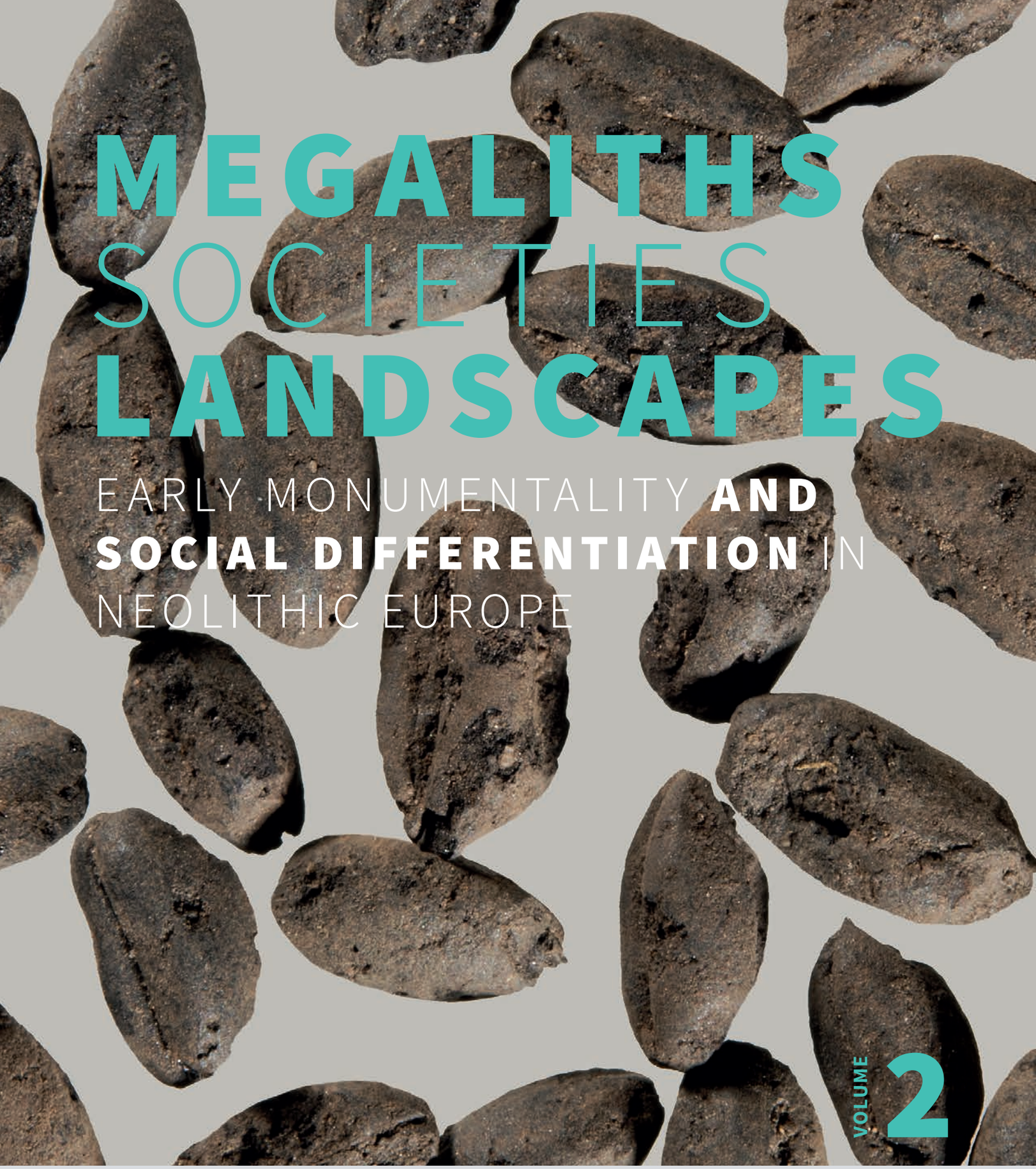

MEGALITHS SOCIETIES LANDSCAPES

EARLY MONUMENTALITY **AND SOCIAL DIFFERENTIATION** IN NEOLITHIC EUROPE

VOLUME 2

Eds.:
Johannes Müller
Martin Hinz
Maria Wunderlich

Frühe Monumentalität und soziale Differenzierung 18

Institut für Ur- und Frühgeschichte der CAU Kiel

Megaliths – Societies – Landscapes

Early Monumentality and Social Differentiation in Neolithic Europe

Volume 2

Proceedings of the international conference »Megaliths – Societies – Landscapes. Early Monumentality and Social Differentiation in Neolithic Europe« (16th–20th June 2015) in Kiel

Eds.: Johannes Müller, Martin Hinz, Maria Wunderlich

in Kommission

Verlag Dr. Rudolf Habelt GmbH, Bonn
2019

Gedruckt mit Unterstützung der Deutschen Forschungsgemeinschaft, Bonn
und des Institutes für Ur- und Frühgeschichte der CAU zu Kiel

Verlag Dr. Rudolf Habelt GmbH, Bonn
Redaktion Martin Hinz, Maria Wunderlich & Julia Menne (CAU Kiel)
Bildbearbeitung Nicole Schwerdtfeger & UFG-Graphic Department (CAU Kiel)
Satz & Grafik Nicole Schwerdtfeger & UFG-Graphic Department (CAU Kiel)
Design-Konzept Janine Cordts (CAU Kiel)
Umschlaggestaltung Janine Cordts (CAU Kiel)
Umschlagfoto Vol. 2: Agnes Heitmann (CAU Kiel)
Kapitelfotos Ch. 3: Sara Jagiolla (CAU Kiel), Ch. 4: Agnes Heitmann (CAU Kiel)
Konferenzfotos Sara Jagiolla (CAU Kiel)

ISBN 978-3-7749-4213-4
Titel auch als E-Book (PDF) erhältlich unter www.habelt.de

Druck BELTZ Grafische Betriebe GmbH, Bad Langensalza

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie.
Detailliertere Informationen sind im Internet über
<http://dnb.d-nb.de> abrufbar.

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Preface of the Series Editor

The DFG Priority Program 1400 »Early Monumentality and Social Differentiation: On the origin and development of Neolithic large-scale buildings and the emergence of early complex societies in Northern and Central Europe« started its work in 2009. Its research agenda focused on the investigation of the phenomenon of monumental structures, in particular on megalithic constructions and their social and economic backgrounds during the Neolithic with a focus on Northern Central Europe. Already in May 2010 a workshop on the topic »Megaliths and Identities« took place in Kiel. The vivid dialogue that had started on this early workshop continued throughout the years after. In consequence the International conference »Megaliths, Societies, Landscapes« was organized five years after on a broader scale. Many experts gathered to discuss research on megalithic and monumental structures and the societies that built them on not only a European scale.

The three volumes, which you hold in your hands, may inspire again new ideas and perhaps new insides for future research on the development of these early monumental landscapes!

Johannes Müller

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Preface

Monumentality and megaliths continue to be a prominent and central research object in prehistoric archaeology, as reflected by the lasting interest in the research of monumentality in the course of many research projects. A considerable improvement of the understanding of monumentality has been accomplished by improved dating-methods and comparative perspectives. In accordance with these developments, an international conference was held in Kiel in 2015, aiming to bring together researchers from all over Europe and their respective perspectives on different forms of monumentality.The conference »Megaliths, Societies, Landscapes. Early Monumentality and Social Differentiation in Neolithic Europe« was organised by and meant as a platform for final discussions of the Priority Programme 1400 »Early Monumentality and Social Differentiation. On the origin and development of Neolithic large-scale buildings and the emergence of early complex societies in Northern Central Europe«. This priority programme lasted for six years and included several institutions in Germany. We would like to thank all of the researchers involved for their persistent and fruitful work, which are mainly also published as monographs within this series. The European Megalithic Study Group also took part in the conference.

The conference – and with it this publication – provided a framework for the presentation and discussion of many different case studies, which shed light on the interconnectedness and diversity of the complex ›monumentality‹ in Neolithic and Chalcolithic Europe. It also provided a place to discuss open questions and problems, whereby we hope that this book will equally provide a basis for further discussions.

It is undoubtedly the contributions that make up the quality of these three volumes, and we are extremely grateful that so many European colleagues have been willing to contribute their knowledge to the overview of the current state of research that these books intend to provide. Indeed, it is not least thanks to the contributors' discipline, friendliness, patience and professionalism that we have been able to compile such an extensive body of research. In advance, we had hoped that this publication could become a reference book on Early Monumentality and Social Differentiation, and if we succeed, it is thanks to every single author. Therefore, we would like to express our deep gratitude.

In addition, a multitude of helping hands – in language correction, image processing and layout– make such a comprehensive publication possible in the first place, and whose work is far too rarely appreciated. These include Julia Menne, Richard Forsythe, who honed the last linguistic imperfections, Janine Cordts, Nicole Schwerdtfeger, Susanne Beyer, Agnes Heitmann and Carsten Reckweg, who edited hundreds of illustrations and arranged them in the right places.

Without the support of the German Science Foundation (DFG), it would not have been possible to carry out the DFG-Priority Programme or the conference and this publication. We would like to express our sincere thanks to all these parties involved.

Martin Hinz, Johannes Müller, Maria Wunderlich

The monumentalisation of European landscapes

Martin Hinz, Johannes Müller, Maria Wunderlich

It is the monumental sites that characterised large parts of Neolithic Europe during the 5th and 4th millennia. During these centuries, Neolithic societies began to construct above-ground monuments and enclosures in many regions of southern, western, northern and central Europe. These developments might be linked to processes of social differentiation, changed economic practices, new exchange systems and ritual traditions.

These perspectives were the central focus of the conference ›Megaliths, Societies, Landscapes. Early Monumentality and Social Differentiation in Neolithic Europe‹, which was held in Kiel with 184 participants from 14 countries by the SPP 1400 ›Early Monumentality and Social Differentiation. On the origin and development of Neolithic large-scale buildings and the emergence of early complex societies in Northern Central Europe‹. The conference especially focused on the interlinkage between Neolithic monuments, the construction of landscapes and the societies.

This took place against the background of the priority programme, which from the onset aimed to understand and analyse the monuments in their context. For too long, megaliths in particular have been examined detached as monoliths, so to speak, which in their own right represent a prominent archaeological phenomenon of the European Neolithic, but whose real significance can only be appreciated through their entanglement in the overall network of socio-cultural conditions of early agricultural societies. The investigation of architecture and its regional characteristics is certainly very valuable in itself, and a classification and chronology form an important starting point for further investigations. However, it must not be limited to that! Therefore, the objective of the priority programme was clear from the beginning, and this view was reinforced during the course of the project, namely that the monumentalisation of the landscape through the collective work of communities is to be explained by social processes of differentiation resulting from changed ways of economy, new exchange systems and ritual ideas. Only from the synthesis of all available and newly-acquired data combined with the interpretation from ecological, socio-historical and cultural anthropological perspectives can an understanding of these processes be made possible. The structure of both the priority program and the conference is committed to this goal: the monuments as such must be studied in detail, whereby those that are not made of stone and therefore have not visibly survived to this day and thus have experienced less research activity require special attention. Nonetheless, at least as important is the analysis of the economic basis of the communities constructing them, the material culture, which can be directly or indirectly connected to the monuments themselves, the social conditions, which can be deduced from these traces of human activities and must be given special consideration against the background of collective work and burial, and, finally, the people of the Neolithic period themselves, who we can seldom enough identify for the area of megalithic architecture in general but who are the bearers of this phenomenon and ultimately responsible for the monuments, which still shape landscapes today and can and indeed still do serve as markers and points of crystallisation of identity.

The phase of early monumentality offers important insights into processes that have influenced human coexistence. While it is difficult to recognise a social structure before, the dynamics of change intensify enormously during the construction period of Neolithic monuments. Starting with the Passy type graves, in which individuality and monumentality suddenly emerge to an enormous extent, we see an ever-more developing focus on cooperation. The multiple change in cognitive expression, this quasi search for a social configuration against the background of the new way of life and economy– certainly connected with new ideologies – can be located precisely during the phase of early monumentality.

Therefore, in addition to the individual case studies on individual monument landscapes, the SPP also included projects investigating the background of early monumentality; in fact, more projects were related to this aspect than those set up in the traditional sense. Indeed, this is also the basis for the division of the conference into the individual sessions, which again

reflects a focus on the holistic approach to the concept of early monumentality.

There is a close relationship between monumentality and cooperative practices in the construction and use, especially the burial and other ritual practices of and within the monuments themselves. Expressions of this concept can be found in the form of megalithic tombs, menhirs, stone circles, avenues and non-megalithic constructions like long and round barrows, causewayed enclosures and further timber-and-earth constructions. The session ›*Monuments of Stone, Wood and Earth*‹ provided an overview of the various manifestations of monumentality in their European context.

Monuments are a part of an economic, social and ritual landscape. Monuments are always embedded in an overall landscape and social practices, from which they gain their meaning. Domestic structures often represent the background and link of symbolic and ritual components associated with monumentality. In order to understand the phenomenon of monumentalisation, it is essential to take an archaeological perspective that integrates social practices and landscapes. In the session ›*Monumental Landscapes*‹, this entanglement was examined. Several contributions identified different levels of meaning by addressing groups of monuments, their relationships with each other and to the non-monumental elements of the Neolithic worlds.

It has always been assumed that early monumentality is associated with changes in subsistence, economy and technology, and may be causally related to these changes. In its quantity and omnipresence, monumentalisation remains linked– according to today's state of knowledge– to productive economies. Today, we have a large amount of data, dating and new methods at our disposal in field archaeology and scientific analysis to confirm or question this notion. New light is cast on agricultural tools, techniques and the organisation of the Neolithic subsistence economy, including the movement and mobility of things, plants, animals and humans. In this sense, the development of monumentality in relation to economies can be correctly assessed. The session ›*Neolithic Subsistence and Megaliths*‹ therefore comprised contributions dealing with the Neolithic subsistence in general, as well as the connection between economy and monumentality in particular.

The study of material culture has always been the backbone of archaeological research. Material culture itself is the most direct way of observing the life of Neolithic societies responsible for the construction of the monuments. Through the exploration of material culture, processes of production and consumption become perceptible, of which the monuments themselves are part. With the help of such analyses, the work processes that to a certain extent determined Neolithic societies can be examined. In addition, it is the tangible densification of communication processes that connected the individual groups of spaces, whereby the exchange of objects may have been a medium for the reproduction of these societies. In the session ›*Material Culture in Monumental Settings*‹, material culture was examined in the context of the phenomenon of early monumentality. The focus was on research investigating the production, use and distribution of objects and thus addressing the overarching questions. Chorological or chronological differences in the use of an entire group of materials, site-specific analyses and microscopic examination of individual objects formed the broad framework. The objects themselves were in focus, but above all the question of the practices that were made possible by the artefacts and into which they were embedded.

As a distinctive phenomenon, the megalithic tomb represents a form of monument that points to a significant cooperative aspect. Such monuments could only be built together. At the same time, the common use of these structures is made plausible by a collective burial custom. The same applies to other forms of monumentality in which cooperative building processes by larger groups of people were necessary. At the same time, these monuments may have been important as ritual and symbolic central places, especially for both large or disperse groups of people. In addition to the integrative character of monuments, they might often be associated with the exclusion of persons. For example, a megalithic tomb separates the enclosed from the outside world. The same applies to causewayed enclosures, where in these cases a distinction is made between inside and outside. Accordingly, are these monuments the expression of a cooperative ideology, or do they testify to the power of some over the labour of many? In addition to these inherent characteristics of monuments, the timespan of their emergence seems to be characterised by a stronger (inner) differentiation of groups of people, recognisable archaeological in the field of material culture. For example, in northern Funnel Beaker Societies, there is a significant regionalisation of decorations and ceramic forms, while they are spatially connected by a very similar burial custom, almost a variation of a supra-regional sharing of megalithic construction customs. The topic dealt with in the session ›*Social Diversity and Differentiation*‹ highlighted references to the underlying processes of the mentioned phenomena, which result from current studies. How can we interpret the rather sparse and often seemingly contradictory traces of the social organisation of Neolithic societies? Can social differentiation be observed in the context of the

monumentality of the landscape, and in what forms are the different developments presented in different regions? Although a differentiated picture has been drawn, a common line may nevertheless be presumed that architecture is in most cases indeed more cooperative but also most often the most traditional and inert element in the course of social change.

There are some approaches that lead directly to the people who erected the monuments, namely the direct study of human remains and the analysis of their sparse personal testimonies. Ultimately, with their data, ethnoarchaeological studies – even if they do not examine Neolithic cultures themselves – represent an invaluable extension of the interpretive scope. Human remains are unevenly present in the different areas of the distribution of the phenomenon of early monumentality. Nevertheless, they become all the more important as a source where they are present. Although a knowledge transfer of anthropological studies from one research area where they can be carried out to another must use the same analogy as ethnoarchaeological studies, they represent unique focal points that illuminate an otherwise only indirectly visible area. The ›*Monuments and their Builders*‹ session was devoted to the task of collecting such evidence to get ›closer to the people behind the monuments‹.

The three volumes presented here broadly reflect the original structure or the conference. The first volume deals with ›*Monuments of Wood and Earth*‹, as well as ›*Megalithic Studies*‹.

We have decided to separate the originally-consolidated session for the publication. This decision was influenced by the outstanding role of non-megalithic monuments made of wood and earth due to their significance as the earliest appearing types of monumental structures in Neolithic Europe. The second chapter focuses on monuments built of stone. Despite this division between the two types of monuments, we would like to stress the interconnectedness, their – in many cases – chronological continuity, as well as the shared role of the monuments in the creation of new and renewed monumental landscapes.

The second volume comprises chapters on ›*Monumental Landscapes*‹ and ›*Neolithic Subsistence and Megaliths*‹. Both chapters take an overarching perspective on different regions and types of monuments. Their focus lies on aspects of the creation and alteration of landscapes, as well as aspects of Neolithic economy and subsistence. One of the main accomplishments of these case studies lies in their chance to provide a socioeconomic background against which the phenomenon of monumentality might be understood and interpreted.

Finally, the third volume is devoted to different aspects of material culture, social differentiation and dynamics. It comprises chapters on ›*Material Culture in Monumental Settings*‹, ›*Social Diversity and Differentiation*‹ and ›*Monuments and their Builders*‹. The papers included in these sections provide a background on the social processes and mechanism being influential in monumental building practices. They also provide a comparative perspective, including recent examples of ethnoarchaeological research in areas of megalith building traditions.

The newly-acquired data now makes it much more possible to integrate the phase of early monumentality meaningfully into developments that span the arc from complex foragers via agriculturalists to metal-producing societies. In our observation, most of the European megaliths are linked to societies that already produced surplus but comprised cooperative ideologies.

However, it is precisely the regional heterogeneity and inner dynamics that ensure that the investigation of early monumentality and social differentiation will continue to be an exciting field of research in the future, which is also relevant for the assessment of today's social configurations.

Martin Hinz
martin.hinz@iaw.unibe.ch
martin.hinz@ufg.uni-kiel.de

Johannes Müller
johannes.mueller@ufg.uni-kiel.de

Maria Wunderlich
m.wunderlich@ufg.uni-kiel.de

Institute of Pre- and Protohistoric Archaeology
Christian-Albrechts-University Kiel
Johanna-Mestorf-Straße 2–6
24118 Kiel
Germany

Diversified monuments: A chronological framework of the creation of monumental landscapes in prehistoric Europe

Maria Wunderlich, Johannes Müller, Martin Hinz

The emergence of different kinds of prehistoric monumentality within modern-day Europe creates a complex structure of diverse building traditions, including both megalithic and non-megalithic monuments.

Only recently, B. SCHULZ PAULSSON (2017) presented a comprehensive summary of available dates of megalithic monuments in western and parts of central Europe. Expanded by the British Isles as well as modern-day Germany and Poland, Figure 1 presents a general overview of the different chronological and social contexts in which the construction of prehistoric monuments took place. In order to ensure comparability and accessibility, the classification of monument types is based on the distinction between dolmens, passage graves and (megalithic and non-megalithic) long barrows. The category of dolmens comprises different sub-types, such as the extended and small dolmens present in Funnel Beaker contexts.

Megalith building traditions and the construction of enclosures represent an archaeological topic of European scale, spanning different regions and times. Both aspects have been the subject of intensive and diverse research questions as well as extensive dating programmes. Besides early approaches (cp. MÜLLER 1984; 1998), especially the improvement of archaeological excavation techniques and the use of Bayesian modelling has significantly improved our understanding of the chronological framework within which the rise of monumentality took place (among others: SCHULZ PAULSSON 2017; WHITTLE et al. 2011). The summary that we present here strongly relies on these studies.

As reflected in the different chapters of this book, monumentality encompasses monuments made of wood, earth and stone. Certainly among the most impressive sites are the different kinds of enclosures that were built throughout the Neolithic and Chalcolithic phases of European prehistory. Among early examples of causewayed enclosures are those within the context of Cerny and Michelsberger Groups in the Paris Basin, as well as in central Germany (JEUNESSE 2004; KLASSEN 2014; WHITTLE et al. 2011). Several centuries later, enclosures were frequently built in the context of Funnel Beaker communities in what is now northern Germany and Denmark (compare Andersen this volume; HAGE 2016). With one of the highest densities, but in a different context, enclosures were also erected on the British Isles from 3800 cal BC onwards (WHITTLE et al. 2011). In contrast to these situations, the building of enclosures in the Iberian Peninsula started slightly later, around 3300 cal BC (JIMÉNEZ-JÁIMEZ/MÁRQUEZ-ROMERO 2016), already situating them in Late Neolithic and Early Chalcolithic contexts.

The second type of non-megalithic monuments are long barrows, which represent the earliest types of monumental grave structures in the respective regions. Outstanding examples of these early grave types are to be found in both the Paris Basin as well as north-western France. Long barrows are preceded by the monumental tombs of the Passy type in the Paris Basin, of which similar examples can also be found in the Normandy (CHAMBON 2010; GHESQUIÈRE et al., this volume; SCHULZ PAULSSON 2017; GUILAINE 2011).

Long barrows are also present in Funnel Beaker contexts, representing the earliest monumental burial types in northern Germany, Denmark and Poland with an appearance from 3900/3800 cal BC onwards (compare MISCHKA 2014; MÜLLER 2014; RZEPECKI 2011; SJÖGREN 2011). Nevertheless, a distinction can be made between the Kujavian grave types in modern-day Poland – which were always non-megalithic long barrows – and the monuments in northern Germany and Denmark, which were partly transformed into megalithic long barrows by the integration of megalithic grave chambers (MISCHKA 2014; NOWAK 2013; POSPIESZNY 2010). A similar development is also detectable in southern England. Here as well, the earliest monuments comprise non-megalithic long barrows (3700 cal BC), while later on a transformation into megalithic monuments took place (DARVILL 2016).

Soon after the introduction of long barrows, the construction of dolmens and passage graves mark the most intensive phase of megalithic building activities throughout Europe. In many cases, the appearance of dolmens precedes the emergence of passage graves, although – based on available ^{14}C-data – a

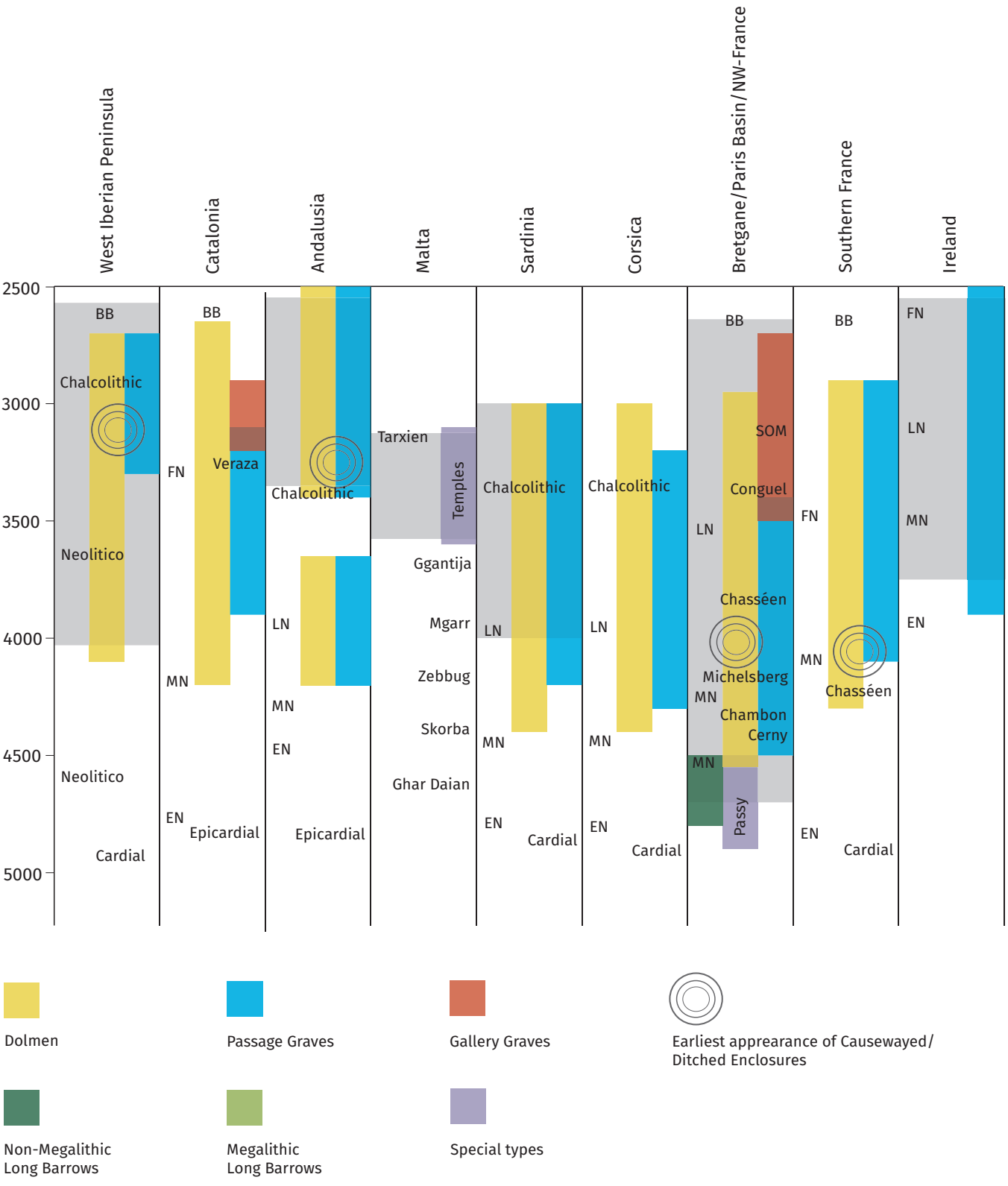
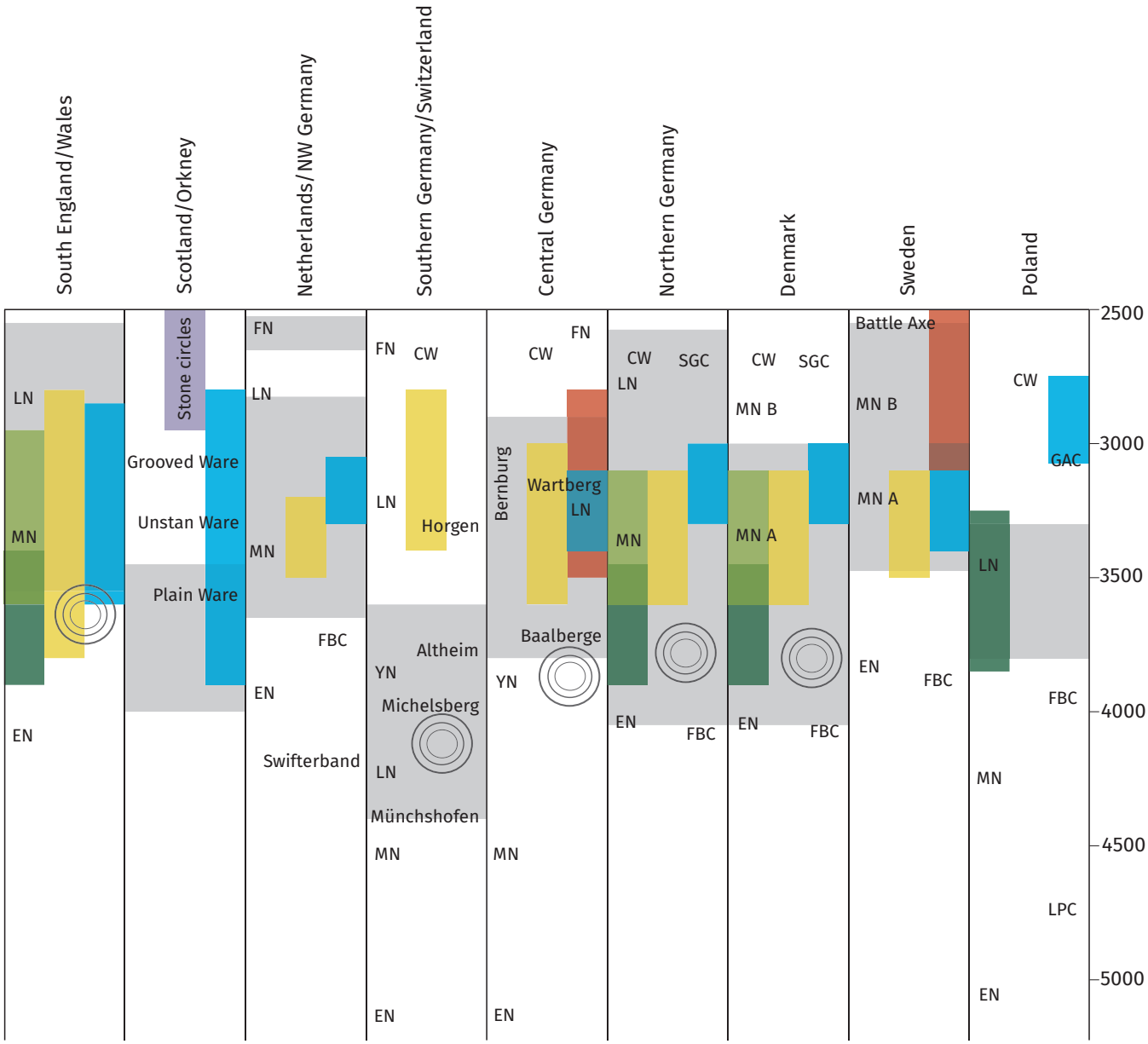


Fig.1. The chronological framework of megalith building traditions in Neolithic and Copper Age Europe. Included are both monuments made of stone, as well as stone and earth monuments. The depicted enclosures mark the earliest appearance of this phenomenon in the respective regions. Nevertheless, the presence and use of these enclosures spans a longer timeframe. The different contexts covered by the contributions within this book are marked in lighter grey.



contemporaneity of both grave types must be assumed (FURHOLT/MISCHKA, this volume; SCHULZ PAULSSON 2017; SJÖGREN 2011). Once again, the earliest dates of human bones from megalithic grave chambers are to be found around 4500 cal BC in Brittany and along the Atlantic coastline of France in Castellic and Sandun contexts (SCHULZ PAULSSON 2017). The whole area of Brittany, north-western France as well as the Paris Basin provides an extraordinary case of diversified monumentality, encompassing diverse grave types and a long duration of monumental building activities in different contexts (LE ROY et al. 2014; GUILAINE 2011; BOUJOT/CASSEN 1993).

Around 4400/4300 cal BC, the earliest dolmens in Sardinia and Corsica were built during the Middle Neolithic, soon to be followed by passage graves and accompanied by the erection of standing stones. These building activities continued until the end of the 4th millennium BC (CICILLONI, this volume).

Another centre of megalith building activities is to be found on the Iberian Peninsula, with the earliest construction phases of dolmens starting around 4300 cal BC in Andalusia and Catalonia. Andalusia provides an interesting case study, including from another perspective. Here, megalith building can be divided into two distinct construction phases. After the

initial Neolithic phase, megalith building activities immensely decreased, although the old monuments were still important places. It is only during the Chalcolithic period that building activities became clearly intensified again. This second phase of megalith building started in the second half of the 4th millennium and lasted for many centuries (SCHULZ PAULSSON 2017; GARCÍA SANJUÁN et al. 2011; GARCÍA SANJUÁN et al., this volume).

On the British Isles, in the Netherlands and Germany as well as Scandinavia, the earliest appearance of dolmens and passage graves is to be found mostly later during the second half of the 4th millennium BC. Many of these monuments are situated in the context of the different Funnel Beaker groups, as well as the neighbouring Wartberg and Bernburg Groups. The megalithic grave chambers appear at a very similar time within the modern-day areas of the Netherlands, northern and central Germany, as well as Denmark. Only in Sweden, the erection of dolmens started slightly later and partly in contemporaneity with the passage graves (FURHOLT/MISCHKA, this volume; MISCHKA 2014, MÜLLER 2014; RAMSTEIN 2014; SCHULZ PAULSSON 2010; SJÖGREN 2011).

The last type of megalithic building activities is represented by the gallery graves that occur in modern-day Sweden, Germany, France and Catalonia. These tombs represent a different construction type, albeit at the same time providing a continuation of collective burial rites in the respective regions (RAETZEL-FABIAN 2000; BLANK et al. 2018; SCHIERHOLD 2012).

Despite presenting a wide scope of case studies within different regional and chronological contexts, this compilation is only a summary of the fundamentally diverse and complex monumental building activities in the scope of the 5th to 3rd millennium BC. Future research will sharpen our understanding of chronological matters as well as the occurrence of megalithic architecture in other regions of Europe.

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Maria Wunderlich
m.wunderlich@ufg.uni-kiel.de

Johannes Müller
johannes.mueller@ufg.uni-kiel.de

Martin Hinz
martin.hinz@iaw.unibe.ch
martin.hinz@ufg.uni-kiel.de

Institute of Pre- and Protohistoric Archaeology
Christian-Albrechts-University Kiel
Johanna-Mestorf-Straße 2–6
24118 Kiel
Germany

On the edge of the Neolithic world – But not on the periphery. Perspectives from an enclosure on Thy, North-Western Denmark

Tobias Torfing

ABSTRACT

The enclosure at Liselund was almost on the edge of the Neolithic world when it was built. Located on Thy, a small piece of land in North-Western Denmark, it bordered the North Sea and the Mesolithic Norway beyond. In this article, I will discuss the local, regional, and super-regional context of the enclosure, and connect it to the development of a new group structure. It will be argued that the enclosure was a central part of networks of exchange of physical products and a place where ideas formed the society around it. On the edge of the world, the enclosure was in many ways central to both local and regional networks, a channel for international trends to spread into Scandinavia and a factor in creating a local identity.

INTRODUCTION

Liselund was excavated more than twenty years ago, but has only gotten small references in the literature connected with the excavations (MIKKELSEN 1989; OLSEN 1993; WESTPHAL 1996; WESTPHAL 1997; WESTPHAL 2000). The site deserves more attention, not only because it with its 13–15 hectar is one of the largest enclosures in Scandinavia, but also because it is an early enclosure, and one that lies in a region in which our knowledge about the Early Neolithic is scarce. The location at the edge of the Neolithic core area makes it an important site for investigating the introduction of enclosures and the interconnections between this phenomenon and the surrounding society. The site offered a way for a dispersed population living in small household settlements to expand the network of interaction (MARTÍN/MURILLO HERRERA 2014).

The site of Liselund is located in Thy, the northwesternmost part of Denmark (Fig. 1), close to the North Sea to the north and west. Across the sea is Norway, and while the southern coast and especially the Oslo Fjord area can be regarded as part of the Funnel Beaker Culture, it is also clear that the finds in Norway are scarce and evidence of agriculture even scarcer (GLØRSTAD/SOLHEIM 2015, 140–143). So while Southern Norway is the final frontier, Thy is the outermost part of the heartland of the Neolithic in the period the article is concerned with (4,000–3,300 BC). The site itself consists of a causewayed enclosure phase and a slightly later settlement phase. The enclosure is among the oldest known enclosures in Denmark, with a probable start

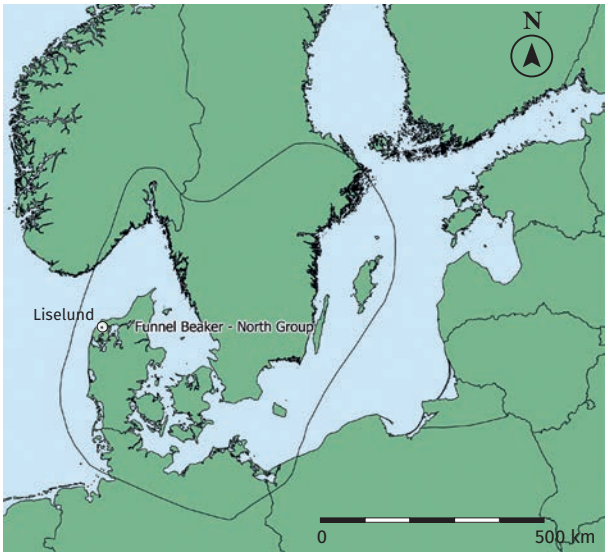

Fig. 1. Location of the site Liselund within the Funnel Beaker North Group (modified after BAKKER 1979).

date in the beginning of the 37th century BC. It had several reuses before a time around 3.500 BC, where it changes to a settlement (TORFING 2015).

Some of the key characteristics of the enclosure will be presented, and there will be a discussion of the enclosure as a nodal point in networks of various sizes. The term network is in this article not understood as a passive channel for transmission of objects and ideas, but as the result of a dynamic

interaction between people and objects in complex constellations, which have left physical traces in the material record. The network is not something that is or was, but something that was continuously created through interactions, and which we attempt to re-create through archaeological research. At any time multiple networks might have been in existence, created through different interactions and between different actors, creating multiple communities of practise, interconnected by yet other networks. Thus, this article cannot describe all of these networks, but I hope it will bring to the foreground how some of these networks are part of the enclosure's role as a centre of ritual and mundane practices.

THE SITE

Only small excavations have been carried out, but additional evidence of the layout of the causewayed enclosure is available in the form of orthophotos and a geomagnetic survey on a part of the site (Fig. 2; WESTPHAL, 2000). The site is between 13 and 15 hectares large, and thus among the larger enclosures in South Scandinavia, where enclosures smaller than 10 hectares are the norm (KLASSEN 2014, 195 fig. 118). The site has two rows of outer ditches, which form a slightly triangular enclosure. The space inside is then divided into three by rows of ditches. The orthophotos suggest that these internal rows have much wider causeways than the outer ditches.

Part of the geomagnetic survey revealed two lines of ditch sized positive anomalies in prolongations of the ditches known from excavations, these are interpreted as enclosure ditches. Interestingly, at one point there is a break, and in this break are two post hole sized anomalies with an oblong feature running between them (Fig. 3). These signals could be an entrance structure with double posts; similar features are known from other enclosures (KLASSEN 2014, 179–182). West of the enclosure there would have been a small stream. A digital elevation model suggests this is also the case to the south (Fig. 4). In the north-western corner the stream met another stream and turned west into the now drained Sjørring Sø. North of the enclosure the landscape slopes slightly. At the north end, the outer lines of ditches were found. The innermost of these was covered by 40–70 cm of later eroded soil, but the outer ditch by 2–3 m of eroded soil, suggesting that the slope would have been more marked in prehistory. The shape of the enclosure closely matches that of the landscape, following the slightly triangular plateau where it is located. The southern part of the enclosed area is marked by low hills, while the northern part is more flat.

Most of the ditches are around 0.8–1.0 m deep and show complex processes of digging, re-filling and re-cutting. At the bottom of the ditch and in the recuts, whole or almost whole vessels are occasionally found, indicating deliberate depositions of pottery. The initial phases only include small amounts of pottery, ranging from zero to three or four vessels, while the later layers can include more than 10 vessels, though other re-cuts are almost devoid of finds. The flint gives a similar result; few pieces in the primary layer, with later layers containing either nothing or many finds. As only small excavation trenches have been cut into the ditches, and none have been completely excavated, it is likely that some of the recuts would yield finds in other parts of the ditch. Some of the enclosure ditches have only three phases of activity, while others show evidence of five to seven phases. The maximum use time of the enclosure was from around 3,700 to around 3,500 BC, thus around 200 years of enclosure activity. The many re-cutting events and depositions suggest a continuous awareness and reuse of the enclosure roughly every generation, until the site transforms into a settlement around 3,500 BC or slightly later (TORFING 2015). The activity history show that this pattern is followed in both the inner row and the outer rows, and that there seem not to be a great time-difference between the two.

The settlement traces are all located within the enclosure. The excavation trenches reveal scattered signs of activity in all excavated parts, but the clearest evidence of settlement activity is in the central part. A thick cultural layer containing many artefacts and waste products was found west of N 4. The cultural layer measured at least 20 m in length along the trench, with an unknown width. In connection to the layer, several pits and a possible post hole were excavated. At least two pits, N 2 and N 3, can be interpreted as related to nut roasting due to layers of charcoal and charred nutshells at the bottom (Fig. 5). The finds from the cultural layer include pottery, as well as flint tools and flint waste, and small fragments of amber indicating amber bead production.

Around 150 m from the cultural layer, in the other end of the central part of the enclosure, a group of post holes and pits were found, as well as two possible hearths. One of the hearths, many of the post holes and all the related pits include Neolithic finds in the form of flint flakes and potsherds.

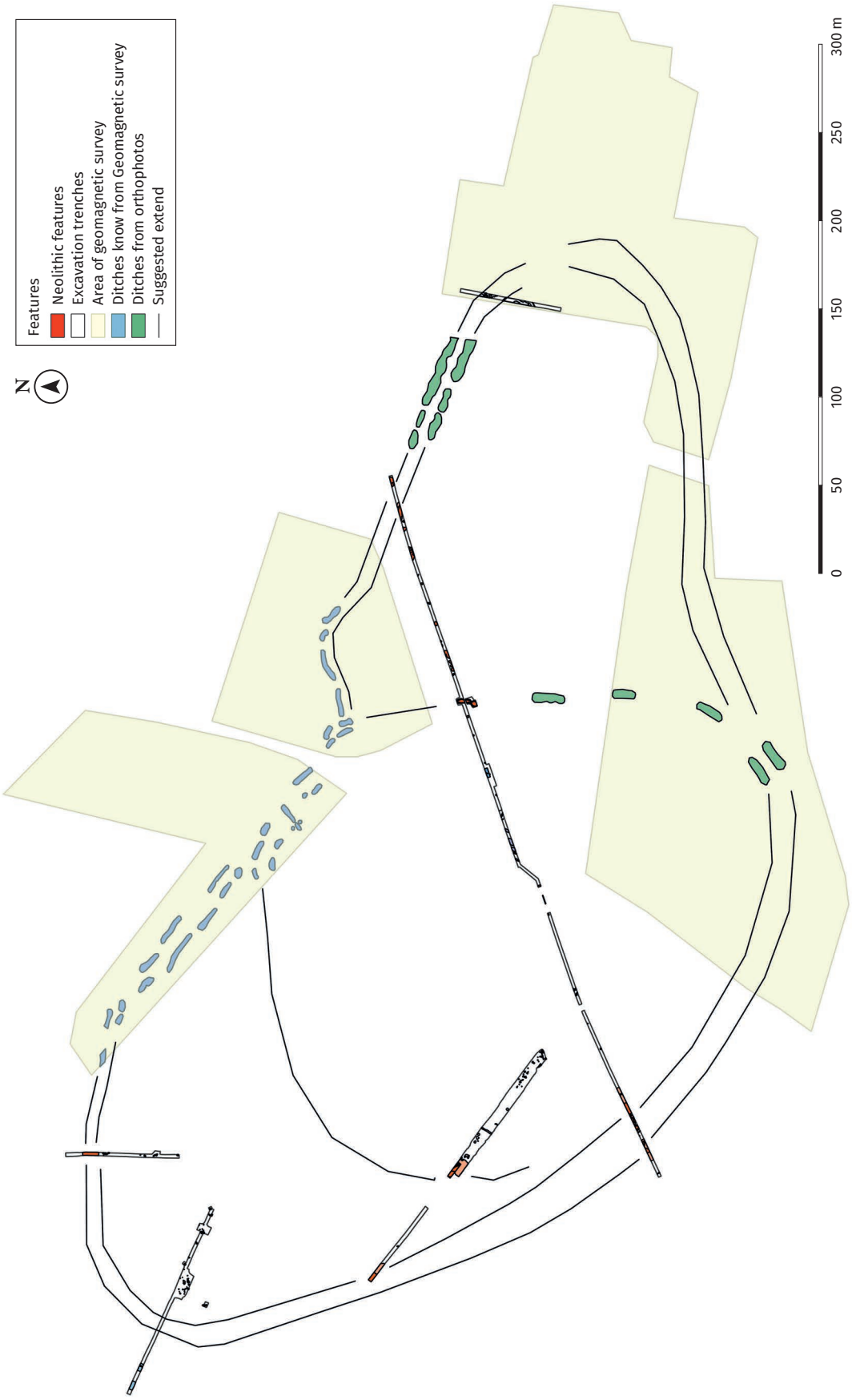

Fig. 2. Model of the enclosure.

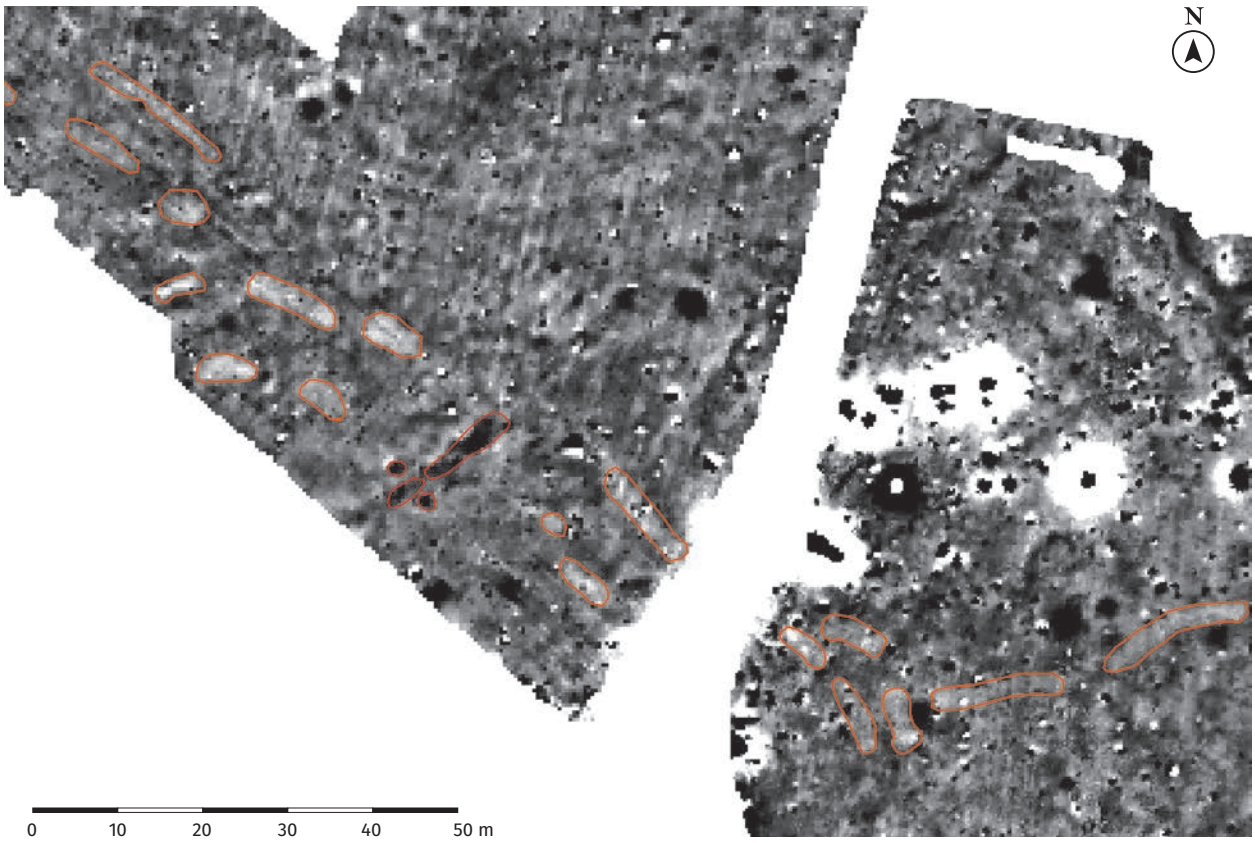

Fig. 3. Close-up of the magnetic survey. Orange lines mark the enclosure ditches, while red indicates the possible entrance.

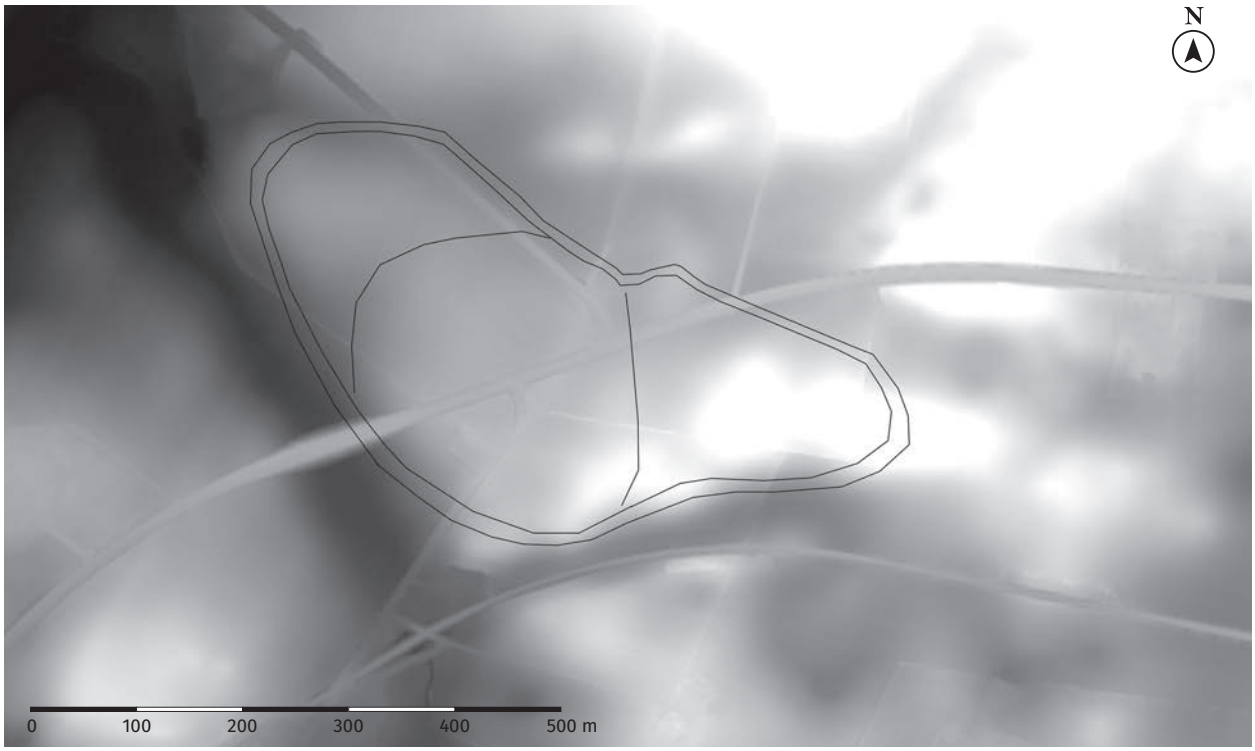

Fig. 4. The suggested outline of the inner and outer enclosure overlain a digital elevation model. Irregular darker areas to the south, west and north indicate lower lying areas.

Both hearths lie on the central axis of lines of post holes (Fig. 6). The dimension of the houses would fit the known examples of contemporary houses (ERIKSEN/ANDERSEN 2014, 98–104, 265–271; SØRENSEN 2014, 177–212). In the eastern and northern parts of the enclosure there were additional traces of activity, mostly small and thin cultural layers, as well as various pits and single post holes with Neolithic finds. Most of these features contain typical settlement material, rather than select material typically associated with an enclosure. Most remarkable is pit N 253, which contained around 42–44,000 cereal grains, mostly emmer. As less than 2 % of the area is excavated, it is questionable if the finds are representative for the extend of the settlement activity. The existing traces suggest a series of activities, including living, cooking, flint knapping, and amber bead production. The settlement most likely postdates the enclosure or is alternatively contemporary with the final phase of this (TORFING 2015). The interpretation of the finds as a settlement is based on the character of the material, as there are no indication of deliberate deposits, but instead traces of cooking, general refuse (a cultural layer), and possibly houses.

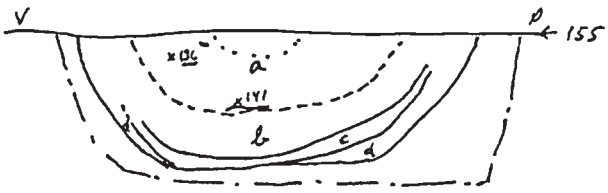

Fig. 5. Drawing of pit N3. Layer c and the bottom of layer a consist of charcoal, sooth, burned clay fragments and charred hazelnut shells, indicating two horizons of use, likely roasting of nuts. Layer d and b contained very few artefacts, with the exception of an amber bead. Pottery fragments were found in layer a.

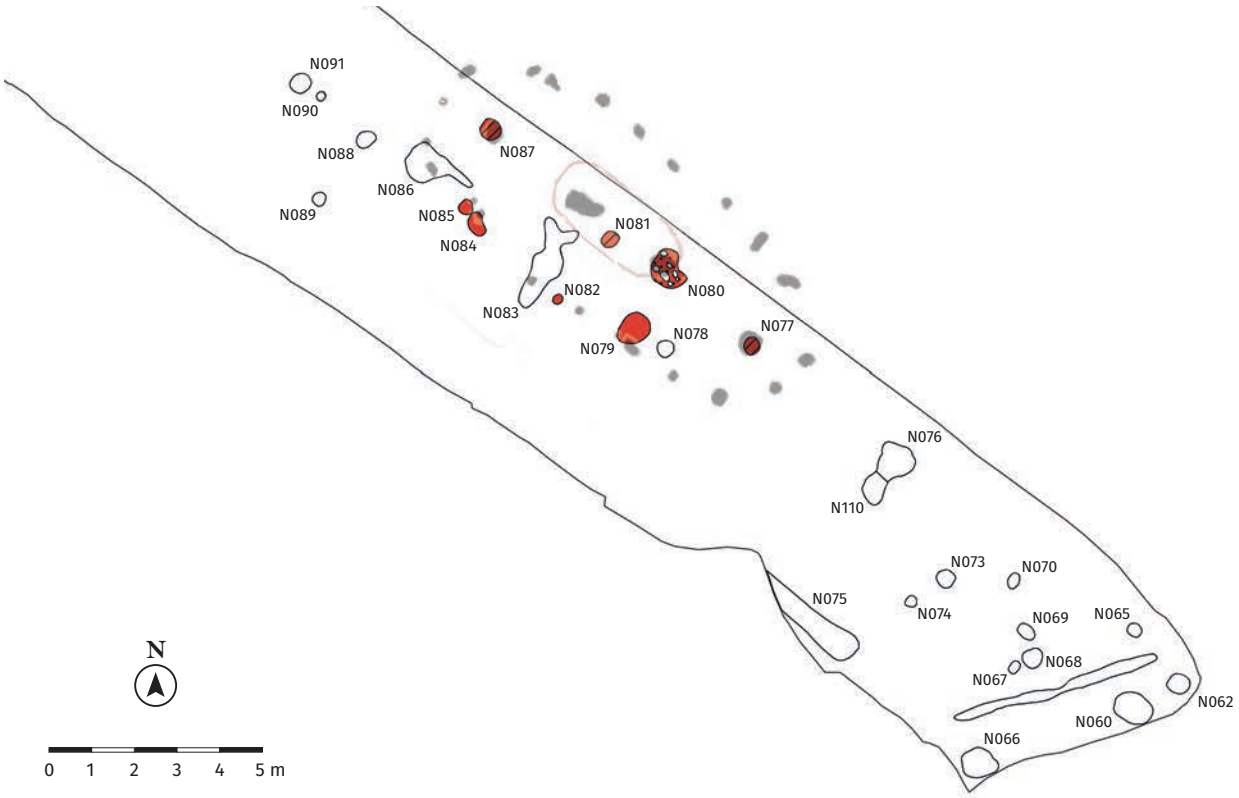

Fig. 6. Possible house at Liselund. Post holes belonging to the house marked marked in red. The house would have consisted of three central posts, a hearth in the south-east end, and a series of stakes along the wall. Possibly four of these were preserved, disturbance was present along wall in the form of post holes and another hearth (feature N086), perhaps marking a second phase of the house. Grey features are the layout from the house at Bygholm Nørremark (orientation rotated) (RØNNE 1979). The house at Liselund would have had almost the exact same proportions as the Bygholm Nørremark house, as the outermost posts in the central axis overlap.

THE LOCAL CONNECTIONS

With the basic chronological aspects of the site established, I will turn to a discussion of the role of Liselund in the local network. The understanding of local in this context is the area where the people lived who took immediate part in the activities at the site: the people building it and participating in the rituals connected to it, whose descendants made later re-use of the site for ritual and/or practical purposes. As is often the case in archaeology, we still have gaps in our knowledge of the past distribution of sites, and thus the interpretation offered here must be based on the evidence which can be assembled.

Some central questions for understanding the role of the enclosure in relation to surrounding society is:

— Who built it?
— How many people were involved?
— How were they organised?

Below there will be a discussion of these questions.

Labour investment

Andersen has calculated the work force involved in Sarup I to 170 persons for three months (ANDERSEN 1988, 26–27). Both the combined length of ditches and the palisade are significantly longer at Liselund. The outer perimeter at Liselund is 1,500 m containing two lines of ditches. From the orthophotos and geomagnetic surveys it can be estimated that approximately 20 % of the perimeter are un-dug parts (causeways). Thus a combined length of the two rows of ditches is around 2,300 m–2,500 m, in comparison there were around 600 m of ditches at Sarup I. The ditches at Sarup I and Liselund have comparable depths and widths, thus volume of running meters are the same. Very little information has been recovered regarding the palisade at Liselund, thus it could be much smaller than at Sarup, and no external fences are recorded. This is a large dark number, since much of the workforce at Sarup was focussed on the palisade. At Sarup, the soil is very sandy, while at Liselund there is a clay subsoil. This would increase the labour investment of Liselund in comparison to Sarup as digging in the clay would be a much harder and more time demanding task. Thus, we can propose that the ditches at Liselund required more labour than at Sarup, while we cannot properly estimate the work force required for the palisade. Many assumptions can be differentiated in order to calculate the work force required. An important one is that of time: Andersen proposes three months in 1988, but today suggests a much shorter period of construction is probable, as the primary layers contain no silting lines at Sarup, which would occur if they were open for a longer period (pers. communication). Some of the ditches at Liselund are backfilled very quickly with no layers at the bottom, indicating that they could not have been open for months. Other ditches contained indications of layers of water at the bottom, which could indicate longer periods of openness, however the time period is probably still less than three months. An estimate must remain rather loose, but if the same values as used by Andersen are applied, the two outer ditch circuits would require above 130 people for three months. Any labour investment required for the palisade and internal rows of ditches should be added, as well as the increased time required to dig in the clay soil. More people would obviously have been needed if the construction time was shorter. Approximately 150–400 people is a conservative estimate for the people involved, a large palisade and shorter construction time would easily double this number.

As EN settlements are small one house settlements, it is clear that we are dealing with multiple settlements cooperating in the construction (ANDERSEN 1999, 296–302). Even extended family groups consisting of multiple single households would be insufficient to make out the required work force, thus a larger clan- or tribe-based system for organizing the effort can be proposed. Other models can also be proposed, but certainly, the construction of monuments is part of shaping larger social networks (ADAMS 2007; DEHN 2016; GUNAWAN 2000).

This gives us important information about the structure of the network: it should be able to facilitate that kind of labour investment, and be stable enough to re-construct the enclosure, even though these secondary events could be much smaller than the initial construction event. Dynamics within the network should provide the scattered and small settlements with a way and a reason to construct a single large monument. This suggests that the enclosure was one part of a larger effort to create extended social ties, and that it changed the way the socially defined kinship was perceived and organised (WIESSNER 1998).

Settlements and graves

An important part of the local network is the relation of the enclosure to settlements and burial sites. As discussed above, the enclosure is not the investment of a single settlement, but of a larger area. The next step is to explore what this larger area is, and how

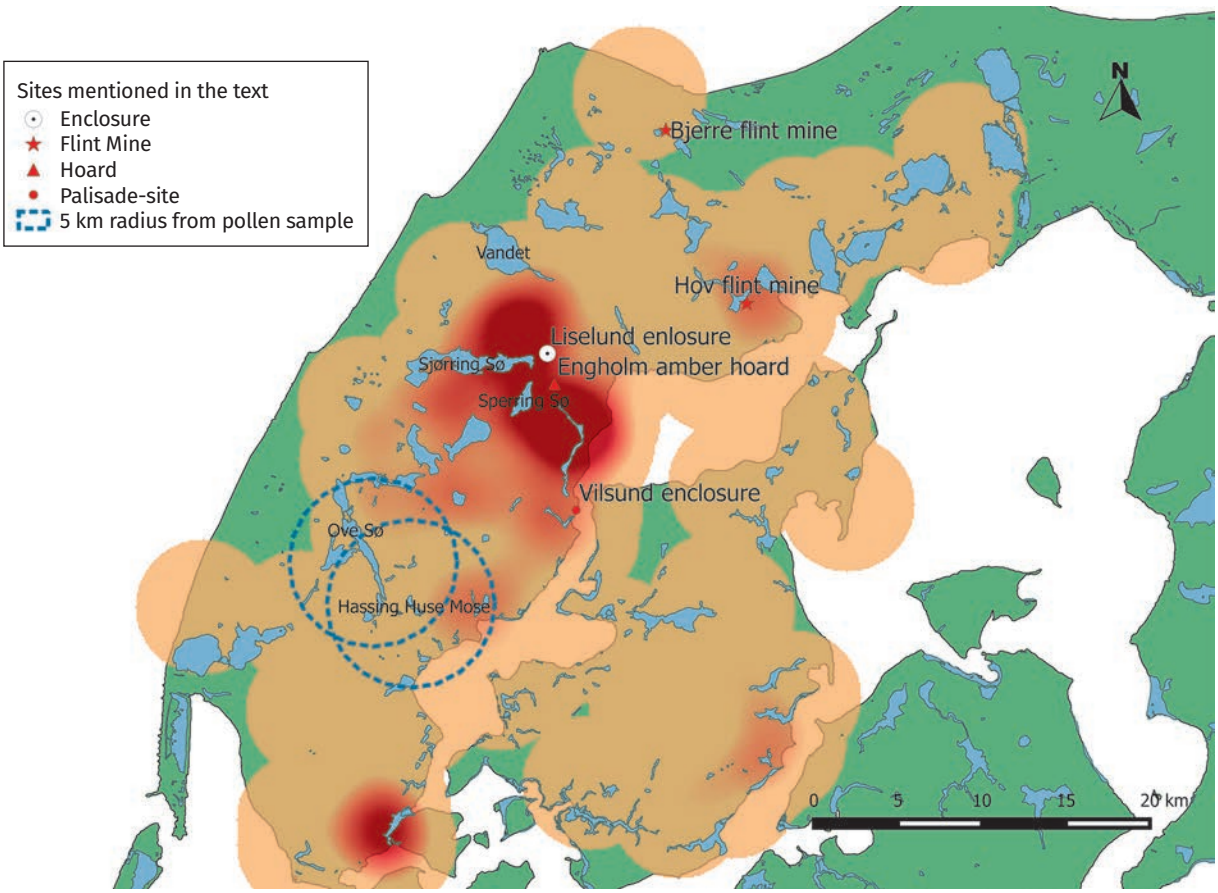

Fig. 7. Density map of Funnel Beaker graves, ranging from light orange (low density) to red (high density). Within 3 km of Sjørring Sø more than 30 graves were located, while 3 km around Ove Sø only 5 graves are known.

it was organised. Are we dealing with clusters of different areas, equally scattered traces, or a skewed pattern in relation to resources?

Few Funnel Beaker settlements have been recorded in Thy, and fewer excavated. A series of surface finds were recorded in relation to the Thy project, but as only selected areas were surveyed, they might present a skewed picture of the settlement for the region (BECH 2003; BECH 1993). One of the results was that at some sites, the majority of finds are located in the plough zone. A site which through sampling of the top soil can be estimated to have contained 4 tonnes of flint in the plough zone, only yielded a few pits with a few finds when excavated (STEINBERG 1996). The picture gained from the survey is that of smaller settlements, often found within a kilometre of a megalith. This is supported by on-site pollen studies from megaliths in Denmark, which demonstrate that they were located either directly on or close to contemporary agricultural lands (WESTPHAL 2009). As there is no major variation in research activity or destruction rate of megaliths within the area, and later Single Grave and Bronze Age barrows do not show the same skewed picture, it can be assumed that the grave structures are a rough proxy for settled areas. Fig. 7 shows a heat map of graves registered as belonging to the Funnel Beaker period in the Danish national heritage homepage as of early 2015 (KULTURSTYRELSEN – FUND OG FORTIDSMINDER 2015), in relation to the sites mentioned in the text. Most noticeable is the lack of graves at the west coast. The sea level has been higher in prehistory, with a maximum of 4–6 m above present day levels in the region. The coast would have been further east, perhaps 4–5 km with many fjords (JENSEN 1920, 48). There are no indications of marine layers in Sjørring Sø, and newer research suggests it might have been cut off from the sea by a small strip of land (ANDERSEN/SJØRRING 1992, 109; PETERSEN 1992; JENSEN 1920; LIVERSAGE/ROBINSON 1995). In addition to the sea level, two other explanations can be proposed:

1. A general preference in the Funnel Beaker period for inland fjords. Like the late Mesolithic, the EN population preferred settlements close to inland lake/river systems or fjords, and not directly on the coast.

2. Dune systems formed by drifting sands cover prehistoric traces along the coast of Thy. The first indication of large scale drifting sands come from the Single Grave period, but with larger episodes after the Middle Ages onwards (LIVERSAGE/ROBINSON 1995).

Apart from this lack of sites at the west coast, it can be observed that the burials are scattered across the region, but with a marked concentration in the area around Liselund. This identifies the area as a core area of funnel beaker activity in Thy. The cluster of graves stretches from a part of the Limfjord area around the villages of Sjoldborg and Ås along a stream, which might partly have been a salt water fjord in the Neolithic, to Liselund (JENSEN 1920, 46). The area of intensive use stretched further north along another stream and to the area north of the lake of Sjørring Sø and south of another lake, Vandet (possibly a Neolithic fjord). Also the area immediately south of Sjørring Sø has an above average density of Funnel Beaker graves. The same is true along the Limfjord coast to the south, with a marked concentration in the southern end. There is also a possible small cluster of graves close to the flint mine at Hov. The field surveys undertaken in connection with the Thy project give a similar picture: Intensive fieldwork was done in the Sønderhå district near the former fjord at Ove Sø, but only a few Funnel Beaker sites was found, while more Funnel Beaker sites were found in the surveyed areas along the Limfjord coast (BECH 2003, 50–51 fig. 6; JENSEN 1920, 46–60; LIVERSAGE/ROBINSON 1995, 42).

There are no features in the landscape that offer an immediate explanation for the higher density around Liselund. The landscape was marked by streams and inland lakes and saltwater fjords, and part of the area is close to the east coast at the Limfjord, a fjord cutting Thy from the remainder of Jutland to the southeast. However, this description fits almost all of Thy. Neither do soil components explain the distribution. As shown by Tab. 1, the grave monuments are roughly equally distributed on sand mixed with clay, clay mixed with sand, and clay soils. Grave monuments are rare on the very sandy soils, but as mentioned above that is probably due to later sand dunes covering large areas, hiding both the original soil and any prehistoric features along the western coast, as well as changes in the coastline.

One important factor is perhaps the close proximity to the island of Mors at Vilsund, a site containing what is interpreted as a special enclosed site (KLASSEN 2014, 182–192). The location is a central travelling corridor southwards. Another important reason is the physical centrality of the site, located in the central part of Thy. Along Sjørring Sø there would have been easy access to the western coast. The enclosure also lies on a north/south travelling corridor between Sjørring Sø and the dried out fjord to the south, and it is close to the mentioned crossing to the island of Mors, and further away from the mainland of Jutland. Thus the enclosure lies centrally within the travel network of Thy. The concentration of burial monuments could be a consequence of the status and wealth accumulated through the activities at the enclosure, rather than specific landscape features.

There have been different suggestions regarding the size and organisation of the settlement territories in the Funnel Beaker period (MADSEN 1982; MADSEN/JENSEN 1982; MADSEN 1988; KLASSEN 2014, 134–158; ANDERSEN 1981; ANDERSEN 1997, 89–100). The suggestion by Klassen of areas of roughly 4–5 km in diameter seems well founded. However, both the models by Madsen and by Klassen are formed on the basis of areas along fjords in Eastern Jutland, which represent densely settled areas in the Funnel Beaker period. Similarly, the model by Andersen is developed on the background of a small, densely settled area near a large enclosure. In Thy, territories of approximately 4–5 km in diameter are suggested for the area around Liselund and along the Limfjord coast, but as other parts of Thy were loosely settled, I would argue that these areas did not follow this pattern. Based on the graves, the concentration could represent two territories north of Sjørring Sø and towards the Limfjord, possibly another one or two could exist south of Sjørring Sø, while a few more clusters of graves lie along the Limfjord coast, at Hov and at the south end of Thy and on the south-east end of Mors. The rest of the area was sparsely populated in this period, probably with smaller settlements scattered in mixed forests, a notion also supported in the pollen diagrams.

Two pollen diagrams exist from Thy, one comes from a lake, Ove Sø (BECH 2003 fig. 2), the other a bog/small lake, Hassing Huse Mose (ANDERSEN 1992; ANDERSEN/RASMUSSEN 1993; ANDERSEN 1995). These show little human impact in the EN I-phase, with only slight indications of forest clearing. In the EN II and MN, there is an increase in hazel as well as grasses and herbs, indicating a small opening of the landscape. A major opening of the landscape did not occur until the Single Grave period. Ove Sø lies 15–16 km south of Liselund, and Hassing Huse Mose 16–17 km, thus both lakes are located outside the area with the Funnel Beaker grave concentration (Fig. 7). With a prevailing western wind in the area, it is doubtful if these pollen diagrams fully represent the landscape use around the grave concentration near Sjørring Sø or the landscape at the Limfjord coast to the east. However, they are a good indication of the vegetation for the central and western part of Thy. At Liselund, there

Tab. 1. The distribution of Funnel Beaker graves on the different soil types.

SOIL TYPE	AREA (HECTARE / 10,000M²)	NUMBER OF GRAVES	AREA PER GRAVE (HECTARE)
Clay soil	*8,371*	*8*	*1,046*
Sand mixed clay	*29,890*	*37*	*808*
Clay mixed sand	*44,332*	*50*	*887*
Sandy soil	*37,343*	*11*	*3,394*
Other/unclassified	*21,525*	*27*	*797*

are indications of mixed exploitation of wild resources (pits with charred hazelnuts) and agricultural production (pits with charred cereal). The combination of evidence for resource use at sites, on site pollen analysis from Danish dolmens, and the regional pollen diagrams from lakes suggest that a majority of the landscape would still be forested, with smaller areas of open agricultural land around settlements.

In the Early Neolithic the settlement pattern is likely to have been that of small settlements existing one generation or less, before moving to a new location (MADSEN/JENSEN 1982; MADSEN 1982). The questions of how many people lived at each Early Neolithic site, and how many sites were in use at same time, are difficult to answer. Some sources can be used to support an estimate: The houses found are often very small and they likely represent single family households. In the EN II and MN I phases, when the megaliths were being built, it is clear that each area has multiple small clusters of megaliths (ANDERSEN 1997, 91; ANDERSEN 2009), and we can thus suggest that each territory was inhabited by multiple single households, perhaps 3–8 families in an extended family/clan. Thus we would get no more than 10–20 adults per territory (2–3 adults per family household). With perhaps 8–10 densely settled »territories« on Thy/Mors, as well as smaller settlements scattered across the region this would amount to 80–200 adults in the densely populated part plus perhaps 20–50 additional adults from other areas of Thy and Mors (based on the number of graves in these areas compared to the clusters). It is clear that the entire region of Thy and Mors would have had to be involved in the construction of the site, if not people from an even larger region. This suggests that the enclosure construction required a set of social institutions spanning multiple small clans. By gathering the dispersed population, each household has its network of exchange and interaction expanded (MARTÍN/MURILLO HERRERA 2014). The social institutions and the construction of the enclosure then become integrated in the same sphere of understanding. I would argue that the enclosure becomes not just the result of the social institution, but part of how it is constructed and maintained.

A preliminary description of the situation in Thy at the time: People primarily lived in small secluded single house settlements within small openings of the forest, in some regions small clusters of these settlements might exist close together forming a more domesticated land in the area around Sjørring Sø and along the Limfjord coast, while most of the area was sparsely populated and dominated by mixed forests. In the 37th century this scattered population met to construct a 13–15 hectare large enclosure, deposit pottery and other artefacts just to cover it all up again.

By connecting the physical evidence from the enclosure, the graves, the sites and landscape proxies, part of the prehistoric society can be described, but the means and the reasons for the construction of the enclosure remain elusive: What triggered this single monumental effort from a scattered population? To understand this, it is important to understand that this event does not exist in a vacuum, but was part of networks of relations that possessed a regional character. These networks will be explored further below.

REGIONAL IMPORTANCE AND GLOBAL PHENOMENA

Above the local settlement pattern and its connection to the enclosure was discussed, but explanations concerning the how and the why of enclosure building was left unanswered. In this part I will argue answers to both questions are to be found in the confluence of two divergent aspects of prehistoric societies: the sense of and strive for community, and continuous controversies over the control of resources. Both aspects supported by the involvement of objects and sites. The following will analyse the interaction between people and objects in the network at and around the enclosure.

The enclosure explosion in the 38th–37th century BC

The start of enclosure construction within the Funnel Beaker Culture of northern Europe is not an isolated phenomenon, but part of a larger European trend (KLASSEN 2014, 214–238). That this is a very narrow event horizon has been well documented for the British Islands (WHITTLE et al. 2011). Previously many Scandinavian enclosures have been connected to the EN II–MN Ib phases 3,500 BC–3,100 BC (MADSEN 1988; ANDERSEN 1997; ANDERSEN 1999; NIELSEN 2004). However, a series of new dates indicate an earlier start of the enclosure construction (LÜTZAU PEDERSEN/WITTE 2012; DIBBERN 2012; MÜLLER et al. 2013; HAGE 2016). Klassen has pointed out that some of the existing dates for EN II are not from the primary layers (KLASSEN 2014, 202–204). However, a site such as Sarup II is definitely an enclosure built in the MN I phase, 3,350–3,100 cal BC (ANDERSEN 1999; ANDERSEN 1997) and thus indicates a prolonged period of enclosure construction within the Funnel Beaker Culture.

The date of the Liselund enclosure, and other equally early enclosures, corresponds well to the dates from the British isles, suggesting a larger global phenomenon. This does not invalidate the need for exploring local factors involved in the process, as the reasons for participating in and sharing this larger phenomenon need to be explained. Local variations are also an example of how the global is translated into specific local events. The global background of enclosure construction is tapped into by local actors, and offers these a way to display foreign connections. By constructing the enclosure at Liselund, the local population manifests its current network of contacts, allude to shared ideas, and participates in a second wave of Neolithisation. The first was the inclusion of neolithic pottery and some neolithic diet, the second the beginning of large communal and monumental constructions such as enclosures, the wooden and earthen long barrows, and later megalithic tombs, as well as an increased focus on agriculture. The creation of the enclosure is thus a step in creating a more fixed Neolithic identity.

Resources, production, and exchange networks

Located on the edge of the Neolithic world, with the North Sea as a neighbour and only a thin strip of partly Neolithic land further away in Southern Norway, it is easy to imagine Thy as a wood covered periphery in the Early and Middle Neolithic periods, in contrast to booms in the later periods of the Late Neolithic and Bronze Age. However, we have evidence to the contrary, namely the access to and exploitation of two of the most prestigious resources of the time: flint and amber. There are around 12 km to the nearest flint quarry at Hov, and 15 km to another quarry at Bjerre. Both sites can by pottery and axe preforms be dated to EN I, at Hov this is supported by ^{14}C-dates (BECKER 1993; SØRENSEN 2014, 170).

Amber bead production is observed in the settlement layers at Liselund, as small fragments of amber and a few finished or half finished beads were found during the limited excavation of these parts. The extend of amber bead production cannot be estimated, but less than 2 km south of Liselund a dry-land deposit of around 10,000 amber beads was found at a site called Engholm (BECH 2008). A nearby pit contained pottery identical to that at Liselund and, along with the typology of the beads, dates the Engholm deposit to the same time as Liselund. Large depositions of amber beads are not unknown from the Neolithic. These are concentrated to the northern part of Jutland (EBBESEN 1995). In the case of Liselund, the amber for the production would have been gathered at the west coast, today 13 km away, in the Neolithic perhaps only 8–9 km away. Amber bead production could have been undertaken on multiple sites, though a specialized production site from the coast is only known from the later MN I period (LIVERSAGE/SINGH 1985). That amber beads were produced on site during the settlement phase at Liselund is well documented by finished and half-finished beads and amber waste, and it demonstrates that the inhabitants had either direct or indirect access to the raw material from the coast. As amber is only found at the coast, and mainly the west coast of Jutland and in the Limfjord region, the amber deposits found further inland must thus logically have travelled there as part of exchange networks.

Thy might be at the edge of the Neolithic world, but not at the periphery. Within half a days travel from the area around Liselund, there would be access to two flint quarries as well as amber along the coast, and close proximity to the calm protected waters of the Limfjord 4 km to the east and exchange partners here and further south in Jutland. This double access to two of the most important prestige goods of the EN would have made Thy a centre of the regional exchange network. In the centre of Thy, there was a more densely settled area, and in the centre of this cluster one of the largest enclosures in South Scandinavia was constructed by a workforce that would include almost the entire population of Thy and Mors. It was re-used numerous time within its lifetime of about two centuries, and after the abandonment of the enclosure a settlement was established.

A connection between enclosures and control over flint resources has previously been suggested (see SØRENSEN 2014, pp. 169–174 for a discussion). Similar control over amber resources would have been

important: both the ability to make large sacrifices of amber such as the Engholm site, and the prestige gathered within larger exchange network would add to the status of the groups with amber access. However, the character of the use of the enclosure as a series of short events on a generational time frame, demonstrates that they could not originally have been centres from where the resources could be controlled. Instead the construction of the enclosure is in itself the primary function. The construction-process can in this light be seen as a way of constructing a social system by participation. By mobilizing the work force required and distribution of the necessary tasks, a set of relations is created within the population. It should be considered whether the internal division of the enclosure in three parts is related to this, and whether the central part was meant to distinguish one subset of the population. The group creation is re-performed several times within the following centuries by new re-cuts in the ditches and perhaps re-establishing the palisade at least once. The re-creations of the original event confirm the original social contract. Thus the enclosure fossilised and maintained a specific set of relations. This way, the construction of the enclosure is part of an ongoing negotiation of social prestige within the community.

In the early 35th century, the site is transformed into a settlement, and it is clear that the population at Liselund at this time had access to the amber resources 8–9 km away, and that bead production happened at the site. As only a very small part of the site is excavated and the flint remains understudied, it is difficult to establish whether large scale axe production happened at the site, but some axe production can be observed. It is difficult to ascertain whether access to resources was direct, or if access was gained as part of a local exchange network, where the prestige gained by constructing the enclosure had secured the group a status and continuous inflow of resources. In support of the latter, it can be argued that the lack of re-establishment of the enclosure, and thus the social prestige in relation to this, after the shift to a settlement would lead to a gradual deterioration of the social position of the group, as this was dependent on the physical participation of the other groups in the construction-process. This would explain why the settlement was so short lived, less than a hundred years according to the ^{14}C-dates.

Communities of practice and pottery networks

The construction of the monument did not just rely on and grant access to resources, it is also interlinked with the creation of larger communities, creating extended social relations through a process of homogenisation (WIESSNER 1998). The first argument in favour of this also relies on the size of the enclosure: Large scale work would require some common group identity, but the common project would also facilitate interaction between the groups and offer opportunities to negotiate appropriate behaviour and rituals within the group. In relation to the enclosure, a series of activities of ritual or ceremonial character were performed. At Liselund the best evidence concerns the placement of complete or almost complete vessels at the bottom of the ditches, but at other enclosures additional activities are observed, both fireplaces at the bottom, and deposition of axes as well as animal and human bones (ANDERSEN 1997, 267–276). At both Lokes Hede and Store Brokhøj, remains of meals in the form of shells were associated with fireplaces. Thus, a variety of actions are associated with the ditches. The impact of these is in some cases difficult to detect, but in the case of pottery we can observe the development and relations in the technique and ornamentation.

A concept which has recently been applied to Funnel Beaker pottery is that of communities of practice (HALLGREN 2008), which is focused on how learning and re-production of actions and interactions are embedded in the social structure and culture. Hallgren discusses the theory and connects it to the idea of culture within Ethnography and Archaeology and demonstrates how the concept is a useful way of understanding the development of local differences in the pottery expression and how it relates to group identity (HALLGREN 2008, 17–33, 189–197). These ideas complement ideas about stylistic behaviour within pottery producing communities within what have previously been termed networks of style (TORFING 2013). When producing new pots, the potter does not work within a vacuum, but refers to existing ideas about how a pot should be formed and ornamented. The potter wishes for the pot to be accepted as appealing and fitting within the cultural context by other members of the community, but at the same time the decorations can be an arena for promoting a positive self identification (ROE 1980; WIESSNER 1983; WIESSNER 1984).

Regional stylistic groups have been identified within the EN Funnel Beaker culture of South Scandinavia (MADSEN/PETERSEN 1984), however it can be questioned if these style-groups are valid for all vessel types, as some of the groups are identified by the richly decorated lugged beakers and bowls (MADSEN/ANDERSEN 1978; EBBESEN/MAHLER 1980). These style-groups can be described as an east-west difference between the Jutish mainland on the one hand (the Volling and later Fuchsberg groups), and Zealand and Scania on the other (the Svaleklint and Virum groups). If other vessel-types were taken as a starting point, other groups would emerge. Especially noteworthy is the Scandinavian-wide distribution of small and medium sized

vessels with cord ornamentation near the rim and at the neck of the vessels, which connects Jutland, Southern Norway, Eastern and Western Sweden, as well as Bornholm, while Zealand and northern Germany are not included (TORFING 2017). Yet another picture emerges if the basic funnel beakers are examined, were the variation in ornamentation within the north group of the Funnel Beaker Culture is negligible, and we are dealing with a »global« common style. This combination of different styles within the same ceramic assembly and the deduced negotiation between local group-identification and a global homogeneous expression continues into the MN I-period (TORFING 2013), after which local variation declines. The potter can thus be said to have multiple interests when decorating a ceramic vessel, identification with different communities of practice, as well as a strive for positive self identification. These diverse interests can be used to discuss strategies of the potters and developments of communities of practise.

The continuous meetings at the enclosure where a large group of people, who are otherwise dispersed over a large area, shares multiple activities offers the possibility for them to interact, change ideas and compare against each other. This puts stress on the system described above: More people imply more people to compare against, both in terms of fitting within the same ornamental schema, and in regards to the possibility to express individuality within the common expression (for an example of the latter see WIESSNER 1984, 218). The large gatherings also offer a transitional route for new ideas to enter a community, which can be accepted or rejected, translated and transformed collectively.

Within the ceramic material from Liselund, three main categories of vessels can be identified and in addition to these numerous clays disks were found. The disks differs so much from the vessels in form that it will not be used for comparison here. The three vessel categories have different ornamentation and shape variations and are in general easy to distinguish.

- Group one: medium to large funnel beakers, with flat bases and no handles/lugs, and simple ornamentation in the form of a narrow band below the rim, unornamented neck, and vertical furrows on the body.
- Group two: small to medium beakers, with round or rounded bases, and diverse ornamentation at rim and often the neck executed in twisted cord. Several vessels within this category have handles suggesting a use as cups.
- Group three: lugged beakers. Mainly belong to the larger beakers. In the lowest layers, examples are unornamented or in one case ornamented with a tooth stamp. In the secondary layers and in connection with the settlement, 5 of 6 certain lugged beakers and the only lugged bowl from Liselund have a complex ornamentation, including rim, neck and body ornamentation, with hanging triangles in twisted or whipped cord on the neck and an incised field or band of vertical/horizontal pattern at the body. Smaller fragments from an additional 3–4 possible lugged beakers have this combination. The hanging triangles and the band pattern are always combined, and there are no documented cases outside the lugged beakers and lugged bowls. Similarly, the technique of whipped cord occurs at 3 certain lugged vessels and two possible, and does not occur once on other vessels. A single lugged beaker is ornamented as group 1. Thus the lugged beakers are clearly ornamented differently from the remaining beakers and undergo a development from unornamented or slightly ornamented to having the most complicated ornamentation.

The development of lugged beakers from an unornamented type to a type carrying a rich decoration is noted as a general phenomenon, and it is suggested that the type developed into a ritual type in the MN (KOCH 1998, 111). As noted above the regional style groups are best detected within the lugged beakers, and in the EN II onwards the open bowls which always have parallel decoration.

The morphological differences of the three groups suggest a functional difference, such as flat or rounded bases, handles for holding in the hand or lugs for hanging. Koch has demonstrated that it was mainly the medium and large beakers that were used for cooking (KOCH 1998, 115–119). The ornamentation thus follows the function/use of the vessel and can be related to different activities within the community: The large, flat-based and lightly ornamented beakers are probably connected to storage and cooking, while the smaller round-based beakers decorated with twisted cord, with or without handles, are used in drinking or other consumption activity, while the lugged beakers in the beginning were used for mundane purposes, but develop into a ritual type during the EN and become the richly decorated Prachtbecher of the MN, which likely had a special position in pottery depositions in front of the megaliths (KAUL 1995). The first group of everyday vessels were ornamented similarly within the entire Funnel Beaker Culture north group, changing with international fashion rather than due to local developments. The uniformity of the decoration indicates frequent contact with neighbouring groups, where comparison between different groups avoids alterations of the style through continuous changes (WIESSNER 1998;

WIESSNER 1984). Such comparisons also allow new trends to spread through the network of interaction. The second group of vessels is related to other activities, maybe of a more personal nature, indicated by the inclusion of small vessels with twisted cord and sometimes handles in graves and at the palisades of earthen long mounds (THORVILDSEN 1941, nr. 3, nr. 58, nr. 59, nr. 82; KNÖLL 1978, 37, Plate 5,1b; LIVERSAGE 1980, 31). The ornamentation with twisted cord mainly belongs to vessels found along the fringe of the Neolithic world, from Northern Jutland and Southern Norway to Eastern Sweden. It reflects part of a network of contacts quite different from that of the basic funnel beakers. That different parts of material culture are affected by stylistic behaviour in different ways is shown convincingly by Wiessner in the difference between the projectiles (group belonging and boundary) and bead ornamentation (kinship relationships and personal prestige) (WIESSNER 1983; WIESSNER 1984). Examining published vessels from the period, it has not been possible to find a single lugged beaker matching the schema of ornamentation from the later phases at Liselund, thus it must be considered a local variance. Hanging triangles occur at some Fuchsberg sites, within the Virum style, and they are common on the Djursland peninsula, both at the enclosures at St. Brokhøj and Blakbjerg as well as in grave contexts such as a lugged beaker in a dolmen at Løvenholm Skov. However, these vessels do not combine the triangles with the distinct body pattern of Liselund, but with vertical fringes in the whipped cord technique on Djursland and Zealand/Scania, a combination not seen on any vessel at Liselund. The Fuchsberg lugged beakers and bowls are ornamented with large angled bands running all around the vessel. Thus by comparing the ornamental schema of the lugged beakers, distinct regional groups are easily identified. The development from the unornamented lugged beakers in the primary layers to the later ornamented vessels in a distinct local style, suggests that this development happened within the use-time of the enclosure, and that it is related to the »ritualisation« of the function of the vessel. During the lifetime of the enclosure, the lugged beakers changed connotation from a simple cooking or storage vessel to a vessel which signified aspects of group identification. The growing connection of the lugged vessels to ritual sites could indicate that they were used to cook or serve a specific course or used at specific events, and by sharing in such activities the community would define themselves as belonging to a certain group.

Different origins of pottery influences have been proposed for the Funnel Beaker pottery, both from a south-western and a south-eastern direction (MADSEN/PETERSEN 1984; KLASSEN 2004; SØRENSEN 2014, 227–269). However, from the early phase, local and regional expressions developed alongside the international influences, for instance the Scandinavian cord-ornamented beakers. Tracing communities of practice and their diverse expressions at Liselund reveal that the pottery refers to different networks of interaction, one global and the other with the northern edge of the Funnel Beaker Culture. A synchronous development of a distinct local ornamentation schema for the lugged beakers indicates changes in the strategies and structures of the network, delimiting the community from other communities within the larger networks.

CONCLUSIONS

On the edge of the world an enclosure was built. It was the 37th century BC, a time when enclosure construction boomed across Europe. The location was Thy, North-Western Denmark. Farming had been introduced just a few centuries earlier, and it was a time of change: New impulses spread across Europe, axes of flint, jade, stone and copper were exchanged, new ideas about houses and pottery had been introduced, and grave monuments in the form of long barrows were created. The background was international, the manifestation a result of local factors.

I have tried to gather the diverse traces of the past networks of action surrounding the site: The labour intensive work of building the enclosure, the activities at the enclosure, the deposition of pottery, the surrounding landscape as seen through grave clusters and pollen diagrams, nearby resources such as flint and amber. The changes within the pottery style can be added to these traces of activity. Together they offer an account on how and why the enclosure was built and built the way and the place it was.

The enclosure at Liselund was one of the largest in Denmark, the area rich on then prestige resources such as good flint and amber, so while it was on the edge of the world, it was far from a periphery. The area around the enclosure developed into a local centre that participated in far reaching exchange networks. The site itself was built centrally within the area with easy travel access in all directions: the amber rich west coast, the flint mines to the north, and exchange networks to the south, both along the coast and inland, and north to Norway. I have argued that the population was caught in a difficult negotiation between different strategies, that of access to resources and exchange partners and

that of different regional networks and ideas related to these, as well as a growing local identity shown in the pottery style. This was managed by using different ornamental schemas for different pots, related to different aspects of life: vessels related to wide ranging networks to the south, other vessels relating to a northern network, as well as lugged beakers used to reinforce a local sense of community. Interconnected with this development is the construction of the enclosure: at the same time distinguishing one area as central, but also creating a common point of referral. It is impossible to untangle the construction from this process: It was both created as an idea from abroad and was based on negotiations of local relations. It also shaped the background for further interaction and formed local relations for the future. Within its 200 years of existence the enclosure was re-created multiple times, and through its construction and re-construction and the activities related to it, the ideas of community grew and an exchange of artefacts and ideas was conveyed.

Following the enclosure phase, a short lived settlement was founded at the site, but in contrast to other South Scandinavian enclosures, there is no great MN activity at the site, suggesting that the status of the site failed. The exact reasons are unknown; perhaps the stop in recreation of the enclosure by new re-cuts had a part in this, reducing the importance of the site, or perhaps some common cause, such as a breakdown in exchange relations, explains both the end of enclosure activities and the shift towards settlement.

ACKNOWLEDGEMENTS

Firstly, I would like to thank the attendants at the session Material Culture in Monumental Settings for their comments and discussions. I further would like to thank Peter Bye Jensen specifically for stimulating conversations and discussion about Liselund and its relation to society. Finally, I would like to thank Lisbeth H. Torfing for reading and commenting on the article, her help is much appreciated.

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Tobias Torfing
Sydvestjyske Museer
Tangevej 6
DK-6760 Ribe
totor@sydvestjyskemuseer.dk