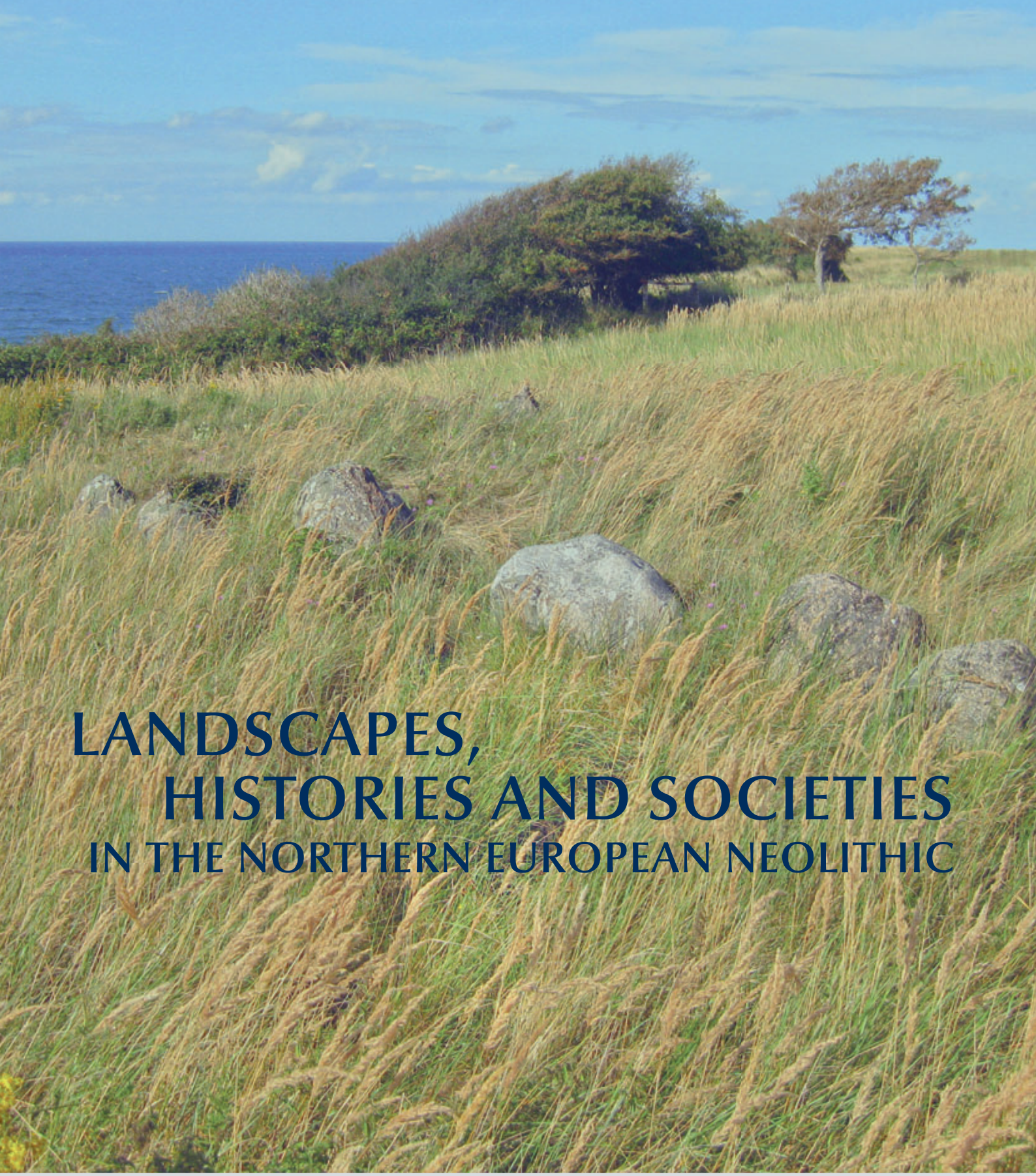
# Fragments of life and death : the biography of grinding and polishing stones found in long barrows at the Almhov burial site

Hydén, Susan

*Published in:*
Landscapes, histories and societies in the Northern European Neolithic

2014



# 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

# Frühe Monumentalität und soziale Differenzierung

## Band 4

*Herausgegeben von* Johannes Müller

In Kommission bei Dr. Rudolf Habelt GmbH, Bonn
2014

Institut für Ur- und Frühgeschichte der CAU Kiel

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*Gedruckt mit Unterstützung der* Deutschen Forschungsgemeinschaft

| | |
|---|---|
| *Verlag* | Dr. Rudolf Habelt GmbH, Bonn |
| *Redaktion* | Doris Mischka, Erlangen, D<br>Martin Furholt, Kiel, D<br>Martin Hinz, Kiel, D<br>Gordon Noble, Aberdeen, UK<br>Deborah Olausson, Lund, SE |
| *Proofreading* | Eileen Küçükkaraca, Kiel, D<br>Marianne Noble, Aberdeen, UK |
| *Layout, Grafik und technische Redaktion* | Ines Reese und Karin Winter, Kiel, D |
| *Kapitelvorsatzblätter* | Karin Winter, Kiel, D |
| *Umschlagentwurf* | Ines Reese, Kiel, D |
| *Umschlagfoto* | Putlos IV Sprockhoff Nr. 260, Schleswig-Holstein;<br>Doris Mischka |
| *ISBN* | 978-3-7749-3882-3 |
| *Druck* | druckhaus köthen GmbH & Co. KG, Köthen |

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

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# 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.

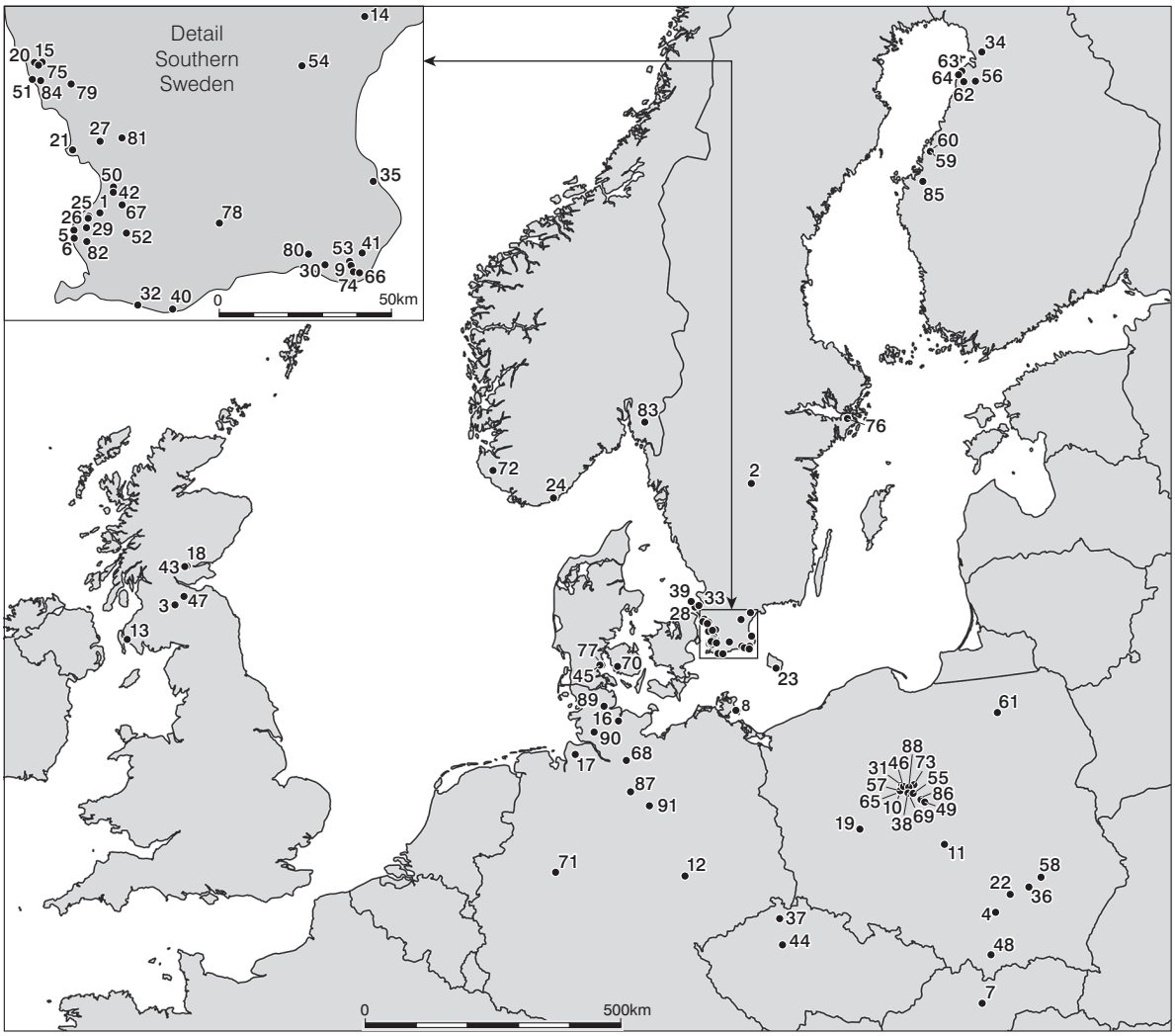
Johannes Müller from Kiel University kindly supported the present volume by accepting it for the new monograph series of the Priority Program of the German Research Foundation „SPP 1400 Early monumentality and social differentiation". The editing work was coordinated in Kiel and carried out in two groups 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):

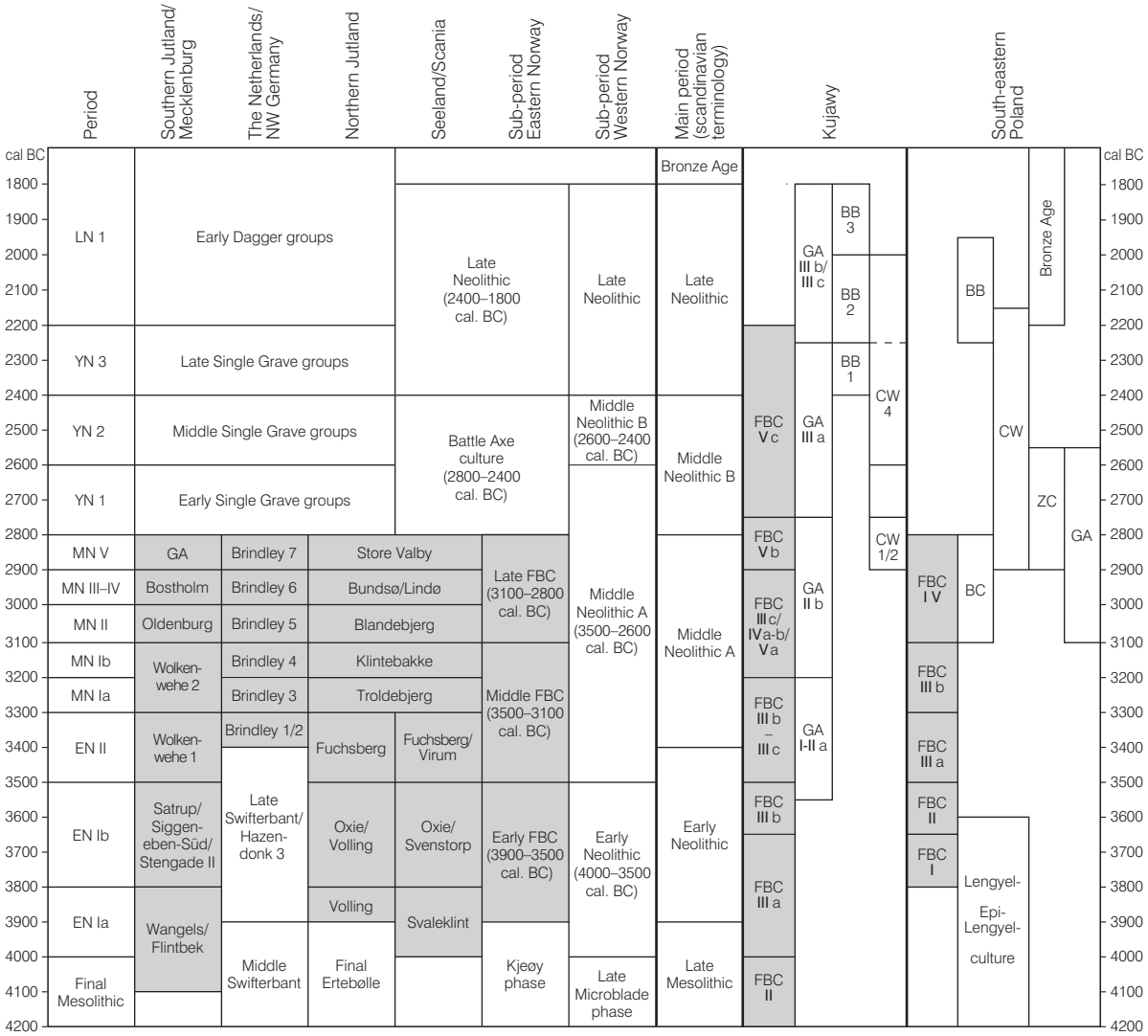



*Fig. 2. Chronology of the Neolithic in northern Europe. Abbreviations: LN = Late Neolithic; YN = Younger Neolithic; MN = Middle Neolithic; EN = Early Neolithic; BB = Bell Beakers; BC = Baden Culture; CW = Corded Ware; GA = Globular Amphorae; FBC = Funnel Beaker; ZC = Złota culture; grey shaded cell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

**References:**

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

# Fragments of life and death – the biography of grinding and polishing stones found in long barrows at the Almhov burial site

*Susan Hydén*

**Abstract**

The burial and gathering site Almhov was discovered as a result of large-scale archaeological excavations in southern Sweden revealing the remains of five long barrows, two dolmens and a large number of pits, rich in finds. Given the multitude of activities performed at the site — including, for example, monument-building, pit-digging, burying, feasting and axe-manufacturing — the site can serve as an example of the complexity of large Early Neolithic gathering places. The activities, as well as the physical monuments and pits, can be interpreted as an expression of how Early Neolithic man made sense of the changing world brought about by the Neolithization. Different perspectives as well as archaeological remains of various kinds offer different narratives of this on-going process. Artefacts interpreted as polishing and grinding stones were by far the most common type of ground stone artefacts found at Almhov, and the interesting contexts in which they were discovered, as well as their sheer number, poses a variety of questions about their presence at Almhov. How can we, for example, make these artefacts tell us something about the people in the area and the Neolithic way of life? This article focuses on the grinding and polishing stones found in two of the long barrows on Almhov, and uses them as the basis of a case study of how a biographical approach can be utilized as a method of categorizing and interpreting ground stone artefacts. Why, for example, were pieces of grinding stones placed in connection with the façade of one of the long barrows? Why were grinding stones, broken in half, put into graves? This paper suggests that the tools represented the novelty of making monuments and that putting them together with the dead could have been a way of mediating new practices with reference to the past.

## Introduction

This article focuses on artefacts interpreted as grinding and polishing stones found at the Early Neolithic burial site of Almhov in southern Sweden, and explores the multifaceted role they seem to have played at an initial stage of the establishment of this important place. The results are preliminary and part of an ongoing PhD project which aims to explore the ground stone assemblage at Almhov.

Almhov is named after a farmstead located outside present day Malmö and the site is interpreted as a burial and gathering place (Fig. 1; Gidlöf et al. 2006). It was discovered as a result of large-scale archaeological excavations in 2001–2002, which revealed the remains from the FBC: five long barrows, two dolmens and a large number of pits, rich in finds such as worked flint, pottery, bones and ground stone artefacts. The remains have been dated to the Early Neolithic period, stretching in to the early Middle Neolithic period (4000–2800 BC). Given the multitude of ongoing activities performed at the site — including, for example, monument-building, pit-digging, burying, feasting and axe-manufacturing — the site can serve as an example of the complexity of large Early Neolithic gathering places (cf. Rudebeck 2010). Artefacts interpreted as polishing and grinding stones were by far the most common type of ground stone artefacts found at the site, and the interesting contexts in which they were discovered, as well as their sheer number, poses a variety of questions about their presence at Alm-

*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) 247 – 260*


*Fig. 1. Map showing the location of Almhov, outside Malmö, south-western Sweden (graphical image by K. Winter).*

hov. How can we, for example, make these artefacts tell us something about the people in the area and the Neolithic way of life? This article will focus on the artefacts found in two of the long barrows, and use them as the basis of a case study of how a biographical approach can be utilized as a method of categorizing and interpreting ground stone artefacts.

**Interpreting ground stone artefacts**

The archaeological record shows numerous examples of how stone constituted an important raw material in a variety of ways, which indicates that it had a crucial role in a number of activities during the prehistoric eras. Ground stone artefacts are one example of the multifaceted use of stone. This indistinct archaeological category is often described as an opposite of artefacts of flint and other chipped stone. "Macro-lithic artefacts" is another term which could be suitable (Adams et al. 2009, 43), but as "ground stone artefacts" seems to be the most widely-used term at present, it will be used as a catch-all term in this study. Many archaeologists from different parts of the world have pointed out that the potential of ground stone research is not always acknowledged in archaeological research (e.g. Elliot 1991, 64; Elfwendahl/Kresten 1993, 7; Böhner 1997, 23; Lidström Holmberg 1998, 123; Peacock 1998, vii, 3; Fendin 2000; Rudebeck/Ödman 2000, 220–221; Baysal/Wright 2002). However, there are notable exceptions and in the last decade or so we have seen a renewed interest in this category of material culture (Boivin/Owoc 2004; Rowan/Ebeling 2008; O´Connor et al. 2009). An earlier focus on distinctly designed artefacts such as ground stone axes is now more often complemented by other studies of a variety of

ground stone artefacts, for example, quern stones or whole sets of ground stone assemblages (e.g. Fendin 2000; Adams 2002; Dubreuil 2002; Lidström Holmberg 2004; Baysal/Wright 2006; Clarke 2006; Van Gijn/Houkes 2006; Hamon 2006; Tsoraki 2007; Rowan/Ebeling 2008; Stroulia 2010).

This emerging interest in ground stone artefacts should probably be seen in the light of a flourishing of theoretical perspectives. In recent years we have seen the emergence of a theoretical climate that encourages an eclectic and creative approach to archaeology influenced by the ongoing discussion about material culture and materiality (e.g. Tilley 2006; olsen 2010; Hodder 2012). The concept of materiality stresses the study of things in their own right, a perspective that has fostered new ways of examining artefacts. Despite the apparent success of materiality studies, however, there has also been a negative critique of the approach, which is often claimed to produce research based on theoretical perspectives, but with surprisingly little attention paid to the physical material itself (e.g. Olsen 2003; Hurcombe 2007; Ingold 2007). This debate and the multiple aspects of materiality are not in focus here, but there is a point that I would like to make: even if some research tends to be highly theorized, there are also examples of how the focus on material culture has developed and refined tools which do acknowledge the characteristics of the physical materials in themselves. For example, a biographical approach has proven to be a particularly useful tool for analysing ground stone artefacts, since it acknowledges that material culture has physical properties, while simultaneously working as an integral agent in social practice.

Tracing the biographies of things is one example of how an archaeology of materiality can be pursued (Meskell 2005, 7). This analytical strategy, inaugurated by Kopytoff (1986), is a useful tool closely linked to the concept of materiality (Gaitán Ammann 2005, 76). A biographical perspective can be used in different ways and applied to entire classes of artefacts as well as individual objects (cf. Gosden/Marshall 1999). It has been applied in the study of a broad range of material culture, and stone artefacts such as axes is one category that has been successfully studied using this perspective (Bradley 1990, 43–75; Bradley/Edmonds 1993; Tilley 1996, 247–324; Van Gijn 2010; Tsoraki 2011). But studies from southern Sweden also suggest that the heterogeneous types of ground stone artefacts which do not fit easily into traditional archaeological research categories benefit especially from a biographical approach (Hydén 2009; 2011). As opposed to flint tools and other flaked artefacts, there are many types of ground stone artefacts for which traditional archaeological categorizations are not applicable. Besides ground stone axes and some other clearly designed artefacts, many objects are not fashioned in ways that clearly express an intentional design and sometimes they are not deliberately formed at all. Regardless of whether they are intentionally formed or not, the appearance of ground stone artefacts is dependent on what stage in their lifecycle we find them, as use often alters their shape. In addition, a ground stone artefact is often found in a fragmented state which can make it difficult to interpret. These circumstances make, for example, typologies, chronologies and function-based terminologies difficult to use and the heterogeneous artefacts run the risk of being left out from interpretation. Another possible problem is that they are forced into preconceived functional categories. Even if function-based terms should not be mistaken for the actual use of an artefact, it can be hard to use such fixed boxes for these artefacts. One central problem is that many studies introduce yet new systems or use concepts without definitions or explanations. The confusion concerning the nomenclature and classification of ground stone artefacts has been noted by many researchers (e.g. Woodbury 1954, 11–13; Kraybill 1977, 486; Petré 1982, 50; Elfwendal/Kresten 1993, 9; Lidström Holmberg 1998, 124–125; Fendin 2000; Rowan/Ebeling 2008, 2; Hydén 2009, 562; Stroulia 2010, 3).

There is no such thing as a classification scheme applicable to any collection of ground stone material. At the same time we need a way to be able to make generalizations and comparisons. The individual and changing appearance of many ground stone artefacts calls for an approach that make us focus on the artefact's life history and the human actions performed when utilizing these objects (cf. Verbaas/Van Gijn 2007). Materiality and practice constitutes the very core of archaeological inquiry because the nature of our sources makes us focus on what people in the past were doing rather than on what those actions signified (Dobres/Robb 2000; Berggren/Nilsson Stutz 2010, 173). As a consequence, praxis theory articulates well with the archaeological sources and one way to apply this theoretical framework is to examine different kinds of action sequences, the *chaîne opératoire*, which has been recognized by Dobres/Hoffman (1994, 237) among others. Studying the *chaîne opératoire* has a long tradition for flaked stone materials, but the approach has often focused on the technological aspects. But, as Dobres and Hoffman pointed out, *"a social theory of human agency is necessary to contextualize the chaîne opératoire and make it anthropologically relevant"* (Dobres/Hoffman 1994, 237). In processual archaeology, the use-life approach often focused on changes of morphological and functional characteristics, conceiving material culture as passive and subject to action. The post-processually influenced biographical perspec-

tive focuses on the dialectic relationship between how the objects affect the people handling them and how people invest meaning in material culture (Ekengren 2009, 201). In other words, the concept of biography allows for a more multifaceted understanding, the purpose being to illuminate how meaning emerges from social processes (Gosden/Marshall 1999, 170). So-called mundane objects dating to the Neolithic may seem not to come close to providing the high resolution data necessary for a biographical study. But on the contrary, there are several reasons why a biographical perspective can be a particularly useful research tool for these kinds of artefacts, as it is "good to think with". It links material culture in a clear and concrete way to central archaeological issues such as practice, materiality, representativeness, contextuality and conceptuality. In my opinion, it turns the mutability of ground stone into an interesting research task rather than a futile endeavour, since:

- It emphasizes the interpretative stance. An overall biographical focus and an emphasis on the actions and processes that gave birth to each unique object make us more susceptible to the fact that we construct prehistory and that every interpretation is dependent on the questions we pose. By categorizing ground stone artefacts in terms of their life history, we shift the attention from their supposed function to questions of how prehistoric people selected raw material and how they manufactured, used, altered, reused, wore out, destroyed, discarded and/or deposited them.
- It breaks down hierarchies. Instead of only relying on categories based on typology or specific function, a biographical approach renders "the well-known unfamiliar" and lets us look at the objects without the hierarchies that so easily arise between artefacts which can be typologically classified and those which cannot. Hence, it is a way of questioning deep-rooted categorizations and acknowledges that objects can have different meaning and value depending on the stage of their life histories and the context. This could be a way to try to "*move beyond simplistic readings of things as either purely functional or deeply symbolic as archaeologist have tended to taxonomize things previously*", as Meskell (2005, 29) puts it.
- It promotes a reflexive attitude. The life history of an artefact does not end with it being discarded or deposited. Facts about the investigation and documentation of the find context are also to be taken into consideration and included in the interpretation as a crucial part of an object's biography; instead of being a separate source-critical matter as is sometimes the case. Reflections concerning the researcher's own role within processes of interpretation are also an important aspect of the research process (Berggren 2009). In this way, the biographical approach has the ability to work in an evaluative way as it promotes questions about, for example, research habitus and methods.
- It is workable. Ground stone objects are not commonly a specialized research area in southern Swedish archaeology. This makes a transparent and workable way of studying ground stone artefacts an interest for many archaeologists and a biographical approach permits us to study artefacts outside of our typological "boxes".
- It extends over material borders. A biographical approach facilitates comparisons with other types of artefactual materials. Ground stone artefacts can, for example, be compared with bone or flint, since the approach stresses actions, contexts and cultural choices which can be compared irrespective of physical properties.
- It can be used on different scales. Different parts of the life histories can be discussed at different spatial and chronological scales, e.g. deposition practices at a settlement or raw material procurement focusing on a landscape or long-term perspective.


*Fig. 2. Fire cracked ground stone artefact found in a façade pit in long barrow 1 (photo by author).*

## The biographical approach in practice

So, how can a biographical approach of ground stone artefacts be applied in practice? The question posed in this case study focuses on how we can interpret the fact that artefacts which have been interpreted as grinding and polishing tools were deposited in the long barrows on Almhov (e.g. Fig. 2, 3; cf. Gidlöf 2006). Such a generalized question emphasizes all phases of an object's life history. Each stage of the life history of the artefacts must be explored as they could have multiple social meanings and be culturally variable. But before exploring the biographies of the artefacts we must think of them as something other than "grinding and polishing stones" in order to explore them in a more unbiased way, leaving classifications with functional connotations out of the analysis until we have considered the biographies of the artefacts. Applying generic terms and studying their biography prevents the use of terms which are sometimes established in a false way, i.e. researchers use the same term in different ways and sometimes without defining it. A biographical approach can help us to both raise awareness of this and to encourage the description and motivation of why a certain artefact is categorized in a certain way, thereby facilitating generalizations and comparisons with other studies in an accurate way. It is not possible to avoid all kinds of categorizations to make sense of a research material, but simply using the word "artefact" or "object" could initially provide a more neutral concept even if they are also categories based on an interpretation. In other words, a biographical approach does not stand in some sort of opposition to a function-based terminology or typology; on the contrary, these research tools are often part of the artefacts' biography. It is just another way of exploring objects in a way that lets them contribute to a more multifaceted understanding of the people who used them.


*Fig. 3. Quartz-rich ground stone artefact found in the largest grave in long barrow 2 (photo by author).*

The next step is to investigate the life cycles of the artefacts. In an archaeological perspective, the life cycle of an artefact can broadly be divided into raw material procurement, manufacturing, use, discarding/deposition/loss and finally the archaeological afterlife, the execution of which is crucial for the interpretation of the life cycle. Each phase contains a variety of aspects. The needs and ideas behind the procurement of the raw material are hard to investigate when it comes to prehistoric artefacts, but an investigation of raw material acquisition, e.g. rock type or raw material qualities can be executed and in some cases material provenance can be indicated. The production processes are often the main issue concerning studies of stone artefact studies, but when it comes to Neolithic ground stone artefacts from southern Scandinavia this is often a difficult task. The Neolithic people often let Nature be the designer. Sometimes flaking is used as a technique when making them or when rejuvenating used surfaces. But many of them are fashioned by pecking and grinding — techniques that do not leave any macroscopically visible by-products behind, apart from manufacturing tools involved in the process (Olausson 1998, 133). Due to the lack of production material it can often be hard to discuss if and how the artefact has been altered before use, since eventual traces can disappear due to, for example, heavy use, maintenance, repair, reuse or fragmentation. In addition, many ground stone artefacts are often more coarse grained compared to lithic materials, which makes bulbs of percussion and other traces of altering difficult to identify. The key feature to study is often how these types of amorphous artefacts were used, instead of relying on a possible manufacture process. Analysing combinations of such aspects as rock type, the size of the artefact and the location, size and appearance of the use surfaces in relation to fragmentation and find context can offer clues to how the artefacts were used. In relation to other analogies of, for example, anthropology, experimental archaeology or the results from use-wear

analysis or analyses of residues and starch, one can end up in a discussion of a certain kind of use or function. Finally, the last step of the life cycle is the discarding, deposition or loss of the artefact. This is a vital aspect to grasp in trying to interpret prehistoric people's attitudes towards the objects at what we archaeologists see as the end of their use-life. Different treatments of the artefacts and depositional customs are examples of crucial practices to investigate.

So, finally, what can an exploration of the biographies of the ground stone artefacts found in two of the long barrows on Almhov tell us about the Neolithic way of life?

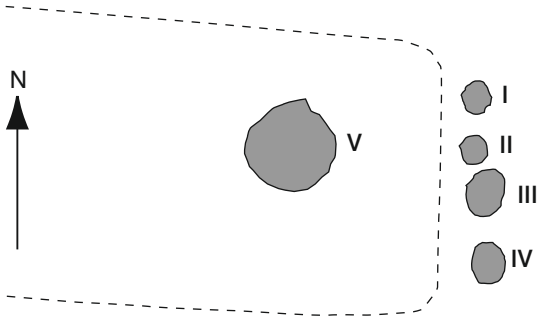



*Fig. 4. LB 1 (modified after* Gidlöf *et al. 2006, 34).* ***I–IV*** *façade pits;* ***V*** *grave; one artefact was found in pit* ***I****; two in pit* ***III****; one in pit* ***IV****; dashed line: estimated extension of the barrow (scale 1:200).*

## Long barrows 1 and 2

Long barrows are the oldest type of monumental graves built in Scandinavia, and on Almhov the remains of five long barrows were found. Due to later agricultural activities, the five long barrows were badly preserved and the artefactual remains were scarce, consisting mainly of small amounts of bone, pottery, flint and ground stone artefacts (Rudebeck 2010, 146–147). The ground stone artefacts were mainly found in two of the long barrows, which will be the focus of this study. One long barrow, which was called long barrow 1 (LB 1 from now on), was the only one containing distinct traces of the barrow itself (Fig. 4). Four stone-filled pits, interpreted as the remains of a 6-metre-long façade, were situated on the eastern end of LB 1. Additionally, there was a feature of packed stones about four metres to the west of the façade, which was interpreted as a disturbed grave. The grave did not contain any human remains, but the size, construction and position inside the monument is consistent with the findings in other long barrows and some of these features contained human bones (as, for example, in long barrow 3 on Almhov, Gidlöf et al. 2006, 39). The dating of LB 1 stretches between 3950 and 3650 BC according to the $^{14}$C analysis of a cereal fragment from a façade pit (Cal. 2 σ, Gidlöf et al. 2006, 34). The later part of this dating seems more probable as it correlates better with the typological dating of two thin-butted axes found inside the monument (Fig. 5; Gidlöf et al. 2006, 35). One of the flint axes was found in connection with the grave. 15 m south of the grave, another thin-butted flint axe was found during the removal of a cultural layer, probably also originating from a grave (Fig. 5; Gidlöf 2006, 26; Gidlöf et al. 2006, 35). Four ground stone artefacts were found in the pits of the façade (see Figs. 2 and 4).

Long barrow 2 (LB 2) is dated to the Early Neolithic period by analogy with LB 1 (Fig. 6; Gidlöf et al. 2006, 39). The remains consisted of four stone-filled pits which constituted the foundation of a 4.5-metre-long façade. Two stone-filled features to the west of

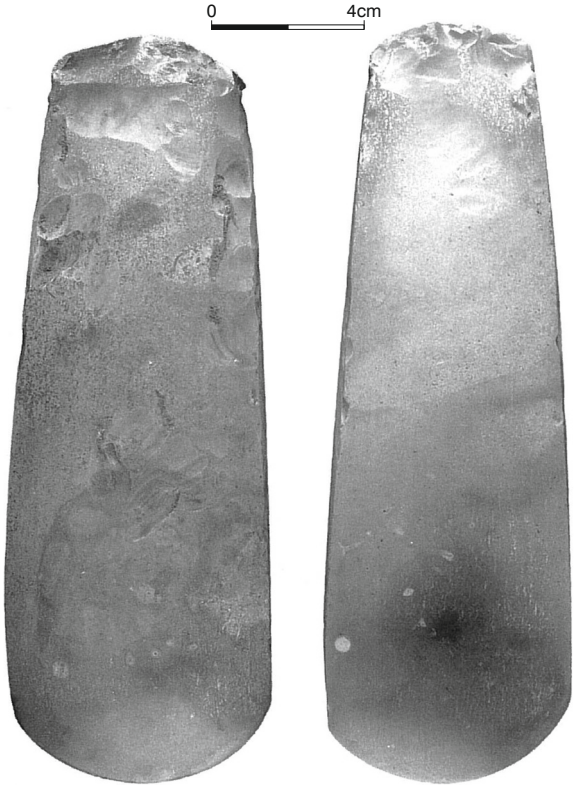



*Fig. 5. Thin butted axes found in long barrow 1 (photo from Malmö Museer).*

the façade were interpreted as graves on the same basis as in LB 1. No trace of a covering mound was found, unlike the case for the better preserved LB 1 (Gidlöf et al. 2006, 39). Later agricultural activities have probably erased an eventual barrow, but it is also possible that some long barrows were not "megalithic" in that sense and were constructed without a mound (Gidlöf 2006, 24; Rudebeck 2010, 93). Three ground stone artefacts were found in the graves (see Figs. 3 and 6).

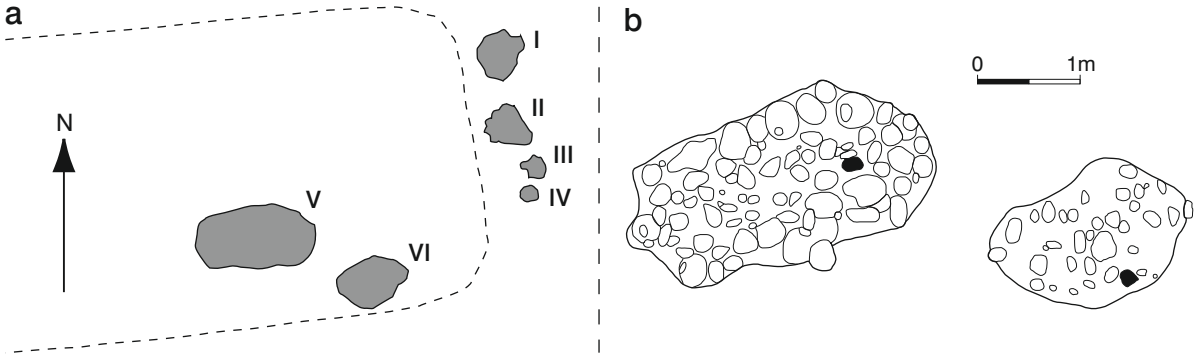



*Fig. 6a. LB 2 (modified after* Gidlöf *et al. 2006, 37);* ***I–IV*** *façade pits;* ***V–VI*** *graves; dashed line: extension of a possible barrow (scale 1:200).* ***b****. The graves from LB 2 with marked positions of the two quartz-rich ground stone artefacts. The documentation does not reveal the position of the third ground stone artefact that was found in the large grave (after* Gidlöf *2006, 27).*

## The biography of the ground stone artefacts

The seven ground stone artefacts from LB 1 and LB 2 will in this section be categorized according to their life histories in terms of procurement, manufacture, use and the end of their use-life. Their archaeological afterlife such as eventual source-critical matter, conceptual issues and other matters related to their biographies will be integrated into the analysis.

### Procurement

Six of the artefacts from LB 1 and LB 2 are made up of quartz-rich sandstone. They are reddish or slightly grey in colour, due to a high content of feldspar, and possibly also iron oxide (Johansson 2012, personal communication). At least three of them present such a high content of feldspar that they can be classified in geological terms as arkoses (Johansson 2012). The seventh artefact is a sedimentary sand- or siltstone, rich in mica (Johansson 2012). The fragmentary state of all the seven artefacts makes it difficult to discuss raw material origin. Both quartz-rich sandstones and sand-/siltstone can be found in the local moraine. Two of the quartz-rich artefacts present some patches of natural surface on several sides that looks like weathering caused by natural forces, which indicates that the raw material was not quarried from solid rock. The moraine that surrounds Almhov is a possible source, although the stones could have been transported a greater distance. A study made in the western part of Scania suggests that quartz-rich sandstone was also quarried, in this case for use as dry walling in megaliths (Hårdh/Bergström 1988). Although the preferred quartz-rich sandstone may originate from the local moraine, such large pieces were probably not lying around everywhere, an assumption which puts focus on questions about procurement strategies and storage. For future research, an investigation of the composition of the large numbers of unmodified stones which are so typically found in Neolithic pits could perhaps provide clues as to whether these were put there in storage and, if this is the case, for what reason. For example, Schneider (1996, 306) describes storage pits with used and unused stones in an article about quarrying and the production of milling implements in North America.

### Manufacture

How much effort was put into shaping and surface preparation most likely depended on the morphology and dimension of the original block (Hamon 2006, 333). The fragmentary state of the artefacts makes it difficult to study to what degree they had been altered before use and likewise to distinguish between manufacturing traces and traces of maintenance and re-altering. In addition, the manufacturing waste found at Almhov is negligible, suggesting that the artefacts were formed at another place. On the other hand, such production waste can be difficult to identify and was not a prioritized aspect in the excavation plan. However, as the two quartz-rich artefacts from LB 2 were broken in half and not into several pieces, manufacturing traces are still visible (see Fig. 3). The original blocks of these two artefacts were small compared to the other quartz-rich artefacts in the study. Both blocks were formed by flaking in order to shape the sides, which indicates that a certain form was desirable. The use surfaces were also shaped, still showing traces of pecking at the outer edges, probably in order to facilitate a flat use surface. Such pecking can also be done as maintenance in order to rejuvenate the surface.

## Use

All seven artefacts are interpreted as tools as they have smooth surfaces that seem to be derived from use. For the often amorphous tools like the ones that are in question in this article, I find it practical to divide them in terms of active and passive tools. This way of classifying ground stone artefacts, referred to as a French school, implies a division between artefacts that remain stable during use (passive) and active tools which move during use (Stroulia 2010, 3). A passive tool could, for example, be a quern or an anvil, and an active tool could, for example, be an axe or a hammerstone. Tools that are too fragmented to categorize in this way can simply be referred to as fragments. Artefacts can have both passive and active roles during their life cycles and the research question can decide which categorization is relevant. A broad grouping based on passive and active tools is, as I see it, a practical research tool without immediate functional connotations. "Passive" and "active" is certainly a functional division per se, but it is not as tightly associated with special tasks, forms or designs as many archaeological categories are. Thinking of tools as active or passive implies a shift in focus, from their function to their use, from what purpose they served to how they were actually handled. In other words, to use the terms active and passive tools this way does not derive from an urge to develop a new terminology, but rather to avoid using more commonly used terms in an unreflective way at an initial stage of the research process.

The small, sedimentary tool cannot be attributed to either a passive or active status due to its fragmentary state and is thus referred to as a fragment. The six quartz-rich artefacts from LB 1 and LB 2 can for two reasons be interpreted as passive tools, despite their fragmentary state. Firstly, they are quite large, although how large they had originally been is sometimes hard to tell (see Figs. 2 and 3 for examples of sizes). Secondly, they have large, smooth, almost shiny, highly-polished use surfaces and sometimes striations visible to the naked eye. This appearance is interpreted as being caused by the grinding and polishing of, for example, axes (Ballin 1996, 62; Johansson 2006, 116; Van Gijn/Houkes 2006, 178; Schaller Åhrberg 2006). Finds of similar passive tools are not uncommon on Late Mesolithic and Neolithic sites in southern Scandinavia. Rock types with a high quartz content are generally well suited for grinding (e.g. Van Gijn/Houkes 2006, 178) and quartz was the most common abrasive throughout the ancient world (Rapp 2002, 223). Experimental archaeology has proven such stones to be well suited for grinding flint axes and daggers, with water, sometimes together with sand, as an effective lubricant (Hahn 1991, 284; Madsen 1984, 52; Olausson 1983, 62; Nunn 2005). One of the passive tools from LB 1 has two use surfaces, situated on opposite sides. It is possible that one side was soaked in water while the other one was being used (Eriksson 2006, 275). But even though it is plausible that these tools had been involved in grinding and polishing activities they should not be lumped together. Axe production has taken place on Almhov (Gidlöf 2006, 34), and the four passive tools found in LB 1 would have originally been large enough to have been used for axe grinding. But the tools from LB 2 are, in comparison, quite small, which makes such activities less probable, at least for whole axes. In addition, although the sedimentary fragment from LB 2 is small, it qualifies for an additional type of function. This tool could be described as having a sandpaper-like structure, giving it abrasive properties which were probably sought after when the stone was selected.

Finally, "grinding and polishing tool" could be used as a generic term for both the passive tools and the fragment in this study, the word "polishing" adding a hint of the area of use and in that way preventing allusions to artefacts used to grind cereals, ochre and other materials into fine particles. Using this all-embracing concept we can go on to study what the Neolithic people were actually doing with these artefacts at the end of their use-lives. The fragmentary state of the tools makes it hard to say why they ended their use-life, if they were regarded as worn out or not. But none of them show any sign of reuse, so making new tools from these tools was not what Neolithic people had in mind.

## The end

An object can be discarded, deposited or lost at the end of its pre-archaeological life cycle. Sometimes it never makes it to the archaeological record, due to erosion or other circumstances. The grinding and polishing tools discussed in this study were brought to our attention because they were deposited in façade pits and graves, but unfortunately the archaeological record does not allow any detailed interpretations of how they were deposited since the graves were disturbed.

However, there is another central aspect that concerns the end of the life cycles of the objects, namely fragmentation. The seven artefacts in this study were all fragmented. The question as to whether Neolithic stone artefacts were deliberately destroyed has long been debated (e.g. Lidén 1940, 136; Malmer 1969, 52). Today there

are enough examples to acknowledge this as a Neolithic practice and there are many archaeological studies that deal with the matter of fragmentation (e.g. Larsson this volume). This is not to say that all fragmentation is deliberate. For example, grinding and polishing stones in several pieces can correspond to a fragmentation pattern that has been noted during experimental archaeology, where grinding and polishing stones break and break until just a small piece is left (Nunn 2005). It can be difficult to identify what caused an object to fragment and if this was a deliberate action or not, especially when it comes to ground stone artefacts that do not fracture in the way that flint material does. Destroying flint axes by fire is an example of a distinct, deliberate destruction that has attracted much attention in Scandinavian research (Larsson 2000; 2011). The grinding and polishing stones in the façade pits could have been broken tools that came in handy for supporting wooden posts, for example (cf. Gidlöf 2006, 33). But four pieces in the same façade where at least two of them were destroyed by fire strongly suggests that the fragmentation was deliberate and that they were put in the façade for more than practical reasons. There are no indications that the façade in LB 1 was a location for fire-related activities, as is sometimes the case regarding long barrows in southern Scandinavia (Rudebeck 2002, 126).

The practice of fragmentation is also a crucial aspect to grasp when it comes to the two passive grinding and polishing tools from LB 2. Unlike the small sedimentary fragment which is difficult to interpret, the fragmentation of the two passive tools is interesting as they give the impression of being broken in half. This type of fragmentation stands out in comparison to all the other grinding and polishing tools on Almhov. It is a pattern of fragmentation that, for instance, can be seen amongst milling implements, perhaps caused by pecking while sharpening a tool without providing sufficient support (Schlanger 1991, 462). But the two passive tools from LB 2 are quite compact and relatively thick artefacts that would hardly break in that way, on the contrary, a considerable force must have been used in order to break them in half (cf. Stroulia 2010, 51).

Both variants of breakage represented in LB 1 and LB 2 may have been intentional. But irrespective of what caused the fragmentation of these artefacts, the fact that they are deposited in this way suggests that this was how the Neolithic people thought that the end of their use-lives should be. The grinding and polishing stones placed in the façade and graves in long barrows could most likely be placed within the Neolithic practice of deliberate destruction.

## To conclude

It is easy to think of grinding and polishing tools as mundane and unchanging, and they are a type of artefact which is still easily turned into generalized stereotypes (cf. Fig. 7). Often they are interpreted in a strictly functional way; i.e. as tools used to shape, sharpen and polish axes. But the biographies of the grinding and polishing tools in LB 1 and LB 2 show a different, more multifaceted picture. Without jumping to any conclusions about more specific functions, at least three different kinds of grinding and polishing activities seem plausible regarding the tools in this study. Besides axes and other flint and stone artefacts, grinding and polishing tools may have been used to shape, smooth and sharpen such things as bone knives, awls, needles and items made of antler, hides, amber, shell and wood (e.g. Hamon 2008). But without use-wear analysis, it is hard to discuss what was actually ground. An artefact's function as a tool is just one part of its biography and the question is whether it was important at the end of its use-life as well. Why, for example, were pieces of well-used grinding and polishing tools put in the façade pits of LB 1? These tools were probably used for axe-grinding (Gidlöf 2006, 33; Rudebeck 2010, 174), an assumption which is going to be tested with the aid of use-wear analysis. These well-worn and fragmented tools could possibly relate in some way to the unused and intact flint axes that were also found in LB 1 (see Fig. 5). The flint axes are associated with the graves, while the grinding and polishing stones seem to have been put into the long barrow during its construction. There are anthropological examples that stress the communal aspects of the time-consuming process of polishing and grinding. Not everybody could be involved in flint knapping, but many could shape, sharpen and polish by grinding (e.g. Pétrequin/Pétrequin 1993, 367; Hampton 1999, 68). Perhaps the deposition of the fragmentary grinding and polishing stones during the building of the barrow was an act that manifested the communal aspects of monument erection, of co-operation and work.

The passive grinding and polishing tools found in LB 2 resemble each other, while simultaneously differing from the tools found in LB 1. These two tools were put into the graves and seem to have been used for abrading activities different from those in LB 1, they will also be subjected to use-wear analysis in order to give a fuller picture of their possible functions. They were fragmented into halves, an act that could be interesting to discuss in relation to what Chapman/Gaydarska (2007; 2009) have introduced as the "*fragmentation premise*" — the idea that a common practice in the past was the deliberate breakage of complete objects which were reused in order to enchain social relations. The scope of

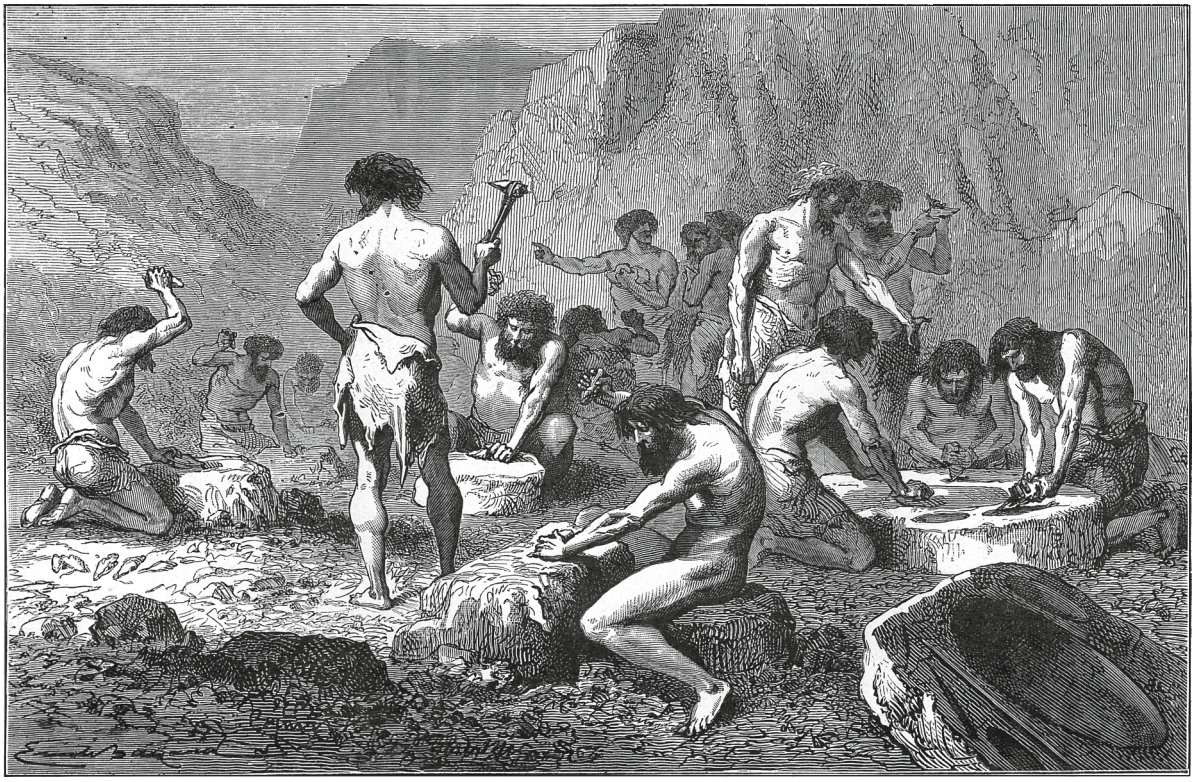


*Fig. 7. Making and polishing silex at Pressigny (illustration from 'L'Homme Primitif' by Louis Figuier, 1870).*

this article does not allow for an extended discussion concerning this way of integrating a biographical approach with the study of fragmentation, but it opens up questions and possibilities that will be explored further in my PhD thesis. An interesting question is where the other halves of the grinding and polishing stones from LB 1 and LB 2 ended up. There are no matching fragments among the many grinding and polishing stones on Almhov as far I can tell, but the results are preliminary. In addition, it can be noted that there are indications of human bone circulation on Almhov in the later part of the Early Neolithic (Sarnäs/Nord Paulsson 2001, 116–122). Perhaps both bone and stone fragments were used in the same practice.

The conceivable ways for the grinding and polishing stones to represent some sort of relationship between the living and the dead are manifold. The meaning and value cannot be tied to just one stage of an object's life history and objects have different meanings depending on context (cf. Ekengren 2009, 28). Many parts of the object's biography could have been important, for example, the provenance of the raw material, the purpose for which they were used, who made them or who used them (cf. Brumm 2004). However, the way the grinding and polishing tools in LB 1 in this study were fragmentized and deposited seems to indicate that the objects gained significance through their use. The broken artefacts from the graves in LB 2 are harder to interpret. Changes in meaning do not need to be driven by the physical modification or use of an object (Gosden/Marshall 1999, 170). Comparisons with other places, contexts and materials together with use-wear analysis could, for example, be a way to explore these issues further.

## Concluding discussion

The activities that resulted in the physical monuments, pits and material culture on Almhov can all be interpreted as an expression of how Early Neolithic man made sense of the changing world brought about by Neolithization. Different perspectives offer different narratives of this on-going process, as do the variety of archaeological remains. Research on the assemblages from Almhov has mainly focused on material remains suitable for statistical analysis, such as pottery, flint and bone, while the less abundant nature of the ground stone artefacts such as grinding and polishing stones has attracted less attention. But these stones, which were clearly important to the Neolithic people,

can hardly contribute to our understanding of this era if we keep looking upon them as mere curiosities. Discussing Neolithic ways of life in a study of seven stones can perhaps be hard to digest for some. But my aim has been to discuss how the amorphous ground stone can be analysed and to show that even a small case study of ground stone artefacts can highlight problems central to Neolithic research and elucidate large-scale patterns and processes (cf. Fahlander 2008). Too generalized studies run the risk of underestimating the variability of material culture by not acknowledging contradictory or seemingly strange components. At the same time, we must find ways to facilitate comparisons to avoid being anecdotal. Statistical data are important when accessible, but some questions can only be explored using tools that acknowledge that each artefact is an individual which can be both studied in its own right as well as contribute to the larger picture. In this study, a biographical approach was used since it provides a contextual and reflexive framework based on praxis. This perspective can be a constructive tool for grouping observations and items of data that are otherwise difficult to capture with more traditional methods, such as typology or function-based terms.

The case study gave rise to a number of questions concerning both archaeological practices and practices during the Neolithic period. These issues are only touched upon here and can thus be explored further, as a starting point for comparisons with other kinds of material culture, contexts and periods. The case study suggests that establishing a relationship between the living and the dead was important during the initial phase of monumental building at Almhov. The grinding and polishing stones from LB 1 seem to have gained significance through their use, suggesting that these artefacts were not looked upon as either strictly functional or symbolic. Could they be an example of the importance of the communal aspect of grinding and hence the making of the axes used to build these early monuments? Could the grinding and polishing stones in the graves in LB 2 be seen as signs of enchainment between the living and the dead?

Grinding and polishing stones often get a minor role in archaeological research (Hamon 2006, 333). In southern Scandinavian research they are generally interpreted as tools for grinding axes, and most often they are treated as a homogeneous group with a similar function throughout the Neolithic period. The biographies of the grinding and polishing stones in this study emphasize the differences between the artefacts from the graves in LB 2 compared to the ones found in LB 1. As a result of this observation, the majority of the artefacts from this study will be subjected to use-wear studies in order to get a more nuanced picture of this material category. The results from the use-wear analysis will be published as part of my PhD research.

Another issue is the significance of grinding and polishing. Since the nineteenth century, the polished stone axe has been regarded as the type-fossil of the Neolithic (Sheratt 1993, 7), and still the making of stone tools by pecking, grinding and polishing is seen as a defining technology for the period. Yet we seldom pose the question of why the practice of grinding and polishing was so important in Neolithic society. Ground flint axes are, for example, more common in graves than in deposits, indicating some sort of special significance attributed to ground objects (Larsson 2011, 208). The fragmentation and depositions of the grinding and polishing stones in the long barrows on Almhov suggest that this is an issue worth exploring further, especially in relation to the unused, polished flint axes from LB 1. The tension between different raw material uses such as quartz-rich sandstone versus flint could also be explored, putting not only the flint mines in Sallerup outside present day Malmö into focus, but also the moraine and the landscape surrounding Almhov (cf. Rudebeck 2010, 178). The procurement of these important raw materials could be problematized in relation to storage in future investigations of Neolithic pits.

Yet another essential question is whether the practice of putting grinding and polishing stones into the long barrows was a local phenomenon or of a more regional, or even supra-regional, character. There are patterns of partly overlapping spheres of identity expressed in monumental activities in long barrows from southern Scandinavia, northern Germany and the British Isles. The interior components, such as grave construction, burial positions and grave goods, tend to communicate the identity of a smaller community, whereas the exterior of the monument displays an identity that embraces both northern Europe and Britain (Rassmann 2011). Moreover, were the grinding and polishing stones attributed a special significance in other contexts and periods during the Neolithic era, e.g. by being put into other types of graves and grave constructions, or by being placed as structured depositions? How do we interpret grinding and polishing stones found on settlements; what do their biographies look like? Were these practices of fragmentation and deposition attributed to other kinds of ground stone artefacts or other types of material culture? There are several possibilities for comparing Almhov to other sites, both from other areas with long barrows in the region and from places dated to later periods, for example, the megalithic site Döserygg which is also located in southern Sweden (Andersson/Wallebom 2013). Equally important is to explore what cultural traits already existed during the Mesolithic. Rather than viewing the Mesolithic and the Neolithic periods as sepa-

rate entities we should instead be focusing on these periods as historical processes with different resolutions (cf. Lidström Holmberg 2008).

Last but not least are some issues that concern archaeological practices. Firstly, the conceptual confusions concerning the terminologies of ground stone artefacts that often arise could be avoided by clearly motivating why a certain term is used. Secondly, the maxim that *"you do not find what you are not looking for"* seems particularly relevant to the study of ground stone artefacts. By attending more carefully to these amorphous objects in research programs, fieldwork strategies and the like, we would greatly enhance their role as an archaeological source material. For instance, had the documentation of some of the grinding and polishing stones from Almhov been more precise, we could have discussed the position within the graves and the façade pits in a more detailed way. Were, for example, the grinding and polishing stones in LB 1 put into the façade pits, or were they part of a pile of stones that seem to have been visible from ground (Gidlöf 2006, 25)? It is always easy to be wise after the event and archaeological sites in agricultural districts are often disturbed, but hopefully this study can contribute to a raised level of awareness by starting a discussion of possible practices in connection to the long barrows.

To conclude, this small-scale study has shown that the uses of grinding and polishing stones during the Early Neolithic period could be much more multifaceted than we usually acknowledge and thus constitute an interesting field of research. I hope to have demonstrated that although ground stone artefacts constitute a material category that calls for patience, it is well worth the effort. Although it is neither possible nor even desirable to squeeze blood out of every single stone, investigating the biography of each artefact is a fruitful way of letting them contribute to our understanding of the peoples of the past. The tools found in the long barrows can be interpreted as fragments of life and death, reflecting changing practices. As such, they were part of the making of a new monumental place through reference to ancestors, material culture and architecture. A biographical approach can thus shed new light upon different kinds of practices, thereby changing the way we look at Early Neolithic society.

## Acknowledgements

I would like to thank Martin Furholt, Martin Hinz and Doris Mischka for the opportunity to contribute to this publication. I am also grateful to the archaeological seminar at the Department of Archaeology and Ancient History in Lund, especially Fredrik Ekengren and Deborah Olausson, for valuable comments on an earlier version of this article. I would also like to thank Kristina Gidlöf Persson and Elisabeth Rudebeck for providing information about Almhov in such a generous way, and Leif Johansson for geological consultation. Special thanks goes to Håkan Håkansson for helpful suggestions.

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