# Neolithic transformations

## relationships between society and landscape

Larsson, Lars

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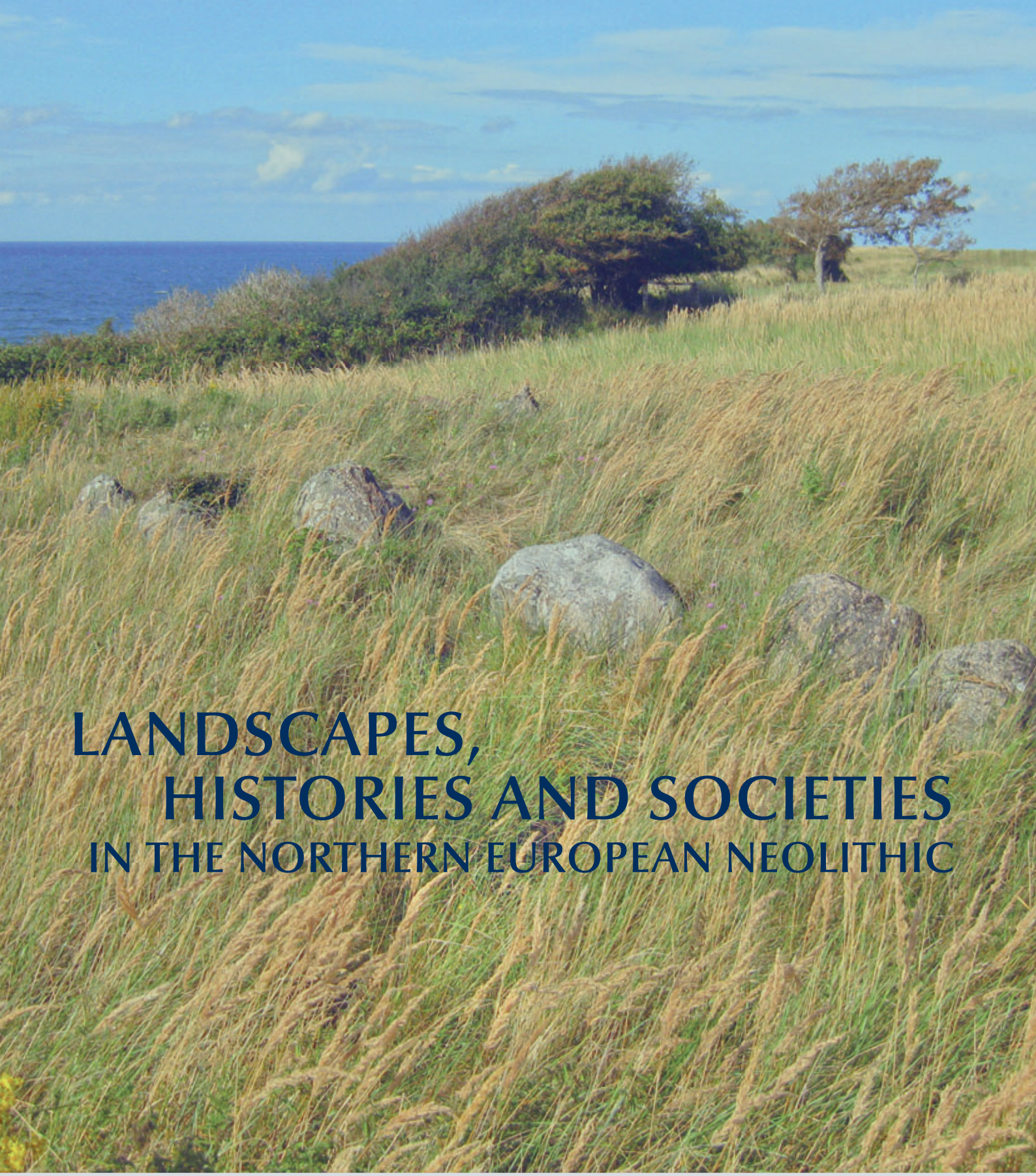

# LANDSCAPES, HISTORIES AND SOCIETIES
## IN THE NORTHERN EUROPEAN NEOLITHIC

DFG Schwerpunktprogramm 1400

Frühe Monumentalität und soziale Differenzierung 4

Edited by
Martin Furholt
Martin Hinz
Doris Mischka
Gordon Noble
Deborah Olausson

**Landscapes, Histories and Societies in the Northern European Neolithic**

Schwerpunktprogramm 1400

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## Band 4

*Herausgegeben von* Johannes Müller

In Kommission bei Dr. Rudolf Habelt GmbH, Bonn
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Institut für Ur- und Frühgeschichte der CAU Kiel

# Landscapes, Histories and Societies in the Northern European Neolithic

*Herausgegeben von* Martin Furholt
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# Contents

## Other kinds of places



## Objects and their meanings

# Preface

Within the scope of meetings of archaeologists interested in megaliths and societies at the Oslo European Conference of 2011, a joint publication of contributions was planned as a sign of cooperative work on monuments and societies in northern and Central Europe. Consequently, the papers of three different sections of the Oslo Conference are published here through the collaboration efforts of the editors.

While providing a first impression by offering a mosaic of very valid contents, this book might also be handled as a kind of small handbook on the state of research concerning new questions on material culture, megaliths and societies within the indicated spatial frame. The contributions deal with topics which extend from Mesolithic developments and adaptations of innovations associated with social and ritual behavior that transpired in the realm of the 4th millennium BCE to changes observable during the Younger Neolithic, when the main ideological transformations of material culture, monuments and environments – as media of communication in non-literate societies – had shifted once again to a different mode of reception.

As the editor of this series, it is my pleasure to thank all the editors of this book in succeeding to unite the contributions to such an admirable volume. It also demonstrates the strength of networks, which, triggered by ritual activities, did not only exist about 5000 years ago but also those that are currently triggered by research activities. Both, the editors and the further Kiel team, including Eileen Küçükkaraca, Ines Reese and Karin Winter, are to be thanked for scientific and technical editing.

Kiel, July, 4th, 2014

*Johannes Müller*

# Foreword: Landscapes, Histories and Societies in the northern European Neolithic

*Doris Mischka, Martin Furholt, Martin Hinz, Gordon Noble and Deborah Olausson*

During the Neolithic period of northern Europe, monuments and artefacts of many new forms signalize a range of innovative practices, forms of social organisation, and perceptions of place and landscape. Although not regionally and temporally uniform or coherently distributed, many of the phenomena under study can be found in the British Isles, in Scandinavia, northern Germany or Poland, thus in regions today showing very different traditions of research. The histories told by archaeologists in these regions are diverse, and the interpretations of these modelled societies can appear incompatible at times, yet in the framework of a European research community, the dialogue between regionally different schools has intensified during the last few years.

This publication presents papers from two sessions of the conference of the European Association of Archaeologists (EAA) held in Oslo in September 2011. Gordon Noble, University of Aberdeen, United Kingdom and Deborah Olausson, Department of Archaeology and Ancient History, Lund University, Sweden coordinated a session called "A new sense of place: Landscape and monuments in the northern European Neolithic" on September 15th. Martin Furholt, Martin Hinz and Doris Mischka, all Institute of Pre- and Protohistory Kiel University, Germany and members of the Priority Program of the German Research Foundation "SPP 1400 Early monumentality and social differentiation" together with Marzena Szmyt, Instytut Wschodni of the University Adama Mickiewicza in Poznań, Poland, organised the session "The Funnel Beaker complex: Multiple landscapes, histories and societies" two days later.

During the conference we noted that participants in the two sessions were nearly identical and the aims of the sessions closely related. Clearly the talks addressed the same audience and the sessions addressed similar research topics. Thus, during the conference, the session organizers decided to join the contributions into a single publication.

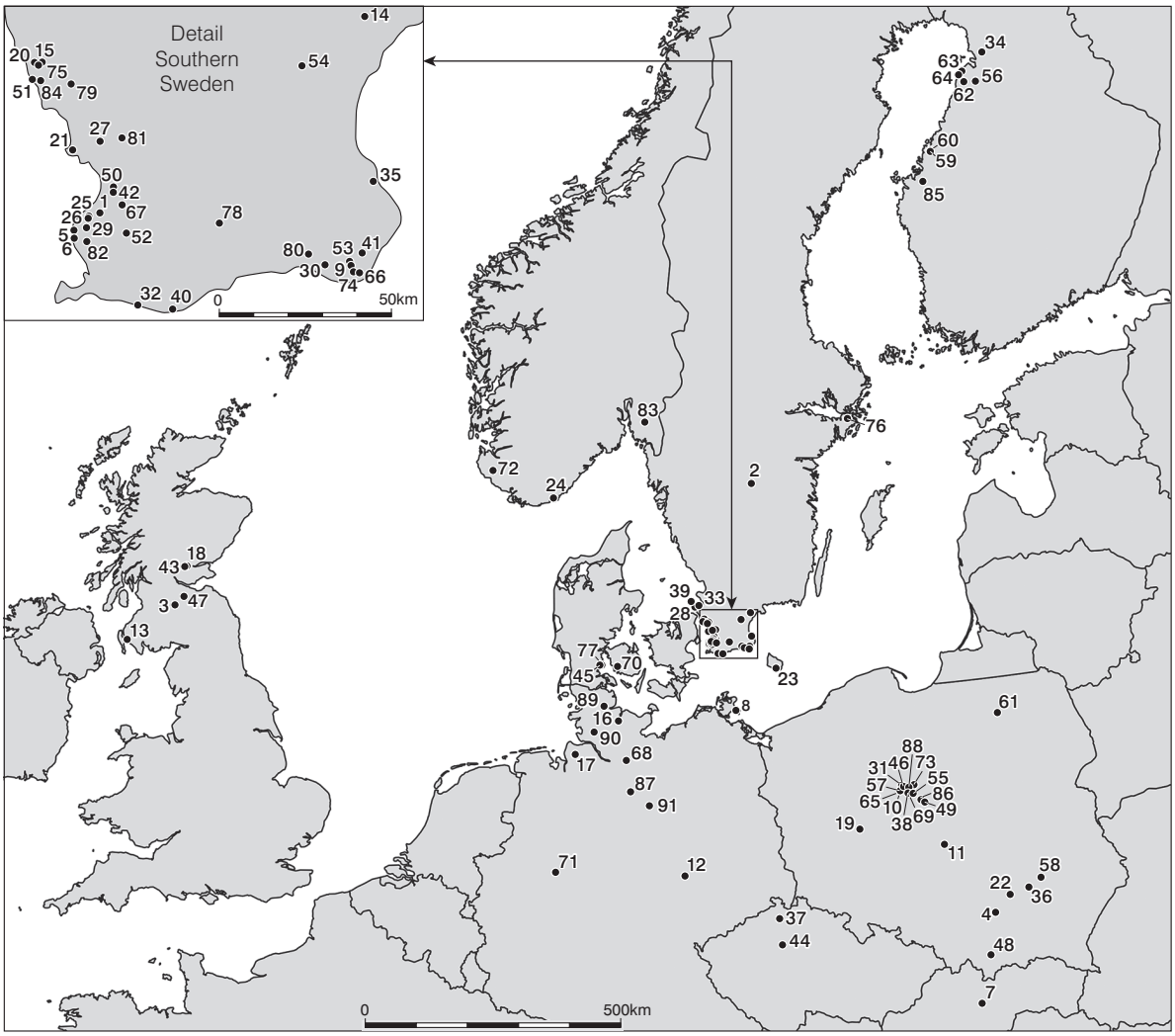
Johannes Müller from Kiel University kindly supported the present volume by accepting it for the new monograph series of the Priority Program of the German Research Foundation „SPP 1400 Early monumentality and social differentiation". The editing work was coordinated in Kiel and carried out in two groups according to the sessions. Doris Mischka contributed significantly to the editing and realization of the project.

The volume contains contributions from eight countries: Czech Republic, Denmark, Finland, Germany, Norway, Poland, Scotland and Sweden. Ninety-one single sites, located in an area extending from Finland to Poland and across the continent to Scotland (Fig. 1) are discussed.

The volume begins with an introduction followed by four sections organised according to the nature of the source material. In the introduction, Martin Furholt provides a broad discussion presenting one of the focuses of the volume — the "Funnel Beaker complex" — as a supra-regional term referring to specific Neolithic societies, thus separating them from other northern European societies. Furholt explores and at times questions the validity of this term in Neolithic studies.

In the first section of the volume the focus is centered on "The Significance of Enclosure", in which monumental enclosures of the Neolithic period are discussed along with the interpretive challenges that the phenomenon of enclosure presents. These enclosures date from the earliest to the final stages of the Neolithic period. In the first chapter, Håkon Glørstad and Lars Sundström present an Early Neolithic enclosure site from Hamremoen in southern Norway. The monument represents some of the earliest traces of the Neolithic in this region, dated to the time span from 3900–3600 cal BC, and the authors interpret the enclosures as an indication of the influence of the Funnel Beaker complex on late hunter gatherers in southern Norway. The focus then shifts to the coastal area of

*In: M. Furholt/M. Hinz D. Mischka/ G. Noble/ D. Olausson (eds.), Landscapes, Histories and Societies in the northern European Neolithic. Frühe Monumentalität und soziale Differenzierung 4 (Bonn 2014) 11 – 16*




1 Almhov, Sweden (Hydén)
2 Alvastra, Sweden (Larsson)
3 Blackshouse Burn, Scotland (Noble/Brophy)
4 Bronocice, Poland (Nowak)
5 Bunkeflo, Sweden (Brink)
6 Bunkeflostrand, Sweden (Brink)
7 Březno, Czech Republic (Turek)
8 Burtevitz, Germany (Behrens)
9 Carlshögen, Sweden (Olausson)
10 Chełmiczki 10, Poland (Przybył)
11 Dobroń, Poland (Pelisiak)
12 Dölauer Heide, Halle, Germany (Turek)
13 Dunragit, Scotland (Noble/Brophy)
14 Fjälkinge 9, Sweden (Olausson)
15 Fjärestad 1, Sweden (Olausson)
16 Flintbek, Germany (Mischka)
17 Flögeln, Germany (Turek)
18 Forteviot, Scotland (Noble/Brophy)
19 Gaj, Poland (Pelisiak)
20 Gantofta boställe, Sweden (Olausson)
21 Gillhög, Sweden (Olausson)
22 Gnojno, Poland (Nowak)
23 Grødbygård, Bornholm, Denmark, (Turek)
24 Hamremoen, Norway (Glørstad/Sundström)
25 Hindbygården, Sweden (Berggren)
26 Hindby mosse, Sweden (Berggren)
27 Hög, Sweden (Olausson)
28 Höganäs, Sweden (Jennbert)
29 Hyllie, Sweden (Brink and Larsson)
30 Ingelstorp 25, Sweden (Olausson)
31 Inowrocław-Mątwy 1, Poland (Przybył)
32 Jättegraven, Sweden (Larsson)
33 Jonstorp, Sweden (Jennbert)
34 Kiiminki Linnasaari, Finland (Okkonen)
35 Knäbäcksdösen, Sweden (Olausson)
36 Konary 6B, Poland (Przybył)
37 Kozly, Czech Republic (Turek)
38 Kuczkowo 1 and 5, Poland (Przybył)
39 Kullaberg, Sweden (Jennbert)
40 Kungsdösen, Sweden (Olausson)
41 Kverrestad, Sweden (Larsson)
42 Laxmans-Åkarp, Sweden (Olausson)
43 Leadketty, Scotland (Noble/Brophy)
44 Líbeznice, Czech Republic (Turek)
45 Lønt, Denmark (Gebauer)
46 Łojewo 4, Poland (Przybył)
47 Meldon Bridge, Scotland (Noble/Brophy)
48 Niedźwiedź, Poland (Turek)
49 Obałki, Poland (Pelisiak)
50 Öllsjö, Sweden (Olausson)
51 Örenäs, Sweden (Olausson)
52 Örnakulla, Sweden (Larsson)
53 Örum 5, Sweden (Olausson)
54 Östra Vram, Sweden (Olausson)
55 Opatowice 1, 3 and 42, Poland (Przybył)
56 Paavola Pesuankangas, Finland (Okkonen)
57 Papros 6A and 6B, Poland (Przybył)
58 Pawłow, Poland (Nowak)
59 Pedersöre Svedjebacken, Finland (Okkonen)
60 Pedersöre Jäknäbacken, Finland (Okkonen)
61 Piecki 1, Poland (Przybył)
62 Pikku Liekokangas, Finland (Okkonen)
63 Raahe Kastelli, Finland (Okkonen)
64 Raahe Kettukangas, Finland (Okkonen)
65 Radziejów Kujawski 4, Poland (Przybył)
66 Ramshög, Sweden (Olausson)
67 Särslöv, Sweden (Olausson)
68 Sachsenwald, Germany (Hinz)
69 Sarnowo, Poland (Pelisiak)
70 Sarup, Denmark (Larsson)
71 Schmerlecke, Germany (Schierhold)
72 Slettabø, Norway (Schenck)
73 Smarglin 22, Poland (Przybył)
74 Stendösa, Sweden (Olausson)
75 Stenhög, Sweden (Olausson)
76 Stensborg, Sweden (Larsson and Larsson/Broström)
77 Strandby, Denmark (Larsson)
78 Svartskylle, Sweden (Larsson)
79 Tågarp, Sweden (Olausson)
80 Trollasten, Sweden (Olausson)
81 Västra Hoby, Sweden (Olausson)
82 Västra Klagstorp, Sweden (Brink)
83 Vestgård 3 and 6, Norway (Schenck)
84 Viktorshög söder, Sweden (Olausson)
85 Vörå Höjsalträsk, Finland (Okkonen)
86 Wietrzychowice, Poland (Pelisiak)
87 Wittenwater, Germany (Turek)
88 Żegotki 2, Poland (Przybył)
89 Borgstedt, Germany (Müller/Dibbern/Hage)
90 Albersdorf, Germany (Müller/Dibbern/Hage)
91 Lüdelsen, Germany (Müller/Dibbern/Hage)

*Fig. 1. Sites focused on in more detail within the different articles. In brackets author's names.*

Ostrobothnia in Finland, to the so-called 'giant's churches' in this region. The research history and the current results of surveys and excavations of these monuments, which are dated to the Middle and Late Neolithic (3600–2000 cal BC), are described by Jari Okkonen. Among the so-called giant's church sites, stone enclosures and cairns as well as house pits and dwelling sites can be found. These sites are interpreted as playing an important role in the rise of more complex societies in the Middle and Late Neolithic. Turning to southern Scandinavia, more precisely southern Sweden, Kristian Brink reflects on the function of palisaded enclosures dated to the first half of the third millennium BC, social change, and the nature of the activities taking place within these monuments. Among the activities he mentions are fish drying, the use of new types of pottery and increased flint axe production. The fourth article in this section turns the focus more to the west, to the large palisade enclosures of Forteviot, Leadketty and others in lowland Scotland that share many similarities to the enclosures described by Brink. The authors, Gordon Noble and Kenneth Brophy, present the sites, dating to the early part of the third millennium BC, their regional context and discuss the incredible expenditure of labour that went into the creation, maintenance and destruction of these sites, the ritual activities conducted there and the possible significance of the activities for the societies once living there.

The second section of the volume relates to traditions of monumental burial sites constructed in the Neolithic of northern Europe. In the first chapter in this section, the evidence for distinctive traditions of megalithic burial on the island of Rügen are outlined. In the study, Anja Behrens presents the archaeological and archaeobotanical results from two sites labelled Burtevitz 1 and Burtevitz 2. Behrens demonstrates that the monument biographies are very complex with many additions and that changes have been made to the monuments in the Neolithic and the Early Bronze Age. She proposes that the monuments were utilized by small local communities cultivating local traditions visible in a special entrance construction technique but also influenced by distant communities, reflected in changes in the architectural details. On a broader scale, Georg Schafferer analyses the architecture of about 200 megalithic graves in Schleswig-Holstein and Mecklenburg-Vorpommern, northern Germany. He focuses on particular styles of architecture and their spatial distribution, with the aim of distinguishing local and regional building traditions. In a similar vein, Anne Brigitte Gebauer analyses a group of megalithic graves situated next to two Neolithic enclosures at Lønt in Denmark. In her article, Gebauer identifies differences in the building materials, architectonical details and the spatial connections between the monuments as expressions of social identity. The next article deals with the architectonical expressions of megalithic tombs. Here, Almut Schülke uses northwestern Zealand in Denmark as a key area when she compares the traditions of dolmen and passage graves with traditions of single interment. The primary aim in her study is to ascertain if there is a chronological sequence within the different traditions of interment.

The aim of Doris Mischka's investigation in the following contribution is to identify the chronological relationship between dolmens and passage graves in northern Germany, using a series of AMS-dates related to the building and use of megalithic burials in Flintbek. Comparing with published dates from Scandinavian sites, she concludes that the primary building phase for dolmens falls between 3650/3600 cal BC and 3350 cal BC, with polygonal chambered types perhaps amongst the oldest monuments, while passage graves date mainly between 3300 and 3100/3000 cal BC. The region of Soester Börde in the Westphalian Basin in Germany forms the study region in the next article, by Kerstin Schierhold, who interprets the significance of gallery graves in the rise of early monumentality. Schierhold examines her region in relation to Funnel Beaker Culture sites to the north and west, along with late Michelsberg sites with huge enclosures, during the period between 4100 and 2700 BC. Andrzej Pelisiak connects the architectural form of long barrows in Poland to the traditions of domestic architecture. He seeks characteristic features within settlements in the form of long barrows, investigating relations with landscape and interpreting the construction and positioning of the long barrows within the landscape as a ritual reflection of the domestic sphere. Finally, Johannes Müller, Hauke Dibbern, and Franziska Hage explore long-barrows in northern Central Europe and South Scandinavia. The architectural biography of such sites reveals the phenotypical expression of ritual and ideological changes. The authors outline two types of monuments: Type 1 shows the constrcution of a long mound as one architecture and a possible alteration from non-megalithic to megalithic grave architecture, whereas type 2 is described as several segmented mounds finally combined in one long mound.

In the third section – "Other kinds of places" – such as consumption locations, settlements, fens and the seashore, are examined. In the first chapter of this section, Marek Nowak provides an outline of the Funnel Beaker culture settlement history in the Upper Vistula River in southeast Poland. He interprets the Funnel Beaker complex as developing from the Lengyel-Polgár culture, which changed to a more hierarchical society during the beginning of the first half of the fourth millennium

BC. In his article, Lars Larsson also points out the importance of transformations, particularly in the environment, during the transition from hunting and gathering to farming. He posits that certain places were seen as links between this world and a metaphysical world. At such places, objects were transformed by fragmentation or burning, as occurred during the early, middle and late Middle Neolithic at causewayed enclosures and palisaded enclosure sites. Depositions in wetland sites are also interpreted as important transformative places. Martin Hinz presents a regional study of settlement and landscape use in the northern German Lauenburg area from the Late Mesolithic to Late Neolithic periods. He demonstrates the local nature of socio-environmental interaction, whose main transformations cut across supposedly established archaeological periods. Jan Turek focuses on Early Funnel Beaker longhouses. He compares the new discovery of more then ten longhouses from the excavation at Líbeznice in Central Bohemia to other longhouse plans in Poland and Germany. In the following chapter, Åsa Berggren suggests that we pay greater attention to the special sensory experiences afforded by places like the Hindbygården fen and the Hindby mosse in the area of Malmö in Sweden, where depositions took place during the Neolithic. Marginal locations in the landscape are also the focus for Kristina Jennbert, who reflects on sites located at the seashore in Pitted Ware culture contexts. Her point of departure is Jonstorp in northwest Scania, where the people living on the coast were skilled in seafaring and using the coastal environment for subsistence. The development of these coastal sites took on different trajectories to those located inland.

The final section is comprised of articles on varied types of finds, their meanings in context and their special treatments or biographies. Susan Hydén opens this section with a study of an often disregarded find category: grinding and polishing stones. Her focus is on the finds from two Early Neolithic long barrows at Almhov in southern Sweden, where fragments of grinding and polishing stones were found at the facades of these monuments and along with burials. These stones were used, she suggests, both for polishing axes and were fragmented in order to fix social relations in time and place. Deborah Olausson then examines finds attributed to the Battle Axe culture (2800–2350 cal BC) at one dolmen and 20 passage graves from the Funnel Beaker period in Scania, southern Sweden. She concludes that the artefacts are not a result of burial practices at the megaliths, but rather represent ritual activities during which objects were deliberately broken or damaged at the tombs. Two articles then deal with pottery. First, Tine Schenck investigates the reasons for the introduction of pottery around 4000 BC in hunter-gatherer groups in Norway. The sites Slettabø, Vestgård 3 and Vestgård 6 are presented in detail. Using experiments, Schenck tests some possible functions of pots — storage, cooking and beer brewing. Her conclusions emphasise symbolic aspects within social networks, rather than simply practical functions. Agnieszka Przybył then focuses on the final stage of the Eastern Group of the Funnel Beaker complex on the Polish Lowlands and in Central Poland. In her study, she employs typological classifications using formalized descriptions and chronological ordering of the pottery finds. Przybył distinguishes the "Konary-Papros subgroup" as a direct successor of the tradition of the Eastern Group. Finally, Lars Larsson and Sven-Gunnar Broström examine a site called Stensborg, located on a former island south of Stockholm in Sweden. The site is notable for its surface finds of intentionally fragmented stone axes from the Early Neolithic Funnel Beaker period. During excavations at the site, a large amount of carbonized cereal was found. This was interpreted together with the other finds as remains of ritual activities similar to those seen in enclosures.

Most of the articles in the volume deal with the early or later phases of the North, East or Southeast Group of the Funnel Beaker complex (Brink, Behrens, Berggren, Furholt, Gebauer, Hinz, Hydén, Glørstad/Sundström, Larsson, Larsson/Broström, Mischka, Nowak, Pelisiak, Przybył, Schafferer, Schenck, Schülke, Turek). Two deal with later phenomena such as the Battle Axe culture (Olausson) or the Pitted Ware culture (Jennbert). Others focus on regions south of the Funnel Beaker North Group (Schierhold) or on the Neolithic communities of the west (Noble/Brophy) or on monumentality of hunter-gatherers in Finland (Okkonen). Overall, we hope the volume provides both a broad perspective on the landscapes, histories and societies of northern Europe as well as illuminating points of connection between the regionally diverse research traditions.

**Note**

The terminology regarding chronology and cultural groups differs widely, depending on the regional research history. Therefore, we decided to unify the terminology and to use the following names or abbreviations at least for the phases of the Funnel Beaker complex (FBC) in the north (Fig. 2):

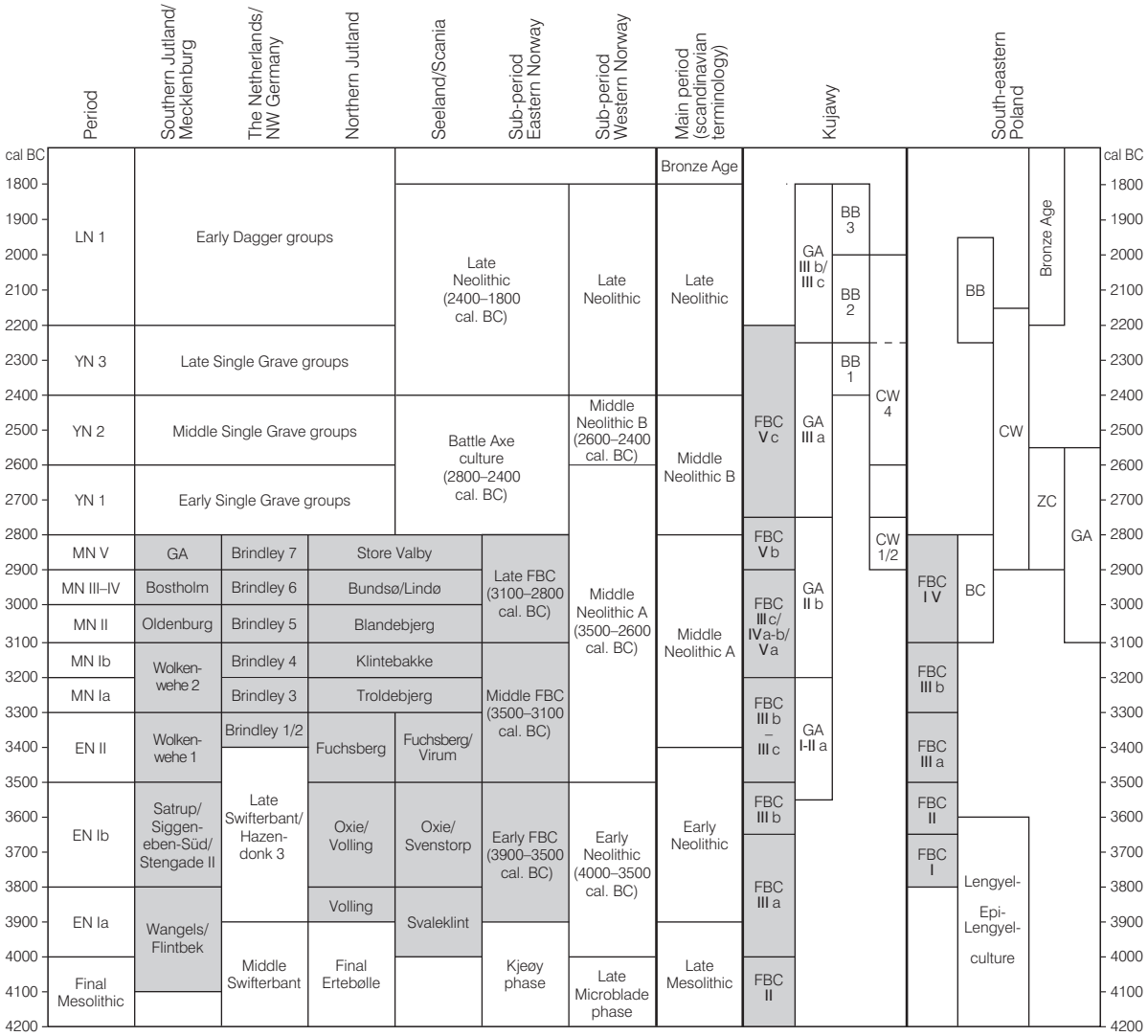



*Fig. 2. Chronology of the Neolithic in northern Europe. Abbreviations: LN = Late Neolithic; YN = Younger Neolithic; MN = Middle Neolithic; EN = Early Neolithic; BB = Bell Beakers; BC = Baden Culture; CW = Corded Ware; GA = Globular Amphorae; FBC = Funnel Beaker; ZC = Złota culture; grey shaded cell areas: Central Funnel Beaker groups.*

Younger Neolithic – YN
Middle Neolithic V – MN V
Middle Neolithic IV – MN IV
Middle Neolithic III – MN III
Middle Neolithic II – MN II
Middle Neolithic I – MN I
Early Neolithic II – EN II
Early Neolithic I – EN I

In Schierhold´s paper, the Younger Neolithic is used according to the Neolithic Phases outlined by Lüning 1996. It is partly contemporaneously to the northern Early Neolithic of the Funnel Beaker complex.

The terminology used for megalithic burial architecture is also very heterogenous. Here, we have retained the local terminologies, but we caution the reader to look carefully at the figures and ground plans when making comparisons of the grave types between regions. In Scandinavia, for example, it is often the form of the barrow — round or rectangular — which is used for the classification into round dolmen and long dolmen. In Germany the architecture of the chamber is used to differentiate between closed dolmen (Urdolmen), open dolmen (or extended or enlarged dolmen), grand dolmen (or big dolmen or large dolmen) and polygonal dolmen. The youngest grave type in all areas under discussion is the passage grave. These monuments are characterised by a passage entering the chamber, usually from the southeast, into one of the long sides instead of the narrow sides, as can be the case with dolmens.

**Acknowledgements**

We would like to thank Johannes Müller for accepting the articles within the SPP series and for his technical support. We express our gratitude in particular to Karin Winter and Ines Reese for their layout work. We also wish to thank Eileen Kücükkaraca and Marianne Noble for English language editing. Ebbe Kocks Stiftelse contributed funding for some of the English revisions. Last, but not least, we would also like to thank all the contributors for their articles and their patience with us during the editing process. The conference in Oslo presented a rich stream of ideas and approaches regarding the relationships between the landscape, histories and societies of the northern European Neolithic. We hope that the readers of this book will also find the ideas stimulating and enjoyable.

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Lüning 1996: J. Lüning, Erneute Gedanken zur Benennung der neolithischen Perioden. Germania 74, 1996, 233–237.

# Neolithic transformations: relationships between society and landscape

*Lars Larsson*

**Abstract**

Transformations occurred on several levels within Neolithic society. The introduction of farming and pastoralism marked a major change in the landscape. The conceptualization of space and landscape went through radical changes throughout the Neolithic. The arrangements for control, just like the need to deforest the area close to the settlement for cultivation and for pastureland, provided a new perspective on the landscape close to settlements and on the land beyond. Certain places were used as links between this world and a metaphysical world, where the connections were achieved by depositing objects, or involved transformation of those objects by fragmentation and burning. The most obvious kind of ritual space in southern Scandinavia is represented by the causewayed enclosures of the late Early Neolithic/early Middle Neolithic, and the palisades of the Middle Neolithic. However, places low down in the overall topography or places with a different landscape character also played an important role in the world view. A small number of places now recognized in southern Scandinavia include remains from the destruction of artefacts by fire (Fig. 1). In contrast, a large number of depositions, most commonly of flint axes, in the wetlands are known from the Neolithic. Moreover, materials from the environment were transformed from nature to culture in their use as a building material. Through the building of the megalithic tombs, another view of the landscape evolved, bringing the landscape into focus as the domain of the ancestors

## Introduction

With the introduction of farming, the view of the physical landscape was given new dimensions. Even though the provision of nutrition had involved the creation of permanent structures in the Mesolithic, such as pitfall traps in the forest intended for regular use, the introduction of cultivation in particular, as well as stock-breeding, led to a new view of the relationship between the environment close to the settlement and the more distant landscape. One also has to be aware that the new subsistence strategies of cultivation and animal husbandry are in many aspects contrasting. When performed by the same society, constant protection and herding are needed to prevent the domestic animals from consuming the plants. Without control of the wider environment and tending, the domesticated animals would also be the victims of wild carnivores.

However, the landscape in the Neolithic was not used exclusively as an economic resource; the shaping of the landscape also had an important cosmological dimension. The perception of the landscape was changed by human impact, but also as a result of natural processes, such as shifting relationships between land and water in connection with transgressions and regressions. But there are other aspects: for instance, the domestic in relation to the wild environment can also be considered an interesting structuralist opposition in this time period (Hodder 1990).

The arrangements for control, just like the need to deforest the area close to the settlement for cultivation and for pastureland, provided a new perspective on the landscape close to settlements and the land beyond. Starting from the early stage of the Neolithic, when relatively small areas had been cleared and narrow paths existed between the settlements, the view changed to ever more open or semi-open spaces (Barrett 1994). Larger

*In: M. Furholt/ M. Hinz/ D. Mischka/ G. Noble/ D. Olausson (eds.), Landscapes, Histories and Societies in the Northern European Neolithic. Frühe Monumentalität und soziale Differenzierung 4 (Bonn 2014) 197 – 206*


*Fig. 1. Southern Scandinavia with sites mentioned in the text.*

and larger parts of the forest were more or less domesticated. Humans were eager to take control of even more extensive parts of the former natural landscape. This meant a changed world view concerning the use of the landscape, where nature was transformed into culture. A close relationship between nature and society during the Mesolithic became a confrontation during the Neolithic, and laws and customs regulated the use of this landscape just as they did society.

**Transformation in stages**

Transformations occurred on several levels within Neolithic society and beyond. The introduction of farming and pastoralism marked a major change in the landscape. The conceptualization of space and landscape went through radical changes, not only physical, but also cosmological, throughout the Neolithic. Even with no firm boundaries between daily activities and ritualized activities, most societies form or identify certain places delimited from the physical as well as the social environment in order to perform special activities of ritual character. These places, separated from the performance of everyday activities, are used as links between this world and a metaphysical world, where the connections are achieved by depositing objects in that place directly, or more commonly involving transformation of those objects by fragmentation and burning. The ultimate kind of sacrifice — human — is rare, but does appear. More commonly, material culture that in certain situations was a substitute for humans, or even regarded as being on a par with them, was the focus of sacrifice and ritual.

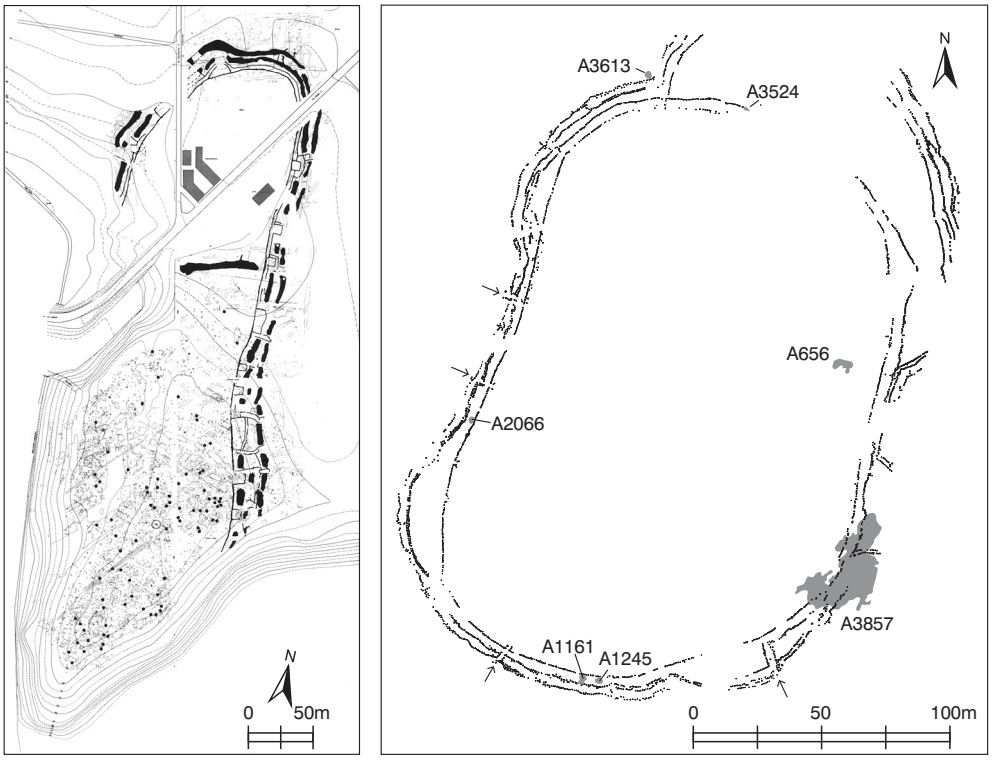


*Fig. 2. Left: The causewayed enclosure at Sarup, southern Funen, Denmark. Sarup I dated to the Fuchsberg phase (after* Andersen *1997, fig. 46). Right: The palisade enclosures at Hyllie, southwestern Scania, Sweden dated to MNB (after* Brink *2009).*

These places are sites where objects were destroyed and transformed, but at the same time these places were also a focus for life-giving. At these sites, axes and other objects that might have been seen as alive, or at least with their own spirit or agency, passed through a ritual death in order to attain a new status and role in society.

The most obvious kind of ritual spaces in southern Scandinavia are represented by the causewayed enclosures of the late Early Neolithic/early Middle Neolithic (EN II/MNA I), known as the first generation enclosures (Andersen 1997; Nielsen 2004), and the palisades of the Middle Neolithic (MNA V/MNB I), the second generation of enclosed sites (Svensson 2002; Nielsen 2004; Brink 2009; Larsson 2012) (Fig. 2). Most of them are a combination of a special setting in the landscape and architectural elements consisting of palisades, pits and post settings. Other sites used for assemblies and ritual performances might be of much less obvious character, and in some cases the area may have no artificial delimitations. The use of such sites covers a much longer span of time than the first and second generations of enclosures, but they are no less important for the society they relate to.

## The enclosed landscape

Some examples will be given relating to enclosures that might provide some perspectives concerning the localities of ritual importance and the significance of the physical as well as the social landscape. The causewayed enclosures of the first generation enclosures did include artificially delimited areas, but in many cases the builders made use of topographic circumstances, such as the confluence of two rivers or a rise in the terrain (Andersen 1999). Similar relationships to the terrain are also valid for the later palisades (Svensson 2002). These structures are easy to distinguish as monuments in the landscape, but other sites had more subtle relationships with the natural environment. One example is the Alvastra pile dwelling, dated to c. 3100 BC, with a palisade forming two obliquely-oriented platforms and an internal division of small rooms, most of which included a hearth (Fig. 3). Remains of more than 45 individuals and numerous examples of destruction by burning indicate the ritual importance of this structure (Browall 1986; 2011; Malmer 2002).


*Fig. 3. The Alvastra pile dwelling (Västra Tollstad par.), Östergötland (after* Malmer *2002 fig. 39).*

The structure has been viewed as an assembly place for two social groups, perhaps two kin groups, where each family had its own rectangular room or 'cell' on the platforms.

But what about other kinds of enclosures where the natural topography is the dominant or sole feature? Might such areas, even if they include remains of activities that can be integrated within the ritual sphere, be classified as enclosures, but different from the artificial ones and maybe used for other purposes? In most cases, for understandable reasons, the investigation of enclosures has focused on the palisades and pit systems, while the enclosed areas have generally been of less interest. In some of the cases, when the entire area has been excavated the features have been few in number and of limited size (Andersen 1999; Nielsen 2004; Brink 2009). However, the finds in the pits have in most cases been related to ritual activities.

Four places so far recognized in southern Scandinavia include remains from the destruction of artefacts by fire. Three are dated to the late Early Neolithic or early Middle Neolithic. At Stensborg, south of Stockholm, an area with a number of small pits filled with broken stone axes and fire-damaged flint axes was defined on the west side by the seashore, to the north and south by large ravines and to the east by a ridge (Larsson/Broström 2011; this volume).

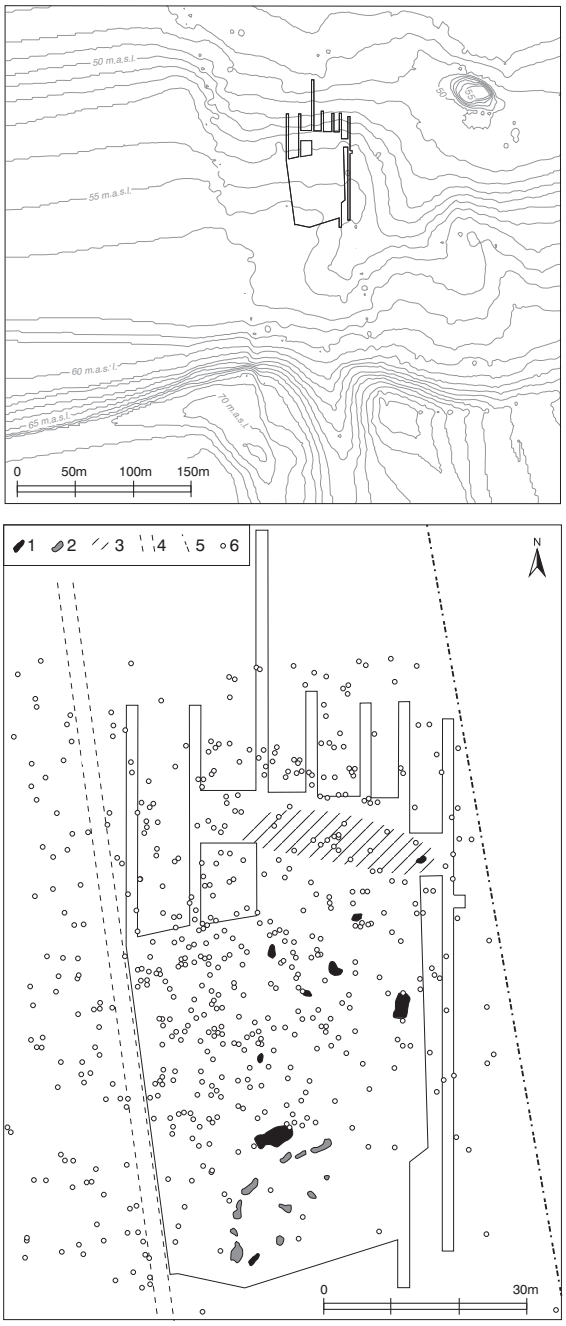


*Fig. 4. Above: The topographic setting of the site Kverrestad. Below: The distribution of finds and features at Kverrestad. 1: pits with finds, 2: pits with a clay filling, 3: area with a thin plough zone, 4: field road, 5: field boundary and 6: surface finds*

Another location, Svartskylle in south-eastern Scania, was situated on a rise surrounded by wetlands (Larsson 1989), while another, Strandby on Funen, was close to the seashore (Andersen 2009). Yet another, Kverrestad in south-eastern Scania, dated to the late Battle Axe culture, has a similar setting defined by natural topography (Larsson 2000) (Fig. 4). The topographic conditions in each of these cases were favourable for delimiting an area of ritual importance. In a way, the landscape itself takes on a more active role in the social realm.

These sites are examples of generally raised parts of the landscape that had had a special purpose in the cosmology. However, places low down in the overall topography or places with a different landscape character also played an important role in the world view. In particular, activities performed in wetlands are well represented in the southern Scandinavian Neolithic (Karsten 1994; Larsson 2007). These bogs or fens may have been regarded as openings to another world below the present one. In certain bogs, the period of deposition in wetland locations can extend over several centuries and also involved the construction of walkways and a platformto facilitate the activities (Berggren 2007). These numerous examples represent a kind of inverted enclosure. The Alvastra pile dwelling, mentioned above, could be regarded as a combination of a natural and artificial enclosed area. Through these examples, the definition of an enclosure might be problematized, in the full confidence that similar 'natural enclosures' will be found in the future.

One further important aspect concerns why enclosures of this character were built. The presence of structures such as palisades along the edges of ditches, as occurs at a number of Neolithic sites in southern Scandinavia, suggests a relationship or homology between these enclosures and defensive structures. But who were these enclosures designed to defend against or what did they defend (physically or symbolically)? Some of the enclosures, especially the small ones, appear to be real defences for the settlement within. But when the enclosed area includes tens of hectares, a large number of individuals would be needed in order to defend the entire structure, and this would be an unrealistic scenario. The southern Scandinavian causewayed enclosures and palisades do not include ordinary settlement remains. In spite of this, it might be suggested that they were used for protection in a special sense. As regards causewayed enclosures, we have no information about where the soil from the ditches was deposited. There does not seem to be room for the soil between the ditches and the inner palisade, even if the most plausible position for a defensive structure would be on this side. However, if the defended area were situated outside the enclosure then we would expect the reverse to be true with protection for the society needed from the actions taking place inside the enclosure. In this case, the enclosure structures may act as more of a symbolic barrier against the activities of a small number of specially selected individuals carrying out activities and ceremonies within the enclosure (Gillings/Pollard 2004).

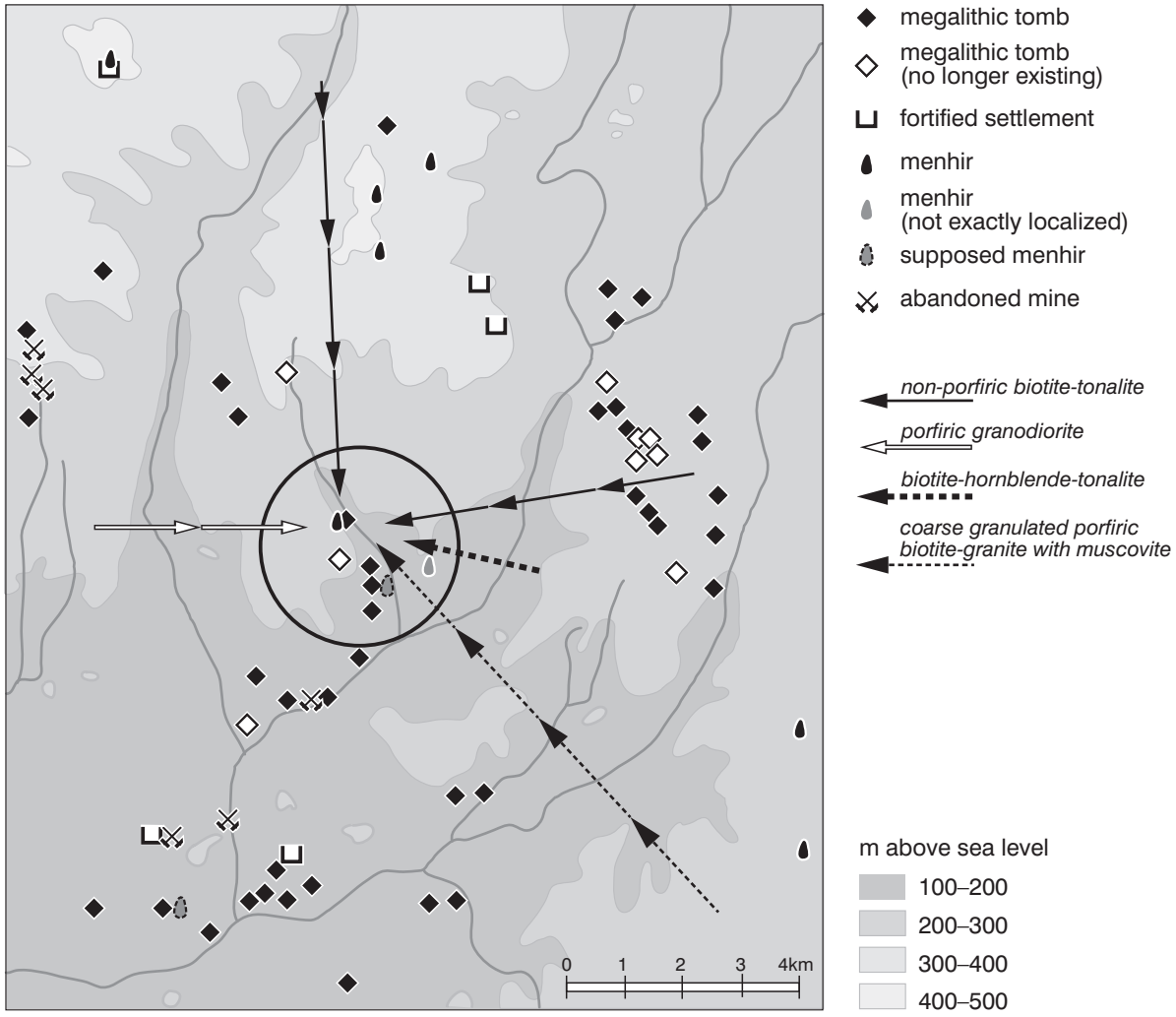


*Fig. 5. Transportation routes and directions of the different kinds of rock used for construction of the four megalithic tombs of Vale de Rodrigo (after* Kalb *1996).*

## Megaliths and landscape

How the landscape was transformed in the Neolithic can be exemplified in several different ways. In Ebbesen's monumental study of the Danish megalithic tombs, two different stages in tomb building can be recognized (Ebbesen 2011). According to Ebbesen, the dolmens were erected during the later part of the Early Neolithic (TN3) and during MNI. Based on the calculation that 90% of all tombs have been destroyed up to the present day, about 15000 dolmens were erected within less than five hundred years, which means that 30 dolmens per year were built in present-day Denmark. At that time, about one dolmen per week was finished, based on the assumption that megalithic tomb-building was limited to the warm part of the year. However, about 13000 passage graves were built within less than two hundred years (MNI), which means that the intensity of building activities was more than double. The actual introduction of agriculture facilitated the construction of these monuments through the identification of appropriate building material, as large stones were exposed and observed during cultivation. Through the building of the stone monument another view of the landscape might have evolved, bringing the landscape into focus as the domain of the ancestors.

This does not mean that an entirely practical view of how the elements of monuments were brought to the location of the tomb existed. Here, an example far from the north European geographical sphere can be considered. The excavation and study of megalithic tombs in Alentejo Province, southern Portugal was supported by a petrographic study of the bedrock in order to find out where the building

material had originated. The results were that most stones had been split from bedrock at a distance of about two kilometres from the construction site (Kalb 1996; Larsson 1998; 2010) (Fig. 5). However, one large stone in each tomb had a composition that was not found closer than eight kilometres from the tomb. The specific rock type of each was more fragile and less suitable as a building material. These exotic stones have been interpreted as symbolizing the origins of the megalith builders. Unfortunately, such studies are almost impossible in northern Europe due to the process of glaciation that transported even large stones from their origin. That two Danish dolmens two kilometres apart have parts of the same boulder as capstones shows that the transport of stones might have been considerable (Ebbesen 2011). The use of red sandstone from the same quarry for the drystone walls in between orthostats within most of western Scania is another example of distant and widespread transport of materials (Hårdh/Bergström 1988). More intensive studies would provide various new perspectives on the acquisition and transport of building material. Local and distant parts of the landscape are connected in a way that is not entirely limited to functional aspects. Indeed, there were earlier efforts to bring together parts of the landscape at a special location. Geological analysis of the fill of a 60-metre-long and 1-metre-high Early Neolithic earthen long barrow, Jättegraven, excavated in southern Scania indicated a composition that did not correspond to the immediate environment. Instead the materials had been transported from an area at least 200 metres away (Larsson 2002). There was good soil for building a barrow in the immediate vicinity, but instead more distant material was used.

**The managed forest and deforestation**

It is not only earthen and megalithic building material that was moved shorter or longer distances across the landscape. In building not only houses, but also palisades, large areas of the forested landscape were cut. In some cases the deforestation might have been planned more than a generation in advance — not only the arable land or pastureland, but the forest as well, was managed. At the previously mentioned Alvastra pile dwelling, dendrochronological studies tell us that the structure was built on a single occasion, as the piles for the frame of the platform were all driven into the mire at the same time (Bartholin 1978). There is also an interesting use of tree trunks as supports for the platform. Apple trees and elm trees are the oldest trunks used, in addition to trunks from oak, which seem to have started their growth about 40 years before construction, and the size of the trunks indicates that they grew in the same open forest and were shoots from managed coppice stools (Bartholin 1996). Later additions were supported on oak trunks that started to grow at the same time as those used in the initial construction. They originate from a forest that seems to have become more and more open, with the result that the trees grew larger. This has been interpreted as showing that the platforms were built of trees from the same part of a forest. This suggests that the planning of the platform structure was initiated about 40 years before it was realized, when an area with sparsely-growing apple and elm trees was set aside mainly for oak to grow. It might have been an intentional choice that the trees were allowed to grow. This may be an example of the effect of people on the formation of new forests. By using axes and fire, and through the actions of livestock, the 'natural' forest could be intentionally structured (Larsson 2001).

As the examples above show, parts of the surrounding environment were brought to be used as building material, but additionally in order to represent particular parts of the landscape. At some sites there is a reciprocal relationship between monuments and their landscape. Once again, the sequence of events at Alvastra pile dwelling provides an example. According to the dendrochronological analysis, the dwelling was built within a year and used for a total of 42 years (Bartholin 1996). However, the western platform was abandoned within a few years and left unused for about 15 years. During this time, small trees and bushes grew up within the enclosure. Later the vegetation was cut and the area reused. Similar conditions are present at the causewayed enclosures, where ditches were left to partly silt up or were intentionally filled and later dug open again. At some enclosures this happened several times. In a few instances, several centuries passed between episodes of use. During the later part of the Funnel Beaker culture they are used again, at a time when most of the ditches had silted up and were just visible as shallow pits (Larsson 2012). Due to social changes, the old enclosures were reused and of importance once again. Like monuments, a parallel reciprocity between landscape and society might also be observed in the case of some accumulated depositions in bogs. At some bogs there are distinct gaps in use, with depositional activities ceasing and resuming several generations later (Karsten 1994). The memories of sites were transformed into stories of the distant past, but on special occasions they became important again, and were accompanied by physical reuse of these places (Larsson 2011).

Returning to megalithic monuments, if a burial monument is to impress, there must be a break in the vegetation, so that the location and dominance of the

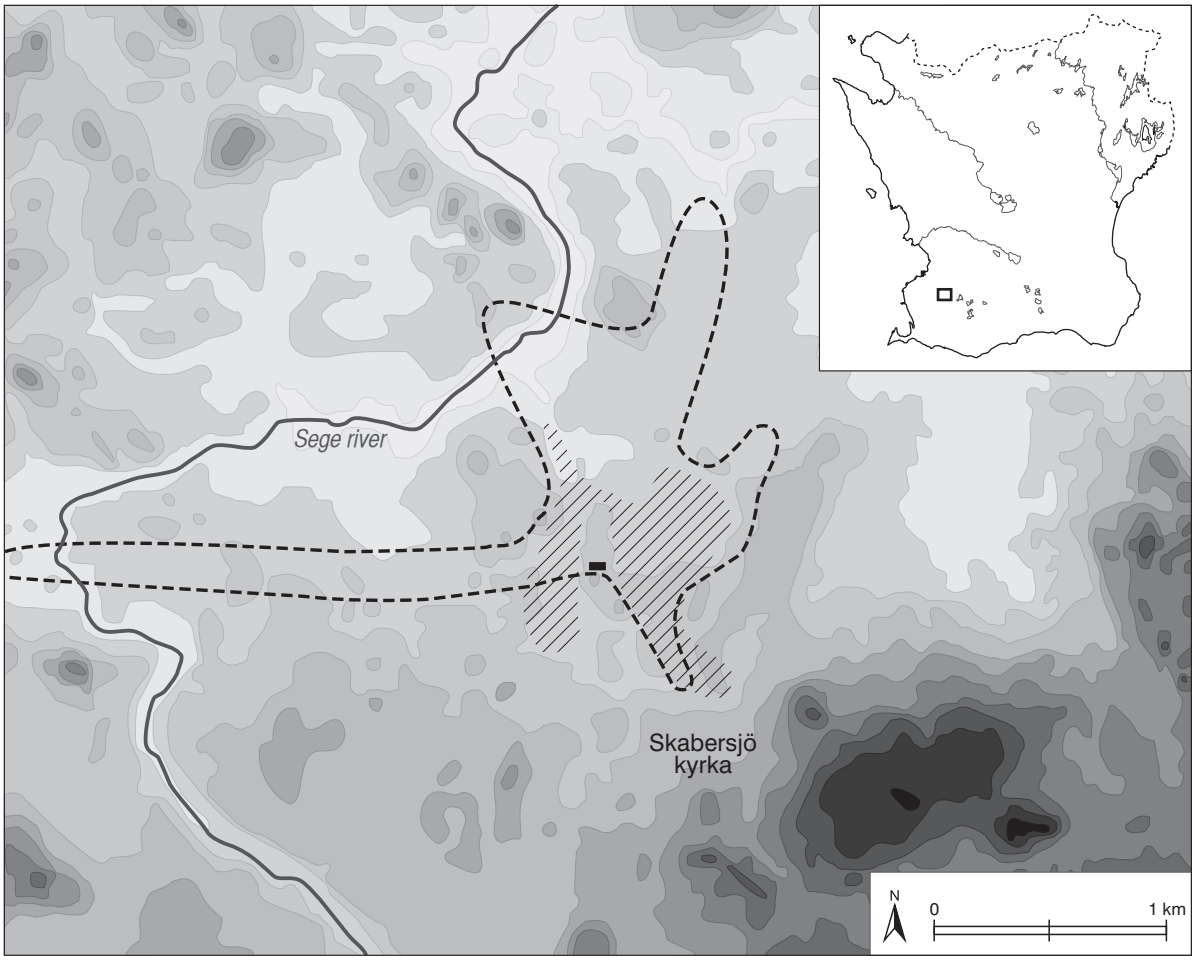


*Fig. 6. The visibility of the Early Neolithic long barrow at Örnakulla in south-west Scania. The wetland areas are marked by dashed lines (Larsson 2002).*

monument over the landscape is obvious. Considerable parts of the landscape were thus ritualized in some way. Through the construction of monuments and the utilization of topographical conditions, people tried to achieve particular effects on those who saw these monuments in the landscape.

An example of this is the location of an Early Neolithic long barrow at Örnakulla in south-west Scania (Larsson 2002). From the west, even with considerable vegetation cover, the monument was visible within a narrow corridor more than two kilometres long, which ended at the location of what was perhaps the biggest settlement site in the period when the long barrow was built and in use (Fig. 6). From the south, however, the monument was not visible until one had reached the summit of a hill less than a hundred metres away from it. The people living to the west thus had the monument in constant view, whereas those who approached it from the south — the only way to reach the structure without getting your feet wet — did not see it until they were virtually beside it. The composition of the vegetation could have had great importance for how natural parts of the landscape as well as monuments were integrated into the cosmology. Just as monuments could be highlighted by a corridor or area with low vegetation, certain copses or even a few lines of trees could also hide them.

## Conclusions: the sign of the gods

In this chapter we have seen the importance of the natural world in prehistoric cosmologies, but how were these world views adapted and altered? World views can withstand a great deal of change caused by internal conflicts and external influence. One or usually several interacting factors can lead to increased pressure on the frameworks — both physical and ideological — of the existing

social structure, so that a society is forced to accept changes so radical that they cannot be accepted within the given social framework. This leads to the formation of new societies based on new conditions and a revised world view. This appears to have happened during the Mid-Holocene and perhaps prompted the adoption of agriculture across southern Scandinavia. A number of natural phenomena may have been perceived as significant for the changes that took place during the Mid-Holocene. Elm disease, for example, plays an important part in the discussion about the introduction of agriculture. Although the elm decline was often implicated in the beginnings of farming, today the elm decline is interpreted as a result of elm disease. This phenomenon can be detected all over northern Europe (Friman 1997). Moreover, analyses of cow dung from an early agricultural site in Switzerland have shown that elm was not the primary tree for fodder: ash, lime, and willow were totally predominant (Rasmussen 1991). That humans did not cause the elm decline does not mean that this change had no significance for the spread of agriculture. Elms grow in nutrient-rich soil, cast a broad shadow, and were one of the most important trees in the forests of southern Scandinavia. As southern Sweden is suffering from elm disease at the present time, it has become possible to follow its effects, which in some places are very obvious. Within a few years a forest afflicted by elm disease is transformed into an area of dead tree trunks with rapidly flourishing bushes and other undergrowth. In the Neolithic, burning the dead trees may have been a labour-saving way to provide large areas for cultivation and pasture. Likewise, a thunderstorm in areas with large amounts of dry wood might have had tremendous consequences. In most cultures, signs from supernatural agents are regarded and accepted as being of great or often decisive importance for making difficult decisions — such a sign may affect the faith of a single person or the society as a whole. Indeed, the Mid-Holocene elm disease arrived in a turbulent period (Larsson 2003). Ideas from the south about cattle breeding and agriculture, and especially aspects of a new world view which was linked to the new economy, were present and at least partly known to most people. Old traditions and perceptions of the landscape were confronted with the new behaviour. In this context, the ravages of elm disease may have seemed like the interference of supernatural forces, probably as a sign from the gods that the people should intensify or accept the change in social order, subsistence practices and cosmology. This might be the most important aspect of the elm disease for the spread of the Neolithic in large parts of northern and north-western Europe. Who could oppose the signs of the gods?

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