. Bertil Almgren (Figure 2) was not on the list, possibly an indication that he was the main responsible person of the course. The fifty people were (probably) the following: from Denmark (5): Ulla Fraes Rasmussen, Karin Lökkegaard, Helge Nielsen, Jens-Aage Pedersen and Hans Rostholm; from Finland (4): Mikko Perkkö, Jukka Luoto, Jouko Rätty and Pekka Sarvas; from Norway (8): Synnøve Garmo, Erling Johansen, Øystein Johansen, Gro Mandt Larsen, Lyder Marstrander, Sverre Marstrander, Heid Gjøstein Resi and Kalle Sognnes; from Sweden (33): Bertil Almgren, Elisabeth Almgren, Göran Andersson, Greta Arwidsson, Berit Alrenius, Elisabeth Arwill, Ingrid Backman, Zaiga Blumbergs, Elisabeth Brynja, Göran Burenhult, Louise Cederschiöld, Gunnar Ekelund, Anders Flodin, Åke Fredsjö, Arne Furumark, Kenth Holgersson, Inga Hägg, Torsten Högberg, Barbro Johnsen-Welinder, Einar Kjellén, Ragnar Lannerbro, Mats Lundgren, Carl-Axel Moberg, Jarl Nordbladh, Jan Rosvall, Birgitta Sjöstedt, Lars Strömberg, Jan-Erik Tomtlund, Peder Wærn, Christer Westerdahl, Karl Vilkans, Margareta Åkerman, Britta Åkesson.

One may wonder why there were so many Swedish participants. It must have been a challenge to realize and organize a joint Nordic academic education of this dimension. International student courses were rare at that time as the research society was directed towards individual advancement and competition. Collegial cooperation was rare except between good friends. Academic people were constantly exposed to criticism; with a limited group of well-educated people in the same field, rivalry about academic positions often caused harm and loss for a lifetime. However, competition, offices and appeal were often detrimental to the people involved. Universities were also historically independent and self-satisfied, so why cooperate? Instead, it was understood that you should take care of your own interests and precisely observe your closest colleagues' moves. Academic disciplines were seen as having a centre, and a range. It was frequently wondered where the borderline to the next neighbouring discipline was situated. So on top of competing individuals and departments, different disciplines tried to both refine their territories and enlarge their range; a quite irritating dilemma. Even on this, you could say, natural level of existence, the organization of the course was surprising. Universities and their departments were not created to work together in the same mission. However, all in all, the interest in rock art was stronger than the wish to keep up with old academic confines, and it suddenly became possible to implement something new. There was also interest, or pure curiosity, from colleagues like Greta Arwidsson and Carl-Axel Moberg as well as sidemen like the tall, well-built stoneworker and local amateur-antiquarian Göran Andersson in Tossene, Bohuslän (Svensson 1988, Hasselrot 1994, Bengtsson 2000) and

the enterprising private museum's keeper Fred Gudnitz in Underslös in Tanum (not on the list!). Andersson had found a lot of new rock art sites in the neighborhood and Gudnitz, and with his artistic background (Karlsson 2004, Kaelas 2011) he saw the visual qualities of the rock carvings and came to inspire – mostly – Danish people of culture to have a close relation to this image world; people like P.V. Glob, a professor in archaeology at Aarhus and later on, State Antiquarian for Denmark, and the world famous artist Asger Jorn, who put a lot of energy and money towards surveying, documenting and publishing old, what he called, 'barbarian' folk art in a – on paper – grandiose series of twenty-eight volumes (Weimarck 1980). Very little of Jorn's vision came to realization, but some tomes came out featuring works on graffiti on Normandic churches in France and medieval stone sculpture related to Gotlandian churches. Jorn was also engaged in Scandinavian rock art. On one occasion, he asked my colleague Jan Rosvall and myself to work for him on a rock art mission, but unfortunately Jorn died shortly afterwards and nothing was completed. Jorn looked upon rock art in a different way; not taking the historical facts seriously, his cooperation with academic historical persons was never an easy task. The un-academic Gudnitz was not part of the course, but he showed up to see what this new, strange and colossal training was and of course – to show himself to the audience. He was a strange but striking personality.

### The contents of the course

The course was organized with two geographical places of sojourn, first Skjeberg in Østfold and then a move to Tanumshede in northern Bohuslän. As far as I remember, there were no texts to read in advance, no examination and no certificate. After gathering at the railway Østbanestasjonen in Oslo, we visited some rock art sites nearby and in Drammen before leaving for Skjeberg. The activities were rather condensed, with a variation of lectures and fieldtrips, both in daylight and in darkness with flashlights and stronger searchlights. The trips were led by Marstrander (Figure 1) and Johansen (Figure 4).

Lectures were also given in the evenings and dealt with questions from the history of rock art research, such as arctic art and the art of hunters (Marstrander), to problems related to style and classifications (Almgren, Marstrander). A central theme was the application of a stylistic analysis based on lines and forms of rock figures as well as bronze artefacts, called graphic curves. Such curves from dated bronze materials would maybe be identical to lines identified in the rock art (Almgren). Furthermore, views of other rock art contexts were presented, such as Valcamonica. The course moved to Tanumshede, with a program of the same kind as in Skjeberg. The seminars introduced more rock art from Uppland (Kjellén) and Blekinge (Burenhult), Western Norway (Mandt Larsen), Northern Norway (Arwidsson), Denmark (Rostholm), Bohuslän (Fredsjö), Finnish rock paintings (Sarvas), Russian rock art (Sarvas) and Siberia (Moberg). News



FIGURE 4: ERLING JOHANSEN, IN THE MIDDLE.  
(PHOTO LARS STRÖMBERG)

was also presented in the form of newly discovered rock art sites in Tossene and Tanum (Andersson, Högberg, Ekelund). However, all presentations did not feature a geographic background. Interpretation was at the forefront (Almgren) and direction was given in comparison with the Mycenaean-Minoan religion (Furumark). Overall, the suggested interpretations were within culture-historical frames and, for example, no hint was given towards petroglyphs as organized markers in the landscape or the whole image repertoire as a concurrent sign system.

A very important part of the course were the demonstrations of the techniques of documentation, with casting, impressions, tracings, reduction to scale (given by the professional illustrator Roosman), and forming a bridge between observation and interpretation (Figure 5-6). As far as I remember, grass rubbings were not yet used. A memorable feature was Greta Arwidsson's odd demonstration of kicking a piece of soft frigulite plastic into the bedrock to catch the rock art figures: these imprints ended up being a failure.

Bertil Almgren was keen on using replicas in his demonstrations, which often created a sort of pedagogical,



FIGURE 5: THE SENSITIVE FINGERS OF SVERRE MARSTRANDER  
AND ERLING JOHANSEN TRACING THE GROVES OF  
A ROCK ART SHIP. (PHOTO LARS STRÖMBERG)



FIGURE 6: THIS STRANGE FORMATION IS A DEVISE TO SHUT OUT THE DAYLIGHT IN ORDER TO OBSERVE SOME CARVING. THE PLASTIC TENT BECAME AN IMPOSSIBLE SAUNA. (PHOTO LARS STRÖMBERG)

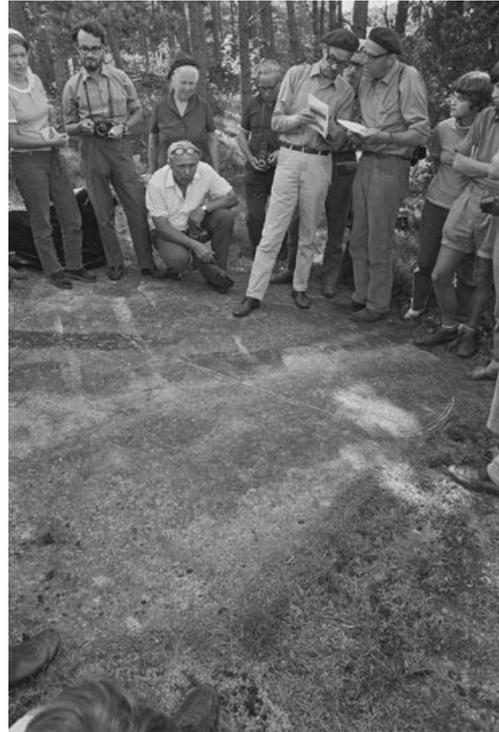


FIGURE 8: THE CONTOUR OF A POSSIBLE BRONZE AGE CLOAK AT THE SITE OF NASSERÖD, SVENNEBY PARISH. FROM THE LEFT CHRISTER WESTERDAHL, ERLING JOHANSEN, GRETA ARWIDSSON, ÅKE FREDSJÖ AND SVERRE MARSTRANDER. (PHOTO LARS STRÖMBERG)



FIGURE 7: BERTEL ALMGREN ACTING AS A DRESS SERVANT, LIFTING A REPLICA OF A BRONZE AGE CLOAK ON TO THE SHOULDERS OF SVERRE MARSTRANDER. BETWEEN GÖRAN ANDERSSON AND BRITTA ÅKESSON. (PHOTO LARS STRÖMBERG)

explanatory drama. In this way a cape in the form of Bronze Age clothing was laid out on top of a rock art oval line enclosure to see if it would fill the contour (Almgren, B. 19 (Figure 7-8).

### Fun, food, frivolity

There was a very good mood throughout the course with interesting talks, trips, nice and good-looking male and female students. During the field trips we picked chanterelles, which we cooked in the evening. It was a special experience to walk with flashlights during the night trips between the sites. On one occasion Almgren had planned an event which featured the sudden presence of a Bronze Age deity playing a bronze lur on top of a high cliff, a view strengthened by Bengal light. We the students saluted the divine fellow, but expressed our dissatisfaction about his poor erection.

The good mood was a little surprising as there was turmoil within the archaeological world, with new archaeology and within the students' body. The Nordic students had just decided to create a contact seminar to meet and discuss examination forms, curriculum and general questions such as the philosophical basis for archaeology and the role of archaeology in contemporary society, questions which were very seldom mentioned in the class-rooms (Goldhahn 1999). In the same year as this field course there was a debate in Sweden about the right name for the subject. The traditional name of *Ancient antiquities/Nordisk fornknuskap* was supported by Bertil Almgren in Uppsala and a new, international name without any burden from nationalistic traditions was suggested by Carl-Axel Moberg in Gothenburg. The suggestions from Moberg

won, but very little of these contrasting opinions were shown within the course.

The students were rather obedient and tried to learn as much as possible. The only moment of protest was when Christer Westerdahl objected about the frequent use of the term *priest* in relation to rock art and cult behavior. He asked for a more explicit social context in which priests would be a part. The teachers were surprised at this attack as social questions had not yet been an ordinary issue of archaeological knowledge. This could also be said about more general economic problems as well as political analysis of archaeological, heritage or prehistoric situations. This episode became memorable as an early intellectual confrontation between teacher and pupil, the former being struck for an answer. Another result of this confrontation was that informal, nocturnal seminar took place at the boarding house with both students and some of the teachers in a most enjoyable atmosphere.

Finally the food must be commented on. It was generally good (and free of charge), but on one occasion we were surprised with splendid heaps of lobster. The Swedish West Coast showed the qualities of local specialties. The combination of students and lobsters was not that common.

#### **What did we learn?**

New archaeology (NA) was one of the sources of inspiration at the time, but not among the teachers – except for Moberg. The main direction of NA-studies was rather hostile towards symbolic studies, it was instead more about adaptation, technologies, hunting, movements, diet and domestication. However, these studies used more sophisticated models to analyze space instead of, for example, traditional dot cartography showing the distribution of finds and sites. One of the models was *site catchment analysis*, which was picked up by some Scandinavian often Mesolithic researchers. Kalle Sognnes found them useful to define the settings of rock art sites in Trøndelag. The majority of Nordic rock art researchers were occupied drawing distribution maps of the sites and trying to find the delimitation of diverse rock art styles and motives. Kalle Sognnes found his way among rocky territories, creating a new path to make comparison possible. Another inspiration from NA was the use of statistics to understand the character of the collected data. Geography, landscape and quantification slowly came into the archaeological repertoire.

Something must be said of the New Archaeology, which began to be spelled with an extra ‘a’ by the supporters as an ideological and political reminder of the social-anthropological background. The archaeological daily speech more or less left the old culture-of-history line of talk and adopted more and more concepts and terms from social and economic anthropology. Even the way of arguing shifted and this altogether entailed that communication was obstructed, which a new generation didn’t feel sorry about. Suddenly we were engaged both in giving form to

the problems and the answers and language and rhetoric became main tools for this.

What was discussed on the course was, however, limited in relation to contemporary questions within rock art research. The localization of rock art sites in relation to ancient sea levels was not touched upon. Neither was the rock art sites’ relation to more daily living sites or the importance of archaeologically excavating rock art sites. Nor was the time ripe for deeper discussions about the mission of Ahnenerbe and Herman Wirth at the end of the 1930s. Wirth’s campaigns in Sweden and Norway were occupied by making films and casts of the carvings to produce their own documents, trying to prove their own Germanic superior origin and ideology. This heritage organization with Wirth as head and Heinrich Himmler as the main protector was a creation within the SS and used all kinds of history and physical remains to support a privileged position for the coming new Germany. On the course, the teachers’ repudiation of ‘Lager Solberg-archaeology’ was probably an obstacle for subsequent reflection (Kater 1974, Pringle 2007). At the time very little was to be read about this infiltration of Nazi-Germanic field-work in Scandinavia, but it was still in the memory of older colleagues and the local population. The documents in question had their torpor in the museums’ archives and were not known and used by more committed students with a political agenda. Afterwards it is justified to raise the question of whether this Norwegian-Swedish engagement after the Second World War was a joint effort to obliterate the traces and memory of earlier German expeditions aiming to bind together Nordic rock art with the Nazi ideology.

Finally, the basis for a religious-historical interpretation of rock art did not include modern anthropological research which did not enter the scene until some years later, mainly through Åke Hultkrantz, who introduced a modern anthropological perspective on the relation between rock art and religion (Hultkrantz 1989).

This Nordic rock art field course was a major investment into future research work (Figure 9). The engagements of Bertil Almgren, Sverre Marstrand and their crew gave an opportunity for a new generation of researchers, antiquarians and museum curators to have close contact to prehistoric rock images and to establish a life-long network of colleagues. The course is remembered with great gratitude, on a joint intellectual and social level. The positive consequences were many: a new generation of researchers became familiar with each other – more directly, more tolerant, more helpful. Nordic solidarity grew, and language borders were overcome; the critical mass from the research society, including the use, heritage responsibility, concerns about care and conservation, and archive demands for future preservation became strong enough to claim quality and advanced criticism. Finally, this summer course created prerequisites for deepening rock art research ambitions, to present results but also to invite colleagues to share what was accomplished. In that



FIGURE 9: A LARGE PART OF THE COURSE IN FRONT OF THE SITE HAMN, KVILLE PARISH.  
A TOPLESS KALLE SOGNNES IN THE MIDDLE. (PHOTO LARS STRÖMBERG)

perspective two Nordic symposium volumes are prominent, both from The Institute for Comparative Research in Human Culture, Oslo: *Acts of the international symposium on rock art* (1972) and *Word and Objects* (1986). A decade later another two distinguished volumes were produced, hinting at Northern Norway as a coming research centre of gravity. (Helskog 2001, Helskog & Olsen 1995).

In the years to come the Nordic rock art researchers felt the need to make their own geographical investigations and to bring together experiences of different research areas, not for historical reasons but for the sake of scientific enterprise. Suddenly several people left for studies in Russia, France, Australia, Canada and the USA. Scandinavian rock art research found a much wider scene to act on.

It is surprising that many of the course participants (c. 20%) became active within rock art research and they all started with a basic documentation period. Four of them did write their doctoral theses on rock art. I am more and more convinced that research is a collective affair, a necessary network, and a rewarding and joyful activity. In this Kalle Sognnes has always taken his collegial role seriously. It is worth mentioning that Kalle found his way to one of the wells of inspiration for petroglyphiana – The Camonica Valley and Centro Camuno di Studi Preistorichi, Capo di Ponte – where he stayed for longer periods. This research and training institution with its inviting atmosphere, archive and library was early one of the central places to study rock art and almost all researchers in prehistoric images have been there and used its resources. Was Kalle Sognnes's engagement happening by chance or was it a hidden effect of the research system and its network (Figure 9)? If so (i.e. the latter), scientific

communication involves often unexpected reciprocal influences and rock art research is no longer an unbalanced affair.

#### Acknowledgement

I am very grateful to Dr Lars Strömberg for discussions of the course and loan of photographs and to Rich Potter for helping my tottering English into a readable form.

The identification of people on photographs was very much facilitated through help from Hans Rostholm, Pekka Sarvas and Christer Westerdahl.

#### Bibliography

- Acts of the International symposium on rock art.* (1972)  
Ed. Sverre Marstrand. The Institute for Comparative Research in Human Culture. Serie A: XXIX. Oslo.
- ALMGREN, B. (1960) *Hällristningar och bronsåldersdräkt*. Tor 6.
- ALMGREN, O. (1927) *Hällristningar och kultbruk. Bidrag till belysning av de nordiska bronsåldersristningarnas innebörd. Kungl. Vitterhets Historie och Antikvitets Akademien*. Handlingar 35, Stockholm.
- ALTHIN, C-A. (1945) *Studien zu den Bronzezeitlichen Felszeichnungen von Skåne. I-II*. Lund.
- ANATI, E. et al. Ed. (1970) *Valcamonica Symposium. Actes du Symposium International d'Art Préhistorique. 23-28 Septembre 1968*. Brescia.
- BENGTSSON, L. (2000) Bohuslänska hällristningsforskare. I.: *Fynd* 1-2, pp. 22-28.
- BRUZELIUS, N. G. (1876) *Sur des rochers sculptés découverts en Scanie. Congrès Internationale d'Anthropologie et*

- d'Archéologie Préhistorique. Compte Rendu de la 7:e Session 1874.* Pp. 475-483.
- BRÖNSTED, J. (1966) *Danmarks Oldtid. I-III.* København.
- BØE, J. (1932) *Felszeichnungen in Westlichen Norwegen. I. Die Zeichnungsgebiete in Vingen und Henøya.* Bergens Museums Skrifter. Nr 15. Bergen.
- EKHOLM, G. (1935) *Forntid och fornforskning i Skandinavien.* Stockholm 1935.
- ENGELSTAD, E. (1934) *Østnorske ristninger og malinger av den arktiske gruppe.* Instituttet for Sammenlignende Kulturforskning. Serie B. Skrifter XXVI. Oslo.
- FETT, E. & FETT, P. (1941) *Sydvestnorske helleristninger. Rogaland og Lista.* Stavanger.
- FREDSJÖ, Å. (1966-69) *Hällristningar i Kville. I-IV.* Bohusläns Hembygdsförbunds tidskrift.
- FREDSJÖ, Å., JANSON, S. & MOBERG, C.-A. (1954, 1969) *Hällristningar i Sverige.* Stockholm.
- GJESSING, G. (1932) *Arktiske helleristninger i Nord-Norge.* Institutt for Sammenlignende Kulturforskning. Serie B: Skrifter XXI. Oslo.
- GJESSING, G. (1936) *Nordenfjelske ristninger og malinger av den arktiske gruppe.* Institutt for Sammenlignende Kulturforskning. Serie B: Skrifter XXX. Oslo.
- GJESSING, G. (1939) *Østfolds jordbruksristninger. Idd, Berg och delvis Skjeberg.* Institutt for Sammenlignende Kulturforskning, Serie B: Skrifter XXXIII. Oslo.
- GLOB, P.V. (1969) *Helleristninger i Danmark.* Jutland Archaeological Society Publication, volume VII. København.
- GOLDHAHN, J. (1999) *Fællesnordisk Råd for Arkæologistuderende. Några personliga reflektioner kring ett 30-årigt fenomen inom nordisk arkeologi.* In: *Glyfer och arkeologiska rum – en vänbok till Jarl Nordbladh.* Red. Anders Gustafsson & Håkan Karlsson. Gotarc Series A, vol. 3. Göteborg.
- HAGEN, A. (1967) *Norway.* London.
- HAGEN, A. (1969) *Studier i vestnorsk bergkunst. Ausevik i Flora.* Årbog for Universitetet i Bergen. Humanistisk serie, No. 3. Bergen.
- HALLSTRÖM, G. (1938) *Monumental Art of Northern Europe from the Stone Age. I. The Norwegian Localities.* Stockholm.
- HALLSTRÖM, G. (1960) *Monumental Art of Northern Sweden from the Stone Age. Nämforsen and other localities.* Stockholm.
- HASSELROT, P. (1994) *Forntida signaler. Med människorna kring hållbilderna.* Stockholm.
- HASSELROT, P. & OHLMARKS, Å. (1964) *Hällristningar.* Stockholm.
- HOLMBERG, A. E. (1848) *Skandinaviens hällristningar. Arkeologisk afhandling.* Stockholm.
- HULTKRANTZ, Å. (1989) *Hällristningsreligion,* In: *Hällristningar och hållmålningar i Sverige.* Eds: S. Janson, E. B. Lundberg and U. Bertilsson. Stockholm Pp. 43-58.
- KAELAS, L. (2011) *Fred Gudnitz. A Danish 'vehicle of culture' in Bohuslän.* In: *Adoranten. Scandinavian Society for Prehistoric Art.* Pp. 114-117.
- KARLSSON, H. (2004) *Skomakaren och Svanbergs kaffestuga. Kring förmedlingen av hällristningar.* In: *Plats på scen. Kring beskrivning och förmedling av Bohusläns fasta fornlämningar genom tiderna.* Anders Gustafsson & Håkan Karlsson, eds. Bohusläns museum. Kulturhistoriska dokumentationer nr 17. Uddevalla. Pp. 201-233.
- KIVIKOSKI, E. (1964) *Finlands förhistoria.* Helsingfors.
- MARSTRANDER, S. (1963) *Østfolds jordbruksristninger.* Skjeberg. Institutt for Sammenlignende Kulturforskning. Serie B: Skrifter LIII. Oslo.
- MOBERG, C.-A. (1969) *Introduktion till arkeologi.* Stockholm.
- NORDBLADH, J. (2009) *A Scandinavian view of the beginning of congress times. In: Archaeologists without boundaries: Towards a history of international archaeological congresses (1866-2006).* Ed. By M. Babes & M.-A. Kaeser. BAR International Series 2046. Oxford.
- NORDÉN, A. (1925) *Östergötlands bronsålder.* Linköping.
- PETERSEN, H. (1875) *Om helleristninger i Danmark.* Aarbøger for nordisk Oldkyndighed og Historie.
- PRINGLE, H. (2007) *Härskarplanen. Himmlersjakt på det ariska ursprunget.* Lund.
- SIMONSEN, P. (1958) *Arktiske helleristninger i Nord-Norge. 2.* Institutt for Sammenlignende Kulturforskning. Serie B; Skrifter XXXXVIII. Oslo.
- STENBERGER, M. (1962) *Sweden.* London.
- STENBERGER, M. (1964) *Det forntida Sverige.* Stockholm.
- SVENSSON, E. (1988) *Göran Andersson – upptäckare av tusentals hällristningar i Bohuslän.* In: *Fynd 2/1988,* pp. 46-52.
- TASKINEN, H. (2000) *Hällkonsten i Finland – forskningshistoria och dokumentation.* In: Edgren, H. & Taskinen, H. (eds) 2000. *Ristad och Målad. Aspekter på nordisk bergkonst. föredrag presenterade vid ett nordiskt seminarium om bergkonst i Suomussalmi 8.-11.9.1998.* Museiverket. Helsingfors. Pp. 20-32.
- WEIMARCK, A.-C. (1980) *'Nordisk Anarkism'. Asger Jorn och projektet 10.000 års Nordisk Folkkonst.* Åhus.
- Words and Objects. (1986) *Towards a Dialogue Between Archaeology and History of Religion.* Ed. Gro Steinsland. The Institute for Comparative Research in Human Culture. Serie B: LXXI. Oslo.



# Contested worlds – a chronotopic essay about mortuary monuments and cultural change in Northern Europe in the second millennium BC

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## Abstract

*This paper aims to highlight the necessity of linking the use of ritual places to social strategies that sometimes lead to social and cultural transformations. More specifically, I will analyse the role of mortuary monuments and memory praxis in the transition from a society ranked by kin – often labelled a Big Man Society, where the cult of ancestors was of great importance – in the Early Bronze Age in Northern Europe (c. 2350-1600 BC), to the Middle Bronze Age Chiefdoms (1600-500 BC). In particular, my presentation will orbit around social strategies connected to the creation of new monuments (cairns and mounds) and the destruction and (re-) use of older monuments, including megaliths from the Middle Neolithic (3300-2800 BC) and gallery graves from the Early Bronze Age. In short, how can we trace social strategies that presumably were connected with the use of these ritual places?*

**Keywords:** *chronotope, rock art, ritual places, Bronze Age, burial rituals, memory praxis, social transformation, megaliths, mounds, cairns, gallery graves*

## Points of departure

Ritual places such as burial monuments and rock art have been ascribed various roles and significance in the archaeological field. In traditional cultural historic archaeology, such issues were considered hard to handle, with the result that anything strange and odd came to be seen as a ‘cult’. According to Christopher Hawkes’ (1954) ‘ladder of inference’, questions about ritual and religion were deemed to be almost impossible to answer. Climbing this ladder in pursuit of those unattainable enquiries would automatically bring on severe vertigo. The New Archaeology proved to have little to add to this topic (Binford 1972). Things began to change with the formation of the Post-Processual movement in the 1980s. To begin with, the meaning and significance of ritual places were discussed at a safe theoretical distance, mainly with respect to the possibilities of identifying and highlighting ideological and symbolic phenomena in the past (Hodder 1986; Shanks & Tilley 1987a, 1987b). In the next phase, during the 1990s, in what has been labelled either interpretative (Tilley 1993; Hodder 1995) or cognitive archaeology (Renfrew & Zubrow 1994), more thorough studies based on praxis-oriented theories aimed at defining, identifying and interpreting the contexts of rituals were presented (Bell 1992; Insoll 2004; Berggren & Nilsson Stutz 2010). This resulted in numerous archaeological studies of burial practice (Parker Pearson 1999), ritual depositions (Bradley 1998a; Fontijn 2003), the significance of rock art (Whitley 2001, 2005; McDonald & Veth 2012), monuments (Bradley 1998b), material culture (Tilley 2006), landscape cognitions (David & Thomas 2008), natural places (Bradley 2000), domestic

spaces (Bradley 2005), et cetera. In the new millennium we have also witnessed novel studies conducted from a biographical perspective (e.g. Kopytoff 1986) and *chaîn opératoire* (Dobres 2000), demonstrating that sometime technological know-how was linked to the negotiation of social power relations (Apel 2001), as well as to cosmological beliefs (Goldhahn 2013).

Interpretative or cognitive archaeology’s interest in ritual places arose from the successes and shortcomings of ethnoarchaeology and intra-site analysis conducted by processual archaeologists (O’Brien *et al.* 2005). Compared with the Grand Narrative that had been highlighted by the culture historical thought-style, these studies introduced and explored a new way of perceiving time and space in the archaeological field (e.g. Lucas 2005). In contrast to the macro-scale analysis of cultural historic archaeology, which usually explores the past from a diachronic time perspective, these analyses have emphasized synchronic perspectives and micro-scale contexts.

These differences can be comprehended in terms of the French historian Fernand Braudel’s notions of different time perceptions, presented in his renowned study *La Méditerranée et le Monde Méditerranéen à l’Epoque de Philippe II* (1949). Braudel introduced three general analytical time-scales that he believed should apply to all historical research. The first time-scale, the geographical constraint, is that of the environment, with its discernible limitations and possibilities, changes, repetitions and cycles; changes on this level may be fast or slow but also inevitable for human agency, not least in ‘traditional’ societies. The second time-scale consists of what Braudel

calls *la longue durée* – the long haul of history; he relates it to shorter conjunctures or longer structures of an economic and social nature, but also to mentalities and cultural history (Braudel 1980: 25-53). Changes at this level are more frequent than those at the first level according to Braudel, and a single *durée* may span anything from one to several centuries. An example of this could be the enigmatic question of the rise and fall of empires and states, such as the palace cultures of Knossos and Mycenae, Maya or Rome, but also shorter conjunctures and structures such as the mentalities that distinguish epochs such as the Renaissance and the Enlightenment. The third time-scale concerns matters of moment (*nouvelle sonnante*), which include the analysis of individual lives and/or the history of events, such as daily life, wars, revolutions, strikes, major inventions, natural disasters, death, et cetera (*histoire événementielle*).

From this perspective it is clear that studies of ritual places have focused on Braudel's third time-scale, micro-scale analysis of prehistoric contexts, more often than on conjunctures, structures and *la longue durée* of economy, social relations, mentalities or cultural changes. This article is written from a position and assurance that the analysis and interpretation of ritual places is a rather neglected field for our understanding of the sometimes extensive and profound social and cultural changes that are discernible in the archaeological material. A virtuous reason for this, that might seem needless to emphasize, is the fact that rituals are always performed in the present but build on time-honoured traditions and institutions that merge the past and future with the present (Bell 1992). But despite this, questions concerning Braudel's second time-scale, *la longue durée*, are still commonly formulated from a traditional cultural historical or processual perspective in which analysis of ritual places is neglected or even considered suspect. Instead, prehistory is presented as several distinct periods that seem to follow each other as carriages follow a locomotive. Ritual spaces are then used as a reflection or illustration of the long haul of history, rather than as an active medium that constituted these changes.

According to my altered state of reality, similar analyses of cultural changes result in an interpretation of that past where economic or social conflicts are played down. The past is presented without frictions, cracks, or deficiencies, in short: without humans. Social and cultural changes in the past still tend to be painted in broad strokes and are all too often described as a transition from the simple to the more complex, and from an earlier stage when collective social ideals were the norm into more individualized ones. In this context, it is rather rare to find any serious analysis of how particular ritual places were used, altered and changed and how this praxis was related to general social and cultural changes in the past. Such analyses often focus on other types of perception of time and space. They are mostly based on concrete micro-scale studies of specific monuments, places, phenomena and events, which are discussed and interpreted without considering how the

advocated interpretation matches the larger picture, *la longue durée*.

The explanation for this rather simplified picture of the currently extensive archaeological research on the meaning and significance of ritual places lies in the difficulty in combining different narratives about the past in a single study. While it is indeed hard to merge different kinds of distinct temporal and spatial perceptions, that should not be used as an excuse. That said, Braudel's time-scales clearly embody and express different kinds of narratives that seem difficult to reconcile. Mikhail Bakhtin has identified similar patterns in specific genres within the literary field that he believes are based on different 'chronotopes'. The latter notion is borrowed from Albert Einstein's theory of relativity in which he talks about different 'space-times'. Bakhtin (1981: 7) describes chronotopes as:

*... points in the geography of a community where time and space intersect and fuse. Time takes on flesh and becomes visible for human contemplation; likewise, space becomes charged and responsive to the moments of time and history and the enduring character of a people.*

Following Bakhtin, we can suggest that different *chronotopes* are associated with different kinds of cosmologies that create different narrative structures that shape and reshape our perception of the past, and thereby also the present and the future. The discussion above is then comprehensible if we perceive the grand old macro-scale narrative as a diachronic chronotope, while the study of ritual places within the archaeological field mainly has been formulated on the basis of a chronotope that highlights a synchronic micro-scale narrative.

Different chronotopes and their narrative structures are often linked to Braudel's different time-scales, as discussed in Ian Hodder's *The archaeological process* from 1999. Here Hodder demonstrates how archaeologists struggle 'to find an explanation which does equally well for the short-term contingent as for the long-term structural'. Hodder considers that while both these analytical timescales are necessary, 'we should accept that the two scales are not commensurate' (Hodder 1999: 130, ch. 8); or, as the old saying goes, 'never mix, no worries'. In my opinion, Hodder does not rise to this challenge and his reluctance to analyse the relation between different chronotopic time-scales leads to some inauspicious theoretical implications for how human agency in the 'short-term contingent' relates to social and cultural changes from a 'long-term structural perspective'. That holds true both for our analysis of past societies as well as human agency in the present. Following Pierre Bourdieu (1972) or Anthony Giddens (1984), for instance, Hodder's dualistic division between 'structure' and 'event' is unfruitful if we want to understand human actions, because social negotiations and renegotiations are embodied in the relationship between these analytical notions. For as Bourdieu (1972) and Giddens (1984) have argued time and again, social structures are constituted by

human agency and at the same time are the very medium of this constitution.

From this it follows that we ought to ‘mix and worry’ and seek ways of merging these analytical perspectives. In this article I will try to show a path how we as archaeologists can accomplish that in an analysis of one of the most significant economic, social and ideological changes that is discernible in Northern Europe during the second millennium BC. My analysis will be based on different chronotopic narrative structures, crystallized from an analysis of different mortuary monuments and burial praxis. The analysis starts from the fact that a monument, which etymologically merely denotes ‘something that reminds’ or simply ‘to remind’, must be understood as a phenomenon where ‘time and space intersect and fuse’. A monument can then be described as a manifested and materialized chronotopic phenomenon that aims to create and negotiate people’s ideological perception of their life worlds, their cosmology. For as Bakhtin (1981: 7) puts it: ‘Chronotopes thus stand as monuments to the community itself, as symbols of it, as forces operating to shape its members’ images of themselves’. The purpose of the analysis is to detect different social strategies in the short-term contingent, with the aim of discussing how they were related to different perceptions of time and place, and how these strategies were related to the social and cultural long-term structures that are discernible in the archaeological record.

### **Social and cultural changes in Northern Europe during the second millennium BC**

One of the most profound changes in the prehistory of Northern Europe occurs during the second millennium BC, in the transition between the Early Bronze Age (EBA, c. 2350-1600 BC) and the Middle Bronze Age (MBA, c. 1600-1100 BC, e.g. Kristiansen 1998; Harding 2000; Earle 2002; Kristiansen & Larsson 2005; Vandkilde 2007). A brand new world seems to be born. These changes were fundamental and evident in a variety of fields in the archaeological record:

- Agriculture became more important, diverse and specialized (Sjögren 2006; Bartelheim & Stäuble 2009);
- A more than 2,000 year old tradition of building houses with two aisles gave way fairly quickly to a three aisle design (Thrane 2003; Arnoldussen & Fokkens 2008; Artursson 2009);
- Contacts between regions became more evident and intense (Clarke 2004, 2009; Kristiansen & Larsson 2005);
- Everyday tools as well as prestige goods of flint, such as the enigmatic flint daggers from southern Scandinavia (Apel 2001; Lekberg 2002), were replaced by shining bronze artefacts (Hänsel 1998; Mohen & Eluère 2000, cf. Högberg 2009);
- Bronze tools and weapons soon became standardized (Vandkilde 1996, 2000);

- Bronze ornaments expressing gender, status, rank, identity and ethnicity became a vital part of social displays and re-negotiations (Sørensen 1997, 2000; Bergerbrant 2007);
- Warriors were armed, admired and – killed (Treherne 1995; Otto *et al.* 2006; Harding 2007);
- Enormous burial monuments were created (Randsborg & Christensen 2006; Šmejda 2006) and prolonged burial ceremonies and feasts were held to commemorate and celebrate prominent chiefs and warriors (Oestigaard & Goldhahn 2006; Goldhahn 2008);
- Vast amounts of bronze artefacts, weapons, ornaments and ritual paraphernalia, were deposited with lavish rituals to express status, power and/or humble offerings in attempts to please various immaterial powers (Bradley 1998a; Fontijn 2003);
- A new medium was introduced in the form of rock art, which expressed an ideology centred on two main symbols: the sun and the ship (Goldhahn & Ling 2013), and;
- Bronze artefacts acquired motifs of cosmological significance (Kaul 1998, 2004, 2005), with depictions of the sun and moon, fish and horse motifs, mushroom-shaped symbols, snakes and ships.

These changes occurred over several generations and the archaeological record testifies to local and regional variations (Anfinset & Wrigglesworth 2012). Still, the changes are so radical and profound that they ought to be understood as one of prehistory’s major social and cultural transformations in Northern Europe (Jensen 1982; Kristiansen 1998; Vandkilde 1996, 2007; Kaul 1998, 2004, 2005; Harding 2000; Earle 2002; Kristiansen & Larsson 2005). In another context I have compared it with the transition from a hunting and gathering lifestyle to farming around 4000 BC, or the conversion from paganism to Christianity around AD 1000 (Goldhahn 1999a, 2013). The changes are also reflected in burial praxis and in the creation and use of mortuary monuments in Northern Europe during the second millennium BC (Figure 1).

### **The Early Bronze Age gallery graves**

During the EBA the main type of mortuary monument in Northern Europe was in form of gallery graves (Figure 2). Today, we know of around 1,700 such graves. Denmark has 119 registered gallery graves, most of them on Zealand (Ebbesen 2007). More than 1,500 have been registered in Sweden, mainly in southern parts of the country (Stensköld 2004; Heimann 2005; FMIS). A handful has been registered in the northern parts of Sweden along the Gulf of Bothnia (FMIS), and there are 30-40 known monuments in southeast Norway (Østmo 2002, 2011). These monuments consist of stone-built chambers 2-15 m long and 2-3 m wide, covered by roof slabs (Fig. 2). The actual burial chamber may be below the surface of the ground, and a small mound or a cairn can surround the monument. Their location gives them a view over the



FIGURE 1: A TENTATIVE MAP OF NORTHERN EUROPE AND THE DISTRIBUTION OF MOUNDS (DARK GREY), CAIRNS (LIGHT GREY) AND AREAS MENTIONED IN THE TEXT. VARIOUS GROUPS OF HUNTERS AND GATHERERS WERE TO BE FOUND IN THE WHITE AREAS.

landscape without making a dominant or obvious visual impact. Osteological analysis has shown that both men and women, young and old, as well as children, were deposited in the gallery graves, and up to 60 individuals have been identified in a single monument (Montelius 1906: 172; see also Stensköld 2004; Ebbesen 2007; Østmo 2011).

Here it is important to note that these monuments were created prior to the death of a particular individual and with the intention of housing several corpses. Only a few modern excavations have investigated well-preserved gallery graves but earlier studies found that the bodies of the deceased had been decomposed, defleshed and excarnated before they were deposited in the stone chamber (Goldhahn

1999a; Stensköld 2004; Ahlström 2009). Arrangements of body parts have been noted (Figure 3). Moreover, it has proved virtually impossible to connect artefacts found in a gallery grave – such as ceramics, flint daggers and tools, ornaments of bone or antler, slate pendants, et cetera – with a specific individual. The personae of the deceased seem to have been dissolved before the incorporation with ancestors in the monument.

A gallery grave was obviously intended for repeated use, and is best described as an ossuary. At present we do not have any archaeological evidence that these monuments were constructed after the death of a particular individual; even when a monument has been altered in some way,



FIGURE 2: A GALLERY GRAVE FROM SKOTTENE IN SÖDRA RYRS PARISH IN VÄSTERGÖTLAND, SWEDEN (AFTER MONTELIUS 1877)

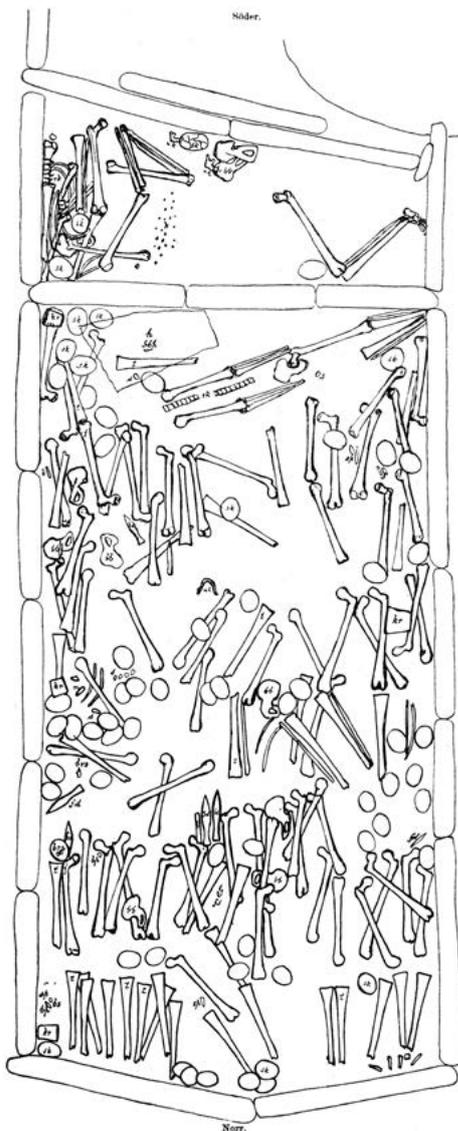


FIGURE 3: A GALLERY GRAVE FROM UTBOGÅRDEN IN KARLEBY PARISH IN VÄSTERGÖTLAND, SWEDEN. NOTE HOW SOME OF THE LARGER BONES, SUCH AS SKULLS, HUMERUS, ULNA, RADIUS, FEMUR, TIBIA, FIBULA, ET CETERA, HAVE BEEN SORTED AND ARRANGED. (AFTER RETZIUS 1899)

the change has been difficult to relate to the burial of a specific individual (Weiler 1994; Holm *et al.* 1997; Goldhahn 1999a; Stensköld 2004; Ebbesen 2007; Ahlström 2009).

The deposition of a decomposed body or body parts in a gallery grave has been done either by removing a roof slab or by entering the chamber through the opening at the short end of the stone cist. In the latter case in particular, this created a linear relationship between the world of the living and the ancestors, which is also underlined by the burial chamber's linear architecture (Figures 2, 3). Following the deposition of the corpse, the monument's shape also contributed to this linear metaphor. The opening at the end of the chamber seems to point in a particular direction or to a certain place in the landscape. The chronotope and narrative structure of the monument seem to point to the past, not least since the deceased has been decomposed, and then brought into the chamber to be incorporated with the ancestors. There is no archaeological evidence to suggest that, after a corpse had been deposited in a gallery grave, the monument was used for sacrifices or other kinds of ritual such as have been documented for dolmens and passage graves from the late fourth millennium BC, Middle Neolithic A (MNA, c. 3300-2800 BC, see Tilley 1996; Sjögren 2003).

The morphology of the gallery grave suggests that access to the deceased ancestors was limited. This is also indicated by the burial chamber probably being sealed in the intervals between burial rituals (Stenberger 1964: 127). Communication with the ancestors seems to have been restricted to the opening at the short end of the gallery grave, which suggests that special individuals or ritual specialists conducted burial rituals. Their position would then be legitimized through the handling of and communication with the bones of ancestors in general and the sorting of specific body parts in particular (Fig. 3, Goldhahn 1999a: 186-195).

The EBA has been discussed in several works by Eva Weiler, who pointed out that both settlements and gallery graves often expressed a diachronic site continuity that strived to connect to remains from MNA (Weiler 1994, also Holm *et al.* 1997: 252), while finds or traces of activities from the Middle Neolithic B (MNB, c. 2800-2350 BC), are more or less absent. The endeavour to reconnect to old ritual places is interesting and is mirrored in other contemporary ritual praxis during the EBA, for instance the ritual deposition of axes (Karsten 1994). Moreover, many EBA burials are found in passage graves from the MNA (Sjögren 2003: 107-113), which seems to imply a conceptual linkage to the past and that spiritual beliefs during the EBA were congruent with those associated with 'older communal megaliths'. This perhaps indicates that social structure in the EBA was constituted through historical and mythological relations to ancestors. It is tempting to interpret this as the result of a similar cosmology in which the unpredictable future, as well as the social position of the individual and the group, rested in the past, in the hands of the ancestors.

If we follow Bachtin and picture the monument as a chronotopic manifestation and materialization of the social unit which created and used the gallery graves, a ritual place ‘where time and space intersect and fuse’, then the narrative structure associated with the burial praxis seems to be fixed and centred around the ancestors. From today’s vantage point it is hard to determine whether the ancestors were perceived as dead or alive, but the burial ritual seems to have focused on the deconstruction of the deceased’s body and persona, and the deposition of body parts among the ancestors. To use van Gennep’s (1960) well-known terminology, the sequence of the burial ritual that is manifested most clearly in the archaeological record is then the incorporation. The chronotopes of gallery graves all point to the past, to what has been, to the ancestors.

### Mortuary monuments during the Middle Bronze Age

From the MBA, from c. 1600 BC onwards, new ideals for the dead were created in the form of monumental mounds

and cairns. Both kinds of monument are mainly associated with inhumation burials in stone cists or wooden coffins (usually oak), but cremation burials do also occur. Mounds are most common in northern Germany, Denmark, Scania and southern Halland in the south of Sweden, and in southwest Norway (Figures 1, 4). Cairns are more common in Sweden north of Scania up to the Mälars Valley, then along the Gulf of Bothnia in northern Sweden and Finland, as well as along the Norwegian coast up to Trøndelag and Nordland (Figures. 1, 5). The number of monuments increases dramatically during the MBA. About 20,000 preserved mounds are registered in today’s Denmark alone, but as many as 85,000 may have been created over a period of 300-400 years during the MBA (mainly between 1450-1200 BC). Several of them have contained well-preserved oak-coffin burials that provide unusual insights into people’s material and immaterial worlds (Jensen 1982; Randsborg & Christensen 2006). Cairns are less numerous, but the number registered within Sweden’s current borders is still about 26,000 (FMIS).



FIGURE 4: BRONZE AGE MOUNDS AT STEGLARP IN SCANIA, SWEDEN. PHOTO MÅRTEN SJÖBECK 1927, PUBLISHED WITH THE KIND PERMISSION OF KULTURMILJÖBILD – THE SWEDISH NATIONAL HERITAGE BOARD’S PHOTOGRAPHIC DATABASE.



FIGURE 5: UGGARDEOJR FROM SOUTHEAST GOTLAND, ONE OF THE LARGEST CAIRNS IN SCANDINAVIA, MEASURES 50 x 7 M. (PHOTO JOAKIM WEHLIN, PUBLISHED WITH HIS KIND PERMISSION)

When discussing the social structure of the MBA, archaeologists have regularly used the large number of monumental burials as evidence of a hierarchical society. This interpretation is partly based on the good preservation in the mounds, which often contain lavish amounts of bronze artefacts, but also on the fact that neither copper nor tin occur naturally in Denmark or southern Sweden, and therefore had to be imported (Jensen 1982; Kristiansen 1998; Earle 2002, Ling *et al.* 2013, cf. Melheim 2012). An illustrative example is Klavs Randsborg’s seminal article from 1974: ‘Social stratification in Early Bronze Age Denmark’. In this study, Randsborg discusses the distribution of precious metal between male- and female-attributed burials during the MBA. His analysis included 999 burials. Of these, 187 had no finds of bronze artefacts and are therefore hard to engender. Of the remaining 812 burials, 21 belong to period I (c. 1700-1500 BC), 358 to period II (c. 1500-1300 BC), and 433 to period III (c. 1300-1100 BC). All the burials from period I were attributed males, whereas in period II, 100 out of 358, c. 28%, were female, and in period III the proportion was slightly higher, 140 out of 433, c. 32%. Thus the number of attributed female graves increased over time (Figure 6).

Randsborg also analysed the weight of the bronze artefacts that were deposited with the deceased during the MBA. The quantity of bronze was thought to be decisive for the rank of the deceased. Randsborg found a threefold division, and he suggested that this pattern reflected different social segments, such as peasants (the majority), warriors (a smaller proportion) and chiefs (few). Several of the burials with the largest amounts of bronze are attributed female, a pattern that has also been found among MBA burials from Scania in southern Sweden (Larsson 1986). Randsborg proposed that the changing status of women reflected a dramatic social transformation from a Big Man-oriented society during the EBA to some form of chiefdom during MBA, and this interpretation has been supported by later research (Jensen 1982; Vandkilde 1996, 2007; Kristiansen 1998; Earle 2002; Gröhn 2004, cf. Levy 1995; Johansen *et al.* 2004; Skoglund 2009). Following Randsborg, the changing status of women reflects their importance for establishing and maintaining the long-distance alliances that were necessary to ensure access to and a supply of bronze’s much sought-after raw materials, but also a power manifestation of a new social and political elite with hereditary status (Randsborg 1974; Randsborg & Christensen 2006, cf. Bergerbrant 2007). The latter is confirmed to some extent by the handful of child burials

with lavish gifts that have been found in the centre of monumental mounds (Olsen 1992).

Recent studies have shown that both mounds and cairns must be seen as architectural creations and reflect an extensive, often lengthy burial ritual with intriguing logistical requirements (Goldhahn 2008). In contrast to the EBA gallery graves, MBA burial monuments were usually erected over a single individual. Both mounds and cairns often have a prominent location in the landscape (Figs. 4, 5); mounds are also found along pathways (Johansen *et al.* 2004) and sometimes in close relation to contemporary settlements (Goldhahn 1999b). Another change from the EBA is that the MBA monuments were intended to honour specific individuals and were created posthumously. The individual’s death signalled the beginning of extensive collective burial ceremonies and rituals that were intertwined with the creation of the monument. In van Gennep’s terminology, all the phases of the ritual are manifested in the monument: exclusion, liminal or transitional phase and incorporation (Goldhahn 1999a, 1999b). Each monument that was created transformed the landscape in general and especially people’s life worlds.

Following Bachtin again, the narrative structure of the chronotope highlighted the future and the collective groups of mourners whose strength, labour and investment were manifested and materialized in the newly created monuments (Goldhahn 2008). The emphasis on the mourners, those left behind, is accentuated by the monument’s visible and prominent location in the landscape (Figures 4, 5).

One can thus interpret these monuments, mounds and cairns, as manifestations and materializations of a new form of chronotope that differed fundamentally from the narrative structures associated with EBA gallery graves. During the MBA, the deceased individual was made more visible in the landscape, ‘for those who live today and those who come hereafter’, as stated in the Odyssey. This created a more dynamic perception of the landscape with a more pronounced sense of continuity and belonging in the world. Moreover, the MBA monuments can be interpreted as an idealized form of the society, defining and fixing, if not encapsulating, the individual’s persona. These senses of belonging were reinforced by the monument being created after the individual’s death, in a collective effort, and by the deceased’s materialisation in the landscape. Each death that resulted in a mound or a cairn significantly altered the perception of the landscape (Figures 4, 5).

Period	Male	Female	Uncertain	%	Σ
Period I	21	–	–	100/0	21
Period II	258	100	68	72/28	426
Period III	293	140	119	68/32	552
Σ	572	240	187	70.5/29.5	999

FIGURE 6: ATTRIBUTED GENDER OF 999 EARLY BRONZE AGE BURIALS FROM DENMARK. SOURCE: RANDBORGB 1974.

Another difference between EBA and MBA burial monuments is the latter's prominent and articulated form. A gallery grave highlights the burial chamber's linearity, while the mound emphasizes circular, pregnant forms. The gallery grave's opening at the end of the chamber, points in a specific direction or to a place in the landscape, while a mound or cairn can be viewed from multiple angles without altering the perception of the monument. On this subject, Björn Varenius points out that the monument's form can embody a specific gender. He believes that the circle's 'moral principle is female' and expresses 'a female gender' (translated here), and that the form conveys notions such as *fertility*, *regeneration of life* and *rebirth* (Varenius 1994: 60). Likewise, the rectangular form of gallery burials can be given a negative connotation and expresses a masculine gender. The EBA gallery graves and the MBA monuments then embody different kinds of chronotopes, 'as forces operating to shape its members' images of themselves' (Bachtin 1981: 7), that also seem to embody different ideals of a good society, its memory praxis and life worlds:

Early Bronze Age	Middle Bronze Age
Gallery graves	Mounds & Cairns
Big Man	Chieftdom
Collective	Individual
Linear	Circular
Male	Female
Ancestor cult	Fertility cult

**The 're-use' of monuments during the EBA**

Judging from the chronotopic analysis above, memory praxis during the EBA and MBA must be rooted in different cosmological and eschatological beliefs that changed significantly during the second millennium BC. The analysis accordingly follows the diachronic perspective that I intend to alter with this article. There are also reasons for doing this besides those stated above. One stems from recent research that emphasizes the importance of cultural memory practice (Gosden & Lock 1998; Bradley 2002; Van Dyke & Alcock 2003; Williams 2003; Jones 2007; Mills & Walker 2008; Boric 2010; Lillios & Tsamis 2010). These studies have reiterated the evident truth that social agency, in the past as well as the present, is founded in explicit memory practices that embody certain perceptions of time and space (Lucas 2005). Radical social and cultural changes, such as those discussed in this article, therefore prompt us to explore not only how social changes occurred in the past and how this is reflected in the archaeological material, but also how these processes altered the perception of the past. In this context, control of and power over ritual places were essential.

The picture becomes more complicated, and the enigma more tantalizing, when we realize that monuments 'from

the past' were still present (Olivier 2011), and sometimes even in use during and after the social and cultural transformation during the mid second millennium BC. For instance, many gallery graves continued to be used in the MBA (Persson & Sjögren 1996; Koch 1992; Stensköld 2004; Ebbesen 2007). A telling example is the Dragby monument from Skuttunge in Mälardalen, investigated by Uppsala University in the early 1960s (Figure 7). The chamber of the gallery grave, which measured 3.2 x 1.3 m, was found to contain two articulated inhumation burials that were dated to MBA period III, c. 1300-1100 BC (based on C-14 analysis and bronze artefacts). These inhumation burials were placed on top of heaps of disarticulated bones derived from at least 28 individuals, dated presumably to the EBA. Some of the EBA bones were arranged suggesting that they had been brought into the chamber after the body had excarnated and dissolved (Jaanusson & Silvén 1962).

As there are so few modern studies and analyses of earlier excavations of gallery graves, it is hard to tell just how common this phenomenon was during the MBA (cf. Koch 1992; Østmo 2002, 2011; Stensköld 2004; Ebbesen 2007). In the early twentieth century the well-known Swedish archaeologist Oscar Montelius (1906) listed six clear cases where EBA gallery graves had been reused for burials



FIGURE 7: THE GALLERY GRAVE FROM DRAGBY IN SKUTTUNGE PARISH, UPPLAND. PHOTO ULLA SILVÉN. (AFTER GOLDHAHN 1999A)

during the MBA. In 1985, Inger Håkansson's PhD thesis about MBA burials in Scania revealed that 30 out of 186 burial contexts, c. 16%, showed a clear continuity with earlier burial monuments, the lion's share dated to the EBA. The information used by both authors was primarily based on finds of well-dated bronze objects. With the analytical methods that are available today concerning inhumation as well as cremation burials, a reassessment of this material would certainly yield larger numbers (e.g. Koch 1992; Persson & Sjögren 1996, 2001). However, even Montelius was able to demonstrate some important differences in the (re-) use of specific megalithic monuments. In cases where preservation was good, it was hard to demonstrate a hiatus between the EBA and the MBA burials, suggesting that the gallery graves were used continuously into the latter period. The change in burial praxis is most easily detected in the treatment of the deceased body (Figures 3, 7). On the other hand, when MBA burials have been found in older Neolithic megaliths, such as dolmens and passage graves, they often appeared in distinctive stratigraphic strata, indicating that the megaliths had been 'out of use' for a considerable time span when the burial took place in the MBA (Montelius 1906: 172-178).

Recent excavations and radiocarbon analyses from megalithic monuments that were created in MNA have shown that they were used over a considerable time span (Koch 1992; Persson & Sjögren 1996, 2001; Sjögren 2003: 107-113; Ahlström 2009). A telling example is the passage grave at Mysinge on Öland, investigated in 1908 by Ture J. Arne (Figure 8). A mound that was 14 m in diameter and 1.2 m high covered this passage grave. The passage was approximately 6 m long and led into a

burial chamber that measured 4 x 3 m inside (Arne 1909: 88). Arne identified 30-40 individuals in the chamber. The bones were mainly gathered along the walls; several skulls were found in concentrations (Arne 1909: 90). Moreover, there were three articulated skeletons, one of them in a sleeping position with legs and arms tucked in front of the face (Arne 1909: 91, cf. Ahlström 2009: 69). Between two roof slabs Arne found a ceramic pot with cremated human bones that was covered by a limestone slab, which he thought should be dated to the Late Bronze Age, c. 1100-500 BC (Arne 1909: 90).

Recent analysis of the Mysinge bone assemblage has identified at least 56 individuals (Ahlström 2009: 82). Of these, 34 have been analysed by the C-14 method and the results confirm Montelius' analysis above (Eriksson *et al.* 2008: 533; Fornander 2011). Only 12 of the 34 individuals, c. 35%, could be dated to the MNA, the time when this monument was created (Persson & Sjögren 1996; Dehn & Hansen 2006). Another 12 individuals were dated to the MNB. During the subsequent EBA period, it seems that no individuals were deposited in the passage grave at Mysinge. All the remaining 10 individuals, c. 30%, could be dated to the MBA (Figure 9).

Bearing in mind that 20 individuals remain to be analysed and that this number does not include the cremated bones, it seems that the passage grave at Mysinge was in continuous use for more than 1,200 years, from 3500-2300 BC, after which there was a lacuna during most of the EBA before several burials were added during the MBA (Figure 9).

Isotopic analysis of teeth of the deceased in Mysinge (sulphur and strontium) shows that a fair number had experienced residential changes during their lives; many of them even seem to have been born and raised somewhere else than on the island of Öland (Figure 1). Moreover, the frequency of identified 'non-local individuals' seems to increase over time: from 33% of those buried during the MNA (2 out of 6), to 43% during the MNB (3 out of 7) and no less than 70% (7 out of 10) in the final phase during the MBA (Fornander 2011: 37-40). The increasing number of non-locals during the MBA in the Mysinge passage grave is interpreted by Elin Fornander (2011: 59-62) in ideological terms, reflecting explicit social strategies for non-locals to inscribe themselves in the local narrative and mythology by linking the deceased to local ancestors. Using the old monument for new burials was a powerful way to legitimize rank, status and authority, or, as George Orwell put it in 1984: 'Who controls the past controls the future; who controls the present controls the past.'

### Remoulding the past to shape the future

At first glance, the use of older monuments during the MBA, that is MNA dolmens and passage graves, but also EBA gallery graves, can seem rather uniform. As Fornander suggests, it could reflect a wish to establish or revitalize links with past mythological ancestors, an explicit strategy to legitimize power and status, or similar (e.g. Daniel

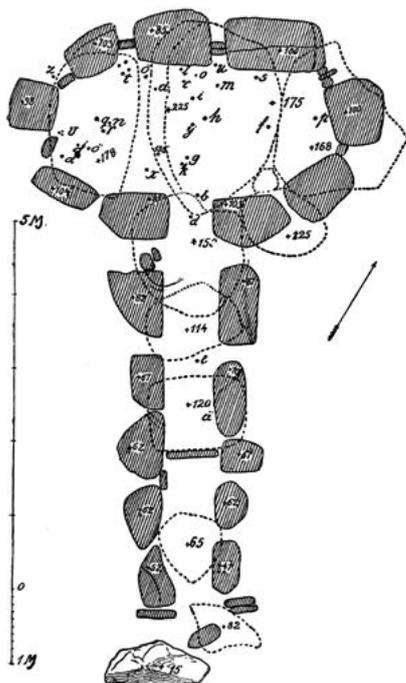


FIGURE 8: THE PASSAGE GRAVE FROM MYSINGE IN RESMO PARISH, ÖLAND, SOUTHEAST SWEDEN. (AFTER ARNE 1909)

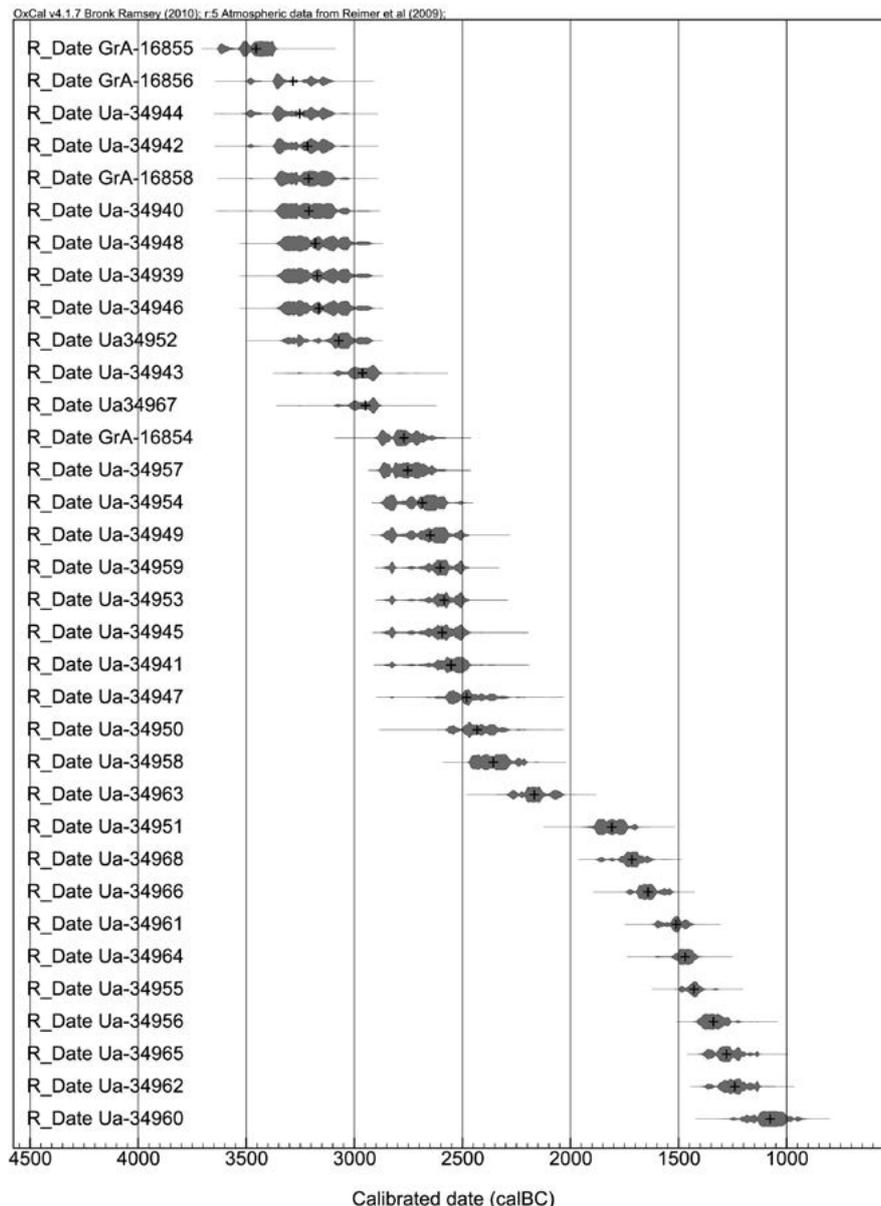


FIGURE 9: CALIBRATED C-14 ANALYSIS OF HUMAN BEINGS FROM THE PASSAGE GRAVE AT MYSINGE, ÖLAND, IN SOUTHEAST SWEDEN. THE UA-NUMBERS DENOTE ANALYSES ON MANDIBLES FROM 30 INDIVIDUALS; + INDICATES THE MEDIAN OF THE RESULT. (SOURCE: ERIKSSON ET AL. 2008: 532)

1972; also Holtorf 1996, 1998; Gosden & Lock 1998). However, as mentioned above, there seems to be a clear difference of intent between continuing to deposit humans in EBA gallery graves, a praxis that may never have been abandoned, and deliberately seeking out monuments like the Mysinge passage grave that had been ‘out of use’ for 400-500 years (12-15 generations). This is supported by the chronotopic differences that were associated with the monuments that were first created during the EBA and MBA, which seem to highlight different perceptions of time and space and ought to reflect radical changes in people’s eschatology and cosmology. This suggests that several different social strategies and memory praxis were involved in MBA monumental burial ceremonies and rituals, when people decided to:

- Place the dead in an old megalithic structure that had not been used for several centuries; or

- Place the dead in an EBA monument that probably was still in use, or at least was in the memory of the mourners; or
- Create a new monument to honour the deceased individual.

The first two alternatives involve the ‘use’ or ‘reuse’ of existing ritual places, while the third entails creating new ones. These differences are underlined by the immense social and cultural changes that took place during the second millennium BC (cf. Randsborg 1974; Vandkilde 1996, 2007; Kaul 1998, 2004; Kristiansen 1998; Earle 2003; Goldhahn 2013), not least the evident investment associated with creating new monuments (Goldhahn 2008).

Moreover, the similarities and differences discussed above could be said to be linked to diverse ‘technologies

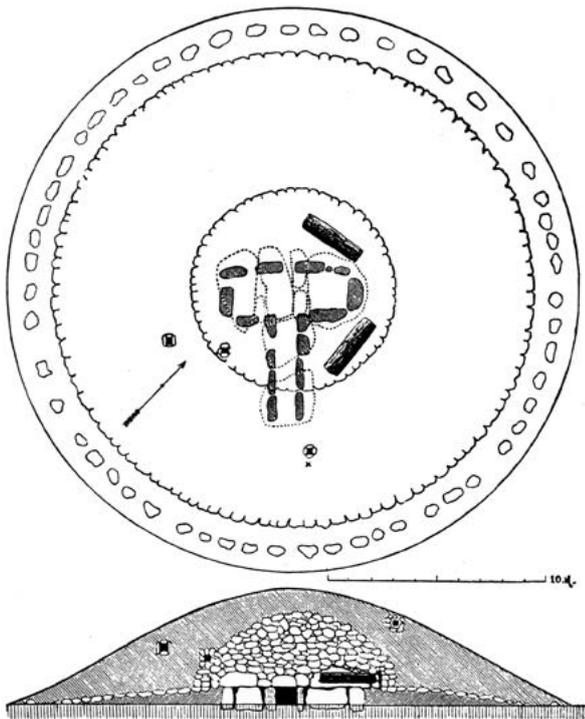


FIGURE 10: THE PASSAGE GRAVE FROM ELDSBERGA IN HALLAND, EXCAVATED BY OSCAR MONTELIUS IN 1881. (AFTER MONTELIUS 1906)

of remembrance' (Jones 2003), which I believe reflect different social strategies for facing or embracing the abovementioned social and cultural changes. In addition to the strategies outlined already, we might add the 'defacement', or rather remoulding, of older megalithic monuments, documented in several places as occurring during the MBA, a phenomenon that has been described as 'remembering by forgetting' (Bradley 2002: 42). Oscar Montelius discovered an example of this in 1881 at Eldsberga rectory in southern Halland, Sweden. Beneath one of the mounds he found a well-preserved MNA passage grave that had been covered and sealed off from the world during the MBA (Figure 10). Two oak coffins had been arranged on top of the passage grave's roof slabs and then covered by a small cairn before a mound was constructed that remoulded the whole into a new mortuary monument. The passage grave was about 2,000-years-old when it was remoulded to honour two specific individuals and the mourners who were left behind.

The remoulding of megalith monuments during the MBA applies to EBA gallery graves as well as to long dolmens, dolmens and passages graves from the Early and Middle Neolithic; this praxis has been documented over and over again. Usually the megaliths have been found beneath MBA mounds (Worsaae 1840; Zinck 1871; Montelius 1906; Müller 1911; Arne 1923, 1924; Albrechtsen 1963; Bokelmann 1971; Eriksen 1980; Jacobsson 1986; Holst 2006), but some have been detected under MBA cairns (Petersen 1970). This remoulding was clearly done with intent. Unfortunately, many of the sites were excavated long ago and without the questions, methods, theories and

expectations to which we have access today. Even so, there are some thought-provoking traces and indications that the transformation of ritual places was of great importance and that the remoulding was accompanied by extensive rituals and ceremonies. During the excavation of Capeshøj on the island Tåsinge in Denmark, for instance, Palle Erikson (1980) found an MBA flanged bronze axe that had been deposited on the old surface of a long dolmen which was then covered and sealed by a mound that contained several burials from MBA period I/II-III (Figure 11).

The long dolmen beneath the Capeshøj mound measured 36 x 7 m and had a stone chamber in its centre (Figure 11, A). The MBA mound was elliptical with a diameter of 34-40 m. The mound had been profoundly damaged by modern agriculture but was still 1.5 m high when it was investigated. The oldest burial from the MBA, found outside the dolmen, was dated to period I/II, and contemporary with the flange bronze axe that had been deposited on the surface of the long dolmen before the mound was constructed (Eriksen 1980: 43). It seems reasonable to interpret the deposited axe as the first stage of the ceremonies and rituals that surrounded the remoulding of the long dolmen and seal it with a mound (similar depositions of bronze artefacts found in, or in connection with, megaliths without any traces of human beings may be interpreted along the same lines, see Montelius 1906: 176-177; Koch 1992). Moreover, four of the kerbstones of the long dolmen from Capeshøj had been altered by cup marks (Figure 11, N-Q), which might also be a part of the transformation of an old monument into a new one.

Cup marks, as well as figurative rock art from this part of the world, such as wheel crosses, foot soles, weapons, boat depictions, et cetera, are usually dated to the MBA and found on open-air sites (Goldhahn & Ling 2013), but several instances are known from megalithic contexts (Tilley 1994: 127-130; Burenhult 1999). The dating of the latter is hard to solve. To my knowledge, we still lack scientific evidence that any kind of rock art was made during the MNA, when the dolmens and passage graves were created. All the known rock art from these monuments has been documented on well-exposed slabs and could in theory have been added at any time between the MNA and the present. It is telling that modern archaeological excavations have not detected any rock art on covered parts of the megaliths that could suggest a dating to the MNA. The oldest contextual finds of rock art in southern Scandinavia consist of cup marks and are associated with inhumation burials dated to the MNB (Goldhahn *et al.* 2010). When cup marks are found in or in association with megaliths, they are usually closely connected with so-called 'secondary burials' dated to the MBA, or later (Persson & Sjögren 2001; Sjögren 2003). The situation concerning figurative rock art is more favourable in that many similar motifs also occur on bronze artefacts that can be used to date the rock art images (Kaul 1998, 2004). Recent comparative chronological work using the shore displacement process in Northern Europe confirms these chronologies (Ling 2008, 2013). Following the current

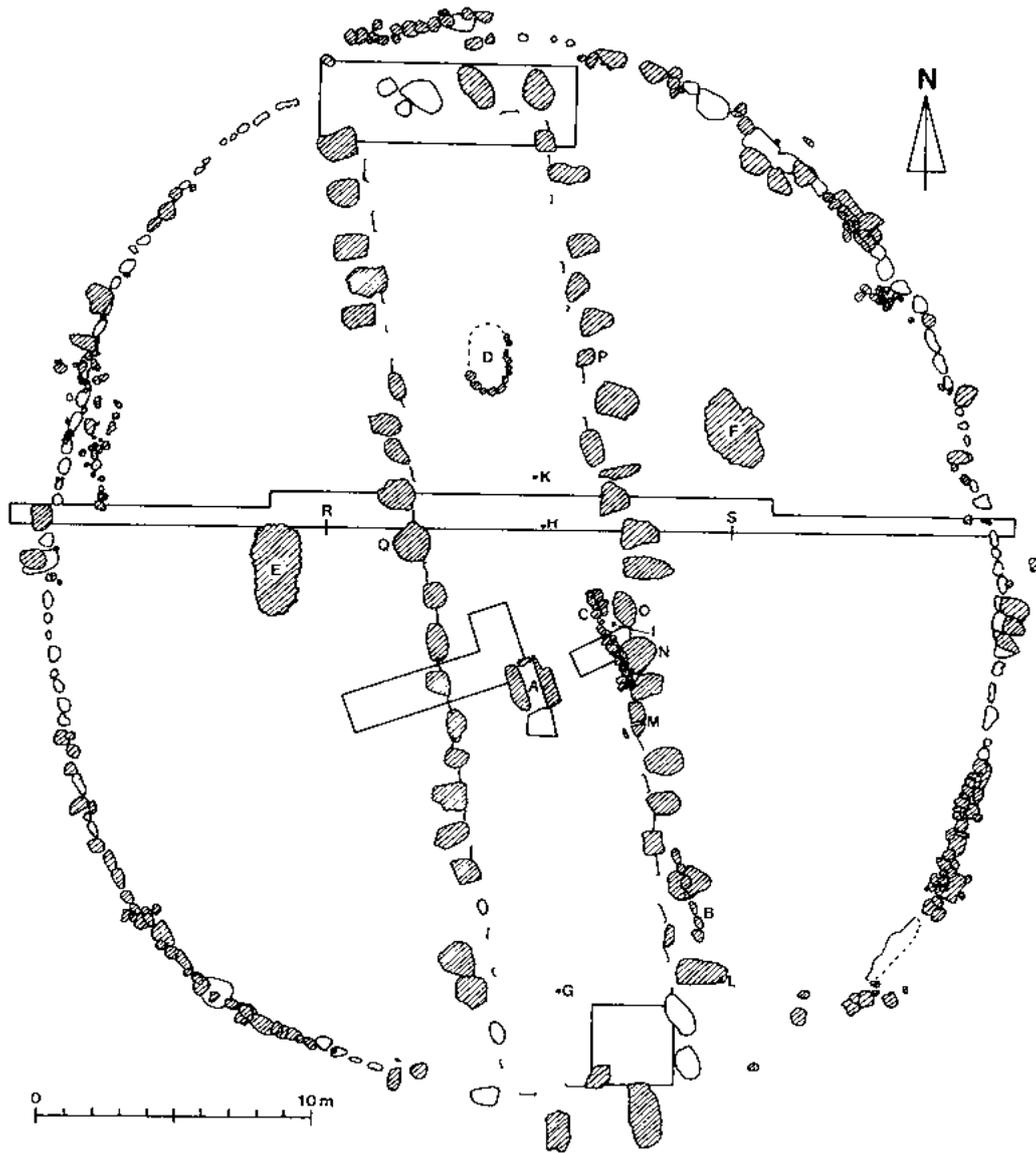


FIGURE 11: AN OUTLINE OF THE CAPESHØJ CONTEXT ON ZEALAND, DENMARK. LEGEND: A: THE CHAMBER OF THE MNA DOLMEN; D-F: MBA BURIALS; H: BURNT BONES FROM A CREMATION BURIAL; K: THE FLANGE BRONZE AXE MENTIONED IN THE TEXT; N-Q: STONES WITH CUP MARKS. (AFTER ERIKSEN 1980)

chronology of rock art images in Northern Europe, there is little reason to believe that any of the figurative rock art on megaliths should be dated before MBA (Goldhahn & Ling 2013).

There are some archaeological and historical contexts that confirm the latter interpretation. A good example 'to think with' is the Dilhøj dolmen from Zealand (Figure 12), which happens to be the first figurative rock art to be documented in Denmark (Glob 1969; Kaul 1998, 2004). These rock art images were detected in 1830; a documentation from 1834 reproduce three boat images and three wheel crosses on the upper surface of the chamber's roof slab. About 40 years earlier, in the 1790s, historical sources mention that the dolmen was covered with a mound. Farmers removed the earth, exposing the megalith, thinking that the earth was better needed as road fill, field improvement and the like. In the mound they found an inhumation burial



FIGURE 12: THE DILHØJ DOLMEN, ZEALAND, DENMARK. (AFTER PETERSEN 1875)

together with a bronze dagger that ought to be dated to the MBA, probably period II or III. Oral sources from the



FIGURE 13: THE ENGELSTRUP SLAB WITH ROCK ART. THE SLAB MEASURES 0.58 X 0.65 M AND IS 0.42 M THICK. (AFTER PETERSEN 1875)

1830s indicate that these finds were associated with ‘an old Stone with Strange Markings, that the peasants placed in a Stone built wall, but it has not be found since’ (Petersen 1875: 424, translated here). Later, in 1873, the well-known Engelstrup stone, with several depictions of human beings, male and female, two boat images and some cup marks, was found in a stone wall near Dilhøj (Figure 13). While the latter association may be uncertain, the Dilhøj dolmen is a clear indication that the ceremonies and rituals surrounding the remoulding of a megalithic monument during the MBA sometimes included the making of rock art images. Several other examples could be given, but that will have to be left for another time and place.

### Discussion and conclusions

The future has always entailed moulding and remoulding the past. In societies that are sometimes labelled ‘traditional’, ‘oral’, ‘cold’, ‘low-technological’ or ‘indigenous’, knowledge about the living and the dead, animals, plants and cosmos is expressed and transformed through various media, such as oral tradition (legends, myths, cosmology), ceremonies and rituals, as well as through the use and reuse of material culture (everyday artefacts, monuments, ritual paraphernalia, rock art, et cetera). Social and ideological strategies, ideals and norms, and conflicts are often structured and renegotiated around ritual places ‘where time and space intersect and fuse’ (Bachtin 1981: 7); for, to return to Orwell’s dictum, the past and the present have a tendency to merge in the struggle to form the future. This is also evident in our own time. The plundering and destruction of ritual places – such as the demolition of the Babri Masjid mosque in Ayodhya, the defacement of the Buddhas of Bamiyan, or the plundering of the National Museum of Iraq in Baghdad, in short: the collective symbols and memories of different societies and cultures (Figure 14) – have been an outspoken strategy for demeaning opponents in conflicts during the twentieth and twenty-first centuries.

Historical and archaeological sources are witnesses to the fact that control and power over ritual places have been a major factor in social transformation. For instance, during the conversion to Christianity around AD 1000, many traditional cult places in Northern Europe were remoulded into holy ground and churches. In Scandinavia, several churches were erected on top of mounds and other places of ritual significance for the heathens (Gräslund 2000; Andrén 2002; Winroth 2012). Moreover, literally hundreds of runestones were removed from their original placing in the landscape and incorporated into Early Medieval stone churches and the pattern of their locations in the churches clearly shows that this was done with intent (Johansen 1997).

Burial praxis in general and mortuary monuments in particular are important for social and cultural memory; they ‘stand as monuments to the community itself, as symbols of it, as forces operating to shape its members’ images of themselves’ (Bachtin 1981: 7). This is evident from the chronotopic analysis, outlined in this essay, of the use of burial monuments in connection with the major social and cultural transformation in the second millennium BC. Handling of the deceased was used to control and transform existing ritual places, but also to create new ones. At least four strategies have been distinguished:

- Return to and re-use of megalithic monuments from the MNA that had fallen into ‘disuse’ (dolmens and passage graves);
- Continued use of EBA monuments (gallery graves);
- Remoulding of old monuments from MNA, ‘remembering by forgetting’; and
- Creation of new burial monuments (mounds and cairns).

It has been suggested that different monuments and burial praxis were founded in different eschatological and cosmological perceptions, in different chronotopes. It can therefore be advocated that these chronotopic strategies differed in their motives, aims and outcomes, and reflected different attitudes to the social transformation that Bronze Age societies underwent in Northern Europe in the mid second millennium BC. Some of these strategies are clearly connected to restoring existing memory praxis, others to its transformation, while yet others might be connected to the defacement of memories, for, as we all know, forgetting and letting things go are just as important as remembrance when it comes to achieving and sustaining a change.

Stepping aside from the present context, it can be said that our understanding of these social and cultural transformations would benefit from similar analyses of other types of ritual places, such as rock art sites, other types of burial praxis, metallurgical ‘workshops’, settlements, death and cult houses, ritual deposits, et cetera, where other kinds of social praxis were formulated and negotiated. For example, rock art from open-air sites that have recently been investigated in Northern Europe does not seem to have been connected with older Neolithic



FIGURE 14: US TROOPS ENGAGED IN OVERTHROWING SADDAM HUSSEIN. (PHOTO WIKIPEDIA COMMONS)

or EBA structures, features or other kinds of activity that have left any traces in the archaeological record (Nilsson 2010). This indicates that this new media – figurative rock art in open-air sites – had more to do with defining new ideals, norms and ideological issues (Goldhahn & Ling 2013) than with remoulding past ones. This stands in sharp contrast to the rock art that has been found on megaliths – such as Capeshøj and Dilhøj – that were incorporated in MBA mounds or cairns. The same ritual media could be used for different purposes.

My point with this essay has not been to come to terms with all the variations in Bronze Age social and ritual praxis that were transforming old traditions and building new ones, but to illustrate that a focus on these questions might help us to merge different chronotopic perspectives and narrative structures of the past (cf. Hodder 1999: ch. 8). This approach to ritual places would enable us to highlight different agendas, motifs and social strategies and thereby alter and broaden our understanding of these social and cultural processes. Even in those days there were contested worlds.

### Bibliography

- AHLSTRÖM, T. (2009) *Underjordiska dödsriken. Humanosteologiska studier av neolitiska kollektivgravar*. Coast to Coast-Books 18. Göteborg.
- ALBRECHTSEN, E. (1963) Fra Vestfyns stenalder. *Fynske Minder* 1963: 209-222.
- APEL, J. (2001) *Daggers, knowledge & power*. Coast to Coast-Books 3. Uppsala.
- ANDRÉN, A. (2002) Platsernas betydelse. Norrön ritual och kultplatskontinuitet. *Plats och praxis – studier i*

*nordisk förkristen ritual* (Jennbert, K., Andrén, A. & Raudvere, C. red.): 299-342. Nordic Academic Press. Lund.

- ANFINSET, N. & WRIGGLESWORTH, M. (eds.) (2012) *Local societies in Bronze Age Northern Europe*. Equinox. London.
- ARNE, T. J. (1909) Stenåldersundersökningar II. En Öländsk gånggrift. *Fornvännen* 4: 86-95.
- ARNE, T. J. (1923) De arkeologiska undersökningarna i Sydhalland sommaren 1923. *Vetenskaps societeten i Lund, Årsbok 1923*: 95-99.
- ARNE, T. J. (1924) Vessingehögen. *Vår bygd* 1924: 7-9.
- ARNOLDUSSEN, S. & FOKKENS, H. (eds.) (2008) *Bronze Age settlements in the low countries*. Oxbow Books. Oxford.
- ARTURSSON, M. (2009) *Bebyggelse och samhällsstruktur. Södra och mellersta Skandinavien under senneolitikum och bronsålder 2300-500 f. Kr.* Gotarc Serie B, Gothenburg Archaeological Thesis 52. Göteborg.
- BACHTIN, M. (1981) *The dialogic imagination: four essays*. University of Texas Press. Austin.
- BARTELHEIM, M. & STÄUBLE, H. (Hrsg.) (2009) *Die wirtschaftlichen Grundlagen der Bronzezeit Europas*. Verlag Marie Leidorf. Rahden.
- BELL, C. M. (1992) *Ritual theory, ritual practice*. Oxford University Press. New York.
- BERGERBRANT, S. (2007) *Bronze Age identities. Costume, conflict and contact in Northern Europe 1600-1300 BC*. Stockholm Studies in Archaeology 43. Stockholm.
- BERGGREN, Å. & NILSSON STUTZ, L. (2010) From spectator to critic and participant. A new role for archaeology. *Journal of Social Archaeology*, 10 (2): 171-197.
- BINFORD, L. R. (1972) *An archaeological perspective*. Seminar Press. New York.

- BOKELMANN, K. (1971) Ein Bronzezeitlicher Grabhügel bei Ramsdorf, Kr. Rendsburg-Eckernförde. *Offa* 28: 107-110.
- BOURDIEU, P. (1972) *Esquisse d'une théorie de la pratique*. Librairie Droz. Genève.
- BORIĆ, D. (ed.) (2010) *Archaeology and memory*. Oxbow Books. Oxford.
- BRADLEY, R. (1998a) *The passage of arms. An archaeological analysis of prehistoric hoard and votive deposits*. 2nd ed. Oxbow Books. Oxford.
- BRADLEY, R. (1998b) *The significance of monuments. On the shaping of human experience in Neolithic and Bronze Age Europe*. Routledge. London.
- BRADLEY, R. (2000) *An archaeology of natural places*. Routledge. New York.
- BRADLEY, R. (2002) *The past in prehistoric societies*. Routledge. London.
- BRADLEY, R. (2005) *Ritual and domestic life in prehistoric Europe*. Routledge. London.
- BRAUDEL, F. (1949) *La Méditerranée et le monde méditerranéen à l'époque de Philippe II*. Paris.
- BRAUDEL, F. (1980) *On history*. University of Chicago Press. Chicago.
- BURENHULT, G. (1999) Megalithic symbolism in Ireland and Scandinavia in light of new evidence from Carrowmore. *I. Curso Intensivo de Arte Pré-História Europeia – 1998* (Cruz, A. R. & Oosterbeek, L. eds): 49-108. Instituto Politécnico de Tomar Fundacao Calouste Gulbenkian Caixa Geral de Depósitos. Tomar.
- CLARK, P. (ed.) (2004) *The Dover Bronze Age boat in context: society and water transport in prehistoric Europe*. Oxbow Books. Oxford.
- CLARK, P. (ed.) (2009) *Bronze Age connections: cultural contact in prehistoric Europe*. Oxbow Books. Oxford.
- DANIEL, G. (1972) *Megaliths in history*. Walter Neurath Memorial Lectures 4. London.
- DEHN, T. & HANSEN, S. I. (2006) Megalithic architecture in Scandinavia. *Origin and development of the megalithic monuments of Western Europe* (Laporte, L., Joussaume, R. & Scarre, Ch. eds): 39-61. Musée de Bougon. Bougon.
- DAVID, B. & THOMAS, J. (eds.) (2008) *Handbook of landscape archaeology*. Left Coast Press. Walnut Creek.
- DOBRES, M.-A. (2000) *Technology and social agency. Outlining a practice framework for archaeology*. Blackwell. Oxford.
- EARLE, T. (2002) *Bronze Age economics. The beginnings of political economies*. Westview Press. Boulder.
- EBBESSEN, K. (2007) Danske hellekister fra stenalderen. *Aarbøger for Nordisk Oldkyndighed og Historie* 2004: 7-62.
- ERIKSEN, P. (1980) Capeshøj på Tåsinge. En langdyse dækket af en bronzalderhøj. *Antikvariske Studier* 4: 31-48.
- ERIKSSON, G., LINDERHOLM, A., FORNANDER, E., KANSTRUP, M., SCHOULTZ, A., OLOFSSON, H. & LIDÉN, K. (2008) Same island, different diet: cultural evolution of food practice on Öland, Sweden, from the Mesolithic to the Roman Period. *Journal of Anthropological Archaeology* 27: 520-543.
- FMIS – *The digital register of prehistoric remains at the National Heritage Board of Sweden*. (www.fmis.raa.se)
- FONTIJN, D. F. (2003) *Sacrificial landscapes. Cultural biographies of persons, objects and 'natural' places in the Bronze Age of the southern Netherlands, c. 2300-600 BC*. *Analecta Praehistorica Leidensia* 33/34. Leiden.
- FORNANDER, E. (2011) *Consuming and communicating identities. Dietary diversity and interaction in Middle Neolithic Sweden*. Theses and Papers in Scientific Archaeology 12. Stockholm.
- VAN GENNEP, A. (1960) *The rites of passage*. Chicago University Press. Chicago.
- GLOB, P. V. (1969) *Helleristninger i Danmark*. Jysk Arkæologisk Selskabs Skrifter VII. Aarhus.
- GIDDENS, A. (1984) *The constitution of society. Outline of the theory of structuration*. Polity Press. Cambridge.
- GOLDBAHN, J. (1999a) *Sagaholm – hällristningar och gravritual*. *Studia Archaeologica Universitatis Umensis* 11. Umeå.
- GOLDBAHN, J. (1999b) Rock art and the materialisation of a cosmology. *Rock art as social representation* (Goldhahn, J. ed.): 76-100. BAR International Series 794. Oxford.
- GOLDBAHN, J. (2008) From monuments in landscape to landscapes in monument. Death and landscape in Early Bronze Age Scandinavia. *Prehistoric Europe. Global Archaeologies Series* (Jones, A. ed.): 56-85. Blackwell. Oxford and New York.
- GOLDBAHN, J. (2013) Rethinking Bronze Age Cosmology – a North European perspective. *Handbook of European Bronze Age* (Fokkens, H. & Harding, A. eds): 248-265. Oxford University Press. Oxford.
- GOLDBAHN, J., FUGLESTVEDT, I. & JONES, A. (2010) Changing pictures – an introduction. *Changing pictures – rock art traditions and visions in northernmost Europe* (Goldhahn, J., Fuglestvedt, I. & Jones, A. eds): 1-22. Oxbow Books. Oxford.
- GOLDBAHN, J. & LING, J. (2013) Scandinavian Bronze Age Rock Art – contexts and interpretations. *Handbook of European Bronze Age* (Fokkens, H. & Harding, A. eds): 270-290. Oxford University Press. Oxford.
- GOSDEN, Ch. & LOCK, G. (1998) Prehistoric Histories. *World Archaeology* 30: 2-12.
- GRÄSLUND, A.-S. (2000) The conversion of Scandinavia: a sudden event or a gradual process? *Archaeological Review from Cambridge* 17 (2): 83-98.
- GRÖHN, A. (2004) *Positioning the Bronze Age in social theory and research contexts*. *Acta Archaeologica Lundensia, Series in 8°, No 47*. Lund.
- HÅKANSSON, I. (1985) *Skånes gravfynd från äldre bronsålder som källa till studiet av social struktur*. *Acta Archaeologica Lundensia, Series in 8°, No 14*. Lund.
- HÄNSEL, B. (Hrsg.) (1998) *Mensch und Umwelt in der Bronzezeit Europas: Die Bronzezeit: Das erste goldene Zeitalter Europas*. Oetker-Voges. Kiel.

- HARDING, A. (2000) *European societies in the Bronze Age*. Cambridge University Press. Cambridge.
- HARDING, A. (2007) *Warriors and weapons in Bronze Age Europe*. Archaeolingua. Budapest.
- HAWKES, Ch. F. (1954) Archaeology theory and method. Some suggestions from the Old World. *American Anthropologist* 56: 155-168.
- HEIMANN, C. (2005) *Förflutna rum. Landskapets neolitisering i sydvästra Värmland*. Coast to Coast-Books 13. Göteborg.
- HODDER, I. (1986) *Reading the past. Current approaches to interpretation in archaeology*. Cambridge University Press. Cambridge.
- HODDER, I. (ed.) (1995) *Interpreting archaeology – finding meaning in the past*. Routledge. London.
- HODDER, I. (1999) *The archaeological process: an introduction*. Blackwell. Oxford.
- HÖGBERG, A. (2009) *Lithics in the Scandinavian Late Bronze Age. Sociotechnical change and persistence*. BAR International Series 1932. Oxford.
- HOLM, J., OLSSON, E. & WEILER, E. (1997) Kontinuitet och förändring i senneolitikum. *Regionalt och interregionalt* (Larsson, M. & Olsson, E. red.): 215-264. Riksantikvarieämbetet Arkeologiska Undersökningar, Skrifter 23. Stockholm.
- HOLST, M. K. (2006) Tårup a round dolmen and its secondary burials. *Journal of Danish Archaeology* 14: 7-21.
- HOLTORF, C. (1996) Towards a chronology of megaliths: Understanding monumental time and cultural memory. *Journal of European Archaeology* 4: 119-152.
- HOLTORF, C. (1998) The life-histories of megaliths in Mecklenburg-Vorpommern (Germany). *World Archaeology* 30: 23-38.
- INSOLL, T. (2004) *Archaeology, ritual, religion*. Routledge. London.
- JACOBSSON, B. (1986) The Skogsdala Dolmen. A long dolmen beneath a Bronze Age burial mound at Skogsdala, South Scania, Sweden. *Meddelanden från Lunds Universitets Historiska Museum* 1985/1986: 84-114.
- JAANUSSON, H. & SILVÉN, U. (1962) Undersökningen av Dragbyröset 88. *TOR VIII*: 5-44.
- JENSEN, J. (1982) *The Prehistory of Denmark*. Methuen. London.
- JOHANSEN, B. (1997) *Ormalur. Aspekter av tillvaro och landskap*. Stockholm Studies in Archaeology 14. Stockholm.
- JOHANSEN, K. J., LAURSEN, S. T. & HOLST, M. K. (2004) Spatial patterns of social organization in the Early Bronze Age of South Scandinavia. *Journal of Anthropological Archaeology* 23: 22-55.
- JONES, A. M. (2003) Technologies of remembrance: memory, materiality and identity in Early Bronze Age Scotland. *Archaeologies of Remembrance. Death and memory in past societies* (Williams, H. ed.): 65-88. Kluwer/Plenum Press. New York.
- JONES, A. M. (2007) *Memory and material culture*. Cambridge University Press. Cambridge.
- KARSTEN, P. (1994) *Att kasta yxan i sjön. En studie över rituell tradition och förändring utifrån skånska neolitiska offerfynd*. Acta Archaeologica Lundensia, Series in 8°, No 23. Lund.
- KAUL, F. (1998) *Ship on bronzes. A study in Bronze Age religion and iconography*. PNM Studies in Archaeology and History 3:1/2. København.
- KAUL, F. (2004) *Bronzealderens religion*. Nordiske Fortidsminder Serie B 22. København.
- KAUL, F. (2005) Bronze Age tripartite cosmologies. *Praehistorische Zeitschrift* 80 (2): 135-148.
- KOCH, E. (1992) Kulturforskelle mellem Lolland-Falster og Nordsjælland i ældre bronzealder. *Aarbøger for Nordisk Oldkyndighed og Historie* 1991: 67-95.
- KOPYTOFF, I. (1986) The cultural biography of things. Commoditization as process. *The social life of things. Commodities in cultural perspective* (Appadurai, A. ed.): 64-91. Cambridge University Press. Cambridge.
- KRISTIANSEN, K. (1998) *Europe before history*. Cambridge University Press. Cambridge.
- KRISTIANSEN, K. & LARSSON, T. B. (2005) *The rise of Bronze Age society: travels, transmissions and transformations*. Cambridge University Press. Cambridge.
- LARSSON, Th. B. (1986) *The Bronze Age Metalwork in Southern Sweden. Aspects of Social and Spatial Organization 1800-500 B.C.* Archaeology and Environment 6. Umeå.
- LEKBERG, P. (2002) *Yxors liv, människors landskap: en studie av kulturlandskap och samhälle i Mellansveriges senneolitikum*. Coast to Coast Book 5. Uppsala.
- LEVY, J. E. (1995) Heterarchy in Bronze Age Denmark. Settlement pattern, gender, and ritual. *Archeological Papers of the American Anthropological Association* 6: 41-53.
- LILLIOS, K. T. & TSAMIS, V. (eds.) (2010) *Material mnemonics. Everyday memory in prehistoric Europe*. Oxbow Books. Oxford.
- LING, J. (2008) *Elevated rock art. Towards a maritime understanding of rock art in northern Bohuslän, Sweden*. Gotarc Serie B. Gothenburg Archaeological Thesis 49. Göteborg.
- LING, J. (2013) *Rock art and seascape in Uppland*. Oxbow Books. Oxford.
- LING, J., HJÄRTHNER-HOLDAR, E., GRANDIN, L., BILLSTRÖM, K. & PERSSON, P.-O. (2013) Moving metals or indigenous mining? Provenancing Scandinavian Bronze Age artefacts by lead isotopes and trace elements. *Journal of Archaeological Science* 40: 291-304.
- LUCAS, G. (2005) *The archaeology of time*. Routledge. London.
- MCDONALD, J. & VETH, P. (eds.) (2012) *A companion to rock art*. Wiley-Blackwell. Chichester.
- MELHEIM, A. L. (2012) *Recycling ideas. Bronze Age metal production in Southern Norway*. University of Oslo, Faculty of Humanities, Dissertation for the degree of PhD 2012. Oslo.
- MILLS, B. J. & WALKER, W. H. (eds.) (2008) *Memory work. Archaeologies of material practices*. School for Advanced Research Press. Santa Fe.
- MOHEN, J.-P. & ELUÈRE, Ch. (2000) *The Bronze Age in Europe – gods, heroes and treasures*. Thames & Hudson. London.

- MONTELIUS, O. (1877) *Sveriges hednatid, samt medeltid, förra skedet, från år 1060 till år 1350*. Hierta. Stockholm.
- MONTELIUS, O. (1906) Stenåldersgravar begagnade under bronsåldern. *Fornvännen* 1: 169-179.
- MÜLLER, S. (1911) Vendsyssel-studier II. *Aarbøger for Nordisk Oldkyndighed og Historie* 1911: 282-285.
- NILSSON, P. (2010) Reused rock art: Iron Age activities at Bronze Age rock art sites. *Changing pictures – rock art traditions and visions in northernmost Europe* (Goldhahn, J., Fuglestad, I. & Jones, A. eds): 154-169. Oxbow Books. Oxford.
- O'BRIEN, M. J., LYMAN, R. L. & SCHIFFER, M. B. (2005) *Archaeology as a process. Processualism and its progeny*. University of Utah Press. Salt Lake City.
- OESTIGAARD, T. & GOLDBAHN, J. (2006) From the dead to the living – death as transactions and re-negotiations. *Norwegian Archaeological Review* 39 (1): 27-48.
- OLIVIER, L. (2011) *The dark abyss of time. Archaeology and memory*. AltaMira press. Lanham.
- OLSEN, A.-L. H. (1992) Egshvile – a Bronze Age barrow with early urn graves from Thy. *Journal of Danish Archaeology* 9: 133-152.
- ØSTMO, E. (2002) Senneolitiske hellekister i Syd-Norge. *In Situ* 2000/2001: 5-26.
- ØSTMO, E. with contributions by HOLCK, P. & HØEG, H. I. (2011) *Kriggergraver. En dokumentarisk studie av senneolittiske hellekister i Norge*. Norske Oldfunn 26. Oslo.
- OTTO, T., THRANE, H. & VANDKILDE, H. (eds.) (2006) *Warfare and society: archaeological and social anthropological perspectives*. Aarhus University Press. Aarhus.
- PARKER PEARSON, M. (1999) *The archaeology of death and burial*. Sutton. Stroud.
- PERSSON, P. & SJÖGREN, K.-G. (1996) Radiocarbon and the chronology of Scandinavian megalithic graves. *Journal of European Archaeology* 3 (2): 59-88.
- PERSSON, P. & SJÖGREN, K.-G. (red.) (2001) *Falbygdens gånggrifter. Undersökningar 1985-1998*. Gotarc Serie C, Arkeologiska Skrifter 34. Göteborg.
- PETERSEN, B. (1970) En långdös i ett bronsåldersröse. En preliminär redogörelse. *Halland* 1970: 13-21.
- PETERSEN, H. (1875) Om helleristninger i Danmark. *Aarbøger for Nordisk Oldkyndighed og Historie* 1875: 402-450.
- RANDBORG, K. (1974) Social stratification in Early Bronze Age Denmark. *Prähistorische Zeitschrift* 49: 38-61.
- RANDBORG, K. & CHRISTENSEN, K. (2006) *Bronze Age oak-coffin graves: archaeology & dendro-dating*. Blackwell Munksgaard. København.
- RENFREW, C. & ZUBROW, E. B. W. (eds.) (1994) *The ancient mind – elements of cognitive archaeology*. Cambridge University Press. Cambridge.
- RETZIUS, G. (1899) *Crania Suecica antiqua. Beskrifning av svenska mennisko-kranier från stenåldern, bronsåldern och järnåldern jämte en blick på forskningen öfver de europeiska folkens ras-karaktärer*. Stockholm.
- SHANKS, M. & TILLEY, Ch. (1987a) *Social theory and archaeology*. Polity Press. Cambridge.
- SHANKS, M. & TILLEY, Ch. (1987b) *Re-constructing archaeology: theory and practice*. Cambridge University Press. Cambridge.
- SJÖGREN, K.-G. (2003) *Mångfaldige uhrminnes grafvar-'. Megalitgravar och samhälle i Västsverige*. Gotarc Series B, Gothenburg Archaeological Theses 24. Göteborg.
- SJÖGREN, K.-G. (ed.) (2006) *Ecology and economy in Stone Age and Bronze Age Scania*. Archaeological Excavations Department, Swedish National Heritage Board. Lund.
- SKOGLUND, P. (2009) Beyond chiefs and networks. Corporate strategies in Bronze Age Scandinavia. *Journal of Social Archaeology* 9 (2): 200-219.
- ŠMEJDA, L. (ed.) (2006) *Archaeology of burial mounds*. Vyd. 1. University of West Bohemia, Department of Archaeology. Plzeň.
- SØRENSEN, M. L. S. (1997) Reading dress. The construction of social categories and identities in Bronze Age Europe. *Journal of European Archaeology* 5 (1): 93-113.
- SØRENSEN, M. L. S. (2002) *Gender archaeology*. Polity Press. Oxford.
- STENBERGER, M. (1964) *Det forntida Sverige*. Almqvist & Wiksell. Stockholm.
- STENSKÖLD, E. (2004) *Att berätta en senneolitisk historia*. Stockholm Studies in Archaeology 34. Stockholm.
- THRANE, H. (ed.) (2003) *Diachronic settlement studies in the Metal Age*. Jutland Archaeological Society Publications 45. Aarhus.
- TILLEY, Ch. (ed.) (1993) *Interpretative archaeology*. Berg. Oxford.
- TILLEY, Ch. (1996) *An ethnography of the Neolithic. Early prehistoric societies in southern Scandinavia*. Cambridge University Press. Cambridge.
- TILLEY, Ch. (ed.) (2006) *Handbook of material culture*. Sage. London.
- TREHERNE, P. (1995) The warrior's beauty. The masculine body and self-identity in Bronze-Age Europe. *Journal of European Archaeology* 3 (1): 105-144.
- VAN DYKE, R. & ALCOCK, S. E. (eds.) (2003) *Archaeologies of memory*. Blackwell. Malden.
- VANDKILDE, H. (1996) *From stone to bronze. The metalwork of the late Neolithic and earliest Bronze Age in Denmark*. Jysk Arkæologisk Selskabs Skrifter 32. Aarhus.
- VANDKILDE, H. (2000) Material culture and Scandinavian archaeology: a review of the concepts of form, function, and context. *Form, function and context. Material culture studies in Scandinavian Archaeology* (Olausson, D. & Vandkilde, H. eds): 3-49. Acta Archaeologica Lundensia, Series in 8°, No 31. Lund.
- VANDKILDE, H. (2007) *Culture and change in Central European prehistory: 6th to 1st millennium BC*. Aarhus University Press. Aarhus.
- VARENIUS, B. (1994) Monument och samhällelig reproduktion. Äldre järnålder i norra Småland. *Kulturmiljövård* 94 (5): 56-63.
- WEILER, E. (1994) *Innovationsmiljöer i bronsålderns samhälle och idévärld*. Studia Archaeologica Universitatis Umensis 5. Umeå.

- WHITLEY, D. S. (ed.) (2001) *Handbook of rock art research*. AltaMira Press. Walnut Creek.
- WHITLEY, D. S. (2005) *Introduction to rock art research*. Left Coast Press. Walnut Creek.
- WILLIAMS, H. (ed.) (2003) *Archaeologies of Remembrance. Death and Memory in Past Societies*. Kluwer/Plenum Press. New York.
- WINROTH, A. (2012) *The conversion of Scandinavia. Vikings, merchants, and missionaries in the remaking of Northern Europe*. Yale University Press. New Haven.
- WORSAAE, J. J. A. (1840) Undersøgelser af gravhøje i Danmark foretagne ved J. J. A. Worsaae. *Annaler for Nordisk Oldkyndighed* 1840: 142-145.
- ZINCK, L. H. O. (1871) Bronzefolkets gravhøje og deres forbindelse med stenalderens grave. *Aarbøger for Nordisk Oldkyndighed* 1871: 1-84.

# Art and intimacy within the prehistoric landscapes of Norway: how hunter/fisher/gatherers organised their ritual and political worlds through art

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*Human knowledge and human power meet in one; for where the cause is not known the effect cannot be produced. Nature to be commanded must be obeyed; and that which in contemplation is as the cause is in operation as the rule.*

Frances Bacon (*Meditationes Sacrae* 1597)

## Abstract

*The painted rock art sites of Norway constitute a small but significant rock art assemblage. In terms of subject matter they are similar in style and theme to their engraved counterparts. It is assumed that the majority of the prehistoric paintings are constructed from a haematite recipe and was applied to the rock panel using a variety of techniques including finger and brush painting.*

*The assemblage, currently numbering around 50 sites is located around the inner and outer fjord areas of coastal Norway and is found mainly in caves, rock shelters and exposed vertical rock overhangs. One of the largest groups of painted panels and typifying this distribution is located on a rocky headland along Tingvoll Fjord, within the County of Møre og Romsdal in south-western Norway. Following several recent intense surveys, the painting sites of Hinna and Honnhammar in Tingvoll have revealed a busy landscape covered with prehistoric paintings. Recent technological advance in photographic colour enhancement, in particular, desk-based programmes such as Decorrelation Stretch (D-Stretch) has meant that more panels within the immediate area have been discovered. Archaeologists are now beginning to gain a unique insight into a little-known or understood activity of applying painted-imagery to certain landscape forms.*

*This paper will discuss the form, subject matter and distribution of a number of painted rock art sites in Norway and suggest that an intentionality to choose the preferred location, sometimes in dangerous parts of the landscape, was associated with the politics of control and manipulation.*

**Key words:** *knowledge, landscape form, pigment, power, restricted visual access, world-view*

## A gathering context

The rock art of Norway and elsewhere in Scandinavia is predominantly an engraving tradition that is present on exposed rock outcropping, usually close to the shorelines of fjords.<sup>1</sup> Despite this dominance, there are around fifty sites that possess painted-imagery (Figure 1 & Table 1). This assemblage is usually located in caves and rock-shelters or on vertical or near-vertical panels underneath overhangs (e.g. Sognnes 1984, 1994a, Norsted 2013).<sup>2</sup> Not surprisingly, their location complements the natural

landscape, a land of fjords, lakes and rivers; regular features within coastal Norway. The repertoire includes mainly schematic anthropomorphic figures, elk and geometric patterns. Occasionally, boats and fish are also portrayed, along with unrecognisable imagery and haematite stains (Table 1). In terms of intimacy and being hidden within a landscape,<sup>3</sup> the many cave, rock shelter and open-air sites that contain painted-imagery appear to conform to a pattern. First and foremost, and within an enclosed space such as a cave or rock shelter, the art is hidden, usually towards the back section of the cave/rock shelter, which is also concealed within a confused landscape of rock outcropping, rock recesses, other caves and rock shelters, and other caves. One can only assume that such sites were in

<sup>1</sup> Digression: in Finland there are more recorded paintings than petroglyphs. These are sited mainly underneath cliff overhangs that face lakes, rivers and the sea.

<sup>2</sup> Sognnes suggests that open-air panels are the most frequent locations for painting (1984, 101).

<sup>3</sup> An assumption made by the 21st century mindset of the authors.

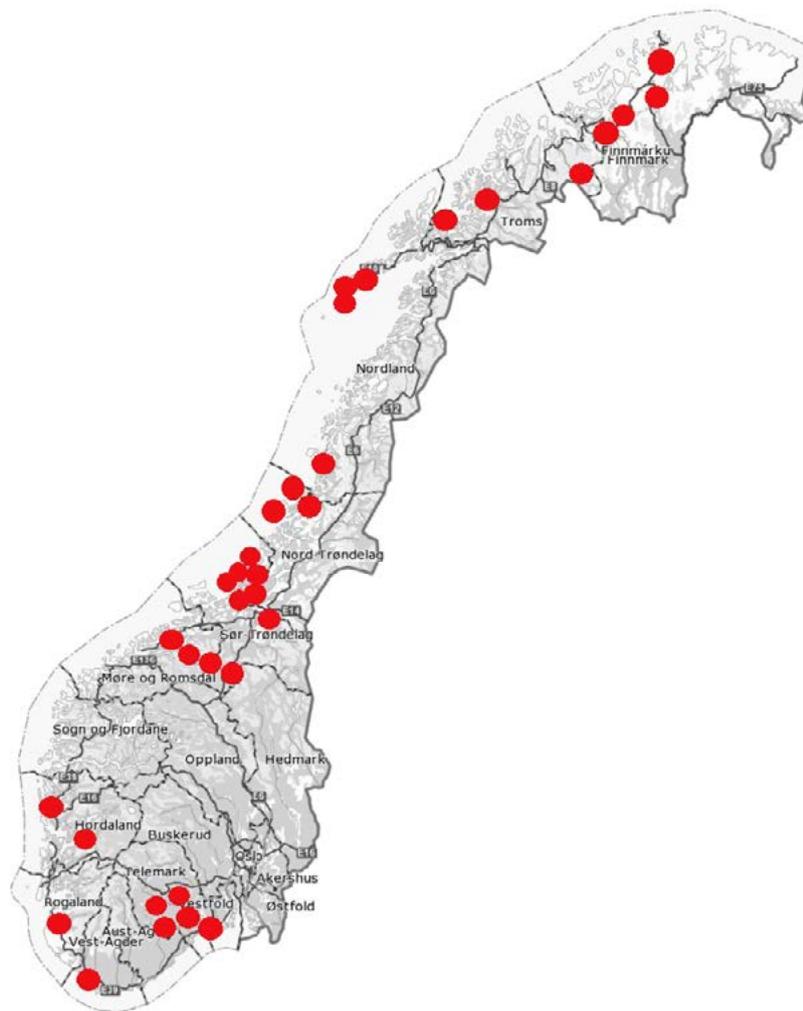


FIGURE 1: DISTRIBUTION OF PAINTED SITES IN NORWAY.

part chosen for their concealment qualities, but at the same time, they conformed to a set of generic landscape rules such as orientation, visual relationship between the cave/rock shelter and the open water and their inaccessibility. Open-air panels act in a similar way, usually facing towards the open fjord rather than inland. Their inaccessibility suggests that in ancient times, they were approached via canoes.

When reviewing the literature for rock art in Norway, one is drawn to nine major pieces of work: Gjessing (1932, 1936), Hallström (1938), Simonsen (1958) and Mandt & Lødøen (2005). Gjessing (1936), Hallström (1938), Hagen (1976) and Mandt & Lødøen (2005). Each has applied a comprehensive sweep of all known rock art sites throughout Norway. Between these writers, all the major rock art sites of Norway sites are listed and described. In amongst these sometimes detailed descriptions, prehistoric painted sites are also listed. Until relatively recently the number of painted prehistoric rock art sites in Norway as limited to around ten, several of which are found within caves located close to the coastal regions of Nordland and Nord-Trøndelag in central Norway (Sognnes 1984). During the early part of the 20th century, Gjessing (1932, 1936) and Hallström (1938) each identified a number of

painting sites including Hinna and Honnhammerneset in Tingvoll parish in south-western Norway (as well as Solsem, located on Leka Island, Nord Trøndelag). These sites were later revisited by scholars that considered not only the imagery but also the various anthropogenic and natural threats to their long-term conservation (e.g. Pawel & Gebremariam 2011). Elsewhere, the discovery of painting sites is a relatively new preoccupation that has been enhanced by county-based archaeologists and academic rock art researchers undertaking specific expeditions in the various locales where paintings may exist (see Table 1, Appendix).

The current known distribution of painting sites in Norway is arguably down to specific landscapes, as reflected in recent studies by, for example Smiseth (2007) and Linge (2012). Although these focused studies are essential in establishing a better understanding of regional variation in style and complexity, there are still many gaps within the distribution of such sites (Figure 1). Clearly, the distribution map is based on intensive research by focus-groups rather than as a representative geographic spread. Despite this, however, paintings appear to be a wide phenomenon that extends the entire fjord and coastline of Norway.

## Theoretical considerations

As far back as 1972, Scandinavian archaeologists were questioning the problems of rock art fieldwork and research (Nordbladh 1972, 185-209). In his publication, Jarl Nordbladh promoted a semiotic approach to interpreting rock art imagery, a concept that was later adopted by Tilley (1991) and Sognnes (2002). Here, scholars started to look beyond the carved and painted image and largely followed the ideology of David Clarke's *Loss of Innocence* paper (1973, 18).

Clarke tantalisingly postulates: *...the practical excavator [rock art prospector] should appreciate more than any other archaeologist the degree to which his practice is controlled by his theoretical expectations, and these should accordingly be appropriate. Thus with a more explicit theoretical awareness the practical excavator may contribute to a qualitative increase in understanding rather than simply a quantitative increase in data.*

In other words, we (the researchers) need to look beyond the realm of data and statistics (although, we consider them necessary). Nordbladh (1972, 185) identifies similar issues with fieldwork data, categorizing 'petroglyph research' as a process of production of data, manipulation of data, dating and interpretation. However, these constituents were and are the cause for much debate. Mandt (1978, 170) identifies that problem of contextualising rock art, whereby it cannot be studied or viewed in isolation and must be seen as a product of a bygone world; in other words, we cannot enter the prehistoric mindset. However, there is a philosophical discourse that can arguably bind the past with the present, in particular the acts of passive and active participation and valued experience (e.g. Pearson & Shanks 1997).

A study of hunter/fisher/gatherer petroglyphs within Vingenfjord by Bruno Mézec (1989) was one of the first of its type to employ a structuralist approach to systematically deconstruct the many engravings that lined the foreshore. Extending beyond a predictable list of different images present, Mézec concluded that rock art acts as a communication device; here motifs became repeated and recognised by certain people/groups within a community. A similar argument was replicated by Tilley at the hunter/fisher/gatherer site of Namförsen in north-western Sweden (1991).

In a similar vein, one of the authors has previously promoted the concept of *restricted visual access*; that is the concealment and control of prehistoric rock art from particular social strands of society; in other words who would be allowed see what, when and how (Nash 2002, 2008). Hood (1988, 65) does, however, argue the contrary by stating that:

*.....the meaning of rock art cannot be attributed to a privileged religious subsystem, a set of beliefs linked to primarily with subsistence practices, nor with group integration. Rather, rock art contain traces of*

*the whole gamut of social practices, ideologies and contradictions, and may therefore sustain a plurality of alternative readings and interpretations.*

However, we counter argue that rock art meaning has to be restricted in order to maintain social and political control and thus reinforcing tribal/community hierarchies. This counter argument is further supported by Giddens (1979, 80) who postulates that social systems are constructed and controlled by individual agents (e.g. the artist) who operate with knowledge of the system and within it manipulate the material, social and symbolic mechanisms in order to control their standing within a social group.

Arguably, art conveys more than just a visual medium. Morphy (1999, 442) suggests that defining (hunter-gatherer) art is problematic in that the boundaries of certain art styles transcend economic boundaries thus rendering art to two spheres of meaning; one viewed from the 1st World, the other from the originator; what we term in this paper as *artist and audience*.

Painted panels are usually sited on the back walls of rock-shelters, caves and underneath rock overhangs, suggesting varying degrees of difficulty in order to visually access the art (and its meaning). Location appears, therefore, to be purposely – rather than haphazardly – chosen (there are numerous caves, rock shelters and open-air panels that are not painted). Each panel though would have established a strategic as well as a symbolic statement within the landscape. It is probable that the panel and the site would have been geographically known, but at the same time its narrative and meaning would have been unknown; people not privy to its meaning would have perhaps understood some but not all the ritual symbolism involved. By locating a panel in this way, the artist would have created physical and metaphysical barriers between him or herself and the audience. By creating a social barrier such as this, a number of symbolic and political statements are imposed upon the landscape, in particular, signifying what is known and what is unknown and where one can venture to. One can consider these to be status driven whereby the artist holds the knowledge and the audience does not.

Concerning the mechanics of landscape, especially its relationship between the various caves, rock-shelters and open-air vertical panels and the rock art, there appears to be an interaction between them; albeit, sometimes, in a subtle way. We would argue that certain sites were deliberately chosen for their potential qualities either physically or ritually and their location is not dissimilar to their engraved counterparts. Physical qualities could be:

- Altitude of the panel in relation to other landscape features;
- Appropriate rock surface qualities (i.e. the accessibility and surface of the canvas);
- Size of the site and its intimacy;
- The site's location within the surrounding landscape;

- The surrounding topography; or
- A combination of the above.

Coupled with the physicality of the site (or independent of its physicality) would be the ritual attributes (assuming that the paintings are the result of a ritual construct) such as:

- The site establishing an ancestral history (for whatever reason);
- Inaccessibility to the panel/site;
- The site being incorporated into a special landscape that was sacred and due to its location (i.e. within coastal/fjord locates and usually difficult to access) was frequented on a periodic basis;
- The direct and indirect symbolic and cosmological relationships between subject matter, and the surrounding landscape (i.e. boat, cervid, fish, geometric patterns and human figures, being replicated onto the panel); or
- A combination of the above.

The relationship between painted figures and the surrounding landscape may be similar to rock art narratives elsewhere in that those animals and human figures, either an individuals or in groups, may represent certain sections of the landscape. Here, animals and human figures take ownership of the landscape through the rock art; thus initiating a sense of control and creating a *place* (from the space of the wilderness). Outside the influence of the rock art panel, the landscape during this period of prehistory would have been generically divided into two types of *scape*: wild and tamed (Nash 2008). The predominant activity recorded on the painting sites does not mirror scenes from the numerous engraved rock art panels, except for maybe the fish panels at Rom Honnhammar in Tingvoll. Here, one is probably witnessing an economic statement such as the promoting the abundance of fish within Tingvollfjord. Within a cave or rock shelter context though the situation is somewhat different; this is partly based on the image repertoire and the space in which the art is exhibited.

Within the caves of Fingalshula and Solsemhula, both in Nord-Trøndelag, and Skåren-Monsen in neighbouring Nordland, the painted-imagery is mainly restricted to multiple anthropomorphic stick figures, single cervid and a curious sun-symbol (from Skåren-Monsen) (Figures 2 and 3). The art from these caves is in stark contrast to the painted-imagery from, say, the Honnhamneset panels; however, similarly, the art is hidden and concealed, usually within the rear sections of the cave/rock shelter (Norsted 2013). The multiple anthropomorphic figures suggest that an emphasis is being placed on people rather than animals. At Honnhammer, the theme is reversed whereby animals are the main theme. This change may be ascribed to different people living in different places and adopting different [chronological] economies or cosmological/totemic ideologies (e.g. Sognnes 1984, 117).

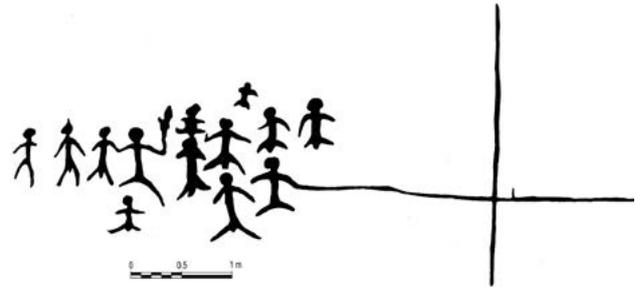


FIGURE 2: A COMMUNITY OF HUMAN FIGURES, PAINTED IN HAEMATITE FROM SKÅREN-MONSEN CAVE. (AFTER SOGNNES 1984)

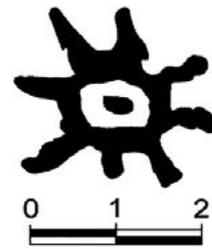


FIGURE 3: A RARE SUN-DISC FIGURE, PAINTED IN HAEMATITE FROM SKÅREN-MONSEN CAVE. (AFTER SOGNNES 1984)

These assumptions are of course made by the mindsets of 20th and 21st century scholars who are relying on a fragmentary archaeology. Arguably, we are part of a conceived process, especially if one considers the way in which contemporary religion uses physical and metaphysical devices in controlling and manipulating its people. We have suggested, for example, the architectural devices used to conceal the ritual practices of the priest during the medieval period would have been an essential tool in separating community, class and gender; a [Marxist] concept that is applied to many religions today. The architectural devices such as rood screens, stepping and the narrowing of the chancel would have worked along more subtle devices including the use of an alien language and the gestures that accompany it.

During the medieval period (i.e. prior to the English Reformation of 1538), the parish priest would have conducted Holy Communion and the liturgy in Latin rather than native Old English. This metaphysical device was employed over most of Catholic Europe and is still in use today. A similar restricted visual access system, albeit less ostentatious would have been practiced in the Christian (Evangelical Lutheran) church across post-medieval and modern Norway.

Why restrict the visual access of, say, the iconography or language associated with the piety of the church? The answer could lie with the term *knowledge is power* (or, in Latin *scientia potentia est*<sup>4</sup>). Although this term is

<sup>4</sup> As opposed to the expression '*scientia potestas est*', meaning *Knowledge is his power* (referring to the qualities of God).

ambiguous, knowledge (or education) was considered by the English 16th century philosopher Sir Frances Bacon as an implied concept that would have been an essential ingredient to improve one's status potential and influence. Pertinent to this paper, the phrase may also reflect one's reluctance to share information; by withholding knowledge, one can create an advantage over others. The approach can be malicious or, in the case of the relationship between artist and audience, a device for social control. Bacon's interpretation of the notion of power should take into account his idiom between the *power of knowing* and the *power of working and acting*; here, the prehistoric artist embraces both, thus empowering him/her to develop a relationship between the rock, the art, his/her ritual actions and the audience. One could argue that a more intimate relationship may have existed between the artist and the rock surface rather than the artist and his or her audience.

Similarly, the way in which power is sought and promoted subtly turns the artist into a messenger rather than a figure of control. In order to maintain group/community control, responsibility and decision-making is transferred from the rock panel and the imagery to the artist. How that information is collected, disseminated and shared may vary from panel to panel and region to region. In terms of how rock art was used, one can consider that it was permanent and motionless and therefore their respective narratives, however intricate, are fixed and formulaic (Lévi-Strauss 1973). In terms of executing a painting, the artist would have required a meaningful design concept which would have been transferred as a sketched outline to a rock panel. Following the initial sketch, the artist would have been engaged in the process of constructing the image using a variety of ingredients to create a usable and pliable pigment. The application of painted imagery onto a rock surface, however, may require a different and more complex approach. When applying pigment to a rock surface, a number of clear protocols and actions may have been observed. Similar to engraving an image, the artist would have considered the design concept i.e. where each image should be placed. The geology of the rock could have been a potential constraint, especially if the porosity of rock is high; this point was raised by Nash (2002) when considering the rock art panel of Tumlehed, South-west Sweden (Figure 4). Here, certain hunter/fisher/gatherer images at the dry fjord site of Tumlehed (South-west Sweden) are only visible during suitable atmospheric conditions. As a result, one of the authors increased the panel assemblage by six new images (Nash 2002, 177-8). It is probable that more images exist within and outside the panel at this site. It is also probable that the artist would have been aware of the porosity of the rock when executing the art, thus strengthening the concept of restricted visual access. Similar to other painted sites in northern Scandinavia, Tumlehed appears to be strategically chosen, not just for its panel-surface qualities but for the way in which the panel is viewed within the landscape. Bearing this in mind, at what distance can a panel be viewed and understood?

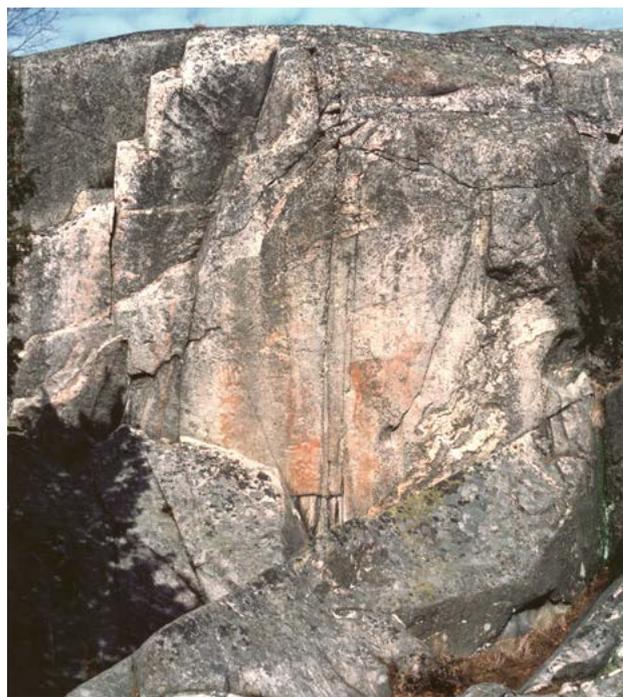


FIGURE 4: TWO IMAGES OF THE PAINTED OPEN-AIR ROCK PANEL OF TUMLEHED, SOUTH-WEST SWEDEN. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)

#### Using science to reveal the past

Above, we have considered the porosity of the rock on which a pigment would have been applied. It is probable, but yet under-researched that different geologies throughout Norway absorb different amounts of pigment. Furthermore, more dense geologies, such as schist would have caused pigments to react and behave differently to pigments applied to, say, softer, more porous rock-types including sandstone.

One can consider painting as an easier and more personal option to engraving onto exposed smooth and contoured rock outcropping. However, the location of such paintings is limited to just a few caves and exposed rock panels. One could argue that, over time the chemical reaction between inorganic pigments such as haematite and the rock surface has allowed such pigments to be either eroded away or absorbed into the rock crust. As suggested earlier, the decision to paint in such places may have been deliberate. Moreover, absorption rates on certain rock types may have been one of the conditions for choosing a panel.

In terms of colour and based on the fragmentary evidence, prehistoric artists from northern Scandinavia were probably restricted to using one type of pigment – haematite. This inorganic powdery substance, deriving its name from the Greek word for *blood* is present along most of the coastal fringe of Norway and would have been a ready-available resource for artists. What is currently unclear though are the various recipes that may have been employed to create a suitable pigment paste. According to Rosina *et al.* (2014)

simple recipes involving encaustic techniques are reported in ancient literature, for example first century writers such as Pliny and Diodorus (see Gallagher 2011). Pliny writes about a five day recipe that includes boiling unbleached beeswax with salt water and potassium carbonate. The mixture, according to Pliny was then exposed to the sun creating a smooth paste. Added to this paste were egg yolks, linseed oil and balsam. The end result would have been a consistent creamy yellow paint (referred to as a Punic wax). This recipe was later elaborated upon by Egyptian, Greek and Roman alchemists. It is more than probable that the primary technique of mixing such a recipe originated from prehistoric societies engaged in the production of rock art (Doxiadis 2000), although, as far as the authors are aware no analysis to determine a specific recipe used in the production of a haematite-based pigment from a Norwegian context has been yet undertaken.

Until recently, the methodologies employed to document a rock art site has been restricted to photography (digital and wet film) and tracing. These methods are supported by a written [proforma] record. Arguably, this methodological package is still widely preferred in rock art research. The 43 sites listed in Table 1 form a broad assemblage of what is currently known; however, new innovations in science and technology are increasing this number. Moreover, more visual information is being added to panels that were previously thought to comprise only one of two images. One recent innovation is a desk-based software package called D-stretch. Its applications have been recently used successfully by T. E. Linge at the Honnhamneset sites in the parish of Tingvoll (Møre og Romsdal) to geoprospect newly painted sites around the Tingvoll landscape (2012). Further imagery was also found using Photoshop software by Smiseth (2007).

D-Stretch (for *Decorrelation Stretch*) is a plug-in Image J software package which was developed by Jon Harman (Harman 2008 [2005]). Originally applied for remote sensing by NASA in 1996, this software is a multispectral image enhancement tool which has been specifically redeveloped to maximise colour manipulation of rock art images, paintings in particular, and is being widely used by scholars engaged in the study of rock art (Linge 2012; Moya *et al.* 2014). Optimum enhancement is achieved when photographing paintings that contain red and yellow pigmentation, usually through the use of an algorithm of decolouration. D-Stretch software is organised into two levels: [Basic] Level 1 – colourspace and Level 2 – YXX/LXX Parameters which further fractures the chosen colour spectrum offering false colouration to the faintest of images (see Figure 5). Some colourspace and parameters codes were created particularly for paintings (e.g. Moya *et al.* 2014). What becomes apparent when using D-Stretch is the unique nature of the geometric patterns and the complexity of some of the zoomorphic images displayed, especially those at Honnhamneset and Nerhol (Figure 6).

Such are the remarkable qualities of D-Stretch, digital imagery dating to 2005 and 2007 has been analysed



FIGURE 5: THE FADED IMAGE OF AN ELK, LOCATED ON A VERTICAL WALL AT NERHOL II. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)



FIGURE 6: D-STRETCH ENHANCED IMAGE OF THE SAME ELK. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)

using this software at the inland site of Nerhol (Oppdal, Sør-Trøndelag). It is at Nerhol I that further images were recently identified and verified using D-stretch software including several human figures (Figures 7 and 8).

Nerhol was discovered in the early 2000 and later documented in 2005 by Kalle Sognnes and a team from NTNU. The rock art comprised initially of a single cervid painted on a vertical cliff face overlooking the River Driva (Figure 9). The image – an elk is located underneath a substantial overhang and is away from any safe access. It is probable that it was painted by an artist who was courageous enough to abseil from above with, say, a makeshift rope; the drop between the image and the river is c. 11.75 m (Figure 10).

Over time, the haematite pigment that constructs the elk has been absorbed into the polished-smooth rock on which it is painted and it is possible that this image could have been viewed from the other side of the river. However, over time this image, along with others have since long



FIGURE 7: OUTLINE OF AN ANTHROPOMORPHIC FIGURE, CLOSE TO THE NERHOL I SITE. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)

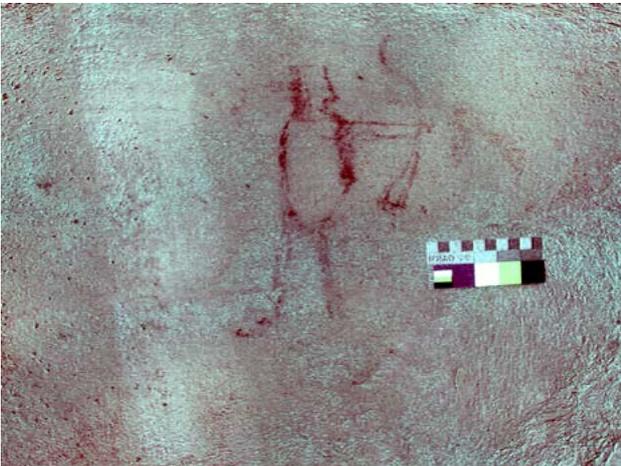


FIGURE 8: OUTLINE OF AN ARCHER, LOCATED CLOSE TO THE NERHOL I SITE. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)



FIGURE 9: VIEW OF THE CLIFF FACE TOWERING OVER THE DRIVA. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)

since been absorbed into the surrounding geology of the rock outcropping. The recording of this image by one of the authors who abseiled from above the rock overhang

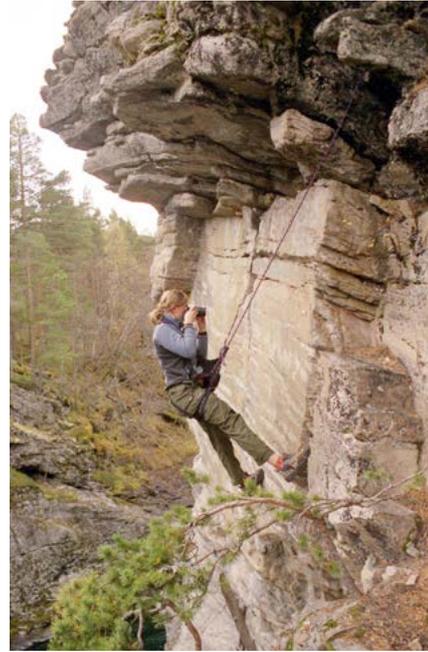


FIGURE 10: ONE OF THE AUTHORS ABSEILING OVER THE SITE, ENGAGED IN PHOTOGRAPHIC RECORDING. (PHOTO KALLE SOGNES)

clearly demonstrates the degree of difficulty and danger for painting such an image. Could the cliff face been a device for restricted visual access?

**A special set of circumstances: the sites of Hinna and Honnhammerneset**

There are very few sites within northern Scandinavia that possess multiple painted images. Our quantitative analysis has shown that only the Ruksesbåkti/Indre Sandvik (Finnmark) and Årsand I/II in Hordaland have images numbering over 50, the remainder of sites contain between 1 and 10 images. However, located along the south-western coast of Norway, within the county of Møre og Romsdal are the sites of Hinna and Honnhammer.<sup>5</sup> This wide cluster of panels, located within the parish of Tingvoll, probably date to between 4500 and 1500 cal BC and have been extensively researched (Gjessing 1932, 1936; Hallström 1938; Smiseth 2007; Pawel & Gebremariam 2011 & Linge 2012).<sup>6</sup> According to Smiseth (2007) and Linge (2012) over sixteen painted panels are present, portraying up to 108 images, mainly elk (Figure 11), red deer, fish (probably salmon [*Salmo salar*] or possibly halibut [*Hippoglossus hippoglossus*]) (Figure 12) and geometric motifs (Figure 13). Using D-Stretch software, the authors have ascertained that some paintings actually superimpose earlier painted imagery suggesting that the site may have been in use over a long period of time (see Figure 12).

The painted-imagery is located on land within the farmstead of Honnhammar and is considered some of the

<sup>5</sup> The Hinna and Honnhammerneset sites are now considered to be one site (Smiseth 2007).

<sup>6</sup> Omitted from Mandt & Lødøen (2005).



FIGURE 11: ELK FIGURE WITH SIMPLE X-RAY DETAIL LOCATED ON PANEL I. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)



FIGURE 12: AN ABUNDANCE OF FISH WITH A FISHING LINE ON PANEL III. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)



FIGURE 13: GEOMETRIC DESIGN ON PANEL VIII. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)

finest prehistoric paintings in North-west Europe, forming one of the largest concentrations of painted-imagery in Norway.<sup>7</sup> The panels are dispersed over a wide area of the Tingvoll landscape, many of which occupying the headlands that face the Tingvollfjord (Figures 14 and 15).

The paintings have been known for at least 250 years and were first mentioned by Gerhard Schöning in 1778 [1979], following a site visit during the summer of 1773; Schöning considered the images to be a trick of nature; fooled by the natural red colorants within the quartz-veins. However, he did consider several images to derive from human agency. Later, B.E. Bendixen suggested that the rock paintings from Panel I of Honnhammer to be the work of Dutch or Scottish sailors during the 17th and 18th centuries (Bendixen 1879). During this time, this practice was not an uncommon past-time among seafaring folk (e.g. see Clegg 1998).

The Hinna site comprises a series of vertical panels on a headland located to the south, whilst the Honnhamneset site is more widely dispersed over several hundred metres to the north. The first scientific study was undertaken by Hallström who confirmed the paintings to be of a prehistoric date. Hallström's findings were published in the academic journal *Fornvännen* (Hallström 1909) and later in 1938 (Hallström 1938).<sup>8</sup> In *Fornvännen* Hallström registered the claim that the paintings in Tingvoll parish were the first officially-recognised rock paintings in Norway. During the mid- to late-20th century field examinations by Hagen and, later by Sognnes discovered new panels at both the Hinna and Honnhamneset sites and were duly recorded and published (Hagen 1976; Sognnes 1993, 1994b, 1996 & 2003).

The preservation of these panels is mainly due to the artist's choice of location; the majority of the paintings are on steep vertical walls that range between 75 and 95 degrees off horizontal (Nash 2008). Similar to other painted panels throughout Norway, the Hinna and Honnhamneset panels are located underneath overhangs, thus protecting the paintings from the natural elements. Although the majority of the panels stand between 10 and 35 m above the water level of the fjord, in prehistory, each panel would have been sited close to the fjord's water edge and may have been approach via canoe.

In terms of narrowing a date for the rock art, there has been no archaeological sub-surface prospection undertaken within the vicinity of the panels. However, walkover surveys have revealed evidence of several grave-mounds close to the Honnhamneset panels. In addition, Mesolithic-type lithics have been recovered from the neighbouring farms of Bergsli, Sagli, Skar and Honnhamneset (Lindgaard 2002); it is more than probable that the paintings and the lithics are contemporary.

<sup>7</sup> The site of Ruksesbåkti in Alta being the largest with over 190 painted images.

<sup>8</sup> The Hinna and Honnhamneset sites have also received attention from Gjessing (1936).



FIGURE 14: THE COMPLETE AND COMPLEX PANEL I OF HONHAMMAR FACING THE FJORD AND ITS D-STRETCH COUNTERPART BELOW. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)



FIGURE 15: THE COMPLETE AND COMPLEX PANEL I OF HONHAMMAR D-STRETCH COUNTERPART. (PHOTO GEORGE NASH/MAY-TOVE SMISETH)

Given all the available information and adopting a theoretical perspective, can one say anything new? The painted imagery within Tingvoll parish constitutes a diverse assemblage of subject matter. Moreover the imagery is usually clustered into thematic groups; elk, fish, human figures and geometrics; all groups can be considered as forming a group value between economy, ritual and landscape. Collectively, their distribution within the landscape constitutes a place (rather than a space) with distinct boundaries; boundaries that are delineated by the extent of the rock art. Giddens (1979, 80) and later Hood (1988, 65) have postulated that sites may have been constructed, controlled and manipulated by artists who may have gained their knowledge through the intricacies of landscape. This knowledge would have included an intimate relationship between the artist and the rock outcropping, the surfaces on which to paint, what to paint and how the artistic narrative may have been transmitted to the audience via the artist (if at all).

### Concluding remarks

Based on previous research, in particular the fieldwork of Th. Petersen, Gustav Hallström, and more recently Kalle Sognnes, pictographs (or what we have termed painted-

imagery) would have played a significant role in the complex ritual processes of daily hunter/fisher/gatherer life. The idea of concealing art from various sections of society is conceivable, especially when one considers how community and gender segregation operates in most contemporary world religions; here knowledge becomes a powerful tool in manipulating who would see what, when and how. In terms of controlling knowledge, a number of physical and metaphysical devices would be in force, in particular the intentionality of choosing a certain rock panel that would have been concealed and located in a place that was difficult to both physically and metaphysically access.

The location of painting sites along the coastal and fjord fringes of Norway follow such a pattern, usually hidden away in caves, rock shelters and open-air panels that can only be accessed by either boat or by foot (but over a rugged and treacherous terrain).<sup>9</sup> We considered this to be a primary device for concealment. The second device is the

<sup>9</sup> Regional differential shoreline displacement caused by a rapid rise in sea-level and the disproportionate rise in the northern Scandinavian landmass (isostatic uplift) created many thousands of new islands, archipelagos and completely reshaped the Scandinavian shoreline (see Halsten 1983; Svendsen & Mangerud 1987). Based on research by Nash (2008) many rock art sites along coastal Norway would have stood close the fjord shoreline (see also Sognnes 1984).

rock surface itself. Artists would have carefully considered which rock panel to use based on a number of possible criteria that would have included orientation, rock surface colour and texture, geology and porosity. The third and final device may have been control over who sees what. The artist would have only performed a rock art painting session periodically. One must assume that the painting would have told a story and this may have been conveyed whilst the act of painting was ongoing (there are numerous ethnographic studies to support this).

The concept of painting and telling stories provides the artist and the audience with an intimate relationship, in particular, the *act* of conveying stories. Ethnographic evidence in many parts of the world suggests that the artist is merely a device in which stories are transmitted from rock surface to the audience; it is conceivable that a similar scenario may have existed for the Norwegian material, whereby the artist becomes an intermediary within the act of performing the art. One must assume that the production of rock art would have constituted an event that would have involved social intercourse between artist and audience, thus creating a theatre of performance (e.g. Pearson & Shanks 1997; Nash 2008; Bradley 2009).

The three devices that exhibit concealment which are promoted in this paper – landscape, the artist and materials would have established a complex paradigm between daily life and the supernatural. Although, much of our hypothesis is arguably circumstantial, the physical entities of landscape and materials serve as indicators of a *life-less-ordinary* for the artist he or she controlled and manipulated over such a special and significant event as painting onto a rock surface.

## Epilogue

In many respects current research into prehistoric rock art in Northern Scandinavia cannot ignore the important work of Professor Kalle Sognnes (NTNU). Kalle has, over the past forty years or more pioneered new recording techniques and has unfailingly published all his sites, however small and insignificant they may be. Although, historically many sites within central Norway have been covered by scientists during the early part of the 20th century such as Guttorm Gjessing and Gustav Hallström, it is Kalle Sognnes who has applied a systematic and consistent scientific approach to both engraved and painted hunter/fisher/gatherer and pastoral sites. This work, does and will form in years to come an essential record for future generations of researchers. He has certainly left a long-lasting influence on both our lives through his enthusiasm and generosity by sharing his vast pool of knowledge; thank you Kalle.

## Bibliography

BACON, F. (1597) *Meditationes Sacrae. De Hæresibus*.  
 BENDIXEN, B. E. (1879) Fornlevninger i Nordmøre og Romsdal (II-III). *Foreningen til norske fortidsmindesmærkers bevaring* 1878: 62-162.

BRADLEY, R. (2009) *Image and Audience: Rethinking Prehistoric Art*. Oxford: Oxford University Press.  
 CLARKE, D. (1973) Archaeology – A loss of innocence. *Antiquity* XLVII, 6-18.  
 CLEGG, J. (1998) Making sense of obscure pictures from our own history: exotic images from Callan Park, Australia, in C. Chippindale & P. Taçon (eds.). *The Archaeology of Rock-art*. Cambridge: Cambridge University Press, pp. 336-46.  
 DOXIADIS, E., (ed.) (2000) *The Mysterious Fayum Portraits: Faces from Ancient Egypt*. London: Thames & Hudson.  
 GALLAGHER, K. (2011) Discoveries in Encaustic: a Look Through History. *The Journal of Undergraduate Research and Creative Activities for the State of North Carolina*. Randall Library, Wilmington.  
 GIDDENS, A. (1979) *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis*. London: Macmillan.  
 GJESSING, G. (1932) *Arktiske Halleristninger i Nord-Norge*. Oslo.  
 GJESSING, G. (1936) *Nordenfjeldske ristninger og malinger av den arktiske gruppe*. Institutt for sammenliknende kulturforskning, Oslo.  
 HAFSTEN, U. (1983) Shore-level changes in South Norway during the last 13,000 years, traced by biostratigraphical methods and radiometric datings. *Norwegian Journal of Geography*. Vol. 37 (2), pp. 63-79.  
 HAGEN, A. (1976) *Bergkunst*. Oslo.  
 HALLSTRÖM, G. (1909) En nyupptäckt hällmålning. *Fornvännen* 4: 55-56.  
 HALLSTRÖM, G. (1938) *Monumental art of Northern Europe from the Stone Age. I The Norwegian localities*. Bokförlags aktiebolag Thule, Stockholm.  
 HARMAN, J. (2008 [2005]). Using Decorrelation Stretch to Enhance Rock Art Images. <http://dstretch.com/AlgorithmDescription.html> (visitado 1-1-2014).  
 HOOD, B. (1988). Sacred Pictures, Sacred Rocks: Ideological and Social Space in the North Norwegian Stone Age, *Norwegian Archaeological Review* 21, pp. 65-84.  
 LÉVI-STRAUSS, C. (1973) *From Honey to Ashes: Introduction to a Science of Mythology* Volume 2. London: Jonathan Cape.  
 LINDGAARD, E. (2002) *Skjøtselsplan for Hellemaleriene på Honnhammer i Tingvoll Kommune, Møre og Romsdal*. Topographical archives, Norwegian University of Science and Technology. Norway: Museum of Natural History and Archaeology.  
 LINGE, T. E. (2012) *Rapport om nypåviste bergmalingar i Gnr. 87, bnr. 1 Honnhammer i Tingvoll kommune*.  
 MANDT, G. (1978) Is the Location of Rock Pictures an Interpretative Element?, *Acts of the International Symposium on Rock Art*. Oslo. 170-84.  
 MANDT, G. & LØDØEN, T. (2005) *Bergkunst: Helleristninger i Noreg*. Det Norske Samlaget, Oslo.  
 MÉZOC, B. (1989) *A Structural Analysis of the Late Stone-Age Petroglyphs at Vingen, Norway*. Unpublished M.S.c dissertation (University of London).  
 MORPHY, H. (1999) Traditional and modern visual art of hunting and gathering peoples. In R. Lee & R. Daly

- (eds.) *The Cambridge Encyclopaedia of Hunters and Gatherers*. Cambridge: Cambridge University Press, pp. 441-48.
- MOYA, F., ARMSTRONG, F., BASILE, M., NASH, G. H., TRONCOSO, A. & VERGARA, F. (2014) On-site and post-site Analysis of Pictographs within the San Pedro Viejo de Pichasca Rock Shelter, Limarí Valley, North-Central Chile. *Proceedings of the University of Bristol Speleological Society* 26(2) 171-86.
- NASH, G. H. (2002) The Landscape Brought Within: A Re-evaluation of the Rock Painting Site at Tumlehed, Torslanda, Göteborg, West Sweden. In G. H. Nash & C. Chippindale (eds.) *European Landscapes of Rock-Art*. London: Routledge, pp. 176-94.
- NASH, G. H. (2008) *Northern European hunter/fisher/gatherer and Spanish Levantine rock-art: A study in performance, cosmology and belief*. Trondheim. NTNU.
- NORDBLADH, J. (1972) Some problems concerning the relation between rock art, religion and society. Reprint from the *Acts of the International Symposium on Rock Art*, Hankø. 6th to 12th August 1972.
- NORSTED, T. (2008) *Hellemaleriene på Honnhammer (Hinna)*. Felt VI, IX og VIII. Dokumentasjon 2007. Upublisert rapport NIKU Konserveringsavdelingen nr 28/2008.
- NORSRED, T. (2013). The Cave Painting of Norway. *Adoranten*, pp. 5-24.
- PAWEL, D. & GEBREMARIAM, K. F. (2011) A multidisciplinary approach to conservation of Rock Art in Honnhammer, Norway. I: *ICOM CC 16th Triennial Conference Lisbon 19-23 September 2011*. NTNU.
- PEARSON, M. & SHANKS, M. (1997) Performing a Visit: Archaeologies of the Contemporary Past. *Performance Research* 2 (2), pp. 41-53.
- ROSINA, P., GOMES, H., NASH, G. H., & SOLOMON, T. (2014) Dating beeswax pictograms from Gode Roriso in Ethiopia. *Journal of Archaeological Science* 49:206-12.
- SCHÖNING, G. (1778, 1979) *Reise gjennem en Deel af Norge i De Aer 1773, 1774, 1775 paa Hans Majestets Kongens Bekostning er gjort og beskrevet*. København. Utgave ved Tapir forlag, Trondheim.
- SIMONSEN, P. (1958) *Arktiske Helleristninger i Nord-Norge* 2, Institutt for sammenlignende kulturforskning serie B. XLIX. Oslo.
- SMISETH, M.-T. (2007) *Bilder, jakt og fangst: En studie av bergmaleriene på Honnhammeren i Tingvoll*. Norges Teknisk – Naturvitenskaplige Universitet (Unpublished thesis).
- SOGNNES, K. (1984) Prehistoric Cave Paintings in Norway. *Acta Archaeologica* Vol. 53, 101-118.
- SOGNNES, K. (1993) Gransking av bergmalingar. Lokalitet Honnhammer VII. [Honnhammer ren, gnr 87/1, Tingvoll, Møre og Romsdal]. *Rapport I Topografisk arkiv, Vitenskapsmuseet, seksjo for arkeologi og kulturhistorie*, NTNU, Trondheim.
- SOGNNES, K. (1994a) Engravings found at Rock Painting sites in Trøndelag, Norway. *International newsletter on Rock Art*. No. 9. Foix.
- SOGNNES, K. (1994b) Ritual landscapes: toward a reinterpretation of the Stone Age rock art of Trøndelag, Norway, *Norwegian Archaeological Review* 63: 157-188.
- SOGNNES, K. (1996) Skade på Hellemålingar, Honnhammer, Tingvoll. [Honnhammeren, gnr 87/1, Tingvoll, Møre og Romsdal]. *Rapport I Topografisk arkiv Vitenskapsmuseet, seksjon for arkeologi og kulturhistorie*, NTNU, Trondheim.
- SOGNNES, K. (1998) Symbols in a changing world: rock-art and the transition from hunting to farming in mid Norway. In C. Chippindale & P. S. C. Taçon (eds.) *The archaeology of rock-art*: 146-162. Cambridge: Cambridge University Press.
- SOGNNES, K. (2002) Land of elks – sea of whales: landscapes of the Stone Age rock-art in central Scandinavia, in G. H. Nash & C. Chippindale (eds.) *European landscapes of rock-art*. London: Routledge, pp. 195-212.
- SOGNNES, K. (2003) Gransking av mogelege bergmaleri. [Havdalen, gnr. 102/1, Tingvoll, Møre og Romsdal]. *Rapport I Topografisk arkiv, Vitenskapsmuseet, seksjon for arkeologi og kulturhistorie*, NTNU, Trondheim.
- SVENDSEN, J. I. & MANGERUD, J. (1987) Late Weichselian and Holocene sea-level history for a cross-section of western Norway. *Journal of Quaternary Science* 2, 113-132.
- TILLEY, C. (1991) *Material Culture as Text: the Art of Ambiguity*. London: Routledge.

## Appendix 1

Table 1: The Painted Sites in Norway.

Site name	Heritage reference	Parish and county	Number of images	Dominant image	Description
Årsand i	Id.nr: 35828	Kvinnherad, Hordaland	65	Geometric forms and human figures	This site was discovered and documented in the late 1930s by Johs Bøe. The paintings lie in a rock-shelter with views across the fjord. The images from this site are painted using a number of different pigment colours including varying shades of red, as well as brownish-red, yellow, reddish-yellow and black. There are cupmarks dispersed in-between the paintings.
Årsand II	Id.nr: 114985	Kvinnherad, Hordaland	1	Geometric forms	The site was discovered and documented in 2008 by Trond Linge and Ann Katrine Sivertsen. The images are painted within a rock shelter that is located c. 60 above sea level, facing the fjord Tømmervikam.
Brusteinhåla	Id.nr: 8409	Gildeskål, Nordland	13	Human figures	This site was discovered by Hauglid. Documented by Helberg in 1996. The paintings are situated in the inner recesses of the cave and are in a poor state of preservation; calcite (flowstone) covers many of the images.
Bukkhammarhula	Id.nr: 143357	Moskenes, Nordland	16	Geometric forms	This site was documented by Helberg & Nordby in 2005. The faint images are made from hematite. The panel is located in a cave that is cut into a steep cliff wall, and facing the sea.
Fingalshulen	Id.nr: 60339	Nærøy, Nord-Trøndelag	47	Human figures, elk	This cave site is possibly named after the Irish legend of Fionn Mac Cumhaill, whose folklore was translated from English into Norwegian in the early 1800s. The paintings were discovered in 1961 and documented by Sverre Marstrander in the same year.
Forbergodden	Id.nr: 41692	Farsund, Vest-Agder	1 plus a possible weak figure	Elk/deer	This site was discovered and documented by Guttorm Gjessing in 1918. The only image on the panel is a <i>cervid</i> that measures c. 220cm in length. The painting is located on a steep cliff facing Lyngdalsfjorden.
Gálggosluokta/ Ytre Sandvik	Id.nr: 101819	Porsanger, Finnmark	3	Geometric forms	Discovered in 2003 by Andreassen and documented in the same year by Helberg & Nordby. The panel is located in a rock shelter.
Havdal	Id.nr: 123799	Tingvoll, Møre og Romsdal	1	Geometric forms (possibly a boat)	Discovered by Kalle Sognes in 2003, comprising a faint painted image.
Heggvik	Id.nr: 101979	Bjugn, Sør-Trøndelag	4	Elk and geometric forms	The site was discovered in the early 1970s by Kristian Pettersen and documented in the early 1990s by Kalle Sognes. Situated on a steep, eroded cliff north of the bay of Båtvika.
Helvete	Id.nr: 28553	Røst, Nordland	13	Human figures	This site was discovered and documented in 1992 by Jacob Møller & Hein Bjerck. The paintings are located within a cave on an island. A seashell taken from the cave floor was dated to 33,000 years BP.
Hessura	Id.nr: 161152	Flakstad, Nordland	6	Human figures	This site was discovered in 2011 by Dahl. The paintings are within a cave that faces the Vestfjorden fjord.

Site name	Heritage reference	Parish and county	Number of images	Dominant image	Description
Honnhammar (formally including Hinna)	Id.nr: 67129, 105928, 105929, 105930, 170586, 170625, 170632, 170637, 170640	Tingvoll, Møre og Romsdal	23	Elk and geometric forms	Site comprises 5 panels (I, II, VI, VIII, IX) totalling 23 images. Several images from the site were discovered in 1778, but it was probably known about for many years before by the local inhabitants. The site was also documented by Hallström in 1909 and considered as the first prehistoric rock art paintings to be discovered in Norway. Gjessing, Petersen and Schulz also documented paintings from this site. Recently, Sognnes made new discoveries in 1990, 1992 and 1993. The paintings were also documented again extensively by Smiseth in 2007. This documentation gave the Hinna and Honnhammar panels the same name – Honnhammar. Hinna is no longer used as a site name.
Kjeøy	Id.nr: 76981	Harstad, Troms	12	Human figures	The site was discovered by Olsrud and later documented by Pavel Simonsen in 1958. The panel is located on a steep cliff. The outlined schematic images are small and weak in colour.
Kollhellaren	Id.nr: 37407	Moskenes, Nordland	41	Human figures	This site was discovered in 1987 by archaeology students and later documented in 1988 by Helberg, Fjalstad, Norsted & Lindstad. The paintings are located in a cave facing the sea. The images are divided on three panels that are dispersed throughout the cave.
Kvithammar	Id.nr: 90739	Nissedal, Telemark	6	Possible elk and human figures	Situated on a steep cliff, facing Lake Nisservann is the painted site of Kvithammar. The images are very faint. They were documented by Eivind Engelstad in 1934, but were known from about 1808 and are the earliest documented painting site in the southern Norway.
Lafjord	Id.nr: 126410	Nordkapp, Finnmark	7	Human figures	Discovered in 2006. Documented in 2008 by Helberg.
Langangen	Id.nr: 90740	Porsgrun, Telemark	4	Human figures	Documented for the first time in 1999 by Helge Braathen. The site is situated close to the coast, c. 200m southeast of a river that flows into the Langangsfjord. The panel has been vandalised in its recent history.
Lønngangen	Id.nr: 172768	Gildeskål, Nordland	6	Human figures	This site was discovered and documented in 2012 by Nordland County archaeologists Norsted & Kjerheim. The paintings are located in a cave and are of hematite.
Mølnargården	Id.nr: 101978	Bjugn, Sør-Trøndelag	23	Boat, human figures and geometric forms	This site was discovered and documented by Kalle Sognnes in 1999. The images are painted on a steep cliff facing an open landscape (now cultivated fields).
Nerhol I	Id.nr: 123015	Oppdal, Sør-Trøndelag	8	Human figures	Discovered in 1966 by Godager and documented in 1968 by Møllenus, the paintings are located within a small rock shelter facing the River Driva. In addition to the human figures is a painted reindeer which is of probable recent date.
Nerhol II	?	Oppdal, Sør-Trøndelag	1+	Elk	Single cervid painted on a vertical cliff-face overlooking the River Driva. The site was discovered in early 2000 and documented in 2005 by Kalle Sognnes.
Rævuri, Tveit	Id.nr: 95295	Askøy, Hordaland	5	Human figures	This site was discovered in 2000 by Volker Demuth, and documented in 2002 by Tore Slinning. The images are situated on a cliff by the mouth of a river between the lakes of Heiavatnet and Kvernavatnet. The panel faces the water to the south.
Rauhammarfjellet/Gjølga	Id.nr: 26379	Bjugn, Sør-Trøndelag	5	Elk	This site was discovered and documented in 1936 by Guttorm Gjessing. The faint images are painted in a reddish-brown pigment. Some of the painted figures seem to possess carved outlines. The site is located on a steep cliff, c. 1 m above Lake Gjølavatnet.

Site name	Heritage reference	Parish and county	Number of images	Dominant image	Description
Rennarsundet	Id.nr: 61167	Sandnes, Rogaland	12	Cervid	This site was discovered and documented in 1991 by Sveinung Bang-Andersen. The images are painted on a cliff beneath a shallow rock shelter that overlooks Lake Storavatnet.
Reshålet/Bønnå I	Id.nr: 101843	Vevelstad, Nordland	4	Geometric forms	The painted imagery from this site was first documented in 1994 by Berglund & Johansen. The imagery is very faint and is located inside the entrance of the cave which faces the Vistenfjorden fjord.
Rom Honnhammar	Id.nr: 67129, 105928, 105929, 105930, 170586, 170625, 170632, 170637, 170640	Tingvoll, Møre og Romsdal	22	Salmon/Fish	This site comprises 11 panels (III, IV, V, VII, X, XI, XII, XIII, XIV, XV, XVI) and possesses c. 22 images. The site faces Tingvollfjord and includes multiple fish imagery. Recent desk-based colour manipulation has shown that the artist has painted a fishing line using a natural vertical quartz vein.
Rønningen	Id.nr: 80968	Nome, Telemark	19	Three human figures	Panel located on a steep cliff facing Lake Langenvann. Documented for the first time in 1918 by Helge Gjessing. Originally there were 4 documented images. After a fieldwork in 1998, 15 new figures were discovered.
Ruksesbåkti/Indre Sandvik	Id.nr: 101818, 170727, 170732, 170733	Porsanger, Finnmark	190	Human figures and geometric forms	Discovered and documented in 2001 by Helberg & Holst. Within the rock shelter, the images are incorporated into three panels.
Sanden I	Id.nr: 67801	Værøy, Nordland	3	Human	This site was discovered by Paal Arnesen and documented by Hein Bjerck in 1994. The paintings are located in a cave facing the sea and standing c. 50m above sea level. The panel has similar location attributes as Sanden II (see below).
Sanden II	Id.nr: 38223	Værøy, Nordland	6	Human figures	The painted images from this cave site were discovered by Paal Arnesen and documented by Hein Bjerck in 1994. The images are located within a narrow section of the cave and where natural light barely infiltrates. The cave stands c. 24 m above sea level; the entrance facing the sea. Flowstone covers the majority of the paintings.
Sandhalsan/Vasstrand	Id.nr: 26357	Åfjord, Sør-Trøndelag	7	Boats and Elk	This site was discovered by Th.Petersen in 1931. The images are protected by a rock overhang. Although the pigments are faded, boats and elk figures are visible. Later discovery included the engraved image of a boat with a crew. The carving is probably older than the paintings; the carved lines were infilled with pigment. The site was documented by Gjessing in 1936 and later by Kalle Sognnes in 1979, 1990 and 1993.
Sátnjaluokta/Indre Sandvik	Id.nr: 101820	Porsanger, Finnmark	3	Geometric form	Discovered in 2001, documented in 2003 by Helberg & Nordby. The panel is located on an exposed cliff-face.
Skåren-Monsen	Id.nr: 26081	Brønnøy, Nordland	6	Geometric forms and a possible animal figure	This site was discovered in 1978 by locals Åsberget and Halsauet and was later documented by Kristian Pettersen and Kalle Sognnes the following year. There are five painted images and one engraving. The painted images are located at the rear of cave, whilst the engraving is near the entrance.
Solsem	Id.nr: 8381	Leka, Nord-Trøndelag	20	Human figures and geometric forms	This cave site was discovered in 1912 by Emil Mikalsen and documented by Th.Petersen in 1912 & 1913. The images, comprising human stick figures were located in the rear section of the cave. Stone Age finds has been excavated from the cultural layers of the cave floor.
Store Hjertøya	Id.nr: 59449	Bodø, Nordland	4	Human figures	The panel is located within a cave and was discovered in 1992 by Hein Bjerck. Unusually, natural light illuminates the cave and panel.

Site name	Heritage reference	Parish and county	Number of images	Dominant image	Description
Teksdal	Id.nr: 26374	Bjugn, Sør-Trøndelag	several uncertain smudges of red haematite	Fish	This site was discovered and documented in 1954 by Kristen Møllenus. The site consists of four panels, located on a steep cliff facing the Teksdal River.
Tollevik	Id.nr: 112590	Alta, Finnmark	4	Boat	Discovered in 2001. Panel is located in a rock shelter. The images remain undocumented.
Transfarelvdalen	Id.nr: 47688, 101457, 101461, 101462, 101463, 11260	Alta, Finnmark	70	Elk	This site was discovered in 1966 by Knut Furu and documented in 1969 by Unn Moberg. The site is a UNESCO World Heritage Site (WHS). The images are dispersed over six panels.
Troillhåla/Havn I	Id.nr: 101845	Vevelstad, Nordland	7	Human figures	This site was discovered by Paul Hamn in 1988 and documented by Berglund & Johansen in the same year. The paintings are located in a cave facing the sea. The paintings are similar in style to those found in Solsemhula and Fingalshula Caves.
Trontveit/Ovnen/Munkekrifta	Id.nr:90732	Nissedal, Telemark	10	Human figures	Ten images on two panels (A & B). The paintings were known from about 1808. Legend says they were written by a monk by the name 'Munkekrifta'. The site was documented by Hallström in 1917 and later by Eivind Engelstad and Per Fett in 1932. By the 1930s the panels could only be reached by boat. Possibly both yellow and red pigments were used to make the images. This is mentioned by Hallström in 1938.
Ulveneset/Vefall/Bruredynni	Id.nr:39106	Seljord, Telemark	4	Geometric forms (possibly a boat) and human figures	Documented in 1925 by Alexander Bugge and Anathon Bjørn, this panel is located on a steep cliff facing Lake Seljordsvannet. The surface of the rock is triangular in shape, and is the source to a legend about the door in which the bride and her party disappeared, being ensnared by the creatures of the underworld. The pigment is probably haematite.
Vågsenget	Id.nr: 38371	Vikna, Nord-Trøndelag	3	Geometric forms	This site was discovered by J. L. Gjeset in 1976 and documented by Oddmund Farbrege in the same year. The images are located within a rock shelter and are difficult to recognise owing to the poor preservation of the panel.
Vikan	Id.nr: 127866	Bjugn, Sør-Trøndelag	1	Colour stain	Colour stain measuring c. 17 cm in diameter. It is uncertain if this is of human agency or natural.



# Making community: rock art and the creative acts of accumulation

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## Abstract

*This paper explores how the long-term addition of images to one place enables the development and exchange of knowledge in pre-historic northernmost Europe. In particular we focus on how rock art realises different senses of community in Sweden (Laxön, Nämforsen) and Russia (Zalavruga).*

*We argue that for both rock art landscapes there exists consistent patterns in how motifs are placed in relation to each other, and most importantly demonstrates selective acts of accumulation where art was used in the act of including and excluding ideas by the community. Both Laxön and Zalavruga served as places where the collective relevance of ideas were evaluated and expressed through selective accumulation. While both palimpsests shared similar techniques of selective accumulation and repeating motifs, their effects in building community and a sense of the world are very different, and in some cases almost opposing.*

*We hope that the approach presented in this paper can be applied to other parts of Northern Europe and beyond to explore the role of rock art in the exchange of ideas and the building of identities.*

## Introduction

This chapter focuses on how the act of accumulating art in a palimpsest may enable the making of community. The palimpsest is a term widely used in archaeology (Harding 2000: 2; Bailey 2007; Lucas 2005). It is used to refer to the product of any activity that involves either a process of erasure and reworking, or a process of accumulation and transformation (Bailey 2007: 203). The chapter examines two rock art palimpsests, Laxön (4200-1200 BC) at Nämforsen, northern Sweden, and Zalavruga (3600-2000 BC), northwestern Russia, and asks whether the accumulation of images enabled ways of developing ideas of community. We argue that both palimpsests were places where art was used to include and exclude ideas in a community.

We demonstrate this by systematically examining the spatial arrangement of the rock art to ask whether tendencies existed for only particular images to be added. This 'selective accumulation' of images is seen as evidence of a particular type of exchange between people, where by choosing which images to add to, particular ideas are continued while others are neglected. We argue that both sites were places where it was possible to choose which ideas to continue over others, though Laxön and Zalavruga

differ in the types of ideas being continued, particularly in their effects in building community. We hope that the approach presented in this paper can be applied to the other parts of Northern Europe and beyond, to explore the role of rock art in the exchange of ideas and the building of identities.

Past research on palimpsests offers a foundation for exploring how the accumulation of rock art may enable a sense of community and the exchange of ideas. In their analysis of the Upper Palaeolithic Klithi and Badanj caves, Bailey and Galanidou (2009) argue how prehistoric people actively acknowledged the accumulation of cave deposits, and purposefully added to particular deposits as a means of generating a persistent and enduring sense of place. This interpretation of the palimpsest is expanded by Lucas (2010), who describes how the act of accumulating can enable an explicit realisation of the past actions of others. In addition to a palimpsest, one can become able to better realise how activities leave a material imprint on the world, bringing past actions into the present. This falls in line with Chapman's discussions on 'presencing the past' (Chapman 2000; Chapman and Gaydarska 2007), where the accumulation of activities in one place brings into focus the events and people involved in the creation and maintenance of that place.



FIGURE 1. LOCATION OF THE DISCUSSED ROCK ART SITES. (M. SAPWELL)

Bailey, Lucas and Chapman offer a strong grounding for exploring the affordances of a palimpsest. These ideas are developed in this paper for the visual aspects of prehistoric material culture. In a rock art palimpsest there is often the opportunity to not only continue a tradition by accumulating art, but also to choose which of the diverse images or ideas embodied in the art to contribute to. Modern examples of this are large communal graffiti compositions (Cuonz 2003), where layered images and slogans on a wall are the result of multiple artists acting over time. In her analysis of toilet graffiti, Cuonz (2003) explains how only particular types of slogans and images are added to, leaving other types of image neglected. Within this particular palimpsest which contains many diverse images, people are selective in which ideas to continue through the addition of new images, and which to ignore. It is argued in this paper that similar patterns of selectivity may be found at the rock art sites of Nämforsen and Zalavruga. By examining the spatial arrangement and patterning of a rock art palimpsest, it is possible to explore how the adding of rock art at Nämforsen and Zalavruga enabled the continuation of particular ideas over others.

#### Introducing Zalavruga and Nämforsen and developments in research

The Nämforsen rock art palimpsest is named after a series of rapids flowing between a small collection of islands in

the Ångermanälven river in northern Sweden, and was first systematically documented by Gustaf Hällström (1960). It includes outcrops of gneiss granite rock on two islands (Brådön and Notön) and the surrounding shoreline (Laxön and southern shore). Within an area of *c.* 2500 squared metres there are presently recorded over 2100 carvings (Larsson & Engelmark 2005, Larsson & Broström 2011), which were pecked into the rock. From a combination of land uplift chronologies, stylistic analysis and surrounding archaeology, the Nämforsen rock art palimpsest has been dated from *c.* 4200 BC with the youngest carvings dated to *c.* 1200 BC (Baudou 1993, Forsberg 1993).

The Zalavruga rock art palimpsest exists on Malinin Island on the estuaries of the Lower Vyg River in Karelia, western Russia. The palimpsest consists of over 2000 pecked motifs, carved on open-air platforms of granite. The many petroglyphs at Zalavruga are often categorised into two groups based on their date of discovery. While recording rock art at nearby Erpin Pudas, Ravdanikas (1938) discovered rock art at Zalavruga, comprising a large panel totaling *c.* 600 motifs. In surveys between 1957 and 1970, Savvateev uncovered 26 new rock art panels at Zalavruga. The carvings discovered by Ravdanikas and those discovered by Savvateev are named Old and New Zalavruga respectively. The rock art at New Zalavruga is divided into 25 'Groups'. Savvateev counted *c.* 1,950 carvings (Savvateev 1970) at New Zalavruga, and was the first to place them into a typology.

Nämforsen		Zalavruga	
Documentation of motifs and elevation	Hallström 1960	Documentation of motifs and elevation	Ravdanikas 1938, Savvateev 1970, 1988, Lobanova 2007, Janik 2010
Re-documentation of motifs in relation to landscape	Larsson & Brostöm 2010	Re-documentation project underway	Janik 2007, 2010
Stylistic categorisations of boat and elk	Malmer 1981, 1979; Lindqvist 1999	Categorisations of figures and scenes	Gjerde 2010
Study of motifs in relation to morphology of the rock	Lindqvist 1999, Gjerde 2010	Study of motifs in relation to morphology of the rock	Janik 2010, 2007 <i>et al</i> , Gjerde 2010
Analysis of distances between elk and human motifs	Ramqvist 1992, Sjöstrand 2011, 2010a, 2010b, 2010c	No proximity analysis	
Attribute analysis for seriation of elk	Forsberg 1993	No attribute analysis	
Analysis of presence or absence of motifs within a panel	Tilley 1991	No such analysis attempted	

FIGURE 2: COMPARISON OF QUANTITATIVE ANALYSIS APPLIED TO NÄMFORSEN AND ZALAVRUGA UP TO THE PRESENT.

Zalavruga and Nämforsen have undergone various forms of analysis. Figure 2 compares the variety of studies undergone at both rock art landscapes. Much research at Nämforsen has focused on the stylistic analysis of the rock art, and the use of statistics to examine patterns in the frequency of particular types of motif (e.g. Malmer 1981, 1979; Lindqvist 1999). Some analysis has also emphasised trends in the spatial arrangement of motifs (e.g. Ramqvist 1992, Sjöstrand 2010a, 2010b, 2010c.) No such form of systematic compositional analysis has been applied at Zalavruga, and this is an issue which this paper works to address.

### Methods used to assess the creative acts of accumulation

To assess acts of accumulation at both sites, we used a mixture of visual and statistical methods. ArcGIS was a key tool in the analysis (Mitchell 1999), offering the ability to reconstruct the morphology of the rock surface and the position and shape of each motif. The recording of all motifs on a GIS model allowed for the systematical measurement of distances between each motif.

With each motif represented by a single polygon in GIS, each could be attributed to a particular category (e.g. elk, boat, human, bird). This made it possible to compare the distances between different types of motif. In many instances, two or more motifs are seen to interact with each other, depicted as involved in an activity or narrative creating a scene (e.g. whale hunting scenes). In addition to measuring between motifs, the compositional analysis also measured between scenes.

Averages of distances between particular types of motifs were examined and compared. These comparisons were tested for statistical significance using Welch's t-test and Mann-Whitney U tests (Anderson *et al.* 1981, Barlow 1989), and supported by visual examinations of the rock art. The aim of these tests was to ascertain whether particular types of motif appeared to be consistently more clustered than others. If consistent patterns of composition

were visible at Laxön and Zalavruga, this was seen as strong evidence of selective accumulation, where people engaged in dialogue and collectively agreed on which images to add to over others.

### Becoming communal and being communal

The rock art of both Laxön and Zalavruga include the selective accumulation of particular types of imagery, but do so in very different ways. We will argue that at Laxön, much of the rock art is entangled in realising the importance of the group over individual identity. This occurs by emphasizing the dividual status of the human, and the importance of the elk in enabling affinities between people. At Zalavruga, the group is emphasized also, but a far greater stress is placed on the contribution of the individual towards shared traditions and communal activities. This argument is expanded below.

#### *Laxön: becoming communal*

A prominent quality of the rock art at Laxön is the emphasis on communally relevant choices over individual expression. This may be inferred from two trends in the rock art; 1) that scooped elk motifs at Nämforsen are not painted as in other rock art sites in northern Sweden, but uniquely found carved, 2) the consistent proximity between scooped elk and human motifs. The combination of these traits build a strong case that a major role of the rock art at Laxön was the process of realising communal over individual identities.

#### *From painting to carving*

The most common motif at Laxön and wider Nämforsen is the elk. The two most common styles of elk motif are the scooped and contoured (Forsberg 1993, Tilley 1991). The scooped elk is entirely carved, showing as a solid silhouette against the rock surface whereas the contoured elk consists only of a carved outline with occasional internal details. Generally across northern Sweden, scooped elk are found



FIGURE 3. GROUPS D:10 AND C:1 (UPPER) OF LAXÖN, DEMONSTRATING EXAMPLES WHERE GROUPS OF HUMANS ARE ALWAYS FOUND VERY CLOSE TO SCOOPED ELK. HOWEVER OTHER GROUPS SUCH AS GROUP G:4 (LOWER) DEMONSTRATE THAT SCOOPED ELK MAY ALSO BE FOUND AWAY FROM HUMAN MOTIFS. (M. SAPWELL)

only as rock paintings (Ramqvist 2002). Nämforsen is the only place within northern Sweden where the scooped elk is found as a carving.

Different techniques of art making can afford contrasting priorities and experiences (Ingold 1992). Bolin (2000: 165), Ramqvist (2002: 151, 1992: 38) and Lahelma (2008: 61) suggest that rock paintings were likely involved in more individual interactions with the rock surface than rock carvings. This is inferred from the extent of the rock paintings, which tend to contain less images than most carvings, and from the location of the paintings, which do not occur at conspicuous sites within river networks as often as carvings in northern Sweden. While it is incautious to place the two techniques in opposition or to assume coherency within all carvings or paintings, these two observations increase the likelihood that rock carvings play a more significant role in the meeting of people than rock painting.

The unique presence of the scooped elk at Nämforsen as a carving can be seen as a movement from one technique and its associations to another; painting to carving, individual to communal. As a device of transformation from painting to carving, the appearance of the scooped elk at Nämforsen begins to suggest a movement from the individual to communal experiences of rock art.

#### *Elk and human motifs and the making of the group*

This movement from individual to communal experience may be further interpreted from the composition of the rock art itself. In our compositional analysis of Laxön the human motif is the most likely to be found surrounded by other images (e.g. 2.8-5.1 m more clustered than fish, boat,

and contoured elk motifs, with 1% likelihood of being due to chance). The tendency for the human motif to exist in clusters more than other motifs suggests that art makers chose to add to human images and continue the ideas they embody rather than any another. A further look into the kinds of motifs that are often found near the human offers evidence as to why the human image was a key node of communal activity at Laxön.

Of particular interest is the tendency for human rock art motifs to be found close to elk and other humans. Human motifs are always found within 10-15 cm of a scooped elk and another human figure. The average distances between a scooped elk and a human is 14.4 metres, compared to the distance between human and scooped elk, which is 0.1 metre. While human motifs are always found close to the scooped elk, scooped elk are not always seen close to human motifs (Figure 3).

The asymmetrical relationship between the scooped elk and the human motif suggests that the compositional trend of closeness between human and scooped elk is more formative of the understanding of the human than the elk. The human figure is also never seen far from other human figures and rarely found in total isolation. This is the strongest compositional pattern at Laxön, which suggests that this relationship between human and elk was known to a large number of people as a form of shared knowledge.

The pattern of appending the human image may be interpreted using theories of dividuality. Personhood may be considered as constituted through relationships between people and things (Fowler 2002), blurring the definition of self beyond the body to include the people and objects a person engages with. Strathern (1988) demonstrates that



FIGURE 4. GROUP C:2 AT LAXÖN. THIS PORTION OF THE PANEL SHOWS A NUMBER OF HUMAN FIGURES ACCOMPANIED BY A SINGLE SCOOPED ELK. (M. SAPWELL)

the act of emphasizing the dividual status of a person, by exchanging fragments of each other works to maintain affinity within and between social groups.

At Laxön, the human is not understandable in isolation, but must be seen within the context of other humans and with the constant companionship of the scooped elk. Here the human is understood as part of a complement, the most repetitive and consistent of which are other human figures and the scooped elk (Figure 4). In depicting the human, the rock art at Laxön emphasizes its placement and relation to other humans and the elk over individual attributes; it stresses collective over individual personhood. The scooped elk motif plays a formative role in enabling the understanding of communal aspects of personhood. The elk's companionship to human motifs suggests that the elk was necessary in building communal identity. Considering that no humans are found in isolation, it may be assumed that any attempt in the past to express individual distinctiveness by creating a more isolated human motif was responded to with subsequent additions, following the established tradition of placing the human within a group.

The role of the elk is very closely bound in extended acts of becoming communal. This interpretation supports some previous research while questioning others. It most strongly favours Ramqvist (1992) and Sjöstrand (2010a, 2010b, 2010c), who both explore the role of elk and human identity. Following their argument we suggest that the role of elk in becoming communal may form a further example of the elk as a 'thinking tool', where the elk enables affinity to be made between people. It is important also to note that while much of the larger rock art panels contain human figures and scooped elk, a significant number contain scooped elk without human figures. This would indicate that the importance of the elk extends past the construction of communal identity.

Introducing the theory of dividuality here helps to emphasise how an identity may be actively constituted. In the case of Laxön, personal identity is possible only

through its relation to others, through mutual realisation of the elk. While inspired by the idea of dividuality, we do not focus here on the fragmentation of objects and individuals (e.g. Chapman 2000, Brük 2004, 2006, Jones 2005). Instead we concentrate on the accumulation and selectivity of images within a visual composition, and the social ideas these acts enable. The relationship between accumulation and fragmentation in the context of objects and humans has been introduced by Chapman and Gaydarska (2007) and extensively discussed by Brittain and Brittain and Harris (2010). The latter has suggested that one can exist without the other, however in the context of rock art palimpsests we look at the combination of both where the elements are treated as part of a wider social narrative of which the rock art is a part. Here we propose that images constitute the social categories which, in the process of accumulation, act upon the way relationships between individuals and communities are understood.

### *Zalavruga: being communal*

Similar to Laxön, Zalavruga is a place where ideas of the group and individual intersect. However, the greater degree of diversity in how rock art is composed at Zalavruga suggests emphasis towards very different aspects of community than rock art at Laxön. We argue that the rock art at Zalavruga is not involved in dissolving the individual to build a sense of community. Instead, there is a stronger emphasis on individual contribution within the group, and recursively the role of shared ideas and collective tradition in the individual. This relationship may be inferred from the rock art in two main ways: 1) the occurrence of motifs and scenes that are both strongly consistent and strongly inconsistent in their proximity from other motifs, 2) the presence of widely diverse elements in motifs that are otherwise consistent in their proximity from other carvings.

### *Highly clustered scenes Zalavruga: the whale and elk hunt*

Unlike Laxön, the selective accumulation found at Zalavruga is not common in the arrangement of single rock art motifs but instead in the arrangement of rock art scenes. The most common types of scene at Zalavruga involve the hunt, either of beluga whale, bird, elk, or other land animals. Importantly, these scenes of terrestrial and marine hunting were not made in isolated rock outcrops at Zalavruga, but often occur in large rock art clusters. These collections of images were the result of intense processes of addition and contribution. In this extended activity of adding, some types tend to be more relevant to each other. One of the most consistent trends is the comparative closeness between whaling and elk hunting scenes. Whaling scenes are distinctively 3-4 metres closer to elk hunting scenes than they are with any other scene (Figure 5). This consistent association between two types of hunting signifies a recurring tradition, where the placing of one inspires the nearby placing of the other. In this way, Zalavruga is similar to Laxön in being a site where people chose which traditions to continue.

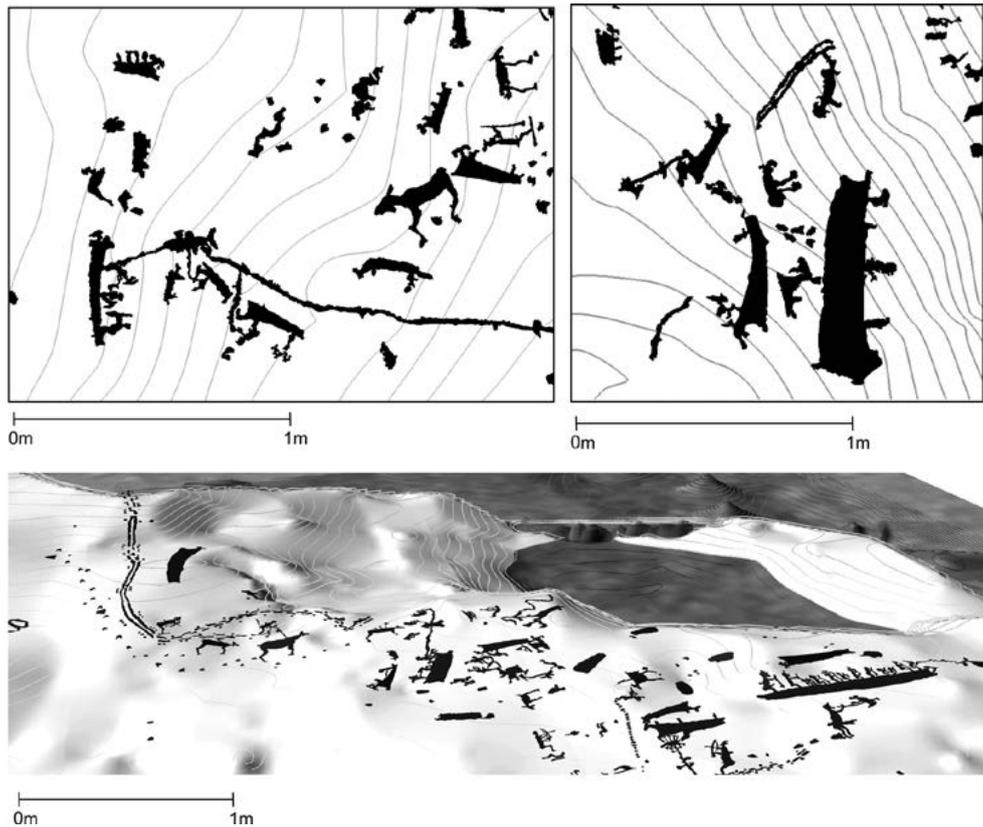


FIGURE 5. GROUPS XX (UPPER LEFT), XVII (UPPER RIGHT) AND IV (LOWER), ILLUSTRATING EXAMPLES WHERE ELK HUNTING AND WHALING SCENES ARE IN CLOSE PROXIMITY TO EACH OTHER. (M. SAPWELL, L. JANIK)

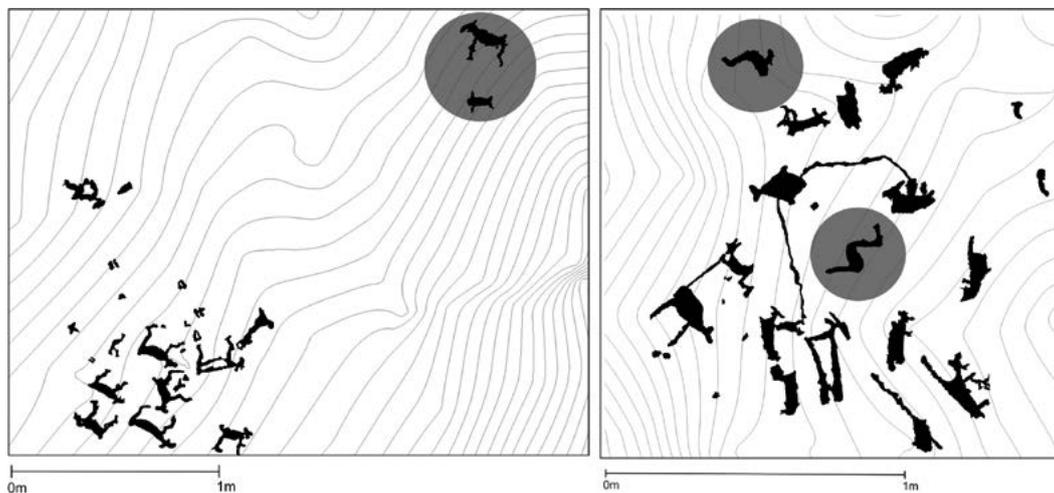


FIGURE 6. GROUPS XIV AND XXII ARE EXAMPLES OF ANIMAL FIGURES NOT INVOLVED IN HUNTING SCENES. (M. SAPWELL, L. JANIK)

*Individual contribution*

Generally, motifs at Zalavruga may be divided into two categories; those involved in a visual narrative scene and those which show no narrational association with surrounding motifs (Figure 6). At Zalavruga there are 57 motifs that show no evidence of being part of a scene. Importantly, these motifs demonstrate no pattern in how they are placed on the rock surface. The difference in the degree that particular types of image follow a clustering pattern is important, as it can point to the extent that people

are in consensus on how to treat a particular image. While a communal tradition guided the placing of hunting scenes, people were more individually driven in the placing of singular images.

This clustering pattern offers evidence that at Zalavruga the rock art makers both collaborated together, following shared ideas of how to place images, while also exercising individual freedom with particular types of motif. Zalavruga is therefore a site where both individual and communal ideas are explored in the rock art.

*Combining shared and individual attributes*

The intersection of individual and communal is also visible when examining the elements which constitute a scene. The most prominent example is the whale hunt. While the depiction of whale hunting follows a consistent pattern in its distance from elk hunting, the boats that comprise the whaling scene are highly variable in their appearance. One of the most distinctive ways that the boat motif demonstrates diversity is the number and arrangement of its crew (Figure 7). Boats with crews weighted towards the front of the boat are just as likely to be near to whale or bird motifs as boats with crews weighted towards the back, or at either end. Similarly, there are no consistent patterns in the number of crew involved in a whale hunt. While the boat motifs themselves are extremely diverse, the boats are often involved in hunting scenes which, as discussed above, more typically follow consistent patterns in where they are placed in relation to other motifs.

There is therefore an interesting tension between the whale hunt scene, which is carved following widely shared conventions, and its component boat figure which is highly variable and individualised (Figure 8). At Zalavruga, the whaling scene incorporates some of the most coherent and collaborative aspects of the art to some of the most diverse and individual. At Zalavruga, the art involves both individual and communal expressions, where neither overshadows the other.



FIGURE 7. MOTIFS FROM GROUP IV, SHOWING A COLLECTION OF BOAT FIGURES WITH VARIOUS CREW NUMBERS AND ARRANGEMENTS (L. JANIK)

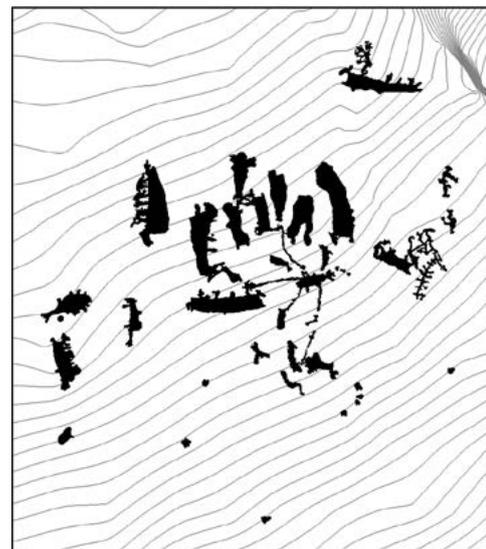


FIGURE 8. GROUP XIII, SHOWING A COMPLEX WHALING SCENE. THE BOAT MOTIFS SURROUNDING THE WHALE ARE DIVERSE IN THE ARRANGEMENT OF THE CREW. (M. SAPWELL, L. JANIK)

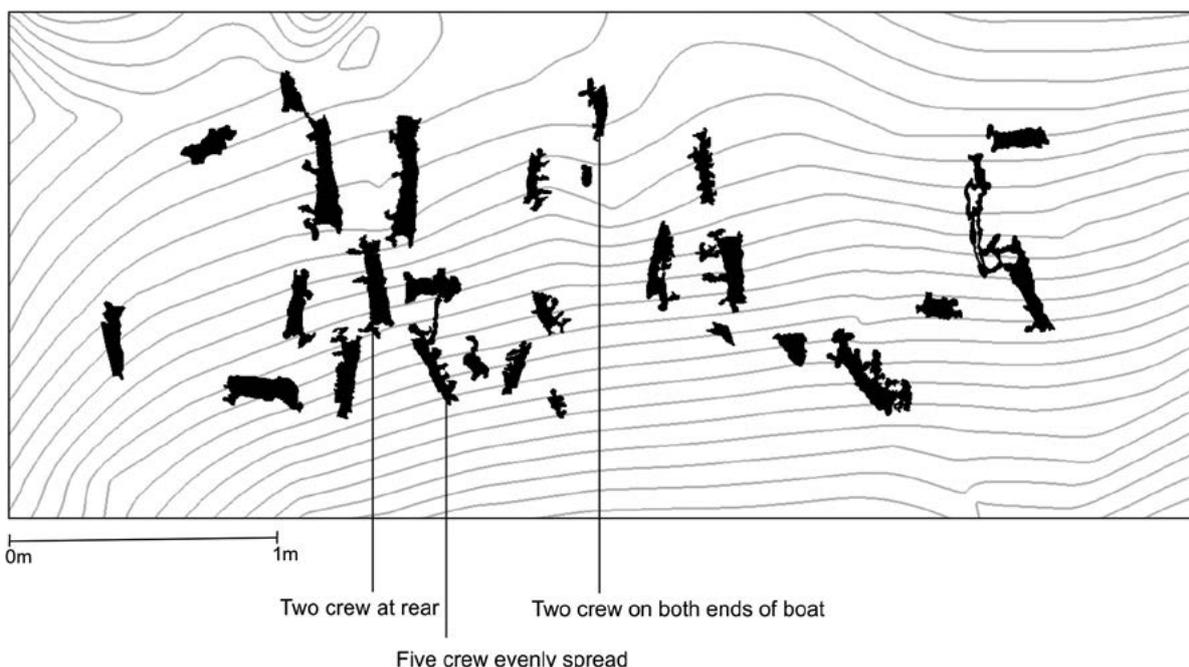


FIGURE 9. GROUP X, SHOWING A GROUP OF BOAT FIGURES AND TWO WHALING SCENES. THE CREW ARRANGEMENTS OF THESE BOAT FIGURES ARE VERY DIVERSE (M. SAPWELL, L. JANIK)



FIGURE 10. HUMAN FIGURE FROM GROUP XX, LIT OBLIQUELY USING ARTIFICIAL LIGHT AT NIGHT. THE FIGURE INCLUDES A BEARD, PHALLUS, HAS A SINGLE LEG SHOWN, AND HOLDS A BOW. (L. JANIK)

### *The human motif*

A final example of intersecting individual and shared forms of knowledge at Zalavruga may be taken from the treatment of the human motif. In some ways the depiction of the human motif is similar to the depiction of the boat motif. Like the boat, the human motif is highly diverse. Humans may possess a beard, phallus and a variety of paraphernalia (Figure 10). Also like the boat, many of these variables have no effect on how consistently clustered or isolated the human figure is. The human figure as a general category is itself relatively consistent in its proximity to other motifs. For example, it tends to be more isolated from other motifs than boat, bird and elk motifs (by 2.7-3.5 m). There exists again a peculiar tension where a motif that consistently follows shared conventions is composed of highly individual components.

### *The communal and individual in other interpretations*

The relationship between the individual and the community has been explored in previous interpretations of Zalavruga. Stoliar (2001: 116) suggests that distinctive rock art scenes at Old Zalavruga such as the animal procession and flotillas of boats were prominent ethnocultural symbols, carved to press a sense of communal cohesiveness in a time of ideological stress. His interpretation of New Zalavruga does not however involve any reference to community, focussing instead on the hunting narrative. Savvateev (1977: 85) suggests that the role of the rock art was to, ‘... reproduce the ‘social program’ and necessary moral standard... for future generations’. He supports that the meaning of the rock art was understood on a communal scale.

In learning these moral standards, the individual initiate became part of long-standing traditions of the community. Zhulnikov (2006: 209) also presses the educational role of Zalavruga, seeing communal morals embodied in mythological stories narrated in the art. This occurred during the seasonal coming together of people for marine hunting.

Savvateev and Zhulnikov’s theory of Zalavruga parallels the interpretation of Laxön made above, as a place where the individual is drawn into a strong sense of the communal. We would agree that much of the rock art at Zalavruga is driven by shared understanding, however, we do not support that the individual is absorbed at Zalavruga as it is at Laxön. Instead individual distinctiveness remains a highly visible aspect of the art. Makers of rock art at Zalavruga tended to be aware of the mutual constitution of singular and corporate identities. In constructing the whaling scene from individualised components, and anchoring individualised crew strokes to conventional compositional strategies, people realised the specific contribution of the individual towards communal traditions.

### **Summary: becoming and being communal**

The rock art at Laxön and Zalavruga differ in how people added and accumulated art to realise the individual and communal. At Laxön, a large quantity of the rock art involved drawing individual experience into a communal identity. The collective practice of complementing human motifs with other human motifs and elk imagery at Laxön reduces the distinctiveness of the individual by emphasizing its relatedness to other subjects and its position within a group. At Zalavruga, makers of rock art also emphasized the relation between individual and communal, though a major activity was to realise the distinctive contribution of individuals to maintaining collective identities and traditions.

### ***What kinds of community? The regional and inter-regional***

We have argued above that Laxön and Zalavruga differ in how the rock art builds relations between the individual and the community. This section develops the definition of community, particularly in who is included in a community. We suggest that the two rock art palimpsests differ in the regional range of people visiting the sites. This may be inferred again from selective accumulation, specifically from the types of motif that are isolated from others. An accumulation pattern emerges which implies that while Zalavruga rock art emphasises the importance of local ideas in acts of collectivity, at Laxön rock art emphasises the importance of non-local, widely regional ideas in collective activity.

### ***Laxön: isolating the local and highlighting the inter-regional***

The fish and the double-lined boat motif are the most isolated motif types at Laxön. They are also specific to

Nämforsen and largely absent in other regions and forms of material culture. If isolated motifs are interpreted as those which have not been contributed towards, or continued by other artists within a palimpsest, these two types of motifs may be seen as traditions that are not maintained at Laxön. We therefore argue that the rock art at Laxön involved the explicit removal of local ideas from acts of community building.

#### The fish motif

Within northern Sweden and Finland, the carved fish is unique to Nämforsen. As a painting, the fish is very rare in northern Sweden, and is only present at Finnforsberget I and II. At Laxön, the fish motif is one of the most isolated (between 5.1 m and 2.72 m, with 1% likelihood of being due to chance). Unlike the human motif, or scooped elk motif, the fish is not added to other rock art, and other images are not added to the fish motif. The fish motif is separated from the inclusive act of accumulating images, yet it is not removed from the rock surfaces entirely (Figure 11). It remains part of the rock art tradition, but part of its importance lies in its isolation from other images. The carved fish motif, which is conspicuously a local design, is visibly removed from the act of accumulation and becoming communal.

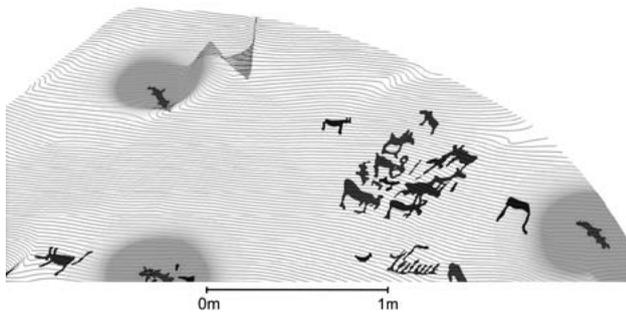


FIGURE 11. EXAMPLE OF ISOLATED FISH MOTIF. (M. SAPWELL)

#### Double-lined boat figures and local styles

The potential separation of communal practice from local traditions may be further supported by examining the double-lined boat motif. The double-line boat at Laxön is unique to Nämforsen within northern Sweden (Malmer 1981). In other rock art sites of northernmost Europe, boats are of the single-lined style, and very often with a distinct boat prow. Similar to the carved fish, the double-line boat again strongly references a local style.

Similar again to the fish motif, the double-line boat is one of the most isolated motifs recorded of Laxön (between 5.1 m to 3.0 m with less than 0.1% likelihood of being due to chance). Again, the motif and its local association is part of the overall activity of Laxön, but part of its importance is its separation from other motifs involved in bringing people together.

#### *Laxön and Breaking Boundaries Between Communities*

One practice at Laxön involved the explicit separation of local ideas (involving the fish and double-line boat) from communal choices (e.g. those involving the human and scooped elk). By separating local idiosyncratic images from the practice of understanding communal identity, the community built at Laxön becomes interregional. The act of becoming communal does not only involve local peoples, but has the potential to include groups from further afield in northern Scandinavia. The contribution of images to Laxön therefore involved the realisation of large scale similarity, where local distinctiveness was ‘smoothed out’ to emphasize togetherness despite difference.

The argument above may be supported by examining the Nämforsen settlement *Ställverkboplatsen* and its range of artefacts. This settlement contains a wide variety of slate objects, which suggests that, like Överveda (Baudou & Selinge 1977), Nämforsen was a key node in the extensive slate exchange network of northern Scandinavia. The range and number of shapes and fabrics of slate object (Käck 2009) suggest that they were sources from across northern Scandinavia. This would suggest people from different regions and of diverse cultures would have visited Nämforsen. From the rock art it appears that their visitation involved an active attempt to emphasise similarity and group belonging over cultural difference.

#### *Zalavruga: isolating the inter-regional and highlighting the local*

At Zalavruga, a similar compositional pattern is visible where particular types of motif are found significantly distanced from large rock art clusters. The clearest is the large elk motif. The large elk is not unique to the local Vyg region, but is relatively common in northernmost Europe. Motifs less commonly across Fennoscandia and more specific to Zalavruga are the whale hunt and elk hunt scenes. As described above, these scenes are more likely to be found within larger rock art clusters, and are therefore more engaged in acts of collectivity and exchange within a group. Like Laxön, the clustering of particular motifs implies a separation of local from nonlocal ideas, at Zalavruga, however, it is local ideas that are more involved in the addition and exchange of ideas.

#### The large elk

At Zalavruga there are two main ways that the elk is composed. The first and more common way is in hunting scenes, where human figures on foot or on skis are seen to chase an animal across the rock surface. The second way the elk is presented is as completely detached from forms of narrative. This type of elk tends to be three to four times larger, and significantly more isolated from other motifs than the former type (Figure 12). Importantly, it is the large elk, abstracted from the narrative that is one of the most widely occurring rock art figures in Fennoscandia. Examples from Saraakallio (Finland), Högberget (north-

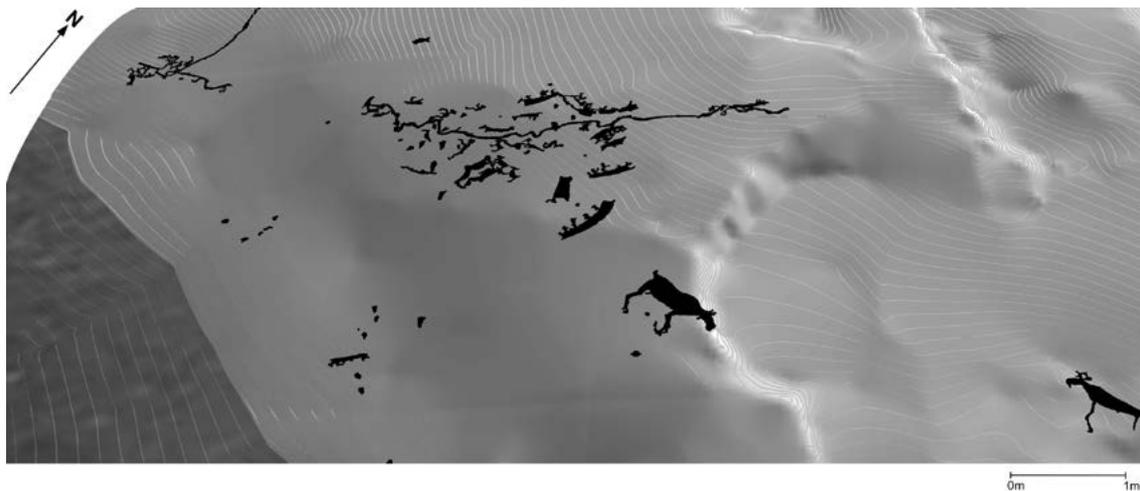


FIGURE 12. GROUP XIII EXAMPLE OF A LARGE ELK/CERVID SIGNIFICANTLY DISTANCED FROM OTHER ROCK ART CLUSTERS. (L. JANIK)

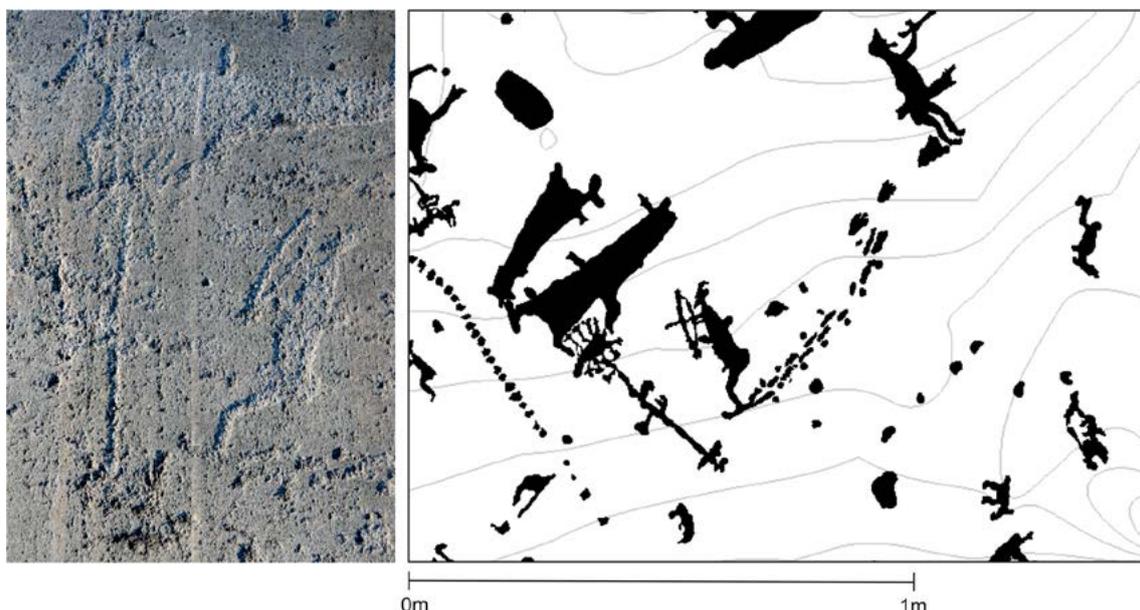


FIGURE 13. TREE FIGURE IN GROUP IV, SURROUNDED BY BOAT AND HUMAN FIGURES. (L. JANIK)  
VEGETATION ROCK ART IS UNIQUE TO ZALAVRUGA IN NORTHERN FENNOSCANDIA.

ern Sweden) may suggest that the making of the large elk silhouette was not a local practice, but shared by more peoples across northernmost Europe. We would therefore argue that the large elk is one of the most likely figures to be interregional, and not local or specific to the Vyg region.

#### The whale and elk hunt and other local imagery

Types of imagery that are more specific to Zalavruga tend to be whale hunts, skiing scenes, tree depictions and river depictions. This collection of motifs and scene types tend to be the most clustered of all rock art at Zalavruga, e.g. Group IV (Figure 13); a tree surrounded by human and boat motifs. It appears that the more locally specific motifs at Zalavruga tend to be those that are most likely to be found in larger clusters. They are therefore the most involved in the act of exchanging images and ideas, and the inclusion

of individuals within a group. In contrast, images which are less specific to Zalavruga, such as the larger elk, are the most isolated and the consequently the least involved in these communal practices.

In contrast to whale and elk hunting scenes, the larger elk at Zalavruga is isolated from the act of accumulating images and bringing people together. However, like the fish at Laxön it involves an interesting tension in being both accommodated in the palimpsest, but not integrated into communal activity. While maintaining its ‘otherness’, the large elk image is accepted into the overall understanding of Zalavruga. It remains separate from the more communal and local practices traced in the rock art clusters. The act of accumulating and exchanging ideas in rock art clusters was reserved for more local ideas, rather than ‘foreign’ traditions. This suggests that much activity at Zalavruga

was inherently local, involving local people and local ideas. However, the presence of the large elk suggests that the people at Zalavruga were not isolated or detached from other communities, but instead actively sought cultural distinctiveness at this particular site in northern Karelia.

### **Creative acts of accumulation**

By exploring the choices involved in adding images to Laxön and Zalavruga, this chapter has presented new ways of examining rock art palimpsests. The results of this approach have highlighted interesting contrasts between the two rock art sites. While at both sites the contribution of new imagery involved the tracing of past or other art-makers, the art-maker was also afforded a choice as to which traditions to continue. Through this accumulation of choices, the uses of Laxön and Zalavruga diverge according to how the site was positioned within their socio-historical and cultural worlds. Laxön involves the incorporation and dissolution of the individual and the emphasis of the inter-regional. At Zalavruga, the makers of rock art followed both collective and individually defined traditions. At Zalavruga, rock art accumulation stressed the individual in terms of the communal, while at Laxön the communal was stressed at the expense of the individual.

This paper has presented a long-term understanding of community identity building via the creative acts of image accumulation in the rock art of Sweden (Laxön, Nämforsen) and Russia (Zalavruga). By the use of a combination of visual and statistical methods we proposed to look at the images per se, and understand them in relation to others as a part of wider compositions or isolated depictions. This allowed us to achieve a variety of goals: firstly, for the first time, the combination of methods were used for different locations in Scandinavia, which allowed a close comparison of practices between regions. Secondly, we have proposed a new understanding of individual participation in the creative act of making a communal identity. We have also suggested the understanding of non-verbal communication of the rock art palimpsest as a long-term platform for the exchange of internal and external ideas and meanings. Evidence at Zalavruga and Nämforsen for the structured and consistent inclusion and exclusion of particular images within a rock art cluster suggests a relationship between image and idea that is interesting for the study of rock art more generally. In these ways we hope to contribute to the understanding of rock art. In this we have for years been influenced and inspired by the work of Professor Sognnes, and for this we would like to say thank you.

### **Acknowledgements**

We owe particular gratitude to a number of scholars without whom we would not be able to conduct this work, our Russian colleagues in particular N. L. Lobanova, all the staff from the Nämforsen Rock Art Museum in particular J. Käck, B. Lund.

This research was funded by the Arts and Humanities Research Council, UK, the British Academy, the Girton and St. John Colleges, the McDonald Institute for Archaeological Research, University of Cambridge and the Templeton Foundation.

### **Bibliography**

- ANDERSON, D. R., SWEENEY, D. J., and THOMAS, A. W. (1981) *Statistics for Business and Economics*. St. Paul: West Publishing.
- BAILEY, G. (2007) Time perspectives, palimpsests and the archaeology of time. *Journal of Anthropological Archaeology* 26:198-223.
- BAILEY, G., and GALANIDOU, N. (2009) Caves, palimpsests and dwelling spaces: examples from the Upper Palaeolithic of south-east Europe. *World Archaeology* 41 (2):215-241.
- BARLOW, R. J. (1989) *Statistics: A Guide to the Use of Statistical Methods in the Physical Sciences*. Chichester: Wiley.
- BAUDOU, E. (1993) Hällristningarna vid Nämforsen, datering och kulturmiljö (Rock Art at Nämforsen, Dating and Culture). In *Ekonomi och Näringsformer i Nordisk Bronsålder: Rapport från det 6:e Nordiska Bronsålderssymposiet, Nämforsen 1990* edited by L. Forsberg and T. B. Larsson. Umeå: Studia Archaeologica Universitatis Umensis, 247-261.
- BAUDOU, E., and SELINGE, K. G. (1977) *Västernorrlands Förhistoria*. Motala: Borgströms Tryckeri AB.
- BOLIN, H. (2000) Animal magic: The mythological significance of elks, boats and humans in north Swedish rock art. *Journal of Material Culture* 5 (22):153-176.
- BRITAIN, M., and HARRIS, O. (2010) Enchaining arguments and fragmenting assumptions: reconsidering the fragmentation debate in archaeology. *World Archaeology* Vol. 42(4) Pgs. 581-594.
- BRÜK, J. (2004) Material metaphors: the rational construction of identity in early Bronze Age burials in Ireland and Britain. *Journal of Social Archaeology* Vol. 4(3) Pgs. 7-33.
- BRÜK, J. (2006) Fragmentation, personhood and the social construction of technology in Middle and Late Bronze Age Britain. *Cambridge Archaeological Journal* Vol. 16(2) Pgs. 297-315.
- CHAPMAN, J. (2000) *Fragmentation in Archaeology: People, places and broken objects in the prehistory of South Eastern Europe*. London: Routledge.
- CHAPMAN, J., and GAYDARSKA, B. (2007) *Parts and Wholes: Fragmentation in Prehistoric Context*. Oxford: Oxbow.
- CUONZ, C. (2003) *Latrinalia in University Toilets. A Linguistic Perspective with Field Research in Norway and England* (unpublished dissertation), Université de Lausanne.
- FORSBERG, L. (1993) En Kronologisk Analys av Ristningarna vid Namforsen. In *Ekonomi och näringsformer i nordisk bronsålder: rapport från det 6:e Nordiska bronsålderssymposiet, Nämforsen 1990*, edited by L. Forsberg and T. Larsson. Umeå: *Studia Archaeologica Universitatis Umensis*:175-246.

- FOWLER, C. (2002) Body parts: Personhood and materiality in the earlier Manx Neolithic. In *Thinking Through the Body*, edited by Y. Hamilakis and S. Tarlow. New York: Kluwer Academic Plenum Publishers:47-69.
- GJERDE, J. M. (2010) *Rock Art and Landscapes: Studies of Stone Age Rock Art from Northern Fennoscandia*, Department of Archaeology and Social Anthropology, University of Tromsø, Tromsø.
- HALLSTRÖM, G. (1960) *Monumental Art of Northern Sweden from the Stone Age: Nämforsen and other localities*. Stockholm: Almqvist & Wiksell.
- HARDING, A. F. (2000) *European Societies in the Bronze Age*. Cambridge: Cambridge University Press.
- INGOLD, T. (1992) Culture and perception of the environment. In *Bush Base: Forest Farm: Culture, Environment, and Development*, edited by E. J. Croll and D. J. Parkin. Oxon: Routledge:39-53.
- JANIK, L. (2010) The development and periodisation of the White Sea rock carvings. *Acta Archaeologica* 81:83-94.
- JANIK, L., ROUGHLEY, C., and SZCZĘSNA, K. (2007) Skiing on the rocks: The experiential art of fisher-gatherer-hunters in prehistoric northern Russia. *Cambridge Archaeology Journal* 17:297-310.
- JONES, A. (2005) Lives in fragments? Personhood and the European Neolithic. *Journal of Social Archaeology* 5 (2):193-225.
- KÄCK, J. (2009) *Samlingsboplatser? En diskussion om människors möten i norr 7000 f Kr – Kr f med särskild utgångspunkt i data från Ställverksboplatsen vid Nämforsen*. Vol. 24. Umeå: Umeå University.
- LAHELMA, A. (2008) Communicating with 'stone persons': Anthropomorphism, Saami religion and Finnish rock art. In *A Touch of Red: Archaeological and ethnographic approaches to interpreting Finnish rock paintings*, edited by A. Lahelma. Helsinki: Finnish Antiquarian Society:121-142.
- LARSSON, T., and BROSTRÖM, S. G. (2011) *The Rock Art of Nämforsen, Sweden: The survey 2001-2003*. Vol. 62. Umeå: Umark.
- LARSSON, T., and ENGELMARK, R. (2005) Nämforsens ristningar är nu fler än tvåusen. *Populär Arkeologi* 4:12-13.
- LINDQVIST, C. (1999) Nämforsenristningarna – en återspeglning av jägarnas liv och världsbild. *Tidsspår*: 105-136.
- LOBANOVA, N. V. (2007) Petroglyphs at Staraya Zalavruga: New Evidence – New Outlook. *Archaeology, Ethnology & Anthropology of Eurasia* 1:127-135.
- LUCAS, G. (2005) *The Archaeology of Time*. London: Routledge.
- LUCAS, G. (2010) Time and the archaeological archive. *Rethinking History* 14 (3):343-359.
- MALMER, M. (1979) The rock carvings at Nämforsen, Ångermanland, Sweden, as a problem of maritime adaptation and circumpolar interrelations. In *Prehistoric Maritime Adaptions in the Circumpolar Zone*, edited by W. Fitzhugh. Paris: Mouton Publishers:41-46.
- MALMER, M. (1981) *A Chorological Study of North European Art*. Stockholm: Almqvist & Wiskell Internation.
- MITCHELL, A. (1999) *ESRI Guide to G.I.S. Analysis*. Vol. 2. California: ESRI Press.
- RAMQVIST, P. H. (1992) Hällbilder som utgångspunkt vid tolkningar av jägarsamhället. *Arkeologi i Norr* 3:31-54.
- RAMQVIST, P. (2002) Rock-art and settlement: Issues of spatial order in the prehistoric rock-art of Fennoscandia. In *European Landscape of Rock-Art*, edited by G. Nash and C. Chippendale. London: Routledge:144-157.
- RAVDANIKAS, V. I. (1938) *Rock Pictures of the White Sea* (in Russian). Vol. 2. Moscow: Academy of Sciences Press of Union of Soviet Socialist Republics.
- SAVVATEEV, J. A. (1970) *Zalavruga: Book 1: Petroglyphs* (in Russian). Leningrad: Izdatel'stvo Nauka.
- SAVVATEEV, J. A. (1977) *Zalavruga: Book 2: Settlements* (in Russian). Leningrad: Izdatel'stvo: Nauka.
- SAVVATEEV, Y. A. (1988) Ancient settlements connected with rock art in Karelia. *Bollettino del Centro Camuno di Studi Preistorici* XXIV:45-68.
- SJÖSTRAND, Y. (2010a) Raka eller böjda ben? Om variation bland älgarna på Nämforsen hällristningar. *Fornvännen* 105:9-18.
- SJÖSTRAND, Y. (2010b) 'Should I stay or should I go?': On the meaning of variations among mobile and stable elk motifs at Nämforsen, Sweden. In *Changing Pictures: Rock art traditions and visions in Northern Europe*, edited by J. Goldhahn, I. Fuglestad and A. Jones. Oxford: Oxbow Books:139-153.
- SJÖSTRAND, Y. (2010c) Product or production: On the accumulative aspect of rock art at Nämforsen, northern Sweden. *Current Swedish Archaeology* 18:251-269.
- STOLIAR, A. D. (2001) Milestones of spiritual evolution in prehistoric Karelia. *Folklore* 18 & 19:80-126.
- STRATHERN, M. (1988) *Gender of the Gift: Problems with women and problems with society in Melanesia*. Berkeley: University of California Press.
- TILLEY, C. (1991) *Material Culture and Text: The Art of Ambiguity*. London & New York: Routledge.
- ZHULNIKOV, A. (2006) *Petroglyphs in Karelia*. Petrozavodsk.

# Bow and errors

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## Abstract

*This re-examination of one of the most famous Ice Age engravings, located in the cave of Les Trois Frères (Ariège), considers the likelihood of the traditional interpretation that it depicts a player of a musical bow. It examines the basis of Henri Breuil's original choice of this interpretation, through ethnographic and artistic evidence from southern Africa; and it draws some general conclusions about the dangers of poorly-founded interpretations and of arguments from authority in rock art studies.*

## Introduction

In this short paper, written to honour the major distinguished contributions to rock art studies made by my friend Kalle Sognnes, I would like to examine one of the most durable myths in Ice Age art – a remarkable label that has long been attached to one of its most famous parietal engravings. In doing so, I will show how dangerous it is for interpretations to be made on the basis of pure whim, and to be maintained simply because of the eminence of those who make them. Wishful thinking, which has permeated so much rock art interpretation, generally has very negative effects and tells us far more about its perpetrators than about the imagery.

The small, finely engraved figure in question is located in the cave of Les Trois Frères, which was discovered in 1914 in Ariège (France) by the three sons of Count Henri Bégouën. This cave's incredible wealth of engraved and painted imagery – mostly of the Magdalenian period (c. 14,000 years ago) – was recorded over many years by the abbé Henri Breuil (see Bégouën *et al.* 2014). The figure, only 30 cm tall, was first deciphered and published by Breuil in 1930 (Breuil and Bégouën, 1930). To the left of it is a strange deer with weblike hooves, and then an animal with a bison head but a deerlike rump; however, it is the vertical figure to the right which concerns us here (Figure 1).

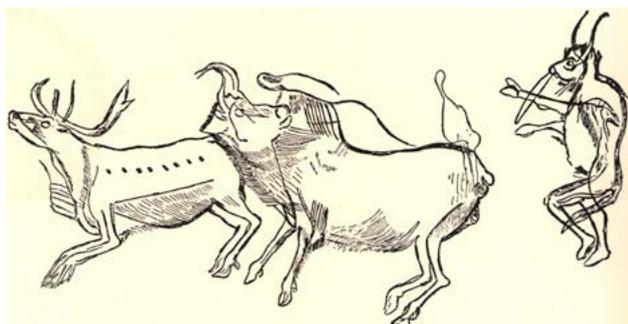


FIGURE 1: TRACING OF THE TROIS FRÈRES FIGURE.  
(AFTER BREUIL)

This figure was presented in slightly more detail in 1934 (Bégouën and Breuil, 1934), twenty years after the cave's discovery. In both articles the two authors described it as half-human and half-animal, with a bison head but a vertical human body. The bison hide covers the shoulders and perhaps more, and a long tail descends and comes forward, across the legs. The dorsal line is that of a man, as is the bent leg. The stomach line is less clear, and the phallus is 'peu accentué'. The forelimbs are not human: the lower one is sketchy and extends forwards. The other (the left?) is above, and comprises two parallel lines that end in a cloven hoof.

The figure has been known ever since as the 'sorcerer with the musical bow', and the reasoning that lies behind this bizarre reading is to be found in these preliminary texts:

*'Le bras monte obliquement vers un long objet fusiforme dont une extrémité rejoint la bouche du masque de Bison. Il le soutient évidemment, à la façon d'une flûte ou d'un instrument à vent, à moins que ce ne soit un petit arc musical' (The arm rises obliquely to a long fusiform object, one extremity of which joins the mouth of the bison mask. He is clearly holding it up, like a flute or a wind instrument, unless it is a small musical bow) (Bégouën and Breuil, 1934:118).*

It can already be seen that several major assumptions are being made: that the figure is holding an object which joins its mouth, and that the object is some kind of musical instrument, either a flute or a musical bow. Yet it was evident from the start that the figure is NOT holding an object – if indeed it is an object at all – and that the supposed object is joined to its nose, not the mouth.

Two years later, Bégouën merely captioned the drawing the 'petit sorcier' (1936:22); but in Breuil's monumental 1952 volume on cave art the figure is unhesitatingly described (p. 170) as a 'semi-human playing the musical bow'. He then explains (*ibid.*:176/7) that 'The two arms stretch forward and end in hoofs; one, cloven, supports a spindle-shaped asymmetric object, the other end of which

is in the creature's mouth. When I deciphered it, I thought this was a flute but its asymmetrical shape seems to me to resemble more a little musical bow.'

Finally, six years later, in their major joint publication about the cave (Bégouën and Breuil, 1958), a book which had the drawing on its cover, the text – clearly written by Breuil – states (p. 58): 'Les deux bras sont projetés en avant, terminés par deux mains en fuseau; de la bouche se développe en avant une sorte de grand 'cigare' fait de deux traits, l'un rectiligne, l'autre un peu courbe, très probablement un instrument de musique, soit à vent (flûte), soit à corde unique (arc musical). Cette dernière interprétation, arc musical, a ma préférence, après que j'aie vu les noirs Sud-Africains en jouer en se servant de la bouche comme résonateur pour amplifier le son.'

Whatever the source of Breuil's original interpretation in the 1930s, it is evident that his subsequent travels in southern Africa have reinforced his view. Yet he is still seeing the 'object' as being connected to the figure's mouth! And his description of his own tracing of painted figures in the 'White Lady shelter' in Namibia's Brandberg (1955:19, and pl. I) (Figure 2; see Figure 3 for a more accurate tracing by Harald Pager) further contradicts his view: he sees them as 'two musicians.... playing on musical bows.... The one on the left is playing on a large white bow with a red cord' -- yet the instrument is nowhere near the nose or mouth! In a footnote (ibid.) he states that 'This type of bow with the string fastened down in the middle can still be seen in South Africa, where, however, there are many other varieties of musical bows. The bow of the



FIGURE 3: TRACING OF TWO BOW-PLAYERS IN THE 'WHITE LADY SHELTER' IN THE BRANDBERG, NAMIBIA, AFTER PAGER.



FIGURE 2: TRACING OF A BOW-PLAYER IN THE 'WHITE LADY SHELTER' IN THE BRANDBERG, NAMIBIA. (AFTER BREUIL)



FIGURE 4: A SAN HUNTER-GATHERER PLAYING A MUSICAL BOW. (PHOTO T. LENSSEN-ERZ 2010)

second musician, which is far more faded, is of a different shape. Both musicians play their bows with a rod.'

Musical bows are indeed a prominent part of traditional music-making in southern Africa (see Kirby 1934). So let us take a closer look at what seem to be definite depictions of musical bows being played by figures in that region's rock art. Do they bear the slightest resemblance to the Ice



FIGURE 5: PAINTING AT WIDE VALLEY, MACLEAR, SOUTH AFRICA. (AFTER LEE & WOODHOUSE 1970, FIG. 170)

Age engraving? One painting was published by Lee and Woodhouse (1970:101) (Figure 6), and seems to show the bow resting on the player's shoulder. Quoting Schultze (ibid.:106-108), they describe the musical bow or 'kxab': 'The women are the performers. They sit on the ground with the upper end of the bow resting on the left shoulder, while the lower end, propped up against a skin-covered bowl serving as a sounding board, is held there by means of the foot, inserted between the stave and the cord. The performer picks at the cord with a small stick held in the right hand, while the left hand holds the bow like the head of a violin'. They also present a photograph of a painting (ibid.:109) (Figure 5), 10 cm high, which shows a seated figure playing such an instrument: 'Except for the fact that our performer is a man and that he does not use one foot to hold the bow against the resonator, this is an incredibly accurate description of a painting on the farm Wide Valley in the Maclear district [.....] With the bottom of his bow resting on a hollow resonator, this man makes music either by drawing the stick in his right hand back and forth across the bow string or he uses it to strike the string in the manner of a percussion instrument.'

Lee and Woodhouse also (ibid.:108) mention that present-day Xhosa women hold the bow between their lips so that the mouth and chest cavity can act as the amplifiers. Certainly, some musical bow players in present-day Namibia, both male and female, may sometimes hold



FIGURE 6: TRACING OF A SOUTH AFRICAN PAINTING OF A MUSICAL-BOW PLAYER. (AFTER LEE AND WOODHOUSE)



FIGURE 7: TRACING OF BOW PLAYERS AT OMANDUMBA, NAMIBIA. (AFTER SCHERZ 1986)

one end of the instrument in their mouth (Figure 4), and a very few drawings in rock art seem to show one end at the mouth (Figure 7). But for the most part, the depicted musical bows are not at the mouth – for example, the tracing by Pager of a Brandberg painted figure, 26 cm tall, shows a standing man drawing a stick across a bow, or striking them together (Lenssen-Erz and Erz, 2000:74) (Figure 8).

As mentioned earlier, Breuil also thought the image might depict some kind of flute – and this interpretation has received support from other scholars. Otto Seewald (1934), for example, a pioneering ancient musicologist, believed the figure was holding a 'Längsflöte'. Giedion



FIGURE 8: TRACING OF A PAINTING OF A BOW PLAYER IN THE BRANDBERG, NAMIBIA. (AFTER PAGER)



FIGURE 9: MACRO-PHOTO OF THE ENGRAVED FIGURE'S HEAD. (J. VERTUT)

too (1965:372/3) calls it a 'bison-man with flute (?)'; while Dauvois (1989:9) said: 'La seule représentation paléolithique d'un joueur de flûte pourrait être celle de l'anthropomorphe à tête de bison des Trois-Frères (Ariège). La gravure ne fait aucun doute: l'instrument se trouve bien enfoncé dans le naseau, la bouche est nettement gravée en arrière et sans rapport avec l'objet, ce serait alors une flûte nasale. C'était l'avis du prof. Absolon en 1925 [*sic* – remember that the figure was only discovered in 1930!]. Toutefois les deux bras, plutôt deux pattes projetées en avant et raides, ne tiennent pas réellement l'instrument.' The same author later (1994:176) wrote that the horned head has a closed mouth and a nostril where the extremity of the instrument is engaged, and he sees the lines as a 'nose flute'. This is the interpretation which has been retained in the latest study of the cave (Bégouën *et al.* 2014:122-23), since one end of the 'object' is clearly in the nostril (Figure 9), and recently a Japanese musicologist, Toshi Tsuchibri, played a nose flute in the cave's sanctuary (*ibid.*:139) after contemplating the engraving in question. Yet Holdermann (2001:94) – who mistakenly refers to the image as a cave painting -- has pointed out that an interpretation as a flute is inappropriate as there is no indication of holes or a blowing device in the depicted 'object'.

There have also been other suggestions as to what the 'object' might be. In particular, Demouche *et al.* (1996:36) rightly observed that the position of the arms, neither of whose extremities touches the 'musical bow', is not really compatible with someone playing a musical instrument. They proposed instead (*ibid.*) that the figure should be seen in a more horizontal position, as a disguised hunter approaching its prey, and that therefore the bow should be seen as a hunting weapon -- but in that case, why would it be holding it in the mouth? In the drawing they provided of disguised Lakotas creeping up on bison, the hunters seem to be holding their weapons on the ground in the left hand, as one would expect!

To my embarrassment, I myself mentioned (Bahn and Vertut 1988:158) a possible interpretation of the motif as nasal bleeding: 'A different possibility is that these

lines represent the nose-bleeds often experienced by shamans entering a trance -- this is certainly a less fanciful explanation of the marks in front of one Trois Frères composite than the traditional one of playing a 'musical bow'. This shows the early influence of the idiosyncratic views of proponents of 'trance' and 'shamanism' in rock art, but fortunately I rapidly came to understand that these views were largely erroneous, and later (Bahn and Vertut, 1997:173) pointed out instead that marks at the mouths and/or nostrils of animal figures are open to many other interpretations such as voice, dying breath, or breath to show that the animals are very much alive.... One cannot even be sure if the marks are entering or leaving the figure's body.

A more unfortunate and groundless reading of the figure can indeed be found in the writings of numerous adherents of a 'shamanic' view of prehistory: to give just one example, Furst (1974:46) claimed that this engraving 'has long been recognized as shamanistic [*sic*] .... and may actually show a bow in magic use. Its subject matter is a shaman in animal disguise (or perhaps transformed into his animal *Doppelgänger*), magically charming a group of animals by means of a musical instrument that looks, in the Abbé Breuil's drawing, very much like the musical bow, as it is still used in Africa, America and Asia. If it is really a bow, then its metaphysical or magical attributes could be at least as old, if not older, than its practical function as a weapon'. It is hard to understand what can possibly justify such fantasies, other than a desperate obsession with trying to prove the antiquity of 'shamanic' beliefs.

But of course all of the above interpretations were based on the assumption that Breuil's drawing is both accurate, complete and reliable. As Sieveking pointed out (1998:7), the 'bow motif' is 'considered in isolation, although in fact it abuts on a series of parallel lines, ending in points, to which it appears to relate in that the base of the 'bow' is drawn up to, or from, one of these uprights (Giedion..... publishes a photograph of this, fig. 338). In addition, the two 'bow' lines are augmented by a third, curved, joining

the lower of these (see Bahn and Vertut's photograph, 1988, fig. 104). All these lines are more clearly cut than many of the animal figures on the wall (including the 'petit sorcier') and should be taken into account rather than omitted in favour of a selected reconstruction'.

She also observed correctly (ibid.) that the figure's 'upper arm, which Breuil drew across the 'bow' and which is disguised, as is the lower, as an animal leg, is not verifiable in a photograph. Giedion's transcription...places two arms, tentatively, in the lower position, where Breuil drew one, but whether single or a pair, these 'arms' are far from clear.' She speculated that, in view of the complex mass of engravings on this panel, these animal legs may relate to a different figure entirely, beneath or superimposed on the sorcerer. One should point out that Giedion's drawing (Figure 10) was made from a photograph, whereas Dauvois's later (1994:fig. 7) recording (Figure 11) came from photos as well as study of the original engraving.

I myself stated (1998) 'one important point that must be made is that the authors are discussing a drawing by Breuil, not the original engraving. Since access to Les Trois Frères has always been restricted, and time spent in the 'Sanctuary' with its incredible abundance of engravings is usually short, relatively few people have had the chance to study this small figure carefully at first hand. Breuil's drawing, on the other hand, immediately became one of the best known and most widely published images of the Ice Age after its first publication in 1930.... so much so, in fact, that it is impossible to look at the original without Breuil's version in one's mind. And one has to remember that it may not be an entirely accurate copy of the



FIGURE 10: DRAWING OF THE TROIS FRÈRES ENGRAVING.  
(AFTER GIEDION)



FIGURE 11: TRACING OF THE TROIS FRÈRES ENGRAVING.  
(AFTER DAUVOIS)

engraving. As I have shown (Bahn and Vertut, 1997:51), Breuil's tracings of engravings were often imperfect, inaccurate or incomplete, especially where portable art was concerned, but also in some cases of parietal engravings (e.g. at Altamira). It is generally recognised that his work in Les Trois Frères is among the best he ever produced, but nevertheless, his drawings cannot and should not be accepted as accurate without being checked. A comparison of his drawing of this figure with Vertut's macro-photograph of the engraving's tiny head (Bahn and Vertut, 1997:178) (Figure 9) shows that the two have distinct differences; it follows that the same is probably true of the body and tail, so that it is risky to base one's interpretation on such details.'

In recent years, a number of other authors have expressed further doubts about the traditional interpretation of a 'musical bow' – for example, Pozzi (2004:175) has written that 'il est difficile de déterminer si cette interprétation est exacte, si ces lignes font partie intégrante de la figure ou si elles font partie des nombreuses lignes -- dont certaines se terminant en pointe -- qui se trouvent devant la figure et la rejoignent en partie et dont la signification est inconnue.' Morley (2013:89-90) likewise expresses great doubt as to whether it is a musical instrument, while Smith (1992:65) explained the problem very clearly: 'one need not assume the engraver was depicting any musical instrument inasmuch as no involvement with the nose is known for the bow. And it is unlikely that the artist made an error:

the artistic skill in drawing the figure is so great that one can assume that the artist was clearly able to draw the bow at the mouth or depict it as a drum if a musical instrument had been the intention. Another problem with interpreting the bow-shape to be a flute or a musical bow is that either one requires two hands, yet in this drawing neither hand is holding the bow.'

### Conclusion

It should be stressed that there can be no doubt that musical instruments existed in the last Ice Age – we have abundant evidence of flutes, whistles, lithophones, bull-roarers and perhaps rasps (see e.g. Morley, 2013).

Referring to the figure in question, Bégouën *et al.* (2014:122-23) point out correctly that 'Si ces hypothèses étaient avérées, nous serions là en présence de la première représentation d'un être humain jouant d'un instrument de musique'.

But we do not have a single other recognisable depiction of someone playing a musical instrument in the entire corpus of Ice Age imagery! As we have seen, Breuil never really gave a concrete or convincing reason for his interpretation, and it does not seem to have struck him as strange that only this one figure, out of tens of thousands, has a musical instrument! Surely such a unique and important idea required far better ethnographic or artistic support – but, as shown above, the evidence of genuine musical bow-players and depictions of them in Namibian rock art demonstrate how extremely improbable this interpretation was.

So the question here is not only why Breuil became fixated on this bizarre reading, but also why it was adopted unquestioningly for many decades, and appears in every work on early music. It emphasizes the extreme dangers of using one inevitably subjective (and to some extent inaccurate) tracing of a figure, and of the uncritical acceptance of readings by 'figures of authority'. Where Breuil is concerned, such unquestioning acceptance of his tracings can be seen, for example, in a quotation from Leason (1939:51): 'In verifying his theory the Author has had recourse to published sources, but, coming from the distinguished hand.....of Professor Henri Breuil, their accuracy can hardly be called into question.' It is also noteworthy that, during Breuil's lifetime, nobody ever re-traced any of the caves he had studied (Hurel, 2011: 437).

I believe that the lessons to be drawn from this episode for the study of rock art in general are self-evident.

### Acknowledgements

I am profoundly grateful to my friends Count Robert Bégouën (for enabling me to visit this figure over the years) and Tilman Lenssen-Erz and Jean-Loïc Le Quellec (for help with documentation and illustrations).

### Bibliography

- BAHN, P. G. (1998) Bahn on the 'sorcier'. *PAST (The Newsletter of the Prehistoric Society)* No. 30, November, Pg. 8.
- BAHN, P. G. and VERTUT, J. (1988) *Images of the Ice Age*. Windward, London.
- BAHN, P. G. and VERTUT, J. (1997) *Journey Through the Ice Age*. Weidenfeld and Nicolson, London.
- BÉGOUËN, H. (1936) *Les Grottes de Montesquieu-Avantès*. Editions du Travail, Toulouse, 35 Pgs.
- BÉGOUËN, H. and BREUIL, H. (1934) De quelques figures hybrides (mi-humaines et mi-animales) de la caverne des Trois-Frères (Ariège). *Revue Anthropologique* Nos. 4-6, avril-juin, Pgs. 115-19.
- BÉGOUËN, H. and BREUIL, H. (1958) *Les Cavernes du Volp: Trois-Frères -- Tuc d'Audoubert*. Arts et Métiers Graphiques, Paris.
- BÉGOUËN, R. *et al.* (2014) *La Caverne des Trois-Frères. Anthologie d'un exceptionnel sanctuaire préhistorique*. Somogy, Editions d'Art, Paris.
- BREUIL, H. (1952) *Four Hundred Centuries of Cave Art*. Centre d'Etudes et de Documentation Préhistoriques, Montignac.
- Breuil, H. (1955) *The White Lady of the Brandberg*. Praeger, New York.
- BREUIL, H. and BÉGOUËN, H. (1930) Nouvelle gravure d'homme masqué de la caverne des Trois Frères (Montesquieu-Avantès, Ariège), associée avec des figures animales composites. *Comptes rendus de l'Académie des Inscriptions et Belles Lettres*, Pgs. 261-64.
- DAUVOIS, M. (1989) Son et musique paléolithiques, Pgs. 2-11 in *La Musique dans l'Antiquité, Les Dossiers d'Archéologie* No. 142, novembre.
- DAUVOIS, M. (1994) Les témoins sonores paléolithiques, Pgs. 153-206 in *La Pluridisciplinarité en Archéologie Musicale*. IVe Rencontre Internationale d'Archéologie Musicale de l'ICTM, St Germain-en-Laye, Oct. 1990. Ministère de la Culture, Paris.
- DEMOUCHE, F., SLIMAK, L., and DEFLANDRE, D. (1996) Nouvelle approche de la gravure du 'Petit Sorcier à l'Arc Musical' de la Grotte des Trois Frères (Ariège). *Préhistoire Anthropologie Méditerranéennes* Volume 5, Pgs. 35-37 (and see *PAST [The Newsletter of the Prehistoric Society]* No. 28, April, Pg. 11).
- FURST, P. (1974) The roots and continuities of shamanism, pp. 33-60 in (A. Brodzky, R. Danerwich and N. Johnson, eds) *Stones, Bones and Skin: Ritual and Shamanic Art*. Artscanada Society for Art Publications, Toronto.
- GIEDION, S. (1965) *L'Eternel Présent. La Naissance de l'Art*. Editions de la Connaissance s.a., Brussels.
- HOLDERMANN, C.-S. (2001) Musik und Tanz, Pgs. 88-94 In: Müller-Beck, H. *et al.* (eds) *Eiszeitkunst im Süddeutsch-Schweizerischen Jura*. Theiss, Stuttgart.
- HUREL, A. (2011) *L'Abbé Breuil. Un Préhistorien dans le Siècle*. CNRS Editions, Paris.
- KIRBY, P. R. (1934) *The Musical Instruments of the Native Races of South Africa*. Oxford University Press, Oxford.

- LEASON, P. A. (1939) A new view of the Western European group of Quaternary cave art. *Proc. Prehist. Society* Vol. 5, Pgs. 51-60.
- LEE, D. N. and WOODHOUSE, H. C. (1970) *Art on the Rocks of Southern Africa*. Purnell, Cape Town.
- LENSSEN-ERZ, T. and ERZ, M.-T. (2000) *Brandberg. Der Bilderberg Namibias*. Thorbecke Verlag, Stuttgart.
- MORLEY, I. (2013) *The Prehistory of Music. Human Evolution, Archaeology, and the Origins of Musicality*. Oxford University Press, Oxford.
- POZZI, E. (2004) *Les Magdaléniens. Art, Civilisations, Modes de Vie, Environnements*. J. Millon, Grenoble.
- SCHERZ, E. R. (1986) *Felsbilder in Südwest-Afrika, Teil III, Die Malereien*. Böhlau Verlag, Cologne.
- SEEWALD, O. (1934) *Beiträge zur Kenntnis der steinzeitlichen Musikinstrumente Europas*. A. Schroll, Vienna.
- SIEVEKING, A. (1998) The sorcerer and the musical bow. *PAST (The Newsletter of the Prehistoric Society)* No. 29, July, Pgs. 7-8.
- SMITH, N. (1992) *An Analysis of Ice Age Art: its Psychology and Belief System*. Peter Lang, New York.



# The method and physical processes behind the making of hunters' rock art in Western Norway: the experimental production of images

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With contributions, and based on experiments, by Morten KUTSCHERA

## Abstract

*The paper presents results from experimental production of rock art, and takes its point of departure in the imagery of the hunters' type, at the site Vingen, in Bremanger, Sogn og Fjordane, Western Norway. The discovery of a pecking tool of diabase under archaeological excavations at the site at the end of the 1990s gave new insight into the character of the tools involved in rock art production, the raw material they were produced from, and also inspired the author to produce experimental images. This led also to new knowledge about time consumption involved in the making of rock art – by indirect technique – and a number of other practical issues less focused on previously.*

## Introduction

The starting point of this paper lies in the border zone between experimental archaeology and the study of rock art, two areas that seldom meet, or cooperate. Its content is also the result of an interest in trying to gain more precise knowledge about the practical and physical aspects associated with the production of prehistoric rock images. Rock art studies are mostly occupied with theoretical speculation about what rock art means, when and why it was produced, and of course the detailed analysis of the form, type and style of images. From time to time, however, aspects related to the physical production of rock art become part of the debate where conclusions which also tend to be of a more theoretical character are made, but without, as I will claim, an adequate understanding of the nature of the production of these images. This accounts for how they were made, the technique and raw material that was in use, in addition to the time perspective involved in the production. On the basis of recent rock art production experiments, some experiences will be summarized in this paper, which also provides us with information that will add to our understanding of some of the hunters' images from Scandinavia. Nevertheless, it should be noted that there are a number of different ways to produce rock art.

The term normally used to describe rock art within our Norwegian context is *helleristninger*, a word derived from Swedish combining the expressions *helle* (literally meaning *rock panel*) and *ristninger* (literary meaning *scratches*), although this is barely descriptive, if at all, of the way rock art has been produced. In translations into English, the more all-embracing concept of *carvings*, or *rock carvings*, is used, but very few if any, have ever

been carved in our areas. There are a few examples of a somewhat related technique at Hell in Trøndelag in central Norway (Hallström, 1938; Sognnes, 2001) where the lines seem rightfully to have been carved or even cut by a sharp tool into the rock surface, which is of a much softer type, but there are few examples of this type of rock art on a very small number of sites. There are also examples of rock images that are polished, such as a type of hunter's rock art found within a limited area of Nordland in Northern Norway (Gjessing, 1932). However, amongst the most common type of rock art in Scandinavia we find what can be described as 'pecked rock art' – often in sandstone – which will be the main focus in this presentation, referring predominantly to the technique involved in its production, and where lines of varying thickness, forming the images, are built up by numerous pecking marks, and as I will claim involving *indirect* technique.

## Background

The geographical and cultural starting point for the experiments is the hunters' rock art site of Vingen, located in the municipality of Bremanger in Sogn og Fjordane, Western Norway (Figure 1).

The site has a concentration of images on large rock panels, big boulders and on smaller stones, all distributed around a small fjord – and where the images are produced in Devonian sandstone. The majority of the images are red deer, followed by animal-headed staffs, geometric figures and anthropomorphic images (Figure 2).

It also seems feasible to consider many of the compilations of images on the different panels as narratives, left for us



FIGURE 1: THE NORTHERN SIDE OF THE VINGEN FJORD WHERE MOST OF THE DOCUMENTED ROCK ART CAN BE FOUND DISTRIBUTED ON ROCK OUTCROPS, PANELS, BOULDERS AND SMALLER STONES.



FIGURE 2: THE MAJORITY OF THE ROCK ART IN THE AREA IS HEAVILY WEATHERED, BUT PECKING MARKS CAN STILL BE IDENTIFIED. MANY IMAGES WERE ALSO FILLED IN WITH PAINT FOR MANAGEMENT REASONS, A CONTROVERSIAL METHOD THAT IS NOT PRACTISED ANYMORE.

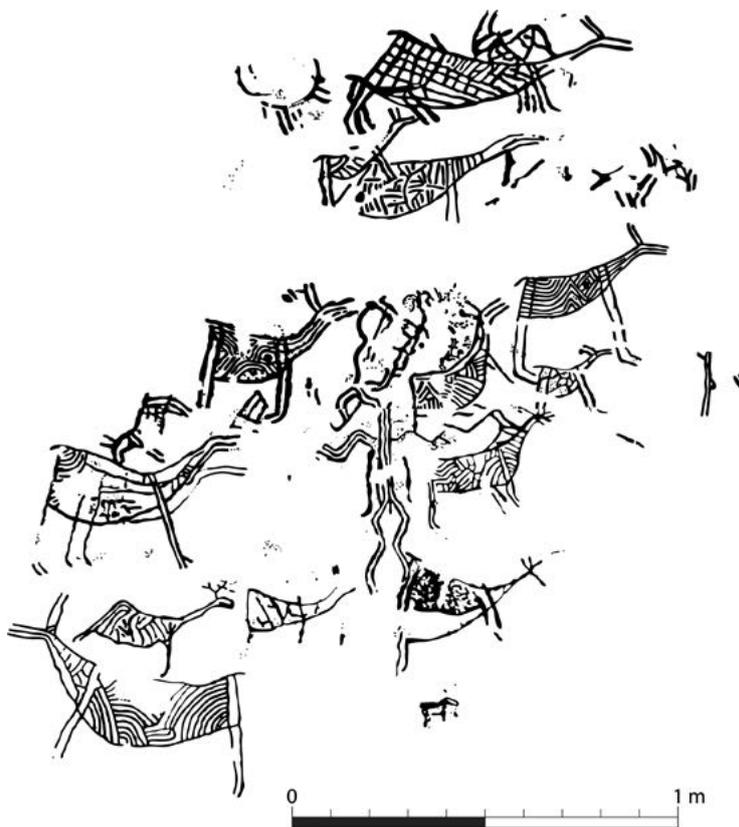


FIGURE 3: ONE ON THE MANY PANELS SHOWING THE COMPLEXITY OF THE ROCK ART, WHICH IS LIKELY TO BE INTERPRETED AS NARRATIVES FROM THE PAST (FIELD LOCATION LEITET 10). (LØDØEN & MANDT 2012: 308FF)

to interpret, but the organisation of the iconography and the syntax behind the images leaves us with the possibility of a wide range of interpretations (Lødøen & Mandt, 2010, 2012) (Figure 3).

The site first became known to the public in 1912 (Bing, 1912), which then led to a number of major contributions through time by Johs Bøe (1932), Gustaf Hallström

(1938), Eva and Per Fett (1941), Egil Bakka (1973, 1979), and others. In the 1990s many new discoveries were documented, which also led to the need to revise the former documentation, which was done by Gro Mandt and myself and published in 2012 (Lødøen & Mandt, 2012).

Rock art is difficult to date, and the chronology of the Vingen site has always been controversial. Most researchers that

have been dealing with Vingen and other contemporary rock art sites in Norway have based their chronology on stylistic comparisons with other sites and on geologically dated shorelines, and the assumption that the rock art was produced in the immediate vicinity of the shore (e.g. Bøe, 1932; Hallström, 1932; Bakka, 1973; Gjerde 2010). This has led to nothing but fairly vague chronologies and therefore an association with a number of different time periods and cultures. In the early 1970s the Vingen rock art was dated by Egil Bakka to the Early and Middle Neolithic (1973:173). At the end of the 1970s this was widened with a potential starting point at the end of the Late Mesolithic (Bakka, 1979), implying a production period of about 4000 years. Under discussions of the chronology of the Vingen site, the amount of rock art and its time consumption is brought into the debate, thus legitimising the dating of the rock art within time frames consisting of several hundred years if not millennia (eg. Gjerde, 2010:396).

Since the time the site was first documented, its function has formed a part of the debate, and a number of different suggestions have been made. The easily recognisable animal images have led many researchers to conclude that the site was used as a hunting ground (eg. Shetelig, 1922; Brøgger, 1925:78; Gjessing, 1932; Bøe 1932), while interpretations have completely ignored the ideological, cosmological or even religious role animals may have had in past societies, something that is frequently documented by ethnography (e.g. Guemple, 1994; Willerslev, 2007:32,105; Zwelebil, 2008: 44). Through the history of research this has also led to interpretations that the site should be understood as a place where different groups or bands would have met (Walderhaug, 1994:107-108). During the last few decades I have tried to relate the rock art to its contemporary context, through archaeological excavations and scientific analysis, in order to obtain a more nuanced background and acquire greater accuracy when it comes to the dating of the imagery and associated activity (Lødøen, 2003, 2013, 2012). In the last few years this has also convinced me that this and other associated sites, such as Ausevik in Flora, and Vangdal in Kvam, Hordaland were associated with mortuary rituals, which also helps to explain the many images of skeletons at these sites (Lødøen, 2014). I have also argued that the rock art of Vingen should be understood as the result of religious changes affecting hunter-gather-fisher societies at the end of the Late Mesolithic (Lødøen, *in press*). It is also my understanding that many of the same social, religious and perhaps ideological processes that are reflected in the many cemeteries in Southern Scandinavia, such as Vedbæk, Sealand, Denmark, and Skateholm, Scandia, Sweden, also led to the production of the rock art sites of the hunters' type, as both cemeteries and rock art sites can be shown to be associated with secondary burials (Lødøen, 2014, *in press*).

In order to better understand the past activity at the site and for a better dating of the imagery, several excavations were carried out in the vicinity of panels with rock art in Vingen during the 1990s and after 2000. These provided



FIGURE 4: A PREHISTORIC CHISEL OR HAMMER STONE DISCOVERED DURING ARCHAEOLOGICAL INVESTIGATIONS IN THE NEAR VICINITY OF SOME OF THE ROCK ART PANELS.

material exclusively from the Late Mesolithic period, and a number of results from radiocarbon datings have dated the occupation in the area to a time period delimited between 4900-4200 cal BC, with a potential start as early as 5400 cal BC (Lødøen, 2003, 2014). This production period is also supported by independent scientific and palynological investigations indicating activity within the same time frame (Hjelle & Lødøen, 2010). Here it should be noted that despite the fact that the occupation and use of the Vingen site could have covered 700 years or as long as 1200 years, as mentioned above, the rock art production in itself may have taken place over a much shorter time-span (Lødøen, 2013).

One of the above-mentioned excavations led to the discovery of a pecking tool in the vicinity of a number of panels with rock art (Lødøen, 2003). It was found associated with a cultural layer, dated to the Late Mesolithic (Lødøen, 2003:516, 2010:38ff.) (Figure 4).

Its form and shape led to the immediate assumption that it must have been a pecking tool for rock art. The elongated tool had a pointed tip, which corresponded with the width of the pecking marks making up the many lines that forms the images at the site. The tool was later geochemically analysed and shown to be made of diabase, and the analysis concluded beyond doubt that the material originated from the Mesolithic Rock Quarry at Stakaldeneset in Flora, to the south of Vingen (Olsen & Alsaker, 1984; Skjerlie, 1999; Lødøen, 2010). This also addressed the question of the material involved in rock art production, since material from the quarry was the source of raw material for axes and adzes found in numerous quantities at the habitation sites, but also frequently deposited as votive deposits. It has therefore been argued that the site was a sacred site, suggesting that material of a more sacred nature was needed for the production of potentially sacred images at the rock art sites (Lødøen, 2014). This renewed knowledge has made a major contribution towards obtaining a better understanding of the cultural and historical background associated with the production of these images, at least in Western Norway (Lødøen, 2003, 2010).

#### Experimental archaeology, and material needs

Spurred on by the discovery of the pecking hammer, I was inspired to attempt to discover how the rock art was produced in the past in greater detail. The knowledge about

the shape and form of the Vingen hammer and the character of the corresponding pecking marks made it quite likely that the thin lines with numerous pecking marks, making up the images, must have been made by an indirect technique, something I will come back to. In recent years experiments from amongst others Sweden and Scotland has added considerable to our knowledge about rock art production although this covers another set of imagery much harder bedrock and a *direct* technique to produce the images. For the Swedish experiments on granite in Bohuslän, Southern Sweden, it has been argued that the images were first outlined by thin lines, and were then either ground, or first hacked and later ground by a tool made from quartz or quartzite (Hygen & Bengtson, 2000: 91). These experiments showed that it took almost an hour to produce a cup mark and a day to produce a small ship (Hygen & Bengtson, 2000: 91), first and foremost due to the consistency and hardness of the granite. Much more thorough analysis of rock art production, has been carried out associated with archaeological investigations of the Kilmartin rock art in Scotland recently (Lamdin-Whymark 2011: Jones *et al.* 2011). These have provided detailed knowledge about the different processes where hammer stones of quartz have been used to produce images in epidiorite. Apart from the detailed timing of image production a number of other observations has also been documented, such as the changing of the epidiorite color over time and the character and consistency of the hammer stones, how they are reduced and a number of other elements. Much effort have also been invested in the timing of the production of cup marks and concentric circles (Lamdin-Whymark 2011). Several other experiments have also been carried out elsewhere in the world previously, and most of these have also involved direct techniques (Sierts 1968; Bednarik 2001), very few seem to have been occupied with indirect technique. Some researchers have even rejected this technique for the production of rock art in the past (Bednarik 2001: 44). It was therefore most interesting to work in more detail with sandstone and this indirect technique.

Despite my detailed knowledge of rock art in general and the Vingen site in particular, it seemed more suitable to involve someone with greater skill in prehistoric handicraft and tool technology. This naturally led to cooperating with one of Scandinavia's most skilled experimental archaeologists, Morten Kutschera, who also has detailed knowledge of all of the tool-producing techniques used throughout the Stone Age in Western Norway, as well as long-term experience with different types of raw materials that were used during the same time span. We decided to try to collect suitable rocks of the same type used for the images in Vingen, with a smooth surface and of a similar character as the stones with images from Vingen. It was also decided to make tools out of diabase, the same material used to make the artefact documented at the site.

### The search for suitable rocks

This led to a series of minor challenges, as the surroundings of the Vingen area are protected by the Cultural Heritage

Act due to the rock art and other cultural heritage elements, and also because this is a Protected Landscape. Clearly we had no intention of disturbing the site, which meant that all of the stones chosen for the experiments had to be found outside the protected area. Vingen is located within a larger geological area, often referred to as the *Devon area*, with sandstone that originated 400 million years ago and where the same type of rock as in Vingen covers several square kilometres, although the quality varies within this larger sandstone landmass (Lødøen, 2003). After carrying out surveying work, a number of stones were located along the shoreline outside of the larger area and from an equal environment as Vingen, where rock had been exposed to similar coastal abrasion and a most suitable polishing, which must have shaped and formed the many stones and rock panels used for images in Vingen. This also resulted in further challenges, as the stones had to be of a considerable size. They then had to be transported, first by boat and then by car, to the University Museum of Bergen and to Morten Kutschera's workshop. This meant dealing with the area's fairly rough coastal conditions, transporting the stones without them getting scratched or damaged. We also had to produce hammer stones of the same type and character as the one used in Vingen. Due to protective issues at the quarry from where the original tool originated – the Stakaldeneset quarry – another diabase source, at Stord in the County of Hordaland, Western Norway with fairly similar qualities as the original was chosen.

After discussions with Morten Kutschera about the different perspectives with these experiments, the stones and a number of relevant tracings of original images from Vingen were left in his and his assistant's hands (e.g. Figure 5). It was decided to try produce identical replicas of the original images varying in development types and of motifs and to try to identify the potential technique and also explore nuances in potential production methods used

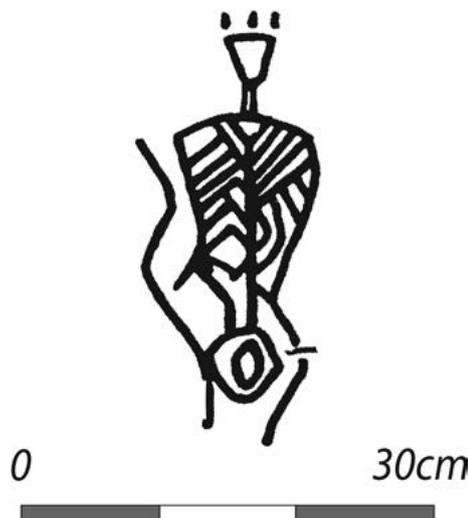


FIGURE 5: TRACING OF AN ANTHROPOMORPHIC FIGURE OR SKELETON, TO BE REPRODUCED BY THE EXPERIMENTS BELOW (REF FIG 10) (FIELD LOCATION BAKKANE 3). (LØDØEN & MANDT 2012: 341F)

in the past. Below the practical process will be described in more detail. All images that have been experimentally produced are based on original images from Vingen. References to the original images will be mentioned in the different captions.

**Producing images in solid rock: Descriptive observations from experimental archaeology**

For a flint artefact-producer who is used to applying precise punches several hours at a stretch, it seemed quite natural to make rock images. The most challenging thing, however, was to find the correct seating position, and he also had to vary between sitting on his knees and supporting his left elbow on the ground. He got the impression that it would have been easier to produce the images on a sloping rock surface, which is the case for most of the original images in Vingen. However, he quickly found a pace of pecking that was effective, four rapid strokes until he moved the chisel a few millimetres, followed by another four strokes (Figure 6). In the beginning it was also natural to mark the outline of the images and then peck between the lines (Figure 7).

This method was applied, in particular to the 'hook-images' or what are also interpreted as animal headed staffs

(Figure 9). The chisel or punch that was documented after investigations in Vingen seems as if it to some extent was roughly produced. Since it was most likely not hafted, it did not matter whether it was symmetrical or not. However, it is thickest in the middle, which probably gives the tool strength, with a tip that seems to be perfectly designed for the task. It is not clear whether the original tool was polished or not since the weathering is pretty extensive, but it seems to have been most important to produce a head that was suitable for hammering and a pointed tip. Therefore we spent no time and effort in polishing the tools needed for the experiments, but concentrated the production towards producing a fairly flat, slightly rounded head to better receive blows from a relatively light wooden mallet. All of the chisels were produced in a way that meant they were thickest near the centre, then narrowing towards a slightly rounded point (Figure 8).

The experiments showed that it was important to keep the tip of the chisel pointed at all times. As soon as it was worn flat, the tool was no longer able to penetrate the rock surface with the same effect. It is still possible to produce pecking marks, but these will be vague and shallow. Conversely, when a piece of the tip of the chisel was released from the point of the tool, this does not prevent it from penetrating the rock, but the marks left are then more crescent shaped. This also puts the chisel at risk of being completely damaged if it is not sharpened immediately. We found that one of the chisels which lost pieces at the tip during the experiments had a longitudinal vein or weakness. As it was sharpened, the weakness disappeared, which also extended the period of time between each time it had to be re-sharpened. For the smaller images, we used two different chisels, and it was necessary to sharpen the edge before the image could be completed. For the human figure, which was slightly more complex, three different chisels were used. Having pecked ¾ of the figure, one of



FIGURE 6: THE PROCESS OF PECKING ROCK ART, LITERALLY IN THE HANDS OF MORTEN KUTSCHERA.



FIGURE 7: THE IMAGES WERE FIRST OUTLINED BY CHALK BEFORE THE PECKING PROCESS STARTED.



FIGURE 8: MOST OF THE TOOLS INVOLVED IN THE EXPERIMENTS. THREE CHISELS OF DIABASE AND THE SMALLEST OF THE MALLETS, WEIGHING 295 GRAMS.

the chisels became so flat that it did not cut properly, while the other two had only lost a few pieces at the edge.

Surprisingly, there was very little loss of material and length of the tool when the chisels were re-sharpened constantly. The same chisels were used to make four smaller images, and they are still highly intact and seem to withstand much more use. That said, this was written at an early stage, and the chisels are in the same condition after completing all of the images, after many hours of pecking.

Producing the chisels is probably the most time consuming process. To sharpen them again at regular intervals also takes time, but it is best to fix them regularly before they start to crack and need to be modified more thoroughly. The principle is the same as with flint producing tools. It is quite possible that they used a polishing plate or may have even used the rock to re-sharpen the chisels.

It took 45 minutes to produce the first ‘hook’ or animal headed staff, but the next one (which admittedly was a bit smaller) was produced after just 27 minutes (Figure 9). The time difference is probably because Morten was quite cautious at first, due to lack of experience and did not know where this led, and also had to re-peck the previous marks some places to get deeper. The small animal figure took just over 50 minutes (52), whereas it took 1 hour and 20 minutes to peck one of the more complex human images (Figure 10). The latter was however scaled down to 90% so that the image could fit on the stone block. The chisels had to be sharpened regularly, but the mallets were affected most during these experiments: they shattered because of the many hard blows on the head of the diabase tools. Most of the images were pecked with a four-sided mallet weighing 295 grams. In between, another one was used weighing 512 grams – where it was compensated with lighter strokes – although he preferred by far the lighter mallet even after it had begun to splinter. It was found that not much weight was needed as long as the blows are strong and precise.

Two human figures that were part of the experiments are quite similar, and we believe that these must have been produced by the same person in the past (Figure 11). They have the same expression, although their proportions are slightly different. However, we chose to divide this between Morten Kutschera and his assistant, Nicole, to check if we managed to keep the same similarity when produced by two different people. The anthropomorphic image or skeleton produced by Nicole took her 56 minutes to peck (Figure 11, right). It has a slightly different character than Morten’s image, as it is produced by a lighter hand, and for this reason it seems to some extent to be in another style. This is a key issue in experimental archaeology, and indicates that differences between items that are made, or in this context images, could just as well be the result of different people being involved than time differences. Nicole had much the same pace as Morten, especially towards the end. The image is nicely executed, with denser and smaller pecking marks. It is, however,



FIGURE 9: TWO HOOK IMAGES, WHAT IS LIKELY TO UNDERSTAND AS ANIMAL HEADED STAFFS (FIELD LOCATION BAK VEHAMMAREN 22). (LØDØEN 2012: 208FF)



FIGURE 10: A MORE COMPLEX ANTHROPOMORPHIC IMAGE, ONE OF THE MOST TIME CONSUMING TO PRODUCE IN THESE EXPERIMENTS (FIELD LOCATION BAKKANE 3). (LØDØEN & MANDT 2012: 341F)



FIGURE 11: TWO ANTHROPOMORPHIC IMAGES WITH DIFFERENT APPEARANCES AND PRODUCED IN OUR EXPERIMENTAL STUDY BY TWO DIFFERENT INDIVIDUALS DISPLAYING INTERESTING DIFFERENCES (LEFT FIELD LOCATION LEITET 12) (LØDØEN & MANDT 2012:312) (RIGHT FIELD LOCATION VINDBAKKEN 2). (LØDØEN & MANDT 2012: 323)

not as deep as the one produced by Morten (Figure 11, left). Maybe it is not deep enough to last the necessary time period required? In any event, we chose to use this as an example of images produced by two different people without the same power or intensity behind the pecking. There was hardly any wear of the chisel after she finished the image, and she used only one chisel, which did not affect the already worn mallet in any particular way.

The large-headed image took 27 minutes to produce (Fig 11). The chisel penetrated deep into the rock with ease. Because Morten's strokes with the mallet were harder than Nicole's it penetrated deeper into the rock. This could preferably be explored in more detail, and is something to focus on more closely in the future. One of the reasons why the pecking process is a relatively easy task is that the rock seems to be divided into layers, which chip off easily. It seems to be schistose to some degree, but it is probably caused by the fact that the surface layer actually has a weathering crust. It is therefore tempting to try the same chisels on other types of rock to see what the result will be. Maybe it does not matter, or perhaps it is essential? In order to penetrate deep enough, it seems that only a few strokes with the mallet on the chisel are needed, and then to move it to the edge of the previous pecking mark. Then the chisel easily reaches the desired depth, stroke after stroke.

When it comes to the images and their colour it is evident that the fresh marks make a distinct contrast on the rock's surface, much like a fresh grave. The question is how long this colour held up against weathering until the lighter colour faded. One idea would be to keep the experimental images outdoors for a few years to see what happens, preferably at Vingen in order to keep the conditions more or less the same. The red deer images with 'swellings' on their necks and the more blurred images surrounding them should be regarded as compilations or narratives that must have been produced as one episode, by the same person. The images seem to be part of the same subject or scene – they are most likely associated with each other – and are certainly not intended to be individual animals. The animal image with antlers and a 'swelling' on its neck took about 46 minutes to peck. For this reason it was decided not to peck the outline, but instead to leave all of the marks in the immediate vicinity of each other along the whole line, a method that proved to be very effective (Figure 12).

The last three images were produced without any need to sharpen the two chisels involved in their production. One of the chisels had a possible weakness – the diabase rock that it was produced from had several veins and several cracks – which probably affected the strength and consistency of the chisel, despite the fact that none of these were visible in the finished tool. Images were produced on both sides of the small stone, something that has also been the case amongst the many original stones documented in Vingen. However, it was difficult to find small enough images that could match some of the collected stones. Our first impression, after trying to produce the rougher of the two



FIGURE 12: RED DEER IMAGE WITH SWELLINGS, AN INTERESTING FEATURE AMONGST SOME OF THE IMAGES AT THE SITE (FIELD LOCATION VINDBAKKEN 5). (LØDØEN & MANDT 2012: 324)



FIGURE 13: A SMALL HIGHLY STYLISED IMAGE WHICH TOOK APPROXIMATELY HALF AN HOUR TO PRODUCE (FIELD LOCATION BAK VEHAMMAREN 10). (LØDØEN & MANDT 2012: 197f)

images (seemingly made in a less accurate way) is that it is difficult to try to reproduce other people's inaccuracies. The wavy lines are probably caused by the fact that it was pecked quickly and perhaps a little carelessly. The first of the two – the less naturalistic one – took 29 minutes (Figure 13). The one that resembled a moose took just over 30 minutes (Figure 14). In practice, there was no wearing of either of the two chisels. The final image was produced in the rear side of the same stone as the animal headed staffs mentioned above (Figure 9) and displays a striking similarity with the original (Figure 15).

In the end, different paces were chosen, and it felt both comfortable and natural to use 3-5 strokes before the chisel was moved. The key is obviously to keep a steady pace. Since the sound of the pecking process was fairly intense, hearing protection was chosen, something that must have had a strong impact on the environment in Vingen, echoing between the rocky hillsides, something which has been tested at the site. During some of the experiments



FIGURE 14: ON THE REAR SIDE OF THE PREVIOUS ROCK (FIG 13) ANOTHER IMAGE WITH A DIFFERENT CHARACTER WAS PRODUCED, BUT WITH A SOMEWHAT SIMILAR TIME CONSUMPTION AS THE FORMER (FIELD LOCATION LYNGRABBen 2). (LØDØEN & MANDT 2012: 236)



FIGURE 15: THE FINAL IMAGE WAS PRODUCED AT THE REAR SIDE OF THE ANIMAL HEADED IMAGES AND HAS A STRIKING SIMILARITY WITH THE ORIGINAL (FIELD LOCATION TEIGEN 11). (LØDØEN & MANDT 2012: 275FF)

Morten listened to music. It came naturally to beat in time with the rhythm. This leads also to the question whether the producers of the past used music or chanted when they produced the images, or whether chanting, singing or rhythm was important for their creation, something that may have added to potential rituals or ceremonies associated with the production of the images?

A fundamental question dealing with schistose rock or rock consisting of many thin layers, or with a more weathered surface, is whether the same method will provide equally good results on any rock? It will therefore be interesting to continue this experiment and try to use other types of rock. Perhaps it will be possible to compare with rock types that have been used at other sites?

### Evaluation of the results

The experiments produced a number of astonishing figures, surprisingly similar to the original images, documented in

the photos above. Most of them stand out as better than the original, due to the authentic methods involved, that rocks of the same type and character as the original were used, that the images are exact copies of the prehistoric originals, and of course that they are not affected by thousands of years of weathering. The numerous lines of pecking marks – thin lines – and the precision would not have been possible with direct technique.

Previous rejections of indirect technique have amongst other reasoning's based their arguments on a number of excavations in the vicinity of rock art panels that have failed to document chisels' and hammers used for indirect technique (Bednarik 2001:44). It has also been argued on the basis of experiments where a hammer stone has been used in combination with a stone chisel, that indirect technique is unsuitable for rock art production (Sierts 1968; Bednarik 2001), thus failing to realise that soft hammers of wood or antler would have been proven much more suitable in combination with stone chisels. From our experiments it seems clear that if a stone chisel is used in combination with a mallet of wood the results are strikingly similar to the original. Besides our excavations have been successful in documenting a chisel that must have been used for indirect technique (Lødøen 2003), while the hammer stone or mallet of organic material that was found is no longer preserved.

The practical experiments argues also in favour of the character and form of the original pecking tool, with a thick body which have given the tool extra strength. Although polishing of the rock art panels have not been documented yet at the Vingen site, it is interesting to note that polished bedrock is frequently associated with cup marks in later periods (Broström and Ihrestam 2010:15). As previously indicated, the fresh lines made a very distinct contrast to the internal colour of the rocks involved in the experiments. This is a feature that is no longer visible on the original rock art panels in Vingen, but it clearly shows how much more visible the images must have been immediately after they were produced. It has been argued that the images were likely to have been filled in with paint or other substances in the past (sometimes to legitimize that paint has been added to make them more visible today). At least in terms of visibility the experiments have now indicated that such filling was not necessary since the contrast caused by the fresh grooves are most distinctive, and which it is likely to have lasted for many years. As mentioned, some of the experimentally produced images will be kept outdoors to test how long it takes before the fresh inner colour fades. Compared to the previous experiments discussed above and involving granite, the examples presented here have shown that this manner of production was much less time consuming, first and foremost because a much softer sandstone was involved. Taking less than half an hour for a single image meant that it was possible to produce many images during one day. All of the images may of course have been followed by a series of different rituals or taboos, but it may also have been possible to produce most of the images

in Vingen within a very short time perspective. Although previous attempts to create a typology for the rock art have not been highly successful (Bøe, 1932; Hallström, 1938; Bakka, 1973 and Lødøen, 2003, 2013, 2014), all of the images show a surprising similarity, which might be the result of the images being produced within a few years and also by a few individuals. This is probably something that needs to be explored more into detail, but the similarities between the images, and the consistency in repetitive narratives might be an indication in itself that the rock art was produced during a short time span. Since a number of experiments seem to conclude that the rock art production took much shorter time than expected (eg. Sierts, 1968; Bednarik 2001), including our own, it seems also clear that rock art understanding in general must have associated rock art production with more labour and higher time consumption, which consequently might have influenced the debate prior to the new understanding caused by the experiments. One might argue that it does not matter if an image took a week or a few minutes to produce. However, if each and every image was associated with a number of other tasks, rituals and other such considerations, it could be of relevance. Many of the images produced are so similar that it seems reasonable to consider large numbers of images as the result of the same individual, or at least the same 'school of rock art'. It also indicates that many rock art sites may have been part of more solitary actions related to rituals, cosmology or the results of visionary quests, something which I have claimed elsewhere as probably being associated with mortuary rituals (Lødøen, 2014; in press). It seems also reasonable to understand the compilations of rock art in Vingen as past narratives, and since the location, the choice of motives and the character of the images seem to follow a basic structure for the whole area, this may clearly indicate that most of the rock art was produced within a few years or very few generations. Then it might matter, after all, if an image took a week to produce or much less time. The experiments have no matter what provided us with a much better awareness of the time perspective involved in rock art production. In the archaeological record from Vingen approximately 2200 images have been documented, but re-discoveries are constantly being documented. If we imagine that less than half of the images that once was made have been documented, and that the amount of images at the site counted 5000 images at a certain stage in the past. With an average production rate of one image a week it would have taken approximately a century to accomplish this tentative amount, manageable during three to five generations. The more accurate knowledge the experiments now have provided us with makes it fully feasible to produce from 10-20 images and even more within a day and hundreds during a couple of weeks, which at least potentially makes it feasible to have been produced during a much shorter time span. This also opens up for much more detailed studies of similarities in the iconography with an aim to cast more light on how iconographical knowledge or skills were transferred between individuals and from one generation to the next, which might reveal more knowledge about the production of rock art within a time setting.

Despite the fact that archaeological excavations have indicated that the area may have been used for different purposes for 700 or 1200 years, the rock art itself may have been produced during a much more limited timespan, where the imagery might have had a function as a major cosmological, mythological or ideological narrative for a past society.

These narratives may have emphasised the character of the ideology or religion, and therefore may have been used without any additional contributions of images in the long term, such as ancestral cultic images. I have previously argued that some of the more contrasting images in the area may have been the result of later interference with former ideas, perhaps after many years with a prevailing ideology and the corresponding imagery (Lødøen 2013), and perhaps as an attempt to change the narratives and also the impact on cosmology. Most societies experience a number of continuous challenges, which may affect their ideology and at least cause the practical and symbolic part of their religion to be affected or changed. For the cultures that used Vingen, these potential changes may have caused the need for these additional images, and a need to change the character of the narratives. These additional images may have led to a contrasting set of images, as is occasionally documented in Vingen, and may represent final attempts to alter the cosmology, the ruling practise or religious activity, something that could also be understood as some of the final changes that took place in the area before the site was abandoned. However, the experiments therefore represent important objections to the frequent use of style studies and typology to legitimize and explain changes in the style and appearance of past objects. This seems to be a key problem in archaeology, demonstrating the influence of evolution and neo-evolution in having a tendency to explain most differences in the past as the effects of time, while paying less attention to differences between individual expressions. It is therefore interesting to see that a number of the different panels and outcrops in Vingen have their own, individual style, something which in the 1970s led Egil Bakka to identifying four different style types based on four different panels, the Hammaren phase, Hardbakken phase, Brattebakken phase and the Elva phase, following each other in chronologically order. Based on the time perspective for rock art production revealed in these experiments and the differences in individual expression, this could just as well have been the result of different contemporary producers, following the same syntax and structure for the location of the rock art, but with an according individual expression (Figure 16).

Another interesting result is the durability and persistence of the hammers. It was hard to believe how long they lasted when they were continuously re-sharpened during use. In principle, this tells us that a large number of images can be made by the same tool. However, it was difficult to decide whether they were approaching the end of their useful life. The chisels we produced were initially fairly similar to the original once found at Vingen in terms of their shape and size. They were sharpened a number of times, but most of

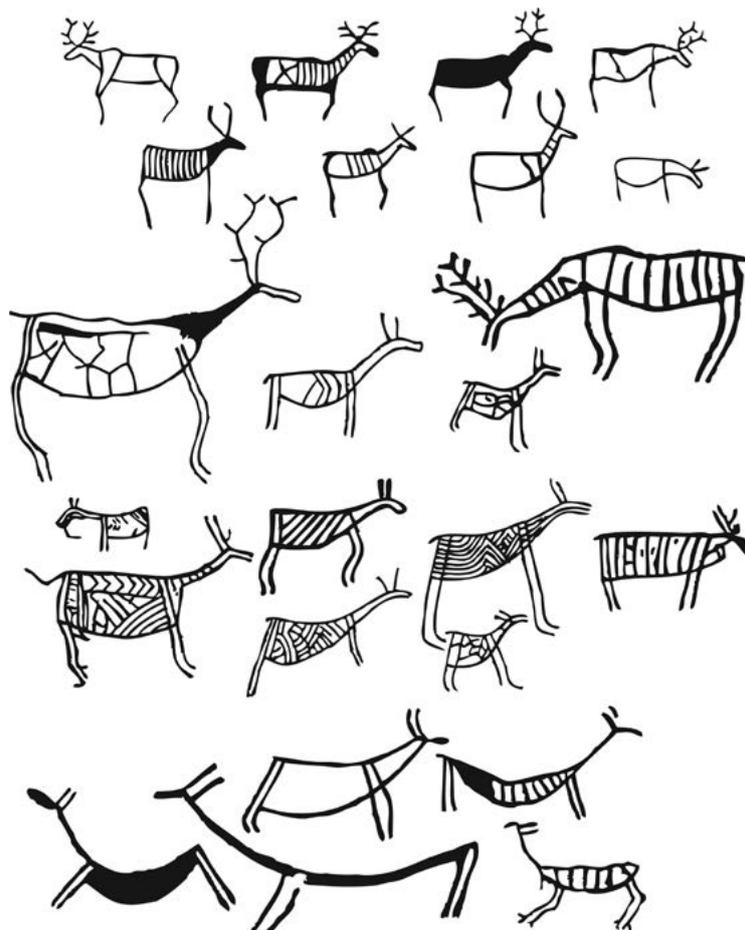


FIGURE 16: EGIL BAKKAS SUGGESTIONS OF THE STYLE DEVELOPMENT AT VINGEN, WHICH MIGHT ALSO BE THE RESULT OF INDIVIDUAL DIFFERENCES.

them could still be considered usable once the project was complete. Potentially, these chisels were used until they could no longer be held. This also helps to explain why this is not a commonly documented category of artefacts. Perhaps they were stored in strategic places from where they could be taken and returned. Combined with their potentially sacred or esoteric origin, this supports the idea that these tools were highly potent, magic or sacred. It is therefore interesting that a large number of chopped pieces of diabase seem to have been forced into cracks at the Ausevik site in Flora to the south of Vingen, which might add to such an interpretation. Some of them proved to be long lasting, which may have given a particular status to the material chosen and its provenance, adding to its believed potency and secrecy.

### Conclusions

The experimental case study has produced a great number of new results. One particularly important aspect is the new knowledge obtained about the length of time taken in the production process. As many of the images produced required less than half an hour to be made, it seems less relevant to include the amount of labour time as an aspect for discussions of chronology. It is also revealing that the hammers were almost more difficult and time-

consuming to produce than the rock art itself. Since the rock art seems to follow a clear structure or syntax, on the contrary it would perhaps be more relevant to understand the production as something that was made during a much shorter time span. Some of the images may also have been added at a much later time in prehistory, although the experiment indicates that diverging styles could be the result of other individuals.

### Bibliography

- BAKKA, E. (1973) Om alderen på veideristningane. *Viking* 1973 Volume XXXVII, Pgs. 151-187.
- BAKKA, E. (1979) On Shoreline Dating of Arctic Rock Carvings in Vingen, Western Norway. *Norwegian Archaeological Review* 12:2, Pgs. 115-122.
- BEDNARIK, R. G. (2001). *Rock art science: the scientific study of palaeoart*. Turnhout: Brepols.
- BING, K. (1912) Helleristningsfund ved garden Vingen, Ytre Nordfjord. *Oldtiden* Vol. 2, Pgs. 25-39.
- BROSTRÖM, S.-G. & IHRESTAM, K. (2010) Hällristningar i Stockholms län – forskningshistorik, aktuell status och framtida arbete, In: K. Andersson, G. Hammarsjö, J. Owe, N. Ringstedt, G. Werthwein, & M. Öberg (eds), *Bronsålder i Stockholms län – aktuell forskning*, Stockholm: Stockholms läns museum.

- BRØGGER, A. W. (1925) *Det norske folk i oldtiden*. Aschehoug & Co, Oslo.
- BØE, J. (1932) Felszeichnungen im westlichen Norwegen I. Vingen und Hennøya. *Bergens Museums Skrifter*, Vol. 15. Bergen.
- FETT, P. (1941) Nye ristninger I Nordfjord. Vingelva og Fura. *Bergens Museums Årbok* 1-19.
- GJERDE, J. M. (2010) Rock art and landscapes: studies of Stone Age rock art from northern Fennoscandia. Unpublished ph.d thesis. University of Tromsø, Tromsø.
- GJESSING, G. (1932) *Arktiske helleristninger i Nord-Norge*. Instituttet for Sammenlignende Kulturforskning B, Oslo.
- GUEMPLE, L. (1994) The inuit Cycle of Spirits. In A. Mills & R. Slobodon (ed.), *American Rebirth: Reincarnation Belief among North American Indians and Inuits*, Pgs. 107-122. University of Toronto Press, Toronto.
- HALLSTRÖM, G. (1938) *Monumental Art of Northern Europe From the Stone Age. I. The Norwegian Localities*. Stockholm.
- HJELLE, K. & LØDØEN, T. K. (2010) Activity, settlement and vegetation in Prehistoric Times. In T. K. Lødøen (ed.) *The Rock Art Project – Securing and Protecting Rock Art – University of Bergen 1996-2005*, Pgs. 133-143. Rock Art Reports from the University of Bergen.
- HYGEN, A-S & BENGTSOON, L. (1999) *Rock carvings in the borderlands. Bohuslän and Østfold*. Warne förlag.
- JONES, A. M., FREEMAN, D., O'CONNOR, B., LAMDIN-WHYMARK, H., TIPPING, R., and WATSON, A. 2011. *An animate Landscape*. Windgather Press.
- LAMDIN-WHYMARK, H. 2011. Lithics, Landscape and Performance. In Jones, A. M., D. Freeman, B. O'Connor, H. Lamdin-Whymark, R. Tipping and A. Watson (ed). *An animate Landscape*. Pgs. 176-2022. Windgather Press.
- LØDØEN, T. (2003) Late Mesolithic Rock Art and Expressions of Ideology. In L. Larsson, H. Kindgren, D. Loeffler and A. Åkerlund (ed.), *Mesolithic on the Move*. Papers presented at the Sixth International Conference on the Mesolithic in Europe, Pgs. 511-520. Stockholm 2000 Oxbow Books.
- LØDØEN, T. (2010) Concepts of Rock in Late Mesolithic Western Norway. In Goldhahn J., I. Fuglestvedt and A. Jones (red). *Changing Pictures* Oxbow Books 2010, Pgs. 35-47.
- LØDØEN, T. (2012) Prehistoric explorations in rock. Investigations beneath and beyond engraved surfaces. In B. Smith, D. Morris & K. Helskog (eds.), *Working with rock art. Presenting and understanding rock art using indigenous knowledge*, Pgs. 99-110. Wits University Press, South Africa.
- LØDØEN, T. K. (2013) Om alderen til Vingen-ristningene. *Viking LXXVI*, Pgs. 7-34.
- LØDØEN, T. K. (2014) På sporet av senmesolittiske døderiter – Fornyet innsikt i alderen og betydningen av bergkunsten i Ausevik, Flora, *Primitive Tider* No 16, Sogn og Fjordane.
- LØDØEN, T. K. (*in press*) Treatment of corpses, consumption of the soul and production of rock art. Approaching Late Mesolithic mortuary practises reflected in the rock art from Western Norway. *Fennoscandia Archaeologia*.
- LØDØEN, T. & MANDT, G. (2010) *The Rock Art of Norway*. Windgather Press.
- LØDØEN, T. K. & MANDT, G. (2012) *Vingen – et naturens kolossalmuseum for helleristninger*. Instituttet for sammenlignende kulturforskning, Serie B Skrifter, Vol. 146. Akademika, Trondheim.
- OLSEN, A. B. & ALSAKER, S. (1984) Greenstone and Diabase utilization in the Stone Age of Western Norway: Technological and socio-cultural aspects of axe and adze production and distribution. *Norwegian Archaeological Review* 1984, Vol. 24(1), Pgs. 35-48.
- SHETELIG, H. (1922) *Primitive tider: En oversigt over stenalderen*, Bergen.
- SIERTS, W. 1968. How were rock engravings made? *South African journal of science* vol. 64: 103-12.
- SKJERLIE, F. (1999) Geologisk vurdering av steinredskap (B15582) fra Vingen i Bremanger, Sogn og Fjordane. Report. Topographical files. University Museum of Bergen.
- SOGNNES, K. (2001) *Prehistoric imagery and landscapes: rock art in Stjørdal, Trøndelag*. BAR International series, Oxford.
- WALDERHAUG, E. (1994) Ansiktet er av stein. Ausevik i Flora – en analyse av bergkunst & kontekst. Unpublished Cand. Philol thesis, University of Bergen.
- WILLERSLEV, R. (2007) *Soul Hunters. Hunting, Animism and Personhood among the Siberian Yukagirs*. University of California Press, Berkeley.
- ZVELEBIL, M. (2008) Innovating Hunter-Gatherers: The Mesolithic in the Baltic. In G. Bailey & P. Spilkins (eds.), *Mesolithic Europe*, G. Bailey & P. Spilkins, Pgs. 18-59. Cambridge University Press, Cambridge.



# Boundless rock art – symbols, contexts and times in prehistoric imagery of Fennoscandia

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## Abstract

*Prehistoric Rock Art is abundant in Fennoscandia. An extreme varied richness of images, in the form of paintings and engravings were produced during a period of time of about eight millennia. This affluence has given rise to an, equally, rich research tradition and a splitting of the rock art in two major blocks has been established. The blocks derive their origin from early-observed differences in motives that, if we generalize, roughly, focused on animals instead of humans – zoomorphs instead of antropmorphs in rock art research terms; and in the technique used to make images cutting and polishing or painting instead of engraving; and when this was coupled with the observed spatial distribution – essentially northern and southern; and the, also observed, cultural context hunters and farmers, also then confirmed in dating – Stone Age and Bronze Age. As this picture gradually became clearer, the interpretation became the more entrenched. In tandem, these concepts thus represent the essence of these two, over time, increasingly strong, explicit and discursive research traditions, which are still mostly confirmed and rarely questioned.*

*There has actually been a certain awareness of some overlap between the two major traditions, and that overlap will be our point of departure. A more common feature, however, is that research early focused on, and defined, what separates traditions, rather than on what they have in common. It is, nevertheless, important to note some scientists have had an awareness that rock art images may have a meaning also on a level different than a regional or local. A level that represents a wider dimension, with a Meta meaning of the images.*

*The objective of this article is to take a closer look at those dichotomous relationships sketched above, by presenting examples, some hitherto unobserved, of images, symbols and panels that seem to transcend those fixed boundaries and to overcome these established concepts.*

*Simultaneously, one can argue that pictures and symbols may have a different, more generic sense, corresponding with a broader geographic and temporal spread, on, what we like to call, a Meta level. And that this had a somewhat different reason than the specific geographical environment and the immediate surrounding landscape in which the peoples who produced the rock art in Fennoscandia lived. A cognitive research perspective inspires our analysis, where, primarily, thoughts and ideas, and not geographical environments, are the starting point of human action. Further, this implies that the human mind – psyche and thought – created the reality that she responded and reacted to. According to cognitive theory, the way in which humans interpret, think, remember and make decisions is based on internal cognitive schemas – organized patterns of thinking and actions that humans use to understand and respond to their experiences. This means that it could be possible to find similar pictorial representations in different areas of Fennoscandia and elsewhere in the world, independent of the natural environment and temporal representation.*

## Introduction

Kalle Sognnes once made a statement about the Stjørdal rock carvings which is relevant for the present study: *‘Trøndelag was one out of several northern peripheral Scandinavian Bronze Age provinces. It is considered as a border or frontier zone between the advancing south Scandinavian farming culture and indigenous northern foragers. Within this frontier we find reminiscences of centre-periphery relations not only with southern Scandinavia but overpriced with eastern Russia. An autochthonous Arctic Bronze Age is claimed to have existed (Bakka 1976), the southern border of which crosses central Norway. This has lead to an emphasis on the question of cultural dualism in central Norwegian archaeology (Sognnes 2001:130 with references).’*

Prehistoric Rock Art is abundant in Fennoscandia. Extremely varied richness of images, in the form of paintings and engravings were produced during a period of about eight millennia. This affluence has given rise to an equally rich research tradition that began more than two hundred years ago in Sweden and in Norway (Bertilsson 2015, Mandt & Lødøen 2005:175pp, Nordbladh 2000). One of the results of this research is that two major blocks of the rock art have been established. The blocks derive from early-observed differences in motives that, if we generalize, roughly focused on animals instead of humans – zoomorphs instead of antropmorphs in rock art research terms and on the technique used to make images, ie *cutting and polishing or painting* instead of *engraving*. This was coupled with the observed spatial distribution which was essentially *northern* and *southern*; and the, also observed,

Map of Stone Age rock art from Fennoscandia

Rock art and Landscapes.  
Studies of Stone Age rock art from Northern Fennoscandia  
Jan Magne Gjerde © 2010

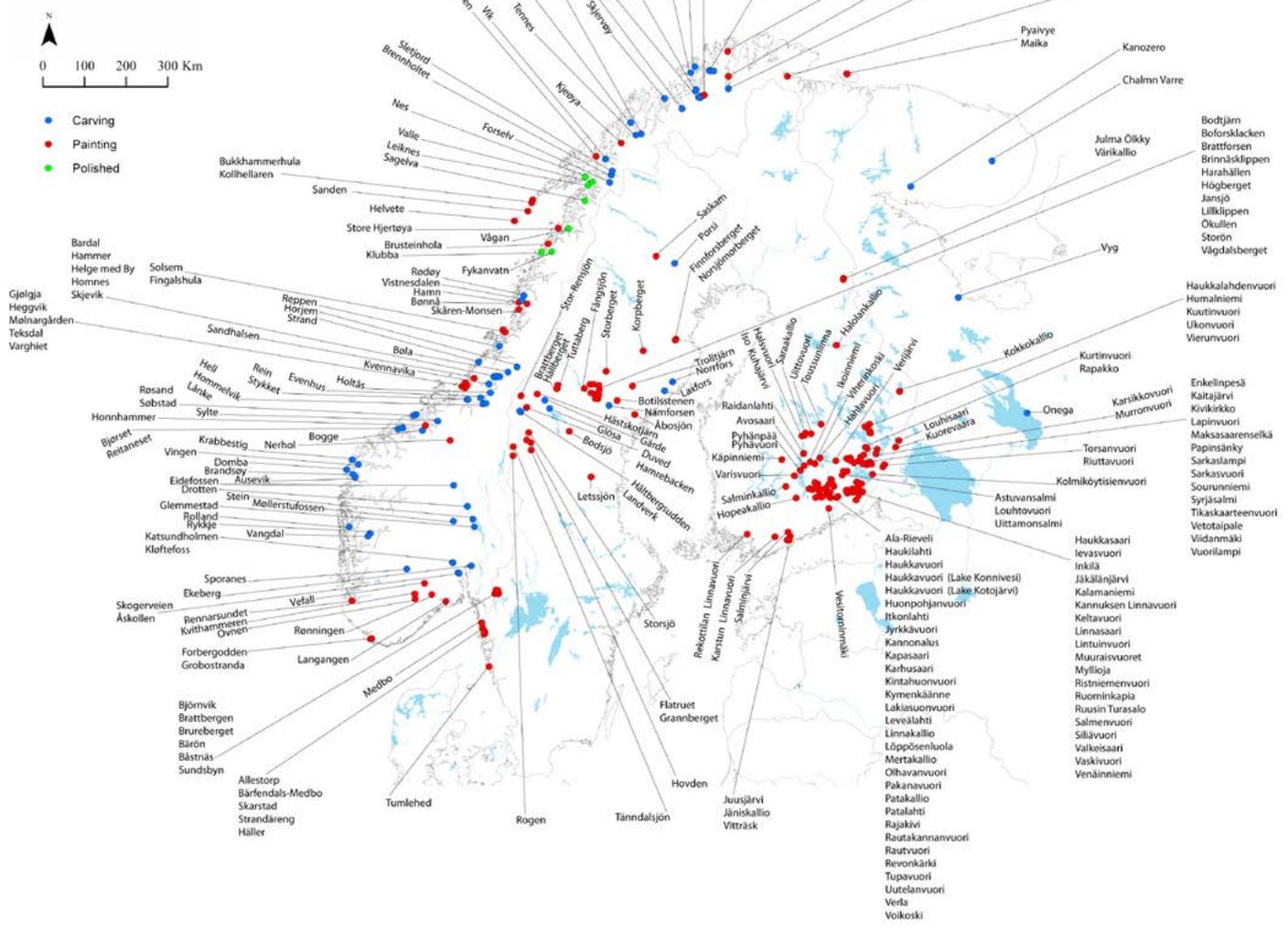


FIGURE 1: MAP OF STONE AGE ROCK ART SITES IN FINLAND, NORWAY AND SWEDEN. (FROM GJERDE 2010)

cultural context of *hunters* and *farmers*, also confirmed in dating – *Stone Age* and *Bronze Age* (cf. Goldhahn *et al.* 2010:3pp). As this picture gradually became clearer, the interpretation became the more entrenched. In tandem, these concepts thus represent the essence of these two, over time, increasingly strong, explicit and discursive research traditions, which are still mostly confirmed and rarely questioned (cf. Helskog 2012:21; Figure 1). Lately, there have been some initiatives trying to break out of these assumptions. One is a recent study of the archaeological expressions of material culture in Epi-Neolithic and early metal age, being discussed with an open approach (Forsberg 2012). Another important initiative is the Danish project *Nordlige Verdener* where among a variety of research topics, the southern impact on northern rock art has been examined (Kaul 2012).

To give a fair idea of how the rock art in our study has been addressed, it must be noted that there has been

certain awareness of some overlap between the two major traditions, and that overlap will be our point of departure. As stated in the initial quotation, this is particularly true of the rock carvings in Trøndelag, where the different traditions can be represented on the same rock faces, as is the case, at the grand rock carving at Bardal (Lossius 1896). A more common feature, however, is that the early research focused on, and defined, what separates traditions, rather than on what they have in common (e.g. Rygh 1908). It is, nevertheless, important to note that some scholars have suggested that rock art images may have meanings beyond regional or local. A level that represents a wider dimension, with a *Meta meaning* of the images is ‘However, on a global level rock-art seems frequently to be associated with myths and cosmology, representing foci for rituals and ceremonies.’ (Sognnes 2001:130). This important reflection aimed primarily at the rock carvings sees them as a spatially defining element of ritual landscape.

Some years ago, a symposium was arranged with the stated ambition to reflect ‘... *pivotal changes in the study of rock art*’ through ‘*reassessing the traditional approaches to Scandinavian rock art and creatively reworking those ideas*’ (Goldhahn *et al.* 2010). An intrinsically laudable ambition that however did not get any more tangible expression other than the fact that the researchers who presented studies, were targeting either one of these traditions, but never both. It is true, however, that some contributors, such as Per Cornell and Johan Ling (2010), Ingrid Fuglestedt (2010) and Trond Lødøen (2010), attack the carvings from a more modern theoretical and contextual base. This clearly illustrates the difficulty of trying to change established paradigms and prevailing discourses also in this research field, even when there is a clear ambition to do so. Hence, this writer does not intend to achieve such an effect of this study. To do so would be having too high hopes, and also being a bit arrogant. Instead, the modest intention is to make a contribution to the process of changing ingrained patterns of thinking and an attempt to open a door to a better understanding of the various rock art complexes and contexts in Fennoscandia.

The objective of this article is to take a closer look at dichotomous relationships sketched above by presenting examples, some hitherto unobserved, of images, symbols and panels that seem to transcend those fixed boundaries and to overcome established concepts. After the discovery of the specific complex of rock paintings in Finland, which was initiated by the discovery of the rock painting at Kirkonummi/Kyrkslätt in 1907 by the national composer Jean Sibelius, it seems necessary to add ‘*eastern*’ to the geographical concepts and to the distribution (Taskinen 2000). Culturally and contextually, the Finnish paintings seem to fit well into the above concepts of the rock art of *hunters* and of *Stone Age* (Kivikäs 1997, 2000). The fact that no carved images were found so far in Finland must have some implications for a more than a century old discourse established in rock art research in Sweden and Norway.

### Presentation

After this introduction, I thought originally to present a number of petroglyphs and rock painting locations in the area, with images and symbols that might be described as geographically, archaeologically and chronologically cross-border or borderless. On reflection, I have realized that a more challenging starting point might be to look for images of similar shape occurring on panels of various types in Fennoscandia, and sometimes even beyond this, to see why and how they may be understood and interpreted. This is due to a, in Scandinavian rock art research, widespread conception claiming that, a carved or painted image or symbol, found in a specific archaeological and geographical context, regional or local, is also to be understood, primarily, in that context. This is actually the essence of the approach that have produced the pairs of opposites and established concepts; Northern-Southern, Hunter-Farmer, Stone Age-Bronze Age, which

are frequently used in Scandinavian rock art research. Simultaneously, one can argue that pictures and symbols may have a different, more generic sense, corresponding to a broader geographic and temporal spread, on, what we like to call, a Meta level. This also had a different reason rather than that of specific geographical environment and the immediate surrounding landscape, in which the peoples who produced the rock art in Fennoscandia lived. A cognitive research perspective inspires our analysis, where, primarily, thoughts and ideas, and not geographical environments, are the starting point of human action (Cf. Whitley 2012). Further, this implies that the human mind – psyche and thought – created the reality that she responded and reacted to. According to cognitive theory, the way in which humans interpret, think, remember and make decisions is based on internal cognitive schemes – organized patterns of thinking and actions that humans use to understand and respond to their experiences. This means that it could be possible to find similar pictorial representations in different areas of Fennoscandia, independent of the natural environment. We will apply such a perspective to the Fennoscandia rock art imagery to see if there exist phenomena that might illustrate this point. Here we are approaching the research on human neuropsychological conduct and its eventual influence on the design of rock painting and its significance for our understanding and interpretation of these expressions, so far mainly made by South African rock painting researcher David Lewis-Williams (Lewis-Williams 2001, cf. Nash 2002:192).

Our intention is to introduce the cognitive approach as an opportunity to re-evaluate some old truths and traditional notions of the rock art images in Fennoscandia that we selected for our study. It is hoped thereby to demonstrate the possibilities for contributing new knowledge and new interpretations of this exciting prehistoric imagery. We will then use the concepts of Meta Level, Meta Meaning and Cognitive schemes in a general sense without trying to squeeze the source material too strict in them. We will also touch on more archaic views such as pictograms and archetypes that may appear to be in some contradiction to the newer ones, but which nevertheless may contribute to a deeper understanding of rock art imagery (c.f. Smith 2013).

To achieve that we must proceed from the knowledge we already have about this archaeological complex of problems. Therefore our pre-understanding constitutes a logic ingredient in the following analysis. To enable this analysis, we have decided to scrutinize the following categories of figures and symbols:

1. *Boats/Ships*
2. *Anthropomorphic figures holding arms in particular position*
3. *Anthropomorphic figure with head with two horns*
4. *Anthropomorphic hand signs*
5. *Geometric patterns*

To avoid overshooting the target, the assays will be limited to selected categories and their representation on carvings and paintings in Finland, Norway and Sweden. This means that the number of sites included in this study will be rather small. Special focus will be put on the Finnish rock paintings because they can be regarded as a homogeneous, prehistoric phenomenon, which has been recently discovered. A consequence is that it has not yet become as affected, by long-lasting research, as the other complexes of prehistoric rock art being discussed here. The fact that no rock carvings have yet been discovered in Finland, and the eventual interference that they would automatically give rise to, will not affect the results. Consequently, it may be interesting to see if this particular situation may provide any clues to further elucidate, better understand and explain, and reason to modify the predominant dichotomous view of the prehistoric picture traditions presented at the beginning of this paper.

In his knowledge-packed, and aesthetically pleasing, presentation of the Finnish rock paintings *Kalliomaalaukset muinainen kuvaarkisto*, published in 1995, Pekka Kivikäs presents a total of 73 sites with paintings. Since then the number has increased up to 125 according to Lahelma (2008). This shows that there is great potential for discovering additional rock paintings in Finland. At the same time the current number is large enough to allow basic comparative analyses of the kind that we want to implement here. Kivikäs' outstanding documentation has had a positive effect also on academic research, by, among other advantages, creating the fundamental conditions for Lahelma's excellent study of the material, as to its meaning and interpretation. Typical examples of imagery of Finnish rock paintings may look like those found at Uitamonsalmi, displaying



FIGURE 2: ROCK PAINTING AT UITAMONSALMI WITH TYPICAL IMAGES OF ANTHROPOMORPHS, BOATS AND ELKS. (PHOTO CATARINA BERTILSSON, SHFA)

a combination of anthropomorphs, boats and elks (Figure 2).

### The placement in the landscape

Many of the paintings in Finland were spectacularly placed on monumental vertical rock outcrops that plunge down into the ubiquitous water surface of the lake that the painting looks out onto. Not infrequently, the rock harbouring a painting has a special form that may explain why that particular site has been chosen. The place that reflects this clearly is the outcrop at Astuvansalmi (Taskinen 2000:24, Bertilsson 2000: 146) having the shape of a human head and face. The same can be said for the paintings at Vierunvuori, Havukkavuori II, Kurtivuori and Mertavuori, which are located on rock formations with distinctive shapes (Kivikäs 1995: 270-271 and 276). This is a clear animistic trait known from many different areas around the world, for example from Australia. It is also an illustration of the fact that the people who made the paintings had carefully chosen their place. Furthermore, it makes it obvious that it was thought that the different rock formations in the landscape were loaded with meaning and in possession of a soul like most other entities of the natural environment. The most obvious element determining the placement of the paintings, however, is an almost vertical steep rock face, exposed, or under a protective overhang. At Värkallio, with the painting placed on an outcrop immediately above the water, one can still experience a topographical context which originally was common throughout the lake area in southern Finland, but that has now changed due to land uplift. (Kivikäs 1995:258; Bertilsson 2004:71, Figure 9).

The closeness to the water, and even to the water surface is a factor that is common for the many of the more southerly-located rock paintings, including Blomskog in Värmland and Tumlehed in Bohuslän (Nordbladh 1989). The connection to water also includes most rock carvings in the 'northern block' such as Alta and Nämforsen (Helskog 2012, Bertilsson 2000b and 2004). This general site similarity applies to the petroglyphs in the southern block too (Ling 2014, with references). Therefore, one can venture to say that a major factor in the choice of the placement of painted and carved rock images in Fennoscandia must have been direct proximity to the water at a lake or seashore, or perhaps rather at the point of contact between the two basic elements, the water and the rock (Bertilsson 2000a). It also signals, as it has been immortalized in rock art, how important it must have been to communicate precisely on these sites, which represent the extreme limit of the presence of the respective element in relation to the other. One should also add, that also a third dimension, hidden and invisible to the eye, may be of importance, namely the communication inwards through the rock's surface on which the painting or the carving was done. The surface may then have acted as a kind of interface between a real world and a middle-world, where natural openings in the rocks surface in the form of cracks may have



FIGURE 3: ANTHROPOMORPHIC IMAGE HAVING TWO HORNS ON ITS HEAD AT ASTUVANSALMI. ITS LOCATION ON THE PANEL IS ALSO NOTEWORTHY, BEING SITUATED IMMEDIATELY BELOW A MAJOR CRACK IN THE ROCK FACE. (PHOTO CATARINA BERTILSSON, SHFA)

allowed passage into, and out of the world situated behind it (Larsson 1999, Lahelma 2012: 121p and Figure 3).

An additional element is the sky that of course must have been important in the choice of location of a painting or carving. Sometimes, as at the site of the naturalistic carving at Leiknes in Tysfjord, it is a clear element, which contributes strongly to the monumentality that still can be sensed there, and gives the area an obvious character of a sacred landscape (see for example Viste 2004). The situation in relation to sunrise and sunset may also have been important, but so far no more in-depth analysis of those phenomena has been made, and would be too extensive to do here.

*'By contrast, many of the rock carvings depict not two but three levels. Again this may be related to a more widespread tradition, although its dating is unclear. Knut Helskog (1999) has argued that the siting of Arctic rock art illustrates the importance of a three-tier cosmology in which decorated surfaces were created at the shoreline because it was where the land met the sea and where both elements came into contact with the sky. Here it was possible to communicate between separate worlds. That idea is supported by ethnographic evidence from more recent periods (Zvelebil and Jordan 1999; Jordan 2011)' (Bradley 2015 with references).*

Our observations so far can then be summarized as follows: *It has been demonstrated here that there is a factor that is common and frequent in places with rock images regardless of it being considered to belong to the southern or northern complex; namely the choice of location and position on the cliffs overlooking the water, either a lake or the open sea. This therefore constitutes a clear example that rock art is a boundless phenomenon that appears*

*regardless of local tradition. This we may consider as a phenomenon resulting from the cognitive schemes of the human mind.*

## Analyses of image categories

### 1. Boats

We now turn to the study of boat/ship picture and, as before, start with rock paintings in Finland. According to Lahelma (2008) the number of ships featured amounts to a maximum of 70. This may seem like a very small number when compared to the ships on the Bohuslän rock carvings that have been estimated at approximately 8000, and even compared to the number of boats on the Nämforsen that exceeds 700. Regardless of this, or perhaps because of this, it might be interesting to see if the boats on the paintings in Finland possess similarities and commonalities with boat images in those other areas, and with the rock carvings in Alta in Finnmark, Norway.

A single line that symbolizes the entire ship, which is provided with projections of crew strokes, represents the typical ship image painted on the rocks of Finland. The keel line is usually slightly curved, and some end with elk-head bearing stems, at least at one end. In some cases, for example at Astuvansalmi, a boat seems to be carried by a moose or being closely associated with such an animal (Kivikäs 1997:41-42). Here one can sense a reflection of a tradition with an animistic transformation of an elk-boat, a boat design that is often prevalent on the rock carvings at Alta and at Nämforsen (Helskog 2012:92 Figur 87 and 118 Figur 115; Janson *et al.* 1989: Fig. 20 and 22; Figure 4A). It also has a parallel in the southern ship images but there the elk heads have been replaced with those of horses. Recently, it has also been demonstrated that bull heads were used, but in a more stylized form, on some of the ships among the rock carvings in Bohuslän (Ling & Rowlands 2015). The ships on the rock paintings have otherwise no special characteristics, with the exception of the one at Saraakallio, which has triangular, almost pyramid-shaped crew strokes. A moose head adorned the boat on the Uittamonsalmi painting which has one triangular crew stroke out of five (Kivikäs 1997:42; Figure 4B). This is an extremely rare shape on the carved boats as well, from both northern and southern blocks. The only other example known to the author, is on a rock carving at Tegneby Bostället Tanum (Bertilsson & Fredell 2003:14, Figure 5).

As these three examples represent a very small sample of the total amount of rock pictures in Fennoscandia it does not allow us to draw any far-reaching conclusions other than the same or similar shape is represented at three different locations, of which one occurs in an archaeological context that differs widely from the other two. What this phenomenon otherwise symbolizes or indicates, we remain ignorant of. It seems however, that the triangular shape must have had some special significance.

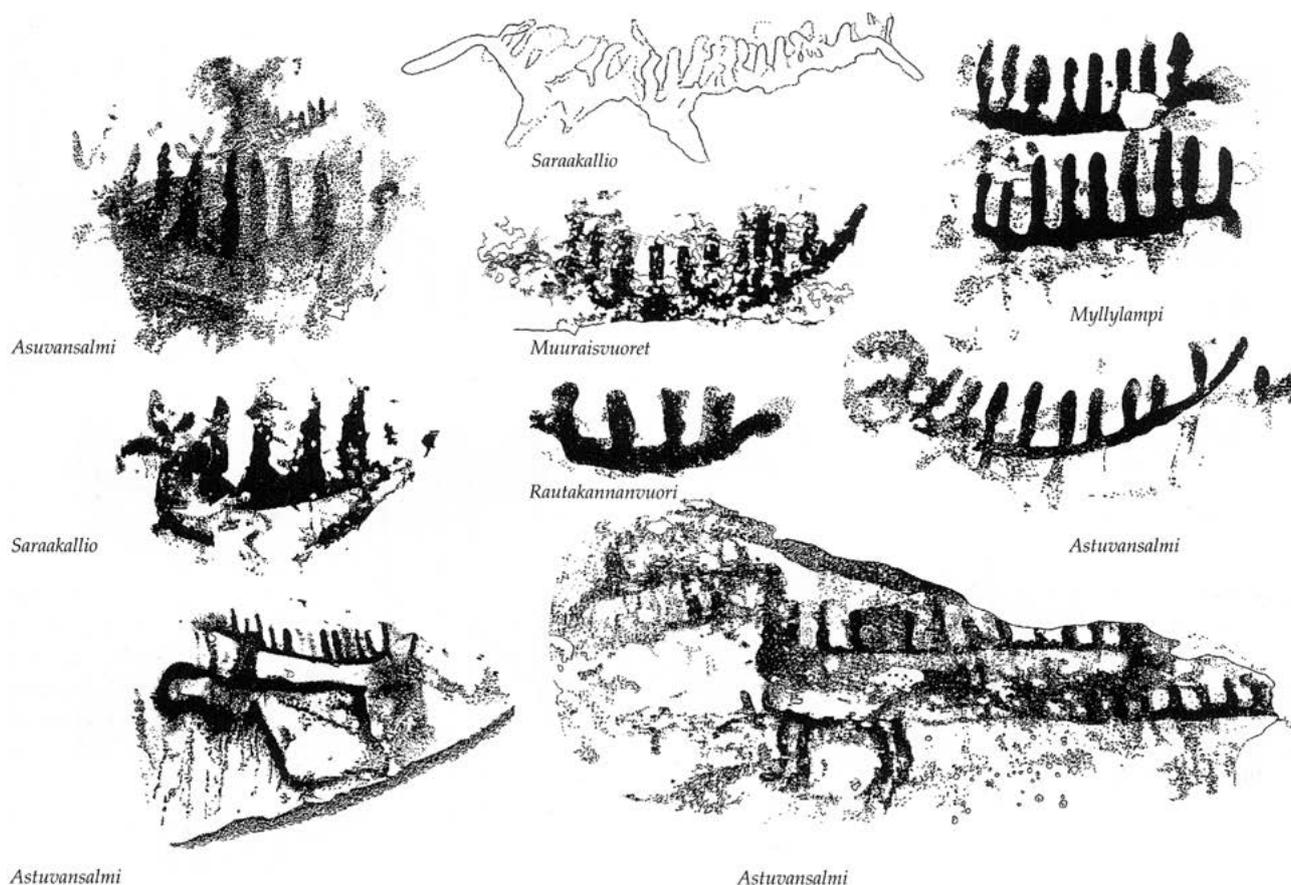


FIGURE 4A: DIFFERENT BOAT-TYPES DEPICTED ON FINNISH ROCK PAINTINGS, ONE WITH TRIANGULAR SHAPED CREW STROKES AND ELK-HEADED STEM, AND ONE WITH BOAT-SHAPED HORN-CROWN. (AFTER KIVIKÄS 1997)



FIGURE 4B: SINGLE LINE BOATS WITH CREW STROKES, ELK HEADED STEMS AND ANTHROPOMORPHS AT UIATMONSALMI. (PHOTO CATARINA BERTILSSON, SHFA)

Regarding the art of building boats, it has long been known that the Stone Age hunters were building simple boats (Evers 1988 and 1991:25 p). Because boats are pictured in the northern rock painting complex that is considered to have started earlier than the southern, it has been assumed that the art of building boats spread from north to south. Of course this is entirely possible, and if so, one must

consider the cause. A possible explanation might be that during the Mesolithic, peoples living in the northern areas were primarily subsisting on marine food, the gathering of which demanded the use of boats. In turn, this would suggest that the peoples of the south were more focused on land-based food. At the same time, archaeological finds from excavated settlement sites witness that sea fishing could be conducted in the Gothenburg area as early as the Mesolithic period (Wigforss *et al.* 1983). There is an overwhelming evidence, in the form of kitchen middens that, large amounts oysters and other shellfish were consumed. It was possible to collect this food along the shallow beaches, and therefore the boats were not required. The oldest ships depicted in the rock art in the south are of the so-called Nag type, appearing on the carvings in the Stavanger area and in Tanum during the Late Neolithic about SN 2 approx. 1800 BC (Sør-Reime 1982, Bengtsson 2013:253 with references). These ships, however, having a basic rectangular form with high and straight stems, show no resemblance to the painted boats in Finland. As for that simple type of ship with slightly curved keel and, likewise simple crew strokes, there are no direct parallels in Alta, but in its chronological schedule Helskog have inserted a boat of this type from his period I that has some similarities and can be dated to between 5000 and 4800 BC (Helskog 2012:28-29 and 41). Otherwise, the early northern boats show no direct resemblance to the later southern ones.



FIGURE 5: ROCK CARVING WITH BRONZE AGE SHIPS AT TEGNEBY IN TANUM, OF WHICH THE LOWER ONE HAS 4 TRIANGULAR SHAPED CREW STROKES LIKE A BOAT ON THE PAINTING AT SARAAKALLIO. (SOURCE: WWW.SHFA.SE. RUBBING ROCK CARE)

It may be assumed that some of the paintings in Finland are as old as 5000 BC, and that the tradition ceased about 1500 BC (Lahelma 2012: 114 and Helskog 2012:221 with references). According to Kivikäs, the majority belongs to the Comb Ware Culture; from between 4200 BC to 2000 BC (Kivikäs 1995:14). Lahelma also includes the Pit Ware

group. If we try to find parallels to the simple vessels on the paintings in Finland, it is natural that we look at the rock carvings at Nämforsen, Ångermanland, in Sweden. One good example of the similarities is a boat with an elk head stem depicted in Hallström's Pl. XXIII, Main group III: Subgroup B: 2, although, it, with its 25 crew strokes completely surpasses the majority of the Finnish ships (Hallström 1960). There are also ships of similar type depicted on Pl. XIII, Main group I: Sub group G: 1, but unlike the Finnish boats, they have several attributes added to the crew strokes, as one or more elk-headed staves, of which one is held in the right hand of an anthropomorphic figure, and in one case, an anthropomorphic figure holding arms outstretched in a break-dance type pose (Figure 6).

An unusual phenomenon that occurs in Finland is that the boats seem to have been integrated into an elk's horn crown, such as the one at Astuvansalmi, and the other on the painting at Pyhänpää (Kivikäs 1995:75 and 1997:24, Lahelma 2008:116, fig. 2). This is another example of an animistic transformation such as on the elk boat mentioned above, but which is apparently reverse on the examples from Astuvansalmi and Pyhänpää. The extensive documentation of the carvings at Alta, presented by Knut Helskog in his magnificent publication from 2012, and in Thomas B Larsson's and Sven-Gunnar Broström's comprehensive update of Gustaf Hallström's documentation in their detailed inventory report over Nämforsen from 2011, recognizes no images of this kind. It may therefore seem to be a phenomenon that is unique to the Finnish painting tradition. It also shows, with great clarity, how strongly integrated these two elements – the boat and the elk's antler, must have been in this world of



FIGURE 6: IMAGE-RICH, COMPLEX ROCK CARVING AT NÄMFORSÉN, ÅNGERMANLAND, WITH IN THE CENTRAL PART AN ANTHROPOMORPH SEEMINGLY LIFTING A BOAT WITH AN ELK-HEADED STEM AND AN ELK-HEADED STAVE ON BOARD. HALLSTRÖM 1960, MAIN GROUP I, G:1. (AFTER LARSSON & BROSTRÖM 2011)

images. A possible cause for this phenomenon could be a certain shape similarity between the tags in the horn crown and the crew strokes of the boat (c.f. Lahelma 2007, Fig. 4).

The reason for using the expression ‘seem to be a phenomenon that is unique’, is due to the fact that, there actually exist other examples of this very special imaging, namely on the Stone Age rock carvings at Skogarveien and Åskollen in Norway (Evers 1991:53), and, even more obvious, on the rock painting at Tumblehed near Gothenburg (Figure 7A). In the latter case, however, it is a red deer, that has a boat integrated in its horn crown (Janson *et al.* 1989, Figure 7, cf. Lahelma 2007, Fig. 3 and 2008:124, Fig. 6). Furthermore, the same combination appears on a Bronze Age rock carving at Backa in Bohuslän, where the crown on a magnificent deer comprises of a boat and presents yet another example of this rare animistic transformation (Fig. 7B). For those who are interested in the meaning of the boats in general and the elk-boats in particular, Annti Lahelma presents an interpretation in his thesis, based on the Finnish national epos called Kalevala (2008:125pp). Another illustrative example of a close relationship between elk and man, is portrayed in the complex scene on the painting at Verla. There at least six elks and three anthropomorphic figures, of which one is standing or sitting on the back of an elk, whereas a larger figure stands in the centre of the elk herd with his arms in adorer’s position; a third figure is smaller, with triangular head and downward arms. It is easy to imagine that this

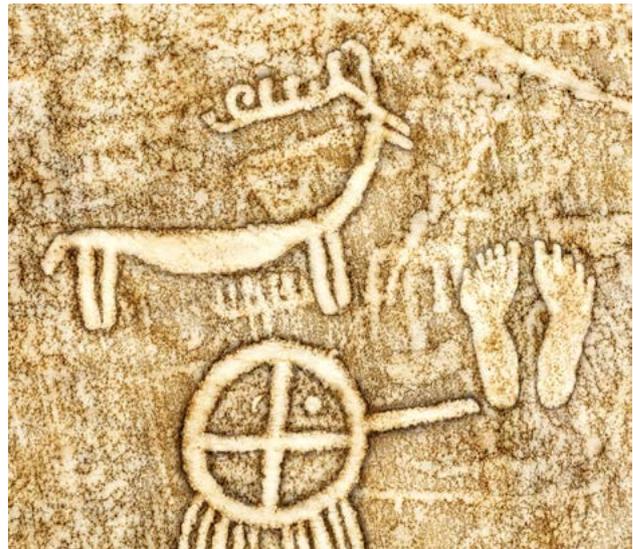


FIGURE 7B: ROCK CARVING AT DISÅSEN IN BRASTAD, LYSEKIL IN SWEDEN, WHERE THE HORN CROWN OF A MAGNIFICENT STAG CONSTITUTES OF A SINGLE-LINED BOAT WITH CREW STROKES IN THE SAME FASHION AS ON THE ROCK PAINTINGS AT ASTUVANSALMI AND PYHÄNPÄÄ IN FINLAND. SOURCE: WWW.SHFA.SE. (RUBBING DIETRICH EVERS)

scene, conveyed much more than just the depiction of the individual elks and anthropomorphic images, but instead indicates the importance of these images in mythological and narrative contexts (Lahelma 2008:275).

## 2. Anthropomorphic images holding arms in particular positions

The next category of images, which we will analyse briefly, is the most frequent in the Finnish material, namely anthropomorphic figures. Since, we have to restrict our study with respect to the space available here, we will focus on figures who hold their arms in certain positions. In total, there are at least 150 anthropomorphic figures on the rock paintings, whole or fragmentary. We have reached this number by briefly going through the documentation made by Pekka Kivikäs, presented in an exemplary manner in the book from 1995. We have then compared the number with numbers presented in Lahelma’s tables. The result is that about 55 of the anthropomorphic figures have arms extended outwards from the body, and the whole arm, or at least the underarm, angled upwards in a way that indicates the adorer’s position. The same can be said, among others, of the anthropomorphic images on the paintings of Juusjärvi, Saarakallio, Ukonvuori, Papsänkylä, Keltavuori, Hahlavuori, Pakanavuori and Jyrkkävuori. The most notable example are the two figures on the painting at Salmenkallio (Kivikäs 1995 and 1997). Anthropomorphic images do not appear to be common at Alta, although there are some examples. At Kåfjord, 10 adorers are lifting some kind of line-shaped object, indicating a kind of demarcation or enclosure, above their heads. Just above are two additional worshippers lifting a boat, also over their heads. There is also a single



FIGURE 7A: ROCK PAINTING AT TUMLEHED IN TORSHÄLLA, GÖTEBORG IN SWEDEN WHERE THE HORN CROWN OF THE STAG IS CONSTITUTED OF A SINGLE LINED BOAT WITH CREW STROKES. (SOURCE: WWW.SHFA.SE. PHOTO BERTIL ALMGREN)

adorer close to this scene (Helskog 2012: 60, figure 55). Generally, however, these types of images are not frequent at Alta. The situation at Nämforsen seems to be similar. On the image-rich carvings on the southern bank opposite Laxön, there are two examples of anthropomorphic figures: one which seems to be lifting a boat with an elk-headed stem, and an elk-headed stave on board (Figure 6). The other elevates a similar device above his head (Hallström 1960, Main group I, G: 1). On Notön, there are two adorers, one that is phallic, and placed within an inch from a two-headed elk (Larsson & Broström 2011:53, D5). In the same group there are additional figures on panels Q1 and Q1a, where the latter, although spaced 60 cm apart seems to face a small elk.

After this empirical mini-analysis we may conclude that: *although adorers are found among the images in Alta and at Nämforsen, they are not as common there as on the Finnish rock paintings.*

Considering a rather limited number of anthropomorphic images in Finland, there are still surprisingly many different positions that they exhibit such as outreached upper arms and downward under arms, outward angled knees or arcuate downward arms. Such postures have been depicted not only in other rock art complexes in Fennoscandia, but also in other parts of Europe and elsewhere in the world. This shows that the Finnish material, although quantitatively limited, is comprehensive enough to be able to show clear similarities with a spatially and temporally widespread prehistoric pictorial tradition. This is illustrated by some examples of anthropomorphic figures in similar postures such as the adorer's position from geographically and archaeologically distant areas.

The first two examples derive from Valcamonica, an area where the rock art is so abundant, that its only counterpart in Europe is Tanum in Bohuslän, Sweden. At Dos Cur' there are three adorers with marked sex holding their hands, in a similar position as some adorers at Nämforsen. A most well known example is that from Rocca 50 from Naquane where among several rock carvings is a panel with about 40 adorers close to or, connected to each other (Anati 1976:51 and 60; Figure 9A). According to Anati, they belong to the periods I and IIA, dated from 5000 to 3500 BC (C.f. Sansoni 2009). It should be noted that some of those adorers seemingly stand on their heads, like some on the Finnish rock paintings, and for that matter, on a rock carving at Ryland in Tanum (Figures 8A and 8B). However, there it is not clear that the two acrobats have both arms raised as in a classic adorers' position. Possibly, they have only one arm directed upward. Dietrich Evers' rubbing of the Ryland carving attests that on the anthropomorphic figure standing on his head has both arms in the same position, even if the left is partially missing due to weathering damage. The lower seems instead to keep his arms in a 'break-dancer's' position.

Another example of adorers with similar posture is found in Gobustan at Buyukdash in Azerbadjan, where a cluster

of about fifteen images is accompanied by a bovine figure (Anati 2001:81, Fig. 52; Figure 9B).

According to Anati, this engraving belongs to the stage for which he uses the generic term, *population with a Complex Economy*, and dates to the Early Neolithic period, which in this particular area means the 4th and 3rd millennia BC (Anati 2001:77). Without having information about the more precise dating of this category of images in Finland, it seems that these kinds of images belong to a period ranging from 5000 to approx. 3000 BC, regardless of the geographic area where they occur. We will now shift the focus from the images of the adorer, to another category of anthropomorphic images.

### 3. Anthropomorphic images with heads with twin horns

Among the Finnish rock paintings there are at least five images belonging to this category.

They are found on the paintings in Kapasari, Keltavuori, Astuvansalmi, Väräkallio and Verla (for images see Kivikäs 1995 and Lahelma 2008). The most well known are the ones from Astuvansalmi and Väräkallio both of whom have horned heads, but of different style (Bertilsson 2004: 72). The most expressive is the one at Väräkallio, painted in a naturalistic style, with downward arms in a similar position to that of a break-dancer. That posture is probably intended to indicate body movement. Immediately below this image is an additional figure, without horns, with one arm upward and the other downward. Their location on the panel is also noteworthy, being situated immediately above respectively underneath a major diagonal crack in the rock face (Kivikäs 1995:259; Figure 10).

This also applies to the anthropomorphic figure on Astuvansalmi (Figure 3) which is more stylized in design but which also has a head with two horns. It is located snugly below a major horizontal crack (Kivikäs 1995:261). This category of images of anthropomorphic creatures



FIGURE 8A: ANTHROPOMORPHIC ACROBAT AND A ADORER ACCOMPANIED BY A DOUBLE-SPRIAL AND A SEEMINGLY PREGNANT HORSE AT RYLAND IN TANUM, BOHUSLÄN. (SOURCE: WWW.SHFA.SE, RUBBING DIETRICH EVERS)

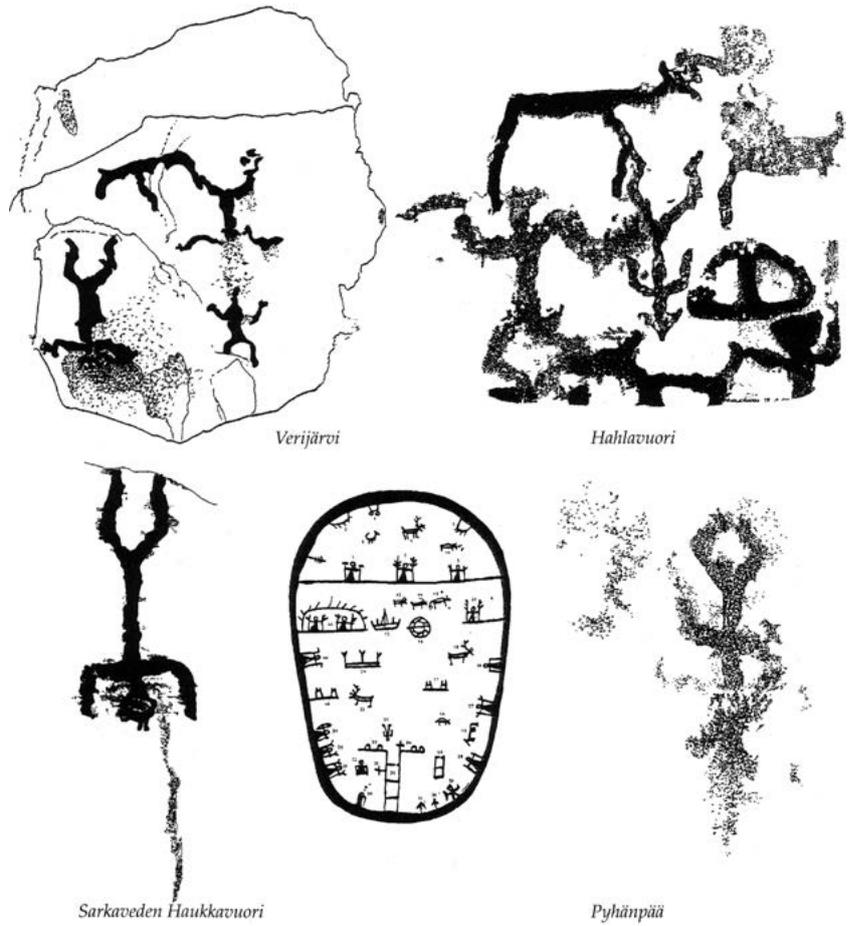


FIGURE 8B: ANTHROPOMORPHIC ACROBATS APPEARING ON DIFFERENT ROCK PAINTINGS IN FINLAND AND ON THE SAMI DRUM FROM HISTORICAL PERIOD. (AFTER KIVIKÄS 1997)

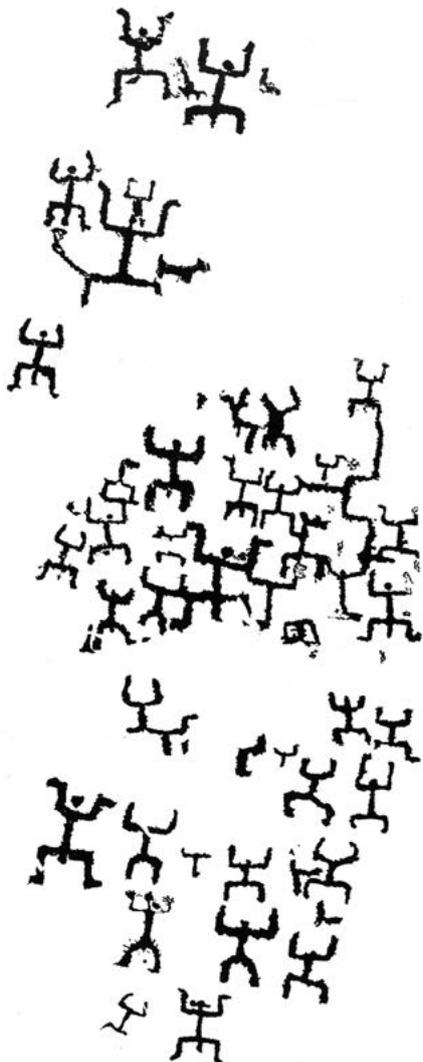


FIGURE 9A: GROUP OF 40 ADORERS AT ROCK CARVING IN NAQUANE, VALCAMONICA, ITALY. (AFTER ANATI 1976)

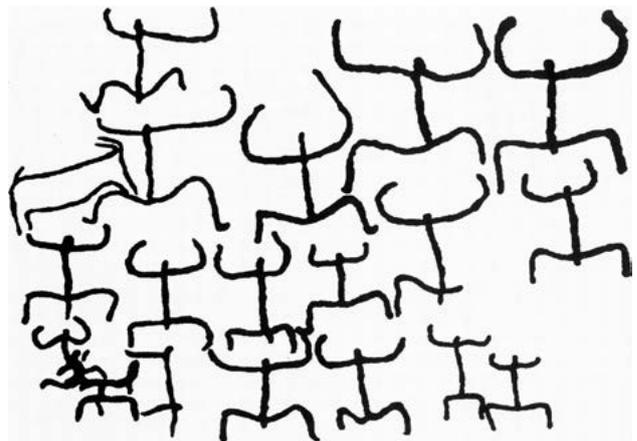


FIGURE 9B: GROUP OF 15 ADORERS AND A BOVINE FROM GOBUSTAN AT BUYUKDASH, GOBUSTAN. (AFTER ANATI 2001)

having head with two horns also appears in other rock art contexts in Fennoscandia. It is frequently found on the Bronze Age rock carvings in Bohuslän, where some are heavily armed and equipped with other obvious attributes, as the highly phallic figure on the Lövåsen carving in Tanum, and the group of at least five images of that type, at Österöd in Kville (SHFA: Tanum 321 Lövåsen and Österöd Kville 12). If we ignore the resemblance with

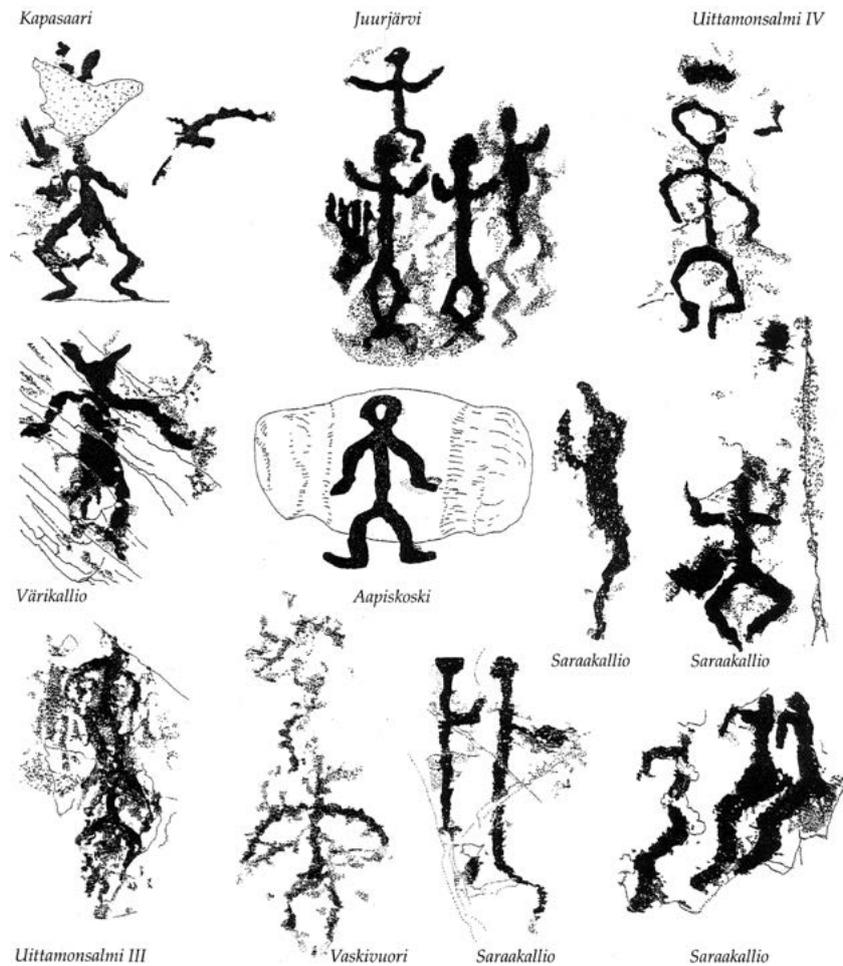


FIGURE 10: A VARIETY OF ANTHROPOMORPHIC IMAGES APPEARING ON THE FINNISH ROCK PAINTINGS. (AFTER KIVIKÄS 1997)

two horns, it seems that the Bohuslän figures represent a different archaeological context where different kind of armament constitutes a very prominent element.

However, it does not seem that the horned anthropomorphic figures are frequently represented in the major rock art complexes Nämforsen and Alta. At Nämforsen, we can only find a few of this type, of which the two most clear ones are found in the Main Group 1 on Laxön rock art surface D: 4, with very long, protruding horns, and rock art surface E: 1, with the horns at a very flat angle (Cocq *et al.* 2014:109). There are possibly two further figures of this kind on Main Group 3 on Brådön, on rock art surfaces G and K: 1-2 (Larsson & Broström 2011, Figure 11). It is likely that there are some other shaman images at Nämforsen (Evers 1995:25).

Anthropomorphic images like this from Alta seem are not frequent either. There are, however, a small number of pictures that are worthy of special attention; a figure with an elongated body, with interior body decoration that, in a sort of x-ray style, resembles a fish skeleton, depending arms, and outwardly curved legs with sex between these. In addition, it also has one breast under each arm, elongated neck and an upward cup-shaped head that is crowned with



FIGURE 11: AT NÄMFORSEN, WE CAN ONLY FIND A FEW ANTHROPOMORPHIC IMAGES WITH TWO HORNS ON ITS HEAD OF WHICH THE TWO MOST CLEAR ARE FOUND IN THE MAIN GROUP 1 ON LAXÖN ROCK ART SURFACE D: 4 – IN BLACK THE FIGURE WITH VERY LONG, PROTRUDING HORNS, SUPERIMPOSED BY AN ELK. (AFTER LARSSON & BROSTRÖM 2011)

twin horns (Helskog 2012:13). The second example is also interesting, but in a different way. Next we are referring to the aforementioned row of ten adorers on the Kåfjord rock art panel (Helskog 2012:60). If we take a closer look, we can note that of the ten adorers, the first two in line, seen from above, have no horns while the eight that follow clearly bear this attribute.

If we try to find additional examples of twin-horned human figures elsewhere in Norway, the spectacularly sited abundant rock art complex at Vingen may be interesting. The result makes it possible to conclude two things: firstly, human figures are very scarce among the images which are dominated by deer; secondly, there are occasional human figures with postures similar to those in other sites in Fennoscandia. The Vingen type is more similar to some images at Amtmansnes in Alta with bodies decorated in a geometric style. At Vingen a few, less than ten, have heads with something that could be characterized as horns. In one case there are possibly two horns, but in others three or more (Viste 2004, Helskog 2012: 156p and Klungseth-Lødøen & Mandt 2012:109). When looking for additional examples of the twin horned humanoid creatures in the Norwegian material, the strange rock painting in a cave called Helvete, (eng. Hell), on the island Røst in Lofoten is worthy of attention. There, among a group of stylized anthropomorphic images stands the largest figure, almost 50 inches high, with this specific attributes and with arms outstretched straight and with splayed fingers (Nordstedt 2000: 119).

The incidence of horned figures of this kind outside our survey area is not directly overwhelming. In Valcamonica they are almost lacking entirely, except for the image, which is considered to represent the Celtic deer god 'Cernunnos' at Zurla (Figure 12).

It is indeed equipped with typical deer's antlers, very long torso, highlighted gender and arms in adorer's position. It can be dated to the middle Iron Age, 500-400 BC (Anati 2004:16). Another example, this time from the New World, is found on a rock art area at Sheep Canyon in the Coso Range in California, USA, where two half-meter-sized figures with geometric body shape also have horned heads; further two figures are adorned with four horns. These images were recognized as shamans by David Whitley (Whitley 2000:91). The phenomenon of an anthropomorphic creature with a head provided with two horns or similar attributes are considered typical of shamanic depictions on petroglyphs in Siberia in Russia. In that area, this feature can be traced back to the Bronze Age, but has also been typical of the historical time of, among others, the Evenk tribe who live along the upper Yenisei (Devlet 2004:25p). Eero Autio questioned whether this interpretation can also apply to the anthropomorphic figures with horns in Finnish rock paintings (1995). He argues instead for an alternative totemic approach.



FIGURE 12: THE INCIDENCE OF HORNED FIGURES OUTSIDE OUR SURVEY AREA IS NOT OVERWHELMING. IN VALCAMONICA THEY ARE ALMOST LACKING ENTIRELY, EXCEPT FOR THIS CARVED IMAGE OF THE CELTIC DEER GOD 'CERNUNNOS' AT ZURLA, EQUIPPED WITH TYPICAL DEER'S ANTLERS, VERY LONG TORSO, HIGHLIGHTED GENDER AND ARMS IN ADORERS POSITION. MIDDLE IRON AGE, 500-400 BC. (AFTER ANATI 2004)

The result of this, fairly limited, analysis of the horned anthropomorphic figures in the Fennoscandian rock art, shows that this exclusive image type is represented all over the area. It is, however, more common on the Finnish rock paintings than in the larger northern rock carving complexes in Alta, Nämforsen and Vingen. It is also typical of the Bohuslän Bronze Age rock carvings, although there are usually more attributes to be seen. This specific image type was also produced elsewhere in the world, for example in Valcamonica where, like in California, it is rare, and in Siberia, where it is abundant and with large similarities, especially in respect to some carvings at Amtmansnes in Alta and in Vingen. Researchers in the US and Russia, e.g. David Whitley and Ekaterina Devlet hold this image type to be a depiction of shamans (cf. Evers 1991b:57pp). This interpretation has also gained a strong foothold in research on Finnish rock paintings, primarily through Annti Lahelma's work (cf. Lahelma 2008:122 pp). Knut Helskog has also for a long time advocated shamanic theory in his interpretation of the rock carvings in Alta. In a recently published study, Andrzej Rozwadowski investigates the background to shamanic symbolism in rock art in central Asia (Rozwadowski 2012).

#### 4. Anthropomorphic hand-images

It has been argued that the hand image is 'the most common motif in world rock art' (Lahelma 2008: 59), although, 'one of the most common rock art motifs' is more correct (Clottes 2002:94p). It is true that the handprints are

commonly found in the caves in France – Grotte Cosquer (Clottes & Courtain 1994), and Spain – Cueva de Monte Castillo (Ontanon Paredo 2012), which has the oldest rock art pictures, made about 35,000 years before our time. The same can be said for the 10,000 year old rock pictures in southern Argentina – in Cueva de los Manos (Mercedes Podesta *et al.* 2005), but even there hand images are not in the majority. They are surpassed by several other types of decoration such as painted dots, and other geometric designs and pictures of animals. What is true is that, in prehistoric features, hand-images occupy a unique position through its exclusivity and symbolic value. Representing one of the most expressive parts of the human body and possessing qualities making it a phenomenon that could be, and has been, described as a pictogram or an archetype. (c.f. Bertilsson 2013 with references). Regardless of this, Lahelma has, by studying this image category called attention to the fact that the hand images on rock paintings are not just images, but they also represent an intention and desire to touch the rock face, like for instance, on Väineiniemi, Sarakallio 1 and at Juusjärvi (Lahelma 2008) (Figure 13A).

Specific hand images lack completely in Nämforsen and are extremely rare at Alta where only one single image of this type was found. It belongs to the Kålfjord panel and consists of a very coarsely designed arm and hand (Helskog 2004:26 and 2012:47; Alta museum, kålfjord 1 kalk kt 18032013 seksjon-2, område F). Hand carvings are generally also rare among the rock carvings in the southerly and westerly parts of our study area (c.f. Sør-Reime 1982). On a rock carving at Flugberget in North Jæren are two carved hands accompanied by ships from



FIGURE 13A: PAINTING OF HAND AT THE TOP OF ASTUVANSALMI. (PHOTO CATARINA BERTILSSON, SHFA)



FIGURE 13B: RUBBING OF HAND AND FRAME FIGURE WITH GEOMETRIC PATTERN AT GLÖSA IN ALSÉN, JÄMTLAND. (SOURCE: WWW.SHFA.SE RUBBING DIETRICH EVERS)

the Middle Bronze Age (Mandt & Lødøen 2005:238). Some hand images occur in Bohuslän, including the carvings at Fossum – single hand (SHFA: Tanum 254 TH frott tyg målad 1\_10 ihopsatt R SHFA\_id6594) and Tossene church – arm and hand. Another, in the area unique and remarkable, hand carving is found on the rock carving at Glösabäcken in Alsen, Jämtland (Figure 13B and Evers 1988:114). In Bohuslän, four so-called ‘hand-sign stone’ that are otherwise common in Denmark have been found (Goldhahn 2007:45pp). In the Cerfs cave in Porto Badisco, near Lecce, on the heel of the ‘Italian boot’, among the paintings from the Neolithic period, and dating to the fourth and third millennia BC, some hands and a man with two horns made with black paint were found depicted (Anati 2003:178 and 191).

We may therefore conclude that: *although the images of hands, whether they are painted or carved, within our survey area are spectacular in form and presentation, they are also very rare. They therefore cannot be considered to be typical but rather exclusive in its occurrence on the Finnish rock paintings. There, they may also indicate the importance of the practice of touching the painted rock surface. And the low number could also mean that they were re-used for long periods. This is a quality that they might have shared with the more than 30 000 years older cave art in France and Spain. That can in turn point to the existence of ‘pre-installed’ image concepts like cognitive schemes in the human brain and mind. Concepts, which were expressed in a range of natural environments and social contexts in which humans lived for long periods of prehistory, thus pointing to the fact that the mind with its processing of experience and knowledge were a more important component in the human development than the natural environment.*

We are now approaching above mentioned research on human neuropsychological conduct and its eventual influence on the design of rock painting and its significance for our understanding and interpretation of these expressions, introduced by South African rock art researcher David Lewis-Williams (Lewis-Williams 2001, cf. Nash 2002:192).

**5. Geometric patterns**

Before this study is to be concluded, another particular image category that is often called ‘geometric shapes’ or ‘patterns’ and represented in the Finnish rock art on the painting at Kirkkonummi, Vitträsk has to be mentioned (Kivikäs 1997:51, Figure 14). Similar images occur in Alta, and Helskog calls them ‘patterns’ and in one case possibly ‘a leather bag with fringes’ (Helskog 2012:144). In two thoughtful and initiated studies on Mesolithic rock art images from northern Scandinavia, Ingrid Fuglestedt uses an anthropological perspective and suggests that the geometric patterns should be interpreted as a clan group markers, and that they may indicate a trend towards a social organization directed by a totemic approach (Fuglestedt 2010 with references). In our survey material there are no other obvious parallels to the geometrical figures except possibly one at the aforementioned carving at Glösa in Jämtland. On that panel, immediately adjacent to the hand

figure is an irregular, rounded geometric pattern within a rectangular frame. Although this figure looks very different than those we previously addressed by Vitträsk and Alta, it could possibly be an expression of a similar phenomenon with a similar function, albeit with a different design.

In this context it may also be of interest that the geometric patterns in the form of zigzags were found on the large panel at Leirfall in Trøndelag that is otherwise dominated by footprints, boats and horses, images which combined represent more than half of the rock carvings at this location. Most of those images are relatively late, belonging to the Late Bronze Age or Early Iron Age, but it is of course possible that the geometrical patterns had been carved during an earlier phase (Sognnes 2001:181).

Similar patterns consisting of lines forming zigzags, or more complex geometric patterns are known from many different rock art complexes in Europe, and other places in the world. One example is found at the site Buyukdash in Gobustan, Azerbaijan (Anati 2001: 39). In addition, geometric decorations are frequently found on the stylized feminine figures that are common also in Turkey and Egypt and tentatively dated to around 6,000 BC (Anati 2001 with references). Anati also points to the fact that similar depictions glorifying mythological creatures such as matrons may be found in the Spanish Levante. Net and

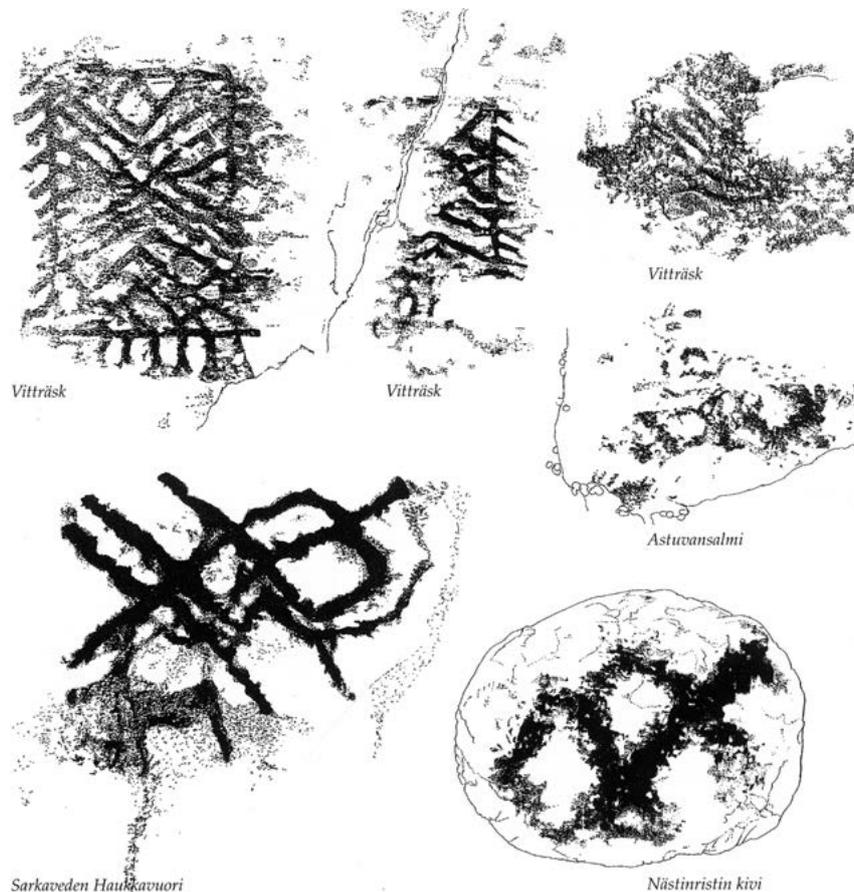


FIGURE 14: THREE DIFFERENT NET DEPICTIONS FROM THE ROCK PAINTINGS AT VITTRÄSK AT THE TOP. (AFTER KIVIKÄS 1997)

other geometrical designs are also frequent in the vast rock art complex of Serra da Capivara in Brazil (Jorge *et al.* 2006).

### Results and conclusions

Now that we have completed this survey, it is time to summarize the results and to draw a few conclusions.

In order to deepen our analysis, and to bring another dimension, our starting point was to discuss the problems in connection with the traditional division of rock art in Fennoscandia to two different blocks based on two factors, geographical distribution and archaeological cultural affiliation. In our opinion, this may lead to a situation where one argument promotes the other, resulting in a kind of vicious circle predetermining that the northerly and southerly rock art is always be placed in an already established archaeological and chronological context.

We have therefore made an attempt to broaden the perspective by applying a cognitive perspective by which the occurrence of certain kinds of images in the rock art may depend primarily on the human brain and mind and not necessarily on the natural environment. The point of departure have been some figure types that are common in the Finnish rock paintings, which we have compared with two of the most significant rock art complexes in northern Fennoscandia, namely Alta in Norway and Nämforsen in Sweden. Simultaneously, we have deliberately looked for parallels in southern Fennoscandia, primarily among the Bronze Age carvings in Bohuslän, but also among other carvings complexes along the Norwegian west coast. This was done in order to examine whether there are parallels to the specific figure types and designs present in the Finnish material.

In order to deepen our analysis, we have also studied the occurrence of any of categories of images within a wider – geographically, chronologically and culturally spectrum with examples from Italy, France, Spain, Azerbaijan, Argentina, Brazil, United States and Russia. We have noted that several of the types of figures that are represented in the rock paintings in Finland, occur not only in the two major northerly complexes in Alta and at Nämforsen, in some rock carvings in south-eastern Norway but also within the Bohuslän rock art complex. The very specific motif where the horn crown of an elk comprises an integrated boat, also has a parallel occurrence on a rock painting in Gothenburg, although the elk in this case is a deer. We have also been able to present examples of specific types of figures such as adorers, and anthropomorphic figures with heads adorned with two horns from other sites in the survey area.

Further, we have surveyed one image type that appears to be infrequent, but is still appearing on rock paintings in Finland, and on the carvings in Alta and Bohuslän, namely painted or carved images of hands. Such images have had important significance in different contexts across

our survey area. And not only there, in fact, the hand-sign is a widespread symbol throughout the prehistoric visual arts in Europe. Its temporal proliferation is also unmatched. The oldest examples show up in the earliest Palaeolithic cave paintings in France and Spain about 35,000 years before our time. A difference compared to those painted in Finland, is that these early images consist of negative projections of the hand. The contours have been accomplished by blowing red paint on a hand that resulted in its outline became depicted on the cave wall (Clottes & Courtain 1994: 63pp, Ontañón Peredo 2012: 36). Such hand-signs are also an important feature of cave art in the New World, for instance in the fabulous cave Cuevas de los Manos located on Tierra del Fuego coming far south in Argentina. The painting has been dated back to 11,000 years before our time (Mercedes Podestá *et al.* 2005: 20 and 54pp; cf Jorge *et al.* 2006: 44 about hand images of Serra da Capivara, Brazil).

Obvious differences exist in embodiment between the Palaeolithic hand-images and those on the Finnish rock paintings. But despite the large differences in spatial distribution and in time, they have one thing in common; the red colour based on iron oxide that was used to produce them. Here we have an outstanding example of a long-lived phenomenon in the archaeological record that can be denoted by the term ‘longue durée’ which refers to both the hand symbol and the technology used to present it (for another example of an archaeological application of the concept see Kristiansen & Larsson 2005). To paraphrase the concept of ‘three conservative blocs’, that Åsa Fredell used in her thesis (2003) one can really speak of ‘two conservative blocs’ (Bertilsson 2013:167 with references). We can thus argue that even though it is obvious that most of the elements in the prehistoric imagery of our study area reflect local conditions or region-bound archaeological characteristics, particular concepts of images, symbols and scenes *operating on a kind of higher Meta level in the human mind* must also have existed. This is obvious from the geographical spread of the strange, and extremely rare, animist transformation such as the integration between animals and boats in Finland which is based on a painted elk and a painted boat while in Bohuslän the transformation is between a painted boat and a red deer, but also between a carved red deer and boat! Geographically bridging examples also appear on Stone Age carvings in south-eastern Norway.

This is an excellent illustration to the cognitive theory that is built on the fact that there are particular image concepts that may emerge in different cultures at different times. Emmanuel Anati has in many of his studies pleaded for such an approach by using more traditional psychoanalytical terms such as pictograms and archetypes but still in that way comes closer to a more generic model of interpretation of human behaviour applied to the prehistoric visual arts as an important and informative part of the archaeological source material (Anati 1994, 2002a and 2002b, cf. Fredell 2003). Although one might argue that there may be a certain contradiction between the modern cognitive

approach and a more traditional archetypal such, there are also some similarities that can enable the simultaneous use. In our view, this could be a fruitful way to understand and interpret the prehistoric pictures without risking having to end up in what a mischievous expression has been called ‘the cosmological swamp’. We have nothing particular against the cosmological approach which, in recent decades, and more and more strongly has been influencing researchers’ interpretation of rock paintings not only in Fennoscandia, but also in the New World. This ‘movements’ were originally inspired by David Lewis-Williams creative pioneering studies. His work, which also has the advantage of building on a so-called informative approach often taken the form of a direct historical analogy, in the form, and with the arguments used by Antti Lahelma (2008), is characterized by a high theoretical awareness and scientific rigor (c.f. Whitley 2012).

Lahelma also references the assumption that this method makes it possible to avoid having to get caught up in the ‘core universals’ which human behaviour is supposed to be characterized by. An example of a ‘core attribute’ of religion would be ‘belief in gods’ However, according to Justin Barrett, religion has developed as a natural by-product of human biological and cognitive evolution: ‘Belief in gods requires no special mystical experiences ... Belief in gods arises because of the natural functioning of completely normal mental tools working in common natural mental tools working in common natural and social contexts ‘ (Barrett 2004:21, c.f. Tremlin 2010).

No matter how this may relate, one approach should not exclude the other, rather the opposite. In our opinion, it is obvious that both the method with a direct historical analogy, and that based on a cognitive approach, can be applied to the study of the Fennoscandia rock art. The cognitive approach would be preferred, in particular, outside the area of northern Finland, Norway and Sweden, areas largely devoid of historical sources and lacking informants with first-hand knowledge of rock art. But even for research in the eastern or northern areas, the approach is a further asset, giving the opportunity to use the characteristics of rock art pictorial expressions, often regarded as specific or unique to a region or local area, in a larger global and universal context where human brain and mind seem to be driving forces behind the identification and depiction of supernatural agents in rock art when considered as expressions of religion in its broadest sense. (Cf. the discussion about the human agency detection device in Whitley 2012 with references). That is when our research efforts may result not only in new interpretations, but also in new understanding and knowledge (Figure 15).

*A clear result of the relatively simple comparative analysis of the Fennoscandia rock images that we have implemented here is that some of the most common images and themes are not strictly tied to defined geographical areas or specific archaeological complex. Many are widely spread across the area and within both the two major traditional blocks – the Northern and the Southern, the*



FIGURE 15: RESEARCHERS AT ASTUVANSALMI STUDYING THE PAINTED IMAGES AT CLOSE DISTANCE STANDING ON A SCAFFOLD BUILT FOR THE PURPOSE OF DOCUMENTATION BY PHOTOGRAPHY IN 2000. NOTE THE SHARP INDENTATION ON THE HOB. (PHOTO CATARINA BERTILSSON, ROCK CARE)

*Hunters and the Farmers, the Stone Age and the Bronze Age. Consequently, it appears, that there is clearly a case for the application of a more open attitude in our studies of rock art, to avoid the risk of our research producing only additional data to already existing knowledge and to confirm the already established discourse, its theories and interpretations. Thus this study highlights in an illustrative way that the painted and carved images of the rock art in Fennoscandia is boundless in form, time and space.*

It does not, however, mean that the rock art imagery will lose its most acclaimed property as important carriers of meaning of particular landscapes and archaeological contexts in which they occur (Cf. Frachetti and Chippindale 2002). On the contrary, the expansive development of rock art research, which is taking place in Fennoscandia since the 1990s illustrates, in a striking way, that the local context strongly influenced the design of the images and the specific stories and meanings they convey. The fact that the pictures and the stories are also clearly being linked to, and mirror, a higher meta-level of timeless human cognitive experiences behaviour, only increases the possibility of researching their origin and meaning.

### Bibliography

- ANATI, E. (1976) *Evolution and style in Camunian Rock Art*. Edizione del Centro. Archiv 6. Capo di Ponte.
- ANATI, E. (1994) *World Rock Art. The Primordial Language*. Studi Camuni Volume XII. Edizione del Centro. Capo di Ponte.
- ANATI, E. (2001) *Gobustan Azerbaijan*. Wara Archives. Edizione Del Centro. Capo di Ponte.
- ANATI, E. (2002a) *La Struttura Elementare dell'Arte*. Studi Camuni Volume XXII: Edizione del Centro. Capo di Ponte.

- ANATI, E. (2002b) *Lo Stile come Fattore diagnostico nell'Arte Preistorica*. Studi Camuni Volume XXIII. Edizioni Del Centro. Capo di Ponte.
- ANATI, E. (2003) *40.000 ans D'Art Contemporain. Aux origines de l'Europé*. Ed: Anati, E. Edizione del Centro. Capo di Ponte.
- ANATI, E. (2004) The Camonica Valley: 45 Years of Archaeological Research. In: *The Future of Rock Art – a World Review*. Pp. 7-22. Eds: Bertilsson, U. & McDermott, L. Rapport från Riksantikvarieämbetet 2004:7. Pgs. 7-22. Stockholm.
- AUTIO, E. (1995) Horned Anthropomorphic Figures in Finnish Rock-Paintings: Shamans or something else? *Fennoscandia archaeologica XII* (1995). Pgs. 13-18.
- BARRETT, J. (2004) *Why Would Anyone Believe in God?* Walnut Creek (CA). AltaMira Press.
- BENGTSSON, L. (2013) Rock Art Ships as a Method for Dating. In: *Counterpoint: Essays in Archaeology and Heritage Studies in Honour of Professor Kristian Kristiansen*. Eds: Bergerbrant, S. & Sabatini, S. BAR International Series 2508, 2013. Archaeopress. Pgs. 253-258. Oxford.
- BERTILSSON, U. (2000a) Rock Art at the End of the World – Dehiphering The Images of the Rock Art of the Northern World. In: *Ristad och Målad – Aspekter på nordisk bergkonst*. Eds: Edgren, T. & Taskinen, H. gs. 39-45. Museiverket. Vammala.
- BERTILSSON, U. (2000b) 8.000 anni di arte rupestre in Scandinavia. In: *40.000 anni di arte contemporanea*, Ed. Anati, E. Centro Camuno di Studi Preistorici. Edizio Del Centro. Pgs. 147-160. Capo di Ponte.
- BERTILSSON, U. (2004) Rock Art of the Northern Hemisphere – Scandinavia, Finland and Russia – Cultural Contexts, Chronological Implications and Major Traditions. In: *The Future of Rock Art – A World Review*. Eds: Bertilsson, U. & McDermott, L. Rapport från Riksantikvarieämbetet 2004:7. Pgs. 66-88. Riksantikvarieämbetet. Stockholm.
- BERTILSSON, U. (2013) Divine Footprints. Traces of Cosmological Archetypes and Prehistoric Religion on the Rock Faces. In: *Art as source of History*. Ed: Anati, E. Edizione del Centro. Pgs. 163-172. Capo di Ponte.
- BERTILSSON, U. (2015) From folk oddities and remarkable relics to scientific substratum: 135 years of changing perceptions on the rock carvings in Tanum, northern Bohuslän, Sweden. Eds: Skoglund, P., Ling, J. and Bertilsson, U. *Picturing the Bronze Age 1. Swedish Rock Art Series, Volume 3*. Pgs. 5-20. Oxbow. Oxford.
- BERTILSSON, U. & FREDELL, Å. (2003) *RockCare – Tanum Laboratory of Cultural Heritage*. Rapport från Riksantikvarieämbetet 2003:6. Riksantikvarieämbetet. Stockholm.
- BRADLEY, R. (2015) Mixed media, mixed messages: religious transmission in Bronze Age Scandinavia. Eds: Bertilsson, U., Ling, J. & Skoglund, P. *Picturing the Bronze Age 1. Swedish Rock Art Series, Volume 3*. Pgs.37-45. Oxbow. Oxford.
- CLOTTES, J. (2002) *World Rock Art*. The Getty Conservation Institute. Los Angeles.
- CLOTTES, J. & COURTIN, J. (1994) *La Grotte Cosquer. Peintures et Gravures de la Caverne Engloutie*. Seuil. Paris.
- COCQ, C., HEINERUD, J., LARSSON, T. B. & LINDGREN HYVÖNEN, B. (2014) *Rock Art in Sápmi*. Västerbottens Museum.
- CORNELL, P. & LING, J. (2010) Rock Art as Social Formation. In: *Changing Pictures, Rock Art Traditions and Visions In Northern Europe*. Eds: Goldhahn, J. Fuglestedt, I. and Jones, A. Pgs. 73-87. Short Run Press. Exeter.
- DEVLET, E. (2004) Shamanic motifs in the rock art of Siberia and Central Asia. In: *The Valcamonica symposiums 2001 and 2002*. Eds: Bertilsson, U. & McDermott, L. Rapport från Riksantikvarieämbetet 2004:6. Pgs. 19-7. Riksantikvarieämbetet. Stockholm.
- EVERS, D. (1988) *Felsbilder arktischer Jägerkulturen des steinzeitlichen Skandinaviens*. Steiner. Stuttgart.
- EVERS, D. (1991) *Felsbilder – Botschaften der Vorzeit*. Urania – Verlag. Leipzig, Jena, Berlin.
- EVERS, D. (1991b) Zeichen, die Schamanen setzen. Felsgravuren der Steinzeit Skandinaviens. In: *Schamanen. Mittler Zwischen Menschen und Geistern. 15 Duisburger Akzente 1991'Gott-Götter- Götzen-Gurus*. Pgs. 57-68. Stadt Duisburg.
- EVERS, D. (1995) *Magi der Bilder. Prähistorische Skandinavische Felsgravuren*. Spuren der Vergangenheit Band 3.
- FORSBERG, L. (2012) Assymmetric twins? Some reflections on coastal and inland societies in the Bothnian area during the Epineolithic and Early Metal Age. In: *Local Societies in Bronze Age Northern Europe*. Eds: Arnfinset, N. & Wriggelsworth, M. Pgs. 31-55. Equinox. Croydon.
- FRACHETTI, M. & CHIPPINDALE, C. (2002) Alpine imagery, Alpine space, Alpine time; and Prehistoric human experience. Eds: Nash, G. & Chippindale, C. *European Landscapes of Rock Art*. Pgs. 116 -143. Routledge. London and New York.
- FREDELL, Å. (2003) *Bildbroar. Figurativ bildkommunikation av Ideologi och kosmologi under sydsandinavisk bronsålder och förromersk järnålder*. GOTARC. Serie B. Gothenburg Archaeological Thesis no 25. Göteborg.
- FUGLESTVEDT, I. (2010) Animals, Churingas and Rock Art in Late Mesolithic Northern Scandinavia. In: *Changing Pictures. Rock Art Traditions and Visions in Northern Europe*. Eds: Goldhahn, J., Fuglestedt, I. and Jones, A. Pgs. 23-34. Short Run Press. Exeter.
- GJERDE, J.M. (2010) *Rock Art and Landscapes: Studies of Stone Age Rock Art from Northern Fennoscandia*, PhD thesis, Department of Archaeology and Social Anthropology, Tromsø: University of Tromsø.
- GOLDHAHN, J. (2007) *Dödens hand – en essä om brons och hållsmed*. Gotarc Series C. Arkeologiska skrifter No 65. Institutionen för arkeologi och antikens kultur. Göteborgs Universitet.
- GOLDHAHN, J., FUGLESTVEDT, I. & JONES, A. (2010) Changing Pictures – An Introduction. In: *Changing Pictures. Rock Art Traditions and Visions in Northern Europa*. Eds: Goldhahn, J., Fuglestedt, I. & Jones, A. Pgs. 1-20. Short Run Press. Exeter.

- HALLSTRÖM, G. (1960) *Monumental Art of Northern Sweden from the Stone Age*. Almqvist & Wiksell. Stockholm.
- HELKOG, K. & HØGTUN, E., (2004) Recording landscapes in rock carvings and the art of drawing. In: *Prehistoric Pictures as Archaeological Source*. Eds: Milstreu, G. Pröhl, H. Pgs. 23-32. Gotarc Series C no 50.
- HELKOG, K. (2012) *Samtaler med maktene. En historie om Verdensarven i Alta*. Tromsø Museums Skrifter XXXIII. Tromsø.
- JANSON, S., LUNDBERG, E. B. & BERTILSSON, U. Eds: (1989) *Hällristningar och hållmålningar i Sverige*. Forum. Helsingborg.
- JORGE, M., PROUS, A. & RIBEIRO, L. (2006) *Brasil Rupestre. Arte pré-histórica brasileira*. Zencrane Livros. Kaul, F. (2012) Fund, helleristninger og landskaber. Eds: Kaul, F. & Sørensen, L. *Agrarsamfundenes ekspansion i nord. Norlige Verdener*, Pgs. 205-220. Nationalmuseet, København.
- KIVIKÄS, P. (1995) *Kalliomaalaukset – muinainen kuva arkisto. Paintings on Rock – An ancient Picture Archive*. Atena. Jyväskylä.
- KIVIKÄS, P. (1997) *Vorhistorische Felsmalerei in Finnland*. Atena. Jyväskylä.
- KIVIKÄS, P. (2000) *Kalliokuvat Kertovat*. Atena. Jyväskylä.
- KLUNGSETH LØDØEN, T. & MANDT, G. (2012) *Vingen. Et naturens kolossal museum for Helleristninger*. Akademika forlag. Trondheim.
- KRISTIANSEN, K. & LARSSON, T. B. (2005) *The rise of Bronze Age society: Travels, Transmissions and Transformations*. Cambridge University press. Cambridge.
- LAHELMA, A. (2007) 'On the Back of a Blue Elk': Recent Ethnohistorical Sources and 'Ambiguous' Stone Age Rock Art at Pyhänpää, Central Finland. *Norwegian Archaeological Review*, Vol. 40, No. 2, 2007. Pgs. 113-137.
- LAHELMA, A. (2008) *A Touch of Red*. ISKOS 15. Suomen Muinaismuistoyhdistys – The Finnish Antiquarian Society. Helsinki.
- LAHELMA, A. (2012) Politics, ethnography and prehistory: In search of an 'informed approach' to Finnish and Karelian Stone Age rock art. In: *Working with Rock Art*. Eds: Smith, B. W., Helkog, K. & Morris, D. Pgs. 113-134. Wits University press. Johannesburg.
- LARSSON, L. (1999) Rock of divergent dimensions. In: *Glyfer och Arkeologiska rum – en vänbok till Jarl Nordbladh*. Eds: Gustafsson, A. & Karlsson, H. Pgs. 151-160. Gotarc Series A vol. 3. Göteborg.
- LARSSON, T.B. & BROSTRÖM, S.-G. (2011) *The Rock Art of Nämforsen, Sweden. The Survey 2001-2003*. UMARK 62, 2011. Umeå.
- LEWIS-WILLIAMS, D. (2001) Brainstorming Images: Neuropsychology and Rock Art Research. In: *Handbook of Rock Art Research*. Ed. Whitley, D. S. Pgs. 332-360. Altamira Press. Walnut Creek.
- LING, J. (2014) *Elevated rock art. Swedish Rock Art Series: Volume 2*. Oxbow Books. Oxford.
- LING, J. & ROWLANDS, M. (2015) The 'Stranger King' (bull) and rock art. Eds: Skoglund, P., Ling, J. & Bertilsson, U. *Picturing the Bronze Age I. Swedish Rock Art Series, Volume 3*. Pgs. 89-104. Oxbow. Oxford.
- LOSSIUS, K. (1896) Helleristningen paa Bardal i Beitstaden. Re-Published In: *Hundre Års Bergkunsthforskning i Midt-Norge*. Ed: Sognnes. K. KRA nr. 33. Trondheim 2007. Pgs. 25-28.
- LØDØEN, T. (2010) Concepts of Rock in Late Mesolithic western Norway. In: *Changing Pictures. Rock Art Traditions and Visions in Northern Europe*. Eds: Goldhahn, J., Fuglestad, I. and Jones, A. Pgs. 35-47. Short Run Press. Exeter.
- MANDT, G. & LØDØEN, T. (2005) *Bergkunst – Helleristninger i Norge*. Bergen. Mercedes Podestá, M., Sebastián Paunero, R. & Rolandi, D. S. (2005) *El Arte Rupestre de Argentina Indígena. Patagonia*. GAC. Buenos Aires.
- NASH, G. (2002) The landscape brought within. Eds: Nash, G. Chippindale, C. *European Landscapes of Rock-Art*. Pgs. 176-194. Routledge. London and New York.
- NORDBLADH, J. (1989) Hållmålningar i Västsverige. In: *Hällristningar och hållmålningar i Sverige*. Eds: Janson, S., Lundberg, E.B. & Bertilsson, U. Pgs. 121-123. Stockholm.
- NORDBLADH, J. (2000) Kort dokumentationshistoria för Bohusläns Hällristningar. In: *Ristad och Målad – Aspekter på nordisk bergkonst*. Eds: Edgren, T. & Taskinen, H. Pgs. 126-134. Museiverket. Vammala.
- NORSTEDT, T. (2000) Sikkring av grottemalerier i Norge. In: *Ristad och Målad. Aspekter på nordisk bergkonst*. Eds: Edgren, T. and Taskinen, H. Pgs. 110-125. Museiverket. Ontañón Peredo, R. (2012) *10 razones para la Humanidad, cuevas con Arte Paleolítico en Cantabria*. Gobierna de Cantabria. LUNWERG. Barcelona.
- ROZWADOWSKI, A. (2012) Rock art, shamanism and history: Implications From a central Asian case study. In: *Working with Rock Art*. Eds: Smith, B.W., Helkog, K. & Morris, D. Pgs. 193-204. Wits University Press. Johannesburg.
- RYGH, K. (1908) Helleristninger af det sydsandinaviske type ii det nordenfjeldske Norge. Re-published In: *Hundre Års Bergkunsthforskning i Midt-Norge*. Ed: Sognnes. K. KRA nr. 33. Trondheim 2007. Pgs. 41-60.
- SANSONI, U. Ed. (2009) La Fase II. Dal Calcolitico Medio al Bronze Recente. In: *Lucus Rupestris. Si millenni d'arte rupestre a Campanine di Cimbergo*. Eds: Sansoni, U. & Galvaldo, S. Archivi vol. 18. Pgs. 265-272. Edizioni del Centro. Capo di Ponte.
- SMITH, E. E. (2013) *Cognitive Psychology: Pearson New International Edition – Mind and Brain*.
- SOGNNES, K. (2001) *Prehistoric Imagery and Landscapes. Rock art In Stjørdal, Trøndelag, Norway*. BAR International Series 998. Archaeopress. Oxford.
- SØR-REIME, G. (1982) *Sammenheng og Variasjon i Sørvestskandinaviske helleristninger av bronsealder-type*. Avhandling til magistergraden i nordisk arkeologi. Universitetet i Bergen Hausten 1982. Trykt som manuskript. Taskinen, H. (2000) Hållkonsten i Finland – forskningshistoria och dokumentation. In: *Ristad och Målad – Aspekter på nordisk bergkonst*. Eds: Edgren,

- T. & Taskinen, H. Pgs. 20-32. Museiverket. Vammala.
- TREMLIN, T. (2010) *Mind's and Freight. The Cognitive Foundations of Religion*.
- VISTE, S. (2004) Rock-art and Shamanism. In: *Prehistoric Pictures as Archaeological Source*. Eds: Milstreu, G. & Prøhl. Pgs. 33-46. H. GOTARC; SERIES C, no. 50. Göteborg.
- WHITLEY, D. S. (2000) *L'art des Chamanes de Californie. Le Monde des Amérindiens*. Seuil. Paris.
- WHITLEY, D. S. (2012) Ways of knowing and ways of seeing: Spiritual Agents and the origins of Native American rock art. In: *Working with Rock Art*. Eds: Smith, B. W., Helskog, K. & Morris, D. Pgs. 179-182. Wits University. Press. Johannesburg.
- WIGFORSS, J., LEPIKSAAR, J., OLSSON, I. U. & PASSE, T. (1983) Bua Västergård: en 8000 år gammal kustboplats. *Arkeologi i Västsverige; 1*. Göteborgs arkeologiska museum, Göteborg.



# Subsistence in central Norway elucidated through rock art excavation and documentation

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## Abstract

*The early division between Stone Age and Bronze Age rock art has influenced research in Scandinavia heavily, and linked the Stone Age rock art to hunter-gatherers and Bronze Age rock art to agriculturalists. This division is challenged by recent rock art research and the lack of cereal cultivation signs prior to pre-Roman Age. By compounding rock art with traces of early agriculture, I want to investigate continuity and discontinuity within subsistence.*

*The Beitstad area is suitable for a case study, since it holds rock art of both traditions and the earliest traces of agriculture in central Norway. The farmers' rock art panels in Beitstad are dated mainly to the Bronze Age and the pre-Roman Iron Age. Recent excavations adjacent to a farmers' panel have revealed a stone packing containing fire-cracked stones and charcoal dated to the pre-Roman Iron Age. The stone packing can probably be tied to slash-and-burn activity prior to cultivation.*

*Even though one single trace of cereal cultivation can be dated to the Bronze Age, early cultivation traces are predominantly from the pre-Roman and Roman Iron Age in central Norway. The same can be said for the presence of more permanent settlements and larger house constructions. A more solid framework for dating early cereal cultivation requires more investigations also into areas not affected by modern development.*

## Agriculture and rock art

Rock art figures have been pecked into rocks in Norway from the Neolithic (4000-1800 BC) to the Roman Iron Age (AD 0-400). Especially in central Norway the use of the same areas and panels show continuity over a longer period. A division between hunters' and farmers' rock art styles was identified at the beginning of the 20th century (Brøgger, 1908:140-145; Hansen, 1908; Rygh, 1908; Sognnes, 2008:230-245). Hunters' rock art that comprised motifs of wild animals from land and sea, humans, boats and geometric patterns, was linked to hunter-gatherer groups, and often interpreted as traces from hunting magic and shamanism during the Neolithic (Brøgger, 1908:140-145). The farmers' rock art comprised boats, humans, animals, weapons, tools and geometrical patterns, and was linked to farmers and often interpreted as traces from a fertility cult during the Bronze Age (Almgren, 1927:265). This partition was influenced by the notion of prehistoric societies gradually developing from nomadic hunter-gatherers to sedentary farmers. Farmers' style has traditionally been linked to animal husbandry and cereal cultivation through motifs like ards (primitive ploughs), cattle, horses and dogs (Bakka, 1988:ix; Sognnes, 1999:48; Sognnes and Marstrander, 1999:48; Ling, 2008:33, 246). However, during the last decade scholars have questioned this assumption since motifs embodying animal husbandry and cereal cultivation like cattle and ards are relatively scarce compared to non-agricultural motifs like boats. For example the rock art of Bohuslän contain over 10,000 boat figures but only a few ploughing scenes (Ling, 2008:227).

Further, scholars have shown how the farmers' style must have existed well beyond the Bronze Age (1800-500 BC), especially since many boat figures resemble the Hjortspring-boat dated to pre-Roman Iron Age (500 BC-AD) (Marstrander, 1964:161-174; Sognnes, 1987:80-82).

In Norway and the rest of Northern Europe, incorporating agriculture as a main subsistence was a slow process. It is claimed that this is particularly noticeable in Central and Northern Norway, where this process was not completed until the pre-Roman Iron Age (Myhre and Øye, 2002:37-38).

The main purpose of this paper is to investigate whether subsistence is characterized by continuity or discontinuity in central Norway in the Bronze and pre-Roman Iron Age. Early agriculture is detectable through presence of settlement layers, ard furrows, pollen, and seeds indicating husbandry and cereal cultivation. Groups depending heavily on cereal cultivation have in addition been linked to more sedentary settlements. This is traceable in the archaeological material through house constructions and features such as post holes, floors, walls, fire places and cooking pits. In areas with few settlement traces, other signs of human activity such as rock art panels and graves can shed light on inhabitants in an area. Several studies concerning rock art and settlements, culture, symbolism, style and dating have been carried out on rock art in central Norway (Sognnes, 1987, 1994, 1995, 1998, 1999, 2003, 2006, 2008). They can aid us in investigating continuity



FIGURE 1: SCANDINAVIA AND REGIONS WITH CONCENTRATIONS OF FARMERS' ROCK ART.

and discontinuity within Bronze Age and pre-Roman Iron Age subsistence.

By compounding datable rock art traits and compounding them with signs of early agriculture and permanent settlements, I want to study continuity and change.

### Subsistence from the Neolithic to the Roman Iron Age

Agriculture spread northwards from the European continent during the Neolithic. However, evidence implies that people in Northern Europe adapted to this new subsistence at a slow pace (Myhre and Øye, 2002:21-22; Zvelebil and Rowley-Conwy, 1984:105-124).

The presence of battle axes in central Norway, just like the farmers' rock art, has been linked to husbandry and cereal cultivation in the Neolithic. However, botanical investigations show little evidence of cereal cultivation prior to pre-Roman Iron Age (Asprem, 2005:144, 2012:142-146, Hafsten, 1987:115; Myhre and Øye, 2002:40, 97-99; Prescott, 1996:77-87; Stamnes, 2008:27; Zvelebil and Rowley-Conwy, 1984:104-124). Also permanent settlements linked to sedentary agriculturalists are few and far between in the Bronze Age record (Grønnesby, 2005:97-107; Myhre and Øye, 2002:40, 97-99; Rønne, 2005:87-96; Stamnes, 2008: 27-29, 121). The lack of house constructions in this period may imply that most people had a more mobile life-style which has left few traces in the archaeological record. Nevertheless, very visible archaeological features such as rock art panels and graves are numerous throughout the Bronze Age, pre-Roman Iron Age and Roman Iron Age in central Norway, and bear witness to the population present in this region (Grønnesby, 2012:173-185; Sognnes, 1995:130, 139, Rygh, 1906:4-29).

To study rock art and all other relevant archaeological traces in central Norway would be too big a task for this paper. Based on the presence of a long rock art tradition, the re-use of panels, traces from early husbandry, cereal cultivation and prehistoric house constructions, the Beitstad peninsula in the inner part of the Trondheim Fjord is chosen for a case study.

### Case study: Beitstad

#### central Norway

central Norway is situated on the western part of the Scandinavian Peninsula between 62° and 65° northern latitude. The region consists of countless islands and islets, fjords and inlets, but also valleys and mountain areas. The 130 kilometres long Trondheim fjord is the most important geographic feature for central Norway, from which large valleys run towards south and east. The present habitation is mostly situated along the eastern side of this fjord. These settlements are linked to Early Holocene marine deposits and later fluvial deposits in the valleys (Sognnes, 1995: 130).

central Norway has an oceanic climate and comprises three different vegetation zones. At the outer coast line and on islands off the coast the strong oceanic zone with its coastal heath, many moors and its moist and mild climate dominates. Regions near the coast in addition to 'islands of land' in higher, more humid areas east of the Trondheim fjord and Snåsavatnet have a slightly drier and colder climate. This zone, the distinct oceanic zone, is dominated by grey alder (*Alnus*) forests and rich humid spruce/pine (*Picea*) forests. The region east of the Trondheim fjord is situated within the suboceanic zone which is now dominated by agricultural areas and forests in the lowland and birch forests in the higher areas (Moen *et al*, 1998:126-136).

During the Neolithic the climate was milder and a considerably quantity of the forests comprised thermophile trees. By the beginning of the Bronze Age the climate became colder and Nordic species like birch (*Betula pendula*) and pine (*Pinus*) became the dominating tree species, but as in the Neolithic dense forests dominated the landscape. At the transition from the Bronze Age to the pre-Roman Iron Age, forests retreated and cultivated land increased (Hafsten, 1987:119).

#### Beitstad

The municipality of Steinkjer is situated at the innermost part of the Trondheim fjord. The topography of this area is dominated by low, rounded hills and wide valleys. The parishes of Beitstad and Egge form a promontory at the north end of the Trondheim fjord. (Hereafter Beitstad is used about both Beitstad and Egge parishes.) During Younger Dryas (10,800-10,000 bp) the inland glacier re-advanced intermittently, building a series of end moraine ridges before it continued its retreat. Especially in Steinkjer

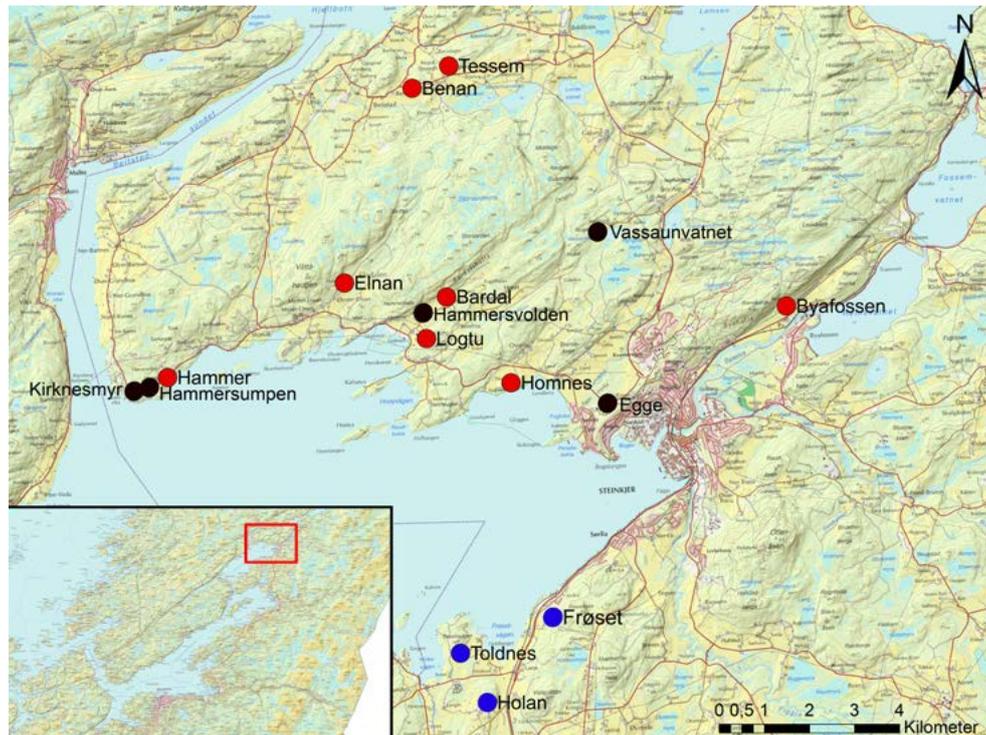


FIGURE 2: THE BEITSTAD PENINSULA IN THE FAR NORTH END OF THE TRONDHEIM FJORD WITH FARMS CONTAINING ROCK ART (RED), TRACES OF AGRICULTURAL ACTIVITY (BLACK), AND GRAVES (BLUE), EGGE FARM HOLD BOTH AGRICULTURAL TRACES AND GRAVES. (MAP BY NTNU VITENSKAPSMUSEET, EINANG 2013)

many such moraine ridges were formed in connection to hills, thresholds, islands and narrow fjord areas. These ridges formed well-drained land suitable for settlements and agriculture (Dahl *et al.* 1997:51-52; Stafseth, 2006:42-46; Stamnes, 2008:89, 120). Beitstad holds both the oldest trace of husbandry (Asprem, 2009; Petersen, 2012), and the oldest trace of cereal cultivation (Solem, 2002) in central Norway and is dominated by agricultural activity and fir-tree forests (Moen *et al.* 1998:126, 135-136).

### Rock art

The largest concentration of rock art panels in Steinkjer is situated in Beitstad, comprising 44 panels (Sognnes and Marstrander, 1999:96-99). Twenty-seven panels consist solely of farmers' rock art, 13 panels solely of hunters' rock art, while four panels are a mixture of the two styles (Bardal I, Hammer V and IX and Homnes). Unique for Beitstad is the re-pecking of hunters' panels during the Bronze Age, pre-Roman and Roman Iron Age. The panels in the southern part of Beitstad, consist of both styles, while the northern concentration solely consists of farmers' rock art.

Height above sea level can date the time period when panels emerged from the water, but it cannot give a youngest possible age. Shore line analyses of panels with hunting motifs in the middle and inner Trondheim fjord, show that most panels are localized at heights between 20 and 50 meters above sea level at present (Sognnes, 1995:133). Several researchers have focused on the

vegetation free panels in the shore line and the shore line as the border between land and sea (Helskog 2001: 73ff). Sognnes has discussed whether all panels necessarily were shore bound, and presented different theses for dating the hunters' panels (Sognnes, 1994:39-47). If we should assume that all hunters' panels were shore bound at the time of the figure pecking, this tradition would stretch from 7000 to 3500 BP (Lindgaard, 2014: 59; Sognnes, 1995:133), and pecked rocks would be visible for people travelling by boat (Sognnes 1994:39).

In Northern Beitstad several farmers' panels are placed on rock outcrops at more elevated areas. One concentration with eight panels stretches from the ridge Brennhaugen in northeast and follows the road from Tessem to Benan in the southwest (Benan I and VI, Tessem I, II, III, IV, VI, VII) (Bakka, 1988; Bakka and Gaustad, 1975; Einang, 2012a, 2012b, 2013; Elvestad, 1996; Gjessing, 1936b:25-65 and pl. VIV-LXIX; Grønnesby, 1997; Lindgaard, 2006:42; Lindgaard *et al.* 2006: 19-21; Petersen, 1934). Ten farmers' panels in Southern Beitstad are placed adjacent to the current road (Bartnesveien, RV289) stretching southwest-northeast (Elnan II, Hammer II, IX, XI, XII, XVI and XVII, Skjevik II, III and V), five are placed adjacent to current local roads or dirt roads stretching southwest-northeast and following the hillside to the outlying fields (Bardal II, IV, V, Elnan I and Homnes I). The localization of the four mixed panels suggest that the presence of hunters' figures have been central for the localization of the farmers' figures. Two panels are also placed in the stream south of the Hammer farm (Hammer III and XVII).

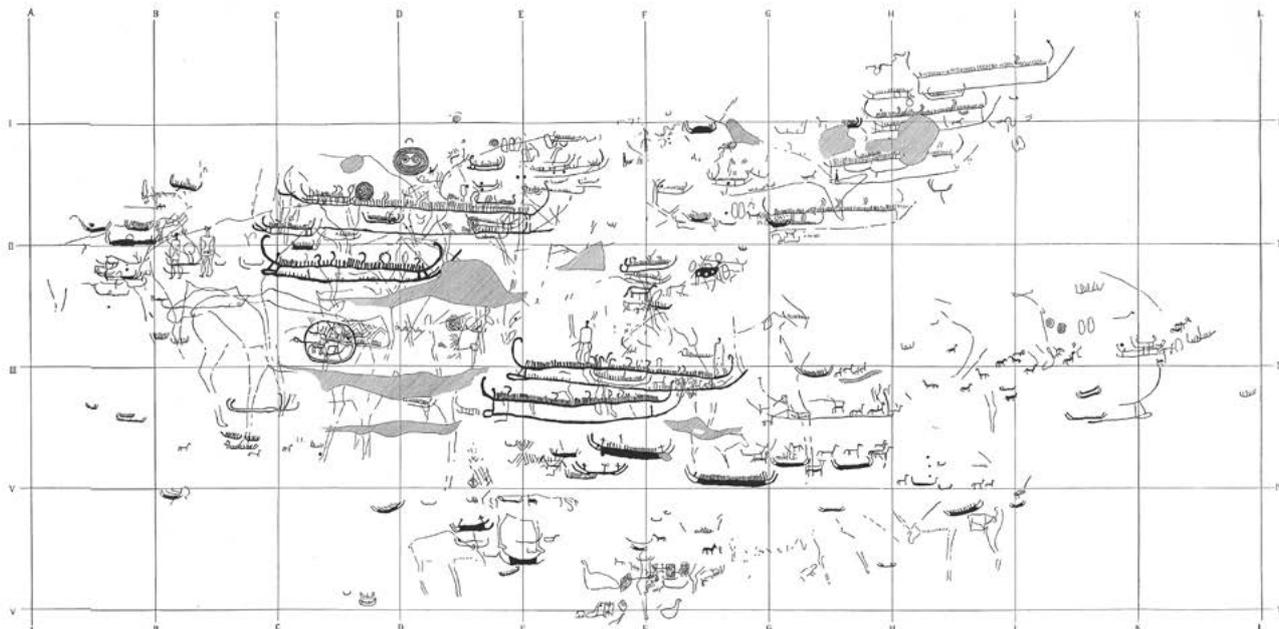


FIGURE 3: THE BARDAL PANEL WITH ITS HUNDREDS OF FIGURES HAS BEEN SAID BOTH TO REPRESENT CULTURAL CONTINUITY AND DISCONTINUITY. THE DIFFERENT BOAT FORMS ON THE PANEL ARE CENTRAL FOR DATING IT. (AFTER GJESSING 1936B)

The "Bronze Age" boat	The Hjortspring boat Late Bronze/Pre-Roman Age	The Austrheim boat Roman Age
Skjevik III Bardal I Tessem I	Bardal I Benan II Benan II	Hammer II Benan II Tessem IV

FIGURE 4: THE DIFFERENT BOAT FORMS AT BEITSTAD BEAR WITNESS TO THE LONG ROCK CARVING TRADITION PRESENT ON THIS PENINSULA. TRACINGS AFTER GRØNNESBY, 1997 (SKJEVIK III), GJESSING, 1936B (BARDAL I), ELVESTAD, 1996 (TESSEM I), LINDGAARD, 2006 (BENAN II), BAKKA, 1988 (HAMMER II) AND GRØNNESBY, 1997 (TESSEM IV).

The best known panel displaying long continuity is found on Bardal (Figure 3) in southern Beitstad (Sognnes, 2003:189-209). The many superimpositions on Bardal indicate that the figures were not made to create a unified composition. This panel rather represent many instances of pecking and re-pecking, and four phases with figure making: 1) The Neolithic, 2) Early Bronze Age, 3) Late Bronze Age and finally 4) pre-Roman Iron Age figures (Gjessing, 1936a:125-139; Kristiansen, 2002:67-80; Sognnes, 2006:173-182).

The motifs and the localization of the hunters' and the farmers' panels display continuity through reuse of some panels and reuse of the boat motif. Discontinuity can be attributed to motifs in the farmers' tradition that did not

exist in the hunters' tradition, and panels being placed further inland. A great number of farmers' panels are placed along or close to current roads and dirt roads going from infield land to outlying fields. This can indicate that the present roads have been constructed on old trail ways. Nevertheless, no investigations of Beitstad roads have been carried out, and this topic needs further research.

#### The Benan excavations

Excavations adjacent to a rock art site at Benan farm, approximately 9 kilometres northwest of Egge, have provided some finds from the pre-Roman Iron Age. The name *Benan* is probably derived from the Old Norse word *bidinjar*, from *bid-* (uncertain) and *vin* (sing. *-injar*) that means meadow or pasture. The name may have its origin prior to AD 1000 (Rygh, 1903:242; Lindgaard *et al* 2006:19-21). Benan II and several other panels are located by a crossroads that may have its origin in prehistoric times.

In 2004 the land owner at the farm Benan on northern Beitstad uncovered several rock art figures on a rock outcrop between two fields. Prior to this discovery, eight rock art panels on the neighboring farm Tessem and one panel at Benan were known. Investigations of the Benan II panel in 2005 revealed that the rock art locality was large and that structures covered parts of it (Lindgaard, 2005). The aim for the investigations in 2006 was to excavate and document structures on top of and adjacent to the rock art panels, and to uncover and limit the rock art panels (Lindgaard, 2006:3; Lindgaard *et al.* 2006: 19-21).

Before uncovering panels on the western side of the rock outcrop, a stone packing containing fire-cracked stones



FIGURE 5: THE STONE PACKING AFTER UNCOVERING IT. IT SEEMS TO EVEN OUT THE ROCK DOME. (PHOTO FORSETH 2006)

was subsequently recorded (Figure 5). The excavation revealed turf with fire-cracked stones and stones not affected by burning sized from fist-size to 50 cms breadth. In addition pockets of light grey sand and pockets of charcoal were observed. The eastern part was excavated in 50 x 50 cms large squares, before the section running north-south through the middle of the stone packing was photographed and drawn. The western part of the stone packing was excavated with the same method. Soils from the entire fill were water sieved. The fill was only 2-6 cms thick and contained four layers: 1) turf with fire-cracked stones, 2) a yellow, fatty sand layer containing clay and 3) a light grey sand layer and 4) a grey-brown and fatty layer containing charcoal dust. Fire-cracked stones were present in all layers, and abundant especially in the eastern part. The central part of the fill contained more charcoal than the outer parts. It seemed as the thin stone packing evened out the outcrop on the western side. The deepest cracks were filled up by larger stones and the grey-brown and fatty layer (Lindgaard, 2006; Lindgaard *et al.* 2006: 21).

The stone packing contained no charred seeds, which is common in settlement layers (Solem, 2007:5). Five radiocarbon dates (TUa-6605-6609) from layer 4) were dated (AMS) from 475-400 to 380-210 BC, which covers the beginning of the pre-Roman Iron Age. The last two radiocarbon tests on material retrieved from layer 4) and layer 1) were dated to the modern age. Several fissures in the rock were also excavated and emptied to check for artefacts and charcoal. Test material for dating was retracted from two fissures. Charcoal from fissure 5 (TUa-6617) was dated (AMS) modern, while fissure 7 (T-19037), containing concentrated charcoal and lying only 2-3 meters north of the stone packing, was dated 390-170 BC=2235±100 uncalibrated bp. In addition charcoal found in a clay ditch (T-19033) surrounding the rock outcrop contained no charred seeds and was dated to 480-370 BC=2350±80 uncalibrated bp). The radiocarbon dates from fissure 7 and the charcoal concentration in the clay ditch correspond well with burning activity of some kind during the first 300 years of the pre-Roman Iron Age. A large fissure running north-south over the central

part of the locality was also excavated, but no charcoal or artefacts were found, only top soil and quartz stones (Lindgaard, 2006).

Since earlier excavations adjacent to rock art panels in Scandinavia had revealed structures such as fire places, graves, stone packing and artefacts, the Museum of Natural History and Archaeology applied for funds to investigate the field that bordered the eastern panel (Bengtsson, 2004:103-129; Kaul, 2005; Milstreu, 2006).

In May 2006 two trial trenches about a metre in width were opened in front of the eastern panel. In trench 1 three post holes (features 7-9) and three stake holes (features 10-12) were found, while a cooking pit (feature 2) and a post hole (feature 3) were identified in trench 2 (Lindgaard, 2005). The investigations continued in September 2006 with removal of the top soil in an area covering about 300 square meters. In total 26 features were uncovered; 17 post holes, six stake holes, two cooking pits and a feature that probably is remnants of collapsed wattle-and-daub walls. All features appeared as grey/brown-grey in contrast to the yellow sand layer surrounding them. All features were cross-sectioned, recorded and test material from 10 features was retracted for radiocarbon dating, pollen analysis and macro fossil analysis. All excavated material was water sieved. The features in the field did not seem to form clear structures, apart from nine post-holes (40-49) surrounding a feature (51) that was interpreted as collapsed wattle-and-daub walls from a house (Lindgaard, 2006).

The amount of charcoal and charred seeds in post holes 40-49 indicates house fires. Charred seeds are more likely to be contemporary with the post holes compared with uncharred seeds that mechanically may have ended up in older soil layers. No *Cerealia*-seeds were found, but the charred seeds comprising weeds indicates cereal cultivation (Solem, 2007:3-4). Feature 46-51 (TUa-6612, TUa-6613, TUa-6611, TUa-6614, T-19032, and TUa-6615, TUa-numbers are AMS-dated) were dated to 775-380 BC which covers the end of the Bronze Age and the beginning of the pre-Roman Iron Age (Solem, 2007:3-4) (see Figure 6). Test material for radiocarbon dating and botanic analysis was retrieved from cooking pits 2 (TUa-6616), 15 (T-19035), post hole 3 (T-19031), 26 (T-19034) and 29 (TUa-6610). The results from the radiocarbon analysis varied greatly, from Bronze Age to Roman Iron Age. TUa-6616 was dated (AMS) 1000-910 BC=28±35 BP uncalibrated, T-19035 160 BC-80 AD=2025±100 BP uncalibrated, T-19031 425-610 AD=1550±80, T-19034 were dated younger than 1655 AD=220±40 BP uncalibrated, TUa-6610 were dated (AMS) 365-195 BC=2215±30 uncalibrated. In post hole 3 (T-19031) only charred seeds of weeds indicating cereal cultivation were recovered (Solem, 2007:2-3). Post hole 29 (TUa-6610) dated to the pre-Roman Iron Age contained no charred seeds. Cooking pit 15 (T-19035) dated to the transition between the pre-Roman Iron Age and Roman Iron Age, contained a few charred seeds indicating cereal cultivation. The heat generation in such cooking pits is known to burn away seeds entirely (Solem, 2007:2).

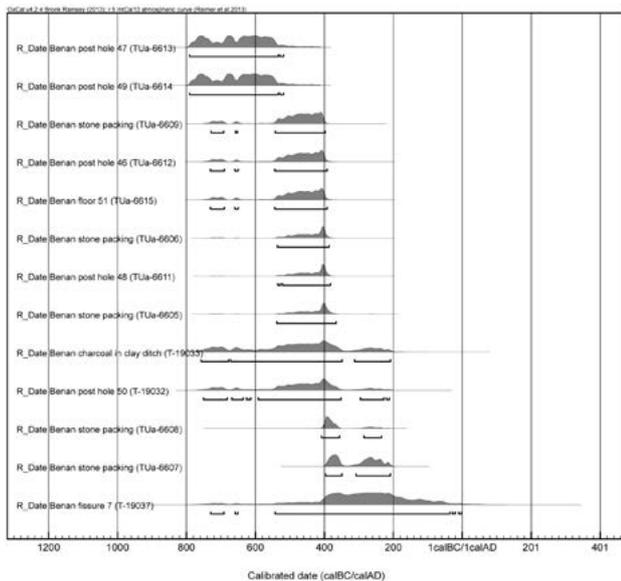


FIGURE 6: DATED ACTIVITY AT BENAN.

**The Benan panels**

The documentation of the Benan II panels was completed in 2014 and over 150 figures were recorded (Einang, 2014). The whole rock art locality was situated on a rock outcrop comprising severely weathered greywacke sandstone. The weathering had already caused damage to several figures (Lindgaard, 2006:9-11). About 75 confirmed boat figures, 65 horse figures and 15 foot soles were documented, in addition to several cup marks, ring figures and one anthropogenic figure. Most figure collections did not seem to form an understandable scene, but were characterized by chaos in the form of cross-cuttings and figures placed helter-skelter (Figure 8 and 9). A few compositions were



FIGURE 7: THE COMPOSITION AT BENAN II RESEMBLING THE TRUNDHOLM WAGON. (TRACING NTNU VITENSKAPSMUSEET, EINANG 2013)

observed, such as a composition of horses, boats and rings figures on the western side (Figure 7). This scene comprises a horse and a boat emerging from a ring figure measuring about 25 cm in diameter. The horse is attached to the ring figure by its tail. This horse-and-ring-scene resembles the Trundholm wagon found in a bog in Denmark in 1902. This bronze artefact comprises a horse pulling a large circular disk, and has been interpreted as representing a Bronze Age sun cult (Almgren, 1927:265; Kaul, 1998; Lindgaard, 2006:42; Lindgaard *et al.* 2006: 19-20).

The two dateable boat forms at Benan II are the Hjortspring and Austrheim boats. The Hjortspring boat is a keel-less canoe recovered from a bog in Hjortspring, Denmark. This boat is dated to the pre-Roman Iron Age (Kaul, 1998:104-107). A very fragmented boat with recessed clamps like Hjortspring and with a hull shape similar to Hjortspring's, from a bog in Haugvik, Helgeland, Norway, is dated to the end of the Bronze Age (Sylvester, 2006:91-106).

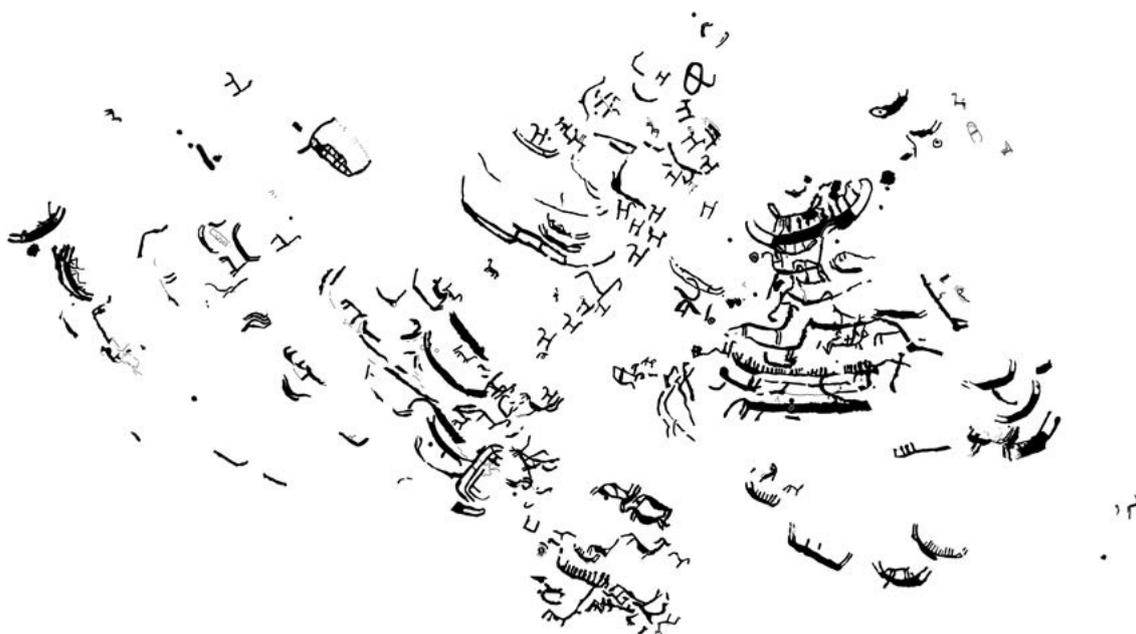


FIGURE 8: THE EASTERN PANEL AT BENAN, WITH MANY HJORTSPRING BOATS, BUT ALSO BOATS WITH TRAITS FROM THE AUSTRHEIM-BOAT. (TRACING EINANG 2013)



FIGURE 9: THE WESTERN PANEL AT BENAN II. ALSO ON THIS PANEL HJORTSPRING FIGURES DOMINATE AND THE COMPOSITION IS CHAOTIC. (EINANG 2013)

The Austrheim boat figure is found on a standing stone on a grave mound in Austrheim, Sogn and Fjordane, Norway. Based on finds of barrel shaped pottery in the mound it is dated 1600-1400 BP (Kaul, 1998:107-110; Mandt, 2005:51-67; Skjelsvik and Straume, 1958:57-64). The Austrheim boat is therefore also seen to represent a late boat type (Magnus, 1978:103-227; Mandt, 2005:51-67; Sognnes, 1987: 81-83).

Benan II represents a typical panel from Northern Beitstad, with many boat and horse figures, late boat forms, and chaotic compositions.

### Settlement traces

Due to road construction at Egge, several salvage excavations there have resulted in finds from house constructions from the Bronze Age to the Migration period (AD 400-550). Since Egge is one of few farms that have been excavated in Steinkjer that has given conclusive settlement traces, we have to rely on the Egge settlements for being representative for the rest of the area (Haug, 1998; Høgseth, 2000; Solem, 2002; Stomsvik, 2000; Ystgaard, 2000).

In the Neolithic the most distinct settlement traces in Steinkjer are kitchen middens or garbage heaps containing mainly shell. These concentrate to shore bound locations in the north-eastern part of the Beitstadvjord (Asprem, 2012:146-148). Bronze Age house structures are found in only one example in Steinkjer (TUa-3135) and dated (AMS) to 1310-1120 BC=2990±60BP uncalibrated, while eighth house structures (TUa-3133, TUa-3136, T-15030, TUa-2865, TUa-2866, TUa-2868, TUa-2869, Beta-

302293) in Steinkjer have been dated to the pre-Roman Iron Age, and three (T-14692-14696, T-15380) Roman Iron Age and Migration period (see Figure 10). (Dates from Tranamarka and Mære are not included in the chart.) (Møllenus, 1967:163-164; Stamnes, 2007: 121). The other Bronze Age houses found in central Norway are found in Kvenild and Søberg south of Trondheim. This concentration is mainly a result of the many and large excavations carried out in this area due to large scale development and road construction. Also in Kvenild and Søberg there are few remains of houses from the Bronze Age, but during pre-Roman Iron Age the number of house structures increases drastically (Grønnesby, 2005:97-107; Rønne, 2005:87-96; Stamnes, 2008: 27-29, 121). This

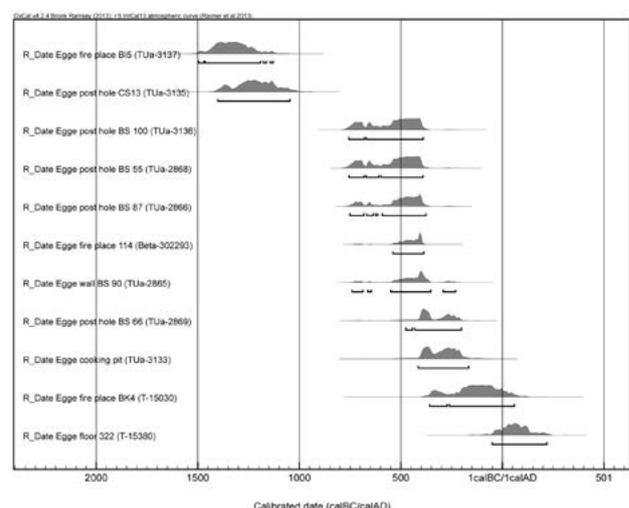


FIGURE 10: DATED HOUSE CONSTRUCTIONS AT BEITSTAD.

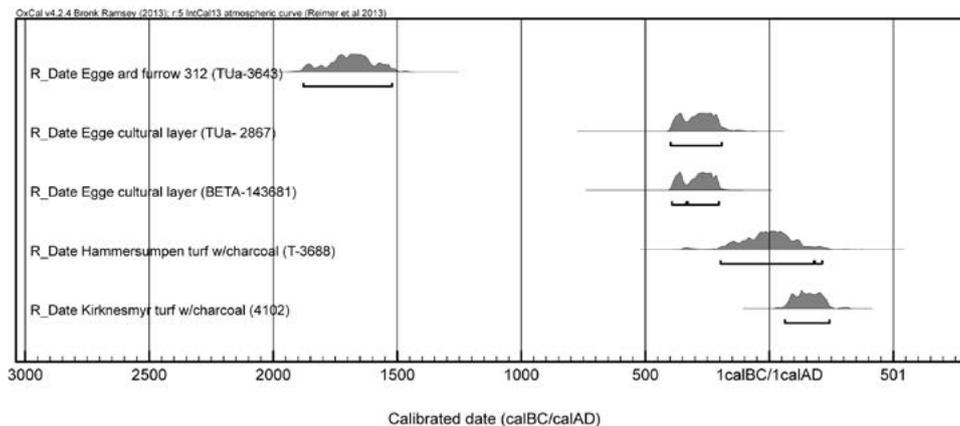


FIGURE 11: DATED TRACES FROM CEREAL CULTIVATION IN BEITSTAD.

increase has been seen as a change into more sedentary settlements, larger settlement entities, and early signs of a population involved in animal husbandry and cereal cultivation during pre-Roman Iron Age (Grønnesby, 2005:97-107). The Bronze Age house find in Egge bears witness to at least one permanent settlement in the Beitstad/Egge-area, but since this is the only known house from this period, the settlement pattern for most of the population in this area might have been more mobile.

### Graves

Even though many grave mounds and cairns have been registered in Steinkjer (over 1800 acc. to Askeladden, the Database for cultural heritage, 2015) it is hard to place them either in the Bronze Age, pre-Roman or Roman Iron Age since only about 20 have been excavated and dated (Gaustad, 1965:F.14-F.25; Grønnesby, 2012:173-184; Rygh, 1881:1-13; 1879:54-59; 1906:5-21). Excavations of grave mounds at Egge farm have resulted in dates from the pre-Roman Iron Age and Roman Age, while several graves at Frøseth, Toldnes and Holan south of Steinkjer town are dated to the Bronze Age (Gaustad, 1965:F.14-F.25; Grønnesby, 2012:173-184; Rygh, 1881:1-13; 1879:54-59; 1906:5-21). Because the total number of graves is so large, and so few graves have been excavated, it is difficult to differentiate between graves from the Bronze Age and graves from the pre-Roman and Roman Iron Age. Therefore graves will not be studied further in relation to settlement continuity and discontinuity.

### Traces from husbandry and cereal cultivation

A cattle tooth from a kitchen midden at Hammersvolden in southern Beitstad (T-24118:12) is dated 2460-2290 BC=3895±40 BP uncalibrated, representing the first trace of animal husbandry in central Norway (Asprem, 2009:4-7, Petersen 1912). What might be the earliest trace of cereal cultivation in central Norway is a grain of barley (*Hordeum*) found in an ard furrow (TUa-3643) on Egge farm adjacent to southern Beitstad, which is dated (AMS) 1745-1530 BC=3385±70 BP uncalibrated (Bronze Age) (Solem, 2002:6). The relation between the *Hordeum*-

grain and the dated charcoal from the same ard furrow is uncertain, and the early date has been discussed (Asprem, 2013:179). In addition to the barley grain, two deep cultural layers (between 25 and 50 cms in depth) described as dark brown humus containing charcoal fragments on Egge farm (TUa-2867 and Beta-143681) were dated (AMS) 380-195 BC=2235±50 BP uncalibrated and 400-340 BC=2240±40 BP uncalibrated (pre-Roman Iron Age). Presence of seeds from *Urtica dioica* and *Polygonum aviculare* in this layer are linked to cereal cultivation (Høgseth, 2000; 28-30; Solem, 2002:4-6; Ystgaard, 2000).

Two charcoal-rich soil levels found in pollen diagrams in southern Beitstad is interpreted as signs from slash-and-burn activity prior to cereal cultivation and dated to roughly 2000 BP (Jevne, 1982). This slash-and-burn activity coincides with an increase in both husbandry and cereal cultivation indicating pollen (Hafsten, 1987:101-120; Jevne, 1982:92-94, 98, 100-101, 110).

The earliest cereal cultivation seeds found in pollen diagrams in central Norway is dated to the transition from Bronze Age to pre-Roman Iron Age (Sandvik and Selvik, 1993:26-29). The pollen diagram from the locality Vassaunvatnet, about 4 km north of Egge farm, shows the earliest presence of *Cerealia*-pollen in the pre-Roman Iron Age. This find concur with other pollen diagrams from central Norway (Hafsten, 1987:101-120; Sandvik, 1986:71).

In addition to this most ard furrows and lynchets investigated in central Norway are concentrated to the pre-Roman and Roman Iron Age (Christophersen, 1982; Farbregd, 1977, 1985; Haug, 1998; Rønne, 2005:89; Stamnes, 2008:41-42, 119).

### Summing up the case study

Scattered finds of *Cerealia* prior to the pre-Roman Iron Age such as the *Hordeum*-grain from the ard furrow at Egge may be traces from early cereal cultivation, but do not bear witness of a persistent change in the subsistence pattern. Several agricultural traces from cereal cultivation

in Steinkjer and other parts of central Norway have been investigated and radiocarbon dated. Few of these are dated earlier than pre-Roman Iron Age.

Radiocarbon dates from the Benan stone packing indicate that it was constructed during early pre-Roman Iron Age.

Interpreting what the stone packing constitutes is difficult. It does not seem to resemble a *clearance cairn* because of its many fire-cracked stones and its location near the top of a rock outcrop instead of in a slope adjacent to a field (Holm, 2007:34-38). *Burnt mounds* from Bronze Age, pre-Roman and Roman Iron Age comprise fire-cracked stones and charcoal. In Sweden a considerable number of such mounds have been investigated and found to contain household waste. Large burnt mounds may indicate permanent settlements or specialized activity. In addition several such mounds have been found to contain graves, and the many similarities between graves and burnt mounds have been emphasized (Rundkvist, 1994:83-87). Some interpretations have even focused on burnt mounds without graves being *cenotaphs* or monuments to commemorate someone buried elsewhere. Burnt mounds have been interpreted as both ritual and profane in character (Lindqvist, 2006:33; Rundkvist, 1994:83-87).

Rock art panels covered by fire-cracked rock and charcoal and stone packings throughout the pre-Roman and Roman Iron Age are not unique for Benan II, but are found at several farmers' panels in Scandinavia. Such stone packings have often been proved to contain bones, pottery and other artefacts, and interpreted as *sacrifices* or *graves*, and ritual interpretations have been central (Bengtsson, 2004:106-107; Claesson and Munkenberg, 2004:17-60; Goldhahn and Østigård, 2007; Johansen, 1979:112-113; Mandt and Lødøen, 2005:203). Archaeological layers or features containing fire-cracked stones have often been linked to ritual fires (Bengtsson, 2004:121, Johansen, 1979:111).

Stone packings without bone material found in connection to rock art panels or just rock outcrops have also been found in Hornnes and Solberg in Østfold and Raä 65, Raä 897, Raä 650 and Svarteborg 116 in Bohuslän. Unfortunately very few of these have been radiocarbon dated, but the few dated ones, have given dates ranging from Bronze Age to Roman Iron Age (Bengtsson, 2004:120-121, Claesson and Munkenberg, 2004:23; Goldhahn and Østigård, 2007:21-39).

The concentrated charcoal found in Benans fissure 7 and a charcoal concentration adjacent to the eastern panel, bear witness to fire(s) on the rock itself, occurring in the same period as the stone packing was constructed. Should these fire(s) and the construction of the stone packing be linked to other changes happening concerning subsistence, settlement patterns and religion in pre-Roman Beitstad and central Norway?

In instances where several stone packings containing fire-cracked stones are localized in groups, it would be almost

a lie to interpret them as graves, but the stone packing at Benan II is the only feature of its kind at Benan. The stone packing contained no bone material or household waste, although two small ceramic glazed beads were found in layer 2) (Lindgaard, 2006). The covering of parts of the panels there, like at many other Scandinavian panels, was probably done deliberately, and the people covering the Benan II panel possibly had knowledge about the former ritual importance of the outcrop and the figures pecked onto it. The stone packing can therefore be interpreted as either constituting an abandonment of old rock art figures and old rituals, or as a reinforcement of these old symbols. Covering rock art figures with dirt or incorporating them in graves such as the Kivik grave, has not been interpreted as covering up or abandoning the symbolic and ritual importance of these stones (Goldhahn and Østigård, 2007:249-252). Others have pointed towards the importance of changes happening in the Scandinavian society throughout the pre-Roman Iron Age and the Roman Iron Age (Claesson and Munkenberg, 2004:59-60). Could such changes have caused an abandonment of old symbols and places, through covering them up?

The case study shows that large areas must have burnt during pre-Roman Iron Age. Whether fires happening at Benan should be viewed as ritual, profane or both are yet to be answered. Dates from the stone packing and the house at Benan concur with the settlement layers at Egge, which indicate that the stone packing is connected to slash-and-burn activity prior to cereal cultivation, and that the people covering up the panel at Benan II was aware of the symbolic and ritual history of this rock outcrop.

#### **Continuity from the Neolithic to the pre-Roman Iron Age?**

The case study from Beitstad is a contribution to the debate regarding central Norway's subsistence in Bronze Age and pre-Roman Iron Age. The investigations show that even though we are dealing with two different rock art styles, some panels were in continuous use for several thousands of years, and the practice to communicate on rock outcrops itself persisted for a long period in Beitstad (Sognes, 1998:156, 2008:231). Earlier researchers have suggested that the farmers' rock art was a cultural trait that spread from the south (Kristiansen and Larsson, 2005:206; Kaul, 1998:80). Several hunters' figures in central Norway are cross-cut by farmers' figures. This continuity is particularly visible on Beitstad.

Since rock art in Scandinavia were divided into two main groups over a century ago, research on rock art has been heavily influenced by this. Instead of seeing continuity through the reuse of panels and certain motifs, and through preserving the rock art tradition itself, focus has been on discontinuity and conflict through superimpositions and new motifs. The makers of these two main rock art groups have been seen as opposites; hunter-gatherer groups in contrast to farmer groups and a mobile life-style in contrast to a sedentary one (Sognes, 1995:137). By trying

to look beyond this dichotomy and reviewing similarities and differences, we are able to focus also on continuity. Or: 'what we see depends mainly on what we look for' (Sir John Lubbock).

Increasing numbers of cereal cultivation signs and house constructions during the pre-Roman and Roman Iron Age, coincide with the youngest rock art figures in central Norway. At present we do not have sufficient grounds for stating that the communication on rock outcrops became meaningless during the pre-Roman Iron Age. The stone packing covering the Hjortspring boat figures at Benan II could represent a change in ways of communicating and a transition from a nomadic life-style to sedentariness. However the presence of Austrheim boat figures indicate that rock art was made also in Roman Iron Age at Benan and Tessem. A runic inscription from Roman Iron Age or Migration Period at Tessem III also indicates that the tradition to peck figures or signs into the rock lasted well beyond the Bronze Age (Elvestad, 1996).

During later years there has been an increasing number of archaeological excavations investigating agricultural traces and house constructions in central Norway. Nevertheless, few house constructions have been recovered from the Bronze Age. In areas such as Beitstad, several deep settlement layers have been registered but never excavated or dated (Tessem, Heltuv and Nordtuv, Askeladden, 2015). By investigating these layers further we may find additional traces from early cereal cultivation and permanent settlements.

A solid framework for dating agriculture in central Norway requires further archaeological and botanical investigations and an increased number of radiocarbon dated features. Such a framework would become even more solid through investigations into areas not affected by modern development and rescue archaeology, due to many salvage excavations in areas close to cities and other densely-populated areas, since little or no funding is available for research. It is advisable to regard the rock art in close connection to other archaeological traces, and treat it the same way; through thorough extensive archaeological excavations supported by a sufficient number of radiocarbon dates and botanical analysis.

### Acknowledgments

Thanks to Thyra Solem, Frank Asprem and Aina Heen Pettersen for reading and commenting the manuscript. Also thanks to Bodil Østerås for contributing to information about dated features from Egge.

### Bibliography

- ALMGREN, O. (1927) *Hällristningar och kultbruk*. Kungl. Vitterhets Historie och Antikvitets Akademiens Handlingar 35. Stockholm.
- ASPREM, F. (2005) *Jordbrukets røtter i Midt-Norge. En forskningsstatus*. Upublisert hovedoppgave,

- Norwegian University of Science and Technology, Trondheim.
- ASPREM, F. (2009) Oksetann flytter grenser. *SPOR* 2009 (1) Pgs. 4-7. Trondheim.
- ASPREM, F. (2012) Neolitiseringen i Midt-Norge – En utvikling i flere trinn? In: Kaul, F. and Sørensen, L. (eds) *Agrarsamfundenes ekspansjon i nord*. Symposium på Tanums Hällristningsmuseum, Underslås, Bohuslän, d. 25.-29. maj 2011. Nationalmuseet, København, Pgs. 142-151.
- ASPREM, Frank (2013) The earliest agriculture in central Norway – an overview of indications from the Steinkjer area in North Trøndelag. The Border of Farming – Shetland and Scandinavia. Neolithic and Bronze Age Farming, Pgs: 177-181).
- BAKKA, E. (1988) *Helleristningane på Hammer i Beitstad, Steinkjer, Nord-Trøndelag. Granskingar 1977 og 1981*. Rapport arkeologisk serie 1988, Vol. 7. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- BAKKA, E. and GAUSTAD, F. (1975) *Helleristningsundersøkelser 1974 i Beitstad, Steinkjer, Nord-Trøndelag*. Rapport arkeologisk serie 1975, Vol. 8. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- BENGTSSON, L. (2004). *Bilder vid vatten*. Göteborg University.
- BRØGGER, A. W. (1908) En ny teori om den paleolitiske stenalders kunst. *Naturen* 32, Pgs. 140-145.
- CHRISTOPHERSEN, A. (1982) *Oppmåling og undersøkelse av åkerreiner på Talmo, Leksvik og Rinnoan/Eid, Høylandet, Nord-Trøndelag*. Rapport arkeologisk serie 1982, Vol. 7. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- CLAESSON, P. and MUNKENBERG, B. A. (2004). *Gravar och ritualer*. Bohuslän museum, Pgs. 17-60.
- DAHL, R., SVEIAN, H., & THORESEN, M. K. (1997) *Nord-Trøndelag og Fosen-Geologi og landskap*. Norges Geologiske Undersøkelser.
- EINANG, P. (2012a) *Tracings Elnan I and II*, unprocessed, on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology. Trondheim.
- EINANG, P. (2012b) *Tracings Hammer XVI and XVII*, unprocessed, on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology. Trondheim.
- EINANG, P. (2013) *Tracings Benan II*, unprocessed, on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology. Trondheim.
- EINANG, P. (2014) Rapport dokumentasjon av ristningsfeltet Benan II, gnr 432/1, Steinkjer kommune, Nord-Trøndelag fylkeskommune. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology. Trondheim.
- ELVESTAD, E. (1996) *Rapport fra feltkurs for grunnfagsstudenter i arkeologi ved Vitenskapsmuseet, NTNU*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 4440. Trondheim.

- FARBREGD, O. (1977) *Utgraving av romartids gravhaug på Kvefjo, Verdal, Nord-Trøndelag 1969*. Rapport arkeologisk serie 1977, Vol. 1. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- FARBREGD, O. (1985) *Prøveundersøkelse på tunet på Egge. Egge, Gnr. 197, Steinkjer kommune, Nord-Trøndelag*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 37987 and 6945. Trondheim.
- GAUSTAD, F. (1965) *Tidlig metalltid i det nordenffjelske Norge*. Unpublished Magister thesis, University of Oslo.
- GJESSING, G. (1936a) Die Chronologie der Schiffsdarstellungen auf den Felsenzeichnungen zu Bardal, Trøndelag. *Acta Archaeologica* VI, Pgs. 125-139. København.
- GJESSING, G. (1936b) *Nordenffjelske ristninger og malinger av den arktiske gruppe*. Instituttet for sammenlignende kulturforskning, Serie B, skrifter XXX. Oslo.
- GOLDHAHN, J. and ØSTIGARD, T. (2007) *Rituelle spesialister i bronse- og jernalderen – en introduksjon*.
- GRØNNESBY, G. (1997) *Tracings from Bardal III, IV and V, Homnes I, Lagtu I, Skjevik II, III, IV and V, Tessem III and IV* on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology. Trondheim.
- GRØNNESBY, G. (2005) Excavation of house sites at Kvenild, Trondheim 1998. *AmS-Varia* 43, Pgs. 97-107.
- GRØNNESBY, G. (2012) Bronsealdergravene på Toldnes og Holan. Markører av en passasje. In: Grønnesby, G (ed) *Vitark 8, Graver i veien. Arkeologiske undersøkelser E6 Steinkjer*, Pgs. 173-184. Tapir akademisk forlag, Trondheim.
- HAFSTEN, U. (1987) Vegetation, climate and evolution of the cultural landscape in Trøndelag, central Norway, after the last ice age. *Norsk Geografisk Tidsskrift* 41(2) Pgs. 101-120. ISSN 0029-1951 <http://www.tandfonline.com/doi/pdf/10.1080/00291958708621984>.
- HAUG, A. (1998) *Undersøkelse av åkerreiner og rydningsrøyser på Frøsetåsen. Øver Lø, gnr 95, Steinkjer kommune, Nord-Trøndelag*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 20279 and 20280. Trondheim.
- Hansen, A. M. (1908) Om helleristningene. *Norske fortidsminner* 64, Pgs. 1-62.
- HELKOG, K. (2001) The Shore Connection. Cognitive Landscape and Communication with Rock Carvings in Northernmost Europe. *Norwegian Archaeological Review* 32 (2) Pgs. 73-94.
- HOLM, I. (2007) Forvaltning av agrare kulturminner i utmark. In Holm, I, Innselset, S and Ingvild Øye (eds) *UBAS – Nordisk* 4, Pgs. 9-274. University of Bergen, Bergen.
- HØGSETH, H.B. (2000) *Arkeologiske undersøkelser av fornminner på Egge i forbindelse med Statens Vegvesens reguleringsplan 'ny E6, Eggelia- Selli og ny Fv 286', Steinkjer Kommune, Nord-Trøndelag*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 20693. Trondheim.
- JEVNE, O.E. (1982) *Vegetasjons-, klima- og jordbruks historie i Beitstad, Nord-Trøndelag*. Unpublished Cand. real. thesis, University of Trondheim.
- JOHANSEN, Ø. (1979). New results in the investigation of the Bronze Age rock carvings. *Norwegian Archaeological Review*, 12(2), Pgs. 108-114.
- KAUL, F. (1998) *Ships on Bronzes: A Study in Bronze Age Religion and Iconography*. Publications from the National Museum: Studies in Archaeology and History 3. Nationalmuseet, Copenhagen.
- KAUL, F. (2005) *Helleristninger: Billeder fra Bornholms bronzealder*. Bornholms museum, Rønne.
- KRISTIANSEN, K. (2002) Langfærder og helleristninger. In *Situ. Västsvensk Arkeologisk Tidsskrift* 2000-2001, Pgs. 67-80. Göteborg.
- KRISTIANSEN, K. and LARSSON, T. B. (2005) *The rise of Bronze Age society: travels, transmissions and transformations*. Cambridge University Press.
- LINDGAARD, E. (2005) Dagbok Benan II, dokumentasjon 17.-21.5.2005. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology. Trondheim.
- LINDGAARD, E. (2006) *Rapport Benan II*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 36859, 36860 and 37542. Trondheim.
- LINDGAARD, E. (2014) Style: A Strait Jacket on Hunters' Rock Art Research? *Adoranten* 2013, Scandinavian Society for Prehistoric art, Pgs. 57-68. Tanums hållristningsmuseum, Underslös.
- LINDGAARD, E., OLSSON, C., NILSEN T. B., STAFSETH, T. and SMISETH, M.-T. (2006) Nytt helleristningsfelt i Beitstad. *SPOR* 2006/1. Vitenskapsmuseet, Trondheim.
- LINDQVIST, M. (2006) *Flacka stensättningar och en handfull brända ben – Ett gravfält från bronsålder och äldsta järnålder*. Arkeologisk slutundersökning/ teknisk rapport. Projekt Saltkällan-Håby, teknisk rapport 3/7. Foss socken, Foss-Berg 3(1) RAÄ 438.
- LING, J. (2008) *Elevated rock art. Towards a maritime understanding of Bronze Age rock art in northern Bohuslän, Sweden*. Doctoral thesis, University of Gothenburg.
- MAGNUS, B. (1978) De eldste tider i Gloppen og Breim. In P. Sandal (ed) *Soga om Gloppen og Breim*, Pgs. 103-227. Sandane.
- MANDT, G. (2005) Kårstad i Stryn: Møteplass for ulike kulttradisjoner i eldre jernalder? In: A. Engevik og K. A. Bergsvik (eds) *Fra funn til samfunn: jernalderstudier tilegnet Bergljot Solberg på 70-årsdagen*. UBAS Nordisk 1, Pgs. 51-67. University of Bergen, Bergen.
- MANDT, G., and LØDØEN, T. (2005) *Bergkunst: helleristninger i Noreg*. Det Norske Samlaget.
- MARSTRANDER, S. (1964) Stilformer og typer i utformningen av jordbruksristningenes skips figurer. *Tor* 10, Pgs. 161-174. Stockholm.
- MILSTREU, G. (2006) *Adoranten*, årsskrift 2006, Scandinavian Society for Prehistoric Art.
- MOEN, A., ODLAND, A., and LILLETHUN, A. (1998) *Vegetasjon. Nasjonalatlas for Norge*. Statens Kartverk, Hønefoss.

- MYHRE B. and ØYE, I. (2002) *Norges landbrukshistorie 1, 4000 f.Kr.-1350 e.Kr. Jorda blir levevei*. Samlaget, Oslo.
- MØLLENHUS, K. R. (1967) Gullgubbene fra Mære kirke. *Viking* XXXI, Pgs. 163-166.
- PETERSEN, T. (1912) En boplads fra yngre stenalder paa Hammersvolden i Beitstaden. *Det kongelige norske videnskabers selskabs skrifter 1912*, Vol. 1. Aktietrykkeriet i Trondhjem, Trondheim.
- PETERSEN, T. (1934) *Helleristninger på Lagtu – båter med kjøl og mannskapslinje*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 4701. Trondheim.
- PRESCOTT, C. (1996) Was there really a Neolithic in Norway? *Antiquity* 70 (1) March 1996, Pgs. 77-87.
- RUNDKVIST, M. (1994). Skärvstenshögar med gravgömmor i östligaste Mälaramrådet. *Fornvännen*, 89(2) Pgs. 83-89.
- RYGH, K. (1879) Udgravninger i Sparbuen 1879. *Aarsberetning fra oldsagsamlingen, Det Kgl. Norske Videnskabers Selskabs Skrifter 1876*, Pgs. 54-59. Thronhjøm.
- RYGH, K. (1881) Undersøgelser av gravhauger i Sparbuen og paa Inderøien 1880. Særtrykk av: *Aarsberetning for Foreningen til norske fortidsminnesmerkers bevaring 1880*, Pgs.1-13. Kristiania.
- RYGH, K. (1903) Nordre Trondhjems Amt. *Norske Gaardnavne* no. 15: Oplysninger samlede til Brug ved Matrikelens Revision 1903.
- RYGH, K. (1906) En gravplads fra bronzealderen. *Det Kgl. Norske Videnskabers Selskabs Skrifter 1906*, Vol. 1, Pgs. 4-29. Thronhjøm.
- RYGH, K. (1908) Helleristninger af den sydsandinaviske type i det nordenfjeldske Norge. *Det Kgl. Norske Videnskabers Selskabs Skrifter* Volume 10. Aktietrykkeriet i Trondhjem.
- RØNNE, P. (2005) Arkæologiske undersøgelser forud for bygningen af ny E6 gennem Melhus, Sør-Trøndelag. *AmS-Varia* 42, Pgs. 87-96. Stavanger.
- SANDVIK, P. U. (1986) *Paleoøkologisk undersøkning i Nord-Trøndelag med hovedvekt på innvandringa og etableringa av granskogen*. Cand. real. thesis, University of Trondheim.
- SANDVIK, P., and SELVIK, S. (1993). Korndyrking i vegetasjonshistoria. *SPOR* 16, Pgs. 26-29. Trondheim.
- SKJELSVIK, E. and STRAUME, E. (1958) *Austrheimsteinen i Nordfjord: et nytt bidrag til dateringen*. Universitetet i Bergen årbok, historisk-antikvarisk rekke 1957, Vol. 1, Pgs. 1-25. Bergen.
- SOGNNE, K. (1987) *Bergkunsten i Stjørdal 2: Typologi og kronologi i Nedre Stjørdal*. Gunneria 56. Museum of Natural History and Archaeology, Trondheim.
- SOGNNE, K. (1994) Ritual landscapes. Toward a reinterpretation of Stone Age rock art in Trøndelag, Norway. *Norwegian archaeological review*, 27(1), Pgs. 29-50.
- SOGNNE, K. (1995). *The social context of rock art in Trøndelag, Norway: rock art at a frontier*. In: Hølskog, K and Olsen B (eds) *Perceiving Rock Art: Social and Political Perspectives*. Instituttet for sammenlignende kulturforskning serie B skrifter XCII, Pgs. 130-145. Oslo.
- SOGNNE, K. (1998). Symbols in a changing world: rock-art and the transition from hunting to farming in mid Norway. *The archaeology of rock-art*, Pgs. 146-62.
- SOGNNE, K. (1999) *Det levende berget*. Tapir, Trondheim.
- SOGNNE, K. (2003) On shoreline dating of rock art. *Acta Archaeologica* Vol. 74, Pgs. 189-209. Blackwell, Oxford.
- SOGNNE, K. (2006) Derom tier berget: omkring slutten på den nordiske bergkunsten. In H. Glørstad, B. Skar and D. Skree (eds) *Historien i forhistorien: festskrift til Einar Østmo på 60-årsdagen*, Pgs. 173-182.
- SOGNNE, K. (2008) Stability and change in Scandinavian rock art. The case of Bardal in Trøndelag, Norway. *Acta Archaeologica* Vol. 79, Pgs. 230-245. Denmark.
- SOGNNE, K. and MARSTRANDER, S. (1999) *Trøndelags jordbruksristninger*. Vitark 1. Tapir, Trondheim.
- SOLEM, T. (2002) *Makrofossilundersøkelse og pollenanalyse Egge, Steinkjer, Nord-Trøndelag*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 38325. Trondheim.
- SOLEM, T. (2007) *Botaniske undersøkelser Benan II, Steinkjer, Nord-Trøndelag*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 36861. Trondheim.
- STAFSETH, T. (2006) *En analyse av veideristningenes kulturlandskap gjennom de indre deler av Trondheimsfjorden*. Unpublished master thesis, Norwegian University of Science and Technology, Trondheim.
- STAMNES, A. A. (2008) *Jernalderens jordbruksbosetning i Nord-Trøndelag: Utvikling og testing av en prediktiv modell*. Unpublished master thesis, Norwegian University of Science and Technology, Trondheim.
- STOMSVIK, H. (2000) *Arkeologisk rapport. Tranamarka*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 5331. Trondheim.
- SYLVESTER, M. (2006) Haugvikbåten fra Sømna—en plankebygd båt fra yngre bronsealder eller førromersk jernalder. *Viking* LXIX, Pgs. 91-106.
- YSTGAARD, I. (2000) *Flateavdekking og registrering i forbindelse med reguleringsplan til ny E6*. Report on file at the Norwegian University of Science and Technology (NTNU) Museum of Natural History and Archaeology, document nr. 29749. Trondheim.
- ZVELEBIL, M and ROWLEY-CONWY, P. (1984) Transition to farming in Northern Europe: A Hunter-Gatherer Perspective. *Norwegian Archaeological Review* 17, Issue 2, Pgs. 104-27.

#### Internet resources

- ASKELADDEN, Database for cultural heritage, Riksantikvaren, Norway. Retrieved in 2015 from: <http://askeladden.ra.no/sok/index.jsp>

# Between land and water: the ship in Bronze Age West Norway

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## Abstract

*Maritime interaction and cosmology will be explored in this paper. Many rock art sites with ship images in West Norway are located on or near the shore, in the intertidal zone. Four rock art sites in the Hardangerfjord area will be discussed here. All four sites have ship images and three of the sites have similar locations at the water's edge. Burial cairns have a similar location, and in some cases contain maritime elements. Here it will be argued that the ship's cosmological importance was closely linked to a maritime cosmology as well as maritime networks. Specifically, maritories are discussed in terms of travel, meetings and identity. People living in West Norway in the Bronze Age had an active relationship with the sea, which involved a maritime way of life and a maritime cosmology, where the ship was a central element. The ship crosses boundaries, between land and water, between the world of the living and the spirits. The rock art sites are interpreted as nodes, where several groups or local communities might have performed common rituals that sanctioned the maritime networks.*

## Introduction

One of the dominant rock art motifs in West Norway is the ship. As a dominant motif within Scandinavian rock art, the ship has been interpreted in a number of ways: it has been linked to the sun's movement across the sky (Kaul, 1998, 2004), to death and regeneration (Ekholm, 1917; Bradley, 1997; Wrigglesworth, 2002), fertility (e.g. Almgren, 1927), cosmology (e.g. Kaul, 1998; Goldhahn, 1999; Fredell, 2003; Wrigglesworth, 2011), and to travels (Kaul, 1998; Kristiansen and Larsson, 2005; Ling, 2008). As it is a pan-Scandinavian symbol, it is likely that the ship has some universal meaning, although it might have been understood and used differently in various parts of Scandinavia. In other words, the ship might have had differing, local meanings. Those meanings might be related to the location of rock art. The ship motif is found mainly near the present-day shore, and would in some cases have been at the water's edge in the Bronze Age (Nordenborg Myhre, 2004; Ling, 2008, 2012a; Wrigglesworth, 2011). Consequently, it is likely that water and the sea were significant in terms of both location and meaning of rock art motifs. In this paper I will discuss ship images and local meanings in West Norway, in terms of maritime interaction and cosmology.

## Rock art in Hordaland County, West Norway

In order to explore maritime interaction and cosmology in West Norway, I will discuss rock art sites in Hordaland County (Figure 1), with an emphasis on figurative sites with ship images. Rock art is mainly concentrated to the southern part of the county, in particular the Hardanger and Etne area. With one exception, figurative sites are not found on the outer coast, rather, the sites are found along the Hardanger fjord and its lesser fjords, and in Etne municipality, mostly concentrated in the area around Lake

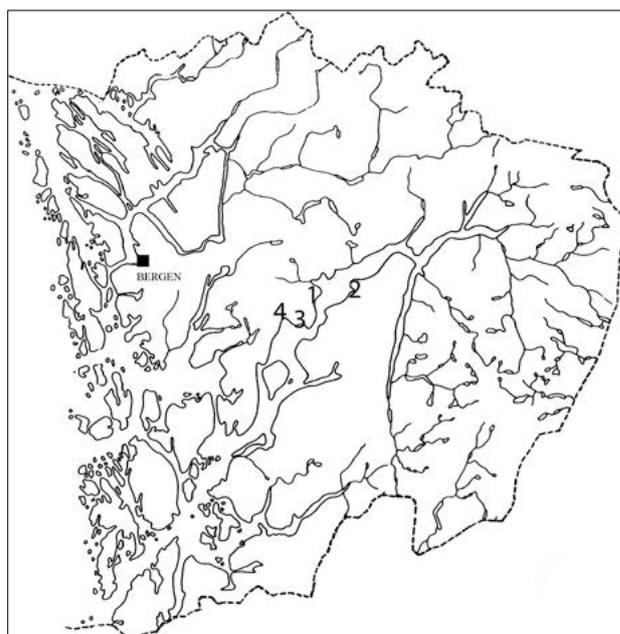


FIGURE 1: MAP OF HORDALAND, SITES DISCUSSED IN THE TEXT ARE MARKED. LEGEND: 1: VANGDAL, 2: BAKKE, 3: LINGA, 4: BERGE.

Storavatnet. There are a few sites to the north of this main area, in Os, Fusa and Voss municipalities; however, these will not be discussed in this paper.

Many panels are dominated by ships, and there is a large number of panels with cup marks. The latter are generally found at higher elevations, while the ship images are found in the lowland, usually on or near the shore. Other images are geometric motifs such as rings, spirals and cup marks. As far as chronology is concerned, the sites range from the Early Bronze Age to the pre-Roman Iron Age (1750-500 BCE); the majority of sites are dated to the middle of the Bronze Age (period 3-4/1300-900 BCE), based on

the chronology and typology of ships (Wrigglesworth, 2011:110-117; cf. Kaul, 1998:88).

The sites are generally found near or on the shore, with the exception of the sites near Lake Storavatnet in Etne. A location near water is a common factor. Shore line data indicate that the panels were created on the shore, in some cases at the water's edge, in the Bronze Age (Wrigglesworth, 2011). It should be pointed out that although some sites could have been in direct contact with water, that was not the case for all sites, sometimes it would appear that a location close to water or with a view to water was enough. Sites that are not located in the vicinity of water are often found near historic roads or tracks, routes of communication, or at summer farms in the mountains. Figurative sites with ship images in other parts of West Norway have similar locations near water, and this appears to be a West Norwegian pattern (Mandt, 1991; Wrigglesworth, 2002).

I will focus on a few examples in order to discuss the ship motif: the sites Vangdal, Berge, Bakke and Linga, all four sites are located within a small area along the Hardangerfjord. These sites are similar in that they are dominated by ships, they have both similar and differing locations, and some have other motifs as well, which makes for an interesting discussion of the ship and location of rock art in the Bronze Age.

**Vangdal, Kvam municipality**

Vangdal is located on a large cliff (Figure 2) about 10 m above the present shoreline, and consists of two panels, Vangdal 1 and 2. Vangdal 2 is dated to the Stone Age and will not be discussed further here. Vangdal 1 is found at the foot of the cliff, and has 14 ship images, four fragmented ships, two oval rings, a cup mark and one unidentifiable motif. All the ships are of a type known as A1/B1 ships (Mandt, 1991) or 'square' ships, dated to the Late Neolithic and Early Bronze Age. Similar ships are found on a few sites along the West Norwegian coast as well as in central Norway and Southwest Norway (e.g. Gjessing,



FIGURE 3: SHIPS AT VANGDAL 1. (PHOTO M. WRIGGLESWORTH)

1936; Fett and Fett, 1941; Mandt, 1991; Sognnes, 2002) and are a coastal phenomenon. The ship images at Vangdal are arranged in horizontal rows and are carved above horizontal quartz veins, giving the impression that they are riding the waves (Figure 3). Shoreline displacement curves for the area indicate that the cliff would have been at the water's edge around 2000 BCE (Wrigglesworth, 2011:112) and that the images were probably made close to water. There would have been several good landing places for boats in the vicinity of the panel.

**Bakke, Jondal municipality**

This site consists of five panels with at least 38 ships, on three outcrops (Figures 4, 5). There are also footprints, rings, concentric rings, anthropomorphic figures, cup marks and one animal. The ships date from the Early Bronze Age to the Early Iron Age. The site is located 40-50 m above the present shoreline, and was not shore bound in the Bronze Age. However, there is a good view of the fjord and there would have been good landing places for boats in the vicinity. The composition differs from Vangdal in that there are several different motifs, and some ships



FIGURE 2: VANGDAL 1. (PHOTO M. WRIGGLESWORTH)



FIGURE 4: BAKKE, PANEL 1. (PHOTO M. WRIGGLESWORTH)



FIGURE 5: BAKKE, PANEL 2-6, LOCATED FURTHER UP THE SLOPE FROM PANEL 1. (PHOTO M. WRIGGLESWORTH)



FIGURE 7: BERGE. (PHOTO M. WRIGGLESWORTH)



FIGURE 6: SHIP AND ANTHROPOMORPHIC FIGURES, BAKKE 1. (PHOTO M. WRIGGLESWORTH)



FIGURE 8: SHIPS AT BERGE. (PHOTO M. WRIGGLESWORTH)

are clearly part of scenes, e.g. one large ship is associated with a procession of anthropomorphic figures at Bakke 1 (Figure 6). Two smaller panels have only one ship each, both facing the fjord.

**Berge, Kvam municipality**

The site is located at the foot of a large cliff (Figure 7), around 7m above the present shoreline. There are at least 37 ships, rings and concentric rings, cup marks and a spiral. The ship images are dated from the Early Bronze Age to the Early Iron Age. Shoreline displacement curves indicate that the images were made more or less at the water's edge, and that the site was located at the mouth of a wide, shallow bay (Wrigglesworth 2011). The ship images follow the cracks and striations in the rock, and appear to be in almost horizontal rows; rings are scattered among the ships (Figure 8).

**Linga, Kvam municipality**

The site is found on a vertical, low outcrop at 10-12 m above the present shoreline (Figure 9), and according to



FIGURE 9: LINGA. (PHOTO M. WRIGGLESWORTH)

shoreline displacement curves the lowest images would have been made at the water's edge (Wrigglesworth 2011). There are at least 12 ship images (Figure 10), in addition to fragments that are likely to have been ship images. The ships appear to have been ordered in rows. The ships are mainly A1/B1 type ships, although one ship appears



FIGURE 10: SHIP AT LINGA. (PHOTO M. WRIGGLESWORTH)

to have curved stems, and the ships are dated to the Late Neolithic and Early Bronze Age.

With the exception of Bakke, these sites have similar locations close to the sea, and the images were most probably made at the water's edge. They are dominated by ships, and the ship images are similarly ordered in rows. Bakke was never located on the shore, and the ship images are not as ordered as at the other three sites; there are scenes involving ships and there are other motifs as well. Other sites in Hordaland are similar: e.g. a panel at Utbjoa has ships arranged horizontally, while the ships are scattered or arranged vertically at other panels on this site (Mandt Larsen, 1972; Wrigglesworth, 2011), which is located on the shore. The meaning and use of the sites might have been differentiated, so that each site was used for specific events or rituals although the ship is a common factor. There is clearly a relationship to water, which is perhaps natural where the ship is concerned; so the question is, what is the nature of this relationship? First, we need to understand the ship and how it might have been used in the Bronze Age, as well as the significance of the sea.

### **Ships and maritime interaction in the Bronze Age**

People living on the coast have a close affinity with the sea. It is a line of communication and a source of food. Boats would most likely have been used daily in the Bronze Age, for fishing or shorter journeys. Longer journeys would have required larger sea-going vessels and a crew, and might not have been an everyday occurrence (Kvalø, 2007). Ships depicted on rock art panels appear to be large ships, sometimes with crews. So if we assume that these images depict large ships with crews, then they might refer to longer journeys by sea (Ling, 2012a).

Maritime interaction would have been important in West Norway in the Bronze Age, and there are many possible activities that could have taken place at sea or on the shore: fishing, exploiting marine resources, rituals, transactions, and travel. Networks were essential for acquiring bronze

and other objects or materials, as well as the exchange of marriage partners, knowledge and information (e.g. Kristiansen and Larsson, 2005; Ling *et al.* 2013, 2014). The archaeological material from West Norway indicates that people living on the coast and along the fjords participated in networks, both at sea and on land (e.g. Aakvik, 2000; Engedal, 2010), as evidenced by bronze objects such as a Hadju-sámson type sword from Blindheim, Møre and Romsdal County (Engedal, 2005, 2010), as well as rock art images that are similar or identical to images found in other parts of Scandinavia, for instance ship images (Kaul, 1998; Ling, 2008).

Networks, in particular maritime networks, are of interest here, as they might explain why ship images were prolific and why they are found in the shore zone. I want to use the concept of 'maritory' in order to discuss maritime interaction in West Norway in the Bronze Age, and specifically to discuss a maritime cosmology, where the sea, the shore and the ship were central elements. Stuart Needham defines a maritory as a historically specific form with a variety of economic and ecological elements (Needham, 2009:15). A maritory is a definable zone of interaction used for specialist maritime exchanges (*ibid*:18), i.e. goods, marriage partners, craftsmen etc. Interestingly, a maritory includes both the sea and land, in terms of supplies, resources, harbours, tides, navigation. There must be harbours and safe places to shelter in a storm, as well as places to stock up on supplies and places to repair any damage sustained while travelling. Hence, maritime networks do not only involve a ship, its crew, a journey and a destination, but also the communities that were encountered along the way as well as the communities that were home to the crew members.

In addition, a maritory can encompass different cultures, which can lead to cultural similarities. This means that some areas of life could be influenced through contacts with other cultures while other areas do not change, and there can be many local responses to outside contacts and influence (cf. Barth, 1969; Dodgshon 1998). So, cosmological ideas could have been included in a maritory in the Bronze Age. More work is needed in order to identify possible maritories in West Norway; however, possible maritories could have existed from Rogaland County to Jutland and from Rogaland up along the coast to central Norway and beyond.

Maritime interaction is not restricted to networks alone, as mentioned above it includes activities on the shore such as various rituals and meetings (Ling, 2008, 2012b). Although long-distance journeys to acquire bronze, knowledge or to uphold alliances would have been important events, they were not an integral part of daily life and as such, might have been more important to the upper echelons in society than to a farmer/hunter who could not afford to acquire metal. Even so, the networks would have been sources of knowledge and news as well as transmitters of new ideas, including cosmological ideas. People along the coast were mobile and might have encountered strangers regularly,

so the shore zone would have been a place for meeting strangers as well as returning ships and local crews. Ships were thus essential in maintaining networks and maritime interaction. Hence it is not surprising that the ship was an important social and economic factor, and became a powerful symbol. It also came to play a cosmological role. Rock art sites and other archaeological material from Sweden also indicate maritime interaction (Ling 2008, 2012b), and it is possible that this is the case in the coastal areas in Scandinavia in general. My point is that an active relationship with the sea has a direct bearing on the shaping of identity and experience, and world-view. People living on the coast might well have had a different world-view than people who lived inland, and might have identified with stories and myths related to the sea. It is for this reason that I suggest that a maritime cosmology existed in West Norway in the Bronze Age.

### **The significance of water**

In West Norway, water is a major landscape element. There are fjords, inlets, bays, rivers, brooks, waterfalls, lakes and ponds. The landscape is characterised by the sea and mountains, islands and skerries. So, water would have been navigated on a daily basis in prehistory, and people living in the coastal areas would have had a detailed working knowledge of the sea. It is not surprising that they would also ascribe cosmological meaning to the sea and hence to the ship (Nordenborg Myhre, 2004). Cosmology can be defined as a theory on the origins of the universe, and as such it is a way of making sense of and justifying the world.

Water had a spiritual or religious dimension in the Bronze Age. Hoards in lakes and springs attest to this (Melheim and Horn, 2014; Henriksen, 2014). Ethnographic evidence indicates that water is associated with the world of the dead (e.g. Helskog, 1999) in Arctic areas. Australian ethnography among the Salt-Water People also shows how different elements of the sea are related to mythical creatures and named (McNiven, 2003). Various features of the seascape such as islands, tides and sandbanks are associated with mythical beings that are thought to have created those features, and can be perceived as visual manifestations of the Ancestral Beings (McNiven, 2003:332-333). The sea is defined both cosmologically and socially as the sea can be divided into tenures (cf. Westerdahl, 2005). More importantly, the seascape is ritually managed and the rituals take place in maritime contexts, in particular on the shore in the intertidal zone (McNiven, 2003: 336).

While we cannot draw direct parallels to the Bronze Age in West Norway, there are some interesting points to consider. First, that the sea is not an empty expanse of water. It consists of named places and elements: islands, skerries, shoals, currents. Second, that the sea might have had social meaning as well as cosmological or mythological connotations, and that those connotations affected the perception of the sea and possibly how

it was used. Given that many burial cairns and rock art sites are located on or near the shore, this is an interesting perspective. The sea could well have been perceived as alive and associated with supernatural beings by people living in West Norway in the Bronze Age, particularly as the sea is often associated with death and the underworld (e.g. Helskog, 1999; Bradley, 2000; Needham, 2009). This also means that specific ritual activities could have taken place on the shore.

In some cases, there have been excavations in front of or around rock art panels in West Norway, although few finds have been made. Interestingly, a small excavation in front of Berge, Kvam municipality, revealed marine sand and the remains of several hearths, radiocarbonated to the pre-Roman Iron Age (Lødøen, 2005). It should be noted that there is no evidence to tie the hearths directly to the images on the rock. However, this does indicate activity on the beach in front of the rock, and that similar activities could have taken place in the Late Bronze Age, when most of the images at Berge were made (Lødøen, 2005; Wrigglesworth, 2011). More importantly, the hearths had been washed out by the sea, indicating that the sea reached up to the rock, at least on occasion. This is substantiated by shoreline displacement curves for the area (Wrigglesworth, 2011), which would, as mentioned above, have been a large, shallow bay in the Bronze Age. Although the hearths might or might not have been associated with ritual activities, this is an interesting example of activities on the shore that were not meant to last. Moreover, the fact that water would have reached the rock suggests that the images could have been made and viewed while standing in water or in boats. So, here we have one example of how possible rituals associated with rock art and making images in rock might have taken place in a maritime context.

### **The intertidal zone: between two worlds**

The intertidal zone is a mutable border between land and water. The tide moves constantly, reclaiming land and giving it up in an endless cycle. Thus it is ideal for beliefs about water and elements related to the sea and its cosmological qualities. The intertidal zone is both land and sea. The ship can be considered to belong to both land and water, as it is built on land from terrestrial materials, and can traverse the sea. As such, it can become a potent symbol of the liminal (van Gennep, 1960; Turner, 1969), of separation and incorporation, and of the border between the known and unknown, where supernatural powers can be reached. This could be one reason why many sites dominated by ships are found in close proximity to water in West Norway. However, although it does not explain all locations, this is an indication that location is related to meaning.

The location near water also applies to Bronze Age burials (Nordenborg Myhre, 2004). Many burial cairns along the coast are also located near water, often on points and headlands, sometimes at the water's edge. Moreover, many burials have marine elements: shells, beach sand,

beach pebbles. Few Bronze Age burials have been professionally excavated in West Norway; despite this the finds that are available are interesting. A cairn at Hystad, Stord contained five burials, one of which contained an urn filled with shells and cremated bones (Bakka, 1972). The shells were of a species (*Patella vulgata*) that is found in the intertidal zone. This particular cairn is located 5 m.a.s.l., indicating that it would originally have been built at or close to the water's edge. Another example is a cairn at Utne, Ullensvang, which was built on the beach (e.g. Bakka, 1963). Several Bronze Age burials in West and Southwest Norway have marine or maritime elements associated with the shore or inter-tidal zone (Larsen, 1996; Nordenborg Myhre, 2004; Wrigglesworth, 2011); this also applies to some burials in central Norway (Rygh, 1906).

Marine elements such as beach sand, beach pebbles, and shells inside the burials as well as the location close to or on the shore indicate that the shore and water were significant elements in West Norway in the Bronze Age, and I suggest that these elements relate to a maritime practice and cosmology. These elements might have been important to include in burials as they allude to the shore and to a liminal state between the worlds of the living and the dead. They would certainly be a powerful cosmological statement, as they were taken from one sphere or dimension to another. In this context, the ship becomes a symbol of the liminal, as it is able to cross an imagined boundary between water and land.

### **The ship, cosmology and maritime networks**

How do rock art sites close to water, ship images, cosmology, ideas about water and maritime networks tie together? As argued above, there are strong indications that the sea and the shore were cosmologically significant in the Bronze Age. Ship images clearly show that the ship was an important symbol in addition to its practical use in terms of travel and communication. The archaeological record shows that people living on the coast took part in networks and acquired bronze.

Rock art sites are potent places or nodes, where specific events took place. In terms of maritime networks or maritories, one function of rock art sites could be to uphold those networks. Groups or communities taking part in a maritory might develop common rituals in order to emphasize the importance of the network, and rock art was one way of doing this. The images at Bakke might reflect common ideas and even depict ritual activities, such as the large ship associated with a procession as well as anthropomorphic figures on board. The site could have accommodated a large group of people and as such could have been a node where several groups could meet. Rock art could thus have represented common ideals, a common mythology and common rituals, which would sanction the network both ritually and cosmologically. This might have been required before setting out on long-distance journeys, which were a dangerous undertaking. Consequently, some sites could have been departure and arrival points of such

journeys, accompanied by the appropriate rituals (Ling, 2008:233-234).

People and ships returning from longer journeys might have been considered as dangerous, cosmologically and socially. They had experiences that were not shared by the community, and carried exotic goods and persons, as well as new knowledge. Meeting strangers is critical, because it puts the life one knows into perspective (Buttimer, 1976). Meetings with strangers through networks would on the one hand be a source of information and new ideas as well as the exchange of goods; on the other hand, such meetings would also serve to highlight identity. Consequently, meetings could potentially be dangerous, as they would highlight differences as well as similarities. Social identity is partly constructed through difference (cf. Bourdieu, 2010): 'us' and 'them'. Hence outside influence would be a danger to a particular social or local identity as it could herald unwanted change. The ship could embody that danger. Rituals on the shore could have been necessary in order to re-admit the travellers to the community and redress the cosmological balance (Douglas, 2002; cf. Helms, 1988, 1998). This would also maintain the equilibrium and local identity, while participating in the network.

Vangdal, Berge and Linga might have constituted nodes where specific rituals were performed before setting out on a journey. These places were important in more than one way, as they were located at the water's edge, they were cosmologically significant: places where supernatural powers and the Underworld could be reached. Thus they were liminal places, and the ship symbolised cosmological beliefs about the sea, as well as the importance of maritime activities.

### **Conclusion**

In this paper I have discussed the ship and its practical and cosmological importance in West Norway in the Bronze Age. Both the dominance of ship images on rock art sites and the location in the shore zone indicate that the sea was meaningful. When we add the fact that marine elements are found in many burials, most located in the shore zone, an interesting picture of maritime interaction and practice emerges. The ship plays a central cosmological role, as it is able to cross boundaries – between land and water, between the living and the dead. It belongs to the shore zone, which is a liminal area.

Even though people living in West Norway in the Bronze Age were not solely dependent on the sea for survival – they were farmers, pastoralists and hunters as well as fishers – the sea, the ship and the intertidal zone were clearly important to them. The ship was a central cosmological element, on several levels. On one level, it might have been thought to aid the sun on its journey across the sky. On another level, it could cross boundaries and travel among the living and the dead. These meanings do not exclude each other. The ship was associated with water and the sea, and hence travel, the underworld, spirits at sea, and a

range of myths and stories. All of these elements hint at a maritime cosmology in West Norway in the Bronze Age.

### Bibliography

- ALMGREN, O. (1927) *Hällristningar och kultbruk: bidrag till belysning av de nordiska bronsåldersristningarnas innebörd*. Stockholm, Kungl. Vitterhets historie och antikvitets akademien 35.
- BAKKA, E. (1963) Forntida i Odda, Ullensvang og Kinsarvik. In: Kolltveit, O. (Ed.) *Odda, Ullensvang og Kinsarvik i gamal og ny tid. Bygdesoga I. Bd. 1*. Bergen, Pgs. 47-205.
- BAKKA, E. (1972) Forntida i Stord. In: Høyland, O. (Ed.) *Stord Bygdebok*. Bergen, Pgs. 70-159.
- BARTH, F. (ed) (1969) *Ethnic groups and boundaries: the social organization of cultural difference*. Oslo, Universitetsforlaget.
- BOURDIEU, P. (2010) *Distinction: A social critique of the judgement of taste*. London, Routledge.
- BRADLEY, R. (1997) Death by Water: Boats and Footprints in the Rock Art of Western Sweden. *Oxford Journal of Archaeology* 16 (3), Pgs. 315-324.
- BRADLEY, R. (2000) *An Archaeology of Natural Places*. London & New York, Routledge.
- BUTTNER, A. (1976) Grasping the dynamism of lifeworld. *Annals of the Association of American Geographers* 66(2), Pgs. 277-292.
- DODGSHON, R.A. (1998) *Society in Time and Space*. Cambridge, Cambridge University Press.
- DOUGLAS, M. (2002) *Purity and danger: an analysis of the concept of pollution and taboo*. London, Routledge.
- EKHOLM, G. (1917) De skandinaviska hällristningarna och deras betydelse. *Ymer* 1916, Pgs. 275-308.
- ENGEDAL, Ø. (2005) Blindheimsverdet – Eit bidrag til det europeiske sverdets historie. In: Goldhahn, J. (ed), *Mellan sten och järn. Del II. Rapport från det 9:e nordiska bronsålderssymposiet, Göteborg 2003-10-09/12*. Gotarc Serie C. Arkeologiska Skrifter No 59. Göteborg, Pgs. 601-620.
- ENGEDAL, Ø. (2010) The Bronze Age of Northwestern Scandinavia. Unpublished PhD thesis, University of Bergen.
- FETT, E. N. and FETT, P. (1941) *Sydvestnorske helleristninger: Rogaland og Lista*. Stavanger, Stavanger museum.
- FREDELL, Å. (2003) *Bildbroar: figurativ bildkommunikation av ideologi och kosmologi under sydsandinavisk bronsålder och förromersk järnålder*. Göteborg, Göteborgs universitet, Institutionen för arkeologi.
- GENNEP, A.V. (1960) *The rites of passage*. London, Routledge & Kegan Paul.
- GJESSING, G. (1936) *Nordenfjelske ristninger og malinger av den arktiske gruppe*. Oslo, Novus.
- GOLDHAHN, J. (1999) *Sagaholm: hällristningar och gravritual*. Umeå, Umeå universitet, Institutionen för arkeologi och samiska studier.
- HELMS, M. W. (1988) *Ulysses' sail: an ethnographic odyssey of power, knowledge, and geographical distance*. Princeton, N.J., Princeton University Press.
- HELMS, M. W. (1998) *Access to origins: affines, ancestors and aristocrats*. Austin, Tex., University of Texas Press.
- HELMSKOG, K. (1999) The Shore Connection. Cognitive Landscape and Communication with Rock Carvings in Northernmost Europe. *Norwegian Archaeological Review* 32 (2), Pgs. 73-94.
- HENRIKSEN, M. M. (2014) *Stille vann har dyp bunn: offerteoriens rolle i forståelsen av depotfunn belyst gjennom våtmarksdepoter fra Midt-Norge ca. 2350-500 f.Kr.* PhD dissertation, NTNU, Trondheim.
- KAUL, F. (1998) *Ships on bronzes: a study in Bronze Age religion and iconography*. Copenhagen, National Museum of Denmark, Department of Archaeology and Early History.
- KAUL, F. (2004) *Bronzealderens religion: studier af den nordiske bronzealderes ikonografi*. København, Det Kgl. Nordiske Oldskriftselskab.
- KRISTIANSEN, K. and LARSSON, T. B. (2005) *The rise of Bronze Age society: travels, transmissions and transformations*. Cambridge, Cambridge University Press.
- KVALØ, F. (2007) Oversjøiske reiser fra sørvest-norge til nordvest-jylland i eldre bronsealder: en drøfting av maritim realisering og rituell mobilisering. In: Hedeager, L. (Ed) *Sjøreiser og stedsidentitet: Jæren/Lista i bronsealder og eldre jernalder*. Oslo, Unipub/ Institutt for arkeologi, konservering og historiske studier, University of Oslo, Pgs. 11-134.
- LARSEN, I. C. (1996) Haugene fra eldre bronsealder på Jæren: en religionsarkeologisk analyse. Unpublished Cand.Philol. thesis. Bergen, University of Bergen.
- LING, J. (2008) *Elevated rock art: towards a maritime understanding of Bronze Age rock art in northern Bohuslän, Sweden*. Göteborg, Göteborgs universitet. Institutionen för arkeologi.
- LING, J. (2012a) *Rock art and seascapes in Uppland*. Swedish rock art series, vol. 1. Oxford, Oxbow.
- LING, J. (2012b) War Canoes or Social Units? Human Representation in Rock-Art Ships. *European Journal of Archaeology*, vol. 15(3), Pgs. 465-485.
- LING, J., HJÄRTNER-HOLDAR, E., GRANDIN, L., BILLSTRÖM, K., and PERSSON, P-O. (2013) Moving metals or indigenous mining? Provenancing Scandinavian Bronze Age artefacts by lead isotope and elemental analyses. *Journal of Archaeological Science* 40 (1), Pgs. 291-304.
- LING, J., STOS-GALE, Z., GRANDIN, L., BILLSTRÖM, K., HJÄRTNER-HOLDAR, E., and PERSSON, P-O. (2014) Moving Metals II: Provenancing Scandinavian Bronze Age artefacts by lead isotope and elemental analyses. *Journal of Archaeological Science* 41 (1), Pgs. 106-132.
- LØDØEN, T. K. (2005) Berge i Strandebarm. In: Mandt, G. and Lødøen, T. K. (eds) *Bergkunst. Helleristninger i Noreg*. Oslo, Det Norske Samlaget, Pgs. 194-205.
- MANDT LARSEN, G. (1972) *Bergbilder i Hordaland. En undersøkelse av bildenes sammensetning, deres naturmiljø og kulturmiljø*. Universitetet i Bergen Årbok, Humanistisk serie 1970:2.

- MANDT, G. (1991) Vestnorske ristninger i tid og rom. Unpublished Dr. Philos thesis, University of Bergen.
- MCNIVEN, J. (2003) Saltwater People: Spiritscapes, Maritime Rituals and the Archaeology of Australian Indigenous Seascapes. *World Archaeology* 35 (3), Pgs. 329-349.
- MELHEIM, L. and HORN, C. (2014) Hoards and Swordfighters in Early Bronze Age Scandinavia: the Brand New and the Broken. *Norwegian Archaeological Review*, vol. 47, no. 1, Pgs. 18-41.
- NEEDHAM, S. (2009) Encompassing the sea: 'maritories' and Bronze Age maritime interactions. In: Clark, P. (Ed) *Bronze Age Connections: cultural contact in prehistoric Europe*. Oxford, Oxbow Books, Pgs. 12-37.
- NORDENBORG MYHRE, L. (2004) *Trialectic archaeology: monuments and space in Southwest Norway 1700-500 BC*. Stavanger, Arkeologisk museum i Stavanger.
- RYGH, K. (1906) *En gravplads fra bronsealderen*. Trondheim, Det Kongelige Norske Videnskabers Selskab.
- SOGNNES, K. (2002) Bilde, landskap og ritar i Midt-Norsk stein-og bronsealder. In: Goldhahn, J. (Ed.) *Bilder av bronsålder: ett seminarium om förhistorisk kommunikation: rapport från ett seminarium på Vitlycke Museum 19.e-22.e oktober 2000*. Stockholm, Almqvist & Wiksell, Pgs. 1-22.
- TURNER, V. W. (1969) *The ritual process. Structure and anti-structure*. Harmondsworth, Penguin.
- WESTERDAHL, C. (2005) Seal on Land, Elk at Sea. Notes on and Applications of the Ritual Landscape at the Seaboard. *International Journal of Nautical Archaeology* 34, Pgs. 2-23.
- WRIGGLESWORTH, M. (2002) Ristninger og graver i landskapet. In: Goldhahn, J. (Ed.) *Bilder av bronsålder: ett seminarium om förhistorisk kommunikation: rapport från ett seminarium på Vitlycke Museum 19.e-22.e oktober 2000*. Stockholm, Almqvist & Wiksell, Pgs. 185-199.
- WRIGGLESWORTH, M. (2011) *Finding your place. Rock art and local identity in West Norway*. PhD-dissertation, University of Bergen.
- AAKVIK, J. (2000) Med blikket vendt mot sør!: et materialstudie av eldre bronsealder på Vestlandet. Bergen, unpublished Cand. Philol. thesis, University of Bergen.

# The motif of the boat in Valcamonica rock art – problems of chronology and interpretation

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## Abstract

*It is during the Iron Age that the boat theme appears in the Valcamonica rock art tradition. Though rare in this area it is a common subject found in other rock art traditions. It is a period when rock art is made for and by the warrior aristocracies, especially relating to the initiation rites of the elite youth. There are two types of boats represented in Valcamonica rock art: a real craft, and a mythical one, both engraved during the last centuries of the first Iron Age. This paper explores several interpretations which link the rock art to themes of water, such as boats and waterfowl, survival of traditions, toponymy, location of engraved rocks and ultimately to the realm of weaponry. It is still unclear if the motif of the mythical boat is connected to funerary or initiation rites as these could be part of the same rituals. It is also problematic to interpret the meaning of the representations of the real boats and whether these crafts were actually used in real situations. In short questions remain on a comprehensive interpretation. As such, the study of the engraved boats needs further analysis to ascertain the scope of the ritualistic value of these themes in rock art.*

## Introduction

This paper sets out a comprehensive sequential frame of reference for the boat images within the Valcamonica rock art tradition starting at their first appearance during the Iron Age. A rare image within the rock art of this region, it is nevertheless an intriguing subject with a strong association with the theme of water, images of waterfowl and links to the Aquane legends that will be explored here. This paper will analyze the two forms of the boat image, the real and the mythical. Though it is not clear if the mythical boat representations are for funerary or for initiation rites or indeed serve both functions within the society at the time, links are drawn between other rock art themes in the region, such as the weaponry, and the functions interpreted by these within the sequential framework set out at the start of the paper.

## Iron Age in Valcamonica

The boat is one of the rarest motifs in the rock art of Valcamonica<sup>1</sup> (Figure 1). It appears during the first Iron Age, most likely in the 7th cent. BC and continues to be represented up until the central part of Iron Age till its disappearance during the 4th cent. BC. The boat theme occurs during the so called 'period of the warrior art', that spans all of the 1st millennium BC, starting during the Final Bronze Age. In this period, due to the influence of

the proto Etruscan culture, the style in rock art becomes geometric and static (Fossati, 1992).

Among the figures there are many schematic human representations with big-hands, others are images of real warriors holding spears, swords, shields and wearing crested helmets. This period sees the first rupestrian representations of such a figure. The artists want to emphasize a role, that of the warrior, that is becoming more and more important in these Alpine societies. In effect it is from this period onwards that it is possible to find swords or spearheads in the grave goods as a representation or symbol of distinction associated with the local aristocracy (De Marinis, 1988). The Final Bronze Age anticipates the most common themes of the Iron Age rock art: praying figures, warriors, duelists, hunts. In these Iron Age scenes the warriors are depicted as if taking part in a victory parade, often showing off their nudity in heroic fashion, as was also the case in Greece or in the Etruscan areas (Figure 2).

It is during the Iron Age that the majority of the rock art tradition is represented, consisting of approximately 80% of the total rock art in Valcamonica (Fossati, 1991). This area was inhabited by the *Camunni*, a name that appears inscribed on the *Tropaem Alpium* ('The Trophy of the Alps', Formigé, 1949). This is a monument that was constructed at La Turbie (F) near Montecarlo in 7-6 BC to celebrate the victory of Augustus against the Alpine people. On the monument are cited the 46 Alpine populations conquered by the Romans during the 16-15 BC war campaign. Among these the *Camunni*, a population

<sup>1</sup> The rock engravings of Valcamonica are known in the academic world only from the beginning of the last century. In this area, at present, rock art is distributed across four fundamental periods from the Neolithic to the arrival of the Romans in the valley, with few figures belonging to the Paleolithic and Mesolithic times (see Fossati, 2009).

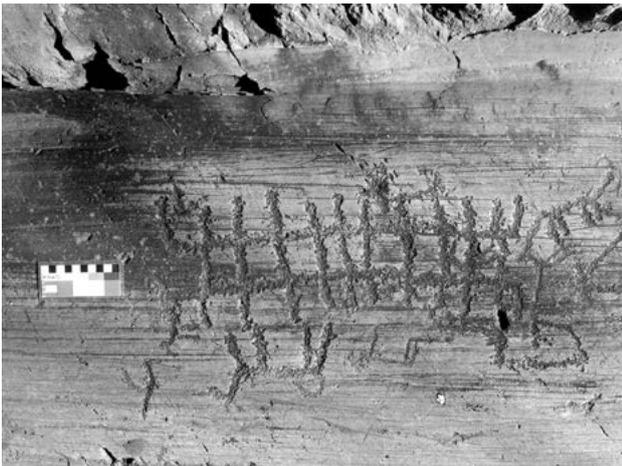


FIGURE 1: A BOAT WITH OARS. NAQUANE NATIONAL ROCK ENGRAVINGS PARK, ROCK. 35 (CAPO DI PONTE, VALCAMONICA). (PHOTO AND TRACING A. E. FOSSATI)

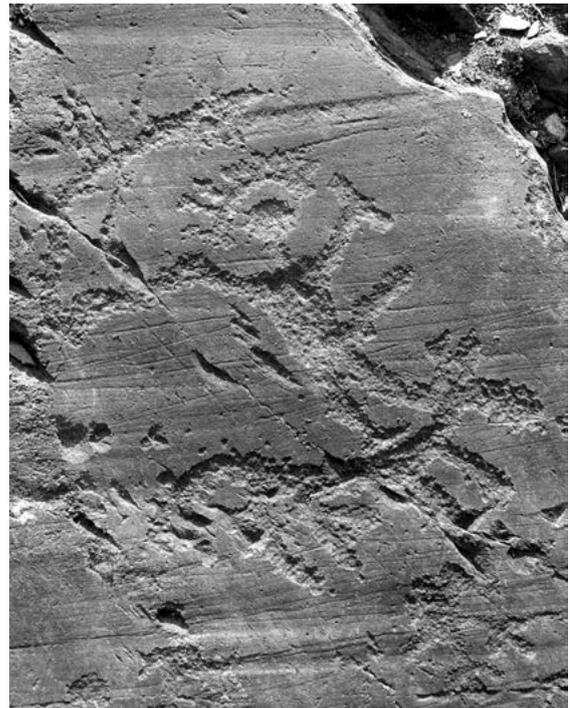


FIGURE 2: ITHYPHALLIC WARRIOR RIDING A HORSE ENGRAVED ON ROCK 1 OF DOS SULIF (PASPARDO, VALCAMONICA). (PHOTO A. E. FOSSATI)

that has been often associated with the *Euganea gens*, especially by the Roman historians (Cato cited by Plinius III, 133-135). Recent research highlights witness the cultural peculiarity of a region that extends from Valtellina to the Giudicarie where, at least from the 5th cent. BC, pottery demonstrating similar features (the jugs of the so-called Breno, Dos dell’Arca and Lovere type), as well as the development of an autonomous writing tradition that utilizes the north-Etruscan alphabet (the Camunnian alphabet) and, last but not least, the increased prominence of the figurative ‘language’ that we call ‘rock art’. This wide area, despite strong connections with the ‘Retic’ world of the Adige Valley, can be said to demonstrate its own commonality evidenced by cultural links that we can today explain with the presence of a common ethnos, that of the *Euganei* (De Marinis, 1988; Fossati, 1991).

The figures that belong to Iron Age offer the opportunity of a better comprehension of the chronological phases. The period, termed the 4th Style, has been divided into 5 different sub-phases that are summarized here (Figure 3.; De Marinis, 1988; Fossati, 1991):

**Phase 1** (8th- mid 7th cent. BC): linear-geometric style influenced by the Etruscan art of the period. The weaponry is constituted by oval-ellipsoidal, circular or skin-oxen shields, crested helmet – probably of the proto Etruscan type (also called Villanovian) – spears and axes. Swords are rarely represented. Horsemen appear during this phase for the first time in the rock art of Valcamonica (Figure 3);

WARRIOR ART Valcamonica Rock Art				
CENTURIES	PHASES	Warriors	Horsemen	Duellists
12 <sup>th</sup> 11 <sup>th</sup> 10 <sup>th</sup> 9 <sup>th</sup> 8 <sup>th</sup>	Final-Bronze Age 3 <sup>rd</sup> D		-	
7 <sup>th</sup>	Iron Age 4 <sup>th</sup> 1			
6 <sup>th</sup>	4 <sup>th</sup> 2			
5 <sup>th</sup>	4 <sup>th</sup> 3			
4 <sup>th</sup>	4 <sup>th</sup> 4			
3 <sup>rd</sup> 2 <sup>nd</sup> 1 <sup>st</sup> cent. BC	4 <sup>th</sup> 5			
1 <sup>st</sup> cent. AD				

FIGURE 3: THEMES AND PHASES OF THE WARRIOR ROCK ART PERIOD (4TH STYLE) IN VALCAMONICA, ITALY. (A. E. FOSSATI)

**Phase 2** (mid 7th-6th cent. BC): pre-naturalistic style. The weaponry consists of round shields, crested helmets (of the Etruscan-Picene type) with *lophos*, spears, swords and axes with quadrangular blades. The proportion of the human figures becomes longer until reaches more than one meter in length. This is the most figurative and thematically rich phase of the Iron Age: the boats appear in this period (Figure 3);

**Phase 3** (5th-4th cent. BC): naturalistic and dynamic style. Weapons represented: crested helmets (probably of Etruscan type), spears, swords, axes, round and skin-oxen shields. With the previous style the phase 3 is one of the most interesting for the quantity of the themes and scenes represented; the boats are still represented (Figure 3);

**Phase 4** (4th-1st cent. BC) naturalistic-decadent style. The compositions of weapons, as axes and knives, appear frequently (remembering the compositions of Copper and Bronze Age). Helmets are nearly never represented, while a new type of shield appears, introduced by the Celts: the oval-ellipsoidal type, also called La Tène. Halberd-axes and Introbio knives are clearly recognizable among the weapons. The themes are now becoming fewer; boats figures disappear (Figure 3);

**Phase 5** (1st cent. BC – 1st cent. AD) decadent style characterized by thematic and technical poverty. Weaponry: difficult to recognize types, a part the halberd-axes; spears, swords and knives are represented in a very poor technique; helmets are very rare; shields are of the oval-rectangular types, similar to those of the previous phase. Oxen leather shields are also diffused (Figure 3).

As we can see the chronology of the Iron Age rock art, divided in 5 different sub-phases, is linked not only to the study of superimpositions, which assures relative chronology, but also to the depiction of weapons, which may suggest an absolute chronology (Fossati, 1991). These weapons are very well characterized, like shields, almost constantly circular in the first Iron Age, and quadrangular-oval during the Second Iron Age, due to the influences exercised firstly by the Etruscans and then by the Celts (Sary, 1981). Particular weapons appear in the Late Iron Age, such as the halberd-axe, a half moon blade shaped axe, a typical weapon of the Central-Eastern Alps population, or the Introbio knives, with the characteristic anchor-shaped point saver: both these weapons are found in contemporary tombs or settlements (see fig. 23) (Tizzoni, 1982; Fossati, 1991; Roncoroni, 2011).

Also style is a chronological indicator. Till the 4th century BC styles were influenced by Etruscan art: from the linear geometric style (8th cent.) to the full naturalistic phase (5th cent.). The apogee of the naturalism is reached at the end of the 6th century when it is possible to recognize artistic schools and even single artist's hands; Fossati, 2011a; Sansoni and Marretta, 2002). Second Iron Age styles are the direct consequence of the separation from the Etruscan world caused by Celtic invasions in the Po Plain. Styles

become decadent and themes poor. It is not possible to speak of a Celtic style in the Camunian art, even if the Celts transmitted to the nearby population their preference for a symbolic art (Fossati, 1991).

Some themes have a chronological value: horse riding is possible only starting from the 8th cent. BC (De Marinis and Fossati, 2012); North-Etruscan inscriptions are possible only after the 6th cent. BC. Some Latin alphabets can only have been engraved after the end of the 1st Cent. BC, due to the arrival of the Romans in the valley in 16 BC (Casini and Fossati, 2014).

These rupestrian traditions continued until the arrival of the Romans, who reached the area in 16 BC. A legion (about 6,000 soldiers), under the direction of the consul Publius Silius Nerva, subjugated the *Triumplini*, *Camunni* and *Vennonetes* (the inhabitants of Valtrompia, Valcamonica, and Valtellina respectively) in a single fast military campaign. The interruption of the rupestrian tradition in Valcamonica is perhaps due to a combination of three factors: the process of acculturation by the Roman culture during the second part of the first century AD (the Flavian Age); the process of diminishing authority of the social classes that held power until that time; and the increasing economic, cultural and religious attraction of the Roman settlements, particularly the new town of *Civitas Camunnorum*, today Cividate Camuno (Rossi, 1987). These factors reduced and finally destroyed the power of the local aristocracy whose traditional themes relating to the warrior figure had constituted, until then, the iconographic patrimony of the rock engravings (Fossati, 1991, 2000a).

With the arrival of Christianity, artists came back to the rocky areas and engraved new themes taken from Christian symbols: crosses, keys, shears, Solomon's knots (a cabalistic design of a knot without end to the cords), warriors, castles, dates and inscriptions. This art has nothing to do functionally with the prehistoric art of the previously described periods.<sup>2</sup>

### The boats in Valcamonica rock art

At this stage of the research two types of boats are known in Valcamonica rock art: one represents a real boat (Figure 1), and recurs more than 20 times; the other a mythical craft with less examples (for both types: see typology at Figure 4).

In general it is easier to recognize the mythical type due to the fact that this kind of boat (all things considered quite rare in rock art) is, instead, often represented on bronze or pottery vessels, or in embossed bronze laminas or fibulas during Iron Age (Kossack, 1954). This is the so-called ornitomorphic boat: it is a craft with the representation of a bird's head on the prow and on the stern (Figure 5).

<sup>2</sup> At the moment it is not possible to date more precisely this phase, called Post Camunian (Anati, 1976), since sufficiently detailed studies have yet to be undertaken (Sansoni *et al.*, 1993).

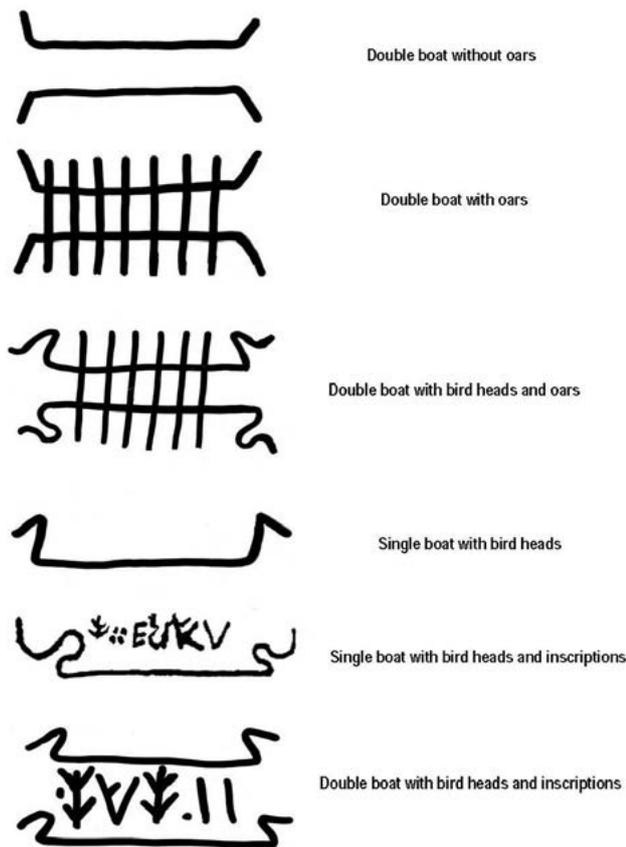


FIGURE 4: TYPOLOGY OF BOATS IN VALCAMONICA ROCK ART TRADITION. (A. E. FOSSATI)

Usually the head is that of a waterfowl, birds that are usually well represented on these objects during the Iron Age until the 5th cent. BC. Over the middle part of the boat there is often the figure of the sun, shown as a circle with or without internal beams, or with concentric circles, and this is why the boat is also called a 'solar boat'. In Valcamonica rock art water birds are often depicted, even on the boats, but this kind of boat is never represented with



FIGURE 6: THE STELE OF TRESIVIO WITH THE MOTIF OF THE DOPPELVOGELBARKE AND INSCRIPTION IN CAMUNNIAN ALPHABET. (TRACING BY S. CASINI AND P. FRONTINI, FROM MANCINI, 1989)

the sun figure, instead we find it usually accompanied by inscriptions. This type of boat image has been open to many different interpretations. This motif of the boat with a single (*vogelbarke*) or double oritomorphic head (*doppelvogelbarke*) appears in the rock art during the end of the 6th cent. BC: once in Valtellina and seven times in Valcamonica. In Valtellina the motif of the *doppelvogelbarke* is engraved on the Tresivio stele (Figure 6) associated with an inscription in the so-called Camunnian alphabet (Mancini, 1989).

In Valcamonica this identical association recurs three times: two couples of four *doppelvogelbarke* on the rock 50 of Naquane in National Rock Engravings Park at Capo di Ponte (BS) are spaced out by two inscriptions in the same alphabet of the Tresivio Stele (Figure 7). Another

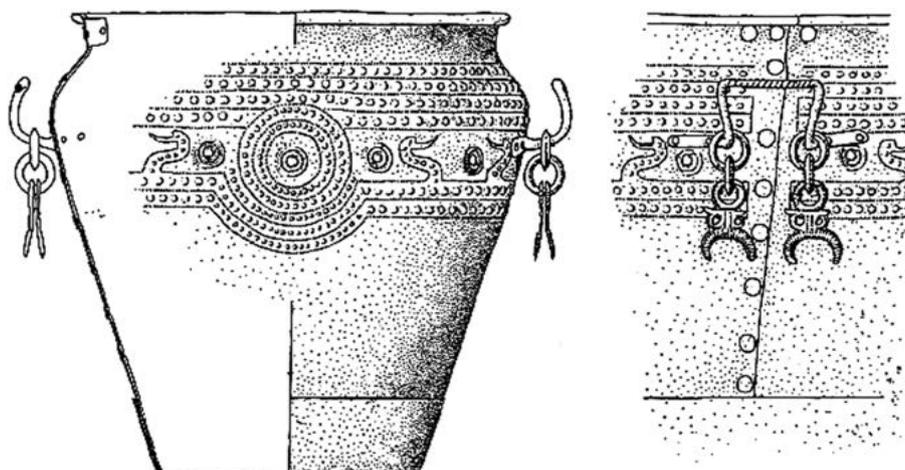


FIGURE 5: ORNITOMORPHIC BOATS THAT TRANSPORT THE SUN DECORATING A BRONZE SITULA FROM RIVOLI VERONESE. (FROM CHIECO BIANCHI, 1988)

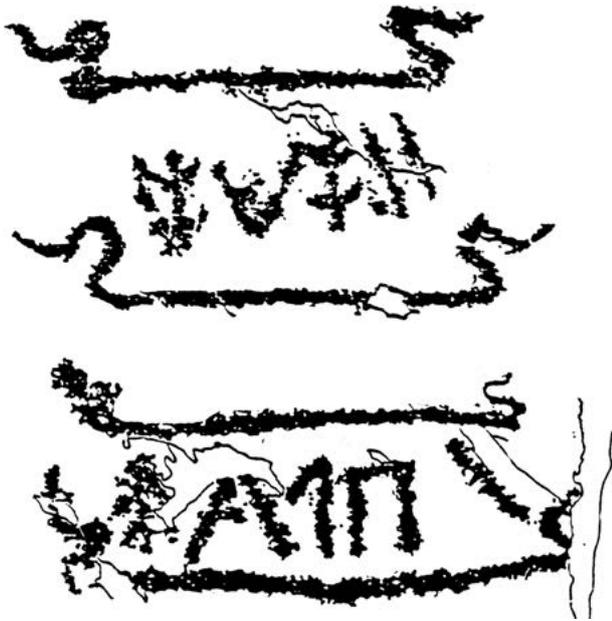


FIGURE 7: THE FOUR DOPPELVOGELBARKE, ASSOCIATED WITH INSCRIPTIONS IN CAMUNNIAN ALPHABET, ENGRAVED ON ROCK 50 OF NAQUANE IN NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (TRACING A. E. FOSSATI)



FIGURE 8: VOGELBARKE IN CONNECTION WITH THE FIGURE OF THE GOD CERNUNNOS ENGRAVED ON ROCK 70 OF NAQUANE IN NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI)

similar association is visible in a stele found at Grevo (BS) and today kept in the National Museum of Prehistory and Protohistory at Capo di Ponte. However, in Valcamonica the oritomorphic boats are sometimes found alone, or associated with other figures than the Camunian inscriptions: e.g. the *vogelbarke* in connection with the figure of the God *Cernunnos*, on the rock 70 of Naquane National Rock Engravings Park at Capo di Ponte (BS) (Figure 8) or the *doppelvogelbarke* on the rock 6 of Foppe di Nadro (Daffara, 2008).

The double *doppelvogelbarke* with oars on the rock 39 of the Foppe di Nadro Rock Art Park (near Ceto, Valcamonica), is overlapped by a construction of the 6th type (Figure 9) dated to the 2nd -1st cent. BC.<sup>3</sup> This last figure is probably the only one that explains the significance of the so-called ladder-shape.

This figure in fact, the real one, is usually composed of two parallel and horizontal lines, fitted or not with verticals segments (Figure 10). At the end the line creates a type of 90° turn, with a short segment. In the figure of the rock 39 of Foppe di Nadro this element is formed in the shape of a bird's head with neck, but normally this part is in the form of a sort of simple hook shape. These parts of the boat represent the prow and the stern.

As the figure is composed of two lines made in the same way but symmetrically opposed, an observer would see the upper of the two lines as examined from a frontal viewpoint

FDN 39  
rid. 1:4

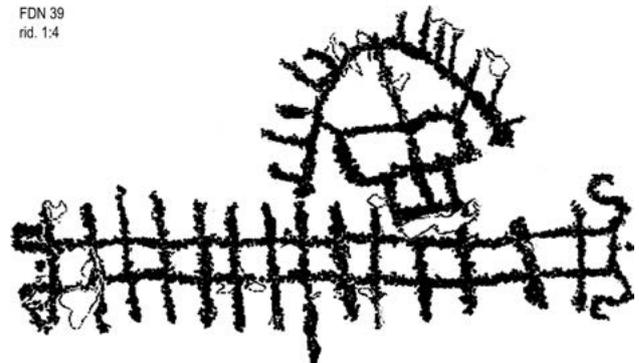


FIGURE 9: THE DOUBLE DOPPELVOGELBARKE WITH OARS ENGRAVED ON ROCK 39 OF THE FOPPE DI NADRO ROCK ART PARK (CETO, VALCAMONICA), OVERLAPPED BY A CONSTRUCTION OF THE 6TH TYPE. (TRACING A. E. FOSSATI)

NAQ 50  
rid. 1:4



FIGURE 10: BOAT WITH OARS ENGRAVED ON ROCK 50 OF NAQUANE IN NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (TRACING A. E. FOSSATI)

<sup>3</sup> In a previous paper (Fossati 2000b) I stated that the construction was associated with the boat. Now, after further assessment of the superimposition of the pecking styles used in the two different figures (that are very similar but not exactly the same) I would like to reconsider my interpretation of the association of these two figures.

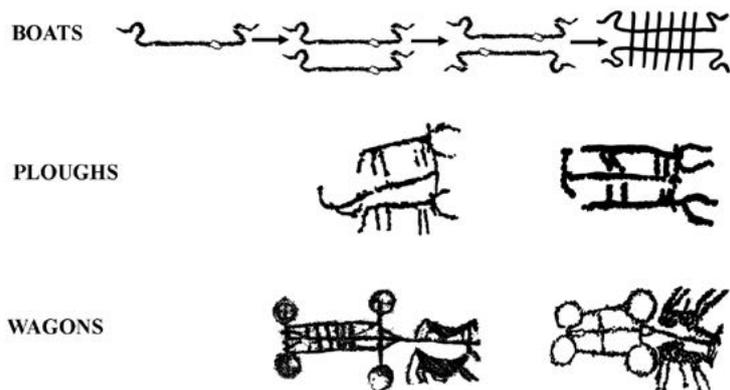


FIGURE 11: EXAMPLE OF THE USE OF PERSPECTIVE IN THE FIGURES OF BOATS, PLOUGHS AND WAGONS. VALCAMONICA ROCK ART TRADITION. (A. E. FOSSATI)



FIGURE 12: A BOAT ENGRAVED FROM ASPEBERGET (SWEDEN). COURTESY D. SEGLIE – CENTRO STUDI E MUSEO DI ARTE PREISTORICA DI PINEROLO.



FIGURE 13: FIGURE OF A BOAT WITH 20 OARS ENGRAVED ON ROCK 4 OF DOS SOTTOLAJOLO (PASPARDO, VALCAMONICA). (PHOTO A. E. FOSSATI)

and the lower the same but looking at this from the opposite side. This type of perspective is not new in Valcamonica and it has been observed in the figures of ploughs and wagons. In these examples the two animals are depicted attached to the yokes and sometimes represented with their backs or their legs facing towards the yoke (Figure 11).

The vertical segments can be interpreted as oars. Also the ships represented in the Scandinavian Peninsula, such as those from Aspeberget (Sweden) (Figure 12) or Alta (Norway) (Crumlin-Pedersen and Munch Thye, 1995) exhibit vertical segments arising from the boat, with some similarity with Valcamonica boats, but in this case they have been interpreted as human figures (Ling, 2012), the crew.

In Valcamonica the oars usually have the same length as the first segments, and are always represented at the same distance, crossing the two horizontal lines of the boat. Long representations of boats with 20 oars were observed such as in the boat of the rock 4 of Dos Sottolajolo, Paspardo, the maximum registered so far (Figure 13) (Bettonagli, 2009, Abreu *et al.* 1988), to the 6 oars of one boat on Naquane rock 50 (Figure 14). There are also boats without

oars, like the cases of the Naquane rock 44 (Figure 15) (De Marinis, 1985) and rock 71.

This image recurs in few rock art sites, predominantly on the left side of the valley: in Capo di Ponte (Naquane), Cimbergo (Campanine), Paspardo (Dos Sottolajolo), Ceto (Foppe di Nadro, Zurla). As stated above, the boat motif has often been viewed as a ladder-shape, and has been interpreted by different scholars alternatively as a real ladder, as a bridge, a fence, and also as a line of humans dancing or praying attached one to the other (Nash, 2007, Fusco and Mirabella Roberti, 1972; Sansoni and Galvaldo, 2009). The evidence does not support the interpretation of this image as a ladder. The ladders, in fact, are represented in the Valcamonica rock art tradition, but are usually pictured in a vertical or oblique position, and never in a horizontal shape, and this vertical/oblique position seems quite normal for a ladder (Figure 16).

Usually they are associated with constructions and depicted as attached to one side of these. In the same way that the normal position for a boat is horizontal. Normally these boats have been engraved positioning them into the channels or hollows produced by the movement of



FIGURE 14: THREE BOATS WITH OARS ENGRAVED ON THE ROCK 50 OF THE NAQUANE NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). THEY ARE COVERED BY FOOTPRINTS AND INSCRIPTIONS. TRACING A. E. FOSSATI AND M. SIMÕES DE ABREU.

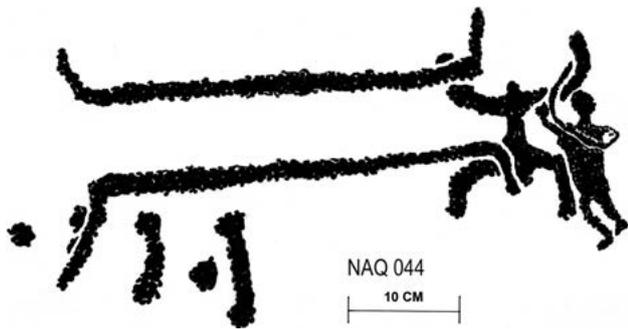


FIGURE 15: FIGURE OF A BOAT WITHOUT OARS ENGRAVED ON ROCK 44 OF NAQUANE IN NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (TRACING A. E. FOSSATI)



FIGURE 16: A FIGURE OF A LADDER DIVIDED INTO THREE SECTIONS SITUATED IN THE MIDDLE PART OF A HUGE ARCHITECTURAL REPRESENTATION (POSSIBLY A TEMPLE?) ENGRAVED ON ROCK 73 OF NAQUANE NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI)

the prehistoric glaciers on the Valcamonica sandstone (Figure 17). These glacial channels have been interpreted, of course, as streams or rivers and the depressions in the pans as lakes or pools of water. The water, in fact, after it has rained, settles in these depressions or hollows for some time. It has already been noted that in the vicinity of these pools or channels are the depictions of figures that

have a special relationship with the theme of water: e.g. female deer, fishes, constructions, female humans figures



FIGURE 17: ONE OF THE BOATS WITH OARS FROM ROCK. 35 OF THE NAQUANE NATIONAL ROCK ENGRAVINGS PARK WHICH IS ENGRAVED WITHIN A GLACIAL CHANNEL WHERE THE WATER, AFTER IT HAS RAINED, FLOWS FOR SOME TIME (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI)

(as those from a Bronze Age scene at Naquane, rock 32, Figure. 18) and, as illustrated above, boats with oars (Camuri, 1995; Fossati, 2011b).

The image of the ornitomorphic boat appeared for the first time in the 13th century BC, in the Urnfield Culture in Central Europe and from there it spreads widely within the area that is now Italy, during the Late Bronze and Early Iron Age where its iconography has been often used in the decoration of weapons and other objects in bronze plate (Kossack, 1954). In these contexts the ornitomorphic boat is usually associated with the transport of the sun. Regarding its significance, it is necessary to refer to Nordic mythology, where the boat adorned with the bird head plays the dual role of carrying the sun on its daily voyage across the sky and the souls of deceased warriors to the ‘other world.’

According to ancient mythology, the sun would be carried by swans, or at least by other aquatic birds: in flight during the day, and on the back, as a boat, at night. The idea comes, obviously, from the observation that some aquatic birds can fly but also swim, using their webbed feet like oars and also from the image of the sun that during the sunset seems



FIGURE 18: GROUP OF ‘PRAYING’ FEMALE FIGURES. TWO ARE LYING DOWN WITHIN THE GLACIAL CHANNEL AS IF SWIMMING. NAQUANE NATIONAL ROCK ENGRAVINGS PARK, ROCK 32 (CAPO DI PONTE, VALCAMONICA). (PHOTOS A. E. FOSSATI)

to plunge into the sea. One may notice, however, already in Nordic mythology the appearance of several syncretic elements: the chariot of Trundholm, if its chronological placement in the Bronze Age is correct, carries back even further in time the idea that the sun was transported not by birds but by a horse-drawn chariot; One point of contact between the two traditions seems to be the small ritual chariot of Dupljaja, in Serbia, which has three wheels but is pulled by aquatic birds (Gessing and Davidson, 1969).

It is possible that during the course of the first half of the Iron Age, this symbol was already losing its original significance, becoming merely a decorative element. During the 5th cent. BC the solar boat seems to disappear from the figurative repertory of the artists.

### Problems of chronology

The study of the superimpositions allows us to say that the real boat representation can be dated between phase 2 and the beginning of the phase 4 of the 4th period (Iron Age) in the rock art of Valcamonica, but it is most probable that this motif doesn’t extend past phase 3, this being the beginning of the 4th cent. BC. On rock 44 of Naquane a boat without oars (see Figure 15) is engraved that superimposes at least two figures: one schematic praying figure, with arms and legs drawn in a U shape, in the style that has been dated to the Middle-Recent Bronze Age (16th-13th cent. BC) (Ferrario, 1994; Arcà, 2001) and the so called ‘unit 8’, a figure formed by a group of eight small pecked cup marks, that was probably engraved during the Final Bronze Age or the beginning of the Iron Age (between the 12th and the 7th cent. BC) with symbolic meaning linked to the initiation rites of the aristocratic youth (Fossati, 1991).<sup>4</sup> This boat figure is therefore from a period later than the 1st phase of the 4th period. Moreover one of the real boat engravings on rock 35 of Naquane, covers an hunting scene where dogs are chasing ibex and other animals that have been realized in the typical linear geometric style of the 1st phase of the 4th period (8th–mid 7th cent. BC). Another series of boats are engraved in the upper part of rock 50 of Naquane (Figure. 19).

It is evident that the boats are situated at the base of the engraved layers, footprints realized with a contour line occur above this layer, and at the end of top layers of the series are a number of inscriptions in Camunnian alphabet, that cover both the boats and footprints. The footprints are typical of the 2nd phase of the 4th period (mid 7th-6th cent. BC), as in the 3rd phase of the 4th period (5th-beginning of 4th cent. BC) they demonstrate a more elaborate style. However it is more likely that the inscriptions belong to the same phase as they often accompany the footprints. In this case the boats have been engraved at the beginning of the 2nd phase of the 4th period (during the second half of the 7th and the beginning of the 6th cent. BC). Rock 39 of Foppe di Nadro displays a double *doppelvogelbarke*

<sup>4</sup> The number 8 in many cultures is associated with initiation, a good start, re birth and so on. The ancient Christian pool for baptism had the shape of an octagon (Fossati, 1991).

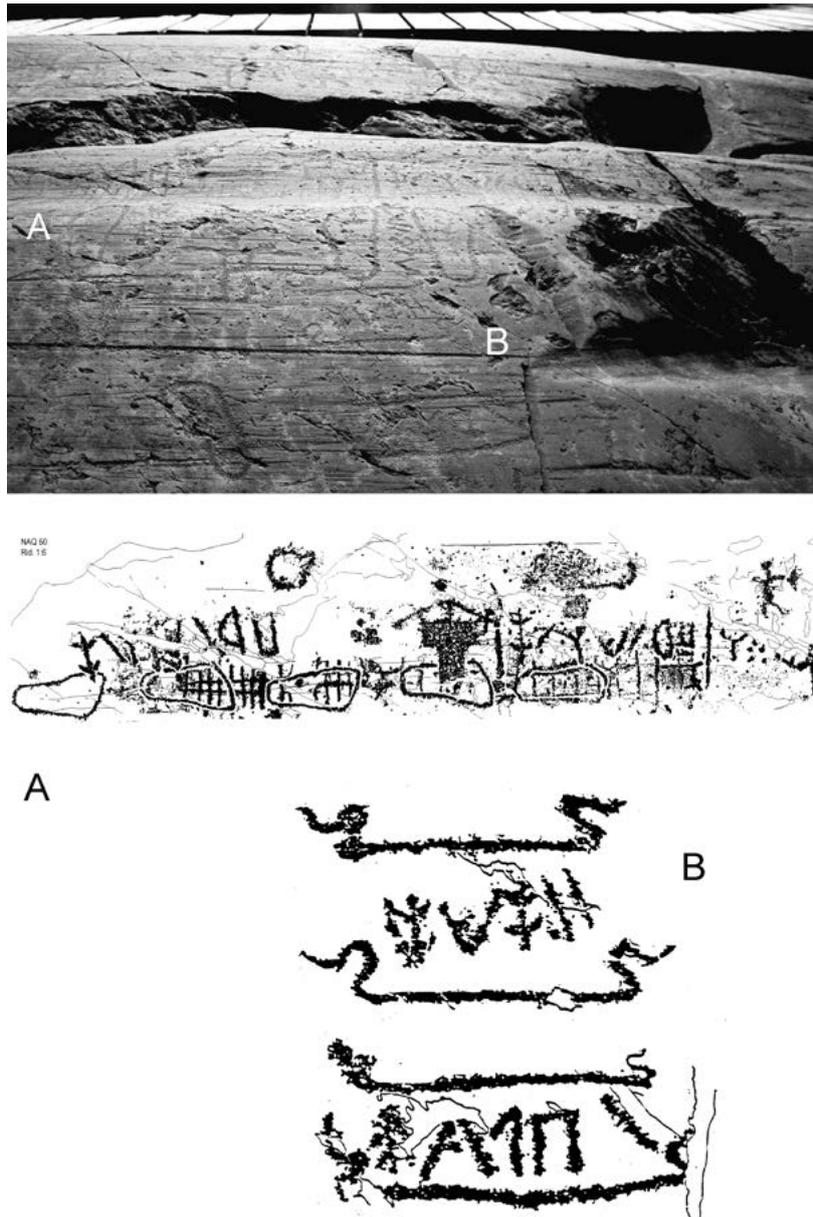


FIGURE 19: BOATS ENGRAVED ON THE ROCK 50 OF THE NAQUANE NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). THE REPRESENTATIONS OF THE REAL BOATS WITH OARS ARE INSIDE A GLACIAL CHANNEL, THE MYTHICAL BOATS, INSTEAD, ARE ON THE SLOPING SURFACE. (PHOTOGRAPH AND TRACING A. E. FOSSATI AND M. SIMÕES DE ABREU)

with oars overlapped by a construction of the 6th type (see Figure 9), which, as has been already noted, is dated to the 2nd-1st cent. BC according to the chronology of constructions created by E. Tognoni (2007), a period that comprises the end of the 4th phase of the 4th period and the beginning of the 5th phase of the 4th period. Thus, the boat can be estimated to have been engraved at least before the 2nd cent. BC, but because this kind of boat has the motif of the waterfowl head attached to the horizontal lines instead of the usual hooks, we can date this boat probably to the 5th cent. BC. The last superimposition available is the one that recurs on a boat with oars engraved, again, on the rock 50 of Naquane. The boat is overlapped by a human figure of the typical 5th phase of the 4th period, the last of the Iron Age styles, dated to a period between the 1st cent. BC and the 1st cent. AD (see Figure 10). So

all the superimpositions listed above demonstrate that the 'real' boats have been engraved during a period between the 7th and the 5th cent BC.

Within current research there are no superimpositions available that can provide a reliable positioning for the mythical boats within the repertoire of images. The association of this figure with the inscriptions in Camunnian alphabet suggests that they can be dated after the beginning of the 6th cent. BC, as these inscriptions have been found to be engraved on the rocks from this period onwards. The disappearance of the motif of the bird from the rupestrian iconographic repertoire, from the beginning of the 4th cent BC onwards (according to De Marinis, 1988 and Fossati, 1991), allows us to say that this boat cannot be dated after this period. These bird motifs,

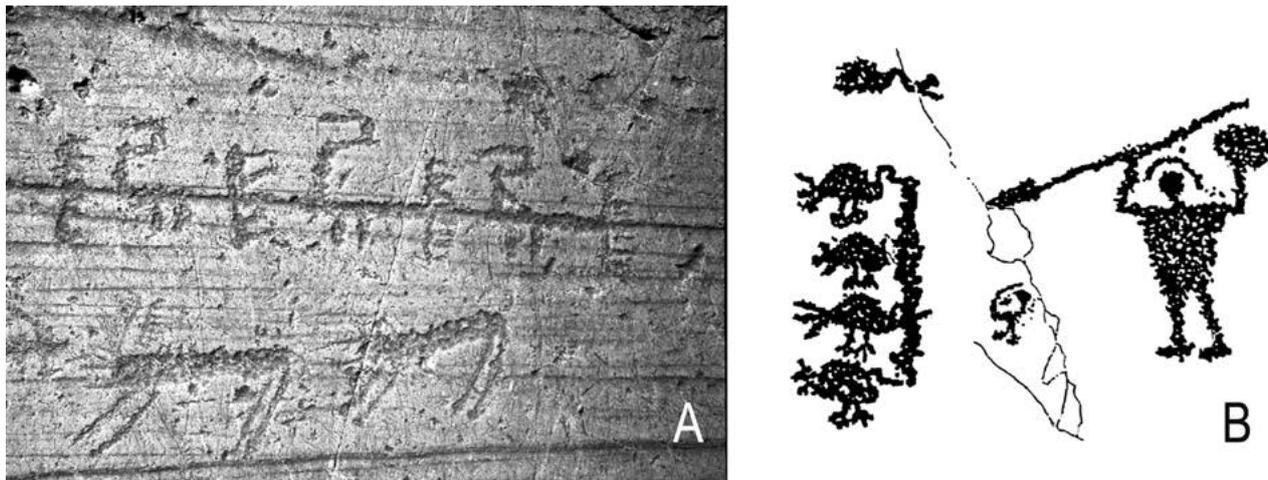


FIGURE 20: GROUPS OF BIRDS IN HORIZONTAL AND VERTICAL ALIGNMENT. A: COMMUNAL PARK OF SERADINA, ROCK 12; B: NAQUANE NATIONAL ROCK ENGRAVINGS PARK, ROCK 1. (PHOTOGRAPH AND TRACING A. E. FOSSATI)

specifically the aquatic birds images, were significant in the rock art of the first Iron Age (the first half of the 1st Millennium BC). This is representative of another link to the theme of water that is so prevalent in warrior art, as is the case with the boat themes, which is demonstrated by the research above.

#### Waterfowl in rock art: chronology and significance

From the beginning of Iron Age numerous images of aquatic birds have been found.<sup>5</sup> In the phases 4th 1, 2 and 3 (8th – beginning of 4th cent BC) birds are a prevalent part of the iconographic repertoire: they often accompany hunting scenes centered around deer, fox, chamois and ibex, though they do not seem to be represented as prey themselves, in contrast with the other animals mentioned. Occasionally they are depicted alone, other times in couples or in groups of different individuals; they can be depicted in horizontal or vertical alignment (Figure 20). Often the birds are associated with warriors, duelists and with elements of their symbology (*e.g.* the footprints). As with other images of animals and humans or even objects (huts), the birds are sometimes left incomplete, they are often engraved without legs (Figure 21). As this occurs quite frequently, we must be dealing with a precise choice by the artist, that, at least in the case of human figures, probably intended to represent spirits emerging from the rock where they live (Morello, 2009; Ragazzi, 1995) while, in the case of animals, they may be represented as swimming in the water, like the birds shown as if they had their legs submerged in the water.

At the end of the phase 4th 2 (end of the 6th cent. BC) the figures of birds, in step with the stylistic tendencies of the period, show more naturalistic characteristics: the body is no longer just an outline and one finds it placed in diverse associations, among which are the curious groupings of the bird with square-bladed axes, huts and footprints.

<sup>5</sup> In this paper we are not considering the other types of birds, such as predatory birds, sparrows and galliforms. For these see Marretta, 2005.



FIGURE 21: TWO BIRDS FIGURES ENGRAVED WITHOUT LEGS. IT IS LIKELY THIS WAS INTENTIONAL TO INFER A SWIMMING CONTEXT. NAQUANE NATIONAL ROCK ENGRAVINGS PARK, ROCK 1 (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI)

If the birds have a symbolic role in Iron Age rock art they are the only figures which are immediately recognizable: other figures with mostly symbolic functions such as the Camunnian Rose and the 'unit 8' cup-marks, are still awaiting a more complete interpretation, but are certainly related with the theme of the warrior. The significance of birds can be inferred from the study of their associations. The analysis of the various iconographic styles reveals that the ornithomorphic figures are for the most part connected with the warrior figures during the first Iron Age. Examples of the association of the bird and warrior themes are found outside of rock art such as in the decoration of

the bronze vessels (the so called *situlae*) and also in the adornment of defensive arms (greaves, helmets, etc.). Such a consistent recurrence can be interpreted as acting as a talisman, that is as a spiritual defense for the warrior, or rather as a type of guide for the soul of the warrior to the spirit world: the warrior's soul, which may be symbolized by the bird itself, is transported, in the guise of the sun, to the other world. A paragon which may have more than just poetic significance is found in Sophocles's *Oedipus Rex* (5th cent. BC) and also in Virgil (the 6th book of the *Aeneid*): in these passages the passing souls are compared to migratory birds.

Remnants of these proto historic beliefs are probably still found in the legends of the Ladins, a population that lives in the Central-Eastern Alps (the Dolomite Mountains in Northern Italy in South Tyrol, the Trentino and the province of Belluno), for whom the birds also carry out this function: the crow, for example, collects the souls of warriors killed on the battlefield and bears them, transformed into flowers, into the mountains (Wolff, 1987).

Valcamonica rock art demonstrates what is considered the most ancient European version of the God Cernunnos, a divinity that is a cross between a deer and a bird. The God, engraved on the rock 70 of Naquane, shown standing and covered with a long tunic, has two deer's antlers on his head, clasps a knife in his right hand, wearing an armband on the same arm (Figure 8). A boat with an ornithomorphic head emerges from his bust, resembling the throat of a swan. A worshipping figure is placed beside him. The images we have of Cernunnos in Europe are mostly from the Celtic world: he appears on some Gallo-Roman stele and on the Paris altar (where his name is also written) (Goudineau, 1991), on the famous Gundestrup Cauldron (Denmark) (Kaul, 1991), on some lamina at Waldalgesheim (Germany) (Jacobsthal, 1944) and on a number of Irish stele (Ross, 1967). In all these representations that span the 4th century BC to the mediaeval period, the divinity, who appears with his head crowned by a deer's antlers, sitting cross-legged, clasping torque and knives, often associated with snakes, wild and domesticated animals – oxen and bulls, wolves and deer (Fossati, 1991). According to an interpretation by R. De Marinis (1988), the style (the detail and large size) and the bird-boat (for years interpreted as a snake), provide elements for dating the Cernunnos from Naquane between the second half of the 6th and beginning of the 5th cent. BC: that would thus make it the oldest representation of the god so far known in Europe. If this dating is correct, the Celts would have adopted the cult following their contact with Alpine populations, among whom the deer was an important symbol not only from an economic point of view but also from a religious one (De Marinis, 1988). The association between the deer and the bird is common within the Celtic world: the Irish hero Cu Chulainn had a chariot drawn by deer and birds while the Celtic god Vosegus was accompanied by, among other animals, a deer on whose back rode a bird (Ross, 1967). This union of deer and bird is by no means coincidental and has a very precise religious meaning.

As previously noted above the figure of the bird, just as those of the solar boat, seem to disappear from the figurative repertoire in Valcamonica at the beginning of 4th cent BC. They still make sporadic appearances, in vague forms and complex compositions, often substituted by other figures, which assume, perhaps, their symbolic power. These newer figures that take the place of the birds are usually horses, both in the rock art as well as in the figurative scenes found on instruments or weapons. For example there is a figure of a hut with bird forms at the apex of the roof on rock 35 of Naquane, which seems to have evolved into equine figures on the example from rock 57 (Figure 22).

This development from an ornithomorphic to an equine iconography is also found on knives and allows us to confirm a connection between aquatic birds and weapons. The similarity of form between these knives and a bird seems evident, both in those of the Benvenuti type and even more so in those engraved on the rocks of Seradina or Pià d'Ort, which are similar to those of the Introbio type: the handle reproduces the head of the animal, the sheath the body, the anchor-shaped pommel the tail (Fossati, 1995; Roncoroni, 2011; in press). Later knives of the Lovere type, which illustrate the typological development from Introbio type knives (Tizzoni 1984), have already assumed an equine form (Figure 23): the handle resembles the head of the horse, the sheath is less sinuous, the anchor-shaped cap has become a button (Fossati, 1991; Roncoroni, 2011). This process is also particularly evident outside of Valcamonica, in the so-called *falcata* sword of the Celtic Iberian world, which shows a similar evolution (Figure 24), changing from a bird-headed handle found on the older swords to one that resembles more that of a horse found on the more recent examples (Treviño, 1986).

It is difficult to explain the progressive abandonment of the ornithomorphic iconography, which is also evidenced, as has been noted above, in the disappearance of the solar boat motif adorned with the head of a swan, in favor of equine designs. It is possible that there was an increase in the importance of the art of riding and of horsemen as instruments of war, maybe in relation with the Celts moving from their original land to Italy and the southern part of Europe at the beginning of 4th cent BC (Fossati, 1991).

On the other hand, however, the same iconographic substitution has been documented on some pendants coming from the Tyrol area. This set of bronze sheet pendants which come from Hochbühel (Tyrol), depict a feminine figure with arms open in a way that recalls the motif of the solar boat with bird attributes and in which several scholars have interpreted as a representation of the goddess *Reitia* (Von Merhart, 1969; Lunz, 1976, Egg, 1986; Gleirscher and Marzatico, 1989; Marzatico, 2012). A bronze pendant of this kind has been found also in Valcamonica during the excavation of the temple of Minerva in Breno (Rossi, 2005). In the later sequence of these pendants (dated to the 4th-3rd cent. BC) feminine

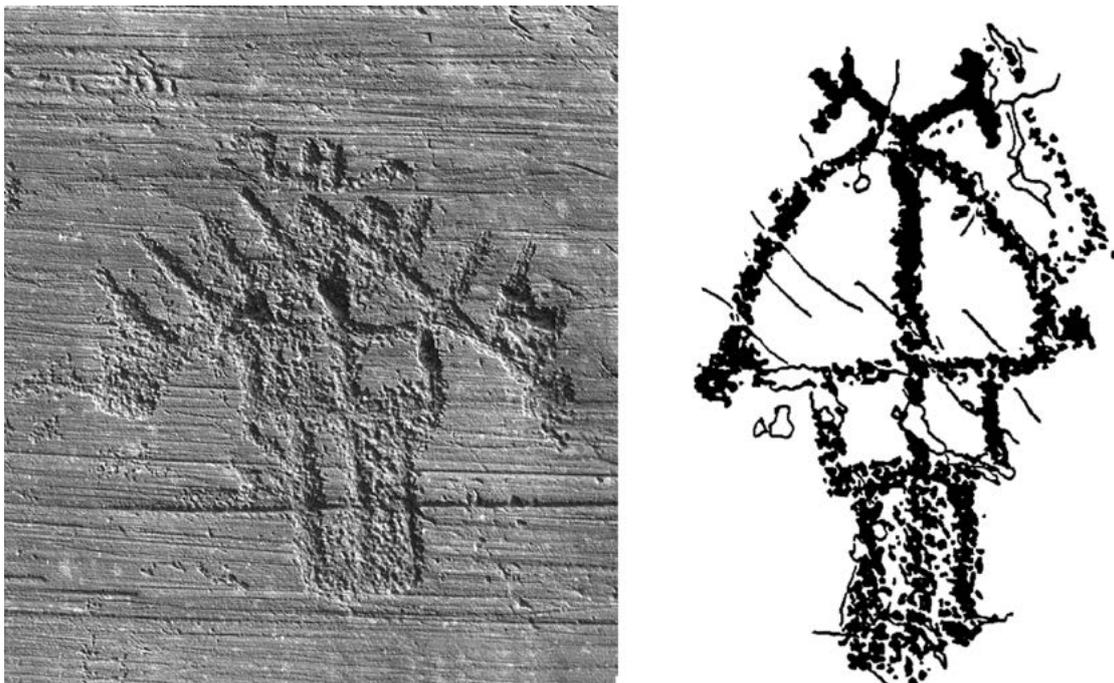


FIGURE 22: APEX ROOF EVOLUTION IN THE ARCHITECTURAL REPRESENTATIONS. A: DECORATION IN THE SHAPE OF AN ORNITOMORPHIC BOAT FROM ROCK 35; AND B: DECORATION IN THE SHAPE OF A HORSE HEAD FROM ROCK 57. NAQUANE NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI. TRACING LE ORME DELL'UOMO)

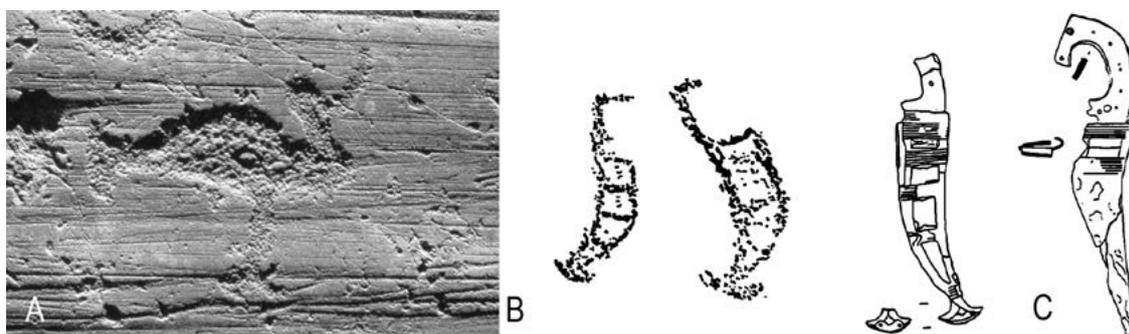


FIGURE 23: AN EXAMPLE OF HOW THE SHAPE OF THE INTROBIO KNIFE IS SIMILAR TO THAT OF THE WATERFOWLS ENGRAVED IN VALCAMONICA ROCK ART. THE LOVERE TYPE HANDLE, ON THE OTHER HAND, IS IN THE FORM OF A HORSE'S HEAD. A: WATER BIRD FROM ROCK 50 OF THE NAQUANE NATIONAL ROCK ENGRAVINGS PARK (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI) B: INTROBIO KNIVES FROM SERADINA (CAPO DI PONTE, VALCAMONICA). (TRACING A. E. FOSSATI) C: THE INTROBIO AND LOVERE DAGGERS. (FROM TIZZONI, 1982; 1984)

figures are depicted whose arms end in equine rather than ornithomorphic shapes, though they frequently include the figure of bird (Figure 25).

This appears to be a development that reaches beyond the world of the warrior, taking place also in the context of cults, and perhaps it is here where one should search for its significance. The oldest set of these pendants demonstrate similarities to the motifs found on the Bormio relief (Figure 26). In fact, among the emblems found on this relief from Valtellina, dated to the end of the 5th cent. BC, there are the so-called 'lunar form' appendages in which can be seen an extreme stylization of a solar bird-boat. L. Pauli (1973) thinks that the stele describes the cult of a divine warrior, whose sanctuary was near the hot springs.

The toponomy of the area supports this theory: the area above the sanctuary is called *Cresta de Réit*, a name which immediately recalls the goddess *Reitia*, whose Ancient Venetic sanctuaries were often found in close proximity to water courses or springs and natural hot baths (see e.g. S. Pietro Montagnon, today Montegrotto Terme). This divinity worshipped along springs and rivers goes by several different names: *Reitia* is the primary one, but we also find *Sainate* and *Pora*, which was probably the original name.<sup>6</sup>

<sup>6</sup> Linguists have proposed a derivation of *Reitia* from the root *\*rekt*, the goddess who facilitates childbirth, or from *\*rei*, the goddess of writing, or from *\*reito*, river. For *Pora*, that is the goddess of birthing mothers, or newborns, it has been postulated through the similarity with the Latin words *paro* and *pario*, but also from the Greek *poros*, from the root *\*pre*, a connection with the meaning of the goddess of the ford or crossing.

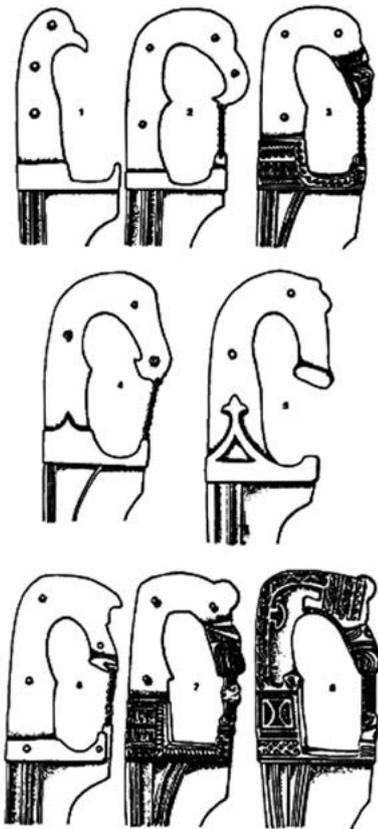


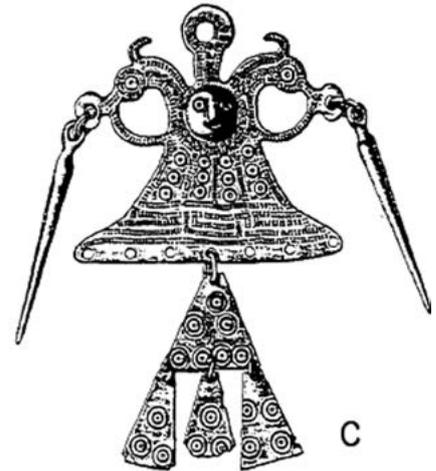
FIGURE 24: EVOLUTION OF THE HANDLES IN THE IBERIAN 'FALCATA' SWORDS. FROM A BIRD-HEADED HANDLE THEY TRANSITION TO A HORSE-HEADED ONE. (ROM TREVIÑO, 1986)



A



B



C

FIGURE 25: PENDANTS, PROBABLY REPRESENTING THE GODDESS REITIA, FOUND AT HOCHBÜHEL (A), SANZENO (B) AND UNKNOWN PROVENANCE (C). (DRAWING FROM: VON MERHART, 1969; GLEIRSCHER AND MARZATICO, 1989)

These are not, however, according to my knowledge, the oldest depictions of *Reitia*: in fact we should take note of the decoration on the greaves of Pergine, datable to the 10th cent. BC (Shauer, 1982; Fossati, 1995). Here we can observe the representation of a feminine figure whose arms end in the heads of birds (Figure 27).

A close comparison can be made between this figure and the pendants examined elsewhere and with the lunar-form elements of the banner engraved on the Bormio stele. We can also see within this representation, even though highly stylized, the same motif of a human figure with arms that end in the heads of birds.

Also related to the iconography of birds are several pendants (Figure 28) found among the grave goods of tombs in the Etruscan necropolis from Bologna (Benacci, Benacci-Caprara, San Vitale, etc...) (Morigi Govi and Vitali, 1988); several of these pendants show tips in the shape of double curved horns, as those coming from the tomb of Benacci-Caprara 39, and may be interpreted as the fish-form legs of the divinity, and as such could be associated with the mermaids. We should also consider, probably dating to the

*Sainate* clearly indicates the 'purifying' attribute of the divinity. These appear to be a connection with water, above all the idea of a crossing to the beyond or vice versa (she is also the goddess of childbirth) (Chieco Bianchi 1988, Fogolari and Prosdociami 1988).



FIGURE 26: SCULPTED RELIEF FROM BORMIO. THE STANDARD PROBABLY REPRESENTS THE EXTREME STYLIZATION OF A SOLAR BIRD-BOAT OR THAT OF A PENDENT OF THE GODDESS REITIA. 5TH CENT. BC. (PHOTO CREDITO ITALIANO)

same period, the pendants (see Figure 5) often attached to the bronze situlas, found mainly in the area of the Ancient

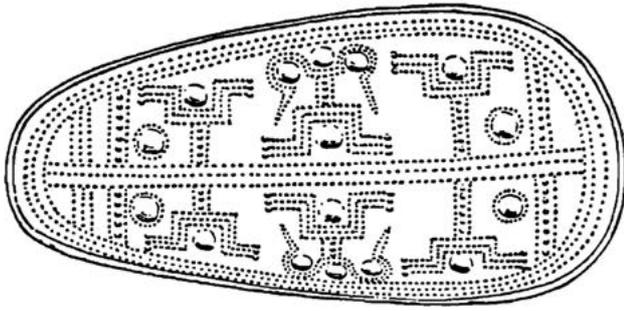


FIGURE 27: GRIEVES FROM PERGINE, LATE BRONZE AGE, THE OLDEST REPRESENTATION KNOWN OF THE GODDESS 'REITIA'. (FROM SHAUER, 1982)

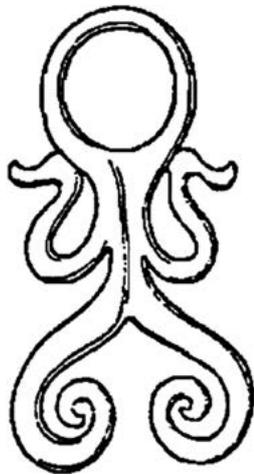


FIGURE 28: PENDANT FOUND IN A TOMB OF THE BENACCI ETRUSCAN GRAVEYARD IN BOLOGNA. (FROM KOSSACK, 1954)

Veneti (Chieco Bianchi, 1988) and showing evidence of strong similarities to those found near Bologna.

The association with mermaids is not only evident from the pendants described above, but also through the study of toponyms such as the one that, even though altered, is still present at Naquane. This is significantly the National Rock Engraving Park, at Capo di Ponte, the major rock art area and the site with the majority of boat images.

#### Contrada Aquane and the lady with the goat feet

The greatest evidence of the connection between the presence of boat images in rock art and that of the water theme is where the boat images are most prevalent, and that is in the National Engravings Park of Naquane. In 1989, in fact, a cadastral map of the *Contrada Aquane* was brought to my attention<sup>7</sup> (Figure 29): this was the original toponym of the actual location of Naquane,

<sup>7</sup> The Map of the *Contrada Aquane* has been brought to my attention by the former owner of the area, Battista Ruggeri, at that time custodian of the National Park of Naquane in Capo di Ponte. Dated to the beginning of the 19th cent. the map is not the only document that uses this name: later I discovered that also the cadastral maps of the area of Foppe di Nadro (Ceto) show the original name of the road that connects Naquane to Nadro. The road is called *Strada delle Aquane* (Road of the Aquane).

corresponding to the central area of what is today the National Engravings Park, as the linguist Mario Alinei had already proposed (Fossati, 1991; Alinei, 1984). Alinei was not aware of the cadastral map but had already linked the toponym of Naquane to that of Aquane, semi-divine beings widely known in the folklore of the central-eastern Alps, especially in the Dolomites where the dominant culture was that of the Ladins (Wolff, 1987), by diverse names and attributes. Naquane represented, for Alinei, the most western toponym of the central-eastern alpine area.<sup>8</sup>

But who were the Aquane? Here we will briefly sum up the descriptions collected by Alinei, with the consideration that the work could be expanded upon: in the folklore they are remembered as anthropo-zoomorphic beings; the oldest legends describe them as women who can change into otters, or rather beautiful sirens with hair of water and feet turned backwards, inhabitants of lakes, caves and springs. In more recent legends they have acquired the attributes of the Faun: they have legs and the feet of a goat (Alinei, 1984). In general they have the ability to divine the past and the future, but the present is lost to them. Furthermore they have powers over all types of water present on earth and over the rain itself. In some legends the Aquane are accompanied by waterfowl and they weave on the loom: and it is very interesting to note that on the rock n°1 of the National Park of Naquane there are 7 looms, the only known case so far in Valcamonica rock art.

Just beyond the borders of the Naquane Park in Valcamonica is a small church dedicated to the Saints Faustina and Liberata. These are two women who lived as hermits in small caves in the medieval period and are said to have saved Capo di Ponte from a rock avalanche, blocking the falling boulders with their own hands. In the crypt of the church one can still find a large boulder with the deeply engraved prehistoric figures of hands and cup-marks, whose legend links it with the two Saints (Figure 30). According to those living near the church of the Saints, up until the fifties of the 20th century, pilgrims came from all parts of the valley to place their hands into the prints engraved on the boulder to ask for protection and grace. The validity of the connection of the Saints to the Aquane, is not only due to the proximity of Naquane to the zone in question, but also because the church and the engraved boulder are situated near a water course, the Serio stream, which flows only a few meters away. Furthermore, the legend describes the Saints just as the Aquane are depicted: they live in caves and act as helpers, a role which in the folklore accounts is often attribute to the Aquane (Wolff, 1987).

It is also interesting to note the carvings from the Great Rock of Naquane, where one sees an anthropomorphic figure from the Iron Age, identifiable as masculine by his

<sup>8</sup> We now know that there is a Roman age inscription from Cantù, near Como, dedicated to Aquane (*Corpus inscriptionum latinarum* V, 5671), and at Soncino (prov. of Cremona) the toponym of Aquane is located in close proximity to a spring; this is a more southern toponym, testifying to the presence of the cult of Aquane in the Po river plain.

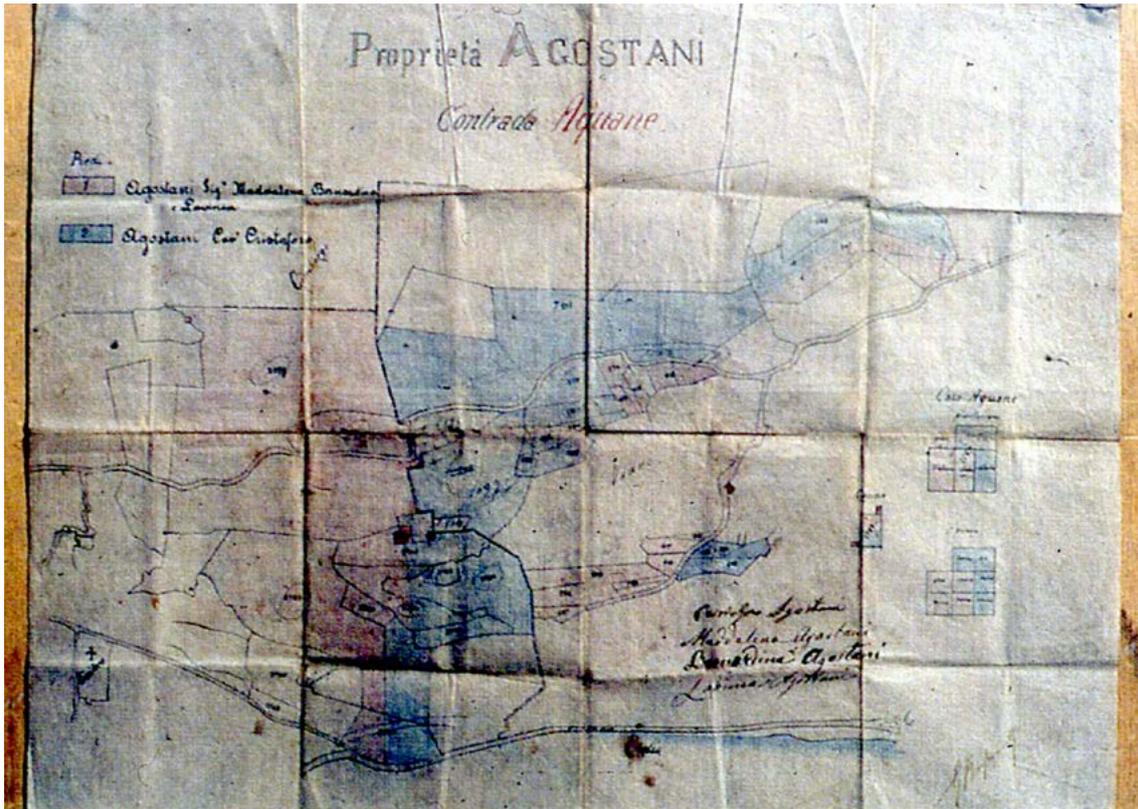


FIGURE 29: MAP OF THE 'CONTRADA AQUANE' (BEFORE 1835). COURTESY OF THE FAMILY BATTISTA RUGGERI. (PHOTO A. E. FOSSATI)



FIGURE 30: BOULDER ENGRAVED WITH HANDPRINTS AND CUP MARKS KEPT IN THE CHURCH OF LE SANTE AT CAPO DI PONTE (VALCAMONICA). (PHOTO A. E. FOSSATI) .

sexual attributes, who seems to hold his own, spread-apart, legs in his hands. This is an extremely rare scene in rock art and one for which a close parallel can be found in the near-by Church of the Monastery of San Salvatore (11th cent. AD), where one of the Romanesque capitals carries the motif of the siren who holds her own mermaid-like legs spread apart around the corners of the capital (Figure 31). The engraved figure in Naquane is a merman with similarities with some Etruscan examples.



A



B

FIGURE 31: A: FIGURE OF A MERMAN THAT APPEARS TO BE HOLDING HIS FISH LEGS AND A MUSICAL HORN FORMED BY A LONG SHELL (AS FOUND IN A NUMBER OF ROMAN MOSAICS) ENGRAVED ON ROCK 1 OF THE NAQUANE NATIONAL ROCK ENGRAVINGS PARK. TRACING A. E. FOSSATI; B: SIRENS SCULPTED ON A CAPITAL IN THE S. SALVATORE MONASTERY (CAPO DI PONTE, VALCAMONICA). (PHOTO AND TRACING A. E. FOSSATI)



FIGURE 32: ROCKS RESEMBLING WAVES DUE TO THE GLACIAL EROSION. NAQUANE NATIONAL ROCK ENGRAVINGS PARK, ROCK 1 (LEFT) AND ROCK 35 (RIGHT) (CAPO DI PONTE, VALCAMONICA). (PHOTO A. E. FOSSATI)

Coming back to Naquane a very important point of discussion is the fact that it is very well known that at this site there is no water at all.<sup>9</sup> So why does the water theme hold such an important role in the rock art (e.g. the waterfowl and the boats) and in the toponymy? If one has never been to Naquane this is a challenging aspect to appreciate. There are two points to underline: one is the morphology of the rocks, that are very polished and the glacial furrows formed by the prehistoric glaciers are such that on occasion realistic wave forms have been shaped into the rock surfaces (Figure 32). It is likely that the prehistoric imagination pondered the question of the origins of such a phenomena. Who created the waves? Could they be petrified water? Is someone living in these petrified waves? The answers can be observed in the rock art imagery.

The second point, previously mentioned above concerns the glacial furrows or hollows that are occasionally created by the glacial movements. These formed areas where little pools could form or flow after heavy rain. Could these represent the places where the Aquane were believed to emerge from the petrified waters?

This represented an interesting hypothesis but remained such until I was supported by the evidence of local oral traditions involving subjects relating to the belief of spiritual being living in engraved rocks. In 1997 during

<sup>9</sup> The two fountains situated in Naquane take their water from a pool placed some distance away.

a work of didactic archaeology with a class at Esine, in Valcamonica, we collected a local legend associated with an engraved rock. A student recounted that, according to her grandparents and other people in Esine, a huge rock with a single cup mark was believed to be inhabited by a spirit living in the rock and described in the same manner as the more recent Aquane, a lady with goat feet (Alinei 1984). The student recalled the following: ‘They say that in this area lived a lady called *sciurina dei pé de cavra* (in Camunian dialect: ‘the young lady with the goat feet’) who by placing her clog into a cup mark opened a rock where she proceeded to eat her prey. The legend says that the lady enjoyed scaring people, above all the hunters and the visitors to the woods. When they passed she would jump out of the rock and kidnap them. Behind her house, claims the legend, there was a well where she threw the skulls of the victims. The story recounts that a group of men captured and chained her to a mountain but she was able to escape and during nights with a full-moon one can still hear the sound of the chains that she is carrying to take revenge on her captors. (Fossati, 2006)’.<sup>10</sup> This legend holds great importance as it represented proof of the idea that the spirit beings living in the rocks really existed, and this also provided an interpretation for the cup marks.<sup>11</sup> The legend also suggests the presence of human sacrifice (the skulls) with the idea of a votive deposit nearby the rocks.

<sup>10</sup> The legend has been collected by Anna Erculiani, I C Scuola Media Statale ‘Don A. Sina’ Esine.

<sup>11</sup> This particular cup mark can be interpreted as a technique to create a contact between two different realities, that of the real world with the world of the Spirits.



BARD, VALLE D'AOSTA  
rid. 1:4

FIGURE 33: DOUBLE DOPPELVOGELBARKE FROM BARD (VAL D'AOSTA, ITALY). IRON AGE. (TRACING A. E. FOSSATI)

At the moment this is the only legend collected that recounts beings living in engraved rocks. As mentioned previously the rock art depicts other figures that are represented living in the rocks: the case in question is that of the so-called 'bust of praying people', anthropomorphs left incomplete, with only the upper part of the body engraved, the bust, sometimes only the head is found, sometimes the line of the shoulder with the head (Morello, 2009). Gaudenzio Ragazzi believes (1994) that these engravings can be compared with similar figures painted on Greek and Etruscan vases. These are interpreted as representations of spirits appearing from the ground, the place where they live, to become visible in front of the warriors from the ground. Sometimes they are represented with weapons, and as such are considered male representations. This is also a suggestion that the Aquane are not the only beings living in another world associated with the rocks.

The discovery of the Cadastral Map of the Contrada Aquane and the connection between the mermaids, Aquane and the most important rock art site in Valcamonica is of great importance to the overall interpretation of the warrior rock art of the Iron Age. It appears clear that the Camunni were sending their young people to the rock art sites to engrave their initiation trials (such as hunting deer and dueling) on the rocks inhabited by the mermaids, to ask for protection and help or to thank them by recounting the trials they had achieved.

#### The boats in other rock art traditions

The theme of the boat is also present in other Alpine rock art traditions. Nevertheless in proto historic rock art the boat theme is only found represented in the iconographic repertoire of Valcamonica. One theme recurs in Val d'Aosta, in the Western Alps, where among other figures belonging to prehistory and proto history there is a long boat figure reminiscent of similar figures occurring on the Scandinavian Peninsula. The boat engraved at Bard (Aoste) (Figure 33) shows two *doppelvogelbarke* with distinctive animal heads and zigzag-elongated shapes making up part of the horizontal body of the boat (Daudry,

2007). The general shape of the figure from Bard is more closely related to the form of the mythical boats of Valcamonica (Figure. 5) or the design of the Aspeberget models (Figure 12). The other carved boats in the Alpine region are dated to historical times, as is the case in the Mont Bego engravings (Lumley de, 1995) or the Lake Garda rock art (Figure 34) (Arcà and Fossati, 1995; Pasotti, 1965). Regarding the significance the proto historic figure from Val d'Aosta, it can be interpreted as a mythical boat, with the same meaning attributed to it as that of the Valcamonica figures. On the other hand in the case of the historic figures from Monte Bego (F), as has previously been noted (Magnardi, 2005) the shepherds that engraved these boats on the rocks, which they positioned at a very high altitude (over the 2000 meters above sea level) and quite far from the sea (that in any case is not visible from the rocks) – were individuals that probably worked on the boats that they represented. In the case of the boats engraved on the rocks near the Lake Garda in Italy we can assume that the engravings were made to show the real boats that you may see from the rock to the lake itself. Or conversely the meaning of the images could be the same as the engravings of Mont Bego.



FIGURE 34: BOATS BELONGING TO THE 19TH CENTURY FROM THE ROCCIA DELLE GRISELLE (TORRI DEL BENACO, GARDA LAKE). (PHOTO A. ARCA)

The figures of boats are present in the rock art tradition of other regions of the world. The most notable are the boat engraved and painted noted previously from the Scandinavian Peninsula where they have been also depicted on razors and other bronze objects (Crumlin-Pedersen and Munch Thye, 1995; Kaul, 1988). Less known yet still significant are the boats engraved in Gobustan rock art on the Caspian sea in Azerbaijan (Figure 35; Rustamov, 2000) and in Oman, which are both engraved and painted (Figure

36) (Ash Shahri, 1994; Clarke, 1975; Jäckli, 1981), just to name a few. This presence can be interpreted in different ways: in Azerbaijan they represent real boats that were used in the Caspian Sea (sometimes you can still see rocks with visible holes where the boats have been docked). In Oman the appearance of the boat can be explained in reference to the transportation of frankincense or dates from the interior to the sea and to the surrounding coastal countries.

**Conclusions**

The research discussed clearly indicates that the boat images belong to the Iron Age (the first millennium BC). Among the two identified types, real and mythical, the real type (without the birds' heads, but with or without the oars and recognizable for the presence of hooks at the prow and the stern), is the oldest and this has been demonstrated by a series of superimpositions that confirm that the real boats were engraved during a period between the 2nd and the 3rd phase of the 4th period (mid 7th to 5th cent. BC). The mythical boats, conversely, were engraved during a later period: their usual association with the inscriptions in Camunian alphabet and the disappearance of the motive of the bird in rock art (the mythical boats have bird heads) during the 4th cent. BC suggests that they can be dated between the 2nd and the beginning of 4th phase of the 4th period (from the beginning of 6th cent. to the beginning of 4th cent. BC).

It is also evident that within Valcamonica rock art, at least in the Iron Age, there are strong thematic ties to water. The evidence supports several interpretations which link the rock engravings to the themes of water, such as the images of boats and waterfowl, the survival of oral traditions, toponymy, the location of engraved rocks and ultimately, also by way of ornithomorphic figures, to the realm of weapons. Such as the evidence of knives exhibiting bird imagery decorations, figures of the solar boat represented on weapons and warrior divinities connected to the cult of water, all of which are predominant dated to the Iron Age. The research also emphasizes a close connection to practices associated with initiation rites as inferred by the scenes engraved in the rock art of the 4th period in Valcamonica (De Marinis and Fossati, 2004).

It is still inconclusive whether the motif of the boat is connected to funerary or initiation rites. The mythical boat transports the inscriptions, that can be interpreted as names, possibly the name of the dead warriors or the names of the youths that were about to be initiated, or had concluded their initiations. This important part of the interpretation is currently elusive. In addition there is also the possibility that funerary or initiation traditions were part of the same rituals, as is suggested by the initiation practices made during the funerary games in honor of Anchises, the father of Aeneas (Vergilius). As is the case with the interpretation of the mythical boats, it is problematic to interpret the representations of the real boats, the ones with oars, as it is not possible to rule out parallel meanings linked to

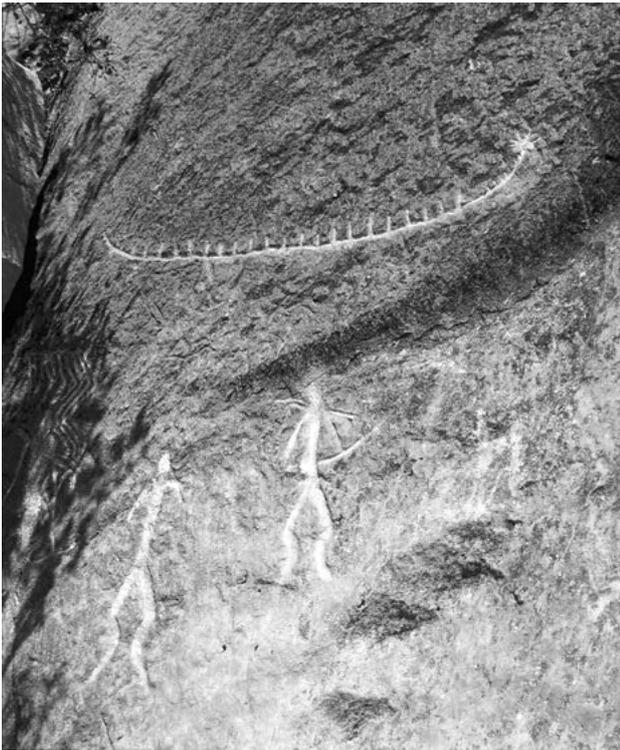


FIGURE 35: SHIP ASSOCIATED WITH HUMAN FIGURES DANCING. BOYUKDASH HILL, GOBUSTAN (AZERBAIJAN). (PHOTO A. E. FOSSATI)

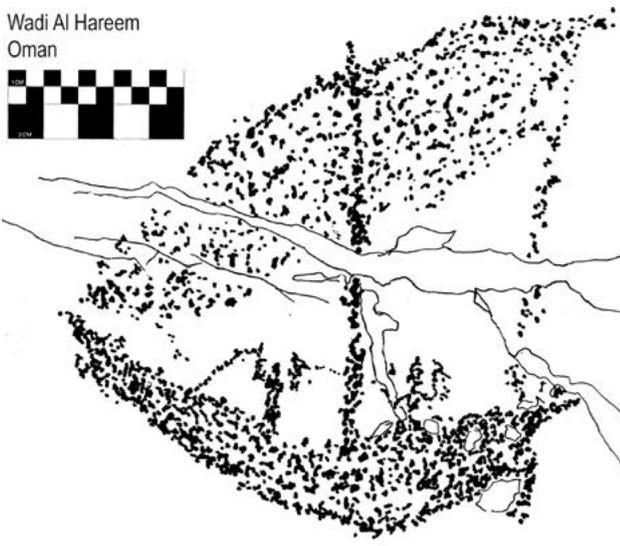


FIGURE 36: A TYPICAL BOAT ENGRAVED ON A ROCK AT WADI AL HAREEM, OMAN. (TRACING A. E. FOSSATI)

both the mythical crafts and the real boats, as they were engraved within a period in the valley when writing was probably not yet well diffused. Thus, the question arises as to why these boats were represented with oars whereas the mythical boats were not. One explanation is that the birds are the ones that guide the mythical boat to its destination whereas the real boat is guided through the water by humans using oars.

However it is important not to disregard the boat of rock 39 in Foppe di Nadro, which has both oars and bird heads. Therefore it is not possible to ascertain conclusively this delineation of meaning through imagery. So the questions remain. Why did the rock art artists engrave the real boats? What is the meaning of these craft? And were these represented boats used in real situations, such as on the river Oglio or on lake Iseo that is situated at the end of the valley into which the river Oglio flows? In short the study of the engraved boats needs further analysis to ascertain the scope of the ritualistic value of these themes within the rock art of Valcamonica.

### Aknowlegments

Firstly I would like to thank Heidrun Stebergløkken for inviting me to write this paper and for her patience in awaiting it.

I first came to know Kalle Sognnes in the eighties while I was working at the Centro Camuno di Studi Preistorici in Capo di Ponte (Valcamonica) and he resided for a period with his family nearby in Paspardo, where, with my colleagues Mila Simões de Abreu and Ludwig Jaffe, I was to run the Valcamonica Rock Art Fieldwork and Field School, that we are still managing today. We had numerous discussions regarding the rock art of the area and I also remember the nice songs his daughter and I played on the flute. In 1998 Kalle invited me to a very interesting rock art seminar in Norway and on this occasion we visited, with his guide, the beautiful rock art areas around Trondheim, including a rock with a number of boats and footprints, a theme also present in Valcamonica. Kalle many thanks for your friendship!

I am in deeply indebted to Marisa Giorgi for her kind assistance in proof reading and correcting this text.

### Bibliography

- ABREU SIMÕES DE M., FOSSATI, A., JAFFE, L. (1988) *Breve guida all'arte rupestre di Dos Sotto Laiolo, Paspardo, Valcamonica Preistorica* vol. 1, Nadro.
- ASH SHAHRI, A. (1994) *Dhofar. Ancient inscriptions and rock art*. Self published, Salalah.
- ALINEI, M. (1984) Naquane nella Valcamonica nei suoi rapporti con le Aquane, esseri mitologici delle Alpi centro orientali, in *Quaderni di Semantica*, 1, Pgs. 3-16.
- ANATI, E. (1976) *Evolution and style in Camunian rock art*, Archivi 6, Capo di Ponte.

- ARCA, A. (2001) Chronology and interpretation of the 'praying figures' in Valcamonica Rock art, in Fossati, A. E., Frontini, P. (eds.), *Archeologia e arte rupestre. L'Europa, le Alpi, la Valcamonica, Secondo convegno internazionale di archeologia rupestre*, Darfo Boario Terme, 2-5 Ottobre 1997, Atti del Convegno, Milano, Pgs. 185-198.
- ARCA, A., FOSSATI, A. (1995) *Sui sentieri dell'arte rupestre. Le rocce incise delle Alpi. Storia, ricerche, escursioni*, Torino, pp. 117-146.
- BETTONAGLI, P. (2009) *La roccia 4 di Dos Sotto Lajolo, Paspardo (BS). Contributo allo studio delle figure di barca nell'arte rupestre dello stile IV di Valcamonica (età del Ferro)*, MA dissertation degree, tutor: Prof. Angelo Eugenio Fossati, Università Cattolica del S. Cuore, Milano, a.a. 2008-2009.
- BONTEMPI, F. (1989) *Economia del Ferro. Miniere, Forni e Fucine in Valcamonica dal XV al XIX secolo*, Milano, 1989.
- CAMURI, G. (1995) In contrada Aquane: il linguaggio dell'acqua nelle figure di cervo della roccia 14 del Parco Nazionale delle Incisioni Rupestri, in *Notizie Archeologiche Bergomensi*, 2, 1994, Pgs. 281-287.
- CASINI, S., FOSSATI, A. E. (2014) L'alfabeto latino inciso sul masso Camisana 1 di Carona (Bergamo), *Notizie Archeologiche Bergomensi*, 21, Pgs. 147-155.
- CHIECO BIANCHI, A. M. (1988) *I Veneti*, in Pugliese Carratelli, G. (ed.) *Italia omnium terrarum alumna*, Milano, Pgs. 3-98.
- CLARKE C. (1975) The Rock art of Oman, in *The Journal of Oman Studies* 1. Pgs. 113-122.
- CRUMLIN-PEDERSEN, O., MUNCH THYE, B. (ed.) (1995) *The Ship as Symbol in Prehistoric and Medieval Scandinavia*, Copenhagen.
- DAFFARA, S. (2008) *Le figure ornitomorfe nell'arte rupestre del Parco di Foppe di Nadro (Valcamonica)*, BA dissertation degree, tutor: Prof. R. C. De Marinis, Università degli Studi di Milano, a.a. 2007/2008.
- DAUDRY, D. (2007) *Quarante ans au service de l'Archéologie en Vallée d'Aoste e dans les Alpes Occidentales*, Aoste.
- DE MARINIS, R. C. (1985) Capo di Ponte (BS). Rilievo della roccia 44 di Naquane, in *Notiziario della Soprintendenza Archeologica della Lombardia 1984*, Milano, Pgs. 35-37.
- DE MARINIS, R. C. (1988) Le popolazioni alpine di stirpe retica, in Pugliese Carratelli, G. (ed.) *Italia omnium terrarum alumna*, Milano, Pgs. 101-155.
- DE MARINIS, R. C., FOSSATI, A. E. (2004) Armi ed armati nell'arte rupestre della Valcamonica e della zona alpina, in *Guerrieri, Principi ed Eroi fra il Danubio ed il Po dalla Preistoria all'Alto Medioevo*, a cura di F. Marzatico e P. Gleirscher, Trento, Pgs. 355-365.
- DE MARINIS, R. C., FOSSATI, A. E. (2012) A che punto è lo studio dell'arte rupestre della Valcamonica. in (a cura di) De Marinis R. C., Dalmeri G., Pedrotti A., *Preistoria Alpina*, vol. 46/2012, Pgs. 7-19.
- EGG, M. (1986) *Die 'Herrin der Pferde' im Alpengebiet*, in Arch. Korrb., 16.

- FERRARIO, C. (1994) Nuove ipotesi di datazione per gli oranti schematici dell'arte rupestre camuna, in *Notizie Archeologiche Bergomensi*, 2, Pgs. 223-234.
- FOGOLARI, G., PROSDOCIMI, A. L. (1988) *I Veneti antichi. Lingua e cultura*, Padova.
- FOSSATI, A. E. (1991) *L'età del Ferro nelle incisioni rupestri della Valcamonica*, in Rina La Guardia (ed.) *Immagini di una aristocrazia dell'età del Ferro nell'arte rupestre camuna*, Milano, Pgs. 11-71
- FOSSATI, A. E. (1992) *Alcune rappresentazioni di 'oranti' schematici armati del Bronzo Finale nell'arte rupestre della Valcamonica*, in *Appunti*, 19, Circolo Culturale Ghislandi, Breno, Pgs. 45-50.
- FOSSATI, A. E. (1995) *L'acqua, le armi e gli uccelli nell'arte rupestre camuna dell'età del Ferro*, in *Notizie Archeologiche Bergomensi*, 2, 1994, Pgs. 203-216.
- FOSSATI, A. E. (2000a) *La fase IV 5 (I sec. a.C. – I sec. d.C.) e la fine della tradizione rupestre in Valcamonica*, in *Notizie Archeologiche Bergomensi*, 6, 1998, Pgs. 207-225.
- FOSSATI, A. E. (2000b) *Le radici preistoriche del Museo Etnografico. L'attualità dell'arte rupestre del complesso camuno-valtellinese. I temi, lo studio, la pubblicizzazione*, in *Agricoltura, Musei, Trasmissione dei saperi*, Atti del 2° congresso Nazionale dei Musei agricoli ed etnografici, Verona 13-14 Febbraio 1998, Verona, Pgs. 203-216.
- FOSSATI, A. E. (2006) *Nymphs, Waterfowl and Saints: the Role of Ethnography in the Interpretation of the Rupestrian Tradition of Valcamonica, Italy*, in *Talking With the Past. The ethnography of Rock Art*, Keyser, J. D., Poetschat, G., Taylor, M. W. (eds), Portland, Pgs. 254-281.
- FOSSATI, A. E. (2009) *The rock art tradition of Valcamonica-Valtellina, Northern Italy: a World Heritage View*, in *Landscape Enquiries, The Proceedings of the Clifton Antiquarian Club*, Vol. 8, Bristol, Pgs. 139-155.
- FOSSATI, A. E. (2011a) *Possiamo riconoscere l'autore delle incisioni rupestri? Il caso del Maestro di Paspardo ed altri artisti tra VI e V sec. a. C.*, in *Notizie Archeologiche Bergomensi*, 19, 2011, Pgs. 337-353.
- FOSSATI, A. E. (2011b) *L'utilizzo delle accidentalità naturali delle rocce nell'arte rupestre della Valcamonica*, in *Bullettin d'Etudes Préhistoriques et Archeologiques Alpines*, XXII, Pgs. 245-259.
- FORMIGÉ, J. (1949) *Le Trophee des Alpes (La Turbie)*, supplement a *Gallia*, II.
- FUSCO, V., MIRABELLA ROBERTI, M. (1972) *Guida illustrata del Parco Nazionale delle incisioni rupestri*, Milano.
- GESSING, P., DAVIDSON, H. E. (1969) *The Chariot of the Sun*, London.
- GLEIRSCHER, P., MARZATICO, F. (1989) *Note sulla preistoria della regione Trentino-Alto Adige e riferimenti alle relazioni con le vallate alpine lombarde*, in Poggiani Keller, R. (ed.), *Valtellina e mondo alpino nella preistoria*, Modena, Pgs. 126-153.
- GOUDINEAU, C. (1991) *La romanizzazione della Gallia*, in Moscati, S., Frey, O. H., Raftery, B., Szabo, M. (eds), *I Celti, catalogo della mostra*, Pgs. 509-513, Milano.
- KAUL, F. (1991) *Il calderone di Gundestrup*, in Moscati, S., Frey, O. H., Raftery, B., Szabo, M. (eds), *I Celti*, catalogo della mostra, Pgs. 538-539, Milano.
- KAUL, F. (1998) *Ships on Bronzes. A Study in Bronze Age Religion and Iconography* (publication from the: National Museum. Studies in Archaeology and History, vol. 3: 1-2) Copenhagen.
- KOSSACK, G. (1954) *Studien zum Symbolgut der Urnenfelder- und Hallstattzeit Mitteleuropas*, RGF, 20. Berlin.
- JÄCKLI, R. (1980) *Rock art in Oman. An introductory Presentation*. Manuscript on file with Ministry of Heritage and Culture, Muscat.
- JACOBSTHAL, P. (1944) *Early Celtic Art*, Oxford.
- LING, J. (2012) *War Canoes or Social Units? Human Representation in Rock-Art Ships*, in *European Journal of Archaeology*, 15 (3), Pgs. 465-485.
- LUMLEY, H. de (1995) *Le Grandiose et le Sacré*, Aix-en-Provence.
- LUNZ, R. (1976) *Urgeschichte des Raumes Algund-Gratsch-Tirol*, Archaologisch-Historische Forschungen in Tirol, I, Bolzano.
- MAGNARDI, N. (2005) *Roches confidentes. Dessins et témoignages gravés de la Vallée des Merveilles du Moyen Age à nos jours*, Tende.
- MANCINI, A. (1989) *I documenti scritti da Tresivio e Montagna*, in R. Poggiani Keller (ed), *Valtellina e mondo alpino nella preistoria*, Modena, Pgs. 69-71.
- MARZATICO, F. (2012) *Testimonianze figurative nel bacino dell'Adige fra l'età del Bronzo e l'età del Ferro*, in De Marinis, R.C., Dalmeri, G., Pedrotti, A. (eds), *Preistoria Alpina*, vol. 46/2012, Pgs. 309-332.
- MARRETTA, A. (2005) *Foppe di Nadro riscoperta: la roccia 7 e le più recenti novità*, in Marretta, A. (ed.), *Foppe di Nadro Sconosciuta- Dalla cartografia GPS alle analisi più recenti*, Monza, Pgs. 65-79.
- MORELLO, F. (2009) *Le figure incomplete nello stile IV di Valcamonica (età del Ferro). Studio preliminare*, in *Bulletin d'Etudes Préhistoriques et Archéologiques Alpines*, XX, Pgs. 167-183.
- MORIGI GOVI, C., VITALI, D. (eds.) (1982) *Il Museo civico archeologico di Bologna*, Bologna.
- NASH, G. (2007) *Towards a philosophy of dwelling. A comparative analysis between timber framed traditions of the Iron Age and the Medieval Period*, in Fossati, A. E. (ed.), *La Castagna della Vallecamonica, Paspardo arte rupestre e castanicoltura*, proceedings of the Interdisciplinary Seminar, Paspardo 6-8 Oct. 2006, Pgs. 97-106.
- PAULI, L. (1973) *Ein latènezeitliches Steinrelief aus Bormio am Stilfer Joch*, in *Germania* 51, Pgs. 85-120.
- PASOTTI, M. (1965) *Incisioni rupestri sul lago di Garda*, in *BCSP 1965-65* Capo di Ponte, Pgs. 65-72.
- RAGAZZI, G. (1995) *Danza armata e realtà ctonia nel repertorio iconografico camuno dell'età del Ferro*, in *Notizie Archeologiche Bergomensi*, 2, 1994, Pgs. Bergamo, pp. 235-248.
- RONCORONI, F. (2011) *I coltelli tipo Introbio e Lovere: inquadramento cronotopologico e stato degli studi*, in

- Bullettin d'études préhistoriques et archéologiques alpines*, 2011, XXII, Pgs. 215-230.
- RONCORONI, F. (in press) *Ritualità delle acque nella protostoria: breve analisi di un fenomeno archeo-antropologico in area alpina e in Italia settentrionale*, in *Le acque del mito nelle Alpi: acqua santa e acque del Diavolo*, proceedings of the seminar hold in Breno (BS), 28 June 2013.
- ROSS, A. (1967) *Pagan Celtic Britain*, London.
- ROSSI, F. (1987) *La Valcamonica Romana, ricerche e studi*. Brescia.
- ROSSI, F. (2005) *La dea sconosciuta e la barca solare. Una placchetta votiva dal santuario protostorico di Breno in Valle Camonica*, Milano.
- RUSTAMOV, J. (2000) *Gobustan, the Art of ancient civilization*, Baku.
- SANSONI, U., GAVALDO, S. (eds.) (2009) *Lucus Rupestris. Sei millenni d'arte rupestre a Campanine di Cimbergo*. Archivi 18, Capo di Ponte.
- SANSONI, U., MARRETTA, A. (2002) *The Masters of Zurla: language and symbolism in some Valcamonica engraved rocks*, Adoranten, Tanum, Scandinavian Society for Prehistoric Art, Pgs. 23-34.
- SANSONI, U., GAVALDO, S., LORENZI, R. A. (1993) *Medioevo sulla roccia*, Archeologia Viva, Anno XII n. 40, Firenze, Pgs. 32-47.
- SCHAUER, P. (1982) *Die Beinschienen der späten Bronze- und frühen Eisenzeit*, in *Jahrbuch des Römisch-germanischen Zentralmuseums*, Mainz, 29, pp. 100-155.
- SOPHOCLES, *The Oedipus Trilogy: Oedipus the King, Oedipus at Colonus, and Antigone* by trans. F. Storr, The Electronic Classics Series, Jim Manis, Editor, PSU-Hazleton, Hazleton.
- STARY, P. (1981) *Ursprung und Ausbreitung der eisenzeitlichen Ovalschilder mit spindelförmigem Schildbuckel*, in *Germania* 59, Pgs. 287-306.
- TIZZONI, M. (1982) *I materiali della Tarda età del Ferro al Civico Museo di Lecco*, in *Notizie dal Chiostro del Monastero Maggiore*, XXIX-XXX, Milano.
- TIZZONI, M. (1984) *I materiali della Tarda età del Ferro nelle Civiche Raccolte Archeologiche di Milano*, in *Notizie dal Chiostro del Monastero Maggiore*, Supplemento III, Milano.
- TOGNONI, E. (2007) *Le raffigurazioni architettoniche nell'arte rupestre camuna e ritrovamenti di Paspardo*, in Fossati A. E. (ed.), *La Castagna della Vallecamonica, Paspardo arte rupestre e castanicoltura*, proceedings of the Interdisciplinary Seminar, Paspardo 6-8 Oct. 2006, Pgs. 85-96.
- TREVIÑO, R. (1986) *Rome's enemies (4): Spanish armies 218 BC – 19 BC*, London.
- VERGILI MARONIS, P., AENEIDOS, V, recognovit brevique adnotatione critica instruxit R.A.B. Mynors (Oxford Classical Texts), Oxonii (1969).
- VON MERHART, G. (1969) *Hallstatt und Italien. Gesammelte Aufsätze zur Frühen Eisenzeit in Italien und Mitteleuropa*, Jahrbuch Des Römisch-Germanischen Zentralmuseums, Mainz.
- WOLFF, C. F. (1987) *I Monti Pallidi. Leggende delle Dolomiti*, Bologna. *I Monti Pallidi. Leggende delle Dolomiti*, Bologna.



# Contrasts of the maritime environment – possible implications in prehistory – a very short course of cognition in the ancient maritime cultural landscape

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## Abstract

*This text maintains that there is a cognitive dual structure sea/water-land/rock/earth in maritime communities reflecting their two poles of subsistence. The main source material is maritime folklore documented during historical times, by way of taboos and prejudices in naming and behavior at sea. This relationship between the two main elements in the environment is used as an explanation of shore-based, and thus liminal and in-between the elements, prehistoric archaeological remains, such as rock carvings and burial cairns. To negotiate between the elements for the benefit of strong magic, their respective incarnations or embodiments, expressed as great animals, of variable gender and ships are understood as liminal agents passing from one sphere to the other. Various details of the rock carvings, such as the heads of land animals on the ships, may illustrate the point.*

## Introduction

Kalle Sognnes and I have led parallel archaeological lives. We were born in the same year, 1945, thus at the end of the Second World War, on different sides of Kölen, the mountain range separating Norway and Sweden. We met above all at our respective career beginnings and of course much more at the end, for ten years at the NTNU in Trondheim. Jarl Nordbladh writes in this volume about our beginnings during that memorable rock carving course in 1970. There are other common, more social parallels as well, not very conducive to this context. Kalle Sognnes specialized early, predominantly, in rock art, but only in 1975 I decided finally for the maritime variety of archaeology. To pay him honour here will fittingly be a return to our common interest in rock carvings, although it would be most justified also to mention other of his manifold archaeological (and historic) spheres. It is no accident at all that among these spheres we also find with him a well-articulated awareness for most periods, prehistoric as well as historic, of the immense importance of the maritime cultural landscapes in all Scandinavia.

‘The maritime cultural landscape’ is a term that this author launched in the late 1970s (in an unpublished seminar thesis 1978, concomitant with a long field period up to 1983, cf Westerdahl 1986, comprehensively 1989, 1997, for short 2011d, 2013). But the ritual component did not enter in earnest until around 2000 (explicitly in Westerdahl 2002a, b). Almost parallel to my ritual landscapes during mostly historical times ran the research of the prehistoric rock art landscapes of Kalle Sognnes (Sognnes 1994, 2000) and others.

Parts of this text have been published before in a preliminary form (Westerdahl 2002b, 2004). Since

2004 a number of approaches have been tried by the present author (generally 2005a, b, 2006a, 2010b, 2011b, summary in 2013). I have since then applied my ideas on fishermen’s and sailors’ taboos e.g. to sea marks, since their forbidden place names – in an immaterial sense – must have worked as such taboos (Westerdahl 2006b, 2011a). Other subjects include archipelago chapels and stone labyrinths, medieval and later (e.g. Westerdahl 2006b, 2012a, 2012b, c, 2014a, b, c, d). However, to judge from reactions of colleagues, including Kalle Sognnes, towards a couple of items, reformulations and simplifications are needed. This text is thus also a brief review of my own process of writing. Sorry for being a little too personal, but this is how it started. It has been deemed necessary since at an early stage I was the only author who took up the matter and combined relatively recent folklore, place names, maritime taboos and archaeological material. The intention of this text has been precisely to trace progression and to establish my present position.

I think my general theory of *liminal agents* appears to have been accepted (first found in Westerdahl 2005a; a related view in Ling & Cornell 2010; below). But the concomitant hypothesis on a reversal of taboos by means of intentional ritual (thus, not breaking them by chance) could be more controversial. At least this is what I think myself. In my opinion there is presently at least an alternative way of explaining the fact that such an astounding number of place names containing a clearly tabooed element still exist, and that on the other hand the parallel *noa* names for these sites have disappeared. It must be admitted that Svale Solheim (1940, more on him below) still may have had a better idea, that naming replaces ritual over time, at least in some cases. But both explanations remain unproven as far as I can see. As I see it, they reflect two theoretical



FIGURE 1: WHAT IS THE POINT IN BRINGING THE SHIP (FORM) TO LAND? ALES STENAR, KÅSEBERGA, SKÅNE, SWEDEN, HOWEVER IN THIS CASE PROBABLY OF IRON AGE DATING. A LARGE PORTION OF THESE SHIP SETTINGS IN THE BALTIC SEA AREA WERE BUILT DURING THE BRONZE AGE. (PHOTO C. WESTERDAHL)

approaches: functionalism in the case of Solheim, in my case an environmental version of structuralism.

We have definitely not solved all problems. There are indeed (sometimes several) alternative names of many localities, but precisely which are normal or 'original' (seemingly the oldest) and which is taboo (forbidden) at a certain time?

For prehistory the situation is certainly more complicated, but the general significance of the *liminal area* along the waterline must be accepted, whatever other factors change in the fishing communities together with beliefs therein.

### Taboo and noa

Here we are dealing in each case with illiterate communities, expressing themselves ingeniously in a way that is very different from ours. To understand just a glimpse of it we need to have recourse to a cross disciplinary perspective.

I am using the term *magic* in its traditional, undefined, but generalized meaning. Central anthropological concepts taken from cultures of the Pacific are *taboo* and *noa*. A simplified definition of taboo is 'what is forbidden' (e.g. Hultkrantz 1992a). Incidentally, and most illuminatingly, this is the innermost meaning of most words for what is 'sacred, holy' in a large number of languages, even in different families of language, *sacer* in Latin, *hagios* in Greek *qadosh* in Hebrew, *haram* in Arabic, *heilagr* in Norse, *pyhä* in Finnish, *passie* in Saami (some of this above all in Steiner 1967/1956, Baetke 1942, Vilkuna 1956 & Anttonen 1996; cf Westerdahl 2011c). *Noa* is the replacement, referring mostly to 'normal' or names/words which are innocuous in this context (Sahlgren 1918,

Hultkrantz 1992a). Although cognitively much alive today, the ancient roots of this equation can be amply shown by way of place names which may very well go back thousands of years. Thus it could be safely concluded that it is a more or less universal conception intimately connected, but not identical, with what we may call religion, apart from it being part of a social and environmental cosmology (or expressed in plural as cosmologies).

*Noa* is what is normal or in problematic cases replaces what is taboo. In this case we will deal with the behaviour (including to say a word or a name), which is according to social norms forbidden at sea, on the deck of a boat. Sometimes the area where the rules are current (or are applied) extend to a larger liminal area on land, that is close to the beach or is on the way to it from the settlement. *Noa* is simply what is used on land but not at sea or on the sea. Here I follow to some extent articles by the Swedish pioneering linguist Jöran Sahlgren (1915, 1918, 1943).

This comparison of fairly recent folklore with what might have been of current interest in an analysis of a maritime prehistory starts in what is addressed (and normally despised) as *superstition*. It is still well known among fishermen in Scandinavia and sometimes elsewhere, and it is surmised (but wrongly) that it exclusively concerns oldsters in this profession.

Thus they believe that a certain behaviour at sea brings luck and others the opposite. The most well-known taboo seems to be that women (or any female being) should not be on board. Another is the avoidance of black colors in the boat. Some prefer not to whistle while on the boat deck. Nor is it popular to bring the priest, clawed animals, a cat or a dog. But this is not enough since it affects

behavior in general: you must neither talk about or imply such forbidden things. Even on the way on land to the boat it has been inauspicious to meet any such being or e.g. a horse or other such land phenomena which on the other hand was more unlikely to bring onboard. The same name which was used on land should never be mentioned at sea. A series of islands with another, normal name, could be called *Bonden* ('The Farmer') instead of its normal name on land. And never say horse, priest, woman etc, only other, often inventive, words (thus *noa*). Even far-fetched associations with forbidden phenomena were avoided. But not only strictly land-related elements were forbidden, also the boat, its implements, as well as most fish species or the weather, except as metaphors. When highly developed this behaviour created a particular language, in Faroese called *sjómali*, 'the sea language,' in Shetland *hafwords* or *luckywords*. Mostly, though, but not exclusively, as a vocabulary, another grammar and order of words by inversion, could be applied.

It is true that such behaviour is shunned today. If any application is followed today it would be in secret. Clearly, the old beliefs disappear, even though fragments remain, and then often without a clear motive. In the 1960s there was more of them when I started my interviews around the great lake Vänern in Sweden (Westerdahl 2002b, 2003). There was very little left in the 1970s during my survey of the Norrland coasts (1500 informants: Westerdahl 1989). However, this was partly a product of a social barrier and a problem of source criticism. To get under the varnish of informants for an outsider is difficult. And an important mechanism will always be that magic does not work in front of outsiders. Furthermore, it will lose its power completely if known by non-believers, especially land-lubbers. There was an element of shame, of not being willing to concede that such behaviour still counted seriously. Joking about them could be a method of reinstating logic. The social background was clear; if not themselves professional fishermen, everyone would have a father and/or a grandfather in this full-time or part-time *métier*. Others were sailors or had ancestors in shipping in the same way.

There are numerous, although very piece-meal, occurrences in literature. Approximately the same kind of taboos were found in Scandinavia and Estonia, Shetland, Newfoundland and Texas (on Estonia Loooris 1931, 1939, on Shetland Jakobsen 1901, 1921, Fenton 1969, on Texas with references to Newfoundland Mullen 1969, 1978. In the Malaccas and parts of South America similar conceptions had been briefly recorded (Firth 1971 (1946), Barrère in a work *Sammlung* from 1751: 136f, recorded by Sahlgren 1918:6). Ritual behavior at sea in general had been documented by the famous social anthropologist Bronislaw Malinowski in the South Seas. He launched a reasonable, more or less functionalist, theory on *anxiety-ritual* to explain it. The more danger and anxiety the more ritual. At the open sea it was applied all the time, but inside the protected lagoons next to never (Malinowski 1925, 1948).

In later days fragments of old beliefs could be explained simply by assuming that the fishermen and sailors felt more confident to follow age-old behaviour than not to do it. Anyway no harm in that!

One of the followers of Malinowski's ethic was thus the prominent Norwegian folklorist, Svale Solheim, who was the foremost authority on naming prejudice among fishermen in northern Europe (Solheim 1939, 1940). He found by far the richest and most consistent patterns in Norway and its ancient dependencies among the Western Isles, the Faroes and in Scotland, Sweden, Finland and Estonia.

### 'Only' superstition?

But was this ritual behaviour only the functional products of superstition and magic? For a long time I did believe just that. My principal interest concerned material traces of the maritime cultural landscape. However, doubts were rising. At first the general idea pervaded my thinking that whatever the explanations the important thing henceforth was to document the immaterial human landscape. All this appeared to possess an extremely salient place in such an endeavour. How otherwise to understand people of the past and their landscapes?

The second impetus was given by a close study of the prejudices themselves. It soon transpired that all kinds of superstition in this field were based upon an opposition or dualism between sea and land. They expressed the contrasts between two different worlds, which, as Solheim, pointed out, were part and parcel of the life of the fishermen. It was at sea, in the boat, that the ritual behaviour was applied. On land other social rules were observed, of a different kind. Everything that was taboo on water was directly connected with land. It could have to do with the small-scale forms of agriculture in the fishermen's own other life, with the houses of the small farm or croft, not only women, but children, domestic animals, potentially dangerous or obnoxious wild animals, the authorities, the bailiff, the priest etc.

In Solheim's empathic view the fishermen were anxious not by association to cause any disruption at home just by mentioning what they feared could happen when they were away at sea. It was also always the normal land forms of any words or phenomena which were forbidden.

This kind of maritime culture, although never full-time, was the normal life cycle during most of known history, and not only in Scandinavia. However, it must have been as important in prehistory. When reflecting on the transition from foragers to farmers, the duality of the two lives, or environments, seemed as relevant: hunters and gatherers on land were fishermen (and hunters at sea) too, and the new agricultural elements may seamlessly have superseded hunting with cattle and other domestic animals together with small patches of tilled ground. In the realm of animals it was a transition from elk and whale to horse and cattle. The cognitive effects were supposedly minor,



FIGURE 2: BJØRNEN, 'THE BEAR,' A DANGEROUS ROCK IN THE SEA ENTRANCE TO MANDAL, VEST-AGDER, NORWAY. THE BEAR IS ONE OF THE MOST TABOOED ANIMALS, NOT ONLY IN MARITIME LORE. A NAME LIKE THIS REMINDS YOU OF THE DANGER. IN THIS CASE WE DO NOT KNOW ANY ALTERNATIVE (NOA) NAME. (PHOTO C. WESTERDAHL)

at least in the environmental sense. A question about the identity of maritime people, what they were, or actually called themselves could be answered by them as fishers, farmers, pilots or sailors. Also in historical times they would still be registered either as fishermen or farmers, depending on the expectations or needs of the authorities who recorded them as such for tax purposes.

The land association had an immediately social meaning. Inland was the landscape of power. Solheim thought that the aversion to priests and bailiffs was a reaction against the tyranny of the authorities. Some other authors thought the same (e.g. van Ginkel 1987). This is not only reasonable in a functionalist sense. Small-scale fishermen and farmers in a maritime environment were certainly the underdog during most of recorded times. They were often used as cannon fodder by the state and its agents in incessant wars, especially as only they were really experienced with the sea. Then they were left in the lurch by the same principal when the wars were over.

However, the functionalist attitude gives only a partial explanation to their aversion against the authorities. Firstly this aversion is a minor part of the superstitions or whatever the ritual behaviour would be called. It is neither just a question of a dangerous environment. A historically based, more cultural explanation is needed. For example, the priest was not only representing the authorities, he was an authority by himself. By way of his status he could condemn magic and ritual which was seen as an important prerequisite to the fisherman's life at sea, and maybe even be understood to frustrate such measures. In my version

he also represents land because of his black colour. The colour of land is traditionally black and the sea white. The liminal colour, between sea and land, in folklore is accordingly grey.

This is a suitable place to remind us of the island place name *Holmen Grå*, (Gray Holm) which is found above all in Norway but also in a few cases in Sweden. Little is needed to substantiate the magic character of each of the islands so named. They are still well-known as such in oral tradition. Already the reversed position of the adjective is a strong indication (like in *Landet Gode*, the noa name for *Jomfruland* above). Like others, they may be prominent as sea marks, but they are not as a rule overwhelmingly dangerous.

In a historical perspective the explicit motives for a certain ritual or behavior may have varied with changing conditions (e.g. Schurtz 1893, Wundt 1910). What we see is the accumulated fragments of age-old conceptions.

### Gender?

The opposition between sea and land could rather be seen as a consistent pattern of beliefs pervading all other elements. The division into gender (or sex) would then be a secondary contrast, like above the colours identified with either element.

The woman was most often identified with the land. It was a picture of society. In Scandinavia she represented the terrestrial economy and the family since she managed

it while her husband was out at sea. (cf Sahlin's essay Stranger King, in Sahlin's 1985/1987) But the gender roles were variable. In the northern Baltic the woman was one of the two indispensable parts in traditional pair-fishing. It could be a married couple, father and daughter, possible even mother and daughter. So any woman could not be unwelcome onboard. Among farmers with ship freights documented in Stockholm at the beginning of the 19th century a quarter were women.

In spite of common prejudice the sea was often identified as female. Certain female beings, real or not, could bring luck, although they might be considered fickle in their dispensation of such luck.

A certain category of women only, often those considered to be at the fringes of society, might be most valuable if they were met with on the way to the boat. The Mermaid or simply Scandinavian *Jomfrua* (*Jungfrun*; in old time *Mön*, also meaning a virgin, but also pointing to Mary) was the mistress of the Sea. It was imperative to keep her propitious to fishing people. Not to do it actively was to invite disaster. She was touchy indeed. Forget the mild appearance of *Den Lille Havfrue*, The little Mermaid, at Langelinie in Copenhagen!

There are hundreds of place names *Jungfrun* or suchlike (or derived from *mö-* which is the older term, German *Jungfrau* entering our languages during the 16th century) in magic places. The significance of the island *Blå Jungfrun* in Kalmar sound, SE Sweden, is mentioned by Olaus Magnus in 1555. This is a *noa* name. The tabooed name of this island is *Blåkulla*, Blue Hill (or Rock), a recurring name of the home of the witches in the North. In Hälsingland, E. Sweden, is found the large island *Storjungfrun*, 'The Great Virgin' (supposedly the Mermaid), which was a *noa* name. Her other names were *Stora Käningen* ('the Great Land/Sea Mark'), and *Helgön*, 'the sacred island,' probably being taboo. The parson Peder Claussøn Friis records about AD 1600 that the island *Jomfruland* at Kragerø in Telemark, S. Norway, was euphemistically called *Landet Gode* by sailors when visible from the sea (Claussøn Friis 1881: 297). In this case we know also of an original name, *Aurr*, which may have been made taboo at earlier stage, and possibly is of prehistoric origins.

A pagan or Christian background for such behavior is irrelevant in this context. This is popular belief that does not conform to neither. But it could not be just by chance that maritime chapels in all parts of the North very often has been endowed with a tale about a Virgin directly or indirectly, living or dead, founding the building and its cemetery. It is death coming to land, since the Mermaid and the Sea was equivalent to Death (Westerdahl 2012a). Land was identified with Life, although not quite consistently. This is just another representation of the dual worlds of land and sea.

The other side is also obvious. Many islands and hills were called *Bonden* ('The Farmer') for the same reason. It is not

a very intrepid assumption that the Farmer is a metaphor for the land-bound, the permanent, the stable. Some examples are the peninsula *Kullen* in Skåne (recorded from the later part of the 16th century). In this case – like Jomfruland above – we may have found an original third name, *Skjold*, The Shield, presumably prehistoric, and then most probably referring to an Iron Age shield boss, which is preserved in the name of the nearby bay Skälderviken. Another *Bonden*, Kinna-*Bonden* the hill *Kinne-kulle* in Västergötland, at lake Vänern (first recorded AD 1699). *Kinne-kulle* was indeed so charged, according to one of my informants, that it could even be dangerous to look fixedly at the hill from the sea. This carries a controversial air, since that hill is the only landmark that could be seen above the horizon from most of the lake. Due north of this most important land mark we actually find another *Bonden*, Eds-*Bonden* in Värmland (Westerdahl 2002b).

Otherwise, it is a reasonable conclusion that only the *noa* name has survived in most of the *Bonden* sites, but not the original one. Some are still called *Bonden*, *Högbonden*, but nothing else. We can establish that these sites without exception carry a cognitive significance beyond the ordinary as sighting marks at sea. Furthermore, in the case of *Kullen* we find the most famous site for sailor baptism in Northern Europe. Today, we may believe that the Baptism at the Equator (the Line) is the only one possible. But this custom may have been invented in the Baltic, where most of the sites have been found. Probably the inception of this particular custom occurred in the later Middle Ages (Henningssen 1960). However, it may have had predecessors. *Bonden* och other name-giving cases show that even male beings are in some way charged at sea, not only Virgins. Gender works as a contrast, but has no fixed permanent role, or identification, either as land or sea.

### Initiation rituals in fishing

The prerequisite for sailor rituals ought to be customs among fishermen. This is where most sailors were recruited. These customs have been particularly well described in Norway. Many dangerous places with treacherous shallows under the surface have to be memorized by the young fisher novice. In spite of the taboo, a forbidden land names is imposed on these sites, like skerries and rocks called e.g. *Bjørnen* ('the Bear'), *Kråkan* ('The Crow'), *Grisen* ('The Swine'), *Hästen* ('The Horse') and other epithets mostly related to domestic animals. This complex has been in Norway in particular by the linguist Per Hovda (1941) and the ethnologist Henning Henningsen (1960). There are hundreds of such names. They are so common in the archipelagoes that they, according to Solheim (1940), amount to the safest source to record the run of ancient sailing routes. Ancient means simply that they are traditional and older than the later steam boat routes. During the passage of an ancient route of this kind the novice fisherman or sailor would be tricked to pronounce the forbidden name of a certain locality. Due to this break of rules he has to offer something, or possibly to make a sacrifice, or an offering, in the sea. Most commonly within

living memory is to offer a snaps to the entire crew, his elders. But it is indicated in tradition that more tangible offers were expected.

This is a classical initiation rite, and in a way also a rite of passage according to the pattern of van Gennep (1960). At a certain juncture the ritual was transmitted to the world of the sailors, making it a formal baptism. As indicated, customs originating in fishing often are transmitted to sailors. This transmission may have occurred in the North. Some of the sites for offerings were at the same time sites of sailor's baptism. The fragments which have come down to us consist of offerings of coins and certain mundane objects which could be used by a Mermaid, or other females of the sea, such as boots, cloths, handkerchiefs. Already in 1555, this procedure was mentioned by Olaus Magnus in connection with the passage of the island Blå Jungfrun (above).

#### **Boat and seal (maybe whale) on land, a contrast that could bring luck**

We can see another mechanism at work. In spite of the taboo, the breaking of it might bring luck, *but only with a controlled ritual intention*, not by chance. Almost anything that is identified strongly with land and brought (even metaphorically) from land might this way be advantageous or protective at sea. Other elements intensely associated with the sea can be brought for the same purpose to land. These objects, animals or elements acquire a particular power. But the transition must be orchestrated by a human being. However, it is a dangerous procedure.

A seal's head could be brought inland ultimately to be interred in order to protect the barn or to get more fish into a lake. The person who did it must be careful not to be identified by malevolent powers. An impersonal force, e.g. a fire, should burn off the post on which the seal head or cranium was placed (19th century, archipelago of Holmön, Västerbotten, Sandström 2003).

If this mechanism were be transferred to other elements belonging to the sea, we could easily associate other applications. The boat is used for various ritual functions on land. Tangible ships in burials and less tangible, but still ship forms, such as stone ship settings belong to the group (e.g. Ohlmarks 1946, Artelius 1996, Wehlin 2013). In historical times votive ships in churches could carry the same implications. However, a boat has an ambiguous status, since it could also be thought of as an object exclusively consisting of materials from the land. Perhaps it did acquire a particular power by way of its transition to the other element. As we all know, this transition for a long time has acquired a ritual character in ceremonies of baptism, committed by a female. In other cultures launching a boat is always ritually performed, but with many variations.

It is easy to run riot in interpretations. Only such that affect the opposition between sea and land can be taken up here. A famous scene or motif is displayed in quite a number of

Bronze Age rock carvings, with a male person, sometimes disproportionately large, sometimes in the same scale as other figures, carrying or lifting a ship, which sometimes seems to have got a crew onboard. The most famous example is the Brandskog carving in Uppland, Sweden, where the ship is almost 5 m long. Åke Ohlmarks (e.g. 1963) called it once *Båtlyftarbragden*, 'the boat lifting feat.' The male person could represent land, just like the epithet *Bonden* (The Farmer) above, to cut a parallel. In my opinion this depicts the transition to the new element. The picture by itself may have been thought of as advantageous in some way or other.

Of course there are other more timely interpretations. The Danish archaeologist P. V. Glob, like the Swede Oscar Almgren, saw them as depictions of model ships, carried in rituals. The famous small figures of Fårdal and Grevenvænge in Denmark could have fitted into such a model, a miniature (sun?) ship (Glob 1969). Almgren (1926-27) refers to boat carnivals of later times. Such ceremonies have been treated by the Danish maritime ethnologist Henning Henningsen, who is at the same time the foremost authority on sailors' baptism (Henningsen 1953, 1961). The title of an article by the Swedish archaeologist Ingrid Hedengran would fit with a thought that they depict the salvage from shipwreck of a ship crew, possibly by a supernatural being. However this is only implicit and no reference is specifically made to the Brandskog-type motif (Hedengran 1995).

#### **Heads of land animals at sea**

Why have the ships of rock carvings animal heads on their stems (and on their stern posts as well)? In those of the Arctic Stone Age these are clearly elk heads. Already from about 5.700 BC we have a preserved wooden sculpture of an elk head found at *Lehtojärvi* in Rovaniemi, Finland. It might have been used for a small boat. During the Bronze Age c. 1.800-500 BC (especially the later part, from about 1000 BC) ship stems (some sterns as well) in rock carvings appear to display horse heads. Interestingly, we note that horses were among those animals against which the strongest taboos were applied in maritime traditions. According to the number of replacing noa names, in Shetland no less than 13 recorded, the horse may even have been the most commonly abhorrent species. Few animals could compete. Those which were closest in this respect were the cat and the swine. We must surmise that they were not a bit as relevant – and of course not as graphically identifiable if applied to a ship picture on a rock surface! The relationship of the concept horse to the ship and to the maritime landscape has been penetrated in a fairly daring way (Westerdahl 2009, 2010a, c). The curious relationship of horses and ships with their crew was observed already by Beck (1973). Evidently the relevant strong taboos concern the eminent *Great Land Animals*, 'the kings of land,' not any tabooed creature. If land animals were considered taboo at sea, this would mean that by a ritual intentionally applied the transition of the vessel to sea during a launch would work strong

magic, making its future journeys fortunate, safe and profitable. In the Mediterranean, a well-known Phoenician ship type was called *hippos*, thus ‘horse’, and its stem was adorned with a sculpture of a horse head (Johnstone 1980: 93f). The Sardinian ship models of bronze, *navicelli*, of approximately the same age (Italic/Sardinian Iron Age) display horned deer heads on their stems (Calcagno 1997). The cranium of an ox was placed on the stem of large Irish skin boats in the 17th century (Johnstone 1980: 130, with fig. 10.13). In much later tradition this could remind you of the naming of ships with land animals and female personal names. But gender is variable. It is not the details that matter but the fundamental opposition between land and sea.

Other more functionalist explanations have been presented for the occurrence of animal heads on boats: they could represent the animal which provided most of the material in a boat made of hides. Yet another idea make the transport horse on land parallel to the ship at sea.

### Some comparisons

I know that non-contextual, phenomenological, comparisons are not very popular these days, and with good reason. But here we deal at least diachronically only with maritime cultures of obvious similarity.

The Maltese archaeologist Reuben Grima interpreted the arrangement in the Maltese Bronze Age (c. 3500-2500 BC) ‘temples’ as based on a contrast between sea and land (Grima 2001).

As far as I can see there is some classical taboo situations represented in the *Odyssey*, c. 7000 BC. The Song of the Sirenes is one of them. In the same text it appears to be indicated that the horns of a domestic animal, the oxen can be used magically to advantage by sinking into the sea (Westerdahl 2005a, 2014e). Besides, sacrifices in the ancient world generally took place at the same kind of passages, past high promontories and other prominent land marks, which were used for sailor’s baptism during later centuries (2014e).

The Canadian anthropologist Robert McGhee has shown that the Inuit Thule culture from about AD 1000 only permitted materials from land during hunting on land and only materials from the sea when hunting there. As the title of his classical study *Ivory for the sea woman* (1977) indicates there was a distinct gender division between sea and land. I believe this is a close parallel to Scandinavian conditions, even though the order is reversed. This does not invalidate my proposition. I strongly suspect that even in our context the significances of e.g. the male *Bonden* and the female *Jungfrun* are reversible or exchangeable.

### The liminal state and the liminal agents

Finally we come to a very significant mechanism. The transition between sea and land is liminal. Liminal is

derived from the Latin noun *limen*, Gen. *liminis* which simply means ‘threshold.’ Interestingly, there is a very similar Greek word, *hè limèn* (Fem.) and *ho limèn* (Masc.) for harbours and low, often inundated lands at a river estuary. These words clearly signify something liminal in the wider sense of a borderland between sea water and land. Latin and Greek are not far apart. Perhaps the fundamentally maritime culture of the Greek rocky coasts and archipelagoes was apt to think of wide-ranging maritime borders while the basically inland Roman culture expressed a more homely and restricted border line (cf Fustel de Coulanges 1979/1864).

Anyway, for our purposes it suffices to reflect on the beach. A passage (even a metaphoric one) across this liminal area could grant magical power. But it is an ambiguous, i.e. dangerous, area. For the fisherman even the path down to the boat and the boathouse was a vibrant area where anything could happen, for good and for bad. A bad omen, by meeting e.g. a cat, a priest and a woman, could in fact mean that he returned home.

I have thus invented the general term *liminal agents* for all these intentional noa words, *Bonden*, *Jungfrun*, women (even priests?) at sea, ships on land, horses and elks onboard a boat. But it is sometimes difficult to ascertain whether taboo names also can be considered liminal. This is not the point. Anything that passes the passage across the liminal field can, I believe, return and possibly get renewed power in the other element. They may perhaps be exchangeable, i.e. be used several times back and forth.

Even people can be liminal agents. With a shamanistic type of world view the shaman is an obvious liminal agent. In their trance they pass effortlessly between the elements. A possible implication could be the users of the painted caves of the Norwegian coast, between darkness and light, between rock and sea. Almost all figures consist of elementary human-like crossed strokes. In one of the cave a seal carcass appears to have been brought by humans into the very back of the cave (Sognnes 1983, 2009, Bjerck 2012).

Still I am aware that my theory on the reversal of luck by ritual and that of the liminal agents is based more on intuition and empathy than anything else in this text. But I think this is the inescapable conclusion: why would there otherwise till exist such a lot of place names which are strictly *taboo*, while their alternatives, the *noa* names have disappeared. Breaking taboos can bring luck!

In order to demonstrate a more obvious maritime praxis, and with a more social emphasis than mine, a related notion for Bronze Age archaeology has been expressed by Ling & Cornell (2010: 39):

*‘The agents who enhanced and conducted this maritime praxis on the ships, moved from one physical and cognitive domain to another, from land to shore to sea, and back to land-sea-shore-land-sea. These*

*mobile liminal agents also transported new materials and new ideological conceptions, and they may have been regarded both with fear and with joy.'*

Symbols are multivocal. Rock carvings and other figures have been interpreted in almost any possible or reasonable way. References to the Sun and its unending path across the firmament is an obvious prerequisite for some of Bronze Age imagery (Kaul 1998, 2004). The sun appears in this text together with its followers, the ship, the snake, the horse – and most probably in an earlier inland version, the elk, the sublime liminal agents. To try to identify any gods or other tangibly divine myths often meet a dead end. This is how it should be. In my opinion this is a futile ambition. On the other hand, it might be possible to review some other recurring figures as liminal agents.

### **Ethnically defined folk groups as liminal agents**

In the North as well as on the seven seas Finns were once supposed to be the worst wizards possible at sea (Toivanen 1995/1994). Already Olaus Magnus tells us in 1555 (Any edition: e.g.: Book 3, Ch. 16) – with some pride – of these wizards. Saamis had the same reputation and were feared for this reason. In my opinion this idea was based upon an erroneous conception of both groups, that they were *pure inland people*. Both were active with boats in watery surroundings and the Sea Saamis along the northern coasts of Norway were prominent fishermen and maritime hunters in historical times. They may have used their sinister reputation for their own benefit.

Interestingly, rock carvings presumably of the 9<sup>th</sup> century AD (Viking Age) with ship pictures as an important part were engraved inland ca 1000 ms a.s.l. in Padjelanta, Lapland (on the Swedish side of the mountains) and

must in this area be ascribed to Saamis (Mulk 1998, Mulk & Bayliss-Smith 2006). The meaning carries magical connotations. Perhaps the boat figures on Saami shaman drums were supposed to work in the same way.

Within social anthropology many have been observed parallels both in folk groups and certain individuals. They have been conceived as marginal and accordingly as liminal in more than one sense. Applicable authors include Victor Turner (1969) and Mary Helms (1988, 1998).

### **The liminal state**

A liminal state, in my opinion, is clearly indicated by the localities of most of the rock carvings. This goes for both of the main categories, the Stone Age Arctic carvings and those mainly of Bronze Age dating. The overwhelming majority is placed at the ancient beaches close to the sea and some to other waters. Kalle Sognnes (1994) and Knut Helskog (1999) are two prominent scholars who have observed this fact, Johan Ling no less (Ling 2008, 2013). The placing of a great number of burial cairns (mostly Bronze Age, but some belong to the Iron Age) in the same liminal zone is apparent in all Scandinavia, even where there are no known rock carvings.

I do not intend to interpret them here in the same way. Their significance is certainly manifold and changing according to successive reinterpretations by their users. The striking appearance of coastal stone-laid labyrinths from the High Middle Ages and forward may have a related meaning, due to convergent ideas of the liminal zone between sea and land, between life and death.

Interestingly, by far the richest expressions of what we label fishing taboos recorded in fairly recent times are



FIGURE 3: COASTAL CAIRNS IS A MAIN ELEMENT IN THE COASTAL LANDSCAPE ALL OVER SCANDINAVIA, EXCEPT DENMARK. THEY SEEM MOSTLY TO BELONG TO THE BRONZE AGE. WHEN THESE CAIRNS WERE BUILT IN SOUTH FINLAND THE WATERLINE OF THE BALTIC WENT JUST BELOW THE SITE. HOWEVER, NO ROCK CARVINGS ARE KNOWN. (PHOTO C. WESTERDAHL)

found precisely parallel to a consistent distribution of rock carvings, burial cairns and labyrinths and practically nowhere else. It seems that they are all culture-specific in the Nordic area, Scandinavia proper with Finland and to some extent Estonia and, maybe, North Russia. When we are surveying the known distribution of the taboo complex, occurrences outside this area seem to have their origin in our area of Northern Europe, including the Western Isles and North America. Maybe it is to carry comparisons too far, but it should be remembered that the known distribution of sites of sailor baptism clearly shows that the overwhelmingly densest occurrences are found in what we may call the Scando-Baltic area, i.e. the North Sea and the Baltic, and we may add that Henning Henningsen himself thought that the custom could have had its origin there (Henningsen 1961). But since his principal view of its genesis was based on initiation rites he indicated that it might have an origin in such rituals that were performed when entering the Hanseatic guilds during the High and Late Middle Ages. No further reflection was offered by him for possible Nordic predecessors, nor any comparison with rites among fishermen.

Where the cognitive border once has been thought to lie between land and the liminal zone will never be known. But it has certainly to do with visibility. Perhaps the cairns were considered liminal up to the point where they cannot be seen from the sea or the sea cannot be seen from them (Tuovinen 2002). Knowledge of such conceptions in later times is of meagre but such a view accords well with recent observations in ethnological literature on the liminal state of Faroese women after childbirth but before the so-called church-taking: to be able to observe the sea is a significant point in being in a liminal state, as she was then (Vestergaard 1981).

The border between water and land is charged with meanings. This applies even to waters inland, to river meetings and fords. The edges of the rock where water flows, the waterfalls, have in some cases been provided with rock carvings.

These locations could be outflows of wisdom and fountains inspiring important decisions, maybe also violent encounters of opponents. The wet-land offerings may indicate a general *hydro-liminality*.

The anonymous dead were according to Norwegian provincial laws buried immediately above the tidal area, presumably not to walk the earth. According to almost universal conceptions ghosts cannot pass water. Ideally, therefore, dead people were interred on islands, part of a reasonable background for graveyards in archipelagoes, sometimes with a sailor or fisherman chapel (Westerdahl 2006b, 2012a).

#### Active transitions?

In particular we find superimposed carvings in the oldest Arctic or Subarctic variety of rock carvings (Lindqvist 1994). Quite a number represent boats and elks. It is often unclear whether they were made with a considerable time lag or if they are roughly contemporary. Anyway the superimposition must be intentional. This is in line with my dual world, land to sea. The elk stands for the land, the boat for the sea, making the world complete.

Another striking feature, especially pointed out by Kalle Sognnes, there are sliding transitions in one and the same figure from a bird or a fish to a ship/vessel. There is a considerable number of other cases (Sognnes 1996). There is a transformative character in all this. But it could also



FIGURE 4: THE LIMINAL FUNCTION OF ROCK CARVINGS EVIDENTLY EXTENDS TO FRESH WATERS. ELK FIGURES AT THE LAKE ÅNNSJÖN, JÄMTLAND, SWEDEN. (PHOTO C. WESTERDAHL)

more specifically indicate the movement between elements, not only between sea (water) and land (rock, ground) but also between heaven (the air) and land. Perhaps there is still a basically dual relationship. Some anthropological studies have shown a cognitive transition between heaven and the sea (Helms 1988). Heaven is transformed to sea at the horizon. It is also the abode of high gods. In this capacity heaven is irrelevant in this review.

Since cup marks do not belong to the Arctic Stone Age variety of rock carvings I think that the superimposed carvings and/or transition between categories of figures such as birds to ships, human beings to animals etc have got a corresponding function, i.e. as reinforcements of meanings in the 'language' of rock art.

Constellations of two liminal agents do not only appear during the rock art periods. The tiny (coin-like) amulet from Karlby, Djursland (a peninsula of West Jutland), Denmark, found as late as the 1990s, ought to be dated ca AD 800. Of course maritime archaeologists have discussed the dating of the remarkable sailing ship on one side (for this reason it adorned the cover of *International Journal of Nautical Archaeology* for a year) but did not consider the amulet in its entirety to comment on the other figure, an elk on the obverse (or a large deer). Nor was the context of the find, at the very beach, assessed. But it certainly may add to its significance.

The find of ornamented cattle and horse bones in the river Weser upstreams Bremerhaven, N. Germany, is another example. The 14C-dating is 5th-6th century AD (Pieper 1989). A well-executed carving of a Roman ship with a runic inscription, *lokom here* (probably 'we coax them here') is found on one of the bones, others depict various land animals, mostly cattle. Reasonably this is an offering. Is this the equivalent of a Germanic 'cargo-cult' towards the Romans? (on cargo-cults cf Worsley 1970/1957).

Finds that could be interpreted this way are not prolific. But perhaps that should be expected...

### Why?

A basically cosmological explanation of an ancient maritime world appears logical to me. The point of departure is the impressive contrast between coastal rocks, steep cliffs, inland forests and the sea with its incessant surf (Helskog 1999). The unknown but productive world under the water was full of ambiguous, either dangerous or advantageous powers. The sun rises out of or descends into this ambivalent world every day and night, seen either facing a western or an eastern coastline. Along this line of thought human adaptation to a maritime environment is a prerequisite for a world built on oppositions. The impetus was accordingly there already during the Mesolithic of Scandinavia. But godheads which are thought of as individual human-like beings are not implicated, although they may reflect cosmological elements during later

periods, possibly from the later part of the Bronze Age. I do not intend to say more, here or elsewhere. There need not be any conflict between probable cosmologies. They often seem to be parallel remnants of earlier social life. The significance of rhythmic solar myths in the Bronze Age is obvious (Kaul 1998, 2004) and it carries on at least into the Middle Iron Age, beyond the rock carving tradition (Andrén 2012, 2014). It may very well be that another cosmology, expressing some elements of other dichotomies of common Indo-European roots is a key to the understanding of burial customs during the Bronze Age (Kaliff 2007, on original comparisons with a hitherto largely neglected archaeological material).

### Conclusion

It is always dangerous to do what has been made here, to use diachronic perspectives. I have presented on the one hand a diachronic view of the maritime environment, with its permanent dangers as well as its permanent resources for humankind. The principal weight of my arguments is placed there. On the other hand I can easily see dynamics and change over time, the blend of various other independent ideological, religious and magic elements in the cognitive world of peoples seasonally dependent on the sea. But the duality of existence makes for a conceptually dual world.

Åke Hultkrantz, the founder of the school of ecology in the history of religions, expressed the following conclusion on fishing taboos (Hultkrantz 1992:46):

*'The opposition between land and sea in hunter and fisher culture has undoubtedly contributed to the origin of fishing taboos. It is here a question of a categorization in a dichotomy between land and sea which is more than just motivated by a structural order. It is a deeply experienced difference between two worlds in the surrounding environment.'*

*This ancient fishing culture – ancient in the sense of structure and general patterns not in the details which have been modified over time – has survived up to our own time in those marginal zones where it has found its foothold since times immemorial. Isolated but densely populated enclaves have best resisted the modernization following in the steps of agriculture, high culture and industrialization. In particular continuity has been kept in the fishing camps of the open sea.'*

What Hultkrantz refers to is the origin of fishing magic, but the wider implications in this text are my own. I do not completely agree with some of the wordings of Hultkrantz, nor with his social analysis, but it does not matter in this context.

Besides, I would like to add that the so-called superstition or prejudice appear as a *more or less consistent system of beliefs*. It amounts, in my opinion, to a reflection of a cosmological dichotomy. I find it hard to believe, like

Hultkrantz, that it would be much otherwise in ancient times, even back among the first maritime settlers of Scandinavia in the Mesolithic. Interestingly, Norwegian ‘superstition’ concerning a particular fish species, is curiously similar to the Saami ritual attitudes to the bear.

The most important fish species in folklore was the *halibut*, Norweg. *kveite*, Swed. *hällflundra*. The latter designation, including the prefix *helghe-*, ‘holy’ in ‘hällflundra’, the regular Swedish species name, reveals that it was supposed to be holy, or sacred. It was also in Norse called *heilagr fiskr*, ‘the sacred fish,’ in earlier times. Certain students of fish names have indicated that this may have had something to do with its use at the medieval Lent in Catholic times of the North. In those times was certainly exported to Europe from Norway and other regions in Scandinavia. But this went for several other species as well, in fact even more so.

The rules of Lent (the fast) were strictly enforced in the Church during the Lateran Council from AD 1215 and onward, which would then mean that such a cognitive role for the halibut was first launched in the High or Late Middle Ages.

However the wealth of the evidence rather points to a fundamental tradition dating back to prehistoric times. Depictions of halibuts are known from several important Mesolithic rock carvings. Some depict fishing from a boat. The most striking of the others is a half-moon of 12 parallel-swimming halibuts on a single rock in Kvennavika in Nord-Trøndelag, Mid-Norway (Sognnes 2006).

Most interestingly, it was forbidden to break, to cut or to burn the bones of this fish species. This is strikingly similar, as Solheim comments, to the attitude of hunting peoples around the world towards their best prey animals. Much closer to the coastal dwellers, Saami reindeer breeders applied the same taboo to their slaughtered reindeer and to the bone and skeletal remains of the ceremonial bear-hunt in recent times. But so far the oldest dated bear-grave is dated c. AD 200.

There is certainly something rather special about the halibut in recent times. Before fishing the *kveite* some of the fishermen used to dress up with their best clothes, to be able to call properly on *jomfrua* (‘the virgin’). Thus, once more we can see the ‘virgin’ in a symbolic disguise. The first fish caught was to be sent back into the sea every year, but its blood and the heart was consumed, seemingly to acquire rare qualities. With its blood a cross was painted on the white side of the fish. Only a few people could possess *kveitelukka*, ‘halibut luck,’ the ability to catch large quantities of halibut.

Unusually rich particular customs and beliefs are thus bound up with this great fish. Apart from being the best food, it could appear at a weight of up to 300 kg, about the size of the flesh of a large land animal.

There is of course a number of *noa* names of the halibut, usually – as mentioned – of female gender, like *jomfrua*, *prinsessa*, *frua*, *abeluna* etc. At least eight such names are known from Shetland. In Estonia, the halibut could be called *lest*, which means ‘the flat one’.

Thus, there may well have been a cognitive dichotomy in the world, but not necessarily a distinct religion, even though taboos are at least linguistically intertwined with the sacred sphere, as we saw in the introductory part. Religions are changing much more rapidly, by far, than cosmologies. But it is surely a tendentious misconception just to refer contemptuously to our field as superstition. It was once a social norm and deeply felt as a cognitive way of efficiently managing a harsh, dangerous and fickle environment.

On the other hand, we cannot deplore the fact that there have always been unbelievers...

### Acknowledgement

To an unknown but knowledgeable referee.

### Bibliography

- ALMGREN, Oscar (1926-27) *Hällristningar och kultbruk*. Kungl. Vitterhets Hist. och Antikv. Akad. (KVHAA) Handlingar del 35. Stockholm.
- ANDRÉN, Anders (2012) Från solnedgång till solnedgång. En tolkning av de tidiga gotländska bildstenarna. In: *Gotlands bildstenar. Järnålderns gåtfulla budbärare*. Gotländskt Arkiv (84) 2012: 49-58.
- ANDRÉN, Anders (2014) *Tracing Old Norse Cosmology. The world tree, middle earth and the sun in archaeological perspectives*. Vägar till Midgård 16. Nordic Academic Press.
- ANTTONEN, Veikko (1996) *Ihmisen ja maan rajat ‘Pyhä’ kulttuurisena kategoriana*. Suomalaisen Kirjallisuuden Seuran Toimituksia 646. Helsinki. English summary pps. 209-218.
- ARTELIUS, Tore (1996) *Långfärd och återkomst- skeppet i bronsålderns gravar*. Riksantikvarieämbetet. Arkeologiska undersökningar Skrifter No 17. Diss (lic.). Varberg.
- BAETKE, W. (1942) *Das Heilige in Germanischen*. Mohr, Tübingen.
- BECK, Horace (1973) *Folklore & the Sea*, Middletown, Connecticut.
- BJERCK, Hein (2012) On the outer fringe of the human world: phenomenological perspectives on anthropomorphic cave paintings in Norway. In: Knut Andreas Bergsvik & Robin Skeates (eds): *Caves in Context. The Cultural Significance of Caves and Rock Shelters in Europe: 48-64*. Oxbow Books, Oxford.
- CALCAGNO, C. (1997) *Aspects of seafaring and trade in the Central Mediterranean region c. BC 1200-800*. University of Oxford. Diss.
- CLAUSSØN Friis, Peder (c. 1600) *Norriges oc Omliggende Øers sandfærdige Bescriffuelse*. I: The same: *Samlede Skrifter*. Utg. G. Storm 1881. Kristiania.

- FENTON, Alexander (1969) The Tabu Language of the Fishermen of Orkney and Shetland. In: *Ethnologia Europaea* 2-3: 118-122.
- FIRTH, Raymond (1971, 1946) *Malay Fishermen. Their Peasant Economy*. London. R & K public.
- Fustel de Coulanges, Numa Denis (1979) *The Ancient City. A Study on the Religion, Laws and Institutions of Greece and Rome (La cité antique, 1864, Paris. Gloucester, Mass 1979)*.
- VAN GENNEP, Arnold (1960) *The rites of passage (Les rites de passage, 1909, Paris); Chicago*.
- VAN GINKEL, Rob (1987) Pigs, priests and other puzzles. Fishermen's taboos in anthropological perspective. In: *Ethnologia Europaea* 17:1: 57-68.
- GLOB, P. V. (1969) *Helleristninger i Danmark*. Jysk Ark. Selsk. Skr. Bind VII. Århus.
- GRIMA, Reuben (2001) An Iconography of Insularity: a Cosmological Interpretation of some Images and Spaces in the Late Neolithic Temples of Malta. In: *Papers from the Institute of Archaeology (PIA) Vol 12. 2001*: 48-65. London.
- HEDENGRAN, Inger (1995) The Shipwrecked and their Rescuer. Reflections on ship symbolism in Southern Scandinavian rock art. In: Crumlin-Pedersen, O. & B. Munch Thye (eds): *The Ship as Symbol in Prehistoric and Medieval Scandinavia*. Publications of the National Museum (PNM) Vol. 1: 76-85. Copenhagen.
- HEGEL, G. W. Friedrich (1807) *System der Wissenschaft. Phänomenologie des Geistes*. Bamberg.
- HELMS, Mary (1988) *Ulysses Sail. An Ethnographic Odyssey of Power, Knowledge and Geographical Distance*. Princeton U. P. Princeton, New Jersey.
- HELMS, Mary (1998) *Access to Origins. Affines, Ancestors and Aristocracy*. Texas U. P. Austin.
- HELKOG, Knut (1999) The Shore Connection. Cognitive Landscape and communication with rock carvings in northernmost Europe. In: *Norwegian Archaeological Review Vol. 32 No 2*: 73-92.
- HENNINGSEN, Henning (1950) *Kirkeskibe og kirkeskibsfester*. Søhistoriske skrifter III. København.
- HENNINGSEN, Henning (1953) *Bådeoptog i danske søkøbstæder og i udlandet*. København.
- HENNINGSEN, Henning (1960) Bokn og Bukken i Bergens led. Sømandenes hønse- og dåbspladser langs Norges kyst. In: *Bergens sjøfartsmuseums årshäfte*. Bergen.
- HENNINGSEN, Henning (1961) *Crossing the Equator. Sailor's Baptism and Other Initiation Rites*. Copenhagen. Diss.
- HOVDA, Per (1941) Okse, galt, hund og andre dyrenevne i skjernamn. In: *Bergens museums årsbok. Historisk-antikvarisk rekke nr 7*. Bergen.
- HULTKRANTZ, Åke (1992a) Tabuföreställningar. Några teoretiska utgångspunkter. In: Edlund, L.-E. (red.): *Tabu, verklighet, språk. Tio uppsatser om folkliga tabueringsföreställningar och taxonomier*: 1992: 13-34.
- HULTKRANTZ, Åke (1992b) Tabueringsföreställningar kring fisket. In: Edlund, Lars-Erik (red.): 1992. *Tabu, verklighet, språk. Tio uppsatser om folkliga tabueringsföreställningar och taxonomier*: 35-53. Stockholm.
- JAKOBSEN, Jakob (1901) Shetlandsøernes stednavne. In: *Aarbøger for Nordisk Oldkyndighed....*: 55-258.
- JAKOBSEN, Jakob (1921) *Etymologisk ordbog over det norrøne sprog på Shetland*. København.
- JOHNSTONE, Paul (1980) *The Sea-craft of Prehistory*. Routledge & Kegan Paul, London and Henley.
- KALIFF, Anders (2007) *Fire, Water, Heaven and Earth. Ritual practice and cosmology in ancient Scandinavia. An Indo-European perspective*. Riksantikvarieämbetet, Stockholm.
- KAUL, Flemming (1998) *Ships on Bronzes. A study in Bronze Age Religion and Iconography*. Publications from the National Museum. Studies in Archaeology and History Vol. 3/1-2. Copenhagen.
- KAUL, Flemming (2004) *Bronzealderens religion. Studier af den nordiske bronzealders ikonografi*. With a shorter version in English. Det Kongelige Nordiske Oldskriftselskab. København.
- LINDQVIST, Christian (1994) *Fångstfolkets bilder. En studie av de nordfennoskandiska kustanknutna jägarhällristningarna*. Theses & Papers in Arch, New Ser. A 5. Stockholm. Diss.
- LING, Johan (2008) *Elevated rock art: towards a maritime understanding of Bronze Age rock art in northern Bohuslän, Sweden*. GOTARC Serie B. Gothenburg Archaeological Theses 49. Göteborg. Diss.
- LING, Johan (2013) *Rock Art and Seascapes in Uppland*. Swedish Rock Art Series. Vol. 1. Oxbow Books, Oxford & Oakville.
- LING, Johan & CORNELL, Per (2010) Rock Art as Secondary Agent? Society and Agency in Bronze Age Bohuslän. In: *Norwegian Archaeological Review Vol. 43, No 1, 2010*: 26-43.
- LOORITS, Oscar (1931) Eesti-liivi kalurite sõnakeeld ja salakeel. In: *Virittäjä. Kotikielen Seuran aikakauslehti 1931*: 447-468.
- LOORITS, Oskar (1935) About the baptism of novices as practised by the Baltic sailors. In: *Tautosakos darbu I t. 1935*: 128-141. Kaunas.
- MALINOWSKI, Bronislaw (1925) Magic, Science and Religion etc. In: Needham, J. (ed): *Science, Religion and Reality*. Riddell Memorial Lectures. London.
- MALINOWSKI, Bronislaw (1948) *Magic, Science and Religion and Other Essays*. Beacon Press, Boston.
- MCGHEE, Robert (1977) Ivory for the Sea Woman. The Symbolic Attributes of a Prehistoric Technology. In: *Canadian Journal of Archaeology No. 1, 1977*: 141-149.
- MULK, Inga Maria (1998) Nyfunna hällristningar avbildar samiska segelbåtar. In: *Populär Arkeologi 4/ 1998*: 23-25.
- MULK, Inga-Maria & BAYLISS-SMITH, Tim (2006) *Rock Art and Sami Sacred Geography in Badjelännda, Lapponia, Sweden. Sailing Boats, Anthropomorphs and Reindeer*. Archaeology & Environment 22. Kgl. Skytteanska Samf. Handl. 58. Umeå.
- MULLEN, Patrick B. (1969) The function of magic folk belief among Texas coastal fishermen. In: *Journal of American Folklore* 82: 214-225.
- MULLEN, Patrick B. (1978) *I Heard the Old Fisherman Say*. Austin & London. Diss.
- OHLMARKS, Åke (1946) *Gravskeppet*. Lund.

- OHLMARKS, Åke (1963) *Hällristningarnas gudar. En sammanställning och ett tolkningsförsök*. Stockholm.
- OLAUS Magnus (1555) *Historia de gentibus septentrionalibus*. Romae. Sve. utg. 1976. English translation as *A Description of the Northern Peoples*, I-III. Hakluyt Society London 1996-98.
- PIEPER, Peter (1989) Die Weser-Runenknöchen. Neue Untersuchungen zur Problematik: Original oder Fälschung? *Arch. Mitteil. aus NW Deutschland Beiheft* 2. Oldenburg.
- SAHLGREN, Jöran (1915) Blåkulla och blåkullafärderna. En språklig och mythistorisk undersökning. In: *Namn och Bygd* 3 1915: 100-161.
- SAHLGREN, Jöran (1918) Förbudna namn. In: *Namn och Bygd* 6: 1-40.
- SAHLGREN, Jöran (1943) Fisk, fiskare och ortnamn. In: *Ortnamnssällskapets i Uppsala Årsskrift*. Uppsala.
- SAHLINS, Marshall (1987, 1985) *Islands of History*. Chicago & London.
- SANDSTRÖM, Åke (2003) Sälhuvud på stång. In: Flodell, G. (m.fl., red.): *Ord i Nord. Vänskrift till Lars-Erik Edlund 16/8 2003*. Umeå.
- SCHURTZ, H. (1893) *Die Speiseverbote. Ein Problem der Völkerkunde*. Hamburg.
- SOGNNE, Kalle (1983) Prehistoric Cave Paintings in Norway. In: *Acta Archaeologica Vol 53. 1982*: 101-118.
- SOGNNE, Kalle (1994) Ritual Landscapes. Toward a Reinterpretation of Stone Age Rock Art in Trøndelag, Norway In: *Norwegian Archaeological Review* 27/1 1994: 29-50.
- SOGNNE, Kalle (1996) Dyresymbolikk i midt-norsk yngre steinalder. In: *Viking* 1996: 25-44.
- SOGNNE, Kalle (2000) Det hellige landskapet: Religiøse og rituelle landskapselementer i et langtidsperspektiv. In: *Viking* 2000: 87-212.
- SOGNNE, Kalle (2001) Land of elks- sea of whales. Landscapes of the Stone Age rock-art in central Scandinavia. In: Nash, G. & Chippindale, Ch. (eds). *European Landscapes of Rock-Art*. London 2001: 195-212.
- SOGNNE, Kalle (2001) Rock-Art in Norway. In: *Acta du XIVème Congrès UISSPP, Univ. De Liège, Belgique 2-8 sept, 2001, BAR Int. Ser. 1311*: 151-1651.
- SOGNNE, Kalle (ed.) (2003) *Rock art in landscapes-landscapes in rock art*. DKNVS Skrifter 4.
- SOGNNE, Kalle (2006) En flyndre svømmer stille-omkring helleristningene I Kvennevik, Nord-Trøndelag. In: Barndon, R./Innselset, S. M./Kristoffersen, K. K./Lødøen, T. K. (red): *Samfunn, symboler og identitet-Festskrift til Gro Mandt på 70-årsdagen*. UBAS Nordisk 3. Bergen: 551-562.
- SOGNNE, Kalle (2009) Art and humans in confined space: reconsidering Solsem Cave, Norway. In: *Rock Art Research* 26(1): 83-94.
- SOLHEIM, Svale (1939) Ålmenne fordømar ved fiske. In: *Ord og sed* V, 1939, nr 83.
- SOLHEIM, Svale (1940) *Nemningsfordommer ved fiske*. Det Norske Videnskaps Akademi. Oslo. Diss.
- STEINER, Franz (1967, 1956) *Taboo*. Pocket. Penguin, Harmondsworth.
- TOIVANEN, Pekka (1995) Vindsäljare, stormbesvärjare och olyckskorpar- de finländska sjömännen i litteraturen. In: Ala-Pöllänen, A. (red): *De nordiska sjöfartsmuseernas 14:e samarbetsmöte i Finland. Helsingfors och Åbo den 15-17 augusti 1994*: 33-49. Helsinki. Engl. Short version as Toivanen 1993: Wind Merchants, Storm Raisers and Birds of Ill Fortune- Finnish Seamen in World Literature. In: *Nautica Fennica* 1993: 88-91. Helsinki.
- TUOVINEN, Tapani (2002) *The Burial Cairns and the Landscape in the Archipelago of Åboland, SW Finland, in the Bronze Age and the Iron Age*. Acta Universitatis Ouluensis Humaniora B 46. Oulu. Diss.
- TURNER, Victor (1969) *The Ritual Process*. Harmondsworth.
- WESTERGAARD, Elisabeth (1981) Mandlig kultur og kvindelig natur. Kosmologi og ritualer i færøsk bygdeliv. In: *Folk og Kultur. Årbog for Dansk Etnologi og Folkemindevidenskab* 1981: 73-89.
- VILKUNA, Asko (1956) *Das Verhalten der Finnen in heligen (Pyhä) Situationen*. Helsinki. Diss.
- WEHLIN, Joakim (2013) *Östersjöns skeppssättningar. Monument och mötesplatser under yngre bronsålder*. Göteborgs universitet, GOTARC Serie B 59. Diss.
- WESTERDAHL, Christer (1978) *Marinarkeologisk inventering med utgångspunkt från ett norrländskt exempel*. Seminar thesis. C 1-uppsats VT 1978. Inst. för arkeologi, särskilt nordeuropeisk, Stockholms universitet.
- WESTERDAHL, Christer (1986) Die maritime Kulturlandschaft. Schiffe, Schifffahrtswege, Häfen. Überlegungen zu einem Forschungsansatz. In: *Deutsches Schifffahrtsarchiv* 9, 1986: 7-58.
- WESTERDAHL, Christer (1989) *Norrlandsleden I. Källor till det maritima kulturlandskapet. En handbok i marinarkeologisk inventering. The Norrland Sailing Route I. Sources of the maritime cultural landscape. A handbook of maritime archaeological survey*. Arkiv för norrländsk hembygdsforskning XXIV. Härnösand. ISBN 91-971042-1-3. ISSN 0348-9620.
- WESTERDAHL, Christer (1997) Maritime Kulturlandschaften am Beispiel des Ostseeraumes. Einführung in die Tagungsthematik. In: *Siedlungsforschung. Archäologie-Geschichte-Geographie Band 15*: 33-52. Arbeitskreis für genetische Siedlungsforschung. Bonn.
- WESTERDAHL, Christer (2002a) The ritual landscape at sea. In: Krueger, K./Cederlund, C. O. (Eds): 2002. *Maritime Archäologie heute. Maritime Archaeology Today*. 3rd International Marine Archaeological Conference of the Baltic Sea Area (2001): 51-72. Rostock.
- WESTERDAHL, Christer (2002b) Vänerns magi. Sjöns rituella landskap. In: *Vid Vänern- natur och kultur. Vänermuseets årsbok* 2002: 42-77. Lidköping.
- WESTERDAHL, Christer (2003) *Vänern. Landskap, människa, skepp*. Båtdokgruppen, Skärhamn.
- WESTERDAHL, Christer (2004) Lindesnes och sjömäns dopseder. In: *Agders Historielag. Årsskrift nr 80* 2004: 105-136.
- WESTERDAHL, Christer (2005a) Seal on Land, Elk at Sea: Notes on and Applications of the Ritual Landscape at

- the Seaboard. In: *International Journal of Nautical Archaeology* (2005) 34.1: 2-23.
- WESTERDAHL, Christer (2005b) Maritime Cosmology and Archaeology. In: *Deutsches Schifffahrtsarchiv* 28, 2005 (2007), p. 7-54.
- WESTERDAHL, Christer (2006a) Maritim övertro. Ett kosmologiskt bidrag till arkeologisk tolkning. In: *Viking LXIX 2006*: 9-44.
- WESTERDAHL, Christer (2006b) Skärgårdskapell i Norden. En kortfattad översikt med några reflexioner. In: *Hikuin 33*: 155-186. Århus.
- WESTERDAHL, Christer (2006c) Äldre sjömärken. Ett nordeuropeiskt perspektiv. In: *Norsk Sjöfartsmuseum Årbok 2006*: 101-177.
- WESTERDAHL, Christer (2009) The Horse as a liminal agent. In: *The Horse and man in European antiquity (Worldview, burial rites and military and everyday use)* ed Audrone Bliujienė. *Archaeologia Baltica 11*:314-327. Klaipeda University, Inst. of Baltic Sea Region, History and Archaeology. ISSN 1392-5520.
- WESTERDAHL, Christer (2010a) 'Horses are strong at sea.' The Liminal Aspect of the Maritime Cultural Landscape. In: Anderson, A. J., J. Barrett & K. V. Boyle (eds): *The global origins and development of seafaring*: 275-287. McDonald Institute Monographs, University of Cambridge, Cambridge. ISBN 978-1-902937-52-6 ISSN 1363-1349.
- WESTERDAHL, Christer (2010b) Sea versus Land. An Arctic and Subarctic 'Cosmology?' In: Westerdahl, C. (ed): *A Circumpolar Reappraisal. British Archaeological Reports (BAR)*, International Series 2154: 301-327. Oxford.
- WESTERDAHL, Christer (2010c) Gråa Hästar, Röda Kor –och Små Gröna Gubbar? En kombination av ortnamn, etnologi, maritim kulturhistoria och folkloristik. In: Stylegar, F.-A. (red): *Mangesysleren*. Festskrift till Svein Mjaatvedt: 233-243. Vest-Agder Fylkeskommune, Kristiansand.
- WESTERDAHL, Christer (2011a) Ancient seamarks, A Social History in a North European perspective. In: *Deutsches Schifffahrtsarchiv 33, 2010*: 71-155.
- WESTERDAHL, Christer (2011b) The binary relationship of sea and land. In: Ford, B. L. (ed): *The Archaeology of Maritime Landscapes*: 291-310. When the Land meets the Sea: An ACUA and SHA series. Springer, New York etc.
- WESTERDAHL, Christer (2011c) Microcosms and borders-on centrality and linearity in connection with holy or sacred places. In: Urtāns, Juris (ed): *Kultūras kustpunkti 5 laidiens*: 142-167. Latvijas kultūras akadēmija.
- WESTERDAHL, Christer (2011d) The maritime cultural landscape. I: Ford, B. & A. Catsambis (eds): *The Oxford Handbook of Maritime Archaeology*: 733-762. Oxford University Press, Oxford.
- WESTERDAHL, Christer (2012a) The Ritual Landscape of the Seaboard in Historical Times: Island Chapels, Burial Sites and Stone Mazes. A Scandinavian Example (I-II). Part I: Chapels and Burial Sites. In: *Deutsches Schifffahrtsarchiv 34* (2011): 259-370. Utk. 2012.
- WESTERDAHL, Christer (2012b) Gengångaren labyrinten. In: Huldén, Niklas & Kasper Westerlund (red): *Bottnisk Kontakt XVI 2012*: 149-167, Korpo kulturgille.
- WESTERDAHL, Christer (2012c) Labyrinter, än en gång. Ett tolkningsförsök, med särskild hänsyn till Östersjön. In: *Marinarkeologisk Tidskrift 3/ 2012*: 15-21.
- WESTERDAHL, Christer (2013) Maritime Landscapes. In: *Encyclopedia of Global Archaeology* (ed.-in-chief Claire Smith), Springer Press, New York, 11 vols. Article 00618. Web & 'in natura.'
- WESTERDAHL, Christer (2014a) The Ritual Landscape of the Seaboard in Historical Times: Island Chapels, Burial Sites and Stone Mazes. A Scandinavian Example (I-II). (Part II. Ghosts, Currents and Winds. Island Stone Mazes. In: *Deutsches Schifffahrtsarchiv 35* (2012): 261-300.
- WESTERDAHL, Christer (2014b) The Stone Labyrinths of the North. Some arguments for a primary dating and function of coastal stone labyrinths in Scandinavia, Finland, the Kola Peninsula and the White Sea. In: *Caerdroia 43, 2014*: 7-23.
- WESTERDAHL, Christer (2014c) *Norrlandsleden III. Medeltiden. Det maritima kulturlandskapet*. (XLIV). Båtdokgruppen, Skärhamn. Tr. Beograd. ISBN 978-91-87360-67-1.
- WESTERDAHL, Christer (2014d) Spiritscapes of the North. Traces of the fear of the drowned in maritime landscapes. I: Alexandersson, H., A. Andreeff & A. Bünz (eds): *Med hjärta och hjärna. En vänbok till professor Elisabeth Arwill-Nordbladh*: 483-503. GOTARC Series A. Gothenburg Arch. Studies Vol. 5.
- WESTERDAHL, Christer (2014e) Odyssevs & Sindbad as metaphors. On Some Crossdisciplinary Approaches to the Lore of the Seas. In: *Norsk Maritimt Museum, Årbok 2013*: 33-65.
- WORSLEY, Peter (1970, 1957) *The Trumpet Shall Sound. A Study of 'Cargo' Cults in Melanesia*. Pocket, Paladin, London.
- WUNDT, Wilhelm (1910) *Völkerpsychologie. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythos und Sitte*. 3. *Mythos und Religion*. 2 Auflage. Leipzig.
- ØSTMO, Einar (1998) Hester, båter og menn. En statusrapport fra bronsealderen. In: *Viking LXI 1998*: 71-97.

# Rock art and the importance of style – style complexes and group identity – South-Western United States and Mid-Scandinavia – a comparable approach

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## Abstract

*In the Southwest of USA exists a multitude of different rock art styles that could be related to different groups of Native Americans. The groups were distinguished in many ways and identity and identity markers were important to contrast one group to another. Rock art styles seem to fit into the same strategy for making distinctions. Competition over resources, territories and political power are valid as a background in the time most of the rock art was made. In this article I will compare this with the two rock art styles that overlapped in Mid-Norway during the neolitisation process. The need for various channels in communication on different levels could have been important, and rock art could have played a role in achieving these in both contexts. In this article I will take a comparable look at rock art style as a medium for sending coded and multilevelled messages between people against a background of social stress and conflict.*

## Introduction

Sears Point is one of the largest known rock art sites in the Southwest of United States. It is located in Arizona near Yuma, at the bank of Gila River in the Sonoran Desert. It is to be found in a desolated rugged area, and due to the close proximity to the troubled Mexican border, few people visit the site these days. Access is limited and a visitor has to drive a four-wheel drive vehicle up the dry riverbed, and manage to find the right way through the brush (Figure 1). Despite the difficult access it is a magnificent rock art

site. Thousands of figures are located on the foothill of a cliff towering high over the river. The viewpoint from the cliff reaches far and wide into the desert. An old narrow trail passes the cliff, it looks as if it has been trodden by naked feet for a thousand years and the path can easily be followed by eye for a long distance. The trail, in addition to the river itself, tells about passability through the landscape and communication. People moved through the area, maybe all the way from the coast of Baja California to the interior, or perhaps from the area of Yuma and north towards the large habitation sites formerly located in the



FIGURE 1: LONELY CAMPSITE UNDER THE TOWERING CLIFFS OF SEARS POINT, EAST OF YUMA, ARIZONA. ACCESS TO THE ROCK ART SITE IS THROUGH THE DRY RIVERBED AND FLOOD AREAS WERE GILA RIVER IS FLOODED IN THE RAIN SEASON. FIGURES ARE SPREAD ALL OVER THE HIGH CLIFFS. (PHOTO DAVID VOGT)

current area of Phoenix. What we do know is that they passed the large cliff where thousands of petroglyphs are carved into the most visible spot on the most prominent cliff in the area. The question that therefore seems important is whether the rock art location had something to do with the trails and communication routes. Was the rock art a medium for sending messages that was, in one way or another, important for people that moved through the area?

This approach actualizes a second question that is of crucial importance in the process of communication – the meaning of style. The different rock art style complexes present in the Southwest is startling and the different styles of rock art are distinguishable from one area to the next, as are the variations of landscapes and regions. This observation is comparable to the two different rock art style complexes observable in Northern Europe and eastwards into Russia. In Mid-Norway during the Neolithic those style complexes were contemporary and the socio-political situation is comparable with the Southwest USA. The two different style complexes of petroglyphs that can be distinguished in Northern Europe are first the northern style complex of the early hunter-gatherer culture (NSC) mainly confined to the areas of Northern Fennoscandia, Kola Peninsula and Karelia in Russia. Second, the petroglyphs of the Bronze Age style made by agriculturalists, is regarded as the southern style complex (SSC) and occurs primarily in South Scandinavia. In Mid-Norway, both style complexes occur simultaneously and within the same locations. Regarding this, the region is unique, as there are no other examples of this occurring. In addition, the region has a substantial number of petroglyph sites, which is why Mid-Norway has been highlighted by Kalle Sognnes as being one of Europe's most important rock art areas (Sognnes 1998). He has argued that the NSC and the SSC was concurrent for as long as one thousand years in a nucleated area of Mid-Norway (Sognnes 1998). The styles and pattern of rock art distribution reflect a totally different connection and use of the landscape. The conveyors of these different rock art styles were; on one end, the early hunter/gatherer groups, which were mobile and crossed vast areas where they exploited costal resources. Then, a new group of agriculturalists appeared and brought with them a new culture and a new way of living, which exploited a new type of natural resources, namely pasturing and cultivation. Kalle Sognnes describes the region as being a northern frontier of agriculture (Sognnes 1998:160). Rock art seems to have been equally important for the agriculturalists. Here, one could easily suggest that the first signs of conflicting interests in an area may have appeared, as it was in a timeframe of such different opposing livelihoods. It is likely that we are dealing with the first glimpse of the emergence of ethnic, economic and political contradictions between different groups, of which rock art must have played an important part on some level.

Rock art style and the distinction between styles could be an essential starting point in understanding the communicative level of rock art. Such style complexes

could have acted as important identity markers for the various cultural groups who populated the country. Rock art was part of deeply-embedded cultural codes within the groups' existential foundation and could thus also be understood as a representation of one group in contrast to another. Different rock art styles, which are simultaneous and share the same landscape, at the same time, in different distribution patterns can witness some sort of distinction and needs for visible markers at selected sections in the landscape. Rock art was perhaps connected to spiritual, ritual and mythical elements, as most researchers believe. Despite this, the meaning behind rock art is ambiguous and should be understood as multi-levelled (Hays-Gilpin 2004). In terms of elementary semiotics, this means that the denotation of designs and its connotation reflect different things in various ways in relation to the signifier of a symbol, where the signified create underlying and ambiguous meanings (Hodge & Kress 1988). As such, they could appear as coded messages. To understand the original meaning of rock art is a difficult task and there is a big risk in oversimplifying when we attempt to interpret. The symbols, the designs, the style and the landscape contexts almost certainly contained information which was far more complex and ambiguous than we understand today. Nevertheless, the rock art phenomenon is comparable to other well-known social settings from our own time where symbols, style and communication through symbols are well understood. Communication systems, as we recognize them, are important when transferring messages in society, both between groups and individuals. The concept of style is essential in conveying and receiving of messages in public space. Rock art could – in deeper underlying structures or more directly – be understood in precisely the same way. The key issues of this article will be style complexes and cultural identity. These topics will function as a background for the interpretation that explores rock art as an important medium for communication between groups; and from comparable examples, conflicts, instability and social stress are common backgrounds for extended use of symbols in a society. The rock art in Southwest USA and in Mid-Norway was both made in periods that give the impression of fundamental change and conflicts.

### **Style and style complexes in the Southwest of the United States**

Rock art is an important legacy of the indigenous people in northern America. The art was carved in vast quantities over a long time-period and can be found all over the continent. However, no places have such enormous concentrations of rock art as the region of the Southwest. The American Southwest is a vast region, which includes the territories of Arizona, New Mexico, the southern part of Colorado, Utah and Nevada, and the northern Mexican states of Chihuahua and Sonora. The Southwest is a region of famous scenery and landscapes, enveloping deserts with mighty saguaro cacti and high mountains and plateaus covered with forests of juniper, pine and Douglas fire. The Southwest is an area of high environmental variation, extensive



FIGURE 2: RIO GRANDE RIVER FROM A VIEW NORTH OF SANTA FE, NEW MEXICO. IN DRY DESERT AREAS RIVERS WITH PLENTY OF WATER PROVIDES GREEN VEGETATION AND POSSIBILITIES OF AGRICULTURE IN THE BOTTOM OF THE RIVER CANYONS. WITH IRRIGATION TECHNIQUES AND CROPPING IN EXTENDED FIELD SYSTEMS, AMERICAN NATIVES TRANSFORMED A HARSH DESERT TO AN IMPORTANT GRANARY. (PHOTO DAVID VOGT)

bio-diversity and very variable conditions relative to the climate, elevations, temperature and annual rainfall. If we add the southern part of California and northwestern Texas to the Southwest, we have more or less, described the most important rock art country in Northern America. The exact number is not known, but in total there could be as many as 30-40,000 sites in this region. The diverse conditions in this vast country affected the economic adaptation and way of life in various areas during prehistory. This encouraged an emergence of diversity and culture.

Traditionally, archaeologists ascribe the prehistoric farming populations of the Southwest to four major sub-areal groups, which are the Hohokam, the Mogollon, the Anasazi, and the Fremont (Plog 2008). The Hohokam inhabits the southern part of Arizona and northern part of Mexico in the Sonoran desert and their horticultural economy was adapted to rivers and irrigation systems. The major rivers in the area; Gila River, Salt River, Verde River and San Pedro River, were important for the existence of the Hohokam and it is here we find their large fields and habitation sites (Fish and Fish 2007:2-11) (Figure 2). The Mogollon had a larger distribution and settled in the high-altitude desert areas of eastern Arizona, southern New Mexico to western Texas and as far as towards Chihuahua in Mexico. The Anasazi, or more recent termed 'Ancient Pueblo Peoples', settled in the northern part of Arizona and New Mexico, the eastern part of Colorado and Utah. They are known for their stone- and earthen dwellings built along cliff walls and the larger habitation sites, such as Chaco Canyon, Mesa Verde and Canyon de Chelly, are world-famous ruins of the ancient Pueblo people (Figure 3). The rock art they left behind is astonishing and it was produced in large quantities. In referring to this major

culture, smaller groups can be added. The Anasazi is by far the oldest of these ancient cultures and its initial phase – the period of the Early Basketmakers – can be dated as far back as 1200 BC, and they have a long tradition until the present Pueblos. The Hohokam culture makes its appearance, as we recognize it, at a time period more or less for a millennium, from about AD 450-1450 (Fish & Fish 2007:4), the Mogollon from AD 150 until c. AD 1450 and the Fremont from AD 700 to 1300 (Plog 2008).

The knowledge of the prehistoric populations in the Southwest is largely based upon archaeological studies and material culture. However, in regards to America, the prehistoric period is not distant, and can be compared with ethnographical records from historical sources. In 1539, the Spanish explorer Marcos de Niza journeyed into the current region of Arizona. Later, several Spaniards from the Mexican area explored the unknown regions of the north (Plog 2008:181). Their meetings with the native Americans were described in diaries and reports, and this is the first mention of indigenous people in this part of the United States. Until recently, knowledge about the native Americans has been collected through various sources, which has been built upon very diverse experiences, ranging from peaceful collaboration and trading, to violent conflicts and ethnic cleansing. The available historical information provides a broad and deep knowledge of the ethnography in the Southwest and the different groups can be traced far back in time. This is unique and contrary to the situation in Scandinavia, where there is no contemporary historical or ethnographical sources from the time of rock art. The historical sources give a different and far more evident picture of the culture that made and used rock art in the Southwest. Thus, it is a valuable corrective to

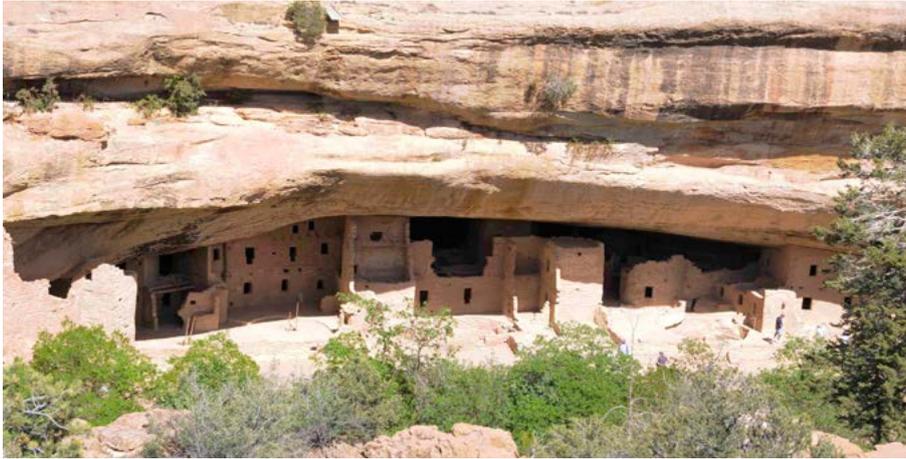


FIGURE 3: MESA VERDE WEST OF DURANGO IN COLORADO IS AMONG THE MOST SPECTACULAR DWELLING SITES OF THE ANCIENT PUEBLO PEOPLE. THE RUINS LOCATED ON SITES WITH INACCESSIBLE OR DIFFICULT ACCESS UP IN HIGH CLIFFS SPEAK OF REQUIREMENTS FOR PROTECTION AND A SOCIETY IN CONFLICT AND INSTABILITY. (PHOTO DAVID VOGT)

archaeological data. During the last four hundred years, more than thirty different ethnic groups can be identified. Large ethnic diversity was probably the case also farther back in prehistory, but the archaeological data have their limitations and are insufficient to provide. The aspects of ethnicity, language, and tribe-connections are such limitations. Nevertheless, knowledge about the population of the Southwest in prehistory and historic times has been largely based upon a combination of archaeological methods and historical sources. In general, the population of the Southwest could best be described as a complex, diverse, multi-ethnic, multi-cultural society consisting of several ethnic groups. The different groups were connected to each other in one way or another; they were neighbours, trading partners, allies and enemies.

It is against this background that the rock art and its different styles must be understood. Style and the definition of styles is a complicated topic and there is a risk of using the term inaccurately and in a misleading way (Wobst 1977 and 1999, Hegmond 1992). However, it is easy to observe that rock art varies and that the specific figure types, aesthetic quality, forms, and techniques are made in a systematic way within distinct complexes. In turn, this provides a contrasted relationship to other complexes. In the United States, studies concerning the systematic classification of rock art into distinct groups have been conducted since initial attempts in 1925. Since then, a number of rock art studies have focused upon such an approach (Schaafsma 1980:6, Piles & Vaughan 2003, Billo, Mark and Weaver 2013:1284). In the organisation of data into style categories, a number of different methods have been used, from more simple, intuitive methods to complicated statistical and factorial analysis. Fundamental to the debate of rock art style complexes is the notion that these styles and their usage correlate with a particular prehistoric culture. It seems that there exists a consensus that this is the case, or at least that it generally proves to be a fruitful approach. Classification of rock art

into style complexes have been an important approach as a foundation for further interpretations, particularly since precise dating of the sites in the Southwest is difficult due to lack of appropriate methods. Polly Schaafsma writes: 'Common to the approach of the art historian or anthropologist is the assumption that every style is peculiar to a period of culture and that in a given culture or epoch of culture there is only one style or at least a limited range of styles. Therefore, style can be used with confidence as an independent clue to the time and place of origin of a work of art' (Schaafsma 1980:7-8). In the Southwest, more than 25 rock art styles have been identified and classified, some of which were concurrent within the same epoch, while other styles found in the same area represent widely different time periods. Generally, we can ascribe the rock art of the Southwest to a division of style-complexes that are associated with particular cultures or groups of people, which was created during a limited extent of time. The distribution pattern is thus more or less defined.

Sears Point is one of the largest rock art sites in the United States, and the Sears Point Rock Art Recording Project has mapped 2008 petroglyph panels containing at least 9742 petroglyphs (Figure 4).

In addition, a total of 87 archaeological features have been recorded, such as prehistoric rock piles, rings, alignments, enclosures, rock shelter, several grinding and cleared areas, a quarry, mounds and trails (Billo, Mark and Weaver 2013:1284). The report states: 'At least thirty-six kilometres of trails and trail segments were mapped indicating the Sears Point Complex of petroglyphs and features has been a crossroad for people and animals, and most likely also a meeting place for centuries' (Billo, Mark and Weaver 2013:1284). Several studies of the area of Sears Point have been conducted, followed up by various publications, which has resulted in a range of interpretations and debates (Billo, Mark and Weaver



FIGURE 4: PETROGLYPHS AT SEARS POINT, EAST OF YUMA, ARIZONA. THE FIGURES ARE PICKED THROUGH THE THIN LAYER CALLED DESERT VARNISH THE DESIGNS BECOMES VISIBLE DUE TO THE CONTRAST WITH THE UNDERLYING LIGHTER COLOR OF THE ROCK. THE PANELS AT SEARS POINT CONTAINING AT LEAST 9742 PETROGLYPHS. (PHOTO DAVID VOGT)

2013). There are also additional studies of a number of sites located further upstream from Sears Point; the sites of Antelope Hill, Quail Point, Hummingbird Point and Oatman Point, (Doolittle 2000:85-110, Hedges and Hamann 1994, 1995 and Thiel 1995:80-81, 83). Recent works of recording the Sears Point petroglyphs and a closer examination of the area suggests the presence of a specific Sears Point Petroglyphs Style, firstly proposed by Hedges and Hamann (1994, 1995). However, Billo, Mark and Weaver (2013:1298) are more cautious and unwilling to accept the formulation of a new style until a full, in-depth analysis of the sites in the Gila River Valley has been conducted (Billo, Mark and Weaver 2013:1298). Still, the Sears Point area petroglyphs are very distinct. There are several other factors that make this debate interesting. For instance, Sears Point is located along a well-used river trail, known historically as the Gila Trail. That made the location easily accessible in pre-history and people travelled through the area. Secondly, Billo, Mark and Weaver states: 'The fact that Sears Point is just west of a well-documented cultural boundary between the Hohokam to the east and the Patayan to the west may also have been an important factor in the development of the size and complexity of the site' (Billo, Mark and Weaver 2013:1298). Agua Caliente is an excavated long-term habitation site situated about five kilometres northeast of Sears Point, which despite its immediate proximity, did not result in the discovery of very much cultural material. It is likely that this indicates that small groups of people moved through the area and did not stay at the site for a longer duration. Sears Point and the lower Gila River valley could have been an important area for several reasons, such as a place of ceremonial gathering, the exploitation of certain resources or other purposes. Places

for ritual performances were cleared; the hold area at the banks of the Gila River seems to be ritual infested. Still, Sears Point is an indefinite 'pass-through', a crossroad on the border 'betwixt and between' the Patayan and Hohokam. On this particular spot, up to 2000 rock art panels, and 10,000 single designs were carved. This raises an important question; what messages and what information did the rock art send to the people passing by?

#### **Rock art style of hunter/gathers and agriculturalists in Mid-Scandinavia**

Approximately 4000 B.C.; the first evidence of agriculture entered into the archaeological material of Scandinavia and a fundamental change took place. The change is first observable in the south but the new period took its name after the transformation. The previous period is called the Mesolithic and the new the Neolithic. The complex as well as diffuse process and course of events is called after the period the neolithisation. Whether it was new upcoming groups that brought with them the grain growing and livestock economy, was it cultural transmission or whether it was a combination that brought the idea of the new livelihood, are continuous debated (Sørensen and Karg 2012:1). Nevertheless, during the next millennium, the traditional hunter/gatherer economy gradually faded and was succeeded by agriculturalists with the import of new cultural traits and their establishment in good arable land. This was the case in southern Scandinavia. However, there are many local variations and the cultural succession was far more protracted in the north and west, where the hunter/gatherer culture endured much longer (Bjerck, Meling and Åstveit 2008:548-613).

Mid-Norway is located at the western part of the Scandinavian Peninsula and is divided into two provinces: South Trøndelag and North Trøndelag. The long and broad Trondheim Fjord extends approximately 130 kilometres inland and dominates as the main geographical feature in the area. The Trøndelag area is an important farmland district, amongst the richest in Norway, and has long traditions as a powerful region, from prehistoric to historic times. Mid-Norway has a vast multitude of rock art, with more than 200 sites recorded in the area of the province of Trøndelag and the adjacent province of Møre og Romsdal. Amongst the 200 sites, about 50 sites date from the early hunter/gatherer petroglyph style (NSC) and the rest are of the younger Bronze Age styles (SSC), which was made by agriculturalists (Sognnes 1998:146).

A divided ecological environment is easily observable in Mid-Norway, but is not so eminent as in the Southwest of Northern America. The temperature, annual rainfall, and the vegetation are not as diverse and the most important variation is between coastal, low-lying country with sedimentary deposits, and the inland-areas with large forests, lakes and rivers. The hunter/gatherer economy relied on a diversity of resources, where the coastline and its numerous islands provided an environment of opportunity for the exploitation of a variety of fish and game. Due to the poor preservation conditions on excavated habitation sites of this period, a full understanding of the hunter/gatherer economy is limited in most parts of Norway. Still, several indications suggest a diverse utilization of local resources (Bjerck, Meling and Åstveit 2008:548-613). There is reason to assume that the sea provided fishing- and hunting-grounds for fish, molluscs and larger sea-mammals. The islands also contained large colonies of nesting seabirds, which could have been an important resource. Seasonal resources, such as migrating salmon and sea trout, would probably have been caught in the estuaries and further up in the numerous rivers and small creeks. Further inland, terrestrial mammals, such as moose, reindeer, deer and brown bear, were probably important prey, as well as lesser species being hunted for their fur. The hunter/gatherer groups of Scandinavia in the Stone Age were mobile and moved from place to place and there has been much debate of what type of migration took place. The movement has been understood within the context of the seasonal exploitation of local resources, which may have been of short-time sequences, moving from coast to inland, in addition to occasional longer movements into unexploited territories. In general, the minor population of hunter/gatherers in Mid-Scandinavia were mobile within a vast territory as they travelled over long distances and relied on natural resources (Bjerck, Meling and Åstveit 2008:548-613).

The new economy that appeared in the Neolithic, which was based on animal husbandry and cultivation, represents an important change in southern Scandinavia. This change not only challenged the question of livelihood, but the data disclose an entry of a totally new culture with an innovative technology, social organisation and ideological

foundation. The concept of neolithisation has been much debated, and the active mechanisms behind the introduction of agriculture. The transitional process from hunter-gatherers to farmers in Southern Scandinavia, Denmark and Northern Germany has been generally explained by two diverging hypotheses: either agriculture was rapidly introduced by migrating agrarian societies or whether gradual adaptation by indigenous population occurred (Sørensen & Karg 2012:1). Based on radiocarbon dates, combined with the data of cereal grains, domestication of animals and archaeological records from inland sites, Sørensen and Karg propose: 'Our result suggest that appearance of complete agrarian technology and a quick expansion of farming activities in the whole area of Southern Scandinavia around 4000 cal BC. The speed of the expansion was so rapid that pioneering farmers from Central Europa must have been involved, because the agrarian evidences supports the introduction of an entire Neolithic package' (Sørensen and Karg 2012:10).

In the northern and western part of Scandinavia, the impact of the transformation process from hunter-gatherer to agriculture, seems more enduring, complicated and difficult to fully understand when compared to the south. In Mid Norway, evidence of agriculture is far more scarce than in the southern part of Scandinavia and the process of neolithisation was slow and has been described as a step-by-step process during the first half of the Neolithic (Asprem 2012:148-150). Hunters and gatherers seem to have been present in these areas for a long time, and the agricultural economy was probably only partially introduced in the Neolithic. The entry of the agrarian lifestyle seems not to have become well established in the central and low-lying areas until the last phase of the Late Neolithic and Early Bronze Age (Asprem 2012:148-150). After the stable settlement of agrarians, the 'Neolithic package' followed: the technology of stone tools and pottery making, as well as their ideological system, is observable throughout of Southern Scandinavia.

The slow and gradual transition into a farming economy in Mid-Scandinavia is also reflected through the rock art. In contrast to other parts of Scandinavia, the change of NSC to SSC occurred over a long time period and the two styles existed in parallel (Sognnes 1998) (Figure 5).

The Neolithic influence in rock art is also observable further south in western Norway, at the Ausevik site in the parish of Sogn og Fjordane. Eva M. Walderhaug has argued that a change occurred in Middle Neolithic B, when new designs and motifs from western Europe or Southern Scandinavia were introduced to the older rock art tradition. She suggests that: 'abstract-geometrical elements found in the art are the result of direct influence from agrarian cultures' (Walderhaug 1998:298). The rock art panels at Ausevik reflect, in one way or another, the changes that took place in the transition from hunter-gatherer to an agrarian ideology. 'The art, therefore, may have been used to mediate in a society which was inevitably drawing closer to encompassing dramatic change, occurring at the transition to the Late Neolithic' (Walderhaug

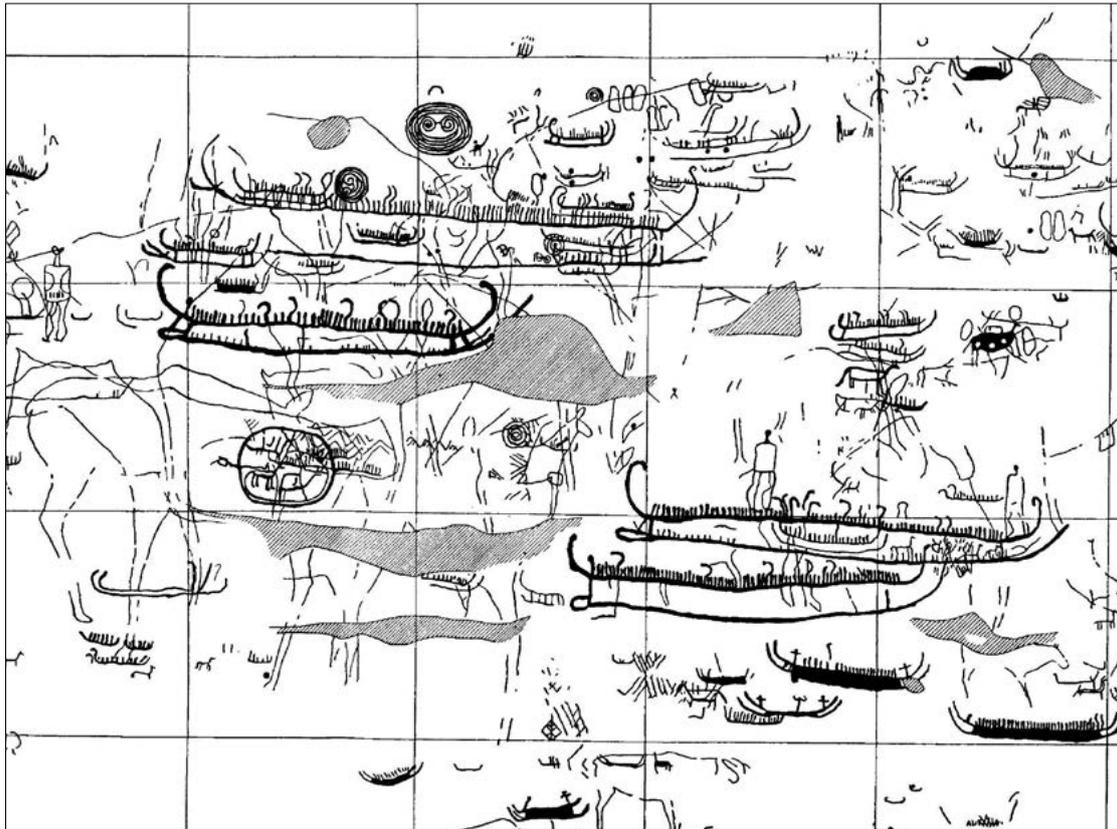


FIGURE 5: BARDAL IN NORD-TRØNDELAG, MID-NORWAY. ON THIS SITE THE TWO SCANDINAVIAN ROCK ART TRADITIONS MEET, AND THE OLDER HUNTER/GATHERER CARVINGS REPRESENTED BY LARGE MOOSE CAN BE SEEN AS AN OLDER LAYER UNDERNEATH THE NEWER BRONZE AGE ROCK ART REPRESENTED BY SHIPS AND HORSES. (AFTER GUTORM GJESSING 1936)

1998:298). Both rock art styles seem to convene in Mid- and Western-Norway, where they were concurrent for a long time until they gradually merged.

Rock art in the Southwest of United States and in Mid-Scandinavia is different in many respects – date, environment, ideology and economy. Nevertheless, there are fundamental similarities that make a comparison applicable. The development of rock art styles transpired through merging ethnic diversity, cultural boundaries, changing political structure and the competition of land resources. This actualizes certain questions about the need for communication on different levels, between various groups and on diverse places in the landscape. In the following section, I will look at a few principals concerning the visual communication in public space and how theories of sending and receiving encoded messages by means of symbols is developed in social semiotic. I believe that such a theoretical approach is a productive and dynamic way to recognise the complexity and multiplicity of the rock art phenomenon.

#### **The principle of message/reception – rock art as coded information**

The term social semiotics was first defined by the linguist Ferdinand de Saussure as ‘the science of the life of signs in society’. The underlying premise of semiotics

is that everything in society can be seen as modes of communication, which is organised through principles corresponding to linguistic and textual forms. Semiotics offers a systematic, extensive and comprehensive analysis of the communication phenomena and how these are related to a large spectrum of different expressions (Hodge and Kress 1988). Semiotics has thus developed into more than a linguistic tool of analysis and is today focused on the way in which communication between social and cultural conditions function in the society, hence the term ‘social semiotics’ (Hawkes 1977, Hodge and Kress 1988, Preucel and Bauer 2001). Language is an important tool in social communication but not all communication is channelled through verbal or linguistic expressions. Public space is permeated by codes that are included in a complex structure of social and political communication expressed through symbols (Hodge and Kress 1988). The role of signs and symbols in society and how these are politically and ideologically charged was explored within structuralism and post-structuralism by the French anthropologists and philosophers, such as Lévi-Strauss (1966), Foucault (1972), Derrida (1978), Barthes (1973) and Ricoeur (1989). The social semiotic has become the study of communication and the phenomenon of communication as it is displayed in society between people and their interrelationship.

The central focus of semiotics, as well as other communication theories, is related to the phenomenon

of messaging – both the message and its reception. The mechanism for conveying and understanding messages, as well as the infrastructure that enables the communication, is called a logonomic system (Hodge and Kress 1988:2-5). Such systems involve a set of rules and conventions that are conditional to the production and reception of meaning: who can convey a message, how it is to be received/understood and by whom. A traffic light serves to illustrate the theoretical concept. The transition from red to green represents a semiotic statement within a logonomic system made up of the traffic lights, traffic rules and driving patterns created by the Council for Road Safety. The objective of the message is to achieve increased road safety designed so that every individual driver receives the semiotic statement. During the course of time, the use of symbols and structure of symbols can easily be observed in prehistory as well as in historic periods. Thus, both symbols and the structure of symbols have been very important and have had a significant role in society. In Europe, during the Middle Ages, the kingdoms spun a visual, ostentatious and lavish cover over their institutions in that power was flashed with strong symbols. The church adapted a similar strategy. Grand cathedrals were the framework for ritual performances; highlighted by spectacular works of art made in gold and silver. All this splendour and glory told that God was almighty, but more important; it visualized the power of the church in opposition to the King. These were the two most important institutions of society and through time there has been a strong competition amongst them in representing both physical and spiritual power. The symbolic structure that developed became strong identity markers; the cross and the sword symbolized different institutions and their different power relations. Logonomic systems are never hidden. They are meant to be in full view when embedded with the appropriate supporting authority. The single sign – the smallest atom of semiotics – often occurs in structures where many signs are connected in order to give a fuller and more precise expression (Hodge and Kress 1988:6). However, both the message and the manner in which it was conveyed are often extremely complex.

Rock art is a communicative phenomenon and social semiotic is thus a theoretical approach well suited for analysing and understanding parts of these symbolic systems. In this, the theoretical component of public space is a critical factor for the interpretation of the social semiotic. The symbols play out in a physical environment where they can be seen and at places where people are moving. It is here that rock art interacts with the landscape – the public space. A human being travelling through a large and desolated wilderness will follow certain corridors of passability; which have probably been used for a long time. Rock art placed in strategic locations will be of great importance for the passer-by. Depending upon whether friend or foe, trespasser or an outsider, the information would be understood differently, but still be of crucial importance. To understand rock art is to understand the various components in the logonomic system. Who was the sender and receiver of the message, and what was the

content of the message. This can only be fully understood through consulting central contextual elements, which is mostly lost today.

### **Conflicts, instability and social stress**

Studies of symbols and symbolic structures and how they are used in modern society have produced theoretical approaches, with a general validity for understanding visual communication. Dick Hebdige (1979) and Jeff Ferrell (1996) have studied the Punk and Hip-hop urban subcultures respectively and their strong emphasis on symbolic expressions. The background for the sub-culture is the urban space and its symbols. The constitution of public space is political in its basic forms; public buildings represent the governmental power and capital forces is well represent in urban space. The sub-culture challenged this symbolic structure and it was through symbols they strategically achieved their visibility as a group. The backdrop of the hip-hop culture, which evolved in New York during the 1970s, was mostly due to the agitated social and political situation in poor suburban Afro-American areas in Bronx and Brooklyn. Those areas had become a social ‘steam-boiler’ with elements of poverty, ethnic conflicts and crime; it was a society in great distress and escalating conflicts (Ferrell 1996:3). The hip-hop graffiti emerged in close relation to the new style of music, dance and fashion of ‘hip-hop’. The graffiti became an important medium in broadcasting a distinct culture and enabled an visibility, which society purposively wished would remain hidden. The spray-can art that found its expression on metro stations, back yards and on concrete walls, suddenly became an important political symbol with strong impact in the political establishment in USA. Impoverished Afro-Americans had by chance invented a symbolically charged medium, which made their identity highly visible and had strong political impact. The spray-can art provoked strong emotions and became iconic in hip-hop culture, though hated by the rest of the society. The Punk subculture that emerged in Great Britain at around the same time, adopted very similar strategies, as it also used visual symbols in the urban landscape. The attire, hairstyle and use of Nazi symbols placed adherents in opposition to the established society as anarchists, revolutionary and public enemies (Hebdige 1979).

In general conflicts of religious, political, social, ethnical or ideological character always seems to be a background for most contexts where strong visual symbolic strategies are used in the public space. This is not a phenomenon that sub-cultures used exclusively. For instance, symbols became very important in the ideology of the Nazi-regime in Germany. In great, lavish political rituals of gigantic dimensions, symbols played an important role. This is a common strategy to legitimate power in dictatorships to this day, as it was in the past. Symbols are, in one form or another, also important in highlighting and establishing political power in old, well-established democracies. Ferrell points out that the establishment of a prevailing or legitimizing political ideology is more critical during

times of instability or competitive political situations, than in politically stable, well-established environs (Ferrell 1996). Hebdige has phrased this quite poignantly: ‘At the risk of sounding melodramatic, we could use Umberto Eco’s phrase ‘semiotic guerrilla warfare’ (Hebdige 1979).

In the Southwest, it is easy to see the ethnic diversity and distinct political territories between different cultures as a background for the rock art. Stephen Plog describes the communities in the Southwest as a society in turbulence, a factor observable much earlier and several centuries before the first Spaniards visited the area. ‘*In the Pueblo country of the northern Southwest the seemingly never-ending process of movement and abandonments persisted from the 1400s into the historic period*’ (Plog 2008:182). War between groups and internal political power-struggles seem to have been devastating and the archaeological evidence suggests that this had also been the situation during prehistoric times. The famous cliff dwellings and the Pueblos on the hilltops of difficult accessibility, tell tales about war and conflicts over a long time-period (Figure 6).

In Mid-Scandinavia, the fundamental transition from hunter-gatherer society to agriculture represents a change that totally transformed the society over time and there are reasons to believe that conflicts probably arose from it, at last in periods during the process. The strong need for symbolic expressions seems to be present in both the southwestern part of the USA and in Mid-Norway during this period.

Conflicts and instability could be reflected in rock art in Southern Scandinavia as well, warriors, warrior gear, weapons and military utilities is depicted in a very distinct way in particular areas. Østfold in Norway and Bohuslän in Sweden, once part of the same area, but now divided by the national border, is the largest concentration of rock art in northern Europe. There have been diverse approaches to the understanding of the rock art contexts, the dating of the sites, as well as some diversity in the rock art sites distribution (Fredell 2005, Vogt 2006 [2011], Ling 2008). Despite this the places where the carvings were cut seem to occur in large concentrations within particular landscape sections and there seems to exist a clear logic behind the distribution pattern. Habitation sites are located in areas with dry, sandy soil that were settled through most of prehistory, from the Neolithic to the Iron Age. In contrast, rock art sites in Østfold and Bohuslän are systematically located in plain-areas with heavy clay soil on the outskirts of the settlements near the outback. Pollen analysis from Østfold indicates that the clay plains were forested before being altered to grassland in the Late Bronze Age, and this process seems to have been rapid (Høeg and Vogt [2006] 2011). This corresponds with other locations in southern Norway with similar landscape contexts, Dalbo in Akershus, Gjerpen in Telemark, and the general transhumance areas in the interior. The pasture and livestock economy seems to be an important factor for the distribution pattern of the petroglyphs as well as of the cup marks.

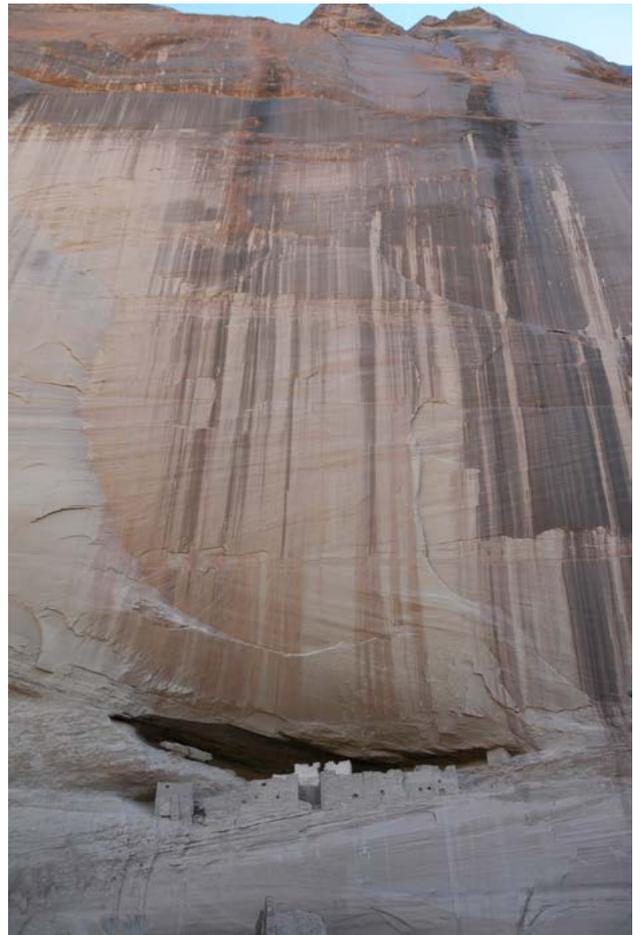


FIGURE 6: CANYON DE CHELLY NATIONAL MONUMENT LOCATED IN NORTHEASTERN ARIZONA WITHIN THE BOUNDARIES OF THE NAVAJO NATION. THIS CANYON REFLECTING ONE OF THE LONGEST CONTINUOUSLY INHABITED LANDSCAPES OF NORTH AMERICA, THE ANCIENT PUEBLO PEOPLES ONCE LIVED HERE BEFORE THE NAVAJO PEOPLE SETTLED THE AREA. RUINS LOCATED ON INACCESSIBLE HIGH CLIFFS TELL THE STORY OF CONFLICTS AND WAR BETWEEN GROUPS IN THE AREA LONG BEFORE THE EUROPEANS CAME. (PHOTO DAVID VOGT)

What we probably are observing, at least in Østfold and Bohuslän, is the development of a specialized landscape, a pasture far more extensive than the local farmers in the area needed for subsistence. This grassland could have been cleared for boosting the economy on a higher regional level organized by the high chiefs as part of a political strategy. A political sphere of interest may have existed far beyond the local areas that necessitated a complicated control of the lands. When the new pastures were established, military force was an important part of controlling this territory, in addition to the grazing valuable livestock. However, additional ways to maintain control could have been used and ideology could have been part of it. The rock art motifs include depictions of ships, wagons and warriors with their attributes and equipment, such as swords, shields and horn clad helmets. The military symbolism may have been part of a carefully conducted and maintained strategy (Vogt 2001, 2006, 2011, 2012). Extension of grassland areas through the transformation of

forest into pasture combined with the investment of cattle breeding, could have been the main source of expanding the economy and political power in Østfold and Bohuslän. However, such expansions into territories of undefined rights to land would probably have caused conflicts. This could have been related to the extensive use of rock art in specialised landscapes. The control of the new valuable grazing facilities thus afforded, not only military power, but also and more importantly it conveyed a legitimacy to land ownership. Ideology was as such a strategy, and the petroglyphs could have been a part of it.

The symbolic and visual strategies employed to establish political and territorial legitimacy occur in different modes and on different scales, but the underlying psychological and strategic techniques are comparable. In a south Scandinavian context, these strategies involved the apparently rapid large-scale production of rock art in exposed and widely-viewed locations. In a time of intense political struggle, elite-driven exploitation and manipulation of the cognitive dimension of the landscape through massive symbolic structures may even have proved more efficient in maintaining local political and ideological control than the use of military force could (2011). Thus, it is not coincidental that symbolic structures, such as rock art, were created in large numbers by unstable and rapidly changing societies with underlying conflicts.

### **The importance of style**

Symbols chosen for their effect in shocking and gaining public attention was important for the Punk-subculture. However, there was a critical component in the use of symbols, where underlying codes regulated their use and these codes were again connected to the style. It was the style that constituted the Punk-culture. Hebdige writes: 'The punk subculture, then, signified chaos at every level, but this was only possible because the style itself was so thoroughly ordered' (Hebdige 1979:113). This was also the case in the 'hip-hop' sub-culture. The artist was free to paint and motifs were individual and different, but the visual appearance – the style of the art – was of utmost importance. Connection must be made precisely to the right style, if this crucial point was missed the symbolic codes become botched and the reception of the message was unsuccessful. The style defined whether or not, the message was 'inside' the cultural relationship that was the hip-hop culture.

In rock art research, a religious or mythological theme has mostly been emphasized the background of single designs and motives. Still, most figures are difficult to interpret. Depiction of human and animal figures are an example that are of common homely symbols we can easily recognise today, but they are inexplicable; they are motives totally open for interpretation. And it is here that the aspect of style becomes relevant, as style can be more important than the single design or motive. Style reflects the groups' identity. The designs, motifs and symbolism, however, can be chosen by random, but as Hebdige states, the style

must be correct. If not, the message will not be conveyed properly. From western Fennoscandia to the Pacific coast in Siberia, a prominent motive in rock art is the moose. The moose figures have a common distinguishable feature all over this enormous area, they are depicted cut through with the internal organs exposed as part of the presentation (Bakka 1976, Gjerde 2010). Very similar expressions have been found over large geographical areas, which were inhabited by several cultural groups and different languages. Therefore, in some larger or more general structures there was a common perception of wild game and the cognitive aspects related to it, in addition to how it should be depicted in rock art. On the other hand, in deeper structures, in the style of the presentation, there could be differences that signalled important meanings. In comparison, today we will focus upon the fact that the different moose figures look very similar – and therefore could be in danger of missing the hold point. In prehistoric times, the style could have had ethnic, cultural or other significant connotations of crucial importance. Whether or not strong group identity was present in northern Fennoscandia during the Mesolithic, we cannot say but it is difficult to see such a difference in the cultural material; but it is reason to believe that such diversity existed.

The historical situation that arose when the agriculturalist moved into new areas could have encouraged a distinct change in the use of rock art. Then we know for sure that the rock carvings represent two different groups, and the style as well as the location, tells about a different approach to the landscape. Rock art, new sites as well as old, could have gained a new and actualised meaning in a changing social and political situation.

### **Different language same frequency**

Rock art is a system of symbols well preserved at the hard rock surfaces, and clearly visible for us today. The major problem is that the context is gone, and we see only the shadow of the most important element in the logonomic structure. That makes the interpretation of the rock art almost impossible. Rock art has a wide scope for interpretation; very few hard facts exist to be part of the analysis and it is thus difficult to grasp the main objective of the phenomenon. Nevertheless, by using theoretical approaches we can imagine a grey, foggy, and diffuse field of meaningful and logical intention of rock art. It is important to be aware that the objective of rock art could have been vague, unclear and fluid from the beginning, boosting the mystic and magic with the phenomenon. As in art in general, its codes could be hard to break in the past even for the consecrated. In addition to this the content of the message was probably changing over time, and the intention and the deeper meaning could have been changed during the generations. The oral, unwritten and collective tradition in the culture could have been preserved through rock art in the form of images and symbols in a non-oral medium. As such, the cognitive level where the mythology and the society's collective memory were stored could have been manifested for eternity. On the other hand

rock art interrelated this cognitive layer with the physical landscapes, and in this way the art become a strong identity marker with well-established legitimacy. In this way, rock art styles could have been involved in messaging political motivations and informing all passers-by of who had the legitimate right to the land.

When this symbolic structure was active in the past, we might assume that any person would have recognized and understood the coded message or at least parts of it. Even if rock art was not fully understood by a passer-by, the style and the rock art gave sufficient information to convey the right message. There could be different levels of access to the codes in the expressions and the information that lay behind them. The hip-hop subculture and the punk subculture are good examples of that, both of which saw the graffiti or the punk symbols recognize the style and understand the role of identity marking and the distinction. For the inaugurated group member, the graffiti could be understood on a much more detailed level – the signature of the artists, meanings of the coded letters and characters, the symbol that was chosen as a motif – all were of a deeper meaning to them (Hebdige 1979, Ferrel 1996). The language may have been very different in the two groups. They could have been completely unable to talk to each other. However, communication through visual symbols could have been something they had in common. We cannot say for sure what relation the two groups had, except that they were neighbouring cultures during a period of time. They could have been both trading partners and enemies.

### Conclusion

With a comparable look at rock art, there are strong indications that different styles represent cultural groups with very varied economies, traditions and ethnicities. In modern contexts where symbols and structures of symbols have an accentuated role in society, conflicts and social instability seem often to be a background. Comparable approaches indicate that competition over resources, territories and political power seems valid as a background for a number of different rock art examples. In this way, style became 'hall marked' to one group in contrast to another and amongst several other elements for distinction, it could have played a role as identity marker in the landscape. In the Southwest of USA this seems rather clear and distinct. Petroglyphs were important for both groups in Mid-Norway and the two styles were an important distinction in an area described as a frontier. Something important was relayed by the style, motives and through their placement in the landscape. Kalle Sognnes has studied the two styles in Mid-Norway and has asked timid questions about rock art and group identity. I will exit this article with a quotation from him: 'Future research might well benefit from comparative studies, especially those concerned with regionalism, boundary markings and the ways in which different socio-economic group mark landscapes' (Sognnes 1998:161).

### Bibliography

- ASPREM, F. (2012) *Neolitiseringen I Mid-Norge – En utvikling I flere trinn? I Agrarsamfunnets ekspansjon I nord. Symposium på Tanmums Hällristningsmuseum, Underslöv, Bohuslän, Sverige*. Ed. F. Kaul, L. Sørensen og N., Verdener. Nationalmuseet. In Nordlige Verdener.
- BAKKA, E. (1976) Bergkunst i barskogsbeltet I Sovjetsamveldet. *Viking* vol. XXXIX pp. 125-148. Norsk Arkeologisk Selskap, Oslo.
- BARTHES, R. (1973) *Mythologies*. Paladin, London.
- BILLO, E., MARK, R. and WEAVER, D. E. (2013) Sears Point Rock Art Recording Project, Arizona, USA. IFRAO 2013 *Proceedings, American Indians Rock Art*, Volume 40 pp. 1283-1302.
- DERRIDA, J. (1978) *Writing and Difference*. Chicago University Press, Chicago.
- BJERCK, H. B., MELING, T & ÅSTVEIT, L. I. (2008) Kulturhistorisk syntese – Nyhamna gjennom 11.000 år I et overregionalt kulturhistorisk perspektiv. In *Ormen lange Nyhamna*. Editet by Hein B. Bjerk. NTNU Vitenskapsmuseets arkeologiske undersøkelser.
- DOOLITTLE, C. J. (2000) Petroglyph Research at Antelope Hill. In *Of Stones and Spirits: Persuading the Past at Antelope Hill*, (ed) Schneider, J. S. and Altschul, J. H. pp. 83-119. Technical Series 76. STI, Tucson, Arizona.
- FERRELL, J. (1996) *Crimes of Stile: Urban Graffiti and the Politics of Criminality*. Northeastern University Press, Boston.
- FISCH and FISCH (ed.) (2007) *The Hohokam Millenium*. School for Advanced Research Press, Santa Fe, NM. USA.
- FREDELL, Å. (2003) *Bildbroar. Figurativ billedkommunikation av ideology och kosmologi under sydskaninavisk bronsålder och förromersk järnålder*. Gothenburg. Gotarc Serie B. Gothenburg Archaeological Thesis no 25.
- FOUCAULT, M. (1972) *The Archaeology of Knowledge and the Discourse of Language*. Pantheon Books, New York.
- GJERDE, J. M. (2010) *Rock art and Landscape. Studies of Stone Age rock art from Northern Fennoscandia*. PhD Thesis, University of Tromsø.
- HAYS-GILPIN, K. A. (2004) *Ambiguous Images. Gender and Rock Art*. Alta Mira Press, Walnut Creek, CA. USA.
- HAWKES, T. (1977) *Structuralism and Semiotics*. Methuen, London.
- HEBDIGE, D. (1979) *Subculture. The meaning of Style*. Rutledge, London and New York.
- HEDGES, K. & HAMAN, D. (1994) Oatman Point: New Discoveries on the Lower Gila. In *American Indian Rock Art*, Vol. 20 edited by Frank G. Bock, pp 7-12. American Rock Art Research Association, Sam Miguel, CA. USA.
- HEDGES, K. & HAMAN, D. (1995) Petroglyphs at Quile Point, Southwestern Arizona. In *Rock Art Papers*, Vol. 12, edited by Ken Gedges, pp. 89-94. San Diego Museum Pars No. 20, Museum of Man, San Diego.
- HODGE, R. and KRESS, G. (1988) *Social Semiotics*. Cornell University Press, Ithaca, New York.

- HEGMOND, M. (1992) *Archaeological Research on Style*, Annual Review of Anthropology 21.
- HØEG, H. I. (2011) Pollen analytical studies at Torbjørnrød, Onsøy in the municipality of Fredrikstad, Østfold in Vogt, D. *Rock Carvings in Østfold and Bohuslän, South Scandinavia. An Interpretation of Political and Economic Landscapes*. Skrifter serie B, The Institute for Comparative Research in Human Culture, Novus forlag Oslo.
- LÉVI-STRAUSS, C. (1966) *The savage mind*. Weidenfeld & Nicolson, London.
- LING, J. (2008) *Elevated Rock Art. Toward a maritime understanding of rock art in northern Bohuslän, Sweden*. Gothenburg. Gotarc Serie B. Gothenburg Archaeological Thesis no 49.
- PILLES, P., & VAUGHAN, T. (2003) Supernatural and ceremonialism: Yavapai rock art of the Red Rocks country, Sedona, Arizona. In *Ethnography and North American Rock Art*. Paper presented at the 30th Annual Conference of the American Rock Art Research Association. San Bernardino, California.
- PLOG, S. (2008) *Ancient Peoples of the American Southwest*. Second Edition. Thames & Hudson Ltd, London.
- PREUCEL, R. W. and BAUER, A. A. (2001) Archaeological Pragmatics. *Norwegian Archeological Review* Volume 34 No. 2.: p. 85-96.
- RICOEUR, P. (1989) *Hermeneutics and the Human Sciences. Essays on Language, Action and Interpretation*. Cambridge University Press, Cambridge.
- SCHAAFSMA, P. (1980) *Indian Rock Art of the Southwest*. School of American Research Book. Santa Fe/Albuquerque.
- SOGNNE, K. (1998) Symbols in a changing world: rock-art and the transition from hunting to farming in med Norway. In *The Archaeology of Rock Art*. Ed. By C. Chippindale and P. S. C. Taçon. Cambridge University Press, Cambridge.
- SØRENSEN, L. and KARG, S. (2012) The expansion of agrarian societies towards the north – new evidence for agriculture during the Mesolithic/Neolithic transition in Southern Scandinavia. *Journal of Archaeological Science* XXX (2012) 1-17.
- THIEL, H. J. (1995) *Rock Art in Arizona: A Component of the Arizona Historic Preservation Plan*. Arizona State Historic Preservation Office, Arizona State Parks Board, Phoenix.
- VOGT, D. (2001) Continuity and discontinuity in South Scandinavian Bronze Age rock art research. In *Theoretical Perspectives in Rock Art Research*. Edited by K. Hellskog. Novus forlag The Institute for Comparative Research in Human Culture, Oslo.
- VOGT, D. (2006a) *Helleristninger i Østfold og Bohuslän. En analyse av det økonomiske og politiske landskap*. Acta Humaniora nr. 254. Universitetet i Oslo.
- VOGT, D. (2011) *Rock Carvings in Østfold and Bohuslän, South Scandinavia. An Interpretation of Political and Economic Landscapes*. Skrifter serie B, The Institute for Comparative Research in Human Culture, Novus forlag Oslo.
- VOGT, D. (2012) *Østfolds Helleristninger*. Universitetsforlaget, Oslo.
- VOGT, D. (2014) Silence of Sign – Power of Symbols: Rock Art, Landscape and Social Semiotics. Chapter 3 in: *Rock Art and Sacred Landscape*. Edited by: Gillette, D. L., Greer, M., Hayward, M. H. and Murray, W. B. One World Archaeology. Springer. New York.
- WALDERHAUG, E. M. (1998) Changing art in a changing society: the hunters' rock-art of western Norway. In *The Archaeology of Rock Art*. Ed. By C. Chippindale and P. S. C. Taçon. Cambridge University Press, Cambridge.
- WOBST, M. H. (1977) Stylistic Behavior and Information Exchange. I For the Director: *Research Essays in Honor of James B. Griffin*. red. av C. E. Cleland, s. 317-342. Museum of Anthropology Anthropological Papers 61, University of Michigan, Ann Arbor.

# Memory and destruction – pictorial practices surrounding red ochre paintings in late Neolithic northern Sweden

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## Abstract

*In this chapter, practices surrounding production and reception of north Swedish rock paintings are investigated. Taking the accumulative aspect of rock art as point of departure, the material is addressed in the constricted temporal frame of a late Neolithic and Early Bronze Age. After demonstrating the applicability of the four-phase chronology originally developed for elk figures at the region's largest petroglyph site; Nämforsen, 112 elk figures from 33 of 35 painting sites are quantified. The result shows an increase of red-ochre paintings from approximately 2500 BC. Additionally, this process is characterised by a changed attitude towards non-synchronised artistic dialogue, from making pictorial expressions on previously-unpainted cliffs, the composition practices start to revolve around panels made in the past. This engagement with communal memory and historicity encompassed both iconoclastic and archaic practices. Although the design references a Mesolithic style, the compositional interactions were orientated towards transformation of images made in the past. Drawing on recent studies in environmental research, this use of red ochre is proved to occur simultaneously with significant climate changes. As an interpretative conclusion, the role of red ochre pictures during the late Neolithic is suggested to have operated as a complex semiotic tool, used for grasping concerns regarding the balance between tradition and revitalization. This view on the role of rock paintings implies a view on pictorial significance as situated in time, and thus changeable, dynamic and entangled in the social.*

*Keywords: Rock art, rock paintings, red ochre, late neolithic, hunter-gatherers*

## Introduction

Traditional lines of interpretation in the research devoted to Stone Age rock art from northern Sweden tend to give the impression that everything shown on a panel is the result of one coherent intention. Driven by a desire to answer the understandable, yet dubiously-articulated question of what these images of elks, boats and humans 'meant in the past', scholars have presented interpretations claimed to possess explanatory value for an entire site, or even pictorial tradition. Typically, these large scale conclusions draw on informed methods, making the argument grounded in claims of central compositions resembling myths, rituals or cosmologic beliefs known from the ethnographical record. Without going into the massive epistemological problems attached to this kind of analogic reasoning, I would like to draw attention to the way the basic fact of petroglyphs, in the vast majority of cases comprising figures from multiple chronological phases, challenges the foundation of these large scale interpretations. As rock art panels are the result of a continuous pictorial accumulation – according to which every contribution transformed the site – the compositions claimed to represent a certain cosmological 'ism' have not only looked radically different in the past, but the version available to our eyes can also be regarded as the archaeologically least significant one, since it was the only one that elicited no further aesthetic response. From the special chronotope that defines rock art as a pictorial genre, it is thus clear that any question of meaning posed with an opening 'what' needs to be

accompanied by a following 'when'. Just as with any other kind of archaeological material, investigations of rock art demands the same amount of information regarding temporal context and stratigraphic relations, and it is my firm position that ignorance of these aspects by necessity assigns inflexibility to the studied imagery by portraying practices of pictorial expression as oblivious to social oscillations.

The accumulative aspect of rock art has of course been emphasised by others, and in fact, this point has been stressed with increasingly frequency during recent years. For taking only a few examples from the branch of research dealing with rock art in northern Fennoscandia, Gjerde has investigated how changes in the landscape (both long- and short-term) affected cosmology, iconography and carving practice (Gjerde, 2010, see also Helskog, 2014 and Janik, 2004) Another, very important approach, has been presented by Ljunge, who has pointed out how highly -formalized documentations visually reinforce the view of rock art compositions as consistent and intentionally -narrated representations (Ljunge, 2014; 2015: 24f). The importance of understanding rock art as part of a dynamic and transformative society has been recently stressed by Sapwell, whose analyses of circumpolar rock art are informed by the novel and exiting idea of pictorial practice being an active component in developing, transforming, and not just expressing, cosmology (Sapwell, 2014). This work has parallels to Fuglestvedt's research, which provides evidence for a correspondence between stylistic



MAP OF THE SITES.

variations and transformations within the religious systems of circumpolar hunter-gatherers (Fuglesvedt 2010, see also Tilley, 1991:50). The emphasis on motif alterations also constitutes a main theme in my own work, which show that the elk motif at Nämforsen (the large petroglyph site in northern Sweden soon to be discussed in detail) was employed as a key symbol: a motif adjusted and elaborated in order to grasp vital concepts in social life.

Among students seeking to overcome the bias of simultaneity in rock art research, Professor Kalle Sognnes was, however, in the forefront. His work on Bardal (2008), as well as his article on the Glösa carvings (2010) exemplifies his novel, innovative and thought-provoking contributions on the subject of rock art and temporality. These pieces have been of immense importance to a large number of scholars, myself included, and it is therefore a great honour to pay tribute to Sognnes' ground-breaking research by devoting this text to him.

Sognnes' call for seeing the significance of rock art as fluctuating in time, and consequently, necessary to address in a constricted chronological frame, serves as the axiomatic proposition in the line of arguments here to be presented. With this contribution, I wish to give an example of how we can go about leaving the grand cosmologic narratives behind and instead address concerns on the role of rock art during a well-defined period of time. The overall objective in this paper is thus to investigate how north Swedish rock paintings were used between approximately 2500-1900 BC, e.g. at the end of the norrlandic rock art tradition. Questions of importance are what particular practices surrounded the paintings during this final phase

and how these practices were related to the simultaneously large-scale changes in the economy and the environment. These problems are handled by quantifying 112 figures from 33 of 35 north Swedish stationary red ochre panels. The analyses consider the numerical distribution of figures deriving from different periods as well as temporal fluctuations in compositional practices on pre-painted panels.

That focus is not on petroglyphs, but on red ochre pictures, probably begs a question about feasibility. Highlighting a phase-specific practice demands knowledge of chronology, but no comprehensive contribution on this matter has yet been presented regarding the north Swedish rock painting sites. A number of scholars (Jussila, 1994; Seitsonen, 2003; Lahelma, 2008) have presented chronological suggestions about the Finnish material, but since the paintings on the other side of the Baltic sea show some important stylistic differences in comparison to those in northern Sweden, the results from these, in themselves highly important research works, can only be applied as a reference. Until the methods for studying rock art by spectrometric analysis have been developed enough to give reliable dates (something that has already been proved possible in fortunate cases, see Darvill and Fernandes, 2014; Hernanz *et al.*, 2014; Koenig *et al.*, 2014; Ruiz & Rowe, 2014) the prospect of examining time specific practices surrounding the north Swedish rock paintings continues to be tied to the task of establishing a relative sequence of temporally-distinguished phases. In the case with the north Swedish pictoglyph material, this is nevertheless not as much an obstruction as one might think. The reason is that the paintings are stylistically coherent with the figures at Nämforsen, a site for which

several research works have confirmed a somewhat rough, yet highly versatile chronological sequence based on shoreline analysis, observations of superimpositions and analogies to artefacts with similar stylistics that are of known age. The most detailed schema comprises Lars Forsberg's four-phase chronology centred on the elk motif, which although consensually accepted is rarely used or cited by the sheer fact that it is written in Swedish. With the intention of making Forsberg's work available to an international rock art audience, I open my argument by presenting it in some detail. After this overview, I proceed with the arguments in favour of the applicability of these four phases of the rock painting material, and thereafter give an account of the pattern I have discerned regarding the fluctuations in pictorial practice surrounding the red ochre imagery. In line with my objective, I am paying special attention to the changes that took place during the late Neolithic and earliest Bronze Age as I, in the main analytical section, discuss the image interaction, the aesthetical references and the performances that saturated rock painting practice during this late period of hunter-gatherer rock art. In the final section, I contextualize my findings by shifting to a larger scale, relating the outcome of my scrutiny to recent research regarding climate change and social transvaluation in late Neolithic Fennoscandia.

#### Temporal versions of the elk motif at Nämforsen

Starting with an account of the Nämforsen chronology, the first step must be to point out that dating multistyle petroglyph sites, and Nämforsen in particular, comprises one of the most difficult tasks within archaeological research. The possibility of gaining knowledge of the age of a site, motif, or style of a carved image is constantly under debate, and the only thing that really can be said for sure is that every suggested method possesses its own benefits and complications (for discussions regarding chronology of Fennoscandinavian carvings, see among others: Bakka, 1974; Malmer, 1981; Baudou, 1993; Forsberg, 1993; Hesjedal, 1994; Lindqvist, 1994; Bednarik, 1998; Ramqvist, 2002a; Tarasov & Murashkin, 2002; Lahelma, 2008; Gjerde, 2010; Sjöstrand, 2011; Janik, 2014). Typological dating, for example, is based on the assumption that alteration in style indicates difference in time; something that makes it difficult to recognize the contemporary variations within a motif group that are key to metapragmatic approaches towards pictorial expressivity (see further discussion in, for example Ucko 1977: 9 or Rosenfeld and Smith, 1997). Shoreline analyses are better equipped to face this issue, but as this method is based on the assumption that petroglyphs are typically added as close to water as possible, complex forms of image interaction – such as integration of new figures into pre-existent compositions at high altitudes – are easily overlooked in applications of this method (Sognnes, 2003; Ling 2010: 134; Ilves & Darmark, 2011 for further discussion). Shoreline dating is nevertheless well suited for establishing maximum dates, whereas typological sequences make it possible to understand how a particular motif has been transformed over time. Consequently, the

question is not so much about which of these methods is the generally most accurate, as about how they can be combined in the most fruitful way.

This matter pervades Lars Forsberg's paper on the elk motif's internal chronology at Nämforsen (Forsberg, 1993). Forsberg's innovative study is constructed in two steps, first, he applies a range of statistical methods for proposing a *hypothetical* chronology, and second, he tests the outlined succession of groups against archaeological data, ranging from altitude measurements to finds in closed contexts. Since his hypothetical groups are based on calculations of stylistic differences, and not on a survey of which figures are found on a certain m.a.s.l, his chronology accounts for the fact that compositions have been created throughout processes of non-synchronic artistic dialogue.

It is this immanent theoretical awareness, and not primarily the final proposition, that makes Forsberg's work different. As stated above, his four phases are more or less analogous to those presented by Lindqvist who remarks that Forsberg 'with all his computer work seems to arrive at broadly the same conclusions as myself' (1994: 212f). Forsberg's phases also give further support to the chronological distinction between surface and contour-pecked animals that was originally suggested by Hallström (Hallström, 1960: and further supported by the works of Ramqvist (1989: 218-219; 1990) Baudou, (1993: 252) and Lindqvist (1994) respectively. Moreover, Forsberg's phases, especially his suggested dating for the surface pecked elks, correspond to the ambitious chronology of the rock art around the Alta fjord presented by Helskog. Helskog's second phase, dated to 4800-4000 BC is equivalent to Forsberg's suggested time-frame for the similar surface pecked elks found at Nämforsen (Helskog, 1988a Helskog, 2014).

All chronological studies of Nämforsen are nevertheless affected by the recalculated shoreline data which reveals that the carvings at Nämforsen could have been initiated some three hundred years earlier than what had previously been assumed (Berglund 2007: Nordman *et al.*, 2015). Although this new maximum dating does not affect the internal relations and stylistic character of the four phases outlined by Forsberg, it strengthens its emergence addressing the bands of continuity between Mesolithic and Neolithic societies in order to understand circumpolar rock art on a larger scale.

Recapitulating Forsberg's paper, however, it begins with an account of the statistical analyses undertaken in order to establish probable groups within the elk motif. The aim of these operations was, first, to answer whether the elk motif contained immanent groups, and second, if these groups were linked to each other by gradient, e.g. a succession of small, but continuous stylistic changes that could be assumed to represent time. When answering the first question, Forsberg used cluster analysis and when handling the latter one he employed multidimensional scaling (MDS) together with correspondence analysis. It

is the results from the correspondence analysis that he then relates to m.a.s.l measurements and analogies with closed finds in the second part of the paper.

Aimed at investigating his first question, whether the differences within the elk motif represented internal groups, Forsberg made a stratified selection of 75 elk figures which were sorted according to absence or presence of 39 different parameters such as 'angled legs', 'contour pecked body' or 'rounded muzzle.' The result of this cluster analysis was handled throughout a range of operations involving concerns about how to best interpret the groups showed in the dendrogram. The final result comprised a presentation of four distinctive groups of elks, one surface-pecked and the rest contour-pecked. The next question for Forsberg to solve was thus if these groups were linked together in manors indicating processes of slow transformations over time (1993: 204). In order to answer this, Forsberg processed the same similarity matrix underlying the dendrogram through MDS analysis (Kruskal's method). Similarly this statistical operation was undertaken in many steps, basically in order to find how different stress values affected the plot. In conclusion, however, the four groups from the previous cluster analysis were further confirmed by the MDS as they appeared in the Sheppard diagram as a circumflex in two dimensions, and as a spiral when seen in three dimensions. Drawing on colloquial opinion regarding how to recognize gradients, Forsberg claimed to have strong indications for the existence of such a one (see Forsberg, 1993: 208 with references) but since MDS analysis cannot reveal any information about the linear interrelationship of the distinguished clusters, Forsberg had to proceed with correspondence analysis in order to

see how the four groups were ordered in sequence. From this analysis, Forsberg could conclude that, given that the gradient discovered represented time, there were two hypothetical chronologies for Nämforsen.

Either the oldest phase contained elks resembling those at Norrfors in Västerbotten County (Figure 1), followed by large contour-pecked elks with body marks, smaller elks with bent legs whereas the surface-pecked figures constituted the latest design. Or, should this sequence be seen the other way around, implying surface-pecked figures were the oldest and then those carried out in the Norrfors design were added at the end of the carving period (Forsberg, 1993: 209). Intriguingly, these two chronological orders were identical to the opposing pair of proposals previously put forward by Malmer and Lindqvist respectively. Malmer argued for the Norrfors type being the older, and that Nämforsen should be seen as a Bronze Age site, initiated by the making of contour-pecked design for then ending with the making of surface-pecked figures (Malmer, 1981: 65). Lindqvist, on the other hand, followed the trajectory originally outlined by Hallström, and presented shoreline data indicating that surface-pecked figures should be dated to the Early Neolithic, and that the Norrfors style was from a much later period (Lindqvist, 1983: 8).

The recapitulation of this debate marks the part of Forsberg's study where the actual chronological proposal is put forward. In this section, Forsberg tested the groups he had formulated by statistical against the m.a.s.l measurements and archaeological data, resulting in further support for Hallström's, Lindqvist's, Ramqvist's and Baudou's theory.

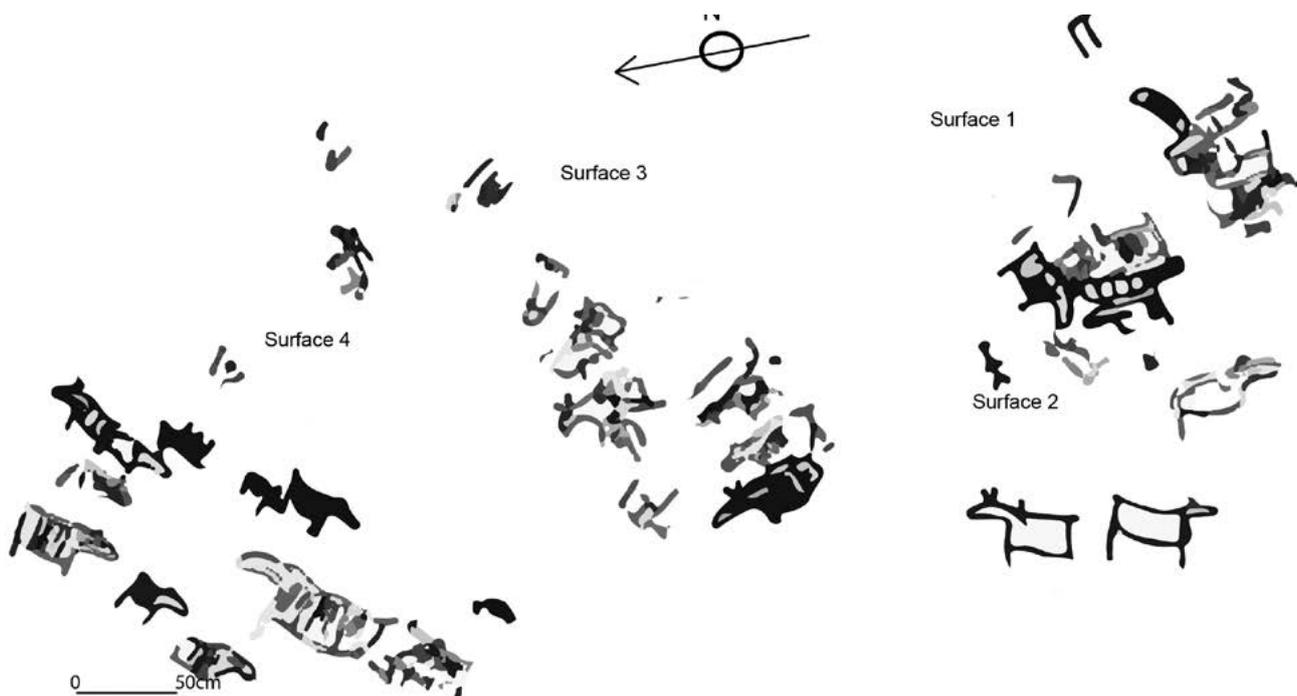


FIGURE 1: THE PETROGLYPH SITE NORRFORS. THIS SITE HAS A MAXIMUM DATE TO 2200 BC. THE ELKS ARE EXECUTED IN THE CHARACTERISTIC PHASE IV STYLE. (AFTER RAMQVIST, 1988)

That surface pecking is an earlier design than the Norrfors type could first be shown with reference to the latter's resemblance with Mesolithic elk head staffs made of antler, wood or slate displayed at sites across circumpolar Eurasia (Zhulnikov and Kashina, 2010). Secondly the late Mesolithic to early Neolithic origin of surface-pecked elks at Nämforsen could be confirmed by their stylistic likeness to petroglyphs on the Karelian Zalavruga complex on the river Vyg. Forsberg refers in particular to the site of Besnov Sledki, where the stylistically-similar elk figures were found to contain traces of a marine transgression which occurred in the beginning of the third millennium BC, implying that the carvings must be from at least 4000 BC (Chard & Powers, 1968: GIN-129. Savvateyev, 1970; Lobanova, 1995; see also the recent datings presented in Janik, 2014: 116-117 table 8:1, which dates the rock art to 4200-4800 BC). Third, and somewhat more important, Forsberg pointed out that the surface elks at Nämforsen could be regarded as initiated in the early Neolithic by drawing on Baudou's shoreline analyses which show that these types of elk dominate at the highest altitudes. This was confirmed and further analysed by Lindqvist, whose larger work came later. From Lindqvist's study it is clear that there are very few surface-pecked elks located below 75 m.a.s.l, which was the water level before the major Litorina regression in the area that occurred approximately 3500 BC (Lindqvist, 1994:214ff, who refers Miller, Modig & Robertsons work from 1979). When adding the information of surface-pecked elks with high certainty being early Neolithic to the fact that the elk group at the opposite end of the correspondence analysis sequence resembled the elk figures from Norrfors, Forsberg could regard the case as solved. The reason is that the elks at Norrfors are placed on a rock surface which was under water until 2200 BC, which implies that the second option Forsberg achieved from his correspondence analyses was the correct one (see Ramqvist *et al.*, 1986 and Ramqvist, 1988 for detailed accounts for the maximum age of the Norrfors carvings). The stylistic typology of the elk motif at Nämforsen thus begins with the surface-pecked figures (introduced 4000 BC at the very earliest) and ends with the contour-carved elks carried out in Norrfors style, which occurs in the material from about 2200 BC.

Regarding the task to support the chronological association between the two 'middle types' in his sequence, Forsberg carried out intersection analyses of nine panels at Nämforsen (Forsberg, 1993: 219-231). This method resulted in several convincing examples of how one of the middle groups, the larger contoure-pecked figures with long legs, consequently had been cut over the group of smaller contour-pecked elks with surface-pecked heads. These observations give support to Forsberg's statement regarding which of his groups comprised phase II and III respectively. Although the order of these two groups constitutes the weakest part of Forsberg's argument (see also Lindqvist, 1994:214) it does not mean that he was wrong, only that the evidence is slightly more fragile than the one presented for the surface-pecked elks being the earliest and those of the Norrfors the oldest. It should also

be pointed out that the four groups that Forsberg was able to establish most probably could be internally divided. Forsberg himself frequently articulates this problem, which makes his work transparent and reflective. Even though we should never forget that no elk at Nämforsen is identical to another, and even though we must always keep in mind that there are no clear divisions between phases, but only a constant and fluctuating transformation between styles, Forsberg's work still constitutes the most reliable study of the chronological relations between different ways of depicting elks at Nämforsen.

#### Four phases of the elk motif

Moving on to a description of the four chronologically-distinguished designs of elks; the first group consists of surface-pecked animals with limp backs, beards and strikingly vertical legs (Figure 2). As I have showed in previous work, these elks show a strong tendency to occur in large compositions of narrative nature in such a way that the composition does not comprise many overlapping figures. Also, the phase I elks are more spatially incorporated with human figures than those from the other phases. Examples of panels dominated by figures from phase I are the Notö panel at Nämforsen and the ski scene at Zalavruga (Sjöstrand, 2011:178). Regarding the date of phase I elks, Forsberg follows Lindqvist's idea of the Nämforsen carvings being initiated around 4200, but in the light of Berglunds 350 year addition based on older reaserch, it appears that Nämforsen had been in use from at least 4500 BC (Berglund, 2004; see also table. 2 in Nordman *et al.*, 2015).

In accordance with the average altitudes of phase II figures at Nämforsen, this style is phased in during the early part of the middle Neolithic. In this phase, the elks are contour-pecked with rectangular body, bent legs and surface-pecked heads (Forsberg, 1993: 218-230). The curved legs continue into phase three, but the elks are then slightly

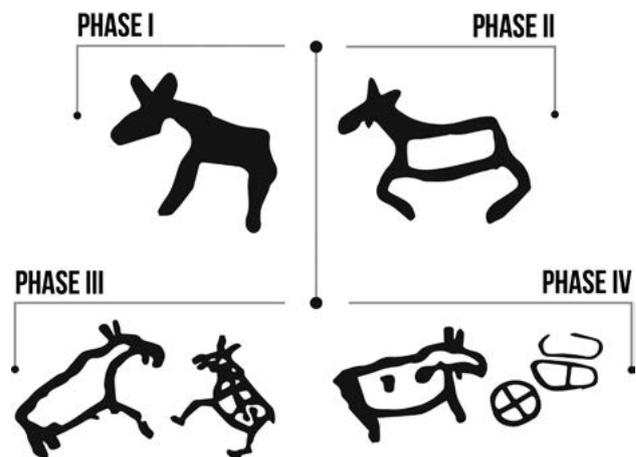


FIGURE 2: EXAMPLES OF ELK FIGURES FROM PHASE I, II, III, AND IV. THE COLLAGE IS MADE OF FIGURES FROM HALLSTRÖMS'S DOCUMENTATION OF NÄMFORSEN (1960). NOTE THAT THE FIGURES ARE NOT IN SCALE.

bigger, and also reproduced in more detail with attributes of beards, mouth mark, life-lines, or even antlers. Also elks from phase three are from the middle Neolithic, implying that the stylistic transformation between these middle phases occurred somewhere between 2800 and 2200 BC.

In the final phase, which is the main focus here, elks have straight legs just as they had in phase I. During phase IV the elk figures are contour-pecked and possess exceedingly stylized and schematic attributes. The phase IV design is also found on a number of Russian, Norwegian and Finnish rock art sites, and it has sometimes been claimed that it originally derives from the Urals (Okladnikov, 1981: see Shumkin, 1990:63 for different opinion). As already stated, it is figures made during this phase that resemble the elks at Norrfors. As Norrfors has a maximum dating to 2200 BC, phase IV can be linked to the late Neolithic (Ramqvist, 1990). This datum is further confirmed by the finding of contextually-closed artefacts decorated with carvings with the same stylistics. Examples of these objects are an engraved slate slab from Råinget I decorated with an elk figure of Phase IV design, or the spear point from Säbro, also with an elk. As elks in phase IV style are closely connected with triangular anthropomorphic figures, the late Neolithic dating of objects decorated with such human figures should also be taken as evidence.

#### ***Applying the Nämforsen chronology on rock paintings in northernmost Sweden***

As outlined in the introduction, I claim that Forsberg's chronological sequence regarding the elk motif at Nämforsen is applicable on most paintings in northern Sweden. Proposing such a correspondence is not especially radical. Nämforsen and the majority of rock painting sites are spatially associated, and it is also hard to not be struck by the aesthetic likeness between elks on most paintings and those at Nämforsen. Furthermore, all of the four recently-undertaken excavations of rock painting sites have resulted in C 14 dates that place the sites in the same period as one could expect on basis of an ocular motif classification based on Forsberg's four phases.

One site where the chronological estimation based on stylistic attributes corresponds with the C 14 dating is Högberget I, located some 30 kilometres from Nämforsen. This panel includes three surface-painted elks of phase I design. As could be predicted by Forsberg's chronology, this painting could be related to an early Neolithic dating of 3800-3500 BC. This dating was achieved from two high quality samples, taken from a strong carbon concentration, and located just under the panel at a depth of 40 cm. What links these charcoal chunks to the painting is that the carbon concentration was situated directly over and under a flat stone painted with red ochre (Lindgren, 2002). As the painted stone was black from the charcoal, and since no cultural layer been developed between the stone and the underlying carbon concentration, the rock must have been added or dropped on the ground simultaneous with, or directly after, activities involving fire. Another alternative

is that the stone became dislodged from the panel then fell to the ground some time before it was placed in the remains of a hearth. Such a scenario would imply that the painting is slightly older than the carbon-14 dating shows, which is by no means impossible since phase I started much earlier than researchers hitherto have assumed.

Another interesting site is Högberget III, located in a boulder cave on the same mountain as Högberget I. During the excavation, samples from a hearth in direct proximity to the boulder cave gave one dating from the late Mesolithic 4340-4040 BC and one from the early Bronze Age 1410-1000 BC (Holmblad, 2005:12). The Bronze Age dating corresponds to the figures: one triangular anthropomorphic figure and one elk from phase IV. The early dating, moreover, can be explained in relation to the phase I elks on Högberget I, just discussed, located some hundred metres below.

Regarding the other recently excavated sites, Finnforsberget, Flatruet and Korpberget, they are united by a vast dominance of figures stylistically identifiable as belonging to Forsberg's phase IV. Samples from culture layers and hearts have confirmed that this phase occurred during late Neolithic and early Bronze Age. These C 14 results have been further confirmed by finds of arrowheads with flat bases, which on basis of lithic typology, springs from this period. I will discuss the excavations of the sites datable to phase IV later on in this paper, but firstly, I like to implement the insight of that Forsberg's chronology might be used on rock paintings by undertake some quantitative compilations of the elk figures displayed on the north Swedish sites.

#### **Patterns regarding phase specific practices**

The first issue to be addressed is how the total amount of figures on north Swedish rock paintings is distributed over the four phases. The empirical base for this compilation comprises of 112 of 144 known elk figures. The excluded 32 exemplars consist of mammals carried out in a style not covered by the four-phase chronology or red ochre patches which most likely have been elk figures but which today are too fragmental to be subject for classification.

The result from the distribution analysis can be seen in the diagram below (Figure 3). As seen, figures from late periods dominate. This imbalance must of course, be comprehended as an effect of phase I figures predating those from phase IV by at least 2000 years. Although tafonomy can never be overestimated, it is equally simplistic to conceive the preservation factor as a comprehensive explanation. Regarding the distribution pattern, my interpretation is that the numerical difference between early and late elk figures is overexposed due to varied preservation depth, but that the general pattern displayed nonetheless is correct. This is for several reasons; first, because of the few but factual elks from phase I and II which prove that early Neolithic paintings

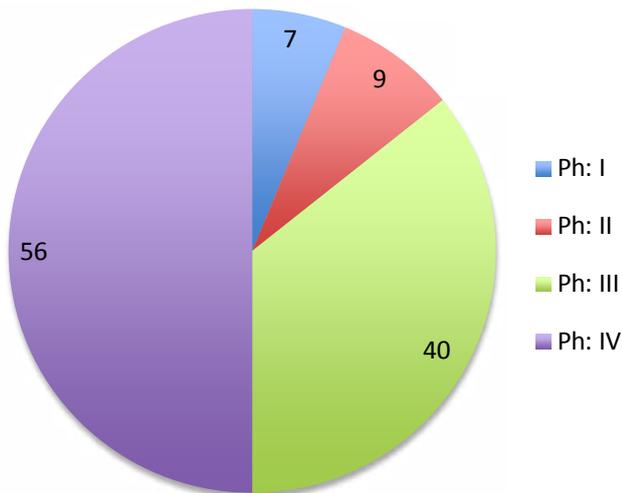


FIGURE 3: DISTRIBUTION OF PAINTED ELK FIGURES BY PHASE. THE COMPILATION DRAWS ON 112 OF THE TOTAL 144 PAINTED ELK FIGURES KNOWN IN JUNE 2014, MEANING THAT 32 ELK FIGURES COULD NOT BE CLASSIFIED AS BELONGING TO ANY OF FORSBERG'S FOUR PHASES. SOME OF THE INDEFINABLE FIGURES ARE SIMPLY PATCHES OF COLOUR, WHEREAS OTHER MEMBERS OF THIS CLASS CONSTITUTE FIGURES TO FRAGMENTAL, VAGUE OR ATYPICAL TO BE ASSIGNED TO A CERTAIN STYLISTIC CLASS.

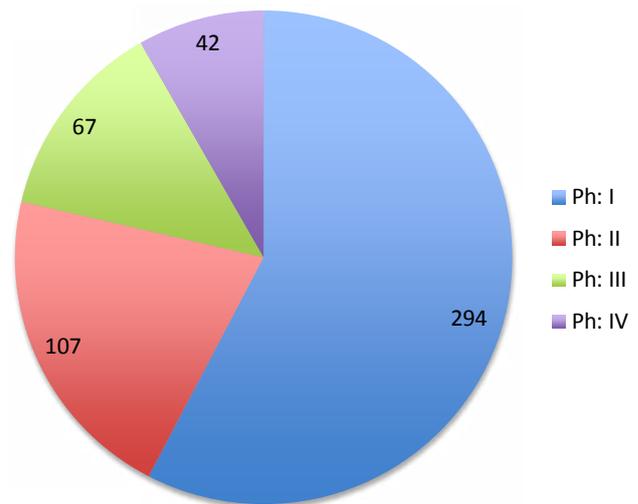


FIGURE 4: DISTRIBUTION OF CARVED ELK FIGURES (AT NÄMFORSÉN) BY PHASE. THE DATASET COMPRISES OF THE 510 OF APPROXIMATELY 1000 ELK FIGURES DOCUMENTED BY LARSON AND BROSTRÖM BETWEEN 2002 AND 2003. ONLY FIGURES THAT COULD BE CLEARLY STYLISTICALLY CATEGORIZED IN ACCORDANCE WITH FORSBERG'S SCHEMA WERE INCLUDED IN THE STUDY.

can endure. Second, because there is a high probability that it is the early elk figures that have vanished and turned into the red-coloured patches that I excluded from this study which was based only on elks with clear and stylistically-classifiable features. And finally, because of the increased importance of red ochre indicated in the diagram corresponds with temporal variation patterns regarding the Finnish paintings, which also have more late than early styles and seem to be more intensely used from approximately 2500 (Seitsonen 2005).

In the context that the use of red ochre increases from phase III and onwards, it is interesting to take a look at the Nämforsen carvings. As seen in Figure 4 the vast majority of elk carvings from this site belong to phase I. Drawing on this comparison, red-ochre paint seems to become a more important medium of expression during the later part of the middle Neolithic at the expense of the significance, or at least the intensity, of carving practice. I want to make clear that this process should not be seen as a replacement, but as a slow and unarticulated preference of red ochre as a means of aesthetic expression. In this context it is also essential to bear in mind that Nämforsen has been the place for large-scale production of red ochre from at least 4200 (George & Engelmark, 2002; Larsson, 2003; Käck, 2010, see also Clark, 1999; making it probable that the practices performed at this monumental rock-carving site involved the necessary preparations for painting. My suggestion is that the symbolic significance of this manufacture of colour successively gained a more crucial importance, with the result that the painting performances, probably involving a wide range of procedures, slowly began to compete with the custom of engraving motifs into rock surfaces.

### Interaction analyses

To get more detailed information regarding the revitalized importance of red ochre from phase III and onwards, it is important to analyse compositional practice. As a next step, I therefore investigate the attitudes towards non-synchronic artistic dialogue by asking which phases tend to coexist, and which ones have preserved images made in the past leaving them without further painting. Further if there are any patterns revealing a changed attitude towards making red ochre pictures on old images. In short, the task is to see how existing compositions were handled during different periods within the rock painting tradition.

To answer these questions, I mapped which phases were represented on 33 of 35 painted panels in northern Sweden. In this analysis, the focus is only on absence / presence of the four phases. If a composition holds 10 elks from phase III and one from phase I, the outcome would be that both phases are represented on the panel. This fictional example would thus be shown in staple L in the diagram below (Figure 5a).

Discussing only factual sites, the outcome of the analysis of compositional practice reveals several patterns. The most notable are that staple D – panels on which all figures are from phase IV – is remarkably high. This numerical dominance must, of course, be seen as a consequence of the fact that elks from phase IV are the most common type. Also, this staple shows that phase IV painters often created images on empty cliffs. Yet somewhat hidden in the diagram is the information that figures from phase IV were as often incorporated in already existing compositions.

This is due to the fact that phase IV is represented in all (staple G, I, L and M) except one (staple K) of the

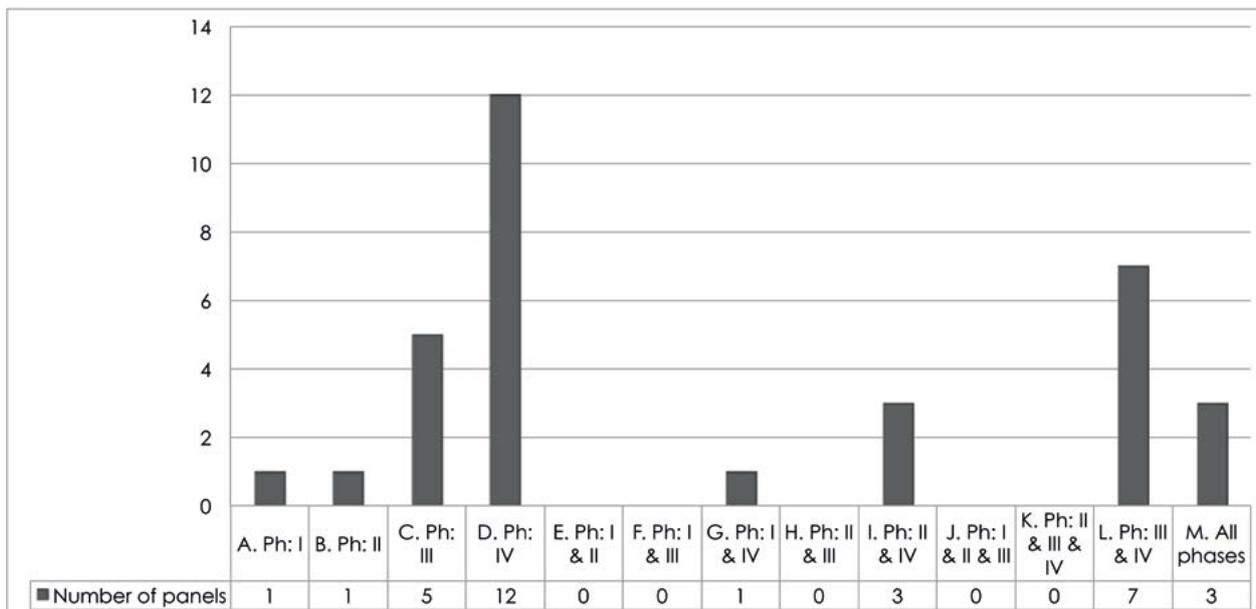


FIGURE 5A: DISTRIBUTION OF COMBINATIONS OF PHASES ON RED OCHRE PANELS IN NORTHERN SWEDEN. THE EMPIRICAL BASE OF THE SURVEY CONSTITUTES OF 33 OF THE TOTALLY KNOWN 35 PANELS. THE SELECTED PANELS WERE CHOSEN ON BASIS OF THAT THEY HELD ELK- AND/OR HUMAN FIGURES OF WHICH AT LEAST ONE COULD BE STYLISTICALLY CATEGORIZED IN ACCORDANCE WITH THE CHRONOLOGICAL PHASE OUTLINED IN FORSBERG’S SCHEME.

staples that show this phase in possible combinations. For example, painters during phase IV only left five (staple C) of the fifteen total panels (staple C, L and M) which included figures from phase III without any further motif addition. Summarising the number of panels that only contains figures from phase IV, and contrasting this against the total amount of panels that have phase IV elks together with earlier styles, the distribution should be 12/14 (Figure 5b). In conclusion, this result shows that phase IV painters were as interested of interacting with older pictures as making pictures on unexploited cliffs.

Against this background it is exciting to note that the painters during phase III were not very interested in older styles. This is visible by the fact that no panels are represented in F, H or J; or, in other words; that there are no known rock paintings that holds elks from phase III together with elks from phase I, phase II, or both of these phases. Of the three examples of panels that holds figures from phase III along with earlier elk depictions (staple M), all are of monumental character in that they contain all phases. One could object that this is due to the fact that the phase three painters did not have the same range of options to chose from as those in phase IV. As an answer to this, we can note that the additional figures on phase I and II panels are all from phase IV rather than phase III, which means that the latter did not take advantage of the possibility to repaint to the same extent as phase IV. The second conclusion from the interaction analysis that phase III elks were most commonly executed at unused rock surfaces seems, in short, to be accurate (Figure 5c).

That the interest for marking the presence of new styles on older images increased significantly during the

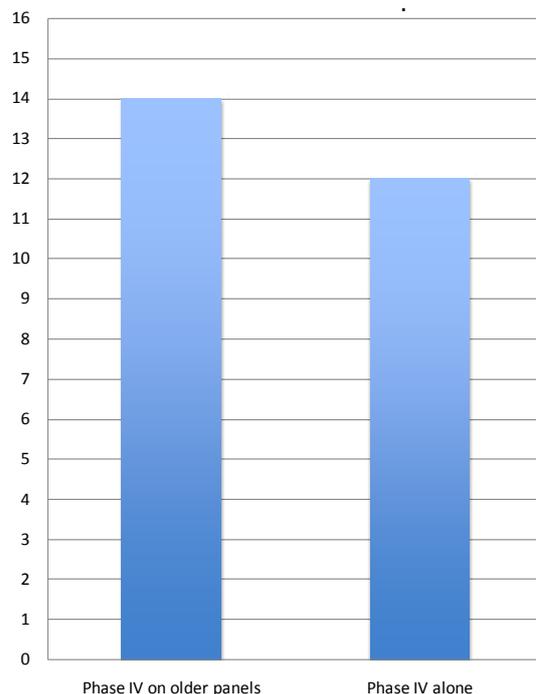


FIGURE 5B: RELATION BETWEEN THE NUMBER OF PAINTED PANELS CONTAINING ELKS FROM PHASE IV TOGETHER WITH FIGURES FROM OTHER PHASES, AND PANELS ON WHICH ELKS FROM PHASE IV WERE THE FIRST ONES TO BE PAINTED.

final period within the rock art tradition can be seen at Nämforsen as well. At this site, the compositions that contain elk from phase IV also include figures from the earlier phases in 74% of the cases (Sjöstrand, 2011:127). At Nämforsen, phase IV is by far the most interactive style of all in that elk shown in this design are seldom

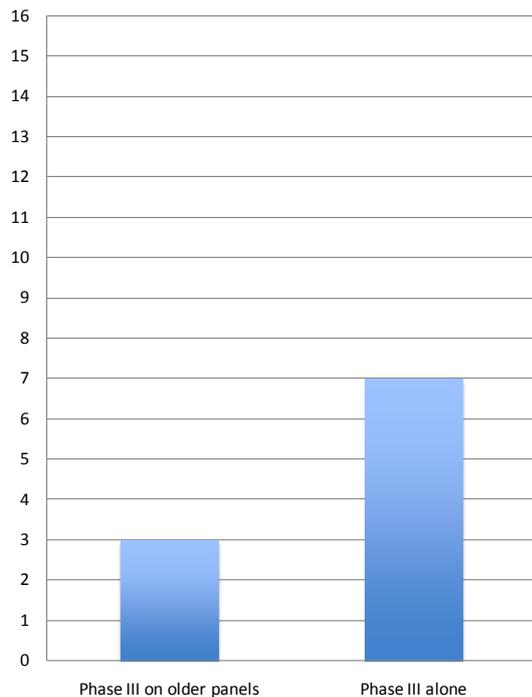


FIGURE 5C: RELATION BETWEEN THE NUMBER OF PAINTED PANELS CONTAINING ELKS FROM PHASE III TOGETHER WITH FIGURES FROM OTHER PHASES, AND PANELS ON WHICH ELKS FROM PHASE III WERE THE FIRST ONES TO BE PAINTED. NOTE THAT ALL THE SITES HAVING PHASE III PAINTINGS ON OLDER PANELS ARE OF MONUMENTAL CHARACTER IN SO THAT THEY HOLD FIGURES FROM ALL PHASES.

seen organized in phase-specific composition. Rather, we find them integrated in pictorial scenes that were already present during this time of carving. In contrast to the figures from phase III, which have been placed in autonomic compositions to a very large extent, the carving practice of phase IV is permeated by a tendency to connect the present with the past.

### **Motif transformation**

Returning to the paintings, a good example of how the interaction with older pictures has been carried out during phase IV can be seen by looking at the newly-discovered multiphase painting popularly referred to at Långliden

(Figure 6). This panel, localized in Liden Parish, Medelpad county, has been described in media as a shaman wearing an elk mask. I like to suggest, however, that the painting originally comprised one typical phase II elk, which was later combined with a phase IV boat. Right below the stock boat is another figure from phase IV; or more precise by an elk carried out in Norrfors design. In the right corner of the composition are two or more elks, these of Norrfors type as well.

That the boat and elk figures from phase IV have been placed so that the initial elk is turned into a man-like hybrid (made of a boat and several elks deriving from different phases) illustrates the complex and temporal role of rock art. These images are more than icons, significant in virtue of their likeness to real features. Nor are they coherent representations of a static and unchangeable narrative, possible to decipher by pointing out the exact myth depicted. Rather, the red ochre pictures stand out as semiotic tools for internalizing complex relations involving, but not limited to, attitudes towards the past.

It is worth noticing that the practice of interrelating figures in already-present composition (and especially in such a manner that the whole arrangement of motifs becomes ambiguous) is particularly strong during phase IV. This practice of hybridizing motifs is visible at a number of sites. From Nämforsen, there are plenty of examples of elk-headed boats from phase I that have been reshaped into thought-provoking vessels (Sjöstrand, 2011:185 for examples). From the Finnish material, we have several boats from Seitsonen's early horizon phases that have been transformed into elk antlers when an elk of a younger date was painted directly underneath (Figure 7). It is interesting to note that the pictorial elaboration during phase IV seems to have been especially concerned with finding ways of combining the boat and the elk motifs in new and innovative ways. Against the background on previous research which is pointed out that boat and elks constituted totems for different clans, it seems not too far fetched to suggest that this system of symbolizing identity is being transformed, modified and possibly also replaced during phase IV (Tilley, 1991; Bolin, 2000; see also Fuglestad, 2000).



FIGURE 6: THE ROCK PAINTING AT LÅNGLIDEN, LIDEN PARISH, MEDELPAD. THE LEFT IMAGE HAS BEEN DIGITALLY PROCESSED WITH INCREASED CONTRAST, EXPOSURE AND SATURATION IN ORDER TO HIGHLIGHT THE FEATURES WITHIN THE COMPOSITION. (PHOTO AND DIGITAL PROCESSING Y. SJÖSTRAND)



FIGURE 7: BOAT ATTACHED TO ELK FIGURE AT ASTUVANSALMI.  
(AFTER LAHELMA 2008)

2010 for a discussion about the relation between rock art and fluctuations in cosmological beliefs).

### Memory and destruction

This far, it has been shown that the rock paintings increase from the introduction of phase III and onwards. While Phase III elks were mostly painted on empty panels, those made during phase IV were also combined with figures from earlier dates. During phase IV, the painting practices were also accompanied with a strong tendency to transform and hybridize compositions from earlier phases.

On basis of this result, I suggest that the painting practice during phase IV was highly concerned with attitudes towards the past. By returning to older paintings, history were maintained and acknowledged, however not only by commemoration, but also by an expressive and transformative artistic dialogue. This complex attitude towards tradition and renewal saturates the very design during phase IV. These elks are often described as schematized, naïve, or minimalistic; evaluations that doubtlessly captures their appearance. The same tendency of simplifying the design is also visible in the Norwegian

and finish rock art material (Seitsonen, 2002:11 Helskog, 1988), and researchers have suggested that the late Neolithic period is characterized by a general development from naturalism towards abstract and schematic representation (Seitsonen, 2002:11 with references). Focusing only on the north Swedish elks from phase IV, their minimalistic features have been overemphasised at the expense of their clearly archaic elements. The elks from late Neolithic shows clear resemblance with the polished and naturalistic depiction typical for the Mesolithic Nordland tradition, but these references are made in a style that is revitalized and anything but naturalistic. The collage in Figure 8 might illustrate the point. This shows a Mesolithic elk figure, located in Landverk, Jämtland County, alongside a typical phase IV elk from Norrfors. That the phase IV elk refers back can be seen in its likeness to the Mesolithic style regarding the beard, the inner body marks, the V-formed ears and the hump on the back. In fact, the Mesolithic elk at Landverk was accompanied by another figure during phase IV, revealing the late Neolithic carver's desire to connect with an (already then) ancient picture. The archaic style of the elk motif can be further connected to the lithic material. As Knutson points out, the tools from the period of phase IV are executed according to 'nostalgic' ideals (Knutson 2005). Moreover, we see the same trend at Nämforsen. At this site, phase IV elks are frequently incorporated in compositions with surface-pecked elks, with which they also have stylistic similarities, as for example the straight legs, the beards and the hump (Sjöstrand, 2011:127).

The archaic aspects of rock art from phase IV are, as stated, interesting to contrast against the transformative motif elaboration that meets us at, for example, Höglins stone. For an advanced understanding of this ambivalent attitude toward tradition and renewal, one might turn to the finds of arrowheads discussed above. Quartzite arrowheads with flat bases have been found during three recently-undertaken excavations. The first find came from the investigation of Flatruet in 2003, a site from which all arrowheads had fractures, indicating a practice of firing arrows towards the depicted motifs (Hansson, 2006, 2007). During the excavation at Korpberget in 2009 and 2010, more than



FIGURE 8: COLLAGE MADE BY THE AUTHOR IN ORDER TO ILLUSTRATE THE STYLISTIC RESEMBLANCE BETWEEN POLISHED ELKS FROM THE MESOLITHIC NORDLAND TRADITION (FROM LANDVERK, ALSO HALLSTRÖM'S DOCUMENTATION) AND CONTOUR PECKED ELKS FROM PHASE IV (FROM NÄMFORSEN, AFTER HALLSTRÖM'S DOCUMENTATION). NOTE THAT THE FIGURES ARE NOT IN SCALE.

25 arrowheads were found (Olofsson, 2012). Some of them were slightly fractured from a possible impact with the cliff. Most were, however, found just below the panel arranged in a manor which indicates sacrifice or at least intentional deposition. Much lithic material also emerged from the excavation of the surface in front of the paintings at Finnforsberget (Olofsson, 2012:18), a site that from the late Neolithic onwards was closely associated with stone tool production. The connection of rock paintings to quartzite arrowheads with flat bases are valid also for the Finnish material. In Astuvansalmi in Finland, two arrowheads of this particular type were found during the excavation carried out of Lahelma in 2005 (Lahelma, 2008).

Arrowheads with flat bases are consensually regarded as a lithic technology typical for the early Bronze Age. This suggests that practices involving stone artefacts were carried out at a very late stage of phase IV, or most possibly, after the painting practice had come to an end. What we see is most probably a continuous use of the painting sites even if no more pictures were added to the compositions. What I would like to highlight is, however, that all sites with arrowheads hold paintings, especially human figures, from phase IV. At Korpberget, the elk figure is from phase II, but the human figure is clearly of the triangular shape that is typical for the latest phase. The same goes for Finnforsberget, which has a triangular human figure that is carved into a patch of red ochre along with an elk from phase III and a large number of fish depictions that cannot be chronologically categorized. At Flatruet, there are elks from all phases but the earliest, the anthropomorphic figures, however, are exclusively of the same triangular type as on Korpberget and Finnforsberget. Also, all Finnish localities with arrowheads have figures datable to the later horizons outlined by Seitsonen.

I comprehend the relation between late paintings and stone artefacts as an additional indication for an extensive interest in historicity and renewal during phase IV. In a similar manner as painting activities gained importance at the expense of making of new carvings, the lithic practices seem to have substituted the actual painting of figures during the early Bronze Age. To fire arrows against the images, or to use the sites mainly as quarries for stone material, seem to have been undertaken when the practice of creating new red ochre pictures had more or less reached the end of the line. While the other phases responded to changes in the life world by adjustments of the elk motif, people in the very latest part of phase IV mainly elaborated on the performative format for encountering preceding images. Firing arrows towards paintings from the past might have been a way of framing attitudes towards a commemorated past, perhaps in order to emphasise a shared history in times of complex transformation of identities.

### **A larger scale**

That I comprehend the arrow shooting activities as something else than sympathetic hunting magic is based on

that this practice took place during a time when the elk had almost disappeared from the fauna. As showed in recent environmental research, centuries in the shift between late Neolithic and early Bronze Age were characterized by an increasingly wetter and colder climate with clear impact on the elk population (Ojala *et al.*, 2008; Larsson *et al.* 2011; Tallavaara and Seppä, 2012). That elk became a more unusual sight during that period can also be supported with reference to the accumulation of osteological material at Bastuloken, a monumental mound of burnt stone localized within the same area as the largest agglomeration of rock paintings, e.g. in Ångermanland county (Viklund, 1999; Engelmark & Harju, 2007; Larsson, 2009; 2010). The excavations of Bastuloken revealed some interesting chronological fluctuations regarding deposition of elk-bones. From 2500 to 2200 BC elk bones were added to the mound in extremely large quantities, but after that, the stratigraphic levels became less extensive. This very slow accumulation of elk material goes on until approximately 1900 BC when the site becomes more or less abandoned (Larsson, 2010:22).

I should like to point out that the period of fast accumulation of osteological material at Bastuloken corresponds to the period of phase III whereas the time span of the following era is parallel with the course of phase IV. The increase of rock paintings that starts during phase III can thus be seen as part of a large-scale process that involves massive accumulation of elk bones at Bastuloken, as well as in several other mounds of burnt stone (Carlplan, 1977; Lundberg, 1997; Bolin, 1999). When the elk motif shifts appearance, the climate starts to change. The elk population are severely reduced and the mounds of burnt stone, previously used for practices revolving around the elk, slowly get a more ambiguous importance.

Furthermore, these large-scale changes affected the 'neolithised mode of production' implicated by the stationary material culture associated with the elk hunt. The pit fall systems, created by collective labour, maintained through frequent acts of restoration and used according to principles of surplus distribution and delayed return, were no longer a reliable means of production. Some groups seem to have emphasised the sedentary elements of the former society by slowly, and over the course of generations, exchanging the elk hunt for animal husbandry and the seal hunt for fishing from stationary dwelling sites (George, 2012, See Sjöstrand, 2012 for a more comprehensive discussion of a 'Neolithic mode of thinking' in Stone Age Norrland). Other groups seem to have focussed on the hunter-gatherer identity by abandoning the life-style revolving around pit fall systems in favour of an economy based on following the wild reindeer on seasonal moves between forest and mountain areas (Forsberg, 1992; Holm, 1991, Damm, 2010). It is important to remark that this process is sketched here very briefly, and that the large scale makes contrasts appear sharper than they are when looking at specific archaeological sites. For that reason this process should not be regarded as a matter, cause, or effect of cultural

dualism, what we can see rather is that the community pulls in different directions, but that there are collective identities complexly entangled yet distinguishable in terms of economic reliance. What this larger context affords is thus, not so much a detailed understanding of the complex social processes taking place in late Neolithic Norrland, as an opportunity to get a us to get the bird's eye perspective from which we can distinguish some of the underlying reasons for the elk – the most important animal in the economy, the key symbol constantly elaborated in order to express a range of concepts – suddenly being depicted in a manner that referred as much back as forward in time. During phase IV, the elk were cast in a design that recapitulated an ancient style but, at the same time, comprised a novel pictorial form. These elks were, furthermore, frequently added to older compositions, often to such an extent that the final pictorial arrangement became transformed to a multifaceted and suggestive fusion. In the very end of phase IV, the practices at the sites seem to have been more about performances than painting as such. To stage ideas about ancient elk rituals, to fire weapons against a picture that were so precious that it could not be repainted with additional figures, became the way to handle the ambivalent attitude against a life world in rapid change. During phase IV, images are the target for both memory and destruction. These two concepts are not manifested as in opposition. Rather the entanglement between the past and the present is being highlighted, manifested and elaborated by the practice that surrounded the red ochre pictures.

### Bibliography

- ANDERSSON, B. (2002) Hällmålningen på Storberget och dess omgivande fornlämningar. In: Lindgren, B., Klang, L., & Ramqvist, P. (eds.). *Studier i Regional Arkeologi 2- Hällbilder och hällbildernas rum*. Mitthögskolan Örnsköldsvik.
- ARONSSON, K.-Å. & LJUNGDAHL, E. (2000) Nyupptäckta hällmålningar i Jämtland och Härjedalen. Bevarande, dokumentation och tillgänglighet. *Fornvännen* Vol. 95 Pgs. 89-90.
- BAKKA, E. (1973) On the chronology of the Hunters carvings. *Viking* Vol. 37 Pgs. 184-185.
- BAUDOU, E. (1993) Hällristningarna vid Nämforsen: Datering och kulturmiljö. In: Forsberg, L. & Larsson, T. B (eds) *Ekonomi och näringsformer i nordisk bronsålder: rapport från det 6:e nordiska bronsålderssymposiet, Nämforsen 1990-1993*. Umeå. Univ.
- BEDNARIK, R. G. (1998) Geoarchaeological Dating of Petroglyphs at Lake Onega, Russia. *Geoarchaeology: An International Journal* Vol. 8. No 6. Pgs. 443-463.
- BERGLUND, M. (2004) Holocene shore displacement and chronology in Ångermanland, eastern Sweden, the Scandinavian glacio-isostatic uplift centre. *Boreas*. Vol. 33. No. 1. Pgs. 48-60.
- BOLIN, H. (1999) *Kulturlandskapets korsvägar*. Stockholm: Stockholm Univ.
- BOLIN, H. (2000) Animal magic. The mythological significance of elks, boats and humans in North Swedish rock art. *Journal of material culture*. Vol. 5 Pgs. 153-176.
- CASSEL, K. (2008) *Det gemensama rummet. Migrationer, myter och möten*. Huddinge: Södertörns Högskola.
- CHARD, C. and POWERS R. (1968) Soviet Archaeological Radiocarbon Dates: III. *Arctic Anthropology*. Vol. 5. No. 2. Pgs. 224-233.
- CHIPPINDALE, C. and TAÇON, P. S. C. (1998) *The Archaeology of Rock-Art*. Cambridge University Press: Cambridge.
- DAMM, C. (2012) *Local Societies in Bronze Age Northern Europe*. In: Anfinset, N. & Wrigglesworth, M. (eds) Equinox, London.
- ENGELMARK, R. & HARJU, J. (2007) *Rapport över arkeologisk förundersökning av Raä 183, Ramsele sn, Ångermanland*, 2005. Umeå Univ.
- FANDÉN, A. (1995) Den norrländska hällmålningstraditionen. Tolkning av funktion och symbolisk betydelse. C-uppsats i arkeologi vid Stockholms Univ.
- FORSBERG, L. (1993) En kronologisk analys av ristningarna vid Nämforsen, In: Forsberg, L. & Larsson, T.B. (eds) *Ekonomi och näringsformer i nordisk bronsålder*. Umeå. Univ.
- FUGLESTVEDT, I. (2010). Animals, Churingas and Rock Art in Late Mesolithic Northern Scandinavia, In: Goldhahn, J., Jones, A. & Fuglestedt, I. (eds) *Changing Pictures: Rock Art Traditions and Visions in the Northernmost Europe*. Oxford: Oxbow Books.
- GEORGE, O. (2012) Neolitiska människor och svin i Ångermanland. *Arkeologi i Norr*. Vol. 13 Pgs. 29-45.
- GEORGE, O. & ENGELMARK, R. (2004) *Arkeologisk forsknings-, amatör- och skolundersökning av boplatser och lämningar från stenålder- historisk tid. Rapport över arkeologisk undersökning av RAÄ 158 Ådals Lidens socken*. Härnösand: Länsmuseum Västernorrland, Rapport 2004:4 Härnösand.
- GJERDE, J. M. (2010) *Rock art and Landscapes. Studies of Stone Age rock art from Northern Fennoscandia*, Tromsø Univ.
- HALLSTRÖM, G. (1960) *Monumental Art of Northern Sweden from the Stone Age. Nämforsen and other localities*. Almqvist & Wiksell, Stockholm.
- HANSSON, A. (2006) The rock art at Flatruet: An archaeological survey. *Andoranten*. Vol. 1. Pgs. 109-115.
- HANSSON, A. (2007) Hällmålningen på Flatruet, en arkeologisk undersökning. In: Vilkuna, J., Taavitsainen, J.-P. & Heikkinen, V (eds.). *Mittnordiska arkeologidagar i saarijärvi*. Pgs. 79-91. Kari, Keski Soumi.
- HEIMERUD, J. & LARSSON, T. B. (2012) *Dokumentation av en nyupptäckt hällmålning vid Bratten, Brattforssskogen 1:1, Lycksele kn, Västerbottens län*. Västerbottens museum/Uppdragsverksamheten & Umeå universitet.
- HELKOG, K. (1988a) Helleristningarna i Alta. Ett nordligt perspektiv. *Kronologi og symbolisme. ISKOS 7* Pgs. 67-75.

- HELKOG, K. (1988b) *Helleristningane i Alta: Spor etter ritualer og dagligliv I Finnmarks forhistorie*. Alta Museum: Alta.
- HELKOG, K. (2010) From the tyranny of the figures to the interrelationship between myths, rock art and their surfaces. In: Smith, B., Chippindale C., & Blundell G. (eds) *Seeing and Knowing Rock Art with and without Ethnography*. Wits University Press: Johannesburg.
- HELKOG, K. (2014) *Communicating with the World of Beings: The World Heritage rock art sites in Alta, Arctic Norway*. Oxbow Books.
- HERNANZ, A., RUIZ-LÓPEZ, J. F., MADARIAGA, J. M., GAVRILENKO, E., MAGUREGUI, M., FDEZ-ORTIZ DE VALLEJUELO, S., MARTÍNEZ-ARKARAZO, I., ALLOZAZQUIERDO, R., BALDELLOU-MARTÍNEZ, V., VIÑAS-VALLVERDÚ, R. and others (2014) Spectroscopic characterisation of crusts interstratified with prehistoric paintings preserved in open-air rock art shelters. *Journal of Raman Spectroscopy*. No. 45. Vol. 11-12. Pgs. 1236-1243.
- HESJEDAL, A. (1994) The Hunters' Rock Art in Northern Norway. Problems in Chronology and Interpretation. *Norwegian Archaeological Review* Vol. 27, No. 1: 1-28.
- HOLMBLAD, P. (2005) *Rapport över arkeologisk undersökning av Högberget III, Ramsele sn, Ångermanland 2003*. Umeå Univ.
- HUNTLEY, J. (2012) Taphonomy or paint recipe: *in situ* portable X-ray fluorescence analysis of two anthropomorphic motifs from the Woronora Plateau, New South Wales, *Australian Archaeology*. Vol. 75. No. 1 Pgs. 78-94.
- ILVES, K. & DARMARK, K. (2011) Some Critical and Methodological Aspects of Shoreline Determination: Examples from the Baltic Sea Region. *Journal of Archaeological Method and Theory* Vol. 18, (2) Pgs. 147-165.
- JANIK, L. (2004) Rock carvings of Russian Karelia: visual perception and cognition. *Antiquity*. Vol. 78. No. 1. Pgs. 299-215.
- JANIK, L. (2014) 'Preservation by Record': The Case from Eastern Scandinavia. In Darwill T (ed.) *Open-Air Rock-Art Conservation and Management. State of the Art and Future Perspectives*. Pgs. 112-125. Routledge. London.
- JUSSILA, T. (1994) The shore displacement dating of prehistoric dwelling sites in Iso-Saimaa. MA thesis. Dept of Archaeology, University of Helsinki.
- KÄCK, J. (2010) *Samlingsboplatser? En diskussion om människors möten i norr 7000 f Kr-Kr f med särskild utgångspunkt i data från Ställverksboplatsen vid Nämforsen*. Umeå University: Umeå.
- KNUTSSON, K. (2005) Bridging the abyss of time. Material culture, cultural reproduction and the sacred time of origin. In: Knutsson, H. (ed) *Pioneer settlements and colonization processes in the Barents region. Vuollerim Papers in hunter-gatherer archaeology*. Vol. 1. Pgs. 117-141.
- KOENIG, C. W., CASTAÑEDA, A., BOYD, C., ROWE, M. W. and STEELMAN, K. (2014) Portable X-Ray Fluorescence Spectroscopy of Pictographs: A Case Study From the Lower Pecos Canyonlands, Texas. *Archaeometry* Vol. 56. No 1. Pgs. 168-186.
- LAHELMA, A. (2008) *A touch of red: archaeological and ethnographic approaches to interpreting Finnish rock paintings*. Helsinki, The Finnish antiquarian society.
- LARSSON, T. B., ROSENQVIST, G., ERICSSON, G. & HEINERUD, J. (2012) Climate Change, Moose and Humans in Northern Sweden 4000 cal. yr BP. *Journal of Northern Studies*. Vol. 6. No. 1. Pgs. 9-30.
- LARSSON, T. B. (2003) Förhistorisk rödfärgfabrik vid Nämforsen? *Populär arkeologi*. Vol 3, Pgs. 16-17.
- LARSSON, T. B. (2009) *Rapport över arkeologisk delundersökning av boplatzvall. Raä 183, Ramsele sn, Västernorrlands län*. Umeå. Univ.
- LARSSON, T. B. (2010a) *Arkeologisk delundersökning av boplatzvall, Raä 183, Ramsele sn, Västernorrlands län*. Institutionen för Idé- och samhällsstudier. Umeå Univ.
- LARSSON, T. B. (2010b) Människan och älgen vid Bastuloken. En delundersökt boplatzvall från neolitikum. *Arkeologi i norr*. Vol. 12. Pgs. 1-17.
- LARSSON, T. B. & BROSTRÖM, S.-G. (2013) *Hällmålningarna på Finnforsberget, Skellefteå sn, Raä 118 och 123, Västerbottens län* UMARK. No. 65. Umeå University: Umeå.
- LINDGREN, B. (2004) *Hällbilder i norr. Forskningsläget i Jämtlands, Västerbotten och Västernorrlands län*. Umark. No 36. Umeå University: Umeå.
- LINDGREN, B. (2005) *Rapport över arkeologisk undersökning av Högberget III, Ramsele sn Ångermanland, 2003*. Umeå University: Umeå.
- LINDQVIST, C. (1983) Arktiska hällristningsbåtar – spekulationer om kulturellt utbyte via kust- och inlandsvattenvägar i Nordfennoskandia. *Marin Arkeologiska Sällskapet*. Vol. 1. No. 1. Pgs. 2-14.
- LINDQVIST, C. (1994) *Fångstfolkets bilder. En studie av de nordfennoskandinaviska kustanknutna jägarhällristningarna*. Stockholms University: Stockholm.
- LING, J. (2004) Beyond transgressive lands and forgotten seas: towards a maritime understanding of rock art in Bohuslän. *Current Swedish archaeology*. Vol. 12. No. 1. Pgs. 121-140.
- LIRTZIS, I. & ZACHARIAS, N. (2011) Portable XRF of archaeological artifacts: current research, potentials and limitations, in *X-ray fluorescence spectrometry (XRF)* In: *Geoarchaeology*. Shackley M. S. (ed), Pgs. 109-139. Springer: New York.
- LJUNGE, M. (2014) Mellan stil och symbolik Om estetiska och konsthistoriska perspektiv på hällbilder In: Ljunge, M. & Röst, A (eds) *I skuggan av solen-Nya perspektiv på bronsåldersarkeologier och bronsålderns arkeologiska källmaterial*. Pgs. 59-86. Stockholm University: Stockholm.
- LJUNGE, M. (2015) *Bortom Avbilden. Sydsandinaviska hällbilders materialitet*. Stockholm University: Stockholm.
- LOBANOVA, N. (1995) Petroglyphs of the Kochkovnavolok Peninsula: Dating, natural environment and the

- material culture of their creators. In: Helskog, K. & Olsen, B. (eds). *Perceiving Rock Art: Social and Political Perspectives*. Pgs. 359-66. Novus: Oslo.
- LUNDBERG, Å. (1987) *Vinterbyar: Ett bandsamhälles territorier i Norrlands inland 4.500-2.500 f. Kr*. Umeå University. Umeå.
- NORDMAN, M., MILNE, G. & TARASOV, L. (2015) Reappraisal of the Ångerman River decay time estimate and its application to determine uncertainty in Earth viscosity structure. *Geophysical Journal International*. Vol. 201. No. 2. Pgs. 811-822.
- OJALA, A. E. K., ALENIUS, T., SEPPÄ, H. & GIESECKE, T. (2008) Integrated varve and pollen-based temperature reconstruction from Finland: evidence for Holocene seasonal temperature patterns at high latitudes. *The Holocene*. Vol. 18. No. 4. Pgs. 529-538.
- OKLADNIKOV, A. P. (1981) *Ancient Art of the Amur Region*. Leningrad University: Leningrad.
- OLOFSSON, A. (2012) *Rapport över arkeologisk delundersökning av hållmålningsslokal och kvartsitbrott Finnforsberget, Raä nr 118 och 123, Skellefteå socken och kommun, Västerbottens län*. Skellefteå Museum: Skellefteå.
- RAMQVIST, P. H. (1990) Hållbilder som utgångspunkt vid tolkningar av jägarsamhället. *Arkeologi i Norr* Vol. 2. No. 1. Pgs. 31-54.
- RAMQVIST, P. H. (1988) Boplats och hållristningar I Norrfors, Umeälven. *Arkeologi i Norr* Vol. 1 Pgs. 29-49.
- RAMQVIST, P. H. (2002) Aspekter på hållbildernas stil och rumsliga fördelning. In: Lindgren, B., Klang, L., & Ramqvist, P. (ed.). *Studier i Regional Arkeologi 2- Hållbilder och hållbildernas rum*. Pgs. 87-101. Mitthögskolan: Örnköldsvik.
- RAMQVIST, P. H., FORSBERG, L., & BACKE, M. (1985) ... and here was an elk too... A preliminary report of new petroglyphs at Stornorrfors, Ume river. In: Backe, M. & Baudou, E (ed) *In honorem Evert Baudou*. Pgs. 119-129. Umeå University: Umeå.
- ROSENFELD, A. & SMITH, C. (1997) Recent developments in radiocarbon and stylistic methods of dating rock-art. *Antiquity* No 71. Vol. 1. Pgs. 405-411.
- RUIZ, J. & ROWE, M. (2014) Dating Methods (Absolute and Relative) in Archaeology of Art. In: Smith, C (ed) *Encyclopedia of Global Archaeology*. Pgs. 2036-2042. Springer: New York.
- SAPWELL, M. (2010) The Architect of Decay? Art as Active in Shamanic and Cosmological Interpretations of the Rock Art of Kallsängen, Bohuslän. *Archaeological Review from Cambridge* Vol. 25 (2) Pgs. 77-96.
- SAPWELL, M. (2014) 'Think tanks' in prehistory: Problem solving and subjectivity at Nämforsen, northern Sweden. In: Ginn, V., Enlander, R., and Crozer, R. (eds) *Exploring Prehistoric Identity in Europe: Our Construct or Theirs?* Pgs. 139-154. Oxbow Books: Oxford.
- SAVVAITYEV, Y. A. (1970) *Zalavrug*. Nauka: Leningrad.
- SEITSONEN, O. (2005) Shoreline displacement chronology of rock paintings at Lake Saimaa, eastern Finland. *Before Farming*. Vol. 2005 No. 1. Pgs. 1-21.
- SHUMKIN, V. (1990) The rock Art of Russian Lappland. *Fennoscandia Archaeologica*. Vol. 7. No. 1. Pgs. 53-69.
- SJÖSTRAND, Y. (2010) Should I stay or should I go: On the meaning of variations among mobile and stable elk motifs at Nämforsen In: Goldhahn, J., Fuglestedt, I. & Jones, A. (eds.). *Changing pictures. Rock art. Traditions and Visions in Northern Europe*. Pgs. 139-153. Oxford, Oxbow.
- SJÖSTRAND, Y. (2011) *Med älgen i huvudrollen. Om fångstgropar, hållbilder och skärvstensvallar i mellersta Norrland*, Stockholms Univ.
- SJÖSTRAND, Y. (2012) Älgens roll i ett neolitiskt tänkande. *Primitive tider* Vol. 12. Pgs. 107-121.
- SOGNNE, K. (2008) Stability and change in Scandinavian rock art. The case of Bardal in Trondelag. *Acta archaeologica*. Vol. 79. Pgs. 230-245.
- SOGNNE, K. (2010) Glösaristningerne som tegninger. I: Tjärnström, M., Humlesjö, N.-E., & Viklund B.-O. (eds) *Rödockrarummet. Artiklar frå 2008, 2009 och 2010 års arkeologihelger I Näsåker*. Pgs. 139-153. Näsåker, Norrlands hållbildningssällskap.
- TALLAARA, M & SEPPÄ, H. (2012) Did the mid-Holocene environmental changes cause the boom and bust of hunter-gatherer population size in eastern Fennoscandia? *The Holocene*. Vol. 22. No. 2 Pgs. 215-225.
- TARASOV, A. & MURASHKIN, A. I. (2002) The new material from Zalavrug I and the problem of dating new Zalavrug's rock carvings. *Arkeologiceskie Vesti*. Vol. 10. No 1. Pgs. 41-44.
- TILLEY, C. (1991) *Material culture and text: the art of ambiguity*. London: Routledge.
- TILLEY, C. (1991) *Material culture and text: the art of ambiguity*. London: Routledge.
- UCKO, P. (1977) Opening remarks and introduction. In Ucko, P (ed). *Form in indigounous art*. Pgs. 3-19. Australian Institute of Aboriginal Studies: Canberra.
- ZHULNIKOV, A. & KASHINA, E. (2010) Staffs with elk heads in the culture of the ancient population of the eastern Urals, northern and eastern Europe. *Archaeology, Ethnology and Anthropology of Eurasia*. Vol. 38. No. 2. Pgs. 71-78.

# Bibliography Kalle Sognnes 1971-2015

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## 1971

- Klebersteinsbrudd på bergbildefelt. *Nicolay* 11, Pgs. 7-9.

## 1973

- *Eidfjord i Hardanger: forsøk på analyse av førhistorisk bosetning*. Magistergradsavhandling i nordisk arkeologi. Universitetet i Bergen.

## 1974

- Gravfeltet på Hæreid i Eidfjord. *Hardanger* 1973. Norheimsund.
- Øydegard i Måbødalen? *ARKEO* 1974. Bergen.

## 1975

- Ristninger i ei løe på Søreide i Gloppen. *Årbok for Nordfjord* 1975. Sandane.

## 1976

- Nokre veideminne frå vestvidda. *Hardanger* 1975. Nordheimsund.
- Om økonomiske sentra i Hardanger. *ARKEO* 1976. Bergen.

## 1977

- Forntida i Eidfjord, Ulvik og Granvin. *Bygdebok for Granvin, Ulvik og Eidfjord* 1977, Pgs. 80-169.
- Jernpilar frå førhistorisk tid. *Universitetets Oldsaksamlings Årbok* 1975-1976. Oslo.
- Å grave ei grav etter andre. *ARKEO* 1977. Bergen.

## 1978

- En fjordbygd i jernalderen. Eidfjord i Hardanger. *Viking* XLI, Pgs. 57-78. Oslo.

## 1979

- *Arkeologiske modeller for Vestlandets vikingtid*. Gunneria 34. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- Steinalderens bergkunst på Fosenhalvøya. *Årbok for Fosen* 1979, Pgs. 7-24. Orkanger.

## 1980

- Arkeologiske undersøkelser på Klakken i Bjugn. *Årbok for Fosen* 1980, Pgs. 51-55. Orkanger.
- Helleristningene på Skatval. *Adresseavisen* 26.2.1980. Trondheim.

- Holemalingane i Skåren-Monsen, Brønnøy, Nordland. *Viking* 1980, Pgs. 34-52.

- Nyere tids ristninger i berg og på våpen. Ristninger i forhistorie og middelalder. *Universitetets Oldsaksamling Varia* 1, Pgs. 63-64.

- The relationship between coastal and inland areas in the Viking period of West Norway. *Acta Archaeologica* 50, Pgs. 223-233. København.

## 1981

- *Helleristningsundersøkelser i Trøndelag 1979 og 1980*. Rapport arkeologisk serie 1981 (2) Det Kongelige Norske Videnskabers Selskab, Museet. Rapport Arkeologisk serie 1981 (1) Trondheim.

- Orientering og helning på bergkunstlokaliteter i Stjørdal. *Rapport arkeologisk serie* 1981 (3) Pgs. 49-58. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.

- Prosjekt sikring av bergkunst. Rapport for årene 1976-1980. *Rapport arkeologisk serie* 1981 (3) Pgs. 37-48. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.

- Ytre Namdalens første helleristning. *Årbok for Namdalen* 1981. Pgs. 8-14. Namsos.

## 1982

- Diffusjon og kronologi. Refleksjoner omkring spredningsstudier. *Universitetets Oldsaksamlings Årbok* 1980-81, Pgs. 159-168. Oslo.

- Helleristningene på Tønsåsen i Lånke. *Arbeideravisa* 4.12.1982. Trondheim

- *Helleristninger i Stjørdal I. Skatval sogn*. Rapport arkeologisk serie 1982 (10) Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.

- Kristen Rolseth Møllenhuss 1922-1981. *Rapport arkeologisk serie* 1982(8) Pgs. 7-10. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.

- Undersøkingar på Hæreid I Eidfjord, Hordaland. *Rapport arkeologisk serie* 1982 (8) Pgs. 25-45. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.

## 1983

- Arkeologiens plass i studiet av nyere tids kulturhistorie. In: Fasteland, A., and Myhre, B., (eds) *Etterreformatorisk arkeologi*. Foredrag holdt på det norske arkeologmøtets symposium i Bergen 1982. *Arkeologiske rapporter* 7, Pgs. 15-22. Historisk museum, Universitetet i Bergen, Bergen.

- *Bergkunsten i Stjørdal. Helleristninger og busetjing.* Gunneria 45. Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- *Helleristninger i Stjørdal II. Stjørdal og Lånke sogn.* Rapport arkeologisk serie 1983 (6) Det Kongelige Norske Videnskabers Selskab, Museet, Trondheim.
- Kong Øysteins harbour at Agdenes, Norway. In: Herteig, A. E. (ed) *Conference on Waterfront Archaeology in North European Towns 2*, Pgs. 59-65. Bergen.
- Nye helleristningsfunn i Lånke. *Nord-Trøndelag historielag* årbok 1983, Pgs. 105-113. Steinkjer.

**1984**

- Helleristningane på Slavlo i Ekne. *Nord-Trøndelag historielag* årbok 1984, Pgs. 72-78. Steinkjer.
- Helleristningene i Stjørdal. *Stjørdalens blad* 11.9.1984. Stjørdal.
- Kulturlandskap, bergkunst og bosetning i Stjørdal i bronsealderen. *Viking* 1983, Pgs. 136-148. Oslo.
- L. D. Klüwers antikvariske reise gjennom Vestfold og Østfold i 1823: omkringinget gjenfunnet originalmanuskript. *Årbok Universitetets oldsaksamling 1982-1983*, Pgs. 15-32. Oslo.
- Prehistoric Cave Paintings in Norway. *Acta archaeologica* 53, Pgs. 101-118. København.
- Steinalderens bergkunst i Trøndelag. *UKEadressa* 8.12.1984. Trondheim.
- Trøndelags førhistoriske bergkunst. *Arena* 1984 (4) Pgs. 6-15. Trondheim.

**1985**

- Bergkunsten. *Helgeland historie* 1, Pgs. 133-147. Mosjøen.
- Bergkunst i bronsealderen. *UKEadressa* 19.1.1985. Trondheim.
- Tro og tvil i helleristningsforskningen. *Nicolay* 45, Pgs. 9-15.

**1986**

- A method for recording the orientation of rock art surfaces. *Bolletino del Centro Camuno di Studi Preistorici* 23, Pgs. 133-136. Capo di Ponte.
- Arkeologiske undersøkelser på Kråkvåg i Ørland. *Årbok for Fosen* 1986, Pgs. 51-55. Orkanger.
- Helleristningane på Boggestranda. *Romsdalsmuseets årbok* 1986, Pgs. 51-61. Molde.
- Helleristningene på Berg i Verdal. *Verdal historielags skrifter* 12, Pgs. 133-137. Verdal.
- Klæbus første helleristning. *Klæbu historielag årsskrift* 1986, Pgs. 14-15. Klæbu.
- Nye helleristningsfunn i Melhus og Klæbu. *Melhusbladet* 17.4.1986. Melhus.
- Nye helleristningsfunn på Skatval. *Stjørdalens blad* 17.4.1986. Stjørdal.

**1987**

- *Bergkunsten i Stjørdal 2. Typologi og kronologi i Nedre Stjørdal.* Gunneria 56. Vitenskapsmuseet, Trondheim.
- Helleristningene på Hegre. *Stjørdalens blad* 9.5.1987. Stjørdal.
- Rock Art and Settlement Pattern in the Bronze Age. Example from Stjørdal, Trøndelag, Norway. *Norwegian Archaeological Review* 20, Pgs. 110-119. Oslo.

**1988**

- Båter i berg – båttradisjoner i Trøndelag gjennom 3500 år. *Spor* 1988 (1) Pgs. 19-21. Trondheim.
- Helleristningene på Oppauran. *Stjørdalens blad* 10.12.1988. Stjørdal.
- Helleristninger – vitnemål om eldgamle kontakter. *Spor* 1988 (2), Pgs. 26-28. Trondheim
- Helleristningsmuseum i Trøndelag? *Nord-Trøndelag historielag årbok* 1988, Pgs. 13-20. Steinkjer.
- Innleing, Helleristningane på Hammer I. Beitstad, Steinkjer, Nord-Trøndelag. Rapport arkeologisk serie 1988 (7) Pgs. 9-14. Vitenskapsmuseet, Trondheim.
- *Iron age arrow-heads from Hordaland, Norway: testing a classification system.* Gunneria 60. Universitetet i Trondheim, Vitenskapsmuseet. Trondheim.
- Nytt helleristningsfunn på Arnstad. *Stjørdalens blad* 5.3.1988. Stjørdal.
- *Sentrumsdannelse i Trøndelag: En kvantitativ analyse av gravematerialet fra yngre jernalder.* Meddelelser 12, Prosjektet Fortiden i Trondheim bygrunn: Folkebibliotekstomten. Riksantikvaren, Utgravningskontoret for Trondheim, Trondheim.

**1989**

- *Arkeologi og etikk: foredrag holdt ved Det norske arkeologmøtes symposium* (ed) K. Sognnes. Rapport arkeologisk serie 1990 (1) Universitetet i Trondheim, Vitenskapsmuseet. Trondheim.
- 'Helleristningene i Alta. Spor etter ritualer og dagligliv i Finnmarks forhistorie' by K. Helskog. Book review in *Spor* 1989 (2), Pg. 50. Trondheim.
- Helleristningenes landskap. *Spor* 1989 (2), Pgs. 12-14. Trondheim.
- Rock art at the Arctic circle. Arctic and agrarian rock engravings from Tjøtta and Vevelstad, Nordland, Norway. *Acta Archaeologica* 59, Pgs. 67-90. København.
- 'The rock carvings of Northern Bohuslän. Spatial Structures and spatial symbols' by U. Bertilsson. Book review in *Fornvännen* 1989, Pgs. 69-71. Vitterhetsakademien, Stockholm.

**1990**

- *Bergkunsten i Stjørdal 3. Hegeristningane.* Gunneria 62. Vitenskapsmuseet, Trondheim.
- Bevaring av bergkunst. *Spor* 1990 (1), Pgs. 46-48. Trondheim.

- 'Helleristningene i Alta. Spor etter ritualer og dagligliv i Finnmarks forhistorie' by K. Helskog. Book review in *Rock art research* 7, Pgs. 146.
  - Leta rätt på Trøndelags 'okända' hällristningar. *Populär arkeologi* 1990 (2) Pgs. 13-15. Stockholm.
  - 'The rock carvings of Northern Bohuslän. Spatial Structures and spatial symbols' by U. Bertilsson. Book review in *Rock art research* 7, Pgs. 76.
- 1991**
- Begynnelsen. *Spor* 1991 (1), Pgs. 4-5. Trondheim.
  - *Katalog over bergkunstlokaliteter i Midt-Norge*. Universitetet i Trondheim, Vitenskapsmuseet, Arkeologisk avdeling. Trondheim.
  - Nye helleristningsfunn i Trøndelag. *Viking* 1991, Pgs. 7-40. Oslo.
  - Sjeldne skip på Stuberg. *Spor* 1991 (1), Pgs. 42. Trondheim.
  - The study of rock art in Northern Europe today. *Rock art quarterly* 2, (3-4) Pgs. 75-79.
- 1992**
- A spatial approach to the study of rock art in Trøndelag, Norway. In: Goldsmith, S., Garvie, S., Selin, D., and Smith, J. (eds) *Ancient images, ancient thought: the archaeology of ideology*. Proceedings of the 23rd annual Chacmool conference, Pgs. 107-120. Calgary.
  - 'Helleristninger av sørskandinaviske former på det indre Østlandet' by E. Østmo. Book review in *Norwegian archaeological review* 25, Pgs. 128-130.
  - Rock art museum in Trøndelag – a plan for displaying and protecting rock art. In: Mandt, G., Michelsen, K., and Riisøen, K. H. (eds) *Conservation, preservation and presentation of rock art*, Arkeologiske skrifter 6, Pgs. 81-90. Bergen.
- 1993**
- Fra fangst til jordbruk – helleristninger som vitnemål om kulturell endring. *Spor* 1993 (2) Pgs. 4-7. Trondheim.
  - Handelsstedene og gjestgiveriene på Valan ved Dolmøya. *Årbok for Fosen* 1993, Pgs. 21-38. Orkanger.
  - Kalkovnen ved Værnes kirke. *Nord-Trøndelag historielag årbok* 1993, Pgs. 59-67. Steinkjer.
  - The role of rock art in the Bronze Age and Early Iron Age in Trøndelag, Norway. *Acta Archaeologica* 63, Pgs. 157-188. København.
  - Ugnen man brände kalk i när kyrkan byggdes om har hittats. *Populär arkeologi* 1993 (4), Pgs. 37-38.
- 1994**
- Den første veideristning. *Spor* 1993 (1) Pg. 11. Trondheim.
  - Engravings found at rock painting sites in Trøndelag, Norway. *International Newsletter on Rock Art* 9, Pgs. 5-7. Foix.
  - Foresighting rock art. *Rock art research* 11, Pgs. 113-115.
  - Helleristninger på Selbustrand. *Jul i Neadalen* 1994, Pgs. 1-3, 33. Selbu.
  - Ritual landscapes. Toward a reinterpretation of Stone Age rock art in Trøndelag, Norway. *Norwegian archaeological review* 27, Pgs. 29-50. Oslo.
  - Trondheimen før Nidaros. In: Gullberg, K., (ed) *Acta antiqua ostrobotniensia: studier i Österbottens förhistoria: skriftserie för Österbottiska fornforskningssällskapet* 3, Pgs. 215-226. Scriptum, Vasa.
  - Våpen og kamp i bergkunsten. *Spor* 1994 (2) Pg. 7. Trondheim.
- 1995**
- Fra kyst til innland – tidlige kontakter mellom Trøndelag og Jämtland/Härjedalen. *Spor* 1995 (2) Pgs. 4-6. Trondheim.
  - New discoveries of rock paintings in mid Norway. *International Newsletter on Rock Art* 11, Pgs. 3-5. Foix.
  - The social context of rock art in Trøndelag, Norway: rock art at a frontier. In: Helskog, K., and Olsen, B. (eds) *Percieving Rock Art: Social and Political Perspectives*. Instituttet for sammenlignende kulturforskning serie B skrifter XCII, Pgs. 130-145. Oslo.
- 1996**
- Current rock art issues in Norway. *International newsletter on rock art* 15, Pgs. 24-25. Foix.
  - Det religiøse landskapet – ideologiske skiftninger gjennom 7000 år. *Spor* 1996 (2), Pgs. 10-14. Trondheim.
  - Dyresymbolikk i midt-norsk yngre steinalder. *Viking* 1996, Pgs. 25-44.
  - Helleristningene på Averøya. *Nordmøre museum årbok* 1996, Pgs. 74-85. Kristiansund.
  - Kalkbrenning og kalkovner. *Spor* 1996 (1) Pgs. 32-34. Trondheim.
  - 'La grotte Chauvet à Vallon Pont' Arc' by J.-M. Chauvet, E. Deschamps, C. Hilliare. Book review in *Fornvännen* 91, Pgs. 60-61. Vitterhetsakademien, Stockholm.
  - 'La grotte Cosquer. Peintures et gravures de la caverne engloutie' by J. Clottes and J. Courtin. Book review in *Fornvännen* 91, Pgs. 60-61. Vitterhetsakademien, Stockholm.
  - 'L'art pariétal paléolithique. Techniques et méthodes d'études'. Book review in *Fornvännen* 91, Pgs. 63-64. Vitterhetsakademien, Stockholm.
  - 'Megalittisk kunst' i et ikke-megalittisk Norden. *Adoranten* 1995, Pgs. 5-11.
  - Recent rock art research in northern Europe. In: Bahn, P., G., and Fossati, A. (eds) *Rock art studies. News of the world I*, Pgs. 15-28. Oxbow monograph 72. Oxford.
  - Under en heller i Singeldalen. Et nytt helleristningsfunn i Stjørdal. *Nord-Trøndelag historielags årbok* 1996, Pgs. 42-50.

**1997**

- 'Fangstprodukter i vikingtidens og middelalderens økonomi. Organiseringen av massefangst av villrein i Dovre' by E. Mikkelsen. Book review in *Historisk Tidsskrift* 1997 (1) Pgs. 135-137.
- Footprints galore. *International Newsletter on Rock Art* 17, Pgs. 6-8. Foix.
- Før Trondheim ble til. Trøndelags vikingtid fra en arkeologisk synsvinkel. *Spor* 1997 (1) Pgs. 4-7. Trondheim.
- *Katalog over bergkunstlokaliteter i Midt-Norge*. Universitetet i Trondheim, Vitenskapsmuseet, Arkeologisk avdeling. Trondheim.
- 'Nord-Trøndelag og Fosen – geologi og landskap' by R. Dahl, H. Sveian and M. K. Thoresen. Book review in *Spor* 1997 (2) Pgs. 48-48. Trondheim.
- Rock art in mid Norway: recent discoveries and research, *Bollettino del Centro Camuno di Studi Preistorici* 30, Pgs. 47-56. Capo di Ponte.
- Velskrevet om arkeologiens historie i Norge: 'Gåten om kong Raknes grav. Hovedtrekk i norsk arkeologi' by A Hagen. Book review in *Universitetsavisa* 1997, Pgs.19. Trondheim.

**1998**

- Fra raritetskabinett til oldsaksamling – en mann og hans museum. *Spor* 1998 (2) Pgs. 16-18. Trondheim.
- Bilder og dekor – fortidens medier. *Spor* 1998(1), Pgs. 4-7. Trondheim.
- Handelsstadene og gjestgiveria på Valan, Hitra. In: Sørheim, H. (ed) *Arkeologi og kystkultur*. Foredrag fra forskningsseminaret 'Arkeologi og kystkultur' 1997, Pgs. 51-57. Sunnmøre museum, Ålesund.
- Helleristninger – vitnemål om eldgamle kontakter. *Spor* 1998 (2) Pgs. 26-28. Trondheim.
- Symbols in a changing world: rock-art and the transition from hunting to farming in mid Norway. In: Chippindale, C., and Taçon, P. S. C., (eds) *The archaeology of rock-art*, Pgs. 146-162. Cambridge University Press, Cambridge.
- Trondheimen før Nidaros: Trøndelags vikingtid fra en arkeologisk synsvinkel. *Historisk tidsskrift* 77 (3), Pgs. 316-335. Oslo.

**1999**

- De første trøndere. *Spor* 1999 (1), Pgs. 47-49. Trondheim.
- *Det levende berget*. Tapir, Trondheim.
- From coast to mountain range: Rock-art at Nordmøre, Norway. In: Bahn, P. G., and Fossati, A. (eds) *Rock art studies, News of the world* I. Oxford monograph 72, Pgs. 6 ill. Oxford.
- *Helleristninger i Stjørdal*. Stjørdal Museum, Stjørdal.
- 'L'art des origines au Yemen; Jesus Altuna: L'art des cavernes en pays basque – les grottes d'Ekain et d'Altxerri' by M.-A. Garcia and M. Rachad. Book review in *Fornvännen* 1999 (1) Pgs. 33-34. Vitterhetsakademien, Stockholm.

- Rocks, motifs and techniques: A re-evaluation of a 'unique' petroglyph site in Norway. *Australian Rock Art Research Association* 1999 (1) Pgs. 42-49. Melbourne.
- *Trøndelags jordbruksristninger: Sør-Trøndelag samt Skjervoll og Leirfall i Stjørdal, Nord-Trøndelag*. VITARK: Acta archaeologica Nidrosiensia 1. Trondheim.
- Å se eller ikke se. Midt-Norske bergmalerier i en historisk –kognitiv kontekst. In: Gustafsson, A., and Karlsson, H., (eds) *Glyfer och arkeologiska rum – en vänbok till Jarl Nordbladh*. Gotarc Series A3, Pgs. 465-475. Göteborg.

**2000**

- Det hellige landskapet: Religiøse og rituelle landskapselementer i et langtidsperspektiv. *Viking* 2000, Pgs. 87-121. Norsk arkeologisk selskap, Oslo.
- Dokumentasjon av bergmalerier i Norge. In: Edgren, T., and Taskinen, H. (eds) *Ristad och målad: Aspekter på nordisk bergkonnt*, Pgs. 46-54. Museiverket, Helsinki.
- Graver, båter, krigere – et glimt av Europa i Trøndelags bronsealder. *Spor* 2000 (2) Pgs. 20-23. Trondheim.
- *Katalog over bergkunstlokaliteter i Midt-Norge*. Universitetet i Trondheim, Vitenskapsmuseet, Arkeologisk avdeling. Trondheim.
- *Prehistoric imagery and landscapes: Rock art in Stjørdal, Trøndelag, Norway*. BAR international series 998. Archaeopress, Oxford.
- Valseidet i Bjugn – landskap for de døde? *Spor* 2000 (1) Pgs. 34-37. Trondheim.

**2001**

- Bjelkehovud i Værnes kyrkje. *Spor* 2001 (1) Pgs. 17-19. Trondheim.
- Nye Funn: Verdens største skiløper (?). *Spor* 2001 (2) s. 47. Trondheim
- When rock art comes into being: On the recognition and acceptance of new discoveries. *Rock Art Research* 2001 (2) Pgs. 75-90. Archaeological publications, Melbourne.

**2002**

- Bilde, landskap og ritar i midt-norsk stein- og bronsealder. In: Goldhahn, J., (ed) *Bilder av bronsålder: Ett seminarium om förhistorisk kommunikation*. Acta archaeologica Lundensia 8, Pgs. 1-22. The Institute of Archaeology, University of Lund. Stockholm.
- Land of elks – sea of whales: landscapes of the Stone Age rock-art in central Scandinavia. In: Nash, G., and Chippindale, C., (eds) *European landscapes of rock-art*, Pgs. 195-212. Routledge, London.
- Verdens største skiløper? Foreningen til skiidrettens fremme Årbok 2001, Pgs. 3. Oslo.

**2003**

- 'Anders Hagen: Et arkeologisk liv.' Book review in *Spor* 2002 (2) Pgs. 21. Trondheim.

- Bergmalerier ved Atlanterhavskysten – i åpne og lukkede landskap. *Fortid i Ångermanland*; august 2003.
  - Bronze Age rock-art and landscape in Trøndelag, Norway. Det Kongelige Norske Videnskabers Selskab Skrifter 2003 (4) Pgs. 85-106. Tapir akademisk forlag, Trondheim.
  - Den ensomme elgen. *Spor* 2003 (2) Pgs. 36-37. Trondheim.
  - Fremtid for helleristingene i Selbu? *Jul i Neadalen* 2003, Pgs. 24-27.
  - 'Kungahälla: problem och forskning kring stadens äldsta historia' by H. Andersson, K. Carlsson and M. Vretemark. Book review in *Spor* 2003 (1) Pgs. 48-48. Trondheim.
  - On shoreline dating of rock art. *Acta Archaeologica* 74, Pgs. 189-209. København.
  - *Rock art in landscapes – landscapes in rock art*. Det Kongelige Norske Videnskabers Selskab Skrifter 4. Tapir akademisk forlag, Trondheim.
  - Rock art research in northern Europe 1995-1999. In: Bahn, P., and Fossati, A. (eds) *Rock art studies, News of the World II*. Developments in rock art research 1995-1999, Pgs. 12-24. Pinerolo.
  - Thor Heyerdahl. *Det Kongelige Norske Videnskabers Selskab. Forhandlinger* 2003, Pgs. 65-68.
- 2004**
- Helleristingane på Boggestranda. In: Vike, A. K., Ringstad, D., Strand, P. E. (eds) *Jakt og fangst i Nesset*, Pgs. 9-14. Nesset fjellstyre 2004. Eresfjord.
  - Helleristinger, eller...? *Blinken – bygdablad for Haltdalen* 30.11.2004.
  - Hender, føtter og båter på stein. *Spor* 2004 (1) Pgs. 28-30. Trondheim.
  - Nye helleristinger oppdaget på Valøy. *Steinkjer-Avisa* 1.10.2004.
- 2005**
- Allmeningsværet i Roan – fiskevær gjennom tusenår. Årbok for Fosen 44, Pgs. 7-22. Orkanger.
  - 'Bergkunst: Helleristingar i Noreg' by G. Mandt and T. Lødøen. Book review in *Rock Art Research* 2005 (1) Pgs. 92. Melbourne.
  - Bronsealderen. In: Bull, I., (ed) *Landskapet blir landsdel. Trøndelags historie* 1, Pgs. 83-105. Tapir, Trondheim.
  - 'Cosquer redécouvert' by Jean Clottes, Jean Courtin & Luc Vanrell. *Fornvännen* 100, Pgs. 239-240. Vitterhetsakademien, Stockholm.
  - Fortidens religioner. In: Bull, I., (ed) *Trøndelags historie. Landskapet blir landsdel 1*, Pgs. 171-178. Tapir, Trondheim.
  - Heritage management going astray or following the yellow brick road – which is not there? Norwegian Archaeological Review 38 (1) Pgs. 53-54.
  - I bronzen og jernets tid. In: Aune, K., (ed) *Fosens historie: Fra istid til 1730*, Pgs. 137-198. Skrifter utgitt av Fosen historielag 7. Orkanger.
  - 'La civiltà delle pietre' by Emmanuel Anati. Book review. *Fornvännen* 100, Pgs. 220-221. Vitterhetsakademien, Stockholm.
  - 'Lascaux – le geste, l'espace et le temps' by N. Aujoulat. *Fornvännen* 100, Pgs. 291-293. Vitterhetsakademien, Stockholm.
  - Netter ved Bøla. *Spor* 2005 (1) Pgs. 39-41. Trondheim.
  - Recent rock art research in northern Europe. In: Bahn, P. G., and Fossati, A., (eds) *Rock art studies. News of the world 1*, Pgs. 15-28. Oxbow monograph 72. Oxford.
  - *Stenristarna – del 2*. Sveriges Radio Television. 23.6. 2005.
  - Sørsamiske studier ved NTNU. *NRK sameradioen*. 29.12.2005.
  - Vandring langs en strand – helleristinger i Selbu, Sør-Trøndelag. *Mellan sten och järn* 2, Pgs. 571-579. Göteborgs universitet, Göteborg.
  - Vil ha sørsamiske studier. *Universitetsavisa* 28.12.2005. Trondheim.
  - 'World rock art' by Jean Clottes. Book review in *Fornvännen* 100, Pgs. 287-288. Vitterhetsakademien, Stockholm.
- 2006**
- Anders Hagen 1921-2005. *Rock art research* 2006 (1) Pgs. 142. Melbourne.
  - 'The Cosmic Wedding: A New Interpretation of Southern Scandinavian Rock Carvings, Stonehenge and Other Manifestations of Bronze Age Religion' by Berit Johnsen. Book review in *Fornvännen* 101, Pgs. 229-230. Vitterhetsakademien, Stockholm.
  - Derom tier berget: Omkring slutten på den nordiske bergkunsten. In: Glørstad, H., Skar, B., and Skree, D., (eds) *Historien i forhistorien: Festskrift til Einar Østmo på 60-årsdagen*, Pgs. 173-182.
  - En flyndre svømmer stille: Omkring helleristingene i Kvennavika, Nord-Trøndelag. In: Barndon, R., (ed) *Samfunn, symboler og identitet: Festskrift til Gro Mandt på 70-årsdagen*, UBAS Pgs. 551-562. Universitetet i Bergen, Arkeologisk institutt, Bergen.
  - En hule full av hender. *Gemini* 2006 (3) Pgs. 10-11.
  - Forskning om Mayaindianerne. *NRK P1 – Kveldsåpent* 20.2.2006.
  - Helleristingene ved Bøla. *Nord-Trøndelag historielag årbok* 2006, Pgs. 7-18. Steinkjer.
  - Hulen med de små hender. *Spor* 2006 (2) Pgs. 50-51. Trondheim.
  - Maya-indianernes båter. *NRK P1 – Kulturnytt* 24.2. 2006.
  - Reise til Mexico. *NRK Trønderradioen* 27.2.2006.
  - The myth of portages: On ancient portaging at the Trøndelag coast, Norway. In: Westerdal, C., (ed)

*International Conference on the Significance of Portages* 1, Pgs. 209-215. Lyngdal. Archaeopress 2006.

- 'The prehistoric rock art of Kilmartin' by Stan Beckensall. Book review in *Fornvännen* 101, Pgs. 228-229. Vitterhetsakademien, Stockholm.
- Tolker steinens språk. *Gemini* 27.09.2006.
- Tredimensjonal helleristningsdokumentasjon. *TV-adressa* 10.2.2006. Trondheim.
- Tull med tall. *Universitetsavisa* 28.3.2007.
- Steinbrudd på Røkke i bronsealderen? Årbok for historielaga i Stjørdalsbygdene 15, Pgs. 133-139. Stjørdal.
- Sørsamiske studier ved NTNU. *NRK Trøndelag*. 4.1.2006.

## 2007

- Danser med elger: Omkring stil og tegnemåte i den arktiske bergkunsten i Midt-Norge. *Mittnordiska arkeologidagar* IV, Pgs. 43-55. Keski-Suomen Museoyhdistys, Jyväskylä.
- Elgen i gjelet. *Spor* 2007 (44) Pgs. 22-24. Trondheim.
- Ensom rein blant mange – Helleristningene ved Bøla, Nord-Trøndelag. *Viking* 2007, Pgs. 35-56. Oslo.
- Fant 35 000 år gammel kunst. *Dagbladet*. no. 28.6.2007.
- 'Hällbildsstudier i Norra Europa – trender och tradition under det nya millenniet' by J. Goldhahn. Book review in *Fornvännen* 2007 (2) Pgs. 147-148. Vitterhetsakademien, Stockholm.
- Helleristerne 2. *NRK 1* 22.4.2007.
- *Hundre års bergkunsthforskning i Midt-Norge: Utvalgte artikler 1890-1990*. KRA, Institutt for arkeologi og religionsvitenskap, NTNU. Trondheim.
- Om helleristninger på Nerhol i Rennebu. *Oppdalingen* 28.8.2007.
- Rock Art and Settlement pattern in the Bronze Age. Example from Stjørdal, Trøndelag, Norway. *Hundre års bergkunsthforskning i Midt-Norge – utvalgte artikler 1980-1990*, Pgs. 157-166. NTNU, Institutt for arkeologi og religionsvitenskap, Trondheim.
- Sea or river? Two aspect on the Bøla rock-art site, Norway. *Landscape enquiries: The proceedings of the Clifton Antiquarian Club* 8, Pgs. 81-86. Clifton Antiquarian Club, Bristol.
- Shaping the elk: Animal drawing in Arctic rock-art of Scandinavia. *Les expressions intellectuelles et spirituelles des peuples sans ecriture*, Pgs. 109-122. Centro Camuno di Studi Preistorici, Capo di Ponte.

## 2008

- Chronologies and dating in Scandinavian rock art. Man in India. 88, Pgs. 2-3.
- Nyfunnet helleristningsskiløper. *Adoranten* 2007, Pgs. 99-106.
- Rock Art and Material Culture: Stone Age Symbol Systems in central Norway. In Nash, G. and Children,

G., (eds) *The Archaeology of Semiotics and the Social Order of Things*, Pgs. 9-18. Archaeopress 2008.

- Stability and change in Scandinavian rock art. The case of Bardal in Trøndelag, Norway. *Acta Archaeologica* 79, Pgs. 230-245. København.

## 2009

- Art and humans in confined space: Reconsidering Solsem cave. *Rock art research* 2009 (1) Pgs. 83-94. Melbourne.
- *Bibliografi over bergkunsthforskning i Norge 1830-2000*. KRA 34, Institutt for arkeologi og religionsvitenskap, NTNU. Trondheim.
- Bjelkehodene i Værnes kirke. *Historisk Årbok, Historielaga i Stjørdalsbygdene* 2009 (19) Pgs. 137-150.
- Detektivjobb. *nrk.no/programmer/tv/newton* 22.5.2009.
- Fra Bøla til Holtås – hvordan tegne en elg. *Årbok Nord-Trøndelag historielag* 2009, Pgs. 161-168.
- Living on the edge of the world: Liminal settlements along the coast of Trøndelag, Norway. In: Holm, I., Stene, K., Svensson, E., (eds) *Liminal Landscapes. Beyond the Concepts of 'Marginality' and 'Periphery'*, Pgs. 103-115. Unipub.
- Vikings at home: A regional Perspective on Viking Age Norway. *Early Medieval Enquiries*, Pgs. 334-345. The Clifton Antiquarian Club.
- Vømmøl og korhistorie. *Trønder-Avisa* 18.10.2009.

## 2010

- Bilder på berget. In: Klingenberg, I. A., Urnes, J. F., and Øfsti, R., (eds) *Se Trøndelag! Kunst og visuell kultur i midten av Norge. Bind 1: Kunsten før kunsten*, Pgs. 73-108. Tapir.
- Glösaristningene i et norsk perspektiv: Kontakter mellom Jämtland og Trøndelag? *Fornvännen* 105 (2) Pgs. 81-95. Vitterhetsakademien, Stockholm.
- Glösaristningene som tegninger. In: Tjärnström, M., Viklund, B. O., Humlesön, N. E., (eds) *Rödockrarummet. Artiklar från 2008, 2009, 2010 års arkeologihelger i Näsåker*, Pgs. 139-150. Norrland hällbildnings-selskap, Näsåker.
- Gutorm Gjessing and Norwegian rock-art. In: Westerdahl, C., (ed) *A Circumpolar Reappraisal: The Legacy of Gutorm Gjessing (1906-1979)* Pgs. 263-275. Archaeopress 2010.
- The rock carvings of Glosa seen in a Norwegian perspective. Contact between Jämtland and Trøndelag? *Fornvännen* 2010(105) Pgs. 81-95. Vitterhetsakademien, Stockholm.
- These rocks were made for walking: Rock art at Leirfall, Trøndelag, Norway. *Oxford journal of archaeology* 30 (2) Pgs. 185-205. Oxford.
- Å tegne elger på berg: En håndbok fra steinalderen. *Spor* 2010 (2) Pgs. 16-19. Trondheim.

**2011**

- The Bøla rock art site in Trøndelag, Norway. *Acta Archaeologica* 2011 (81) Pgs. 81-95. København.
- The case of the lone reindeer: The Bøla rock art site in Trøndelag, Norway. *Acta Archaeologica* 82, Pgs. 81-95. København.
- These rocks were made for walking: rock art at Leirfall, Trøndelag, Norway. *Oxford Journal of Archaeology* 2011 (30/2) Pgs. 185-205.
- På en holme i Trondheimsfjorden: Helleristningene på Evenhus i Frosta. *Nord-Trøndelag historielag årbok* 2011, Pgs. 73-84. Steinkjer.

**2012**

- Derfor er Kon-Tiki-helten omstridt. *www.tv2/nyheter* 28.8.2012.
- Helleristninger i Trøndelags skogområder? *Nord-Trøndelag historielag årbok* 2012, Pgs. 49-61. Steinkjer.
- The 'polished' petroglyphs of north Norway: Some methodological remarks regarding location and age. *Rock art research* 2012 (1) Pgs. 47-58. Melbourne.
- Rock art studies in the Nordic countries, 2005-2009. In: Bahn, P., Franklin, N., and Strecker, M., (eds) *Rock art studies. News of the world* 4, Pgs. 18-30. Oxbow monograph 72. Oxford.
- Visuell kultur i en overgangsfase – Bergkunst og neolitisering i Trøndelag. In: Kaul, F., and Sørensen, L., (eds) *Agrarsamfundenes ekspansjon i nord*, Pgs. 233-243. Nationalmuseet 2012, København.

**2013**

- Deconstructing elks: Cervids in North Scandinavian rock art. *Art as a source of history*, Pgs. 367-372. Centro Camuno di Studi Preistorici, Capo di Ponte.
- Encounters of Different Kinds: On Presence in Rock Art Interpretations. *Time and mind* 6 (1) Pgs. 15-20. Bloomsbury journals.
- Hulemalerier forsvinner. *Brønnøysunds avis* 29.10.2013.
- Kystens forsømte fortid. Chronicle in *Adresseavisen* 21.5.2013.
- Sjømat på Trøndelagskysten i eldre tid. In: Bachke Andresen, K. H., *Velkommen av havet – mer enn en kokebok*, Pgs. 12-17. Marin-Ka.no Forlag, Trondheim.
- Solsemhulen på Leka hundre år etter. *Nord-Trøndelag historielag årbok* 2013, Pgs. 163-176. Steinkjer.

**2015**

- Urtrønderen lagde enestående helleristninger. Chronicle in *Adresseavisen* 19.2.2015.
- Excavating Decorated Rock-Shelters in Trøndelag Norway. *Adoranten* 2014, Pgs. 44-51.

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- (1974) Pedersen, A. S., Sognnes, K.: Norges speiderguttforbund: 4. Bergen gruppe og halve Sandviken 4. Bergen gjennom 60 år: 1912-1972.
- (1981) Stalsberg, A., Alsvik, A. E., Sognnes, K.: Kulturhistoriske undersøkelser ved Store Kvern fjellvatn, Selbu, Sør-Trøndelag, 1978. Rapport Arkeologisk serie 1981 (1) Det kongelige norske videnskabers selskab, Museet, Universitetet i Trondheim.
- (1983) Fastner, J. and Sognnes, K.: Seismisk registreringsutstyr i marinarkeologien: utprøving av utstyr i Trondheimsfjorden. In: Herteig, A, E, (ed) Conference on Waterfront Archaeology in North European Towns No. 2, Bergen 1983.
- (1998) Sognnes, K., Haug, A: Searching for hidden images: Rock art geography in Stjørdal, Trøndelag, Norway. *Rock art research* 15, Pgs. 98-108. Melbourne.
- (2004) Sognnes, K., Mohrsen, J. B.: Conservation: a midwinter day's mare. *International newsletter on rock art* 38, Pgs. 7-9. Foix.
- (2004) Sognnes, K., Mohrsen, J. B.: Spennende fotooppdrag. *Trønder-Avisa* 28.9.2004.
- (2005) Sognnes, K., Jasinski, M. E.: Samarbeid med Mexico og Panama. *Spor* 2005 (2) Pgs. 47-49. Trondheim.
- (2006) Sognnes, K., Jasinski, M. E.: Dykker etter mayaenes hemmeligheter. *Forskning. no* 20.2.2006.
- (2005) Sognnes, K., Jasinski, M. E., De Anda, Guillermo: Preliminary Investigations of Cave Art in Cenotes near Homún, Yucatán, México. NTNU, Institutt for arkeologi og religionsvitenskap 2006. Trondheim.
- (2005) Sognnes, K., Jasinski, M. E., De Anda A., Guillermo: *Reconocimiento subacuatico de isla cerritos yucatan* 2006. Universidad Autonoma de Yucatan, Merida.
- (2006) Sognnes, K., Jasinski, M. E.: På sporet av ukjent Mayakultur. *Universitetsavisa* 20.2.2006. Trondheim.
- (2006) Sognnes, K., Alanis, G. A., Jasinski, M. E.: Preliminary investigations of cave art in Cenotes near Homún, Yucatán, México.
- (2007) Dyrendahl, A., Sognnes, K.: Best i klassen. *Universitetsavisa* 21.5.2007.
- (2007) Sognnes, K., Alanis, G. A., Jasinski, M. E.: The Secrets of the Cenotes. *Global Knowledge* 1.2.2007.
- (2009) Berge, R., Jasinski, M. E., Sognnes, K.: Nordic Theoretical archeological group 10: N-TAG TEN. *Proceedings of the 10th Nordic TAG conference at Stiklestad, Norway 2009*. Archaeopress 2012. British Archaeological Reports – International series (2399).
- (2010) Sognnes, K., Alanis, G. A., Jasinski, M. E.: Cave Art in Yucatán Cenotes, México. *International Newsletter on Rock Art* 2010 (57) Pgs. 18-23.
- (2014) Peacock, E. E., Lindgaard, E., Sognnes, K., Sæterhaug, R., Turner-Walker, G. H.: The Open-Air Rock-Art Site at Leirfall, central Norway, Within

the Context of Northern Scandinavian Rock-Art Conservation and Management Practices Over the Past 50 Years. In: Darvill, T., Fernandes, A. P. B., (eds) *Open-Air Rock-Art Conservation and*

*Management. State of the Art and Future Perspectives*, Pgs. 82-97. Routledge studies in archaeology 12. New York.