

The second Uniting Sea workshop was held in Stockholm, Sweden in late October 2006. The event gathered participants from eight countries around the Baltic Sea, and 19 papers were presented covering a range of topics and geographic areas connected to the main theme of the workshop, i.e. Stone Age societies in the Baltic Sea region. This volume presents 12 of the papers presented at the workshop. The title "Uniting Sea" refers not only to the communicative importance of the sea during the Stone Age, but also to the need today of contacts and continued discussion across nation-borders to bridge the gap between research traditions in different countries. Hopefully the present publication can contribute to further discussions and contacts in this respect, across the Uniting Sea.

UNITING SEA II Larsson & Papmehl-Dufay (eds)

# UNITING SEA II

STONE AGE SOCIETIES IN THE BALTIC SEA REGION

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Editors:  
Asa M. Larsson & Ludvig Papmehl-Dufay

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**OPIA 51**





## Preface

"*Uniting Sea. Stone Age Societies in the Baltic Sea Region*" was the name of a project initiated by two MA students at Uppsala University, Sweden some ten years ago (Samuelsson & Ytterberg 2003a). Niklas Ytterberg and Christopher Samuelsson were running an investigation at the Pitted Ware site of Hemmor on Gotland at the time, and while scrutinising their findings they felt an increasing need for an international discussion on topics related to the Neolithic, culture and contacts in the Baltic Sea region. The aim with the Uniting Sea project therefore was to create a forum in which various problems related to Baltic Stone Age archaeological research could be continually discussed. In January 2002 this resulted in the first international workshop on the theme being held, at the Department of Archaeology and Ancient History, Uppsala University, Sweden. The first Uniting Sea workshop gathered 44 participants from five countries, and resulted in a volume covering 15 of the 20 papers presented (Samuelsson & Ytterberg 2003b).

An initial ambition was that the Uniting Sea workshop would become an annual gathering of Stone Age researchers from countries around the Baltic Sea. For various reasons this was not realised. However, thanks to a few hardworking PhD-students, as well as financial support from the Berit Wallenberg Foundation, four years later the tradition was continued. Åsa M. Larsson and Kim von Hackwitz organised the Second Uniting Sea workshop, which was held at the Department of Archaeology and Classical Studies, Stockholm University, Sweden on October 20-22th 2006. This time the workshop gathered 38 participants from eight countries, and 19 papers were presented covering a wide range of topics related to Stone Age research around the Baltic Sea. This volume presents 12 of the papers, and covers a range of topics and geographic areas of relevance to the main theme of the workshop. As was the case with the workshop itself, the publication has been made possible thanks to generous financial support from the Berit Wallenberg Foundation, to whom we hereby extend our sincere gratitude. It is our hope and firm belief that the Uniting Sea workshops and the resulting publications provide important contributions to Stone Age research throughout the Baltic Sea area, and we hope that in this case the sequel is not the final.

Åsa M. Larsson & Ludvig Pappmehl-Dufay

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The Uniting Sea workshop II in Stockholm, Sweden  
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## Ethnicity and Collective Identities In the Fennoscandian Stone Age

### Abstract

In order to move beyond traditional interpretations of delimited material groups as social entities such as ethnic groups, a framework based on collective identities is presented. A hierarchy of segmented collective identities illustrates the complexity of the relation between identity, material culture and geographical distribution. It is further argued that collective identities may be primordial, but also situational. For a collective identity to be archaeologically visible it must be mobilised. To increase archaeological recognition of such mobilised identities a diachronic perspective is advised.

*Keywords: ethnicity, collective identity, primary identities, segmentary identity, ethnic mobilisation*

## Introduction

Since the mid-1980's interpretations explicitly involving ethnic groups and ethnic processes have become common in Scandinavian archaeology. Limiting myself to examples from Stone Age research, I have argued that the different cultural groups in the middle Neolithic in Southern Scandinavia may be interpreted as processes of ethnic differentiation (Damm 1991). A recent Ph.D.-thesis from Bergen (Bergsvik 2006, see also Bergsvik 2003, 2004) distinguish at least 6 different ethnic groups in the early Neolithic of western Norway; the border between the early TRB-societies and the adjacent hunter-gatherer groups in Central Sweden is perceived as ethnic, with roots dating back to the late mesolithic networks (Hallgren 2000, Knutsson et al. 2003); there is a continuing debate as to the interpretation of the different material found in the central Swedish archipelago and the mainland respectively (Carlsson et al. 2003, Gill 2003a, Lindgren 2003, Åkerlund 2000) and as many as nine chapters in the proceedings from the 6th Nordic TAG in Oslo in 2001 were dedicated to ethnicity in Stone Age Scandinavia (Bergstøl 2003). And this is by no means an exhaustive list.

This increased interest in social organisation in the stone age is very positive. It is, however, somewhat worrying that there is little explicit debate as to what constitutes an ethnic group, how it is related to material culture, and how we may discern it in archaeological data. The correlation between bounded cultural entities and ethnicity is employed too readily with resulting critique (e.g. Wallerström 2006, Werbart 2002). One of the problems is that we too often start out looking for possible ethnic groups, rather than work from the bottom up: what patterns and distributions are we able to discern in the data, and what kinds of interaction and identities may they be related to?

## Ethnicity as collective identity

But what is an ethnic group? In the following I will consider ethnic identity as a collective identity (cf. Jones 1997, Rowlands 1994) rather than what may be termed a subjective and personal self-identity (Sørensen 1997:94), although it should be emphasized that no exclusive distinction between the two is possible (Moore 1994:36). Never-the-less ethnicity is very clearly a group identity. In anthropology and sociology it is emphasized that ethnic groups are descent and culture communities (Fenton 2003). Ethnicity is a social identity based on real or fictive kinship, and where real or perceived cultural differences are important (Hylland Eriksen 2002:12-13). Ethnicity consequently cuts across gender, age and social status, but not necessarily across class, religion and nationality, although such cases also exist.

Fredrik Barth's work was of major importance in overcoming the essentialist view of ethnicity, starting with his well-known introduction in 'Ethnic Groups and Boundaries' (1969). One of the most important insights here was that ethnicity is a process that requires interaction between groups, rather than something that exists when groups are isolated from each other. In stead of viewing ethnic groups as cultural units, he saw them as an organisational type. Ethnicity could be viewed as a process that helped organise (often economic) relations between adjacent groups. His focus was on the organisation, rather than primarily on the cultural traits that may (or may not) distinguish different groups. He was very explicit in pointing out that there is no simple relationship between ethnic groups and cultural traits.

Barth's work has retained its influence in archaeology, and it is still quoted positively in most Scandinavian works on ethnicity. That Barth has had a major impact in Norwegian archaeology is not surprising. He was mentor and inspiration for many archaeological studies in Norway during the 1970's (initially in Bergen where Barth was professor in social anthropology), including some of the first to address prehistoric Sámi identity (Kleppe 1977, Odner 1983, other works include Håland 1977). His wider influence in Scandinavia can no doubt also be attributed to the fact that his ideas were used in Ian Hodder's studies of social interaction in Kenya (1979, 1982). Finally, Barth's initial work, in contrast to recent literature, deals almost exclusively with pre-state societies, which may appeal to archaeologists.

Barth's approach has of course met criticism, predominantly for being too instrumentalist and too open for individual choice in ethnic affiliation (the latter should perhaps more correctly be aimed at some archaeological implementations of Barth's approach). Siân Jones (1997) tries to remedy this, by emphasizing that although ethnicity is embedded in social construction, it is also historically situated and based on existing and relevant cultural practices. Inspired by Bourdieu, Jones argument is based on the notion of habitus, which shape and are shaped by practice (2000:450): "Shared habitual dispositions provide the basis for the recognition of commonalities of sentiments and interest, and the basis for the perception and communication of cultural affinities and differences which ethnicity entails" (Jones 2000:451). In other words, in the encounter with others, one becomes aware of, or recognises existing common practices within the group. The practices are transferred from doxic knowledge to a reflexive mode (see also Johannesen 2004 for a summary of Jones' perspective). In Giddens (1984) terminology, awareness and reflection on these practices, causes transference from a level of practical consciousness to discursive consciousness.



Following this perspective ethnicity is not totally arbitrary and negotiable, but arises from situated practices. This is the view presented by Bjørnar Olsen and Lars Ivar Hansen in their analysis of the emergence of Sámi ethnicity in the last millennium BC (Hansen & Olsen 2004: 36ff) and, I believe, by Fredrik Hallgren in his analysis of the northern border for early TRB agriculture (Hallgren 2000).

## Primordialism, subjectivity and material culture

Barth notes the importance of self-ascription, arguing that an ethnic ascription ‘classifies a person in terms of his basic, most general identity, presumptively determined by his origin and background’ (Barth 1969:13). In archaeology (and in several other disciplines) the essentialist perspective has been termed primordial (e.g. Jones 1997). As Fenton demonstrates (2003: 76ff) the term should more correctly be reserved to describe the strength of the social attachments that may be involved in ethnicity or indeed in other collective identities. Primordial attachments are experienced in relation to those groups or identities that in a given historical circumstance are of primary importance. This often means kin, but, following Geertz, may also be the religious community, language or ethnicity (Fenton 2003: 81, 89). This seems to correlate with Barth’s basic, most general identity (see also Werbart 2002:10). In other words, ethnicity may be primordial in that it can be, and often is, an identity that is primary to the individual.

In recent critiques of studies dealing with prehistoric ethnicity, Thomas Wallerström argues that ethnicity is a subjective experience (Wallerström 2006: 16, 59). And because archaeology has no way of knowing what people felt thousands of years ago and what they experienced, interpretations pertaining to prehistoric ethnicity are likely to be projections of the present rather than a past reality (Wallerström 2005:133, 2006:60). From the above it is clear that ethnicity, if primordial, may indeed be deeply felt. Wallerström, however, appears predominantly to base his argument on the concepts of perceived descent and perceived cultural affinities, suggesting that they would therefore not be visible in archaeological data.

As Wallerström points out, the crucial issue to archaeology is whether or not there is any relationship between ethnicity as a perceived collective identity and material culture. With references to anthropology Wallerström argues that there is no such relationship (2005:134, 2006: 64). I fully agree that in much Scandinavian archaeology the essentialist perspective still seems to be a tacit premise. We must move beyond viewing every material boundary as delimiting ethnic groups. But does this mean that archaeology is unable to study social groups, collective identities and ethnicity?

From Barth onwards anthropology has emphasised repeatedly that there is no simple correlation between ethnic group and culture. However, that the relationship is not straightforward, does not necessarily mean that it is non-existent: “Ethnicity, that is the relation between two groups that each consider themselves to be of common descent, consists, in short, of making cultural differences (real or fictive) relevant” (Thomas Hylland Eriksen in Wallerström 2005:134, 2006:64, my translation and emphasis). Cultural differences are relevant in ethnic interaction. Jones in her practice theory approach suggests that ethnic categories exist “through the systematic communication of cultural difference with relation to the cultural practices of particular ‘ethnic others’” (Jones 2000: 451).

Most contemporary archaeological theory agrees that material culture is intimately connected with human existence (e.g. Olsen 2003), human agency (e.g. Barrett 2000) and consequently with social interaction (Strum & Latour 2000). It is often argued that social relations are produced, changed or stabilised through material culture. There is no contradiction between ethnicity as a primordial and deeply felt identity and ethnicity as social interaction with material implications. In the process of making ethnicity relevant, groups are likely to objectify cultural difference (Jones 2000: 453). Material culture often assist and increase internalisation of social structure (Damm 1998a, 1998b), therefore we should expect pronounced cultural differences where the ethnic differences are stressed. But, as has rightly been emphasized, sometimes ethnic groups do not seem to be discernable through cultural differences (e.g. Hylland Eriksen 2002: 12). How are we to understand these cases?

## Primary identities

Richard Jenkins argues that ethnicity is a ubiquitous social phenomenon – something that is present always and everywhere (Jenkins 1997: 75). While this may be so (if we accept a very broad definition of ethnicity), ethnic identities are not always primary. We may perhaps all have a collective identity that could be described as ethnic. But, even as subjects and individuals we are multi-dimensional (Haraway 1991: 193), and our identities therefore situational: an individual can not simultaneously be wholly woman, Danish, archaeologist, left-wing, atheist, middle class. Some of our identities will be more relevant in certain situations. And some identities will be primary to us. When ethnic identity is not primordial, it may be characterised as circumstantial or situational (Fenton 2003: 84). To me personally, ethnicity is not a primary identity. But, when travelling in certain areas of northern Fennoscandia, I am very much aware that I am not Sámi. In that situation my identity as non-Sámi is very relevant to me, and on certain occasions to people I meet (Sámi and non-Sámi alike).

It is sometimes claimed that since ethnicity is a recent concept, it is irrelevant when studying past societies (see Gill 2003b: 68, Wallerström 2006: 80). The term has only become academically conspicuous after 1975 (Fenton 2003:96) and earlier referred more generally to heathendom, foreign, minorities (ibid: 13pp). If, however, we define ethnicity very broadly as a collective identity based on descent and cultural difference (real or fictive), then I think we have to accept that ethnicity has existed in the past as well. But based on the distinction between primordial and situational ethnic identities, ethnic groups may have been more or less relevant also in different time periods, in different geographical regions and in different situations.

## Segmentary identities

It may be argued that social identities are segmentary in character (Hylland Eriksen 2002: 76). Jenkins (1997: 40-41) commenting on the segmentary and hierarchical dimension of ethnicity, exemplifies this with the Welsh identity; I propose a Danish variety as perceived from the inside (fig. 1). Each of these collective identities may be relevant in different contexts, i.e. they are situational (and some

Horsens - Vejle



Eastern Jutland – Western Jutland



Jutland – Copenhagen



Denmark – Sweden



Scandinavia – Central Europe



Europe – USA



The West – the Rest

Figur 1. Segmentary identity: a possible hierarchy of Danish collective identities. Note that although the hierarchy is presented as consisting of simple dichotomies, in most cases the identity is related to several other parallel identities (Eastern Jutland in relation to Southern, Western and Northern Jutland perhaps).



may be primordial to some individuals). In most discussions of such hierarchies, that I have participated in over the years, the issue has been to identify the level of ethnicity. If we instead simply accept them all as collective identities, we may ask in what circumstances they are activated or mobilised, and to what extent they are related to common descent, cultural differences and material distinction.

If we next look at possible Sámi collective identities (fig. 2), I here choose a segmented hierarchy of identities as perceived from the outside, fully aware that the internal view might add levels and find other categories more relevant (further discussion of this below). The Sámi identity may be distinguished from the Norwegian through language, formal clothes and customs among other things – but these elements are not necessarily a daily experience, nor do for instance all Sámi speak the language. There are today 10 Sámi language groups, some of which are not immediately mutually understandable. Within each language group, there is regional variation expressed through distinct dress designs (e.g. Kàràšjohka and Guovdageaidnu). Within these there are different economies or occupations, with a marked differentiation between settled families and reindeer

Norwegian – Sámi



Lulesámi – Northern Sámi



Kàràšjohka – Guovdageaidnu



Settled Sámi (dálon) - Reinherding Sámi



Gaup-family – Buljo-family



District 25 – District 23D

Figur 2. A possible hierarchy of Sámi collective identities. The hierarchy is presented as consisting of simple dichotomies, but each level consists of several parallel identities (e.g. ten rather than two different dialects).

herders. The organisation of the herding is often based on large families, where different family groups may have separate herding districts. While on the one hand this may be presented as a well organised hierarchy, there are obviously identities that cross these: reindeer herders constitute an important collective across dialects groups. In addition most Sámi are also part of other collectives, and indeed share some of the Norwegian (or Swedish, Finnish and Russian) identities.

Historian Bjørg Evjen describes how an identity of being Lulesámi has developed from first being associated with a geographical area to recently being an important identity even within the larger Sámi group (Evjen 2004). An informant from Tysfjord, Nordland in the 1950's took a job in Guovdageaidnu/Kautokeino, Finnmark in order to experience living in a larger Sámi community. While she had no doubt that she was Sámi, she realized that she was different from the Sámi further north. Only later was she able to express this in terms of being Lulesámi rather than Northern Sámi (op.cit.: 41).

Summing up, we are all embedded in hierarchies of collective identities associated with perceived descent and cultural similarity. Some of these identities may be primordial, while others are better described as predominantly situational. Each of these identities may be associated with certain material aspects, but conflating language, culture and ethnicity into one single identity is clearly a mistake. Each segment may be associated with different cultural and material elements, resulting in different distributions of these. If we add to this other types of identities (e.g. gender, age, occupation, religion, rank) and other types of social and economic interaction, a very complex and multilayered pattern of cultural and material similarities and differences emerges. (And this is before we address problems such as variation within possible material correlates of identities, diachronic aspects encountered in archaeological data etc).

We must expect different socio-economic aspects and therefore different identities to be primary in various societies. Archaeologically we do see that in some regions in certain periods there is major emphasis on gender, in others on rank, and in others again on specific cultural aspects. The extent to which a specific identity is visible through cultural elements is related to the complexity and multitude of identities and other socio-economic interaction in the social group in question and to the historical situational context: was that identity repeatedly activated?

## Ethnic mobilisation

Since many collective identities are situational and relational they are activated in specific circumstances. In what circumstances does one of the segmentary identities become the basis for a social movement, for what we may call ethnic mobilisation (Fenton 2003: 85)? We have already argued that ethnicity (as one of many collective identities) is a consciousness of difference vis-à-vis others (Jones 1997:94). Even when aware of such differences, either over- or under-communication of ethnicity may take place (Hylland Eriksen 2002:22). Under-communication may take place in certain multi-ethnic settings in order to downplay differentiation (*ibid*). Similarly, in contexts of overt stigmatisation under-communication may be employed to avoid difficulties and conflicts. In these cases there is no mobilisation of the collective identity, rather the opposite. This does not mean that the identity is non-existent, or that it can not be primordial. The identity here is under such pressure that efforts are taken not to display it. The consequences of such pressure and under-communication may be the eventual disappearance of this collective identity, as it is difficult or impossible to maintain it through active performances of the cultural differences (be these language, costumes, rituals, singing, houses etc.). The identity will, however, remain latent for some generations (due to, among other things, collective memory (Connerton 1989)), and the possibility of a revival therefore persists, even when there is no overt representation of it.

A collective identity may be mobilised in many different circumstances. When under pressure or even threat, one response may be to enforce an identity and collectivity in order to counter this. Other motivations may be of a more organisational kind, as suggested by Barth. The extent to which ethnicity is involved in the overall socio-economic organisation of society varies greatly. Fenton distinguishes between totalizing ethnicities, provisional ethnicities and nil or tacit ethnicities (Fenton 2003:115). A totalizing ethnicity is found where particular collective identities pervade all or almost all spheres of life (livelihood, neighbourhood, education, personal status, security, health etc.) (*ibid*).

So ethnicity as well as other collective identities requires consciousness of that identity in relation to other collective groups. This consciousness may arise either when coming into contact with formerly little known groups (through emigration, immigration, colonisation, exchange or other forms of mobility) or be caused by more local or regional reorganisation or conflicts that bring such identities into action. In other words, ethnicity may be mobilised in certain historical circumstances. Returning to Evjen's study of Lulesåmi (Evjen 2004),

her informant in the 1950's perceived herself as Sámi in contrast to Norwegian, but increasingly she now perceives herself as Lulesámi. Both of these collective identities have some cultural correlates. They are both situational (which does not exclude the possibility of them being primordial), and they are historically contingent. The Lulesámi identity was latent, but has gradually transferred to being discursive.

## Self-ascription and external denomination

Richard Jenkins (1997) argues that too many analyses of ethnic processes tend to focus on internal group identification and self-conscious collectivity. While self-ascription is required in most definitions for an ethnic group, such self-perceptions may well be closely related to external categorisation. This is partly due to the situational character of many collective identities. Most Norwegians are not able to distinguish between the different Sámi collective identities. They amalgamate several collective identities and denominate them 'Sámi' (see also Johannesen 2004:167). Consequently in many contexts a Lulesámi may describe herself as simply Sámi. This contributes towards maintaining that collective identity, even if her primordial identity may at present be Lulesámi.

The Basarwa (an external denomination) in Botswana consist of all Khoi-san speaking groups despite their diversity in language, economy and history (Wilmson 2002: 829). While an individual may not consider this a primordial identity, it has never-the-less been a most relevant external categorisation for more than 100 years. In 1996 representatives from the many Khoisan-groups in Southern Africa agreed to the term 'San' as an overall designation to be used in international politics. The historical circumstances and the interaction with many external groups have made it relevant even to the internal categorisation to agree to a mutual collective identity at a different level in their hierarchy of segmentary identities. Similarly a Central Kalahari identity is emerging (op.cit.:837) in response to recent years conflict over land in that region.

These examples demonstrate that very often the external view will play a role in how the 'us' is constructed. The focus on upholding traditional lifestyles in hunter-gather groups is for example partly a result of a categorisation being imposed on many recent hunting groups by their economically and politically more powerful agricultural neighbours. Howell (1994) describes how the Ainu gave up the agricultural practices of their ancestors, partly because of the great demand for fish and pelts amongst the Japanese (the internal response), but also how the Japanese overlords made great efforts to prevent the Ainu from adopting Japanese customs and language (external pressure).

## Ethnic groups in the Fennoscandian Stone Age

If we look at much of what has been written on ethnic identity in Stone Age Scandinavia there is a tendency to discern geographical boundaries based on material differentiation – be it between quartz and flint as in Mesolithic eastern central Sweden, between bipolar and cylindrical reduction as in Early Neolithic western Norway or between different types of pottery. With reference to Barth and others it is then argued that these material differences are conscious choices employed in a process of ethnic categorisation and dichotomisation, to distinguish ‘us’ from ‘them’.

While this may well be so, in many cases I miss an argumentation for the motivation for differentiation. If ethnicity and other collective identities are produced, maintained and changed through interaction, then we need to present carefully argued evaluations of the processes that may have lead to ethnic mobilisation and differentiation. This is not an easy task for Stone Age archaeology, or indeed any archaeology. In many cases a diachronic perspective may prove useful to our attempts to recognise mobilisation of specific collective identities (see also Jones 2000:455).

We also appear to be rather too quick to employ binary oppositions, resulting in a clear cut dichotomization in ‘us’ and ‘them’. As argued above, a historical situation is likely to be much more complex. In many cases collectives will interact with several other collectives on different levels, and identities will be activated relative to the specific circumstances.

Where identification of ethnic groups is presented, it often concentrates on self-ascription and the need to enforce group solidarity. This is seen for instance when we argue that hunter-gatherers develop a strong sense of internal cohesion and belonging when interaction with agriculturalists increases. The focus is very much on the internal group response, on the creation of an ‘us’ in the encounter with the others. We seem to have forgotten that the other side of the process, the external categorisation by other groups, may be just as important. Ethnicity is not just about a noble refusal to adopt for example agriculture and husbandry, but may also be about exclusion and stigmatisation – not being allowed to acquire and keep domesticated animals, while at the same time being ridiculed for an old fashioned and primitive lifestyle.

In the concrete archaeological studies there is little discussion of diversity, negotiation of cultural contents and of open boundaries. If collective identities,



including ethnicity, can emerge (partly through developing consciousness of latent cultural distinctions), they are also open to negotiation and attempts at manipulation.

And, as has been acknowledged in archaeology since New Archaeology's critique of traditional culture history, there is no simple relationship between archaeological cultures and ethnic groups. The demonstration of geographical borders between different kinds of raw materials, technologies or artefacts does not in itself imply the existence of an ethnic boundary. These results are, however, an important basis for further discussion of which social and cultural practices produced such patterns. Such discussions must take into consideration the complex patterns of hierarchies of collective identities and other types of identities and interaction if we are to move beyond the essentialist perspectives.

## Northern Fennoscandia

As a very preliminary exercise in discussing collective identities, let us look at the diachronic development in Northern Fennoscandia. The region must have been settled from several directions. Some travelled up along the Atlantic coast, possibly continuing along the northern coast of the Kola Peninsula. Others, at a somewhat later point in time crossed the mountain range and travelled into Swedish Norrland, while others again came from the east and southeast. We don't know how different these groups of people were – we see that they used different raw materials, different types of projectiles, that some lived predominantly on marine resources while others exploited terrestrial ones. As far as we can tell from the rather sparse archaeological data there was little contact at least between groups on the Atlantic coast and those in the areas around the Gulf of Bothnia before about 6000 BC (Damm 2006). There appears to have been rather more opportunity for interaction in the 6th millennium BC with some evidence of encounters in form of handle cores (a northern Swedish technology) found near Inari, Alta and in northern Troms (ibid), and an increase in cherts originating at the Atlantic coast in northern Finland (Manninen 2009). These early encounters could have provided the basis for an emerging awareness of cultural differences (different habitual practices, be they language, clothing, hunting equipment, ornaments etc.). This may have resulted in a new level of collective identity for each of these groups.

After 5000 BC, however, visible traces of interaction across Fennoscandia escalate. Early northern Comb Ware (Säräsniemi I) and Comb Ware are spread over the eastern part of the region (Skandfer 2005, 2010; Torvinen 2000). Rock

art is found at the White Sea, Onega, Nämforsen and Alta and similarities in the motives may suggest connections of some sort. Slate and slightly later red slate becomes an important raw material, coarse bifacial projectiles common at the Atlantic coast are occasionally found in other cultural contexts. Flint originating in Russia is found as far north and west as Finnmark and Norrland, as is Baltic amber (Nunez 2004, Ramstad 2006). Bothnian picks originating in Tornedalen are widely distributed, and the odd pieces of Karelian copper is found quite far west (Halen 1994, Huggert 1996) and all across northern Fennoscandia semi-subterranean houses of various kinds are being built. Ochre is a much more common material all over as well, used on comb ware, in graves and in some house structures.

So we definitely have a situation where people from a variety of regional groups interact with each other, as evidenced in the distribution of a wide variety of material culture. How may this have affected the collective identities?

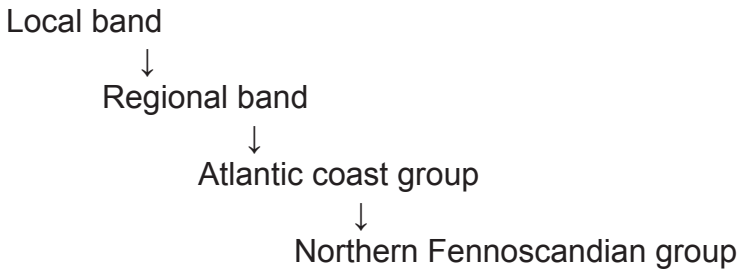
Let us go back to northern Fennoscandia in the 5th millennium BC. The societies were at this point all still hunter-fishers. In the course of the 5th millennium semi-sedentariness appears to increase. The semi-subterranean houses would seem to indicate that local bands returned to the same locations probably for several decades and that they presumably stayed for some length of time at these locations (if not necessarily at all locations in the course of their seasonal movements). Contrary to the previous millennium there are fewer documented settlements sites in the interior along the waterways connected to the Atlantic. As a preliminary hypothesis I interpret this as a change in settlement patterns from one of band mobility in the 6th mill BC towards a greater emphasis on logistic mobility and task-groups in the 5th mill. BC. Small groups of very mobile seasonal hunters would perhaps leave fewer traces behind, explaining the loss of archaeological visibility. (Damm 2006)

Groups exploiting the resources of the Atlantic coast, the interior forests (at the time of the maximum extent of the Pine forest), and the Gulf of Bothnia respectively would of course have had access to somewhat different items. But reindeer, elk and various fur animals would be accessible to a greater or lesser extent to all, seal would be available both at the Atlantic coast and in the Gulf of Bothnia respectively (albeit of different species). So there does not seem to be any strong basis for major economic specialisations. I would therefore argue that there does not appear to have been any of the classical Barthian reasons for needing ethnicity to organise neither resources nor control over land (we

still deal with very sparsely populated areas). Neither do any of the remaining cultural elements seem to suggest that the new collective identities would have been primary identities, or that they were enforced to any great extent.

If, as I believe, the societies in northern Fennoscandia had become more sedentary by this time, with task groups playing an increasing organising role, then it is perhaps unlikely that entire bands travelled from, say, the Atlantic coast to the Gulf of Bothnia. And we are certainly not dealing with daily or weekly encounters. I think we must envisage regional bands, as demonstrated by Åsa Lundberg's analysis (1997) of the Swedish skärvsteinsvaller into winter locations. On the Atlantic coast such regional territories (or land tenures) most likely covered one fjord with adjacent inland, not unlike the later Sámi *siidas* (Schanche 1994). So we would have interaction between local bands within the regional band, interaction between various regional bands, and occasionally perhaps direct interaction with more distant bands. (see Whallon 2006, Zvelebil 2006). (I prefer the term local and regional band to terms based on linguistic variation (e.g. Newell et al. 1990: family, band, dialect tribe and language family), to avoid what I believe is speculative interpretation). All of these entities would correspond to collective identities in the hierarchy (fig. 3), perhaps cross-cut by clan's, kinship, possible specialisations a.o. On the Atlantic coast, it is likely that interaction would have been more frequent with neighbouring bands along the coast, less frequent with slightly more distant bands along the coast and similarly infrequent, but perhaps institutionalised long distance interaction across land. This would have caused a very complex pattern of overlapping distributions of various types of material culture in the archaeological record. Some of the data would be associated with various collective identities, some by interaction cross-cutting these.

So far we know little about precisely what these interactions consisted of, who was involved and where and how it was conducted. These, I believe are important issues to address. We have too often accepted contact and interaction as explanatory without considering in detail the substance and the consequences. It is very plausible that gift exchange, marriage alliances etc were involved. In addition there would of course have been exchange of stories, gossip, and other sorts of information. Such interregional contacts may well have had important influence on the social organisation and ranking within each regional band (Helms 1992).



Figur 3. Possible hierarchy of collective identities in northern Fennoscandia in the 5th millennium BC.

As I see northern Fennoscandia in the 5th millennia there were many regional bands or socio-economic territories, and consequently also a good deal of cultural diversity. The variations in material culture may help us to delimitate socio-economic groups or my regional bands. Interactions would have taken place on various levels, between many different individuals, groups and geographical regions. Some of the collective identities are likely to have been primordial. However, there is little in the available data that demonstrates pronounced dichotomisation at any level. I am therefore inclined to see a lack of mobilisation of any collective identity, suggesting instead that most such identities were situational rather than primary.

Over the course of the next couple of millennia (4000-2000 BC) interaction across northern Fennoscandia probably increases, allowing many similar types of for instance red slate artefacts to have a very wide distribution. There does seem to be many signs of increasing similarities across the area. At present I see this more as reflecting a more stabilized, perhaps more institutionalized form of interaction, rather than an active process of internal group identification, in other words I fail to see this as a mobilisation of a collective northern Fennoscandian identity. It is of course also questionable if most of these northern regional groups were aware of the extent of similarity. In their situational encounters with neighbouring groups, they would have noticed quite a few differences at a lower hierarchical level. This does not, however, exclude the possibility of ethnic differentiation in southern Norrland where the northern hunters interacted with TRB-farmers.

In conclusion I would argue that it is possible to study collective identities in prehistory and that we may be able to discern some cases of ethnic mobilisation. This should, however, be done with caution, considering the complexity of collective identities and interaction. It is perhaps best approached through diachronic studies, and requires explicit arguments as to the basis for this process.

### **Acknowledgement**

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## **The Stone Age in Uppland, Eastern Central Sweden**

**Archaeological Excavations Along the E4 Highway North of Uppsala**

### **Abstract**

This paper is a presentation of the archaeological E4-project in Uppland, eastern central Sweden. During the years of 2002 to 2006, a large number of archaeological excavations were carried out along the course of the new E4 highway north of Uppsala. Sixteen of these were major excavations of late Mesolithic and Neolithic sites. The paper also includes a summary of some of the most important results from the investigations, as well as a presentation of the thematic publication *Stenåldern i Uppland. Uppdragsarkeologi och eftertanke* (Eng. *The Stone Age in Uppland. Contract archaeology and reflections*) with papers on the findings.

*Keywords: Mesolithic, Neolithic, Uppland, Contract archaeology, E4-project.*

## Introduction

The archaeological investigations carried out along the course of the new E4 highway (opened in October 2007) between the towns of Uppsala and Gävle in the central and northern parts of Uppland constitute the largest single archaeological project executed in Sweden. Along almost 80 kilometres of planned road, sixteen major archaeological excavations of Late Mesolithic and Neolithic sites were undertaken during the years of 2003, 2004 and 2006. The excavations have shed light on a region where Stone Age history, in particular its Mesolithic history, has been relatively unknown. The aim of this paper is to briefly present some of these investigations and their results.

Today, contract archaeology in Sweden is highly competitive, meaning that major archaeological investigations are subject to rules of public procurement. Archaeological institutions and enterprises, such as the excavating departments of the National Heritage Board (UV), the county museums as well as private companies, can present bids with investigation plans that state scientific goals, methods and costs. Projects are processed by the various county administration boards, who decide the manner in which ancient remains can be removed, as well as which institution will be commissioned to do the investigation. The process consists of three steps: assessment, site evaluation and excavation. An assessment identifies an ancient monument, whereas a site evaluation is preformed to delimit, characterise and date it. An excavation removes it. Often, only this last step is subject to public procurement.

## Background

Up until the late 1990s, little was known about remains from the Late Mesolithic (5500-3900 BC) and Neolithic (3900-1700 BC) periods in northern Uppland. At that time, comprehensive surveys in Uppland and in Gävleborg County (north of Uppland) resulted in an increased knowledge of the distribution and extent of Stone Age settlement in the region. As a result of these surveys, a supplemental assessment was conducted in 2002 along the planned motorway.

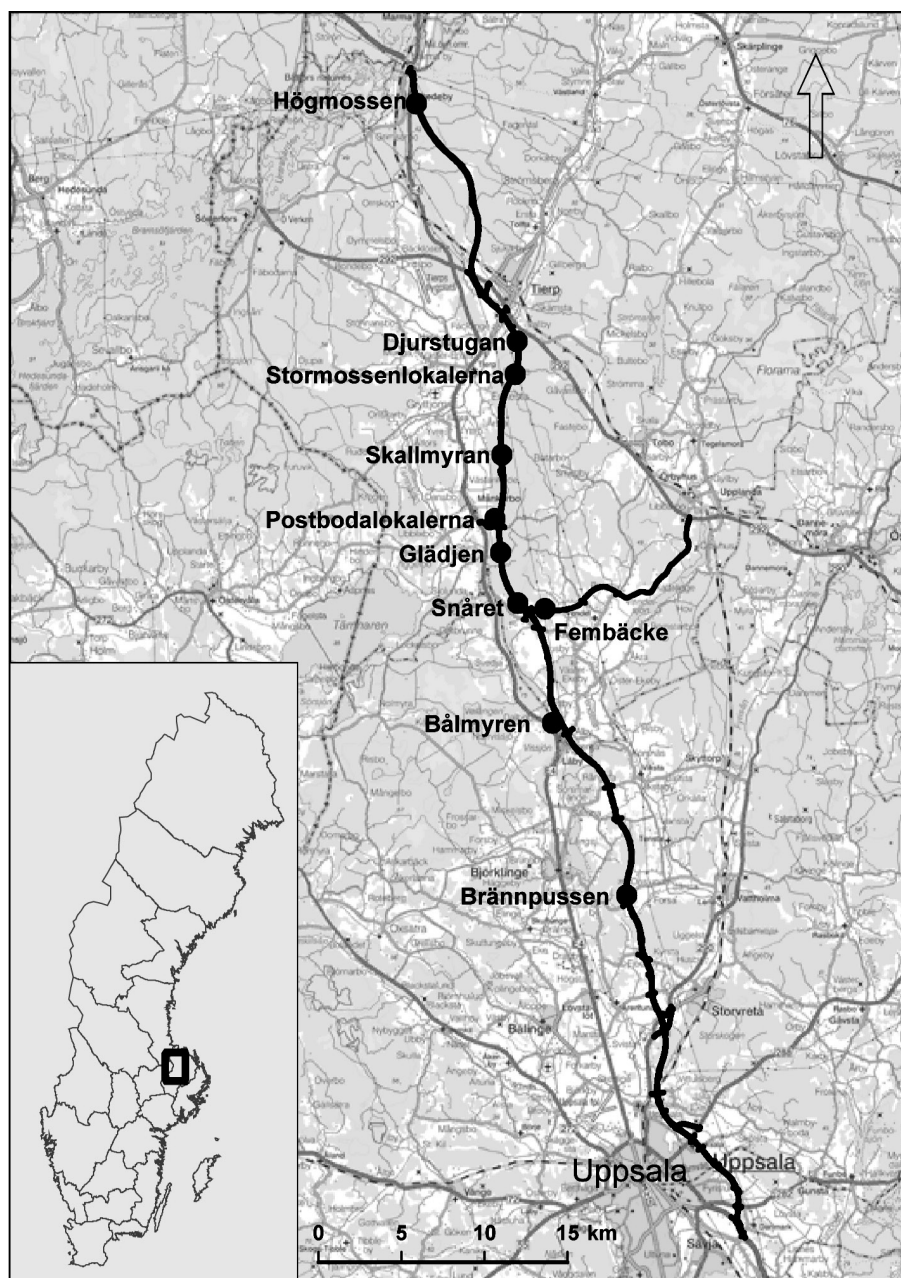


Figure 1. Location map for excavated Mesolithic and Neolithic sites in the E4-project (Map by K. Martinelle / SAU).



Figure 2. Aerial photograph showing the Högmossen site with present and new direction of the E4 highway, and also the river of Dalälven in background (Photo Hawkeye flygfoto).

Stone Age remains were found on a large number of sites (Björck & Guinard 2003). Land upheaval has caused these sites to be situated between c. 35 to 65 m a. s. l. today. During the Stone Age, however, they were located by the coast and situated in an archipelago environment. Finds from the Early Mesolithic are missing, since the entire area during this time was situated below the sea.

During 2002 and 2003, site evaluations were carried out on 14 Stone Age sites, leading to excavations. These, along with that of the Ryssgärdet settlement, evaluated as early as in 1995, were carried out in 2003 and 2004. In addition, the site evaluation and excavation at Fembäcke, also part of the E4-project, were carried out in 2005 and 2006. These 16 Stone Age sites have been investigated by Societas Archaeologica Upsaliensis (SAU) and The National Heritage Board (UV GAL, Uppsala). Roughly speaking, SAU investigated the older sites and UV GAL the younger sites. Worth mentioning is an additional investigated site, Postboda skjutbana, investigated by students from Uppsala University in 2004. Upplandsmuseet, another participant in the E4-project, did not excavate any Stone Age remains.

The reports from the full-scale excavations were, with a few exceptions, completed by December 2006 (figure 3). Furthermore, the Uppsala County Administrative Board commissioned four thematic publications with papers on the findings (a Stone Age volume, a book on burial and ritual, another on houses and farmsteads, and a volume of regional studies), to be published during 2007 in conjunction with the E4-project. Volume 1, *Stenåldern i Uppland. Uppdragsarkeologi och eftertanke* (The Stone Age in Uppland. Contract archaeology and Reflections) was released in October 2007 (see below).

## The excavated sites

Site	M a s l	Dating, cal. <sup>14</sup> C	Period	Excavated	Institution	References
Stormossen 5:2	c. 62	c. 5000-4500 BC	Late Meso	2003	SAU	Guinard & Vogel 2006b
Stormossen 5	c. 62	c. 4800-4500 BC	Late Meso	2003	SAU	Guinard & Vogel 2006b
Stormossen 4	c. 60	c. 4700-4400 BC	Late Meso	2003	SAU	Guinard & Vogel 2006b
Stormossen 1	c. 60	c. 4700-4000 BC	Late Meso	2004	SAU	Guinard & Vogel 2006b
Skallmyran	c. 55	c. 4200 BC	Late Meso	2004	SAU	Guinard & Vogel 2006a
Postboda 3	c. 52	c. 4000 BC	Late Meso	2003	SAU	Darmark & Sundström 2005
Glädjen	c. 45	c. 4000, 2800, 2200 BC	EN I, MN B-LN	2003	UV GAL	Lindberg 2006
Bälmyren	c. 48	c. 3600-3300 BC	EN II	2003	SAU	Sundström & Darmark 2005
Högmossen	c. 46	c. 3600-3300 BC	EN II	2004	UV GAL	Björck & Hjärthner-Holdar 2007
PB skjutbanan	c. 46	c. 3500-3100 BC	EN II - MN A	2004	Uppsala Univ	Sundström et al. 2006
Postboda 2	c. 45	c. 3500-3000 BC	EN II - MN A	2004	SAU	Sundström et al. 2006
Postboda 1	c. 43	c. 3100-3000 BC	MN A	2004	SAU	Sundström et al. 2006
Snåret	c. 44	c. 3400 BC	EN II (MN B?)	2003	UV GAL	Björck & Larsson 2007
Fembäcke	c. 42	c. 3000 BC	MN A	2006	UV GAL	Björck & Lindberg 2005
Brännpussen	c. 36	c. 2800-2600 BC	MN B	2003	UV GAL	Nilsson 2006
Djurstugan	c. 37,5	c. 2400-2300 BC	MN B / LN	2003	UV GAL	Ytterberg 2006
Ryssgårdet	c. 33	c. 1900 BC	LN	2003	UV GAL	Hjärthner-Holdar et al. 2007

Figure 3. Table with a compilation of the excavated sites in the E4-project.



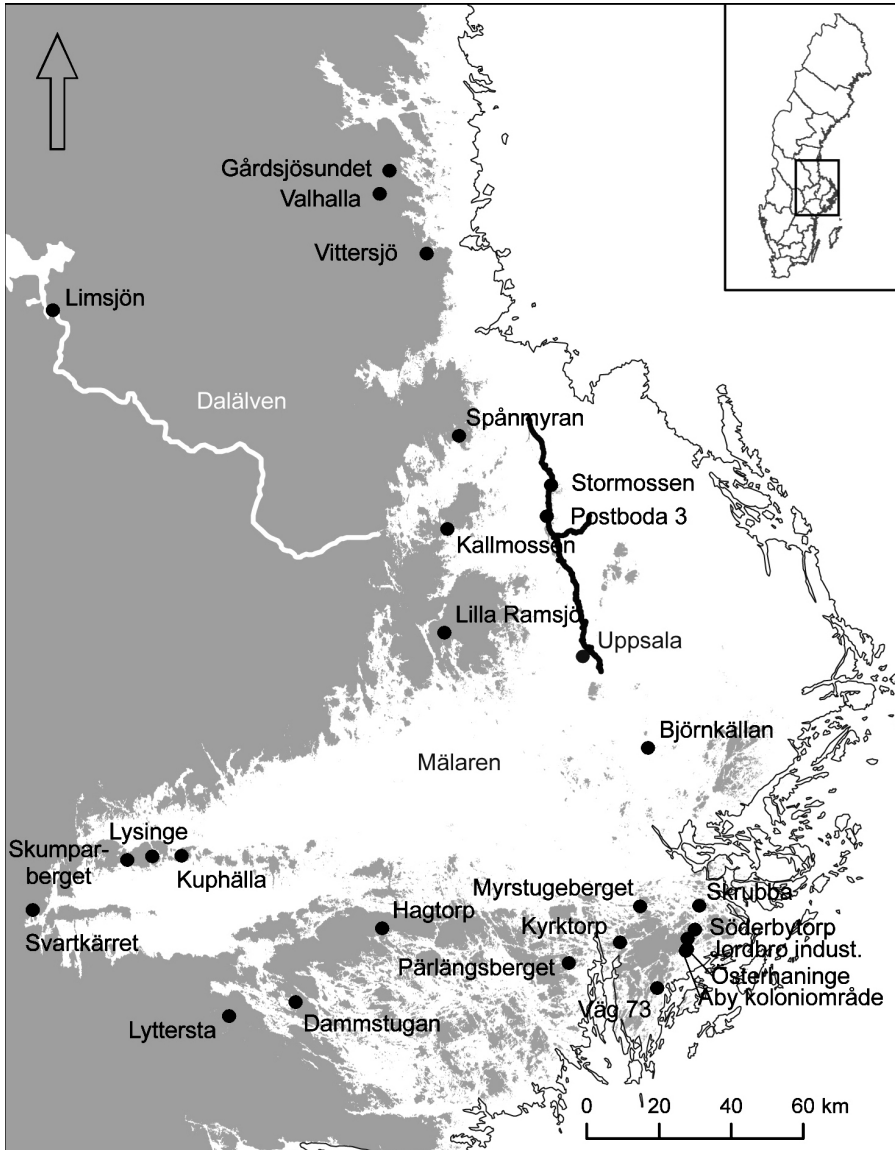


Figure 4. Map with a number of excavated Mesolithic sites in eastern central Sweden and within the E4-project (Stormossen, Postboda 3). The new E4 highway is marked as a line. The palaeogeographical map shows sea-land configuration during the end of the Mesolithic in eastern central Sweden (5100 uncalibrated BP) © Geological Survey of Sweden (SGU). (Map by K. Martinelle / SAU)

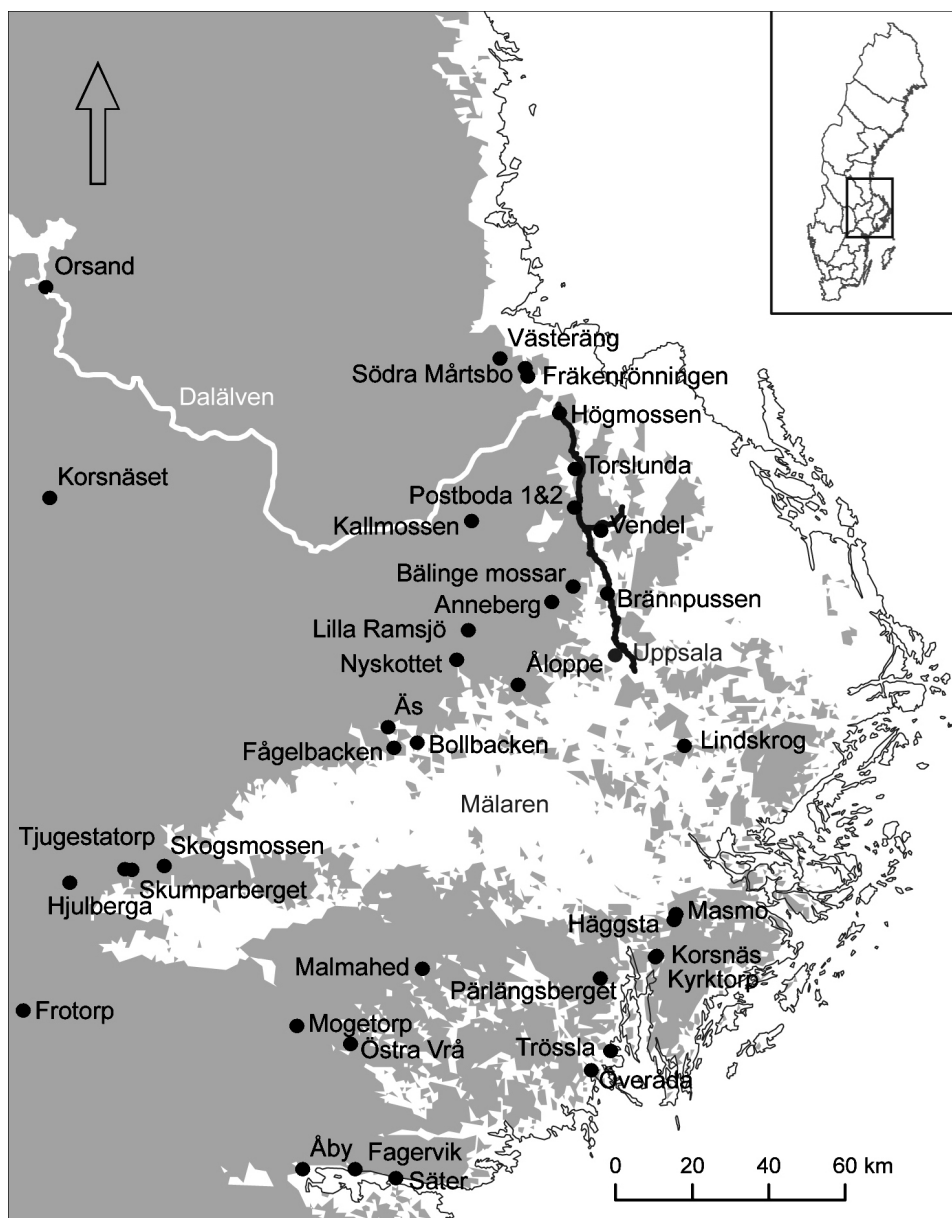


Figure 5. Map with a number of excavated Neolithic sites in eastern central Sweden and within the E4-project (Högmossen, Postboda 1 & 2, Brännpussen). The new E4 highway is marked out as a line. The palaeogeographical map shows sea-land configuration during Middle Neolithic B in eastern central Sweden (4000 uncalibrated BP) © Geological Survey of Sweden (SGU). (Map by K. Martinelle / SAU)

## **Thematic publication – volume 1: The Stone Age in Uppland. Contract archaeology and Reflections**

The volume (Stenbäck 2007) is comprised of 18 papers, introduction and research overview not included. It is divided into five thematic parts: Theoretical viewpoints, Nature, Stone, Pottery and Discussions on spatial structures. The majority of the papers are purely archaeological, but some address the period and region from different academic disciplines, such as geology, botanical history and osteology. The papers are mostly written by researchers either at Societas Archaeologica Upsaliensis (SAU) or the National Heritage Board (UV GAL); however, co-authors from other departments are also involved.

The papers in parts I and V largely cover theoretical and methodological standpoints from various perspectives. Several papers can be said to be discursive, while others are more polemic in character. Parts II, III and IV cover various materials with a more traditional scientific focus on prehistory. Summarised results of these parts are briefly given in the conclusive section of this paper. The emphasis in the presentation below is therefore placed on Part I – Theoretical viewpoints, and to some degree on Part V – Discussions on spatial structures.

### **Part I. Theoretical viewpoints**

There is variation in terms of theoretical perspectives among all writers of the two institutions SAU and The National Heritage Board (UV GAL), but despite this, there is in my opinion a clear distinction in terms of theoretical viewpoints and traditions between papers from the two institutions. These traditions can be explained by the fact that several SAU-associates have a research background at the Department of Archaeology at Uppsala University and in the processual stone technology research environment around Professor Kjøl Knutsson. One example of this is the Kust till Kust (Coast to Coast) research programme (see Knutsson 2004). The excavating departments of The National Heritage Board (UV), being a state institution with links to a national administration, have a different background and research culture (cf Ersgård 2006).

In Part I, this difference in viewpoints is represented in Apel's and Darmark's paper (SAU) and in Björck's and Larsson's paper (UV GAL).

Jan Apel's and Kim Darmark's paper on the phylogeny of pressure flaked points (Apel & Darmark 2007) consists of three sections; one is theoretical, one methodological and one empirical. The theoretical section is an introduction to recent culture evolutionary theory development within the field of archaeology, also known as Darwinian archaeology. In brief, this theory can be described as an attempt to explain cultural change by way of both "biological" evolutionary processes, such as random variation and cultural drift, and also by specifically human "cultural" evolutionary processes in the form of aimed variation and distorted transference. The authors suggest that this theoretical starting point combines the materialistic, or instrumental, viewpoint of processual archaeology, involving explanatory models of functional adaptation and external adjustment, with the essentialist viewpoint of culture-historical archaeology, involving traditions and gradual change in material culture based on different explanations of actions in terms of human social behaviour. They use the terms generative materialism and repetitive essentialism to describe the two principles of change for, in this case, stone technology units.

The authors combine this theoretical point of departure with the method of classifying artefacts by applying technological action sequences known as *chaîne opératoire*. They do this to avoid the problems of using metric types, often utilised by the processual school of thought, and formal types, often used by culture-historians. By tracing the technological history, or phylogeny, of artefacts, from their genesis and throughout their continued evolutionary process, Apel & Darmark maintain that both form and function can be explained. This is exemplified by a study of the Late Stone Age and Early Bronze Age pressure flaked points found in conjunction with the E4-investigations. According to the authors, two different craft traditions met in northern Uppland at this

time, a northern tradition where points were manufactured from local raw materials, using a combination of knapping and pressure techniques, and a southern tradition, where points were manufactured from imported flint, using pressure techniques. Their view is that both traditions have a common ancestry, originating in the Near Orient, but reaching Uppland by way of two different routes, a northern/eastern route via the Black Sea region and Russia, and a southern/western route via the coast of North Africa, the Iberian Peninsula and Western Europe. By widening the study to the entire Northern Hemisphere, they suggest that this stone technology craft tradition may have originated in the Palaeolithic Solutréen tradition in Western Europe.

In Niclas Björck's and Fredrik Larsson's paper "Problemizing the basis for interpretation of Neolithic society in eastern Central Sweden" (Björck & Larsson 2007), the main hypothesis can briefly be described as follows: During the Early Neolithic – Middle Neolithic period, the people of Uppland lived primarily as hunter-gatherers in year-round settlements on what was then the coast, without practising agriculture. The authors argue against the idea that the agricultural Funnel Beaker Culture was represented in Uppland during the Early Neolithic, and in general, they believe that the notion of neolithization in eastern central Sweden during this period is vastly exaggerated. They suggest that there has been, in archaeological research history, a political will to connect this region culturally with Southern Scandinavia, downplaying similarities with materials from the North and East. Björck and Larsson reject the use of the concept of culture, and argue that the Neolithic cultures have been hampered by so many prejudices and preconceived notions that the culture concept has become useless as an analytical tool. They maintain that the artefacts have been attributed essential meanings that do not exist, and therefore suggest working with contexts instead. Despite this, their work can be seen as belonging to the culture-historical tradition, since they choose to use a taxonomy created by archaeologists interested in culture-history (formal typologies).

## Parts II, III and IV. Nature, Stone and Pottery

Part II encompasses three papers on shore displacement in Uppland during the Stone Age (Risberg et al. 2007), Stone Age vegetation in Uppland (Karlsson 2007) and the Neolithic animal bone material in eastern Central Sweden (Bäckström 2007). Part III consists of seven papers, mainly dealing with the Mesolithic and quartz (Vogel 2007), quartz and quartz tools (Falkenström & Lindberg 2007, Lindberg 2007), handle cores and transverse arrowheads (Guinard & Groop 2007), pecked axes (Groop & Guinard 2007), grinding stones (Eriksson 2007) and blades in the neolithization process (Knutsson 2007). Part IV is made up of two papers dealing with the Neolithic pottery of the region (Brorsson et al. 2007, Ytterberg 2007).



Figure 6. Quartz artefacts from Högmossen (Photo Kjell Knutsson / Uppsala University).

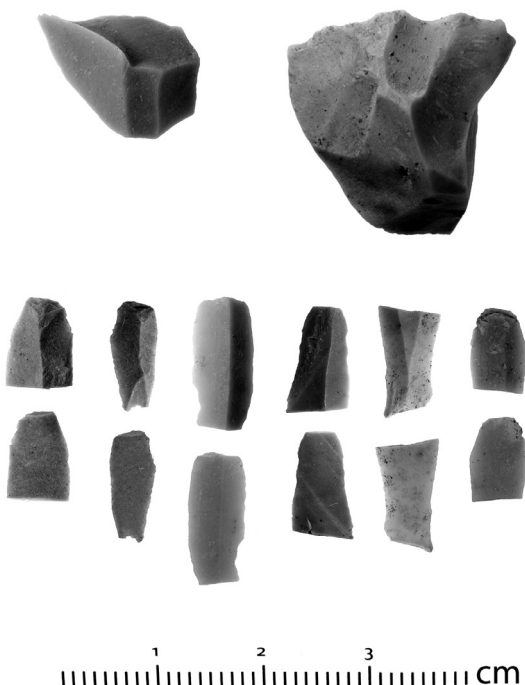


Figure 7. Selection of core remains and microblade fragments from the Stormossen settlements in Uppland (Photo Marcus Andersson / SAU).



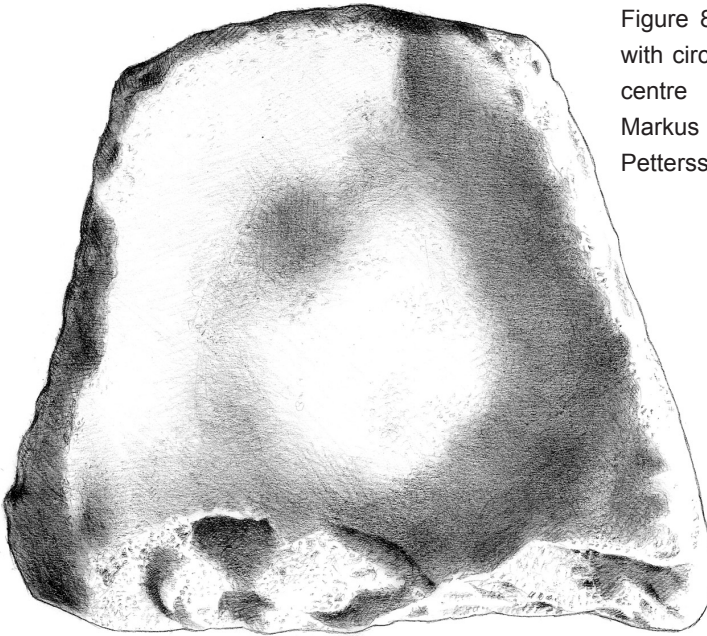
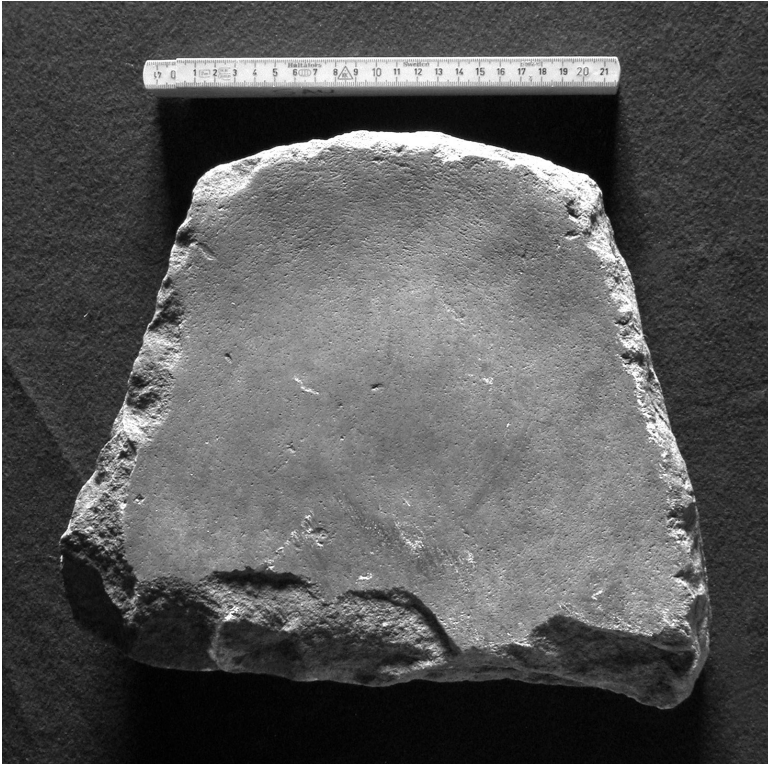


Figure 8. Double-sided grinding stone with circularly worn surface and raised centre from Stormossen 4 (Photo: Markus Andersson; Drawing: Mattias Pettersson / SAU).



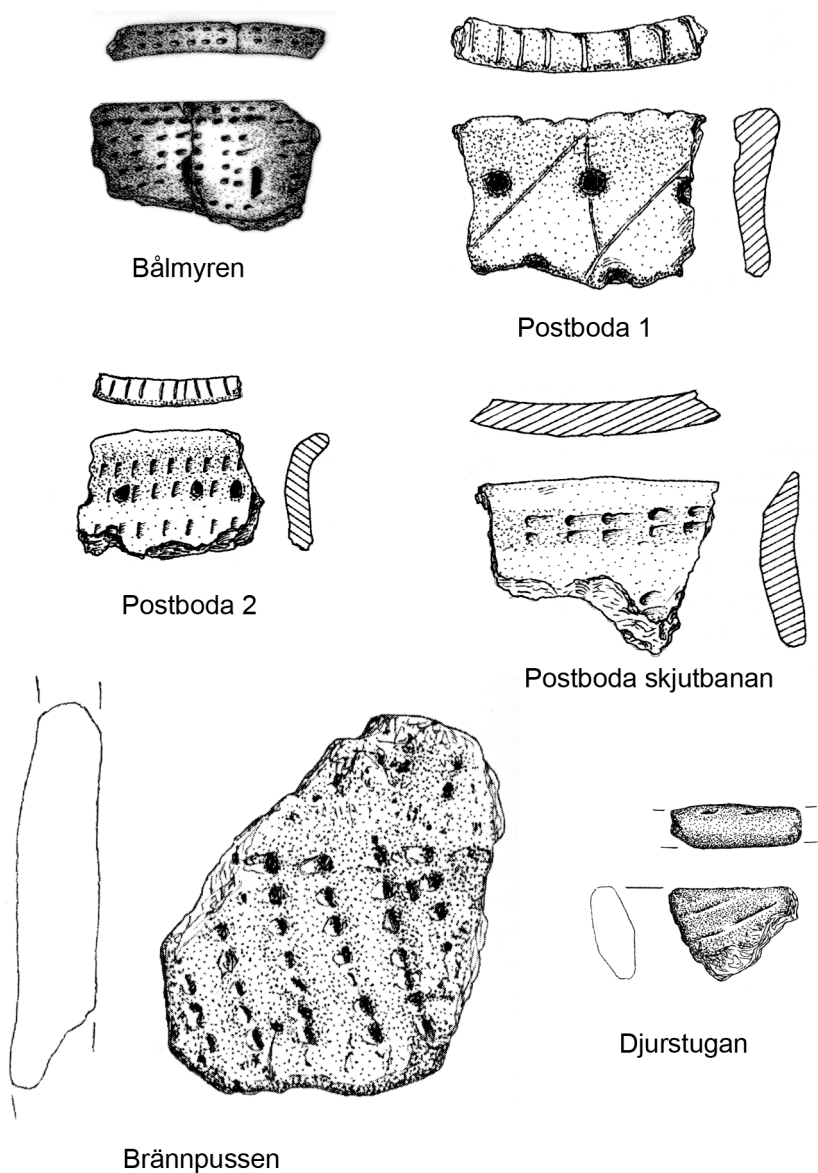
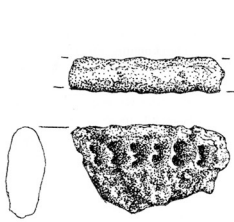
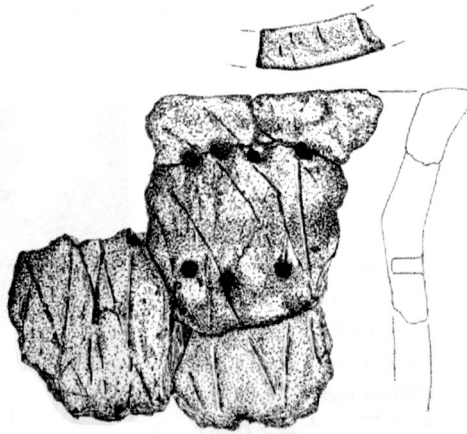


Figure 9. Neolithic pottery from the sites along the E4 highway. Drawings: G. Graner (Bålmyren), A-M Pitkänen-Darmark (Postboda 1 & 2, Postboda skjutbanan), C. Samuelsson (Brännpussen, Djurstugan, Glädjen, Snåret) Scale 1:2. Digital reconstruction: M. Ytterberg (Högmossen). Not to scale.



Glädjen



Snåret



Högmossen

## Part V. Discussions on spatial structures

Two different methods were utilised during the investigation of Stone Age sites during the E4-project. These methods can be described succinctly as sampling and uncovering versus surface covering grid system excavation. Sampling was used by SAU while grid systems were used by UV GAL. Collaborators from the latter institution argue that sampling is most suitable for site evaluations, while grid systems are preferable for full scale excavation. Their view is that a good contextual understanding is unachievable when a find material is sampled (Biwall et al. 2007). The sampling method practised by SAU is presented in a number of field reports (e.g. Darmark & Sundström 2005, Sundström & Darmark 2005). The method is based on theories on systematic analysis during the fieldwork stage, in order to achieve a representational find material. The method was partly developed in conjunction with the archaeological investigations at Fågelbacken in Västmanland (Apel et al. 1995).

The pros and cons of both methods have been discussed in various forums in recent years, among these at the Bo-05 conference in Uppsala. Central topics for the debate has been the possibility of identifying and critically evaluate the occurrences of features and constructions on Stone Age settlements, as perceived when using the different methods (e.g. Darmark & Sundström 2005, Björck 2007). The discourse can be summarised by the following questions:

- How do we arrive at a representational find material?
- Is surface covering grid system excavation really preferable for identifying features?
- Are some remains that have been interpreted as traces of huts actually traces of uprooted trees or other natural phenomena?

In their paper the SAU researchers Kim Darmark and Lars Sundström (Darmark & Sundström 2007) argue that the possibility to identify hut and house remains is not dependent on one or the other method, whereas the UV GAL researchers

Fredrik Larsson and Karl-Fredrik Lindberg (Larsson & Lindberg 2007) maintain that there is good course for interpreting several remains as traces of huts. In another paper, Larsson (2007) even discusses waste management around these huts.

## Late Mesolithic and Neolithic Uppland – An Outline of Results from the E4-project

This is a summary of some of the most important results from the E4 investigations:

### Late Mesolithic

- The existence of small settlements with brief seasonal habitation and isolated occurrences in the outer archipelago of the time has been proved.
- Small and medium sized settlements with various functions, for instance axe manufacturing and quartz preparation, were identified.
- Substantial use-wear analysis has identified a great many types of quartz tools.
- This result above is partly based on an analysis of whether reduction methods of quartz cores – platform technique and bipolar technique – can be the result of different phases of the manufacturing process; the first preparation utilising platform technique and then substituting it for bipolar technique when the cores became too small.
- However, the so-called complexity debate, i.e. the idea that there was a change in Mesolithic society in eastern central Sweden around 4500 BC, resulting in a decreasing amount of quartz cores prepared with bipolar technique and an increased amount of cores prepared with platform technique, could not be verified in the investigated area. In addition, there does not seem to have been any introduction of transverse arrowheads during the Late Mesolithic.
- Manufacturing of microblades in the minerals ash tuff, jasper and tuffite in northern Uppland, Dalarna and southern Norrland, indicates a common social territory or network during the Late Mesolithic.

- Only five pollen diagrams from Uppland go as far back as the Late Mesolithic. Different waterside plants as well as pine and birch occur regularly in samples from the archipelago environment of that time. In cases where determination of species was possible, the preserved bone material was dominated by burnt seal bones.

## Neolithic

- A chronological series of artefacts and settlements has been established in the area, ranging from the archipelago environment of the Early Neolithic to the mainland environment of the Late Neolithic.
- Settlements of varying sizes, functions and habitation periods have been identified; from larger settlements with vast diverse material, indicative of longer periods of use and seasonal or year-round habitation, to small settlements with brief periods of use and with more specialised functions. Some researchers take the view that there were no year-round settlements in the area during the Early and Middle Neolithic periods, only seasonal settlements, which can be understood as integral parts of a season-based use of the landscape, including inland settlements (Sundström & Darmark 2005, Hallgren & Sundström 2007). Others believe there were year-round settlements in the archipelago at the time, and that there are examples of this within the E4-projects (Björck et al. 2005, Björck & Larsson 2007).
- Neolithic bone material vastly outnumbers Mesolithic bone material. However, burnt bone continues to dominate. In bones that could be determined as to species, seal and fish dominate, but fowl and terrestrial animals also occur. In the Early and Middle Neolithic materials, bones from domesticated animals are absent. The E4-project has presented opportunities for spatial and contextual studies and produced an increased knowledge about seasonal assessment.
- Neolithic vegetation history in the investigated area is to a large degree the result of the process of land formation, i.e. the gradual change from outer archipelago via central and inner archipelago to mainland environment. Faint traces of human activity, mainly clearance, are visible in pollen diagrams

from the Middle Neolithic, but it is not until the late Neolithic, and on the mainland, that definite traces of cultivated plants begin to be found in the samples.

In the culture-historical research tradition, the Early Neolithic ceramics in eastern central Sweden is classified as Funnel Beaker pottery, also known as *Vrå* pottery (Florin 1958). In the recent academic discourse, some researchers have maintained that Funnel Beaker Culture is represented in the northern parts of Uppland (see Hallgren & Sundström 2007), while others claim this is not the case (see Björck & Larsson 2007). Among the E4 investigations, there was only one settlement with a small pottery material dating from the first half of the Early Neolithic (TN I), which cannot with certainty be classified as Funnel Beaker pottery. From the second half of the Early Neolithic, there are several settlements with pottery that in form and decoration is similar to the transitional style between Funnel Beaker and Pitted Ware known as *Fagervik I* (Bagge 1951). The ware, however, is more reminiscent of Pitted Ware than Funnel Beaker pottery. The Middle Neolithic pottery in the investigated area corresponds well with the Pitted Ware sequence *Fagervik II-IV*. From the onset of the Late Neolithic, artefacts occur of a mixed style of Pitted Ware and Battle Axe pottery, usually termed “the third group”. Lipid analysis of the pottery has shown a great degree of variation in vessel use within and between the sites. Thin-section analysis shows that, in all likelihood, the ceramic vessels were manufactured within the region, in several cases in close proximity of the settlement.

- Quartz materials are not as prevalent on the Neolithic settlements as they are on the Mesolithic settlements, which may be due to pre-preparation of quartz cores taking place somewhere else in the landscape, making the cores ready for use by the time they arrived at the Neolithic sites. Pecked axes are again found on coastal sites from the Middle Neolithic A period; they occur on coastal sites during the Late Mesolithic, but not during the Early Neolithic when they are found on certain inland sites. The occurrence of isolated Early Neolithic flint blades and some Late Neolithic pressure flaked

points has shown the need for widening the studies, both in time and space, i.e. not getting hampered by perspectives too local and regional in outlook.

- On some of the investigated Neolithic sites, remains interpreted as huts have been found (see above for discussion).

Naturally, the results mentioned above are just a small selection of the results I deem to be the most important at this time. Future development will show what impact the E4-project has had for Stone Age research.

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## **Those Who Dig will Find Out**

### **Reflections on Archaeological Knowledge and Public Outreach**

#### **Abstract**

In this paper, the critical role of the archaeological excavation as a source of scientific knowledge is emphasised. The point of departure is the Neolithic on the island of Öland in the Baltic Sea. Examples from three recently performed small-scale excavations on the island are presented, in an attempt to illustrate that not only large-scale excavations in typical locations have a large scientific potential. In connection to this discussion, the concepts of deductive and inductive excavation strategies are presented. Furthermore, the importance of public outreach in connection to excavations is stressed, and it is argued that in order to reach a broader audience, we need to think outside the box and dare tread new paths in terms of communication media as well as in terms of the message we deliver. At one of the excavations exemplified, some effort was put into public outreach, and among other things participant public archaeology was conducted. This was very successful, and it is argued that most excavations situated close to settled areas have the potential of presenting to the public an exciting glimpse of archaeology as an important and valuable enterprise.

*Keywords: Archaeological excavation, Öland, Neolithic, public outreach*

## Introduction

During the last ten or so years, I have spent much of my time thinking and writing about the Stone Age period of the island of Öland in the Baltic Sea. In the year 2006, this resulted in my PhD-thesis being publicly defended and published (Papmehl-Dufay 2006), in fact only a week ahead of the second Uniting Sea meeting in Stockholm, from which the present publication emanates. My presentation at the US II conference therefore quite naturally came to deal with the work of my thesis, which was a thorough study of the ceramic craft of the middle Neolithic Pitted Ware culture on the island of Öland in the Baltic Sea. Having published this work in one monograph and several papers since (Papmehl-Dufay 2006, 2007, 2010c), I have decided to change the content of my paper for this publication. During the last three years I have been professionally involved in contract archaeology on the island of Öland, and I was soon overwhelmed by the large scientific potential of even the smallest excavation. In a region where large-scale exploitations are few and most excavations are limited to small areas and low budgets, during a period of c. 1 ½ year at least six excavations produced material that to my mind have contributed in a profound way to our increased knowledge of the Stone Age on the island of Öland (Papmehl-Dufay 2008a, 2008b, 2008c, 2009a, 2009b, 2010a, 2010b, 2010c; Alexandersson & Papmehl-Dufay 2009). Most of these excavations were covered in one way or the other by local media, and the degree of interest shown by people in general regarding the excavations and the archaeological results was typically high. This inspired me to write this paper, in which the Neolithic of the island of Öland serves as departure in a discussion on the role of excavations and public outreach in archaeology as an academic discipline.

To most people, archaeology is the search for and investigation of material traces of past human societies and their inhabitants. As such, the archaeological excavation remains the ultimate symbol of this enterprise, and it is a fact that anywhere excavations are carried out close to settled areas, people will continuously pop by to ask questions and get a glimpse of living and working archaeologists and possibly even some newly discovered archaeological artefacts (Angelin Holmén 2001; Nordell 2006). But what is the main attraction? An often-made mistake is probably the assumption by archaeologists that what people are most eager about to learn is the absolute truth about the past. This is not to say that knowledge is unimportant to non-archaeologists. However, what makes archaeology as an enterprise so exiting and intriguing is the way towards to this knowledge, the journey itself, the exploration of ancient remains (see Svanberg & Hauptman Wahlgren 2007). In common thought (fig 1), the concept of “archaeological excavation” is associated with excitement, the unknown and treasure,

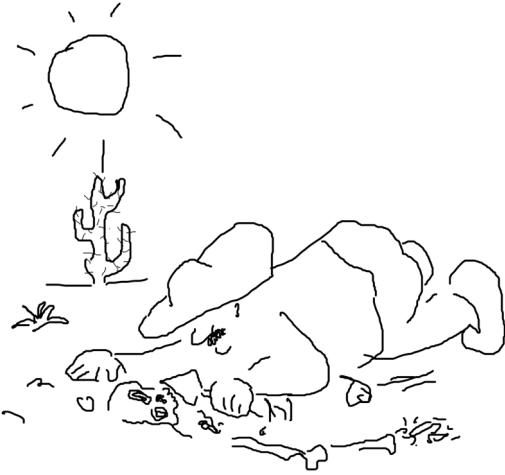


Figure 1. The archaeologist at work, as it appears in the minds of most people. Illustration by the author.

and popular culture on the theme commonly enjoys an enormous response. No wonder why people stop by to get a glimpse of what is going on! It is only within the branch of archaeology itself, I think, that the role of excavations as a source for archaeological knowledge has been seriously questioned (e.g. Andersson 2005). At many universities in Sweden, a separation can be noted between non-digging, “thinking” archaeologists on the one hand and digging “non-thinkers” on the other, the former clearly enjoying a higher academic status than the latter. Outside the universities, however, this partition is problematic, since practically all excavations are carried out within the field of contract archaeology, where the demands for scientifically well-founded and research-oriented strategies are being more and more articulated (Paulsson & Svensson 2005; Johansson & Lilliequist 2007). In this paper, I will argue that archaeological excavation, not least within contract archaeology, is absolutely crucial to archaeology as an academic discipline, and that the excavated archaeological source material can be utilised to a greater extent by researchers at the university departments than what is currently the case. I will also argue that public outreach in connection to excavations is central to the survival of the discipline, and that we must start to realise just what an enormous potential for public outreach the archaeological excavation has as a phenomenon. Practically without exception, all excavations can be seen as arenas for public communication, and since most excavations are in one way or another publicly funded we had better present a positive image of what we are doing. In the following, some examples from my own experience in this matter will be drawn upon. A brief outline of previous research on the Neolithic of Öland is followed by a presentation of three small excavations carried out by Kalmar county museum during the last couple of years, leading to a discussion on the issues of excavation and public outreach.



## Öland

The island of Öland is situated between the island of Gotland and the Swedish mainland (fig 2). With an area of 1342 km<sup>2</sup>, it is the fourth largest island in the Baltic Sea. It has an elongated shape and stretches from SSW to NNE, with a maximal length of c. 140 km and a maximal width of c. 20 km. The distance from the mainland nowadays ranges between 3 and 14 km, and given the slow land uplift and local topography, Öland would have been visible from the mainland during Neolithic times as well (Svensson 2001). The bedrock on Öland consists of Ordovician limestone, with Cambrian slate and sandstone on the western slopes. The most marked topographic feature is the “western escarpment” (Sw. *västra landborgen*), a cuesta ridge running along the western part of the island with its steep side to the west and its gentle slope to the east. The most elevated part of the western escarpment rises about 58 m above the present sea level, constituting the highest point on the island.

With some 14 000 recorded ancient sites and monuments and massive numbers of stray finds of prehistoric artefacts, Öland is the second most archaeologically productive region in Sweden, exceeded only by Gotland (Häggström 2003: 15). The most eye-catching among the prehistoric remains on Öland are the Iron Age ring forts and the innumerable Iron Age cemeteries spread all over the island. Some of the best-preserved Iron Age villages in Europe are to be found at Rosendal and Skäftekärr in the northernmost part of the island (Fallgren 2006), and besides these, the island is also famous for its large number of finds of Roman imports.

Öland has attracted archaeologists for a long time, but most studies have dealt with Iron Age and Medieval times, while practically no studies have concentrated on the Bronze Age and only very few have targeted Stone Age remains (Papmehl-Dufay 2006: 69ff). An interesting chronological development can be seen throughout the 20th century, where the amount of research in a very clear way reflects certain individual events and research initiatives. The number of archaeological studies dealing with Öland was altogether very small prior to the 1920s. During the first post-war decades, studies concerning the Middle Ages and historical times predominated, but from the 1960s onwards, Iron Age studies increased enormously. The upswing during the 1960s can probably at least in part be explained by the large-scale excavations first at Skedemosse (1959-1964) and then at Eketorp (1964-1971), the former a sacrificial bog from the pre-Roman and Roman Iron Age and the latter an Iron Age ring fort dating from c. AD 1 to AD 1300. Both of these were large excavation-based research projects that to a significant extent triggered further research on the time pe-



Figure 2. The island of Öland is situated between the island of Gotland and the Swedish mainland.

riod considered. The National Heritage Board, in close collaboration with the National Labour Market Board, established an archaeological excavation office (Riksantikvarieämbetets Ölandskontor, RÖK) in Borgholm on Öland in 1969, and this institution was very active during the 1970s and early 1980s, conducting numerous rescue excavations and smaller research excavations, until the office was disbanded in 1984. In 1983, a large-scale project was launched with the purpose of bringing together and publishing all archaeological data on Iron Age burials on the island. The project “The Iron Age cemeteries of Öland” (Sw. Ölands järnåldersgravfält) was tightly connected to the RÖK both personally and archaeologically (Hagberg 1991). Headed by RÖK-directors Ulf-Erik Hagberg and Monica Rasch and involving a number of previously RÖK-employees, numerous excavations carried out by RÖK in the 1970s and early 1980s were included in the publications. The project resulted in four extensive volumes, and was finished in 2001 (Beskow-Sjöberg 1987; Hagberg et al. 1991; Hagberg et al. 1996; Rasch 2001).

Stone Age studies were few on Öland throughout the 20th century, which in no way reflects a lack of suitable material but rather reflects the powerful dominance of Iron Age studies as reviewed above. Furthermore, a general lack of archaeological research altogether can be noted in large parts of south-east Sweden, where the geographical distance from large universities and the lack of large development projects in recent decades have been decisive (Häggström 2003; see, however, Magnusson 2001).

## A gap to be filled

The lack of modern Stone Age research as reviewed above was one of the main reasons for me to take on Öland as the area of study for my PhD in the year 2000, and also for the research programme “Us and Them” running from 2003-2006 and of which my PhD was a part (Larsson et al. 2005). It was clear from the start that the potential for especially Neolithic studies on Öland is enormous, not least when considering the favourable conditions for preservation of skeletal material due to the calcareous soils. In addition to this, the insular geographic setting was seen as an interesting subject to explore, in particular its influence on various cultural expressions (Pappmehl-Dufay 2003). Despite this, up to the mid-1990s, very little research existed on the Stone Age of the island. In 1995, skeletal material from the Mysinge passage tomb was included in a study of stable isotopes and trace elements (Lidén 1995), and in 1996-1997 an extensive field-walking survey project (Sw. “Ölandsprojektet”) was carried out revealing a very large number of previously unknown sites of varying character and date spread all over the island (Alexandersson et al. 1996).

The Stone Age remains on the island of Öland have been presented in detail elsewhere (Pappmehl-Dufay 2006). Suffice to say here that, at the onset of the Us and Them project in 2003, an extensive and varied but poorly investigated set of Neolithic remains existed including four megalithic tombs (of which only one excavated) in the parish of Resmo (Arne 1909), a Pitted Ware site with several burials at Köpingsvik (e.g. Schulze 1978) and a late Neolithic stone cist cemetery at Torsborg (Pettersson 1956). In addition to these a very large number of sites had been identified through the field-walking surveys, but none were excavated to any great extent. At the turn of the 21st century the three above-mentioned sites thus constituted the main part of the archaeologically excavated Neolithic sites on Öland. Within the Us and Them project this was seen as somewhat of an obstacle, and in order to complement the sparsely available excavated material, two small-scale excavations were performed within the project, at the passage tomb in Mysinge and at the Pitted Ware site at Ottenby Royal Manor respectively (Alexandersson 2005; Pappmehl-Dufay 2005). Furthermore, great effort was put

into various scientific analyses of previously excavated material, in particular skeletal material and ceramic assemblages (Eriksson et al. 2008; Papmehl-Dufay 2006). In this way, new data was obtained from old assemblages through renewed “excavation” in the laboratory.

The laboratory analyses performed within the Us and Them project were highly successful, in that a large body of data became available for new interpretations regarding the Neolithic period of the island. It was shown that the shift to an agriculturally based diet took place at the onset of the late Neolithic rather than at the shift from the Mesolithic to the Neolithic (Kanstrup 2004; Eriksson et al. 2008), and the passage tomb at Mysinge was shown to have been in use for a period of more than 2000 years (Eriksson et al. 2008). The analysis of ceramic assemblages from Pitted Ware sites revealed a highly elaborate and varied craft, far from the simple and primitive image presented by common textbooks on the subject (Papmehl-Dufay 2006). The laboratory work of the Us and Them project also triggered further studies on bone chemistry and biomolecular archaeology, some of which are still in progress. In 2008 a large study of stable isotopes and ancient DNA in which skeletal material from Öland played an important role was published (Linderholm 2008), and currently a study of strontium isotopes is carried out at Stockholm university (Fornander et al. manuscript).

From this it can be stated that the last 10 or so years have seen a renewed interest in research on the Neolithic of Öland, and especially laboratory analyses have been highly successful and productive. The number of excavated sites was still very few at the concluding of the Us and Them project in 2006, however, and especially settlement patterns and technology therefore remained to a large extent hidden.

## Even the smallest excavation...

The last couple of years have seen an increase in construction activities on Öland and especially around the city of Kalmar on the neighbouring Swedish mainland. A growing number of large companies are establishing themselves in the Kalmar region, and in certain areas on Öland a marked increase in the building of new houses can be noted. These activities are clearly reflected in the number of excavations performed, although most of these are small-scale ones and often stay at the level of trial excavation and site evaluation. Still, even the smallest excavation occasionally gives surprisingly important results, and thus from the many small-scale excavations carried out on Öland during the last c. 2 years at least six have contributed to a significant extent to our knowledge on the Stone Age of the island. Below, I will summarize three of these, all of which I was in charge of myself.

## Kolstad, parish of Köping

The first case I will draw upon was an archaeological trial excavation in late October 2007 at Kolstad, in the parish of Köping on the mid-western part of the island (Papmehl-Dufay 2008a). The area to be investigated covered some 100 000 m<sup>2</sup> of ploughed fields, and hosted two previously recorded sites with finds of knapped flint and a few stone axes of late Neolithic types. The trial excavation aimed at determining the presence and state of preservation of any prehistoric remains below the plough soil, and was conducted by means of the digging of test trenches with a mechanical excavator.

A total of 71 trenches were placed at spaces of 25-50 m covering the entire area, including the two topographically elevated recorded sites as well as the shallow area in between. Sunken features were found below the plough soil at both sites, although severely damaged by agricultural activities. The area outside the two sites was characterised by a lower topography, and along the southern and eastern edge of the site Raä 410 an ancient stream could be seen as a distinct shade in the surface of the ploughed field (fig. 3). Two trenches were placed 50 m apart within the extent of the ancient stream, and below the plough soil in both trenches a black layer of high organic content emerged representing the successive overgrowth of the stream. In one trench, this layer was dug through, and at a depth of c. 0.8 m from the surface a brownish layer appeared, containing large amounts of extremely well preserved and in some cases clearly worked wood. The wood-bearing layer was dug through, reaching a depth of almost 2 m below the surface and containing large amounts of wood through the whole sequence (fig. 4). At the bottom of the trench a circular wooden vessel c. 0.6 m in diameter was found, unfortunately almost completely destroyed by the digging machine. Two samples, from a wooden plank and the wooden vessel, were submitted to 14C-dating, and the results clearly showed that the wooden artefacts are of late Neolithic date at around 2100-1900 cal BC, i.e. broadly contemporary with the two sites.

At first it was assumed that the wood-bearing layer was contextually connected to the ancient stream, and thus that the geographical limits of the two were identical. This would mean that we had located a late Neolithic wetland site, at least 50 x 10 m in size and around 1.5 m in depth, containing large amounts of extremely well preserved organic material and situated right next to a contemporary but severely damaged settlement site. In order to further investigate the nature of the find, a brief test-drill survey was conducted in January 2008, and it was soon realised that the wood-bearing layer was of a much more local character than was assumed at first. At the present, the most probable interpretation is

that the deep-dug trench accidentally was placed right into a late Neolithic well or some similar feature, and that the wooden vessel encountered at the bottom of the trench is connected to the function of this feature. It is still not known whether more similar features occur in the vicinity, although this seems likely. Hopefully further excavations at this site will be made possible some time in the future.



Figure 3. Photo of the site Raä 410, with the ancient stream indicated (black arrow) (Papmehl-Dufay 2008a).

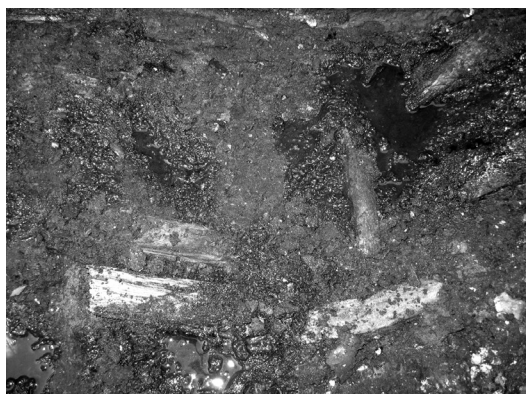


Figure 4. Neolithic wood from the well at Kolstad (Papmehl-Dufay 2008a).



## Björnhovda, parish of Torslunda

The second case concerns an archaeological site evaluation and a following excavation performed in August and November 2008, just west of the village Björnhovda, in the parish of Torslunda on west Öland. The area to be investigated measured some 30 000 m<sup>2</sup>, and hosted two previously recorded Stone Age sites with finds of knapped flint. The trial excavation in August aimed at delimiting the occurrence of prehistoric settlement remains below the plough soil, and it was soon realised that buildings and agricultural activities in historical times had almost completely destroyed the two Stone Age sites. In the shallow area right in the middle between the two sites, however, one of the test trenches revealed a burial containing a thick-butted stone axe and a hammer axe of late Neolithic type placed close together (fig. 5). No skeletal remains were preserved, but based on the shape and size of the dugout feature and the placing of the axes in the north-eastern end, a possible interpretation would be that the burial had contained a body in crouched position with head placed in the north-east (fig. 6).



Figure 5. The two axes found in burial 1 at Björnhovda, in situ (Papmehl-Dufay 2009a).



In November 2008 a c. 3000 m<sup>2</sup> large area around the burial was stripped in order to further investigate the context of the burial. Apart from a few flakes of porphyry and one hearth, the only features found were another four potential burials situated in a cluster close to the southeast of the first burial. None of the features contained any clear grave goods or skeletal remains, but the size of the features (c. 1.6-3.0 x 0.9-1.2 m) and their position clearly suggest that we have located a cemetery, at least partly from the late Neolithic (Papmehl-Dufay 2009a). The find has important implications for our understanding of burial practice on the island during the late Neolithic. With the Björnhocda find, the number of sites with possible late Neolithic burials recorded on the island so far is 12 (Papmehl-Dufay manuscript). The variation is considerable, including classical stone cists as well as earth burials, burials in a passage tomb and a cremation.

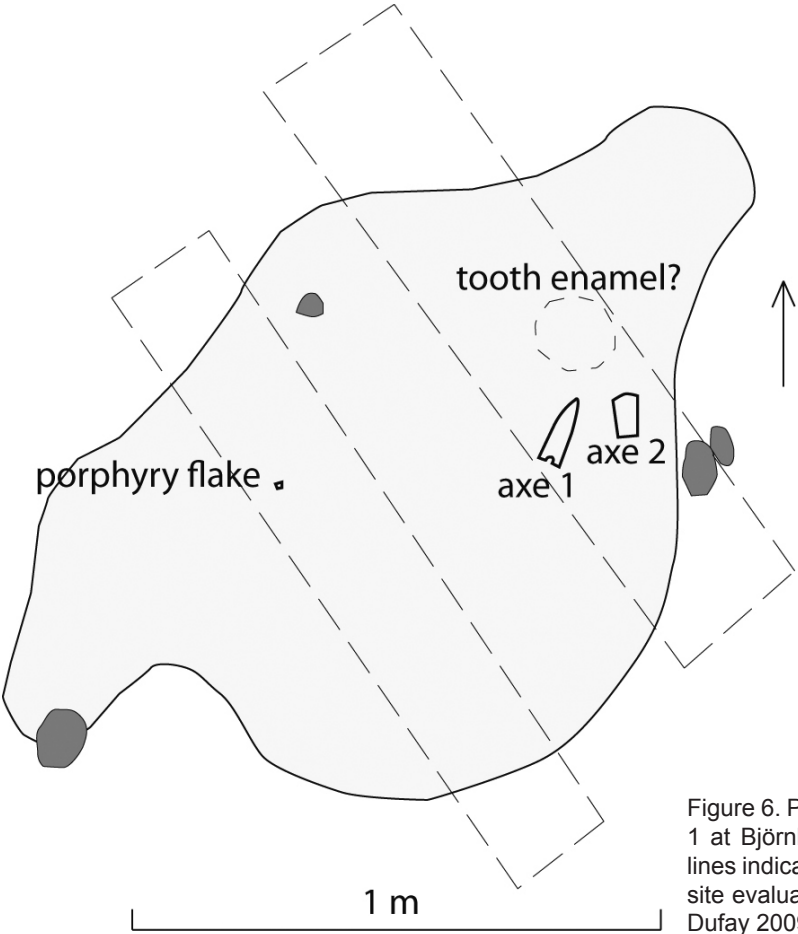


Figure 6. Plan drawing of burial 1 at Björnhovda. The hatched lines indicate trenches from the site evaluation. After Papmehl-Dufay 2009a.

## Runsbäck, parish of Torsunda

The third case is an excavation in 2008 of two settlement sites at Runsbäck, parish of Torslunda, just 2 kilometres to the southwest of the Björnhovda burial on west Öland. The settlement sites at Runsbäck are located only c. 200 m apart, and were identified through an archaeological trial excavation in 2007. The final excavation was undertaken in July and October 2008, during a total of c. 6 weeks with a workforce of 2-4 archaeologists. At the onset of the excavation in July, the sites were known to host rich traces of settlement remains from large parts of the Neolithic, seemingly with an emphasis on the periods middle Neolithic B and the late Neolithic.

The excavation has generated a large assemblage of Stone Age finds covering a period of nearly 6000 years (Alexandersson & Pappmehl-Dufay 2009; Pappmehl-Dufay 2010b). The true extent of this chronological scope was not realised until at a rather late stage in the process. While the excavation in July mostly confirmed the initial impression with an emphasis on settlement remains dating from the MN B and the LN at both sites (c. 2800-1800 BC), the continued excavation in October managed to get a more nuanced view involving a greater time span and a certain difference between the two sites. At both sites Mesolithic as well as Neolithic settlement remains could be identified, and among the Neolithic remains several distinctive phases were present. At the eastern site, the excavation in October revealed a much more articulated presence of early Neolithic remains of TRB character than was realised in July. Within a limited area c. 20 x 20 m an extreme wealth of finds and sunken features was recorded, and as work progressed it was realised that the area contained the traces of a two-aisled long house, at least c. 12 m long and about 5 m wide (fig. 7). The house is oriented approximately in east-west direction, and the eastern end has been destroyed by modern activities. The remaining traces consist of three large post-holes representing roof-bearing uprights and a number of smaller post-holes interpreted as part of the wall construction. Typologically the house at Runsbäck is in good accordance with early Neolithic houses of so-called Mossby type, which have been identified in southern and central Sweden during the last couple of decades (Larsson 1992; Artursson et al. 2003). Few houses of this type have been found in southeast Sweden, and none previously on the island of Öland.

The area around the house at Runsbäck is very rich in finds clearly reflecting several periods of occupation, all of which should not be connected to the use of the house. Two microliths and one handle core represent activities on the site during the Mesolithic, and only c. 20 m to the west a late Neolithic flint dagger was found during the excavation in July. The main part of the finds around the

house is of typical early Neolithic TRB character, however, and includes decorated TRB pottery, transverse flint arrowheads, fragments of thin-butted flint axes and a saddle shaped quern stone (fig. 8). The latter is of special interest, since it is a type commonly found on EN TRB sites in eastern central Sweden and in Demark (Lidström Holmberg 2004). Stylistically the bulk of the pottery around the house can be dated to the second half of the early Neolithic at c. 3600-3300 BC, which is in good accordance with results from 14C-dates of hazelnut shells from the site, as well as the date of Mossby-houses in general.

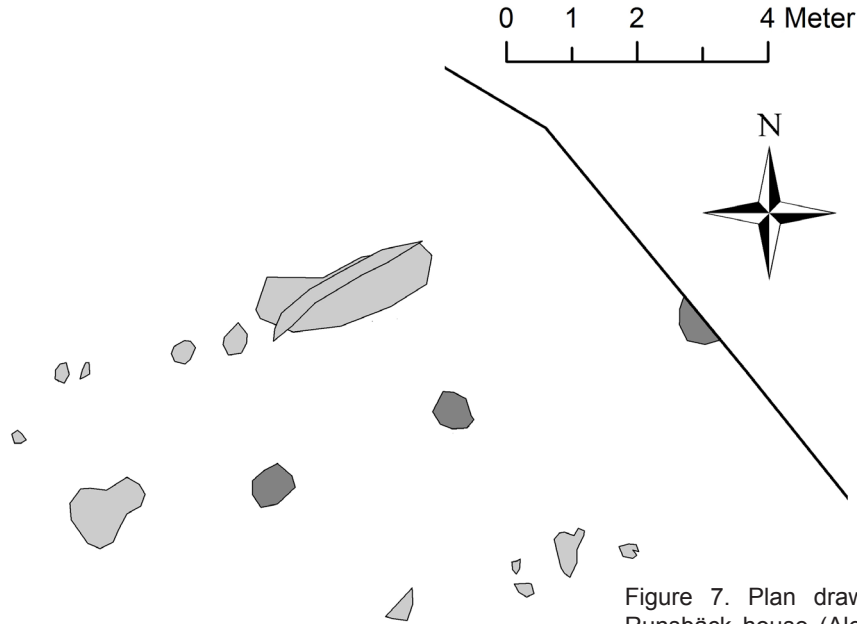


Figure 7. Plan drawing of the Runsbäck house (Alexandersson & Papmehl-Dufay 2009).

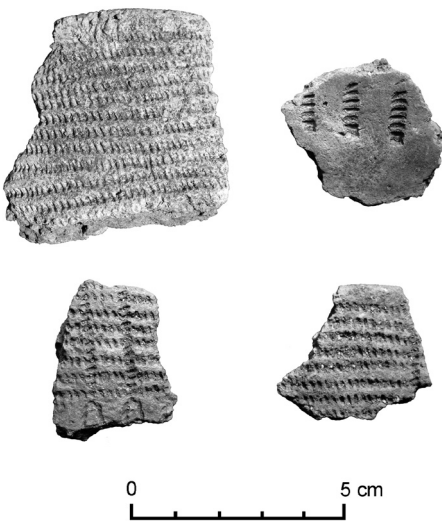


Figure 8. TRB pottery from the area around the house at Runsbäck (Alexandersson & Papmehl-Dufay 2009).

## Archaeological excavations and public outreach

Traditionally, communication of archaeological knowledge to the public has been conducted mainly in museum exhibitions and textbooks. The stereotype image of the archaeological expert telling people what life was like in the past is a strong one, but also one that has been severely criticised in recent years. It has been argued that archaeologists' communication with non-archaeologists is characterised by a static, one-way communication, lacking the important dialogue and leading only to an increase in the gap between the expert and the layman and in effect a mental separation of people from their cultural heritage (Karlsson & Nilsson 2001). Others have rightly argued that, at least in a field situation, communication between an archaeologist and a group of people is far from static, and almost by definition dialogical in character (Nordell 2006: 28ff). On practically every excavation I have participated in or conducted, curious and interested people have passed by asking questions about what we are doing and what we have found. Once the dialogue is running, the range of questions and critical reflections is more or less unlimited. Communication in this sort of interaction is thus completely dialogical, which makes it fruitful as a platform for engagement and getting people emotionally involved in the archaeological enterprise and their cultural heritage. As stated in the introduction, what engages people the most is not the archaeological knowledge *per se* but the intriguing methods that we use to reach it, i.e. the excavation and the successive analytical work (which in effect could be seen as a continued excavation indoors). It is clear to me that the potential for public mediation and outreach at an archaeological excavation is more or less constantly high, and mainly dependent not on the scientific quality of the archaeological site but rather on physical access and weather conditions. In some cases it seems that it is not the archaeological site or artefact that is the main attraction but the archaeologist, in which case any excavation will do. In my view, public outreach in the broader sense is of immense importance and a much-needed chance to provide a positive image of archaeology as an enterprise of importance to society at large. This is also very much in line with the proclaimed direction for contract archaeology in the 21st century, as officially stated during the last couple of years (Paulsson & Svensson 2005).

The three excavations briefly presented above were all of a very limited scale, compared to the enormous projects in connection to new railroads and motorways that occasionally make it out to the public (see Stenbäck this volume). The excavation at Kolstad only lasted a few days, and the excavation at Björnhovda was mainly undertaken in late November when weather conditions were far from ideal. The Runsbäck excavation however lasted several weeks, and was partly undertaken during summer when tourists as well as locals on holiday were

present nearby. It was decided early on that some effort was to be put into public outreach in connection with the ongoing excavations. In July, the local schools were on holiday and thus could not be invited, and instead we invited local kindergartens with groups of smaller children to come for a special tour of the excavation. We also announced in the local newspaper that families were welcome to visit the excavation at a given date and time, and that everyone was welcome on a guided tour the same evening. For the kindergarten and family tours, an archaeologist specialised in pedagogy was hired, and together with myself spent a day receiving more than a hundred children and parents eager to learn about archaeology, the Stone Age and our recent discoveries. Apart from trying replicas of Stone Age clothing and holding real archaeological artefacts from the museum collections in their hands, all attending children (and, as it turned out, their parents too) got a chance to try some real excavation. For this purpose I had spared the remaining half of a large Neolithic refuse pit excavated and documented the day before. This proved to be a huge success, and children as well as parents could hardly stop searching for tiny flints and potsherds in the dark sandy soil. Another c. 100 persons attended the guided tour in the evening, and thus in the end more than 200 people attended the relatively small effort on public outreach at Runsbäck. Furthermore, during the excavation in October, a local school contacted us and was given a special one-hour guided tour after the excavation was finished. The opportunity to physically enter the first Stone Age house to have been excavated on Öland was hugely appreciated, and the visit resulted in an illustrated full-page review written by the children themselves in a local newspaper a few weeks later (see Alexandersson & Papehl-Dufay 2009: 31). Altogether, it was clear that the archaeological excavation as a phenomenon was something highly attractive and exciting to both children and grown-ups. A few years later, most people attending the activities that day at Runsbäck will probably not remember from what period the finds were or how we interpreted the site. But they will never forget the experience of actually digging up an ancient potsherd or flint scraper, or the feeling of holding a 5000 year-old flint axe in their hand.

The activities arranged at Runsbäck could be described as participant public archaeology, or just public archaeology (Svanberg & Hauptman Wahlgren 2007). The focus here is on the dialogical communication and participation, and to get people involved in the exploration of doing archaeology. “Archaeologist” is an often-heard answer to the question “what did you dream of becoming when you were a child?”. It is the exploration of the unknown past that inspires people, and not the image of the authority on Neolithic potsherds. This fact is something that we could benefit from in situations of archaeological public out-

reach. From my experience, the concept of participant public archaeology is a given hit at any time: even if the rain is pouring down, at the end of the day you will have to force people to stop exploring the ways of the past through doing archaeology. However, there are a lot of other ways that public outreach can be conducted, besides the traditional exhibitions and textbooks.

### **Excavations: expect the unexpected**

Despite the increased interest during the last decade in research on the Stone Age of Öland, up till recently very few sites had been excavated to any greater extent in modern times. Still the number of excavated sites is very low, and the three excavations presented above do not change the overall picture that more sites need to be investigated. However, they do show that small-scale excavations can generate knowledge of large scientific potential, and also that it can be fruitful to excavate not only in “typical” localities. The finding of the burial and possible cemetery at Björnhovda is a healthy reminder of the importance of what could be termed deductive excavation. This refers to the practice of using the excavation to try and falsify established hypotheses, instead of verifying them. If the common archaeological sense is that all late Neolithic burials were located on elevated sandy ridges, the best way to test this is to search for burials in all possible locations other than sandy ridges. The inductive alternative would be to concentrate your search for burials in the locations that fit best with the preconceived image. This might result in further burials being found, but certainly not in any mind-blowing and revolutionary findings altering the established scientific knowledge in any profound way. Still, my highly subjective impression is that this is by far the most common strategy in archaeological surveys and trial excavations throughout large parts of Sweden. The excavations at Kolstad and Björnhovda both yielded important results that could not have been predicted based on what was known archaeologically beforehand. In both cases the subject to be investigated was Stone Age settlement sites, and in both cases these were situated in topographically elevated localities on sandy ancient beach ridges. In these parts of Sweden, such localities are often regarded as favourable sites in terms of prehistoric settlement activities, and thus surveys typically tend to favour similar localities in their search for sites, possibly resulting in an overrepresentation of sites located in topographically elevated positions on sandy ancient beach ridges. Furthermore, in some cases during trial excavation and site evaluation, such localities are also favoured since they are deemed to have the largest archaeological potential. With the terminology proposed above this strategy is based on inductive excavation. This will inevitably result in areas of “lower archaeological potential” seldom being investigated, and the sites that are excavated are those situated in “typical” localities. I find this situation a bit

disturbing, and the excavations at Kolstad and Björnhovda clearly shows the potential of a deductive excavation strategy including not only the “typical” localities but also more non-typical ones in site evaluation and trial excavation. Late Neolithic earth graves are generally believed to be located along eskers or some other elevated position in relation to the nearby surrounding area (e.g. Björnhem & Säfvestad 1989: 128). Is this because they are actually most common in such localities, or is it because we only look there?

Following the three examples presented above, it can easily be argued that even the smallest excavation can be of large importance in the process of generating archaeological knowledge. Of course the overwhelming majority of excavations will not reveal the missing link in terms of finds or features, but it is my firm belief that every now and again we will come across things that in one way or another has the potential of altering our image of the past and contributing with new archaeological knowledge.

### **Public outreach: think outside of the box**

As technology develops, so does the opportunity for archaeology of reaching people in new ways. During the last 10 or so years, archaeological public outreach has seen an enormous methodological development, from the traditional exhibition/textbook/lecture model to an immense variety of means of getting people involved and interested in archaeology. At Kalmar county museum, Cultural Heritage Pedagogy has been an established concept for several decades, and the development of new methods for teaching and experiencing the cultural heritage is continuing (Angelin Holmén 2001; Westergren 2006). Here, focus is on experiencing the cultural heritage on site in the landscape, and through the aid of acting and imagination. This is a fruitful way to make the experience of archaeological sites appealing, and offers a platform for discussion and learning useful in teaching as well as in cultural heritage tourism.

The Internet offers a completely new arena for public outreach in archaeology; one that I think has only begun to be explored by archaeologists. In Sweden, archaeology blogs have seen an increase in popularity during the last couple of years, and in connection to large excavations it is now commonplace to set up a blog where the results of the excavation can be presented continuously. This is a useful and most welcome addition to guided tours and printed information at the site of excavation, and has the potential of reaching a much larger crowd than activities limited to a geographical location (i.e. the site of excavation). Another advantage with the blog as a medium for public outreach is the opportunity for dialogue in combination with the possibility of relating the discussion



to images and maps etc; through the comment application, readers can discuss with the writers and thus a dialogue similar to that on site can develop. Another digital forum that has not been as widely applied in archaeology yet, but which has great potential for this field, is film-clips presented on Youtube.com. With relatively simple and inexpensive tools, it is today possible to produce short films and at no cost at all to present them on the Internet for anyone with a computer to watch. For this to work efficiently, we should use our creativity and think outside of the box. A film clip showing everyday work at an excavation may be appealing to some, but it most probably will not reach people not already into archaeology. However, if we focus on the exploration and present the archaeological excavation as an adventure, or if we use the knowledge that we have reached to write emotional and reflexive stories and present them as film clips, I think that Youtube.com has great potential in reaching a new audience. Surely there are other new tools to explore in this field, and I think that it is necessary for us to dare to tread new paths in order to fully utilise and develop the potential of archaeological public outreach.

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## Unto a Good Land

### Early Mesolithic Colonization of Eastern Central Sweden

#### Abstract

Only a handful of sites from the earliest “pioneer” phase of the early Mesolithic period (roughly 9 000 BP) have been excavated in eastern central Sweden. However, interesting finds of micro blades and micro blade cores, as well as circular scrapers of flint and quartz, a barbed point and a characteristic pickaxe, have been found on some of these sites and as stray finds. This brings out the question, where did the first pioneers come from? The excavated early Mesolithic sites in eastern central Sweden are discussed and compared to early Mesolithic groups in southern and western Sweden, as well as the Baltic region and Finland. Recently discovered sites in Kolmården and other places in the county of Södermanland and neighbouring areas are also discussed as well as shore displacement, which is vital for understanding the early Mesolithic landscape.

*Keywords: Eastern Central Sweden, Early Mesolithic, Shore Displacement, Flint, Quartz, Pioneer phase, Settlement phase.*

## Introduction

This article takes its starting point in an earlier published paper, which touches upon three presumed early Mesolithic sites in the Kolmården area, in the county of Södermanland, eastern central Sweden (Gustafsson & Nordin 2006). Among these three sites, two attracted special interest – Lövgölen I and Linddalen. At Lövgölen I, flakes and other objects of flint from southern Scandinavia and from the western parts of Sweden were found in a test pit. At Linddalen, the remains of a possible hut/house construction from the Stone Age were found. The sites have been preliminarily shoreline-dated to just before and after 9000 BP. In the following, all radiocarbon dates are presented as uncalibrated radiocarbon years before present (BP).

During the work on the former paper, some questions were raised. A few of these problems will be discussed further in this paper. These questions mainly concern the sites in a larger archaeological and geographical context. Our interest is mainly directed towards who the first pioneers were in a wider sense, where they came from and why. These are questions that have also been discussed by others, especially regarding the late Palaeolithic and early Mesolithic Norway (e.g. Fuglestad 2003; 2005; Grydeland 2003).

Earlier suggestions claim that the first people who entered the archipelago in eastern central Sweden could have come from the east, probably Finland. This statement is mainly based on the fact that knapped quartz is the dominating raw material in both eastern central Sweden and Finland (Gustafsson 1998: 29; Åkerlund 2001: 5). Flint does not become the dominating raw material until you leave eastern central Sweden and venture further west and south (e.g. Larsson 2003: xxvi). Others claim that the origin must be sought in the west and/or the south (Wikell 2002: 10f).

Locally available raw materials are not a good source of information, if the object is to understand the relationship between different cultural spheres, or indeed, if you want to understand the origin of people. One could question whether one piece of raw material is enough to discern origin (cf. Gustafsson 2004: 81f). However, occurrences of exotic raw materials can be an important clue for understanding how the contact surfaces between different regions appeared in prehistory. By studying and compiling different archaeological sources combined with palaeogeography, instead of focusing on the lack of certain raw materials, there is a chance to get an increased understanding of what unites and separates different regions. In this paper, the term culture is much used, as we

keep referring to the traditional and constructed archaeological culture groups. We use this term, and other related terms (e.g. techno complex), in their traditional archaeological meanings.

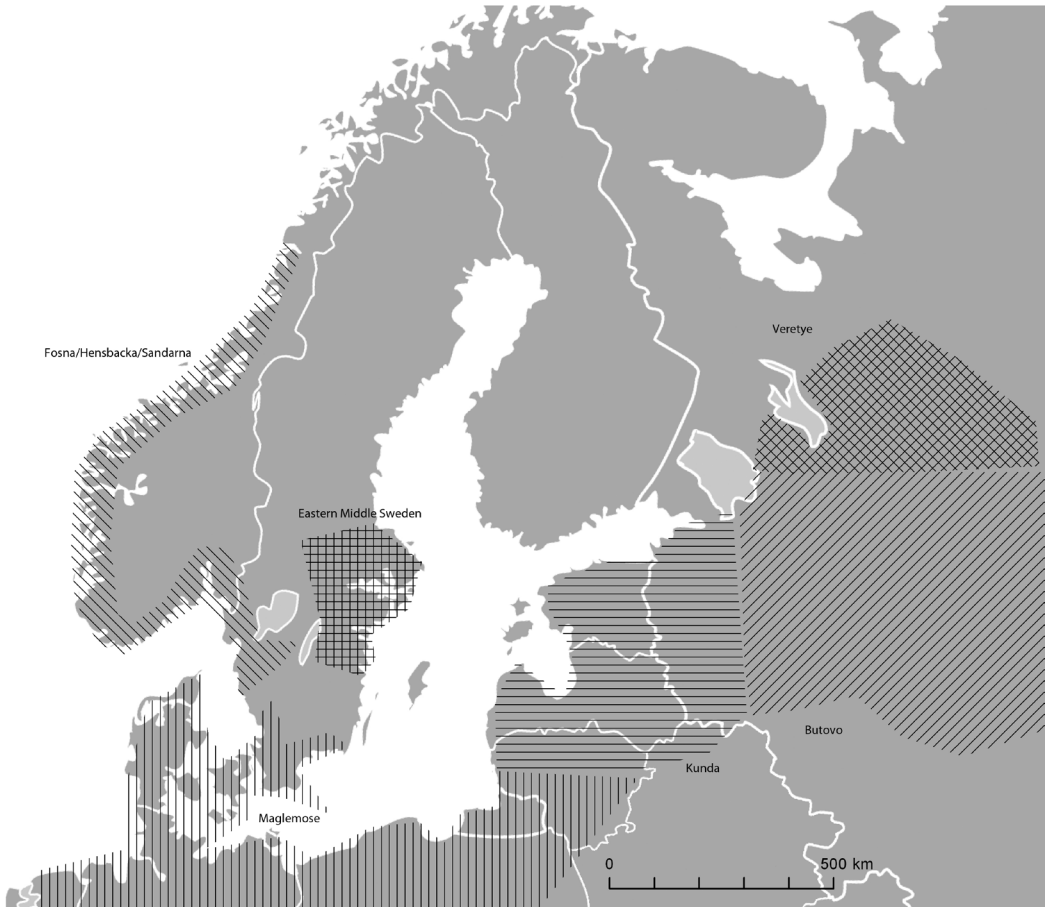


Figure 1. Map of the studied area and the different cultural groups mentioned in the text. Background map of Northern Europe by Revolus (Wikimedia Commons).

The first people to arrive in eastern central Sweden after the ice had disappeared around 9900 BP (Risberg 2003: xlvi) brought a lifestyle, with tools adapted for other raw materials than those that were locally available. Such conditions may be expected to be valid for all pioneers reaching new hunting grounds for the first time (Boaz 1999: 134). These pioneers could have arrived from the south or the west, at foot or by boat/sledge, to the mainland of eastern central Sweden, or by boat/sledge from the east. At the time, the northern parts of Scandinavia

were still covered in ice. In the west, the Hensbacka/Fosna (Ahrensburg) culture in Norway and western Sweden has left numerous traces and later on, so did the Sandarna culture, while the Maglemose culture dominated southern Scandinavia and the northern parts of Germany. To the east, there were the Kunda, Botuvo and Veretye cultures (fig 1). These groups all had different toolkits and to a certain extent also used different raw materials. Accordingly, by studying which objects and raw materials the first pioneers brought to eastern central Sweden, it should be possible to find out when, and most importantly, from where the first pioneers came.

## Pioneer time and settlement phase

Ingrid Fuglestad uses the terms pioneer time and settlement phase in her thesis *Phenomenology of the Pioneer Settlement* (*Pionerbosetningens fenomenologi*) about the late Palaeolithic and early Mesolithic in Norway (Fuglestad 2005). The pioneer time is distinguished by making a first claim for land, in small mobile groups of three to five people (Fuglestad 2005: 136). This phase starts with something that can be called awareness of a land on the other side (our translation). The settlement phase is characterized by an increasing number of sites and that the new land is used for settlement during the whole year (Fuglestad 2005: 136). Fuglestad dates the pioneer phase to 10200/10000-9500 BP and the settlement phase to 9500-8500 BP. Fuglestad's hypothesis will serve as a work-model for how the colonization of eastern central Sweden could have taken place. There is a reasonable assumption that the claiming of eastern central Sweden has a course of events that in many ways resembles the development in Norway, based on the similar outer conditions between the different areas.

The chronological frame for this paper is the time between 9900 BP, when the land in the Kolmården area first emerged from the sea (Risberg 2003: xlv), and 8400 BP. Slightly altered, this chronological model is borrowed from Fuglestad. The model should be dynamic and the chronological connection, presented above, should only be used as a working hypothesis. Future investigations will hopefully be able to correct the model, as new source material comes to light. What should be looked for are sites that correspond to the definition of either the pioneer phase or the settlement phase.

Sites that belong to the pioneer time can be expected to be small and seasonably used, with artefacts that mainly consist of exotic raw materials and to some degree are produced with "exotic" technologies. Sites that belong to the settlement phase can be expected to be both large and small, and also be part of a resource

utilizing system. The toolkit should be more adapted to local raw materials, even though some more “old-fashioned” objects and technologies could still be in use. Contacts with other groups in other areas could still be expected to be intense, such as contacts that for instance make it possible to gain non-local raw materials etc (e.g. Grydeland 2003).

This understanding of the colonization process can be complemented with the explanation offered by Milton Nuñez of how human groups spread into Finland (Nuñez 1987: 6f). In the article he describes how parts of groups (clans, bands) are separated from their main groups when a new land successively emerges. Part of the group will continue to use their habitual territories, while others will use the new areas of resources. That way, humans from one cultural sphere will spread to new areas and the same pattern will successively repeat itself when this group has established itself and “grown into” its new territory. These near “relatives” will have contact with each other by marriage and trade and will thus continue to belong to the same cultural sphere. As time goes by and distances increase, the cultural expressions will change. Social boundaries however, would not have been insurmountable, and it could have been possible to change groups and territories several times during a lifetime.

## The early Mesolithic in eastern central Sweden

Before the Yoldia Sea was cut off and the Ancylus Lake was formed, the Yoldia Sea was connected with the Atlantic Ocean, and during this time, the salinity increased somewhat. At the time (c. 9900 BP), it was possible for marine animals, such as ringed seal, to make their way into the waters that later became the Ancylus Lake (Andrén 2003:7; Risberg 2003: xlv).

As early as 9500-9000 BP, the first trees, hazel and alder, colonized the recently formed archipelago (Risberg 2003: xlvii). On the mainland, close to the newly emerged archipelago in the Linköping area in Östergötland, there are traces of human activity, which have been dated to around 9000 BP (Carlsson et al. 2005). In addition, there are several surveyed sites that probably can be dated to the time around 9000 BP, containing a partly unknown lithic toolkit (Pettersson & Wikell 2004; Wikell 2005: 164; Gustafsson & Nordin 2006).

## Excavated sites

A review of published reports treating excavated early Mesolithic sites in eastern central Sweden gives a poor impression. In total, there are no more than six sites that are believed to represent the earliest part of the early Mesolithic period (Nordin 2005: 7, 107).

At Högby, parish of Högby in the county of Östergötland, two Mesolithic sites were found in 1992. The sites consisted mainly of artefacts typical of the early part of the Mesolithic. The finds included scrapers and micro blades of flint and quartz and traces of beaver and deer exist in the osteological material. The radiocarbon datings could be separated into two groups. The first group show dates in the range of 8970-8330 BP. The other group dates mostly to the latter parts of the Mesolithic period (Larsson 1996). The presence of small circular scrapers made the excavators draw parallels to the Maglemose culture (Carlsson et al. 1999: 56). Although, it has to be pointed out that circular scrapers are far too common throughout the whole Stone Age to be used as a chronological marker.

An archaeological excavation was performed in 1997 close to Mörby, in the parish of Högstad, county of Östergötland. At this site, among other things, two hut constructions were found. In addition, a varied lithic material was present, consisting of quartz, flint, siltstone and quartzite. The site was dated to the early Mesolithic period through 17 radiocarbon datings, ranging from c. 9200-8000 BP (Kaliff et al. 1997: 66). Also at this site, finds of circular scrapers and micro blades made the excavators draw parallels to the Maglemose culture (Kaliff et al. 1997: 36). However, recent theories would reassess some of these interpretations (Fredrik Molin, pers. comm.).

At Sörby in the parish of Mjölby, county of Östergötland, archaeological remains were found in 1992 that could date to the early Mesolithic. A posthole was radiocarbon dated to 8475 BP, and a few artefacts in the form of knapped quartz were found that could originate from the same time (Helander & Zetterlund 1998: 20). The problem is that there are traces of many different time periods at the Sörby site. In addition to remains from the early Mesolithic period, finds from the Iron Age and the Neolithic period were made. In the excavation report, the few traces from the Mesolithic time are interpreted as the remains of a station for hunting or fishing (Helander & Zetterlund 1998: 17).

At Lilla Åby in the parish of Slaka, Östergötland, a Mesolithic barbed flint point was found during an excavation in 1988 (Appelgren 1995: 29). This type of barbed flint point is considered a key artefact for the Sandarna culture. A number of radiocarbon dates as well as typologically dated artefacts at the site suggest a range in time from the early Mesolithic period to the Middle Ages and later times. Unfortunately, the published report presents no interpretation of the Mesolithic material.

Just outside Linköping, at Trädgårdstorp in the county of Östergötland, two early Mesolithic houses were found and excavated in 2004. The artefacts consisted of knapped quartz, quartzite and flints. Several micro blades made from quartzite and flint were found. The constructions were of mesula type and have been radiocarbon dated to 8400-7000 BP. One of the houses apparently belongs to the older phase, 8400-8100 BP (Molin, pers. comm.; Molin 2006: 29).

Around the Gladö area, parish of Huddinge in the southern parts of the county of Stockholm, several sites, mainly consisting of knapped quartz, have been located. In the vicinity of the sites, quartz quarries have also been found and both the settlement sites and the quarry sites have been excavated (Gustafsson 2005; Gustafsson & Granath Zillén 2005). None of these sites have been dated through radiocarbon analysis. The early Mesolithic date is based on the assumption that they were shore bound during the time of occupation.

At Trollsta gravel pit in the parish of Sorunda, southern parts of the county of Stockholm, very diminutive archaeological remains were excavated in 2000 consisting of fire-cracked stones (Gustafsson 2002). The dating of the fire-cracked stones to the early Mesolithic period is based on the assumption that the site was shore bound during the time of occupation.

Overall, the sites in eastern central Sweden that have been excavated and dated to the earliest part of the early Mesolithic are very few in numbers. Högbý, Mörbý, Lilla Åby and Trädgårdstorp situated on the early Mesolithic mainland and mainland coast in present-day Östergötland are the only sites that have been radiocarbon dated. These are sites that also show obvious early Mesolithic finds. However, this material cannot unambiguously be tied to any of the early cultural groups discussed below. Admittedly, Sörby has an early Mesolithic radiocarbon dating, but the place contains a very mixed material, which complicates the interpretation and dating of the site. The same circumstances apply to Lilla Åby. Trädgårdstorp is a very interesting site, given the traces of house constructions associated with early Mesolithic find material and radiocarbon dates. The consequences for Trädgårdstorp regarding the discussions about mobility during the early Mesolithic settlement period are difficult to predict, but interesting questions are indeed raised. The Gladö sites could very well be of early Mesolithic origin. The Trollsta site should not be taken into account at all, since fire cracked stones are not particular to the early Mesolithic period. So far, the presented material has provided few indications of a possible cultural belonging for the first pioneers in the eastern central Sweden.



## Sites found in surveys

Of interest are also the sites that have been located in surveys. During the beginning of the 1990s, several sites were found on heights between 70 and 80 m a. s. l. on Södertörn. In addition, sites at similar heights were found in the Hälleforsnäs area and in the Kolmården area (Hammar & Wikell 1994; Hammar & Wikell 1996; Åkerlund et al. 1996; Åkerlund et al. 2002; Wikell 2005). The observations changed the view of the Mesolithic period in this part of Sweden by their sheer quantity.

### *Recently found early Mesolithic sites in Kolmården*

The site Lövgölen I is located about 76 m a. s. l. on a sandy and relatively stone free shelf in an otherwise quite rocky slope, to the south limited by a steep slope and to the north by a bog (fig. 2). East and west of the site, small streams run by, draining the bog. In the proximity of the eastern stream, knapped quartz was found in an uprooted tree. A test pit (1 x 1 m) was dug in the stone-free shelf, in which lithics and a seal phalanx were found (Ylva Bäckström, pers. comm.; Jan Storå, pers. comm.). The latter find could possibly indicate that the site actually was shore bound during its time of occupation. The bone is burnt and weighs only 0.36 grams, which unfortunately is insufficient for achieving a radiocarbon date.

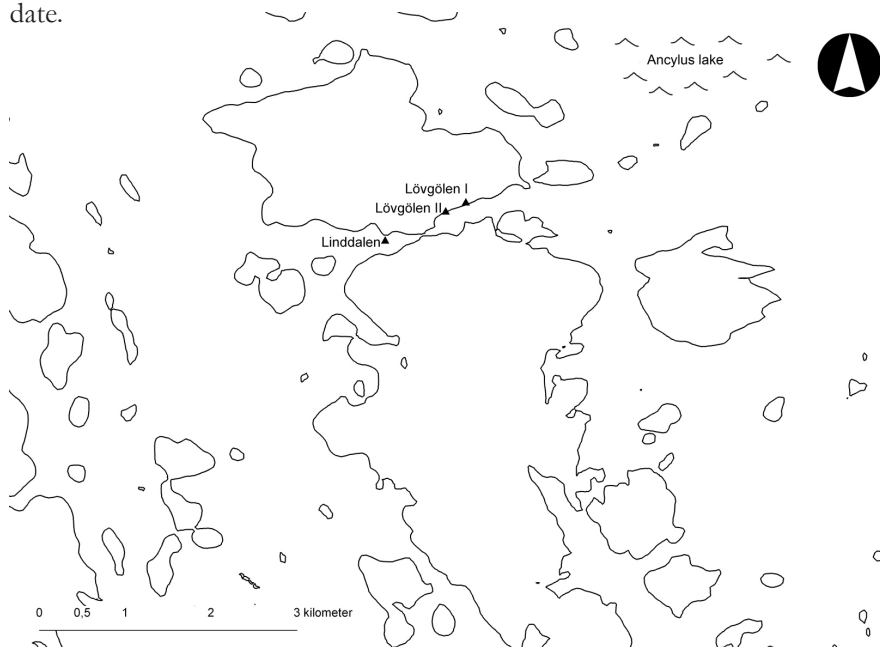


Figure 2. A palaeogeographic map with the sites Lövgölen I, Lövgölen II and Linddalen presented on a shoreline corresponding to 75 meter above sea level. Map by Mikael Nordin, County Museum of Södermanland.

The quartz collected at Lövgölen I indicates an explicit platform method that has also been noted as the dominating knapping technique at the Mörby settlement site (Kaliff et al. 1997: 36) and at high altitude areas in Hanveden (Wikell 2002: 11). The quartz from Lövgölen I is of very high quality. In addition to quartz, local rock was represented by small flakes of hälleflint. Relatively large amounts of flint was also found at Lövgölen I, in total twelve whole and fragmented flakes, including a scraper (fig. 3). South Scandinavian flint as well as flint from Kinnekulle is represented (Kenneth Alexandersson, pers. comm.). The flint shows that contacts existed with southern Scandinavia and western Sweden. The presence of Kinnekulle flint is particularly interesting. It has earlier been noted that this type of flint had the largest distribution during the late Mesolithic period (Kindgren 1991: 41), but it is also present at several of the excavated early Mesolithic sites in Östergötland (Fredrik Molin, pers. comm.). Many of the flints showed signs of severe heat exposure. None of the flints showed any polished surfaces, which is common for Neolithic flints. The burnt flint was also found next to something that has been interpreted as the strongly washed-out remains of a hearth. If the site was shore bound, it could be dated to around 9000 BP, i.e. the Ancyclus period (cf. Åkerlund 1996: 79; Hedenström 2001: 14f). At that time, the site was located by a narrow passage between two larger islands.

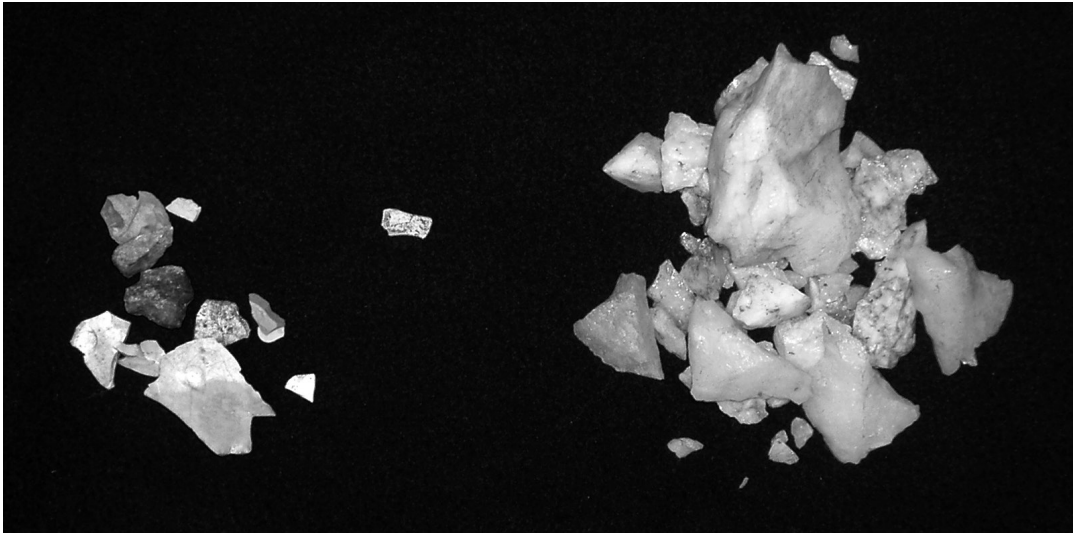


Figure 3. The finds from Lövgölen I. Photo by Mikael Nordin, County Museum of Södermanland.

Linddalen is located about 70 m a. s. l. The topography is fairly flat but rises towards the north, and today the site is situated in an enclosed pasture. Some 20 metres south of the site there is a stream running in an east-west direction. During the trial excavation of the site, knapped quartz was found including a scraper resembling the flint scraper from Lövgölen I. In addition, a substantially dark coloured u-shaped dugout was found, surrounded both on the outside and on the inside by multiple post holes (fig. 4). In the dugout, a fragment of burnt bone was found. The dark coloured u-shaped dugout has been interpreted as the remains of a hut or house structure. Other early Mesolithic huts can be found e.g. at Mörby in Östergötland and in Årup in Scania (Kaliff et al. 1997; Karsten 2004: 87). There are also parallels from other periods, e.g. hut 3 from the late Mesolithic site at Pärälängsberget (Hallgren et al. 1995: 14). It is safe to assume that the construction originates from some part of the Stone Age. Due to the topography at the location, the flat landscape combined with the stream, the place would have been attractive for people during many different periods. If the site was shore bound, the Linddalen site could be dated to around 8500 BP (cf. Hedenström 2001: 14f). At that time, the site was located in a sandy area on the north side of a narrow bay.



Figure 4. The possible hut at Linddalen. Photo from the west by Patrik Gustafsson, County Museum of Södermanland.

## Key artefacts in eastern central Sweden

The somewhat meagre source situation reviewed above can be complemented with further information through different key artefacts found in eastern central Sweden. A majority of all lithic material found at Mesolithic sites in eastern central Sweden consists of quartz (Åkerlund 2001: 53). Objects which have not been made locally, as well as objects made locally of non-local materials, are of interest in this context, e.g. micro blades, cores, microliths and shaft hole pick axes. Furthermore, locally produced objects of local materials can provide useful information, such as micro blade cores made of quartz. These different categories of objects are examined closer below.

### *Shaft hole pick axes*

An object category typical of the early Sandarna culture (c. 9200-8000 BP) is shaft hole pick axes (Nordqvist 1999: 246; Olofsson & Olsson 1999: 75). These artefacts have been discussed by among others Bo Gräslund, who presented a distribution map of the whole group (Gräslund 1962: 106).

Gräslund's definition of pick axes with shaft holes includes a wide range of types (Gräslund 1962: 109). In his distribution map, he does not take into consideration to which type or what time period the pick axes are ascribed. Therefore, the definition includes quite a few objects that cannot be said to be the early Mesolithic shaft hole pick axe. As the pick axes are most commonly found in a damaged condition, they are often attributed a practical function such as weights on digging sticks (Broadbent 1978; Hernek 2005: 284). A more plausible interpretation of the pick axes would be that they have been of ritual significance (e.g. Carlsson 1998: 30ff). The pick axes are the only stone objects from the Mesolithic in Sweden that display ornamentation, and the pick axes could be seen as part of Mesolithic exchange systems (Hernek 2005: 285).

Acknowledging the fact that many of the shaft hole pick axes in the distribution map seen in figure 5 are not of Mesolithic date, some plain concentrations can still be seen. In Scania, shaft hole pick axes are all together lacking. In the area surrounding the southern part of lake Vättern as well as around the city of Kalmar, smaller concentrations are found. Most obvious of the concentrations are Bohuslän, Dalsland, parts of Värmland and Västergötland, which can be seen as a core area. North and particularly south of lake Hjälmaren in Närke, by Motala stream in Östergötland and in the western parts of Södermanland, another concentration can be seen. In the county of Södermanland, e.g., there is a Mesolithic pick axe from Klastorp in the parish of Björkvik, which can be tied to this group (fig. 6). In Norway, the area around Oslo and the west coast

Figure 5. Map showing the distribution of pick axes (after Gräslund 1962). The dots representing pick axes in Sweden north of lake Mälaren (Västmanland, Uppland and Norrland) should not be counted for, as they are of a contextually deviant type with obvious connections to the Neolithic period (compare Gräslund 1962: 133). Map by Patrik Gustafsson, County Museum of Södermanland.





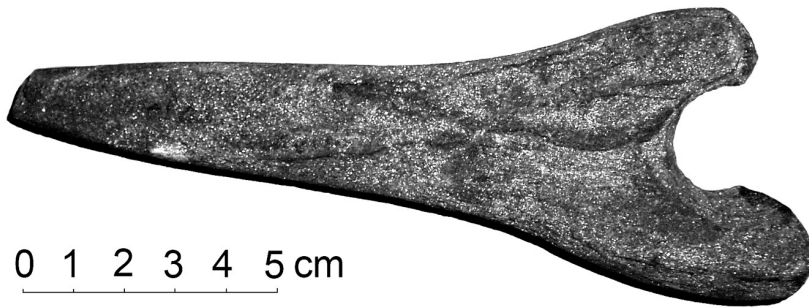


Figure 6. The pick axe from Klastorp in Södermanland. Photo by Patrik Gustafsson, County Museum of Södermanland.

between Stavanger and Trondheim should be emphasised. In northernmost Norway, as well as in Finland and the Baltic countries, Mesolithic pick axes are lacking all together.

### ***Micro blades and micro blade cores***

Micro blades and micro blade cores are a common element in Maglemose and Sandarna settlement sites (especially late Sandarna culture). At several archaeological excavations in eastern central Sweden, micro blades mainly of flint, but also of other rocks and minerals, have been found. Cores, however, are more or less conspicuous by their absence in this part of Sweden. Nevertheless, micro blade cores in quartz have recently been identified from Östergötland, the county of Örebro and the county of Södermanland (Apel 1996: 59ff; Gustafsson & Nordin 2008; Molin & Wikell 2009). These cores can neither be classified as conical cores nor as handle cores, they usually look a bit like both and often lack platform preparation. The micro blades could have been detached by indirect percussion with a punch or more probable by pressure flaking (Gustafsson & Nordin 2008:40). The fact that the cores cannot be defined as typical conical cores probably depends on the inherent physical properties of quartz as a material, i.e. the shape of the core is dependent of the shifting qualities of the quartz. There are small bipolar cores of flint from Trädgårdstorp, which possibly could represent the final stage of e.g. conical cores (e.g. Callahan 1987: 44), and from Mörby there is also a platform refreshment flake of flint from a conical micro blade core. Micro blades of flint were fairly common at these sites, at least by eastern central Swedish measures (Molin & Wikell 2009; Fredrik Molin, pers. comm.). Put together, the source situation makes it difficult, so far, to establish a reliable chronology of cores in eastern central Sweden during the early and

middle Mesolithic period. If anything, it seems clear that the micro blades were of importance, and less so the morphology of the cores. In northern Scania, there have been finds made of conical micro blade cores in quartz (Knarrström 2006: 281ff). This does not only suggest that quartz was a useful raw material even near flint rich areas, it also shows that micro blades and conical blade cores in quartz are not unique for eastern central Sweden.

### ***Microliths***

Despite the fact that several early and middle Mesolithic sites in Östergötland have been excavated, the barbed point from Lilla Åby is the only microlith-like object found so far in the region. From Sverker's chapel in the Alvastra area in Östergötland, however, there is one specimen with a slant retouch (Browall 2003: 26f; Fredrik Molin, pers. comm.). Still, if these objects were common during the early Mesolithic period in eastern central Sweden, there would have been more finds of microliths or traces of microlith manufacturing, such as micro burins etc. It is probably safe to say that a microlith tradition never existed in eastern central Sweden, but instead, there was a micro blade tradition (Fredrik Molin, pers. comm.).

## **The early Mesolithic in the west, south and east**

### **West**

In western Sweden and Norway, a number of excavated early Mesolithic sites are referred to as representing the Hensbacka culture in Sweden and the Fosna culture in Norway (c. 10 000-9000 BP). The origin of these groups has been extensively discussed (e.g. Kindgren 1996; Fischer 1996: 168; Fuglestad 2005). Several traits indicate that the Hensbacka/Fosna complex actually should be seen as belonging to the Ahrensburg culture. The material culture is similar, typically expressed by tanged points (Ahrensburg points), flake axes and core axes (Fuglestad 2005: 90). What differentiates the finds from Sweden and Norway from the Ahrensburg sites on the continent is that the Scandinavian sites usually are shore bound. The Palaeolithic cultural groups have mainly been studied from an inland European continental perspective. The background to this is the dramatic rise of the sea level, which occurred towards the end of the Palaeolithic and the early Mesolithic period (Preboreal) when large land masses (i.e. Doggerland) disappeared (Fischer 1996: 170f). The results from studies of the Scandinavian sites have shown that the marine resources were just as important for the late Palaeolithic and early Mesolithic hunter-gatherers as migrating terrestrial animals (Fischer 1996: 169). The shore bound sites are primarily located in former archi-



pelago areas characterized by islands, islets and skerries, i.e. environments that require access to boats of some kind. Studies have shown that marine resources are relatively more productive and stable, compared to economies based on for example migrating reindeer herds (Fischer 1996: 169; Kindgren 1996: 202). The easternmost known Hensbacka/Fosna site is the Almeö site by lake Hornborgasjön in Västergötland. It has been dated to c. 9400 BP, with samples collected from a stratigraphically sealed layer. At three middle Mesolithic sites adjacent to the Almeö site, finds included flint from Kinnekulle, a material that did not occur on the oldest layers. The use of this specific flint reaches a peak during the late Mesolithic period (Kindgren 1991). However, at several excavations in recent years, the material has been found at early Mesolithic sites, e.g. at Högby, Mörby and Trädgårdstorp in Östergötland, and also in Södermanland (Lövgölen I). The excavators of these sites have interpreted the flint as belonging to the early Mesolithic period. This shows that the results from the excavated sites in Västergötland cannot be used for determining when Kinnekulle flint first began to be used in eastern central Sweden. In addition, far too few early Mesolithic sites have been excavated in the area around Kinnekulle and in Västergötland to ascertain that the flint from Kinnekulle was not used during this early phase.

In western Sweden, there is a well-known culture called Sandarna. Generally, Sandarna can be said to be the direct heir of Hensbacka/Fosna (Ahrensburg). The early phase of the Sandarna culture (c. 9000-8000 BP) is distinguished by the fact that the settlement sites are primarily shore bound (Nordqvist 1999: 246f). The finds of the Sandarna culture are mainly distinguished by shaft hole pick axes, so-called Sandarna axes, core axes, round butted axes, flake axes, barbed points, lancet microliths, burins, round scrapers, one-sided conical cores, conical blade cores as well as small and thin blades with large platforms. Towards the end of the period (c. 8000 BP), micro blades were introduced, at which point the microlith tradition more or less ceased to exist (Nordqvist 1999: 247). However, according to Hernek, microliths are generally scarcer in western Sweden as compared to the rest of southern Scandinavia. Barbed points are considered to be a key artefact at settlement sites of the Sandarna culture, despite the fact that they are not common, and they also occur in other areas, e.g. in the Maglemose culture of southern Scandinavia (see below). Produced by means of a micro burin technique, the barbed points are still separated from the microliths. The point is most commonly found during the early phase of the Sandarna culture, but occasionally occurs at settlements dated to late Sandarna (Hernek 2005: 246). Several Barbed points have also been found at inland sites like Anderstorp and Nennesmo situated by the lake Fornbolmen in The County of Jönköping (Gustafsson 2008; Pagoldh 1992; Pagoldh 1995).

## South

The Maglemose culture existed from the middle of Preboreal to the beginning of the Atlantic period, and the culture covered a vast area including England, Denmark, central and southern Sweden, northern Germany and parts of western and northern Poland (Aaby 2006: 162; Jensen 1982: 39). The Maglemose culture is thought to be a direct descendant of the Ahrensburg culture, and continuity has been noted between Ahrensburg and Maglemose sites (Andersson & Knarrström 1999: 104, 107).

The Maglemose culture is traditionally divided into five chronological sub-groups, where groups 1-3 are regarded as the early phase and groups 4-5 the late phase (Brøndstedt 1966: 74ff). These groups are distinguished by 1) Rough micro blade cores, small round flake scrapers, lancet microliths, 2) Fine conical micro blade cores, small round flake scrapers, lancet- and triangular microliths, 3) Conical micro blade cores, keeled scrapers, triangular microliths, 4) Keeled scrapers and handle cores, microliths as in group 3, but smaller because the handle cores produce smaller and thinner blades, and finally 5) The shortest side of the triangular microlith becomes longer. This chronological division has recently been questioned from a technological perspective (Sørensen 2006). Generally, the Maglemose culture is considered to be an inland-based culture with settlement sites situated by streams and lakes in the northern European mainland. This is probably incorrect, however, since several boreal sites have been found below the present sea level between Scania and Denmark, as well as along the German and Polish coastline. In other words, the coastal settlements of the pre-boreal and boreal groups are to be found below the present sea level (Jensen 1982: 39).

## East

The Swiderian culture was the dominant late Palaeolithic culture in the east, and is sometimes considered to have continued into the boreal time (Sulgostowska 1996: 297). The Swiderian culture is characterised by tanged points, end scrapers and blades (Zhilin 1996: 273). The tanged points used by the Swiderian culture are similar to the Ahrensburg points, and both of these cultures are part of the widespread so-called tanged point techno complex (Carpelan 2006: 82).

In the east there are three cultures which existed between 9000-8000 BP. In the Baltic area and in Poland, the so-called Kunda culture was predominant. A key artefact of the Kunda culture was the slotted bone point with microliths as cutting edges. The Kunda culture displays technological features common to the

Ahrensburg culture as well as the Swiderian culture (Carpelan 2006: 83). The Maglemose and Kunda cultures co-existed in present Poland. The two groups differed not only in material culture, but also in preferred hunting type of prey. The people of the Maglemose culture hunted red deer, wild boar and roe deer, while the people of the Kunda culture preferred elk (Sulgostowska 1996: 302f). In Russia, east of the Kunda culture area, the Butovo and Veretye cultures were found. Veretye is sometimes called the eastern Kunda culture (Carpelan 2006: 84), and is found north of the Butovo culture area (Wiik 2006: 102, map 7). All three cultures are said to be heirs of the late Palaeolithic Swiderian culture (Sulgostowska 1996: 297).

The first pioneer settlers in Finland probably originated from the Kunda area in the south, and possibly also from Veretye and in some extent from Butovo (Jussila et al. 2007:159; Wiik 2006: 102). A number of early Mesolithic sites in Finland have been dated to around 9000 BP (Matiskainen 1996: 256f). Only a very small number of these are contemporary with the earliest sites in eastern central Sweden. The somewhat younger Finnish material show great similarities with the material from the Baltic and is probably connected with the Swiderian culture. Blades and scrapers in flint, as well as micro burins in quartz have been found in Finland. However, no evidence exists to date of a colonization of Finland prior to the boreal period (Matiskainen 1996: 257f), although the final word has not been said in this matter. Recent research suggests that a pioneer phase could have started around 9600 BP in the Karelian area and that about 8300 BP, groups of people reached the vicinity of the Lake Inari. The movement seems to have gone from the southeast to the northwest (Carpelan 2006; Grydeland 2003: 58f; Jussila et al. 2007:159; Rankama & Kankaanpää 2005).

## Conclusion

The earliest known sites in Finland seem to be somewhat younger than the earliest sites in eastern central Sweden. Thus, neither of Finland, Russia, Poland or the Baltic countries seems to be a possible candidate for the origin of the pioneers in eastern central Sweden. No typical artefacts or exotic raw materials such as Onega slates or chocolate flint are known from early Mesolithic settlements in eastern central Sweden. It's not until the Neolithic period that we find lithic material in Sweden that originates from eastern sources (see e.g. Halén 1994). Instead, objects in the form of pick axes, barbed points, micro blades and micro blade cores in quartz and in flint (from Scania/Denmark and Kinnekulle) exist in eastern central Sweden. The material culture thus indicates that it is to the south and the west that we should look for the origin of these pioneers.

From the compilation and comparison of artefacts and cultural groups presented above, much point to the conclusion that the marine environment and the marine mammals (e.g. seals) were central to the early Mesolithic cosmology and economy, on the west coast as well as the east coast of present day Sweden. The Sandarna and Maglemose cultures could possibly be seen as one large techno complex, where variations are due to cultural adaptations to the natural environment (cf. Binford 1972: 106). Both groups also share the same historical background, i.e. the Ahrensburg culture. This is also indicated through the finds from Östergötland and Södermanland mentioned above. Perhaps the material remains from the whole or parts of the period represent the remnants of one cultural sphere, i.e. one population changing its economic and social strategies geographically and over time. The material traces from coastal and inland areas in Sweden show more similarities than differences, which speaks against a cultural dualism in eastern central Sweden during the early Mesolithic period. It should be emphasised, however, that the traces we find could just as well represent expressions of smaller social/cultural/economical units.

Mörby and Högby resemble the Maglemose sites in southern Scandinavia. Situated on the mainland next to lakes and wetlands, the cultural expressions of the coastal people (the Sandarna culture) were not far away, as indicated by the barbed point from Lilla Åby (cf. Fuglestad 2005: 66). The Lövgölen site, which is rich in flint and situated in the archipelago, can also be mentioned in this context. Further east, on Södertörn, traces have been found of highly mobile groups of the pioneer phase, involving family constellations, bands of hunters etc, moving through the archipelagic seascape (see Pettersson & Wikell, this volume). This interpretation is supported by the results of field walking surveys at high altitudes in the area, which have produced a massive number of sites. These groups must have had at least seasonable contacts further south and west, perhaps by gifts, trade, marriages and warfare. Small sites, temporarily used and situated at high altitudes in the early Mesolithic archipelago, with exotic raw materials and adjusted for highly mobile groups probably constitute the remains of the first pioneer phase of eastern central Sweden, c. 9900-9300 BP. The first groups of people in this area not only adapted to the landscape and the environment that emerged after the last ice age, but also took an interest in, and deliberately chose to make use of and reside in, this landscape (seascape). This environment was not unknown; it was part of the “cultural package” for these early Mesolithic groups.

Trädgårdstorp, located on the mainland coast, is a site with traces of house structures suggesting a more permanent occupation during the settlement pha-

se. Quartz, flint, micro blades and bipolar flakes have been found, which might suggest a mix of both coastal and inland cultural expressions. Linddalen is another site of more permanent character that might be from the same time as Trädgårdstorp. Sites with house structures of more permanent character, such as Trädgårdstorp and possibly also Linddalen, probably constitute the remains of the settlement phase c. 9300-8400 BP. The land, which was claimed in this way, was a new world with rich possibilities for those who dared to come there.

Only a very small number of settlements from the early Mesolithic pioneer phase have been excavated in eastern central Sweden. In addition to this meagre source material, there are also a small number of stray finds and a large amount of sites found in surveys at high altitudes at Södertörn, Hälleforsnäs and in the Kolmården area. By comparing the raw materials and artefacts found in these areas with early Mesolithic cultures in the rest of Scandinavia, Finland and the Baltic area, one can get an idea or indication of where these first pioneers came from.

We argue that the earlier proposed hypothesis, stating that the first inhabitants of eastern central Sweden came from present day Finland, can be falsified. The hypothesis originates from the idea that knapped quartz is the dominating raw material in both eastern central Sweden and Finland. The idea however lacks support in the source material as presented above. There was probably no obstacle to journey from present day Finland or neighbouring areas to eastern central Sweden by boat, but the origin of the first pioneers should above all be searched for in the south and the west, as similarities in the material culture can be seen with the Maglemose culture as well as the Sandarna culture.

Furthermore, we propose a model for the colonization processes in which a pioneer phase and a settlement phase can be discerned. The pioneer phase is distinguished by small groups making seasonable use of this new land for hunting and collecting, c. 9900-9300 BP. During the pioneer phase, one can expect to find exotic raw materials as well as technologies and strategies for making use of local raw materials. The latter part of the presented period for the first settlement phase (c. 9300 -8400 BP) is plausible for the Kolmården area as well as for the rest of the eastern part of the research area. In the western part of eastern central Sweden, there are indications that the groups of people were less mobile and at the end of the presented period, they even started to erect permanent house structures of Mesula type. The urge to colonize new areas may be driven by the combined force of cultural norms of a highly mobile society, curiosity and the awareness of a new good land at the horizon.

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## Uniting Boats

Coastal People Ride Seaworthy and Beautiful Boats

### Abstract

The archaeological record – the distribution of sites – clearly indicates that boats have been an essential part of the material culture during the Stone Age. Boats are, of course, necessary if you want to make a living in archipelagos or on islands far off coast. Boats also enabled social contacts over long distances, and we can presume that identity was expressed with seafaring skills and elaborate boats when people met on the shores along the Baltic Sea.

*Keywords: Fractal seascapes, archipelagos, settlement pattern, maritime way of living, good boats, social identity, meetings.*

## Introduction

*“Kringla Heimsins – the World Roundel – where humans live is cut through by many bays.”*

Thus Snorri Sturluson introduces his historical account on the Viking Age kings of Norway as well as of the remaining Scandinavia (Sturluson c. 1230). The book is written in the first half of the 13<sup>th</sup> century, and the passage tells us much about a boat-carried person's approach to, and view of the landscape. In this article, we will penetrate the world and minds of boat-carried people. Starting in the physical world, we will take a look at a few stalwart cases from different types of Stone Age seascapes where boats must have played a significant role. Later in the article, analogues from different periods of history will help us to see how boats could have shaped ways of life and the minds of people. We believe, though there are but few artefacts from the period in question to prove it, that boats were more than just vessels of transport; they were also important and expensive objects. A boat is a considerable investment, not least when manufactured with stone tools. Geographical knowledge and navigation skills are also an investment in time and labour. The boat and the techniques and skills associated with it must have been one of the most important media for social expression. Probably much more so than the knapping of quartz, the most frequent archaeological find-material in eastern Sweden and Finland.

## Good seascape

Many of the coasts of Scandinavia are well suited for boat-cultures. Indeed, the *fractal* landscape which Snorri describes is probably a milieu in which boats and navigation could evolve more rapidly than in areas with long, unprotected shorelines. In a skerry-gard – a fractal archipelago with many small and large islands that can be found in many places along the coasts of Scandinavia – there are always sheltered harbours nearby. A skerry-gard also holds many ecological niches, which favour marine life. Judging from historical evidence and ecofacts from excavated sites, the skerry-gards of Scandinavia hosted a rich fauna with fish, seal and seafowl.

In short: the coastal areas of Scandinavia with its island-rich archipelagos and plentiful marine resources must have stimulated the evolution of boats from the beginning, producing specialized vessels. Part of this stimulus towards elaborate boat technology was also the presence, in the early Holocene, of unpopulated lands waiting around the corner. Moreover, there were people, ready in mind to venture far and wide. All these factors should result in specialized boat cultures – peoples of the sea whose identity was to be masters of wide waters.

## Rare boat finds

As evidenced from historical times, the coasts and archipelagos of northern Europe have always hosted a broad array of boat types, adapted to local geographical prerequisites and belonging to different cultural traditions. Boats have been an essential part of the material culture. Boat finds from early prehistory, however, are rare in Scandinavia. The exception is Denmark, where a number of Stone Age dug-out canoes are known, together with other finds of marine equipment and submarine constructions of organic matter. A spectacular find from this region of an ornamented paddle gives a sudden glimpse of a lost world (Andersen 1987). In Finland, Stone Age boats have also been found. A specimen from Helsinki has most probably sunk in the ancient sea, several kilometres off-shore! (Luho et al. 1956; Hallgren 2008:53). Hopefully, more finds of early naval history will be made in the future.

## Settlement location – evidence for boats

Accordingly, we do not completely lack suitable find material. Nevertheless, there must be more to be found and much more that is forever lost, because the *settlement pattern* itself requires boats. A large number of <sup>14</sup>C-dates and comparisons with shore-displacement models clearly indicate that most Stone Age sites in the coastal areas of Scandinavia at the time of occupation were shore-bound, that is, situated in close connection with the shore-line. Many settlements are or were situated on islands. Accordingly, this makes it quite clear that the inhabitants had boats. Journeys on the sea-ice probably occurred, but are unlikely to have produced this mass of archipelagic settlements that have been found during surveys the last decades. In addition, walking on the sea-ice is much safer if you bring a floating device of some kind – a boat, for instance.

Hein B. Bjerck (1989, 1990, 1995 and 2008) has published a number of interesting works pin-pointing the importance of boats in the Mesolithic and Late Palaeolithic maritime cultures of northern Europe:

*“Although remains of boats are unknown, we need not doubt the existence of a well-developed boat technology, since it is impossible otherwise to travel in this landscape – or move among the Preboreal settlements.”* (Bjerck 2009: 19f)

The picture is strikingly similar also in the region eastern central Sweden. Here, a large number of previously unknown dwelling sites have been found during surveys by the present authors together with Dag Hammar. Most sites exhibit shore-bound qualities concerning their position in the local terrain

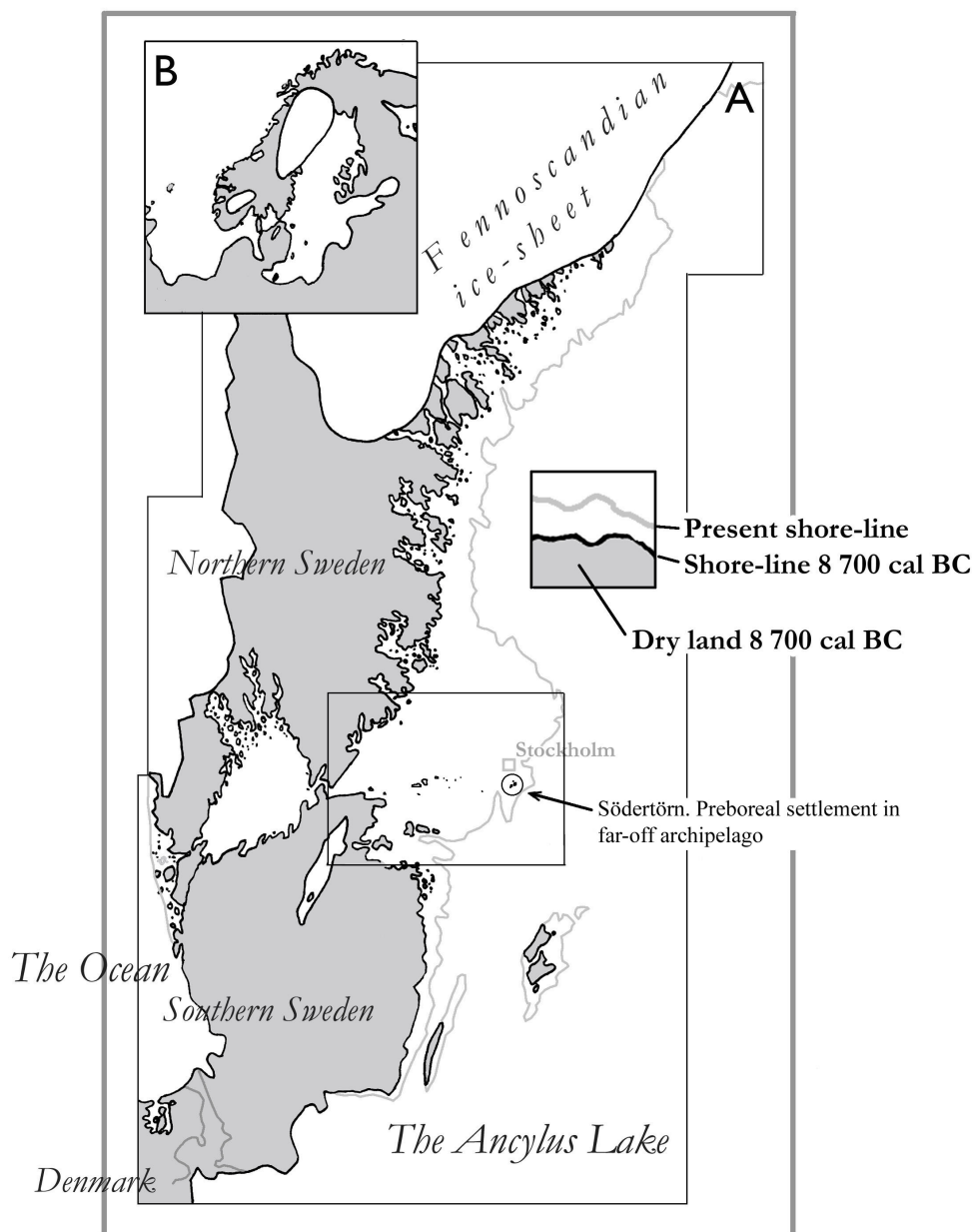


Figure 1. Sweden during the early Ancylus Lake phase of the Baltic, c. 8500 BC. Note the remote archipelago, indicated by circle and arrow, south of today's city of Stockholm. Shore-bound sites found here, 120 kilometres off-shore, are strong indicators of the existence during the Preboreal in the region of an elaborate boat technology and good seamanship.

(microperspective) as well as in the landscape (macroperspective). This includes the presence of a good and safe landing-shore and a favourable geographic relationship to communication, nature resources and social networks. The settlement goes back into the Preboreal (Hammar & Wikell 1994, 1996; Pettersson 1994, 1999; Pettersson & Wikell 2004, 2006a, b, 2007a, b, 2010; Wikell 2002, 2005; Wikell & Pettersson 2009; Wikell et al. 2009; see also Åkerlund 1996; Åkerlund et al. 1995).

The earliest sites have in many cases been situated far off shore, in some instances on very small islands. In these early times, a narrow scatter of islands, in today's province of Södermanland, reached 120 km to the east of the mainland. At the far east end of this island chain was a larger group of islands, where many sites have been found during recent years, the oldest shore-line dated to c. 8700—8000 cal BC (Risberg 2003). These sites probably represent the pioneer period in the archipelago (fig 1) (See also Nordin & Gustafsson this volume). Looking at the maps, the longest distances covered were not enormous, but the journeys the more impressive, since the islands were relatively low. In some cases, the paddler has not seen the island towards which he was navigating from the surface. Higher peaks must have been visited for the purpose of course determination while navigating in this vast seascape. Many of the sites we have encountered are in fact located near prominent hilltops with good view.

The archaeological situation is similar in Finland. Here, research a century ago made it clear that many Stone Age sites were shore-bound. This picture has been strengthened by field-surveys and excavations during recent years (Luhio 1967; Jussila & Matiskainen 2003, Jussila et al. 2007; Takala 2009). New datable material has been excavated and confirmed the dating of the oldest settlement to the Preboreal. To cite a recently published work:

*“The median date of the dated burnt fragment of elk bone from Helvetinbaudanpuro is 8400 cal BC (Hela-918: 9200±75 BP), which corresponds extremely well to the age determination given by shore displacement chronology.”* (Jussila et al. 2007)

There should be even older sites in Finland. Most probably, the first journeys to Finland, as well as to eastern central Sweden, occurred during the Yoldia Sea stage of the Baltic (Jussila & Matiskainen 2003, Pettersson & Wikell 2006c). At this time, seal, fish and other sea organisms immigrated into the Baltic basin via the so-called Närke Strait, an ancient marine connection over the central Swedish lowlands. On the whole, prerequisites for a marine-based economy were good around the northern Baltic coasts soon after the land-ice had melted away. The

whole area has, if not colonized, at least probably been explored by boat-carried people at a very early point of time, similar to the situation in Norway.

More evidence for the early existence of boats comes from Gotland, the large island in the centre of the Baltic. Here are shore-bound settlement sites that date to the Ancyclus stage of the Baltic, earlier than c. 7000 cal BC (Lithberg 1914, 1918; Nihlén 1927). On the island Stora Karlsö off Gotland's west coast, thick cultural layers from the Stone Age has been excavated in the cave Stora Förvar (Schnittger & Rydh 1940). Most finds are Neolithic, but there was a bottom layer dating to the Mesolithic. This has been confirmed by recent <sup>14</sup>C-dates of burnt human bones which show that the cave was visited as early as 9500-9000 years ago (Lindqvist & Possnert 1999). Journeys to and from Gotland with its surrounding isles are, of course, impossible without boats. Most of Gotland's Stone Age sites can be found along the ancient shore-lines (Österholm 1989).

## The boats

Is it possible that the seascapes inhabited and the distances evidently covered could tell us something about what the boats looked like? How were they constructed? Judging from the sometimes rather lengthy distances on the open sea (at least many hours), the boats must have been constructed to ride out waves of a considerable height. Even if periods with stable weather were chosen for the long leaps, weather can change quickly. Are dug-out canoes too rigid to function on the open sea? A number of suggestions on Stone Age boats for longer sea-journeys have been made by different authors. Based on ethnographical evidence in the Pacific, Sven Österholm (1997) suggests outrigger canoes and makes a successful experiment off the Baltic island Gotland with a replica. Dug-out canoes with raised gunwale made of sewn-together wooden planks to protect against waves is another suggestion. The latter could have evolved into regular plank-boats, which are more flexible in the water. In ancient Egypt, the first plank-boats appear in the graves of Abydos, dating to the fourth millennium BC. It seems reasonable, knowing the fractal, boat-favourable geography of Scandinavia's coasts mentioned earlier, that plank-boats have existed in the Nordic countries long before they appeared in Egypt.

Skin-boats are perhaps the most frequently suggested boat-type. They are present among many circumpolar cultures (small boats like the Kayak and Baidarka, see below). This is special "hi-tech" boats and equipment that kept the seafarer dry and warm. Skin-boats were also used by the Irish monks who sailed around a great part of the northwest Atlantic during early medieval times. The modern

Irish currachs are seaworthy, and probably a direct link to medieval skin-boats. It is clear that Irish monks reached Iceland long before the Vikings, and a modern replica-boat have successfully sailed across the north Atlantic (Severin 1978).

## Boats and social identity

Boats and a sea-oriented way of life must have been an important part of people's cultural identity. The boat itself is an investment in time and labour, as is knowledge about the seascape. Navigation in skerry-gards and the memorization of routes to fishing banks and seal islands is a lifelong learning. All this creates a boat culture, carried by people whose identity is to be the masters of wide waters. You are fisher and seal hunter, totally at home in a maritime environment. Yes, the boat itself becomes a part of the landscape; an artefact but at the same time a geographical place. Motion becomes part of the essence of existence in a landscape with which you are very familiar. The world of seafaring people consists of channels, straits and natural harbours. Recall the lines by Snorri Sturluson in the introduction: "*Kringla Heimsins – the World Roundel – where humans live is cut through by many bays*"!

Judging from place-names in today's Stockholm archipelago, language can tell us much about navigation. This can be exemplified by the concept of *island*. In Swedish, there are a number of terms designating islands of different types:

Ö	island (with trees)
Holme	small island (with trees)
Kobbe	small rocky island
Klubb	rocky island with a chubby appearance
Knuv	small, high and steep skerry
Hara	high skerry
Skär	skerry, low rock
Ör	low island consisting of stones and gravel
Sten	barren flat skerry
Häll	very small, flat island consisting of rock
Båda	small skerry just breaking the surface
Grynna	small skerry just below the surface
Grund	seafloor (rock) close to the surface

These 13 words, among many others, are bearers of important information for a person moving in the archipelago (at least 100 years ago when the old way of life still prevailed on the east coast of Sweden). This state of things reminds of the Saami's and Inuit's many words to describe snow. As an expert you need an adequate terminology.



Throughout history, boats have expressed status and identity and have had major roles in legends and myths. We do not have to leave eastern central Sweden to find examples: 17<sup>th</sup>-century warship *Vasa*, sunk on her maiden voyage, was constructed to glorify king and country. The *Vasa* is each year worshipped by hundreds of thousands of tourists.

Further back in history are the Viking ships. The spectacular find from Oseberg, Norway, as well as many passages from the Icelandic sagas tell us how prestigious these boats were. Unfortunately, nothing as stunning as the Oseberg find has been unearthed in eastern Sweden as yet; but we can assume that there were such ships here as well (fig 2). Not least the numerous rune stones memorizing journeys in the east and west bear witness of extensive seafaring here during these decades (Larsson 1990). In AD 98, the Roman historian Tacitus tells us



Figure 2. To create a boat is an investment in time and labour. It is a skilful business involving knowledge, material and tradition. Boatbuilder Anders Ahlgren is seen in action building a replica of the Viking boat from Årby, parish of Rasbo-Kils, Uppland, Eastern Central Sweden (Arbman 1940, Cederlund 1993). The axe is a replica from the Mästermyr find, Gotland (Arwidsson & Berg 1983). (Photo Roger Wikell)

that the *Sviones*, probably the inhabitants of the area around Lake Mälaren in eastern central Sweden: “are rich in men, horses and boats”. The boat graves from Vendel and Valsgärde bear witness of the boat’s status both in this world and the afterworld (e.g. Arwidsson 1954). Stone ships occur regularly on Late Iron Age burial grounds, as well as ship graves, where the dead has been cremated in a boat. Cf. Ibn Fadlan’s often cited account of a boat funeral in AD 920 (Wikander 1978).

No Bronze Age boats have been found in the region, either. Nevertheless, boats are depicted on innumerable rock-carvings. In eastern central Sweden, 2 500 boat figures are known, and new ones are found nearly every year (Kenneth Ihrestam, pers. com.). The carvings indicate both the ships’ practical and symbolical meaning. The impressive stems on the carved ships are often decorated with spirals and animal heads, which indicates that this was the case also with the real ships (Ling 2008). Similarly, boats with up-turned stems and decorated with animal heads are depicted on rock carvings in arctic Norway, dating to much earlier times. The oldest pictures have been found on some loose boulders, covered with marine gravel, at the excavation site Slettnes (Hesjedal et al. 1996:75-83). The dating is based on the shore-displacement and could be as early as 10 500 cal BC, but more probably between 5000 and 4300 cal BC.

A strong suggestion is that the boat was of similar importance during the Stone Age as in later times. Status and communication are themes ever new, and the boat is a perfect medium for these. Boat skills give increased reputation in your group, and with the boat you show who you are before others. The presentation of beautiful boats and seafaring skills must have been very important when other groups of people along the coast were visited. It is therefore reasonable that many boats were richly decorated. A recent example is the canoes of the Indian tribes of the North West American pacific coast. Here, canoes were important objects of status at political meetings. A similar situation existed in Hawaii and New Zealand, where elaborate war canoes were of great importance (Ihimaera 1987, Caro 2001).

All this indicate that the Stone Age inhabitants of the northern Baltic coasts had many types of boats, ranging from everyday boats to richly ornate status boats. We might call the latter “bling-bling boats”. In these funky vessels, relatives and political confederates were visited. In these, enemies were confronted. Imagine such a boat being excavated in the future!

## Conclusion

To conclude, we would like to give some examples of boats and shipping skills, illuminating the social identities in coastal, boat-centred cultures.

The first example is from the recent archipelagos, skerry-gards, of eastern central Sweden. The skerry-men (Sw. skärkarlarna) were the coastal fishermen on the outermost islands of later historical times. The last ones still upholding the old life-style was in action as late as the 1950s. In 1934, the photo in figure 3 was taken of skerry-man Amandus Sjöberg's landing bridge and boats. This man had seven (!) different boats for different purposes. The classical Large Boat is replaced by a motor boat, indicating winds of change in the archipelago. The number of boats is, broadly speaking, a reminiscence of the Sami's many words for snow. In the archipelago, the boat is a constant topic of discussion, being both functional and loaded with symbols. You are an expert in your profession.

The outermost skerries and the traditional lifestyle that still prevailed in the Stockholm archipelago was a "wild experience", attracting artists and authors during the 20th century. Thanks to them, we have a living documentation of



Figure 3. Fisherman Amandus Sjöberg's landing place in 1934 at Griskär, an island in the eastern central Sweden archipelago. The number of boats is seven. Each boat is made for different purposes. The landing place is a protected natural harbour. The situation is identical with the terrain position for Mesolithic sites in eastern central Sweden. (Picture from Eskeröd 1973:111).

the fishermen's "Mesolithic lifestyle". The old fishermen did not follow the youths to the large city's industries and offices. They stayed with their boats on the skerries: a free life at the horizon. The artist and archipelago connoisseur Roland Svensson has written the following memorable words of one of these last traditionally living skerry-men – John Andersson, who died in 1956. And he died as he lived:

*"He lay, seemingly calmly sleeping, in his boat, but his heart had stopped. John had left us, quickly and without pain."* (Svensson 1995)

The last examples are quotes from 18<sup>th</sup> and 19<sup>th</sup> century explorers meeting with coastal cultures in Alaska and Greenland. They illustrate the importance of seafaring skills and good boats.

*"The baidarks, or boats, of Oonalashka are infinitely superior to those of any other island. If perfect symmetry, smoothness, and proportion constitute beauty, they are beautiful; to me they appeared so beyond anything that I ever beheld. I have seen some of them as transparent as oiled paper, through which you could trace every formation of the inside and the manner of the natives sitting in it; whose light dress, painted and plumed bonnet, together with his perfect ease and activity, added infinitely to its elegance. Their first appearance struck me with amazement beyond expression."* (Sauer 1802 (1785))

*"He who has a baidarka is rich."* (Davydov 1977 (1804))

*"It is a gallant business, this kayak-hunting; it is like a sportive dance with the sea and with death. There is no finer sight possible than to see the kayak-man breasting the heavy rollers that seem utterly to engulf him.*

*Or when overtaken by storm at sea, the kayaks run for the shore, they come like black storm-birds rushing before the wind and the waves, which, like rolling mountains, sweep on in their wake. The paddles whirl through the air and water, the body is bent forwards, the head often turned half backwards to watch the seas; all is life and spirit – while the sea around reeks like a seething cauldron.*

*And then it may happen that when the game is at its wildest a seal pops its head up before them. Quicker than thought the harpoon is seized and rushes through the foam with deadly aim; the seal dashes away with the bladder behind it, but is presently caught and killed, and then towed onwards.*

*Everything is done with the same masterly skill and with the same quiet demeanour. The Eskimo never dreams that he is performing feats of heroism."* (Nansen 1893)

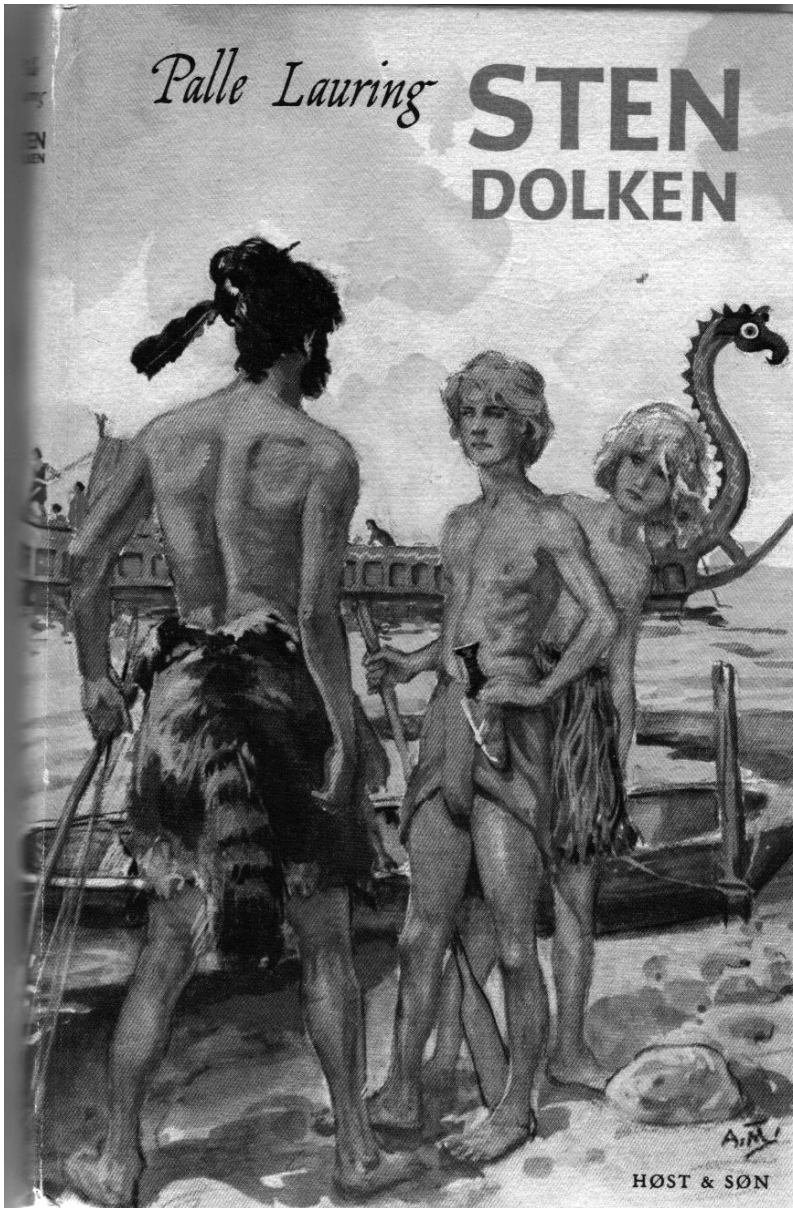
## Final words

There are relatively few boat finds from the Stone Age around the Baltic. However, the location of settlements clearly indicates that navigation skills were important in the coastal societies in this area. Seaworthy boats and seafaring skills were probably much more important than lithic technology, at least the quartz knapping that prevailed in eastern central Sweden's (and Finland's) Mesolithic. The boats dominated everyday discussions and featured frequently in myths and legends.

We can assume, in analogy with other coastal cultures from different ages and corners of the world, that the boat expressed social status and identity. This important and colourful part of the culture is archaeologically hard or impossible to reconstruct. But we can imagine a Baltic region connected through a network of contacts, made possible with boats (fig. 4). Beautiful boats prepared for social meetings - Uniting Boats.

Figure 4 (opposite page). The archaeological record mostly consists of stones. However, the stones have been a part of everyday living. This includes social meetings with neighbours along the coast of the Baltic. This situation is here illustrated by the front cover of a Danish schoolboy book, "The Flint Dagger" (DK Stendolken). For us as archaeologists, only the dagger remains. The boats in the background represent a rich investment, similar to the dagger. The boats are gone, but we understand that they must have been there.





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# A Baltic Way of Death?

## A Tentative Exploration of Identity in Mesolithic Cemetery Practices

### Abstract

This paper is a preliminary exploration of how identity may have been expressed in the mortuary rituals around the Baltic during the Mesolithic. The case-studies discussed are the large cemeteries at Skateholm in Sweden, Zvejnieki in Latvia and Vedbæk/Bøgebakken in Denmark. Besides the often discussed variability and complexity recognized in the mortuary practices at these sites, the treatment of the dead also encompasses a number of fundamental shared practices involving the treatment of the body. In this paper, which builds on a practice theory view of both ritual and identity, the author proposes that by exploring the taken-for-granted, the fundamental and often unreflected practices in the treatment of the dead, we might be able to get at some dimensions of a shared identity around the Baltic and how they might have changed over time.

*Keywords: practice theory, mortuary practices, ritual, identity, Mesolithic, Skateholm, Zvejnieki, Vedbæk/Bøgebakken*

## Introduction

Uniting Sea. The name of the workshops and the title of the publications invite us to reflect on the difficult, often contested and even controversial issue of identity in the past. To what extent did the people living along the shores of the Baltic Sea have contact with each other during the Stone Age? And more to the point: to what extent did they feel an affinity to one another? The question of whether the Baltic Sea was a uniting or dividing sea has relevance not only for how we can understand the Stone Age societies in the region. It may also have repercussions for identity formation processes in the present. After the fall of the Soviet Union, exchanges have increased between researchers around the Baltic, on both purely practical and intellectual levels. It is probably not a coincidence that the theme of research focusing on contacts and shared interests emerges at this point in time when the geopolitical map of Northern Europe is being redrawn to pull together the eastern and western shores of the Baltic into a shared identity as members of the European Union. This observation obviously calls for caution. Archaeology must always be seen within its contemporary political context, and the risks involved in the processes that turn the past into useful building blocks for various political agendas must always be considered critically. However, despite these concerns, the question of contacts across the Baltic in the Stone Age remains an important field of research. And even if difficult and potentially controversial, the more general questions concerning identity, carefully expressed by Chris Gosden as “part of a perilous, but necessary, search for the things that bind and divide human groups locally and globally” (Gosden 1994:166), remain an important, if not central question within archaeology.

In this article I will address the question of a shared identity - that elusive something that binds and divides - around the Baltic during the Stone Age. The contacts across the Baltic have previously been approached from a perspective emphasizing trade and exchange (e.g. Zvelebil 2006). My focus here could be seen as complementary to these studies. The work presented is limited to an exploration of mortuary rituals at the three large Mesolithic cemeteries of Skateholm in Southern Sweden, Vedbæk/Bøgebakken in Eastern Denmark and Zvejnieki in Northern Latvia. The selection of these sites is motivated by many factors. They are among the largest Mesolithic cemeteries known in the region today, although Skateholm with 79 human burials and Vedbæk/Bøgebakken with 17, are both clearly overshadowed by the more than 300 burials at Zvejnieki. But even though Skateholm and Vedbæk/Bøgebakken are smaller in size, they have had a significant impact on the international academic debates about Mesolithic mortuary practices, a debate in which Zvejnieki only recently (proba-

bly for a combination of geopolitical and language related reasons) is claiming its rightful place. Now that the information about the mortuary practices from around the Baltic is being compiled and shared, we have an interesting opportunity for comparison.

When discussing Mesolithic mortuary practices, researchers often underscore the complexity and variability of the practices. More specifically, the debate has been dominated by questions regarding the level of social complexity in the living societies (e.g. Newell & Constandse-Westerman 1988, O'Shea & Zvelebil 1984, Jacobs 1995, Neeley & Clark 1990, Kannegaard & Brinch Petersen 1993, Knutsson 1995, Tilley 1996, a.o.). With a focus on identity formation in the past, it is interesting that the debate on social complexity and status inequality stressed the ways in which people were distinguished from one another in death. While variability in the position of the body and the grave-goods is empirically undeniable, there are also several interesting patterns in the treatment of the body that are repeated, not only within these sites, but also among them. Can these broader Late Mesolithic similarities reveal an underlying shared notion of humanity that tied the people at these sites together into some — at least loose — sense of collective identity? In the light of the observations of similarities, I want to ask the question: Is there a Baltic “way of death” during the Mesolithic? I want to investigate whether there is a mortuary program that is shared among the three cemeteries investigated here. If, as I argue, the answer is yes, then we face two closely related follow-up questions. To what extent can the shared set of mortuary practices be said to express a sense of a shared identity in death? And to what extent does this way of death reflect a way of life, i.e., could any such similarities in the mortuary practices have contributed to producing a sense of shared identity among the living? I approach these questions about Mesolithic mortuary ritual and identity formation through practice theory, stressing the importance of how practices, often unreflected routines, reproduce the world and a sense of place for the actor within in it, and in the process create a sense of shared identity.

## Archaeology and Identity

The question of identity in archaeology is both difficult and contested (Díaz-Andreu & Lucy 2005, Insoll 2007, Jones 1997). Archaeological research has been devoted to different dimensions of identity in the past, including gender, age, status and power, sexuality and religion. However, identity is often explicitly or implicitly associated with ethnicity (Díaz-Andreu & Lucy 2005:1) an association with heavy historical luggage, often inflamed and contested (Jones 1997, Meskell 2007 [2001], Rowlands 2007 [1994]).



In the past several decades, there has been a significant shift in how archaeology approaches identity. In the past, archaeology embraced a static and essential view of identity. Material remains were seen as an expression of an inherent cultural identity, and maps based on this spread of artifacts were drawn up to represent the presence of “peoples” or “tribes.” Beginning in the late 1960s, this static view of identity was first rejected by processualist approaches that emphasized social roles and identities as part of functioning, adaptive social systems. In turn, the processualist perspective has been challenged, replaced by a view of identity as fully socially contextualized and fluid — something that is strategic, positional and continually reproduced in peoples’ lives (Díaz-Andreu & Lucy 2005, Insoll 2007, Jones 1997). Identity, it is argued, is socially mediated, constructed through interaction with others (Barth 1969, Díaz-Andreu & Lucy 2005, Insoll 2007 etc). The focus on the intricate social processes underlying identity formation emphasizes the flexibility and multidimensional nature of identity. This might be one of the most important factors rendering research into identity in the past relevant for the contemporary world (Insoll 2007:14).

How can this idea of identity as socially and symbolically fluid and flexible be implemented archaeologically? Siân Jones has argued that identity is constantly reproduced through practice (Jones 1997, 2007 [1996]). According to her approach, which builds on the framework of Pierre Bourdieu (1977, 1990), identity — and more specifically ethnic identity — is neither a passive reflection of shared cultural similarities, nor a mere construction of social interaction. Instead, ethnic identity is seen as a subjective construction grounded in *habitus* which shapes and is shaped by communalities of practice carried out in the context of social interaction (Jones 2007:49). To put it in very simple terms, the way we do things is culturally and socially shaped, and as we carry these actions out, we also contribute to strengthening and reproducing the social and cultural structure. In the careful language of practice theory, we would say that practices are simultaneously structured and structuring. The term practice is used to denote activities which are learned — something which distinguishes them from mere habits (Turner 2001:120) — and which are “situated, corporeal, and shaped by habits without reflection” (Thévenot 2001:56). They are thus to be seen as socially produced, and yet, at the same time, they are also fundamental in structuring society. In the case of identity, practices can be seen as both expressing and shaping a notion of identity, and they thus hold a central role in all identity production. The practice of doing things in a specific way, rather than another, creates feelings of communality. In processes of production of a specific identity, these feelings are produced through *habitus* and are “given form through existing symbolic resources” (Bentley 1987:173, quoted in Jones 2007:49). Jones argues

that the symbolic resources are not arbitrary. “The cultural practices and beliefs which become objectified as symbols of ethnicity are derived from and resonate with the habitual practices and experiences of the agents involved, as well as reflect the instrumental contingencies of a particular situation” (Jones 2007:49). As opposed to more essentialist views of identity, this perspective underlines the importance, not of explicit markers of difference, but of the subliminal taken-for-granted or “natural” of cultural practices. It is those practices that are so taken for granted that they are not even up for negotiation, that appear to be the most powerful in the process. However, in the encounter with “the other,” these taken-for-granted practices still have to be systematized and rationalized, and it is at this level, which tends to be discursive, that ethnic categories are produced and reproduced (Jones 2007:49).

It is a challenge to transfer these complex understandings to archaeology. The information sources that we have about the past are very different in character from those of sociologists and historians. But while this might limit the success with which we can immediately transfer these concepts to the study of prehistory, we can still successfully use them in order to better understand how practices may have operated and how identity was constructed in the past. The focus on practice — rather than on discourse and meaning — allows us to start the analysis of patterns of action. Since many actions leave material traces, the archaeological reconstruction of patterned actions may be explained as the result of structured and structuring practices. In short, past practices are accessible with an archaeological methodology. And in the broader scope of archaeological interpretation, practices associated with different archaeological contexts can be analyzed to make new arguments about social phenomena such as identity and ethnicity.

## Mortuary Practices as a Locus for Identity Production

In what way can ritual practices in general, and mortuary rituals in particular, contribute to our understanding of identity processes around the Baltic during the Stone Age? In order to answer that question, I want to begin by addressing some central issues of ritual theory and their implementation in the archaeological study of mortuary rituals.

Just as theories of identity have moved away from essentialist views toward a practice theory grounded approach, so has ritual theory shifted from a search for meaning toward a focus on practice (Bell 1992; De Boeck 1995; Asad 1993; Parkin 1992). Instead of emphasizing an underlying meaning, the practice oriented ritual theory focuses on process of embodiment. It is the active participation

in the ritual that creates the sense of structure in the participants. According to this view, ritual generates both meaning and structure (Bell 1992:82, Bourdieu 1977:120), instead of simply reflecting it. Here, we see a clear parallel to the practice theory inspired approach to identity outlined above, where identity is constantly reproduced rather than expressed or signaled. One of the most comprehensive presentations of a practice theory based ritual theory is presented by Catherine Bell (1992). Bell builds her ritual theory on Bourdieu's practice theory framework and focuses on the importance of the embodied dimension of practice in the process structuration (i.e. why practice has simultaneous structured and structuring aspects). She argues that it is through ritual practice – which she also defines as a specific and strategic way to act (she uses the concept of ritualization as a crucial concept that distinguishes rituals from other acts) - that a structured world, a cosmology, is created. Ritualization proceeds through the dialectic between practice and structure. The structures that give form to ritual may be said to structure and simultaneously be structured by actions. This is because human action generates bodily memories, associated emotional sensations, and—not least—symbolic representations, which tend to resonate or gain relevance as formal relationships organized into binary oppositions, often articulated hierarchically (Nilsson Stutz 2003:41). These structural links intertwine into complex chains of associations, which in turn generate a feeling of a logical, hierarchical and “natural” order, a cosmology. Ann Swidler (2001) has argued that ritual practice might have a privileged role, at least under certain circumstances, as anchoring the social and cultural structure, by reinforcing constitutive rules – especially if they “define socially central but informally structured social relationships” (Swidler 2001:91). The structures thus generated are not completely rigid. Every time the ritual is carried out, it is recreated, and in this process change may emerge.

Since the framework recognizes a continuum of practices, ranging from highly ritualized acts to mundane and every day practices, one challenge for archaeology is to distinguish whether we are indeed dealing with the remains of ritual (Berggren and Nilsson Stutz in press). In this particular study, it is assumed that the handling of the dead at these cemeteries was ritualized. There are a few exceptions to the rule, but over all, essentially all human societies respond to death with ritualized, richly structured practices (Grimes 2000:218).

A recurrent theme in mortuary practices is the handling of the human cadaver, which is an almost universally defining component of death. Here, the cadaver is seen as a nexus around which the mortuary practices are carried out. At death

the vital functions of the body cease, and it enters into a transformative process that will ultimately consume it. This transformation is not unproblematic and can be seen as a sort of crisis. The cadaver used to embody the living person, but through death it has begun a process that cannot be reversed. The cadaver will constantly change, as processes of putrefaction and decomposition progress. The body is different. It no longer is that person it used to embody – but initially, it still resembles it. It is no longer a person but not yet a neutral object – it is situated somewhere in between (for a more detailed discussion on this liminal and abject phase, see Nilsson Stutz 2003:95ff). Despite the great variability in beliefs about the dead body in different cultures, death gives the body a new ambiguous, challenging character, and it now requires a different kind of care. The control that the living embodied individual could impose on itself, alongside the social agency she or he could exert, becomes impossible in death. Order now has to be imposed from the outside, by the mourners. The treatment of the cadaver becomes a way to control death, with the aim of socially producing a good death. Drawing on van Gennep (1909) and Turner (1967), it is possible to see cross-culturally variable treatment of the body as part of a liminal phase that challenges social order through the abject character of the cadaver. The mortuary practices achieve a ritualized product, redefining the cadaver and produce a “good death.” This redefinition allows the mourners to separate from the dead. Often involving an idea of separation between the physical remains and the spirit, soul, or memory of the dead, the mortuary practices thus structure an acceptance of death. Seen within the framework proposed by Bell, every such ritual becomes an event for the reconstruction of the social structure and the cosmology as a whole. The ritual involves creating or staging an image of death which is socially acceptable, a proper death, which holds a place within the general cosmology. Such an event would often favor reproduction of existing relationships and practices, but because death, by definition, removes an active agent from a social configuration, the ritual holds a dramatic potential for change.

The death of a social being constitutes a crisis on an individual and structural level in society. As the mortuary practices produce the “good death,” society as a whole manifests its resistance and control over death. Mortuary practices thus produce a community locus in which the “ultimate rite of passage,” that from life to death, is facilitated. The mourners redefine their relationships — among themselves and with the dead — as they heal the rupture in the social fabric caused by death. This can clearly be an important locus for collective identity production.

When we apply this theoretical model of mortuary ritual to the Mesolithic burials in the Baltic region, it is no longer our first concern to highlight variability. It is just as important to look for material traces of structured, reproduced practices, representing the unreflected or non-negotiable response to death. Repeated actions in treating and burying bodies of the dead which structure and are structured by the most fundamental aspects of death and the embodied knowledge of what a “good death” and proper burial should be. Here, it is also interesting to note that ritualized social control over the dead body may also be linked — through a dynamic practice-structure dialectic — to the ontology of the individual’s place in the world and, more specifically, in society. Once we consider patterned traces of repeated rituals, we can then look at variation in burial features. In the context of the major Baltic Mesolithic cemetery sites considered here, the variation likely reflects social negotiation, whether it is expressed within the context of the “proper burial” or outside of it (for a discussion, see below).

If archaeological analysis can identify some widely shared aspects of Baltic Mesolithic mortuary practices, then we may be able to argue for some shared response to the social and biological crisis of death. The basic idea here is that people from different communities in a region, in treating their dead in similar ways, would have had a sense of collective identity, which would have structured and been structured by the shared mortuary practices.

## A Baltic Way of Death?

Were Mesolithic mortuary practices complex? This question continues to be debated, and disagreement has circulated around whether the burial practices were highly variable or not. It is clear that as this question has been considered in the past, discussion has centered on the question of the level of socio-political complexity. This study is driven by a different set of questions. Instead of searching for hierarchical ranking among social roles within the various societies, I ask whether there was a core set of practices for the treatment of the body, regardless of individual status variability. This question refers to how the category “person” or “human” was defined, in life and in death. I argue that there are indeed striking similarities in the treatment underlying the often mentioned variability.

In the Skateholm and Vedbæk cemeteries, which I have studied in considerably more detail than Zvejnieki, a careful taphonomic analysis of the burial features identifies the following core mortuary practices, which seem to have been non-negotiable in the community response to death (for more details, see Nilsson Stutz 2003):

- The bodies were interred as primary burials (with very few exceptions).
- The burial pit was immediately filled.
- The bodies were placed on the back or on the side with limbs flexed. At Skateholm several individuals were buried in a sitting position.
- Occasionally the bodies were wrapped or placed on platforms.
- Artifacts and ochre were placed in the burial with the dead.



Figure 1. Grave 63 in Skateholm I. The bodies of the two individuals are arranged so that they relate to each other, especially in the way the faces are turned toward each other.



When looking at these repeated actions from the practice theory perspective, it seems as though the “good death” produced by mortuary ritual involved the living separating from the dead while the body and, possibly, the individual still maintained its integrity. The natural processes of decomposition were hidden, buried underground. The last image of the dead was ritually staged as lifelike. This can basically be seen in the practice of primary burial. It is also evident in how the dead body was often carefully positioned in the grave, something especially clear when two or more bodies were interred together (fig 1). Moreover, the dead body was often cared for as if the individual remained a kind of subjective agent who required comfort or protection in making the passage to the realm of death and the dead. For example, several graves from Skateholm and Vedbæk/Bøgebakken show intact or indirect taphonomic traces of platforms or padding to support the body and separate it from the earthen floor of the pit. In another well known example, an infant was placed on a swan’s wing. And while claims for wrapping the dead in the northern European Mesolithic appears to have been exaggerated (Nilsson Stutz 2003:296f), a handful of well documented examples from Skateholm and Vedbæk suggest a practice of protecting the body. The respect for the integrity of the body is also indicated by the fact that earlier graves were rarely disturbed by later graves; the mortuary ritual would have been a focus for the production of memory of the dead, and the location of the grave appears to have been remembered and respected. In those few cases of later disturbance, though, the dry bones were simply left scattered, and this suggests that at least after some time, the integrity of the individual in death was not associated with integrity of the dry skeletal remains.

In the shared core of mortuary practices, the processes of decomposition were hidden, but as the exceptional grave 28 in Skateholm I shows, decomposition was clearly understood and even carefully controlled by members of the Mesolithic community. In this single primary interment, several long bones of the skeleton were absent (fig. 2). Taphonomic analysis indicates that the missing bones were carefully removed after the process of decomposition was at a very advanced stage (Nilsson Stutz 2003:310ff). Indeed, the greatest challenge to the practice theory model presented here is how we deal with the mortuary variability. Even if there is a basic shared mortuary tradition, there are still some cases that challenge an easy distinction between what can be considered variation within the (structured and structuring) norm and what can be seen as variation outside of it. Grave 13 at Skateholm I illustrates the dilemma well (fig 3). Here, the dismembered remains of an incomplete body were probably placed in a container of some organic material. Did this individual receive a burial treatment that was as close to the norm as the survivors could achieve? Maybe the place-





Figure 2. Grave 28 in Skateholm I. Several bones on the left side of the body (radius, ulna, ox coxae and femur) were carefully removed at an advanced stage of decomposition.

ment in a container even masked the lack of integrity of the body after an accidental or violent death. Or did this individual receive a radically different burial treatment, one that broke with the conservatively repeated, normative notion of death? In this burial, to be sure, dismemberment clearly violated the integrity of the body, and perhaps the circumstances in the death precipitated negotiation or outright conflict over the proper response to it. As I discuss elsewhere (Nilsson Stutz 2003:337ff), those burials that violated the norm — including the two cases mentioned here, along with several examples of cremation — are uncommon but significant in the Skateholm cemeteries, in part because they may give us insight into the processes social change from the Mesolithic to the Neolithic.



Figure 3. Grave 13 at Skateholm I. Incomplete and partially disarticulated remains of an individual were buried in a way that suggests that they probably were placed inside a container.

How then does Zvejnieki, on the other side of the Baltic Sea, compare with the cemetery sites in Southern Scandinavia? Did the mortuary practices in Zvejnieki create a similar view of death, or was it different? I have not been able to study the burials in Zvejnieki in the same detail as the burials at Skateholm and Vedbæk/Bøgebakken, and the comparison is therefore tentative. Yet, Zvejnieki stands out as an exceptional site in many ways. With currently 329 graves recorded, it is significantly larger than the other two, and it was also in use for a longer period of time, with datings ranging from the Early Mesolithic to the Late Neolithic (and even include some Bronze Age burials) (Zagorska 2006). The larger number of individuals translates into an even greater variability in placement of the body, the artifacts accompanying the dead and the number of individuals in each burial are also greatly variable (at Zvejnieki several collective burials with four or more individuals have been found). It also appears that the older burials were disturbed more frequently at Zvejnieki with its high density of burials in a limited area. The differences cannot be ignored.

However, there are also interesting similarities. Just like in the southern Scandinavian burials, the vast majority of the burials were primary, and it appears that the pits were filled in immediately after the deposition of the body. Within this context, the dominant position of the body is on the back with the limbs in extension, although significant variation occurs, including some of the positions that were also found in Skateholm I (on the abdomen, crossed legs, etc). Several burial features preserve taphonomic evidence of wrapping of the body (Nilsson Stutz 2006), and artifacts and ochre were placed with the dead. These archaeological similarities may be interpreted as shared prehistoric practices involved in staging the image of death. Again, we see how the natural processes of decomposition are hidden and how the dead are buried in a way that respects the integrity of the body, at least at the time of deposition. This similarity is especially interesting when compared to the mortuary practices that were introduced in southern Scandinavia with the Funnel Beaker Culture, where the natural processes of decomposition were openly played out, as the dead body became disintegrated, fragmented and arranged in large collective burial chambers.

From a chronological point of view, I have suggested that there are less common practices present in the Mesolithic cemeteries Skateholm and Vedbæk/Bøgebakken that took on a more central role in the Neolithic practice of collective burials and heavy manipulation of body parts and human bones (Nilsson Stutz 2003:351f). I refer specifically to examples like Skateholm I graves 28 and 13 (see above), along with the presence of human bone in Mesolithic settlements. It is interesting to note that while collective mortuary practices that play

out the disintegration of the body are introduced in southern Scandinavia during the Neolithic, the practice of primary burial continues further north within for example the Comb Ware and Pitted Ware Neolithic traditions documented at Ajvide in Gotland, and on the eastern shores of the Baltic. Zvejnieki shows some particularly interesting parallels to the Pitted Ware Culture mortuary practices. As I have observed elsewhere, tight wrapping of the body before primary interment, a practice somewhat more common at Zvejnieki, produces an image of the dead with intriguing resemblance to Pitted Ware sculptures (Nilsson Stutz 2006). Torsten Edgren (2006) has taken this seeming parallel even further, discussing the similarities between the Neolithic burials in Finland and the mortuary practices at Zvejnieki (and in particular the presence of amber rings and clay in the eye region of the dead), and then expanding the parallel to include the plastered skulls of the Neolithic Middle East. While the idea is speculative, it inspires further inquiry. Perhaps the Mesolithic groups around the Baltic initially shared a sense of affinity and identity, which was expressed in the mortuary practices that contrasted with those of surrounding Neolithic groups, thus reinforcing a sense of shared identity among these hunters and gatherers. As Jones puts it, “ethnicity involves the objectification of cultural difference vis-à-vis others in the context of social interaction. Such objectifications are based upon the perception of commonalities of practice and experience, as well as the conditions prevailing in particular social and historical contexts” (Jones 2007:51). The production of social similarity and difference through highly ritualized mortuary practices would eventually have changed through time. In southern Scandinavia the Neolithic eventually was associated with the Funnel Beaker collective burial practices, which show similarity to the megalithic practices in Western Europe. At Zvejnieki and among other Baltic cultures, including the Comb Ware and Pitted Ware Cultures, mortuary rituals showed greater continuity with previous, widespread Mesolithic core of practices. However, new practices and structures also seem to have emerged, and some of these may have been shaped by social interactions originating from Neolithic cultural and population expansion from the Near East and southeastern Europe in the Middle East that may have taken a different route to the north penetrating the area from the southeast rather than via northwestern Europe.

## Conclusion

In presenting some new interpretations of Mesolithic mortuary variability in the Baltic region, I view this project as an invitation to renewed reflection over identity production and its archaeological traces. The framework proposed here emphasizes the fluid and flexible nature of identity processes, and the case study



proposes a scenario in which identity processes changed dynamically over time. More specifically, with my background in mortuary archaeology, I have focused on mortuary practice as a highly ritualized nexus for identity production. And I have highlighted some pan-Baltic shared Mesolithic practices in how the mourners treat the dead body, ritually staging the “ultimate rite of passage.” The exploration of Mesolithic identity formation processes should of course not be limited to mortuary practices in three well known cemetery sites. The practice theory framework leads us to expect that the production of social identity and social difference would have occurred in multiple contexts, with associated multiple context-dependent identities emerging. But when it comes to the care and disposal of the dead, there appears to be some interesting similarities that connected the groups at both deeper and broader levels.

I have further suggested that the shared core of practices underwent a geographically mosaic pattern of change. I observed a more extensive — but not completely radical — transformation occurring in southern Scandinavian Early Neolithic mortuary ritual, while more continuity in practice may be traced over the same time period at Zvejnieki. It may be that the Mesolithic shared practices and the later mosaic pattern of transformation reflect successive, changing social responses to Neolithic expansion, which followed multiple paths in southeastern and western Europe.

Bringing this notion into the present, I hope that this study helps us to reflect over the long-term dynamic role of the Baltic, as sometimes a dividing and sometimes a uniting element.

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# The Neolithic Landscapes of the Polish Lowlands

## Earthen Long-Barrows and Their Histories

### Abstract

This article discusses the social and ideological changes in early farming communities inhabiting the Polish Lowlands at the turn of 5<sup>th</sup> and 4<sup>th</sup> millennium BC. Remains of eroded earthen long-barrows of Funnel Beaker Culture are being widely recorded in the territories of Linear cultures in Cuiavia and in Greater Poland. Their appearance marks the constitution of a new, competitive model of society, visible and negotiated in the landscape. Thus, barrows are seen here as large elongated imitations of long houses of contemporary Late Band Pottery Culture. Cemeteries of Neolithic monuments became places of ceremonial activities for centuries and played an important religious role until the time of Christianization.

*Keywords: earthen long-barrows, long houses, landscape, social change.*

## Introduction

In the landscape of today's Poland it is difficult to see any traces of activities left by people who lived here in the Neolithic. They did not build monumental constructions in the type of dolmens or passage graves, which are more typical for Northern Europe. The Early Neolithic architecture of the Polish Lowlands consisted, first of all, of rectangular, long timber houses, characterised by almost gigantic sizes and an unusual regularity and geometry of shapes. They belonged to the first farming societies of the Linear Band Pottery Culture (German *Linearbandkeramik* – LBK) related to the Danubian tradition of Linear cultures from the end of the 6<sup>th</sup> millennium BC. One thousand years later, communities of the Funnel Beaker Culture (FBC) began to construct the first earthen longbarrows. The appearance of a second type of longhouses – with a trapezoidal shape – was a result of the beginning of the Late Band Pottery Culture (LBPC or Brześć Kujawski Group of the Lengyel Culture) in the end of the 5<sup>th</sup> millennium BC. Gradually, as the stone frames of the barrows were removed and the mounds yielded to water and wind, they lost their original shape and size. The originally impressive longhouses are invisible in today's landscape. Thus, it is not easy to imagine the view of the lowlands six thousand years ago. Nevertheless, the re-construction of the Neolithic landscape gives us the chance to understand some of the interactions that were taking place between societies living in that landscape. In addition, studies of e.g. pottery stylistics and flint industries can help our understanding. The foundation and use of the great earthen barrow cemeteries was such a strong interference in a natural lowland landscape that they became special, sacred places of ceremonial practices for the subsequent centuries. Thus, fragments of the Neolithic world are still available for archaeology.

## Monuments and houses

The excavations taking place in Cuiavia since the first half of the 20<sup>th</sup> century revealed remains of numerous LBK settlements, consisting of impressive double-floor houses built on a rectangular plan, 40 m long and 7-8 m wide. They were made of wood covered with daub, probably painted in colourful



Figure 1. Schematic map showing the area discussed in this paper.

patterns (Czerniak 1998: 25). Later LBPC settlements were characterized by a complicated structure composed of longhouses built on the plan of a trapezoid (Czerniak 2002). Ceremonial feasts took place along the houses, and the dead were buried in the close proximity of the villages (Grygiel 1986; Czerniak 1994; Marciniak 2005). Very large LBPC settlements are frequently discovered also outside Cuiavia, within the confines of infrastructural rescue excavations and owing to an aerial survey (Czerniak 2002, 2007; Czerniak et al. 2003).

The earthen long-barrows of the FBC, also called unchambered barrows and (in Polish archaeology) Cuiavian barrows (Jażdżewski 1973; Jankowska 1999), represent a widespread form in the south-western Baltic area. Strikingly similar constructions are well known also from France and the British Isles (Midgley 1985, 2005). On the Polish Lowlands they were discovered in Cuiavia, an essentially Neolithic settlement centre (Prinke & Szmyt 1990), and in river valleys along the southern shores of the Baltic (Midgley 1985; Jankowska 1999). At the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries, Cuiavian barrows were attributed to the Globular Amphora Culture (GAC) societies. In the first half of the 20<sup>th</sup> century, after the introduction of stratigraphical analysis, it became clear that GAC graves in the form of stone cists were only dug into the older mounds of FBC barrows (Chmielewski 1952; Góra 1972; Jażdżewski 1973).

In Cuiavia, the oldest unchambered barrows, without the typical frame of boulders, were built above the remains of FBC settlement from phase I (Sarnowo), dated to c. 4500 BC (Niesiołowska-Śreniowska 1999; Domańska & Rzepecki 2006). Monumental stone constructions appeared in phase II and especially in phase IIIA. In the Late Neolithic, in phases IIIB and IIIB-IIIC of the FBC (3700-3200 BC), the use of stone facing was abandoned. At that time, FBC communities began to settle the fertile plateaus that used to be the domain of Band Pottery settlement. The size of the barrows became smaller, and they were built with pebbles, pebble-wooden or wooden mound-frame constructions. Today their identification is very difficult, owing to their high vulnerability to destruction and their similarity to houses or flat graves with stone pavements (Koško 2006). People buried in the earthen long-barrows were very poorly equipped. Furthermore, organic materials, including human and animal bones, are generally badly preserved. The number of <sup>14</sup>C dates for long-barrows is still very small, making difficult a precise dating. Discoveries in southern Poland indicate that the long-barrow cemeteries formed large, complicated ceremonial complexes, enclosed by ditches and mounds (Tunia 2006). In Cuiavia, all cemeteries were only fragmentarily excavated, and similar arrangements have not yet been discovered.



Based on studies of all barrows that have been published in detail, comparative analyses of the outlines of longhouses and trapezoidal parts of long-barrows from the territory of Cuiavia revealed that both categories are characterised by an asymmetry of the longer walls, caused by the shift of symmetry as well as a distinct concavity of one of the long walls (Midgley 1985: 210-212). M. Midgley affirmed that owing to such a striking similarity of both types of structures, it is likely that the barrows were modelled on longhouses (Midgley 1985: 209-212). The author also emphasized that it would not be correct to look for direct similarities between both categories of structures for several reasons. First of all, barrows had very diverse shapes and were not only simple copies of an initial form. Secondly, different materials were used to build barrows and houses respectively and this would have influenced their final shape. Finally, longhouses and long-barrows had different functions, in other words, they were used in different ways. Practices and ceremonies that took place inside or outside barrows and houses needed different internal arrangements and constructional solutions (Midgley 1985: 208).

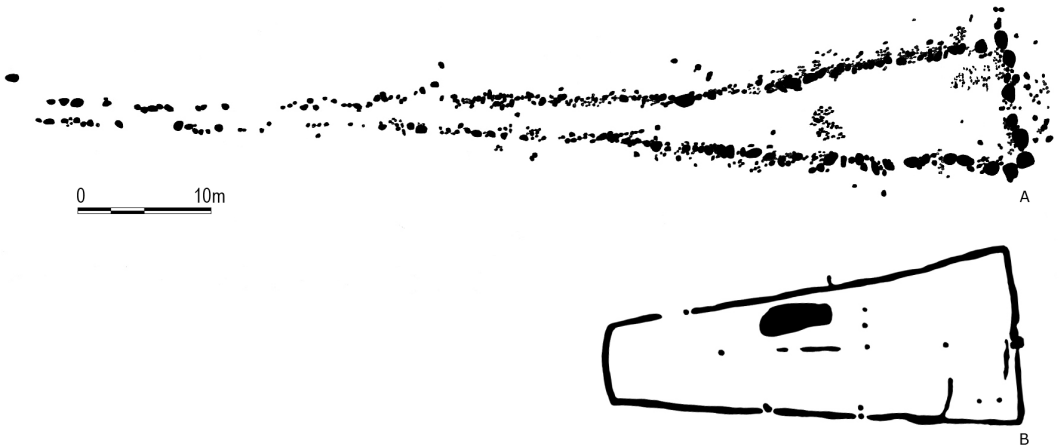


Figure 2. The outlines of a FBC long-barrow in Wietrzychowice (A) and an LBPC longhouse in Bożejewice (B) in Cuiavia (Czerniak 1980; Midgley 1985).

What separates longhouses and monuments, as far as the construction is concerned, is the presence of an elongated stone/earthen mound, 'a tail', stretching behind the barrow. This solution is mainly known from Cuiavia and Western Pomerania. The reason for constructing the long 'tails' has yet to become a target for separate research. It must be noted that in Cuiavia, some of the long-barrows from both the early and late phases of FBC, constructed of wood and small stones, do not have the tails and have a shape similar to trapezoid (Rzepecki 2004: 126: fig. 52: 2, 4; 130: fig. 54: 1; Kośko 2006). However, it could be caused by a higher vulnerability to destruction in the case of barrows that were not supported by a stone frame or where the latter was removed in historical times (Rzepecki 2004: 125; Domańska & Rzepecki 2006: 427, 432).

Outside Cuiavia, in the region of Pomerania numerous unchambered barrows existed at the turn of the 19<sup>th</sup> and 20<sup>th</sup> century AD, until they were destroyed through the re-use of the boulders of the stone frames and the following erosion of the mounds. Some traits of their presence survived to modern times in the names of fields and holy or dangerous places, which today are usually forgotten. On the basis of documents from the beginning of the 20<sup>th</sup> century, it was possible to partly reconstruct the range of their appearance (Czarnecki 1969). Archaeological excavation was mainly performed on the remains of long-barrows in the so-called Łupawa group of the FBC, and these can be dated to c. 4030-3450 BC (Jankowska 2005). Here, an unusual relationship between the shapes of barrows and houses was recorded, in that the barrows resemble the trapezoidal houses of the LBPC. This coincidence had been explained as a result of the presence of immigrant communities of FBC from the Lower Elbe. They were influenced by the Rössen Culture, with Danubian traditions (Wierzbicki 1999: 244). A few of the monuments show similarity to the Cuiavian barrows – the longer wall has the specific concavity mentioned above (Jankowska 2005: 137) – but none of them has the 'tail' made of stones and earth.

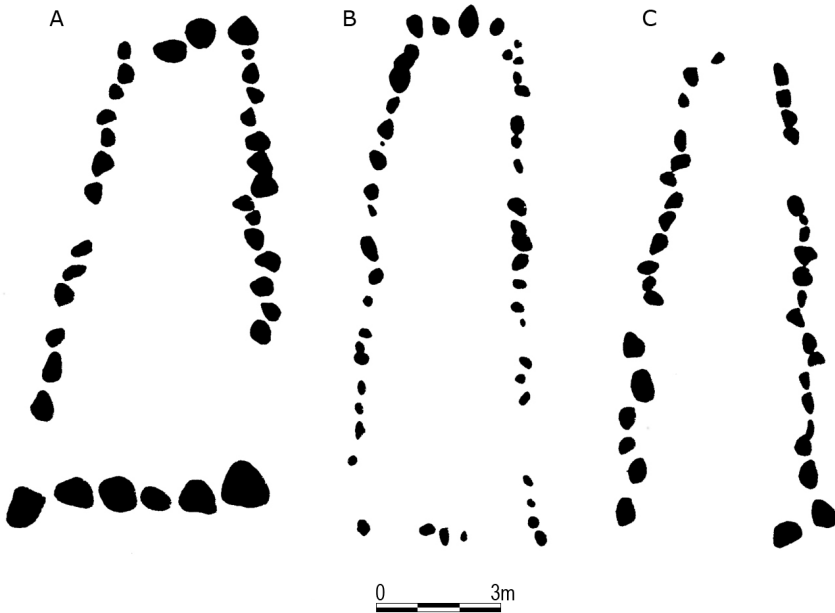


Figure 3. The outlines of barrows (A and C) and house (B) in the Łupawa group of the FBC (Świdorski & Wierzbicki 1990).

## Long stories of long-barrows

Today, the distribution of earthen long-barrows is not representative, since throughout the millenniums, the mounds gave in to erosion or were destroyed by human activity at the turn of the 19<sup>th</sup> and 20<sup>th</sup> century AD, before they became the subject of interest for archaeologists (Chełmiński 1842; Borucki 1882: 235). The destruction was caused by a rising demand for stone raw material and the extensive use of the mechanical plough. This especially concerns monuments erected using wooden elements and pebbles. At present, only remains of the lower parts of stone constructions can be recorded, usually owing to large-scale excavation work and often on rescue excavations owing to construction

works of gas pipelines and motorways (Kośko 2000: 38, fig. 7; Kośko & Przybył 2004: 271, fig. 133). Nevertheless, before the barrows were destroyed, they persisted almost intact for thousands of years and left a durable trace in the cultural landscape of the lowlands. Thus, it is possible to partly re-construct the distribution of cemeteries through the application of several methods alternative to digging, such as the reinterpretation of old excavation results and the use of different categories of historical sources. Names given to places of, in most cases, barrows that are no longer visible or stories and legends related to them can be very useful. Neolithic places of ceremonial practices were often re-used for cult purposes in later periods, even until the beginning of 20<sup>th</sup> century AD.

Slavs migrating between the 6<sup>th</sup> and 7<sup>th</sup> century AD within the area of today's Poland, called the old barrows in the area 'groby olbrzymów' (*giants' graves*) and 'żale' (Kowalczyk 2000: 31). The meaning of the second word is not clear – in the 19<sup>th</sup> century, during the Romantic Period, they were linked to the Polish word 'żał' which can mean *sorrow*, but this interpretation has been challenged since (Kowalczyk 2000). The Germanic settlers also called the barrows *giants' graves* ('Hünengräber'), or explained their presence by the activities of devils or witches (Czarnecki 1969). A critical analysis of this type of toponyms shows that a significant part of them could be connected to Neolithic barrows, characterised by their remarkable size and the use of stone building material (Pospieszny & Szydlowski 2006). In Cuiavia and Pomerania, the distribution of names suggesting the presence of barrows covers the areas where FBC sites have already been discovered. However, the most essential observation is the presence of similar toponyms in Greater Poland and other areas of intensive FBC settlement from phases II to IIIC (4000-3200 BC). The contemporary lack of any kind of material remains of Neolithic barrows in these areas can be a result of a significant degree of transformation of the landscape caused by the 19<sup>th</sup> century's economy and extensive agriculture. In a few cases, cemeteries of earthen long-barrows that still existed in the 19<sup>th</sup> century were described by local antiquarians, but their notes have been forgotten for almost 150 years (e.g. Gorczyca 2005).

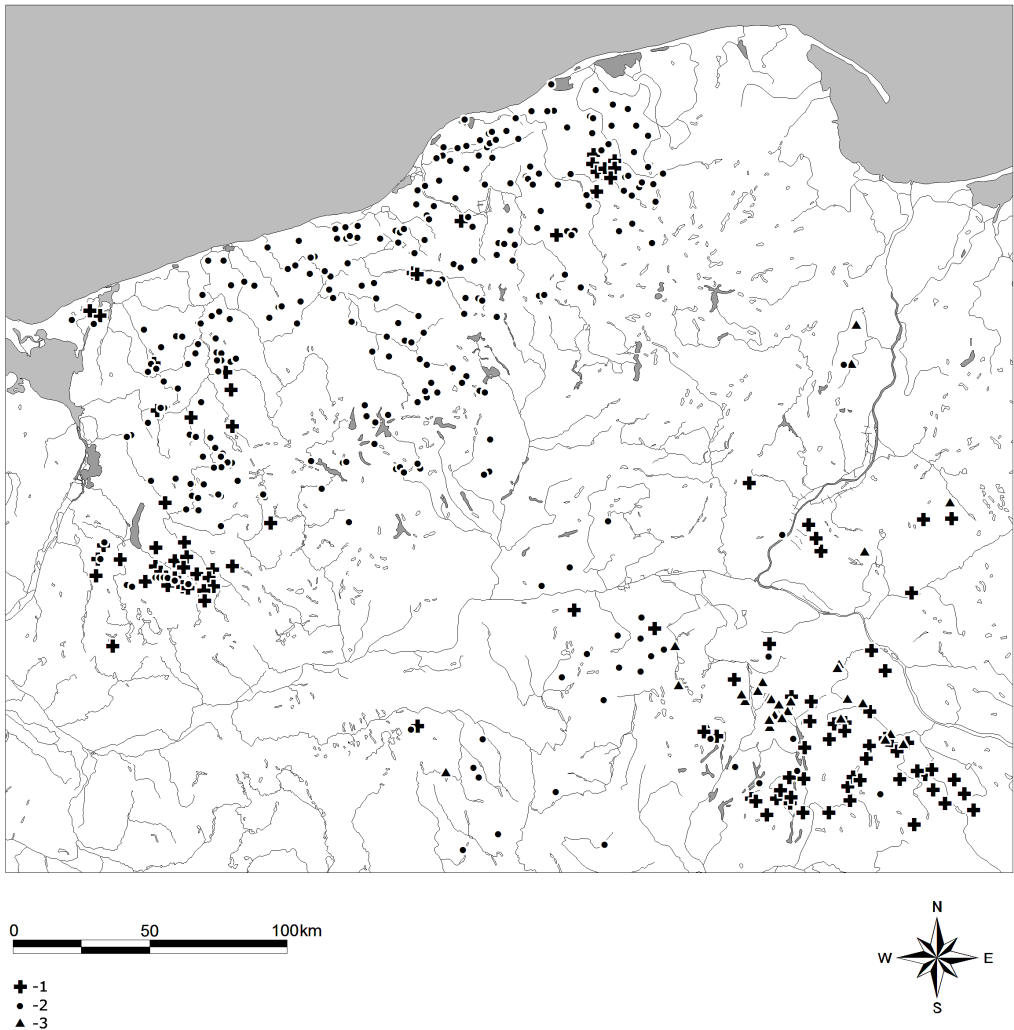


Figure 4. Distribution of cemeteries and single long-barrows of the FBC (1), toponyms attributed to FBC cemeteries or barrows (2) and longhouses of the LBPC (3) in north-western Poland.

Excavation work in Cuiavia and in Greater Poland has revealed an unusual durability in time at places of death cult founded already in the Neolithic. One of the most spectacular examples is a complex of cemeteries and ceremonial features at a small hill in Krusza Zamkowa in Cuiavia, used (in intervals) between

the 4<sup>th</sup> millennium BC and the 13<sup>th</sup> century AD. The oldest feature at the site was an unchambered FBC barrow from phases III-IIIa (Kośko 1989: 27, 33). Soon after it was erected, an animal burial was placed there (Szmyt 2006). It was discovered within the limits of a GAC settlement and dated to 3080-2890 cal. BC (2 $\sigma$ ) (Czebreszuk, Szmyt 2001: 185, Tabel 1), which falls within phases IIb-IIIa of the Cuiavian GAC. Nearby, a GAC passage grave was recorded, also from phases IIb-IIIa, synchronized to phase V of the FBC (Kośko 1989: 43-44). The next feature of ceremonial use was a partly destroyed tomb with grave goods showing relations to the FBC from phase VA and the Corded Ware Culture (CWC) from the so-called A horizon (Kośko 1989: 46-58; Furholt 2003: 184-185). It was recently re-dated to 2880-2610 BC (2 $\sigma$ ) (Goslar & Kośko in press). A single grave from the late CWC was dug into the mound of a FBC long-barrow (from phases II-IIIa) (Kośko 1989: 58-60). Within the limits of the barrow, fragments of pottery from the Bronze Age were discovered, interpreted as material remains of ceremonies practiced by Lusatian Culture societies (Kośko 1989: 60-61). The site was used as a cemetery again in the 2<sup>nd</sup> century BC. The graves surrounded a central feature interpreted as a sanctuary assigned to ancestral cult (Cofta-Broniewska et al. 1989: 65-124, 125-159). 1000 years later, in the Early Middle Ages, a cemetery surrounding a small church or chapel was established at the site (Cofta-Broniewska et al. 1989: 202). Neighbouring lands were at that time sparsely settled, and they lacked significant economical or political importance and so did not need any religious centre of their own. Thus, the erection of a Christian temple and cemetery at the place of a pagan cult resulted from the church policy, aiming to eradicate the old religion (Łowmiański 1979; Cofta-Broniewska et al. 1989: 202). In conclusion, the tradition of a sacral character of this place must have been still alive.

Not all cemeteries and structures for pagan rituals were replaced with Christian temples. In other cases, the 'exorcism' was performed only in terms of language and symbolism. Such places were renamed as 'chapels' or 'churches' and in this way, they ceased to be dangerous. Cholera cemeteries, intended for people who could not be buried in a traditional way at a churchyard or in the parish

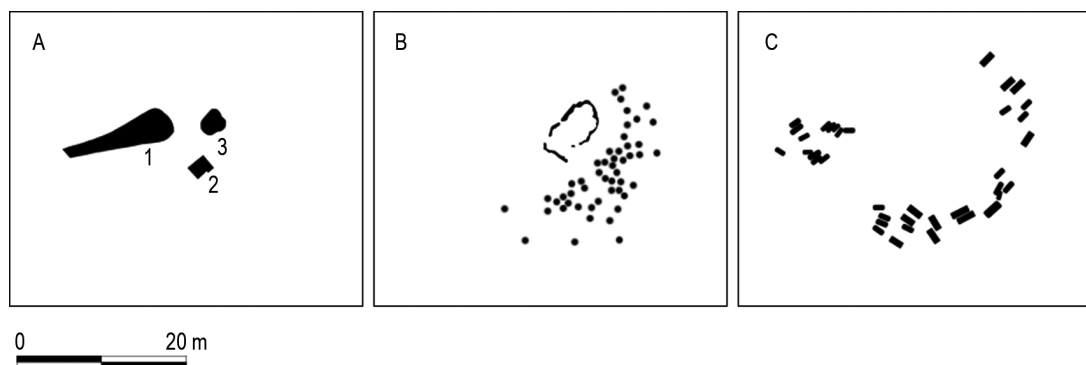


Figure 5. Main phases of activity at the site Krusza Zamkowa 13 in Cuiavia: 1 – Neolithic (A – FBC long barrow; B – passage grave of GAC; C – FBC/CWC tomb), 2 – La Tène, 3 – Early Middle Ages.

graveyard, were founded in their vicinity. In this way, the earth marked by the presence of pagan cemeteries was becoming a part of the cultural landscape in the time of Christianity.

On the basis of the research outlined above, it can be assumed that earthen long-barrows were significant elements of the landscape of Cuiavia and Greater Poland for more than one thousand years. What is more, it seems probable that they were the most common type of FBC graves and that they left a durable trace in the cultural landscape of the lowlands. An unusual, mysterious nature of the places and stories connected to them are often the only remains of these non-existing monuments.

## The appearance of Beaker communities in Cuiavia

The analysis of earthen long-barrow distribution (apart from Pomerania) shows that they are or were present only in the area of LBPC (fig. 4; Czerniak 2002: 11, fig. 1). Sparse trapezoidal longhouses of LBPC have also been recorded outside its Cuiavian settlement centre (Czerniak 2002, 2007; Narożna-Szamałek & Szamałek 2007: 164, 194, fig. 10). On the Polish Lowlands, early FBC had existed simultaneously with the LBPC from the turn of the 5<sup>th</sup> and 4<sup>th</sup> millennium



BC. As already stressed, the first unchambered barrows in the lowlands were erected in phase I of the FBC. It should again be noted that there is a striking similarity in shape between the FBC long-barrows and the LBPC longhouses. This relationship has been widely discussed in the literature and has brought a number of hypotheses explaining the appearance of monumental architecture in the context of FBC origin and the related process of the neolithization of the north-European lowlands (e.g. Hodder 1984; Sherratt 1990).

In a classical approach based on the studies of cultural development of Cuiavia, it was assumed that the origin of the local FBC was to be sought in the neolithization of (Mesolithic) hunter-gatherer groups in the process of acculturation by LBK societies (Childe 1949: 208; Jankowska & Wiślański 1991: 53-56; Midgley 1992). It was supposed that this process started simultaneously at Lower Saale, in Brandenburg, northern Greater Poland and in Cuiavia. Shortly, the neolithization spread to lake lands and coastal areas of Jutland, Schleswig-Holstein, Mecklenburg and Pomerania (Cofta-Broniewska & Koško 1989: 39-40). In Cuiavia, traits of LBK settlements were recorded on the sandy soils, outside the usually preferred black soils. Adaptation to atypical ecological conditions and the acculturation of local Mesolithic groups led to the formation of a new cultural system (Koško 1981: 14-16). It was suggested that the cultural tradition of Mesolithic societies was present in the beliefs of the early FBC groups. It was displayed in ritual deposits of ceramics and stone artefacts in bogs, small lakes and river bands. The social position of patriarchal community leaders was manifested by a burial inside the long-barrow. Turtle shells and peat (brought from remote places of cult) found in the barrows were also seen as the remains of Mesolithic beliefs connected to the world of water. On the other hand, the symbolism of farming societies was visible in the form of barrows, modelled on the construction of longhouses (Cofta-Broniewska & Koško 1989: 45-46). It was not the shape of older LBK houses, but the trapezoidal constructions of LBPC, contemporary to FBC (Koško 1976: 407, table 2).

The intensification of excavation work in Cuiavia, from where the oldest securely dated FBC finds are known, challenged the hypothesis of acculturation and a change of lifestyle in Mesolithic groups caused by contact with farming societies. First of all, it was not possible to construct a model of LBK evolution, explaining the appearance of the FBC (e.g. Kukawka 1997). On the other hand, studies of flint technology and ceramics of the early FBC showed a number of references to Linear cultures of the Lengyel-Polgar tradition (Czerniak & Kośko 1993: 116). The Linear tradition was suspected also in the construction of early FBC houses with an insignificantly trapezoidal outline (Czerniak 1994: 126). The oldest FBC settlements were found in the areas of sandy soils, exploited for centuries by LBK societies, even though these areas were not preferred by them, but by hunters and gatherers. As a result, already sparse Mesolithic groups were dislodged or assimilated. An advanced stage of agriculture development in the early FBC clearly shows that this was not a culture in which people were just learning how to cultivate. Thus, the appearance of the FBC phase I and the LBPC phase II could have been an effect of a process of cultural differentiation of lowland societies after the disappearance of the LBK (Czerniak 1994: 127-128). Nevertheless, the spread of FBC to the north, outside the area of LBPC settlement, was basically connected to a number of interactions with hunter-gatherer societies (Czerniak 1994: 129; Fischer 2002).

At the early stage of research, it was stressed that the long-barrows in Cuiavia occur only in sandy areas, outside the area of Linear Pottery cultures that exploited the black soils. That view was changed owing to intensive research work in the fertile plateaus. Due to the lack of boulders, normally used for building the stone frames, the long-barrows were constructed with supporting frames made of wood and pebbles. Hence, the durability of these monuments and the possibilities of their detection are limited. Nevertheless, there is no doubt that communities of LBPC and FBC lived in direct proximity to each other. L. Czerniak maintained that the essence of long-barrows was their monumentality

and similarity to longhouses of the LBPC (Czerniak 1994: 132). It must be stressed here that longhouses and long-barrows were not built for the purpose of influencing the societies of hunters and gatherers. The monuments mainly served their creators, being the base of symbolic construction of the society. They also had an integrating sense, differentiating a specific group against the background of a strange cultural environment (Koško 1989: 33). The appearance of earthen long-barrows could then be a result of a need for identification with and reference to a common symbolism of early FBC communities, who lived in the same environment as other groups.

L. Czerniak did not exclude that there were some kind of relationship between societies in Cuiavia and northern France, where strikingly similar barrows were raised (Czerniak 1994: 135). This hypothesis was developed by S. Rzepecki, who regarded the origin of FBC in Cuiavia and Pырzyce land as an effect of fusion between early LBPC from phases I-IIa and west European patterns that arrived from the Paris Basin area through the agency of the Rössen Culture (Rzepecki 2004). In Rzepecki's opinion, this is how the idea of monumental barrows, visible in the construction of French Passy-type structures, appeared on the Polish Lowlands. It is worth noting that at the northern French cemetery in Balloy, in five cases the barrows had been raised almost precisely on top of remains of LBK (Villeneuve-Saint-Germain) houses (Mordant 1997: 462).

Early FBC developed simultaneously with the LBPC, causing its acculturation and finally disappearance before 3650 BC (Rzepecki 2004: 155). Features of FBC sporadically appeared in LBPC in the form of pottery imports and the borrowing of certain elements of burial practice, first of all the application of stone constructions of the grave chambers and the arrangement of the dead body in a supine position on the back (Czerniak 1980: 120, fig. 53). Sparse, still existing Mesolithic communities were assimilated and their contribution in FBC was limited to a small flint tool assemblage.

In Rzepecki's model, the interpretation of late LBPC (phases II-III) and early FBC (phase I) as two alternative models of early farming cultures can be very inspiring. Since the second half of the 5<sup>th</sup> millennium BC, communities of early LBPC stayed under west European influences. Thus, they faced the alternative of adaptation or rejection of a new cultural package. The conservative part of those societies retained their older, sometimes anachronistic cultural patterns. Such a pattern was the manifestation of their affiliation to the Linear cultures civilization, leading to the origin of the late LBPC. The adaptation of new technological and ideological patterns by a more open part of the early LBPC societies initiated the origin of FBC. The differences between these two separate models had, in Rzepecki's opinion, a character of deep *'political'* divisions (Rzepecki 2004: 177-178). The Beaker communities intentionally created cultural differences in relation to LBPC groups and their expansion on sandy soil areas led to the assimilation of the remains of Mesolithic populations. If we accept the above assumption, it is possible to look at the long-barrows in the context of mutual interactions of LBPC and early FBC societies. Both cultures functioned together for more than 700 hundred years and undoubtedly created a very strong sense of identity and autonomy of the people who represented them (Czerniak 1994: 127). In the following, the monuments will be considered as an element of material manifestation of groups of ideas restructuring the Linear culture societies, changing the social and economical conditions of their existence (Tilley 1996: 72).

## Ceremonial practices in the landscape

The areas of earthen long-barrow presence in Europe did not stay in a state of mutual isolation (Midgley 1985, 2005). In the context of revealing the senses and meanings attached to Cuiavian barrows, the studies of T. Kirks considering the Early Neolithic communities in the Paris Basin can be very helpful. The latter have in Kirks's opinion conceptualized death and used it in the process of constituting their own ideas about space, time and social relations (Kirk 1998:

103-104). Depositing human remains and artefacts inside the barrows led to an initial forming of social space and order through invention and use of tradition and social memory. Social practices and processes manifested themselves in the space (Kirk 1998: 104). The ceremonial constructions were many times elongated and amended. This invention was allowed to influence on the world view according to the aims of particular groups of people – “*Their intention may have been to legitimize new strategies for the exploitation of space, time and resources through reference to traditional concepts or themes, such as the dead as ancestors and as symbols of continuity from past to present.*” (Kirk 1998: 114).

Building monumental constructions was simultaneously the medium and outcome of social practices aimed to produce potentially novel and competing perceptions and embodiments of the world and the place of society and the self within it (Kirk 1998: 115). Today, stratifying and cutting arrangements of barrows and the associated ditches are the effects of lasting centuries of dialectical and reflexive interactions between them, determined by specific material and historical conditions (Kirk 1998: 115). Processes of structuration (*sensu* Giddens) took place there, meaning that impersonal forms of social practices manifested themselves in individual activities. Present practices were transformed in a process of continual *structuration* in which the old and the new were fused together (Tilley 1996: 108). In other words, the way barrows were constructed was not only qualified by the provenience and knowledge of their creators. It belonged to the category of social practices actively constituting a community and its identity.

## Discussion

The review of concepts considering the origins of earthen long-barrows demonstrates the process of evolution of ideas about the beginning of FBC and its relation to Mesolithic and LBPC societies. As seen above, Cuiavia is relatively well surveyed. At the end of the 5<sup>th</sup> millennium BC, this area was already strongly deforested and had become a difficult place to live in for the increasingly sparse Mesolithic groups. West European influences lead to the formation inside the

Neolithic societies of two distinct cultural models. Essential differences between them could have an ethnic character, based on their different perceptions of the surrounding world, people living within it, their laws, beliefs and ancestry. Ceremonial life, shaping and maintaining the stability of the community, was related to settlements in the LBPC. The Beaker societies derived from the same Linear cultural patterns. Social, cosmological and economical differences were underlined in rituals and material culture. In the process of structuration, old cultural patterns were transformed and new ones created to cope with the challenges of existence on the lowlands, beyond the areas of the fertile soils. Ceremonial life of the FBC societies was recognized in very limited realms. Nevertheless, the earthen long-barrow constituted a distinctive element in the cultural landscape of the Polish Lowlands.

It seems that the monumental size of longhouses and long-barrows is their most significant feature. It can then be assumed that meanings and senses attached to both types of features were related to the way in which they acted in the cultural landscape together with the people inhabiting it. In the majority of places where LBPC settlers arrived and subsequently FBC settlement developed, traits of long-barrows have also been recorded. This view is becoming increasingly clearer as a result of excavation work in connection to infra-structure investments and owing to the appliance of alternative approaches in the research of the history of monuments. In recent years, the first LBPC longhouses outside Cuiavia have been discovered and/or published. It has now become possible to verify hypotheses considering the interrelationship of the LBPC and early FBC communities.

The settlement of the early FBC covered a belt of lowlands spreading towards the north-east and west from Cuiavia, previously settled by LBK and LBPC communities. According to the reasons mentioned above, the long-barrows in the area of the LBPC are known mainly from Cuiavia, Chełmno land and Pырzyce land (no traces of LBPC houses yet have been recorded in Pырzyce land, probably due to the lack of serious excavation work). Toponomastic research,

archive survey and re-interpretation of the past excavation results also reveal traces of severely damaged barrows in Greater Poland. Therefore it can be assumed that cemeteries of earthen long-barrows were inherent elements of FBC settlements in phases I to IIIC in this part of northern Poland. There seems to be no reason to claim that the distribution of long-barrows was limited to enclaves in the area of Cuiavia and Pomerania.

Bearing in mind the discursive character of material culture within the LBPC and the FBC, I will propose a hypothesis that explains some of the reasons for giving the long-barrows their specific shape, especially the stone 'tails'. Similar to the situation in the Paris Basin, the construction and especially the elongation of barrows resembling LBPC houses in Cuiavia could be an element of social practices, manifesting the new ideology that was shaping the FBC. The process of social change required a reference to old cultural patterns of the Linear world and to the authority of the ancestors placed inside the mounds. The constructions for ceremonial purpose, the houses and barrows were elements of discourse between the Linear and Beaker communities. The tension between these two worlds was probably also present in other levels of the living culture, inaccessible to archaeology.

A different situation took place in the lake lands along the southern coast of the Baltic. The natural environmental conditions did not favour a steady settlement of Linear cultures. The neolithization of these lands was connected to the migration of FBC communities, mainly from the Lower Elbe area. Perhaps the communities of the Łupawa group, living in relative isolation from LPBC groups, did not have to construct their identity on the model of the Cuiavian FBC communities. The material culture evidently did not have a discursive character there. Monuments mainly served to integrate the group and to maintain its continuity and social reproduction.



Further complex studies are necessary in order to find the meaning of monuments for the people who not only invented them but who lived in their vicinity for hundreds of years. This landscape, whose history began with the barrows, is still around us.

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## **Social Space in Northwest Zealand During the Time of the Funnel Beaker Culture**

Some Thoughts About Archaeological Traces as Manifestations  
of Mobility

### **Abstract**

The article deals with the incorporation of aspects such as mobility and communication into landscape archaeological studies. The background for this discussion is an on-going post-doc.-project on social space in the Funnel Beaker Culture, discussed for the area of Northwest Zealand, Denmark. The theoretical starting point is the presupposition that human beings perceive the world from changing physical and mental perspectives. It is argued that multiple aspects of mobility and communication are incorporated in each archaeological find-context. Analysing the life-stories of archaeological contexts, which embrace both moveable material and place-bound structures, and discussing them from the shifting perspective of individuals and groups, will open up for a better understanding of the complexity of the meaning of materially marked places and their surrounding space.

*Keywords: social space, mobility, communication, archaeological traces, Funnel Beaker Culture; Northwest Zealand*

## Introduction

In this article I would like to present some aspects of my ongoing post.doc research-project “Social space in Northwest Zealand during the time of the Funnel Beaker Culture”. The project is carried out at the National Museum of Denmark in Copenhagen.

My project aims at discussing man’s shifting relationship to space during the Funnel Beaker Culture (c. 3950-2800 BC), the first Neolithic Culture in Southern Scandinavia (Midgley 1992; Tilley 1996; Koch 1998: 172ff; Fischer 2002). The case-study area is the northwest part of the island of Zealand, Denmark. I have dealt with aspects of spatial distribution of the archaeological sites elsewhere (Schülke 2008a, Schülke 2009a, Schülke 2009b). In this paper, I would like to focus on the central argument of the study: the relationship between place-bound archaeological traces, also called “find spot” or “archaeological site”, and the aspects of mobility and transitoriness, which are reflected in the archaeological traces that result from past human life. I will concentrate on theoretical aspects and illustrate them with a few examples from the study area.

## Life in flux: human mobility and communication

The theoretical starting point is on the one hand based on works that belong to the direction of *post-processual* landscape archaeology (Ingold 1993; Tilley 1994; Tilley 2004; Thomas 1996; Thomas 2001; Altenberg 2003), on the other hand a result of my own occupation of many years with landscape analysis. I also find relevant thoughts in the outlines on *Behavioral archaeology*, even though I cannot identify with the aims, which its followers, though with some reservations, proclaim: to formulate universal principles of behaviour (Schiffer & LaMotta 2001: 16ff).

The term “social space” that I use mainly refers to people’s social and spiritual/mental relations and the spatial aspects that these involve. In this context, two notions are of main importance: *mobility* and *communication*.

## Mobility

The notion of social space as presented here is characterized by the presupposition that human beings are physically and intellectually mobile. This means that space both can be experienced from different physical positions, and also from different intellectual perspectives. The individual’s being is therefore

always in flux, and it thereby also extends beyond his or her actual physical place of being. Different physical positions in the world and intellectual perspectives on the surrounding space result from specific aims, tasks, social identities and background, personal experiences, and are bound to certain situations (Ingold 1993).

## Communication

The social relationship between the – mobile – individual and his or her surrounding space is gained and maintained through communication. The individual is in constant communication with the world (Schiffer & LaMotta 2001: 33ff), be it through sensual experience, observation, through thinking, or through lingual or bodily communication (Tilley 2004: 1ff). The latter also involves the active use of the material surroundings.

Thus the surrounding space embraces not only other individuals or groups, but theoretically the complete output of natural and cultural beings, which communicate with each other. Therefore it also includes geographical phenomena, artefacts, animals and vegetation, together with traces of an individual's own and others' existence, with experiences and memories. The surrounding space is neither "natural" nor "cultural", but a world of interplay (Tilley 2004: 23f). This world consists of changing passive and active parts dependent on the focus, stand point and situation of the observer (Thomas 1996: 89ff).

The individual is embedded into that world, and acts on and reacts to the values that prevail in the respective surrounding world (A. Giddens after Andersson 2004: 37). The latter is shaped by the rules and modes of behaviour, which are communicated in complex social unities/societies, which inhabit that world.

Human beings react to their surroundings; they reflect, use and change them. The material and animated parts of the surrounding world, amongst them animals and vegetation, are part of individual experiences and life histories, they have meanings for certain individuals. Nevertheless, the material world also comprises and reflects the – ritualized – behaviour and sets of rules, events and actions that groups of people have performed through time at certain places or in certain areas. Both spheres, the individual and the social or group-related, have to be taken into account in an interpretation of "social space".

## Archaeological traces: The find spot and the site as archaeological concepts

Archaeological traces such as objects, structures and other traces of past existence are found in a spatial context. Sites or find spots differ from non-sites through the occurrence of archaeological traces. They are archaeologically “positive”.

Sites and find spots are meeting places between the archaeologist and her or his subject. Whether directly in the field or in later interpretation, it is from this focal point that the reasoning about past lives unfolds.

Find spot and archaeological site are central concepts within archaeology. Information on the topographical position of a find spot or a site is most relevant for classifying and interpreting archaeological traces. Archaeologists record these places through mapping, and archaeological archives have catalogues based on the topographical position of the sites. Databases and GIS-applications depend on the spatial localisation of find spots. One of the basic aims of any field archaeological investigation, be it survey or excavation, is to investigate the spatial boundaries of archaeological sites.

Archaeological analysis and interpretation always reach beyond the find spot as such. This happens through the “intellectual process” of recognising features, through comparing them with other find material from other places and through binding them in into wider reflections. However, it is done on different levels. In many works it has been pointed out that traditional settlement archaeology has focused on the distribution of certain find categories like settlements and economic facilities, often with the aim to answer questions about colonisation of economically suitable land. Here the find spots are regarded as cultural, human made markers in an otherwise more or less natural environment, which was seen as background stage or scenery for human choices (Gramsch 1996: 19ff; Conneller 2006: 39).

In works that are ascribed to post-processual landscape archaeology, however, it has been argued that find spots/archaeological sites have to be interpreted in their wider spatial, social and historical context (Thomas 2001; Altenberg 2003: 20ff). The close relation of place and the surrounding space was stressed, though from different perspectives. T. Ingold has presented ideas on the social temporality of landscape experiences and their being bound to taskscapes (Ingold 1993). C. Tilley’s phenomenological approach (Tilley 1994, 2004) focuses

on the perspective of the individual, and his or her bodily moving through and experience of space. J. Thomas argues for an understanding of place and landscape as relational (Thomas 1996: 89ff, 2001: 172ff). In addition, “off-sites” have become part of the debate (Bradley 2000). The surrounding space has been, with different approaches, discussed in terms of physical accessibility, visibility and cultural restrictions (Gansum et al. 1997; Criado Boado & Villoch Vázquez 2000; Rudebeck 2001; Schülke 2008b). The discussion of movement through space and possible communication corridors plays an important role in these studies.

The aim of my study is to integrate the aspects of human mobility and communication as mentioned in the previous section into the analysis of the statically documented archaeological record. My analysis of the archaeological record seeks to deliberately exceed the find spot, which has to be understood in the context of the surrounding world. Before I go into more detail with these ideas, I would briefly like to present the source material of my study.

## **Settlement archaeological background: The find spot as analytical starting point**

The project stands in a settlement archaeological tradition: As analytical tools I use, in a first step, the typological classification of the source material into find categories, their chronological analysis and the study of their spatial distribution. A database, which is grouped after either find spots or sites, is the key for the analysis. To understand the basis of the study the find categories are mapped, in chronological order, and in relation to different geographic aspects, like soil conditions, relief, watercourses and wetlands.

The study-area is geographically defined (see fig 1). It contains the northwest part of the island of Zealand, Denmark, which is about 500 square kilometres in size, and in geographical terms quite varied. This area is only a part of the region, which T. Mathiassen analysed as Northwest Zealand in his settlement archaeological study from 1959 (Mathiassen 1959). My study area is characterised by hilly moraine-ridges with heights up to 100 m, which are divided into three “chambers” by three drainage systems. In the southern part, the Halleby River drains a huge system of bogs – including Lille Åmose – and Lake Tissø. The coastline encompasses both half-moon-shaped bays with a flat hinterland, and steeper cliffs, especially along the east-west outstretching peninsulas Røsnæs and Asnæs, which embrace the Kalundborg inlet. In the Early Neolithic, the coastline was situated further inland than today at the 2.5 m contour line (Hede 2003), and

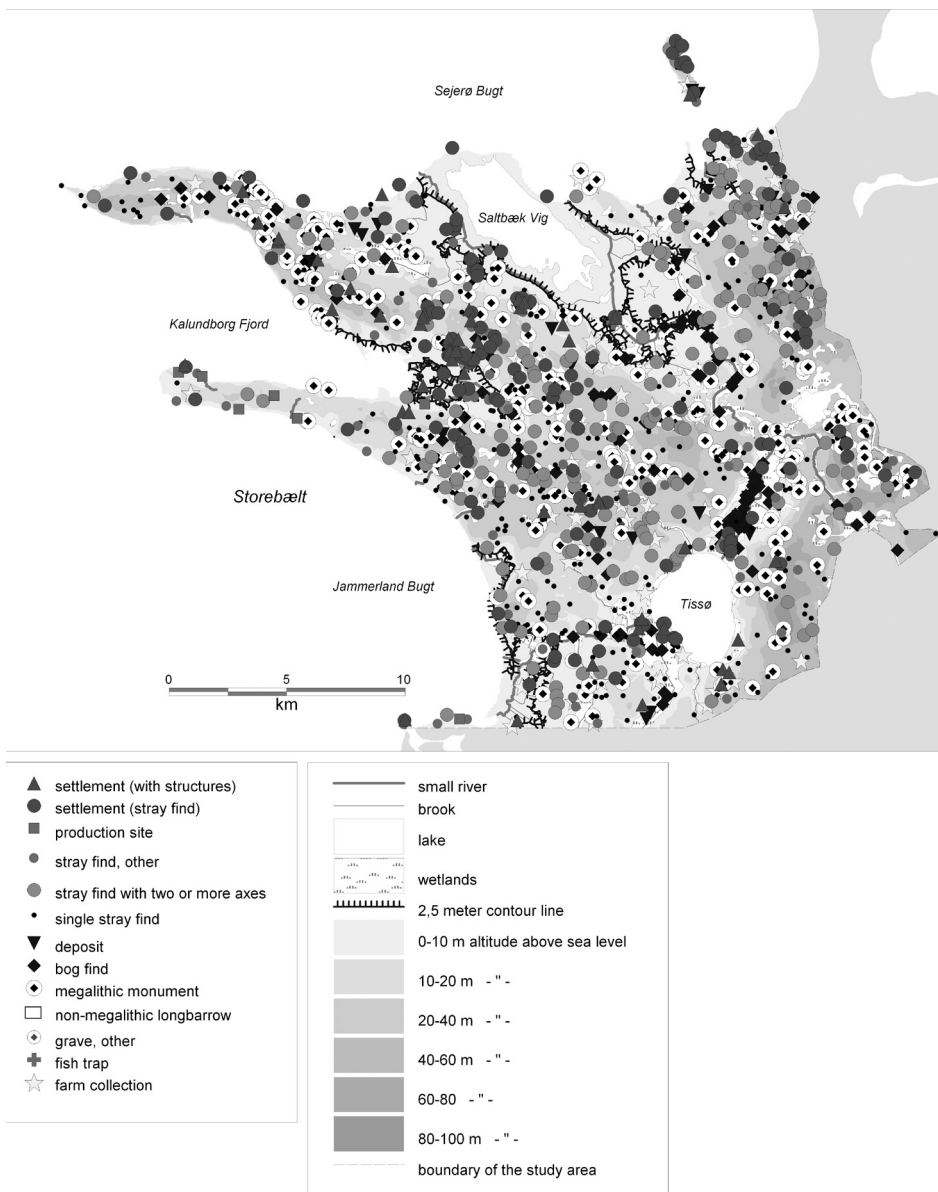


Figure 1. The study area (Northwest Zealand): distribution map of the archaeological remains from the Funnel Beaker Culture. Sources for the geographic data: Watercourses: AIS – Miljø- og Energiministeriet, Areal Informations System, see [http://www2.dmu.dk/1\\_Viden/2\\_Miljoe-tilstand/3\\_samfund/AIS/](http://www2.dmu.dk/1_Viden/2_Miljoe-tilstand/3_samfund/AIS/) (1996-2000). Contour lines: © Kort & Matrikelstyrelsen (Målestok 1 : 25 000) (2004); Wetland areas and lakes: Danmarks jordarter 1999 – © GEUS: Digitalt kort over Danmarks jordarter 1 : 200 000 (1999).



the bogs were open water (Noe-Nygaard & Hede 2003). Consequently, the area looked different at that time. It was quite easily accessible by boat via the shore and the watercourses, while the inland, at least during the wet seasons, must have been difficult to pass at many points.

The high density of finds from the Funnel Beaker Culture (fig 1) is the result of intensive archaeological activity in this region, resulting from an interplay of the archaeological richness of the area and the many archaeological projects which it triggered (Schülke 2008: 10ff).

Figure 1 shows the archaeological potential of the study area: About 1600 find spots and archaeological sites can be dated to the Funnel Beaker Culture. These include around 200 sites that are addressed as settlements, more than 300 megalithic monuments, about 170 bog-finds/deposits, together with a high number of stray-finds. The stray finds are difficult to classify, owing to the uncertainty about their original archaeological context and the unclear chronological relation of the find material from these find spots to each other.

It has to be stressed that figure 1 shows a very rough distribution pattern, including all the find spots from a period that lasted for more than 1100 years. It can only be a starting point for a more thorough analysis of social space during the time of the Funnel Beaker Culture.

## Exceeding the place: Find spots and sites as “container” of mobility

In my study, the two following components constitute the key for the analysis of social space:

1. The physical accessibility of the surrounding space
2. The multidimensional decoding of the archaeological sites/find spots into the activities and movements which formed the site/find spot, and a discussion of the sites' social meaning(s) in Funnel Beaker society.

Concerning point 1, it can be stated that the study area, though with minor barriers like steeper slopes, watercourses/wetlands or coastal cliffs, has been quite easily accessible in physical terms. On fig.1 the places of final deposition are mapped together with the locations of structures. It gives the impression that people with Funnel Beaker Culture background have moved throughout the whole area. While splitting the material up in different chronological phases,

a clear spatial development of materially marked places can be seen. While in the first part of the Funnel Beaker Culture (EN I) the settlement remains are distributed coast-near and close to inland water-systems, in the more developed phase (EN II-MN A II) both the coastal and inland zones are materially marked by settlement remains and megalithic monuments (Schülke 2009b). In the latest part of the Funnel Beaker Culture (MN A III-V), the concept of inland settlement, which we see in the foregoing period, seems to continue, though with clear concentration in the centre part of the study area and around the town of Kalundborg (Schülke 2008a: 12 ff). It can be stated that this chronological development in spatial marking of the surrounding space was not due to its overall physical accessibility, but more with cultural habits, subsistence strategies and more intensive modes of using the communication routes (Schülke 2008a: 15ff). The presupposition is that people have moved through and have known the study area as such (of course not all the people knew all of it, but the sum of the spatial knowledge collected by single individuals or groups has supposedly made this area known to people) also at the places, which were not materially marked, but they did not – as far as we know – leave traces there.

Point 2 is the main aspect here: The find spot should not be regarded in terms of a spatially fixed place for prehistoric activity. Instead, it should be seen both as a culturally relevant place for past people, but also as the place for the final deposition of things. The archaeological record is the last physical station of the social life of its components – in their prehistoric life. Even if it is recorded statically in archaeological documentation (by being fixed in plans/maps and so on), this material accumulation has to be regarded as evidence of depositional habits and as a container of prehistoric activity, a kind of cultural sum. It can be decoded into numberless levels of activities and experiences, many of them having spatial dimensions that reach beyond the final find spot. In short: archaeological sites absorb the movement that has occurred in between the places of deposition and beyond. The off-site space was also part of the inhabited world. Moreover, within this overall space, various individual perspectives could meet in different layers of experiences. Each of them constitutes a perspective on the surrounding space.

How are we to deal with this multitude of perspectives in an archaeological analysis of social space? As an analytical tool, the levels of activity that are compiled in the archaeological record have, in a second step, to be decoded, in the sense of operational chains (Schiffer & LaMotta 2001: 21ff). The activities that can be recognized in the archaeological record often occur at many places.

They witness therefore of generally accepted social behaviour, with certain rules and (everyday-) rituals. However, in each case the record also witnesses of individual actions, performed by single persons or groups. Also in cases where they reveal atypical behaviour, they give, in form of being exceptional, hints on “the whole”. Both the individual experience and its social background lies in each piece of archaeological evidence.

There are of course many problems connected to such a form of analysis: Firstly, how to grasp the spatiality of the activities that took place before a site was constructed or before certain objects were deposited. Here we face clear limitations in valid interpretations. New archaeological approaches in network analyses look at find material from different find spots, classifying their material with regard to different degrees of similarity (Claßen 2004; Sindbæk 2007). Through the methods used, different levels of contact between the materially positive marked places can be asserted, which exceed the individual place, but also without knowing, how the space in-between the materially marked places actually was used.

Secondly, the construction of operational chains, and the question of how to avoid splitting up the surrounding space into smaller and smaller entities, without incorporating the idea of social space as being multidimensional (Conneller 2006). This problem can only be overcome by deliberately shifting focus: To analyse layers of action within one site, but to interpret them at the same time from different stand-points: for example as – shifting – individual, or in the eyes of a group/different groups, from the point of view of the object, and at different stages of action/construction.

It can be stated that there exists no “prehistoric picture” of social space as such. Archaeological finds and their find spots have, in spite of the similarities and regularities in the archaeological record as the output of similar activities and sets of ideas, countless levels of meaning; and, not to forget, including levels of meaning which are applied from a modern archaeological point of view. The challenge is to combine the two following aspects: On the one hand to recognize patterns and to apply a sensitive classification to the data, which inevitably also means a constraint on the data, and on the other hand to overcome this constraint by incorporating aspects of mobility and communication.

## Some perspectives on social space

My study deals with questions such as: How is space marked during the time of the Funnel Beaker culture? How did people shape, use, perceive and reflect on the surrounding space? Which continuities and discontinuities can we discover through this period which lasted 1100 years?

To illustrate my argument, in the following I would like to look at settlements and megalithic monuments, discussing the difference between the spatial expression of moveable things and place-bound structures.

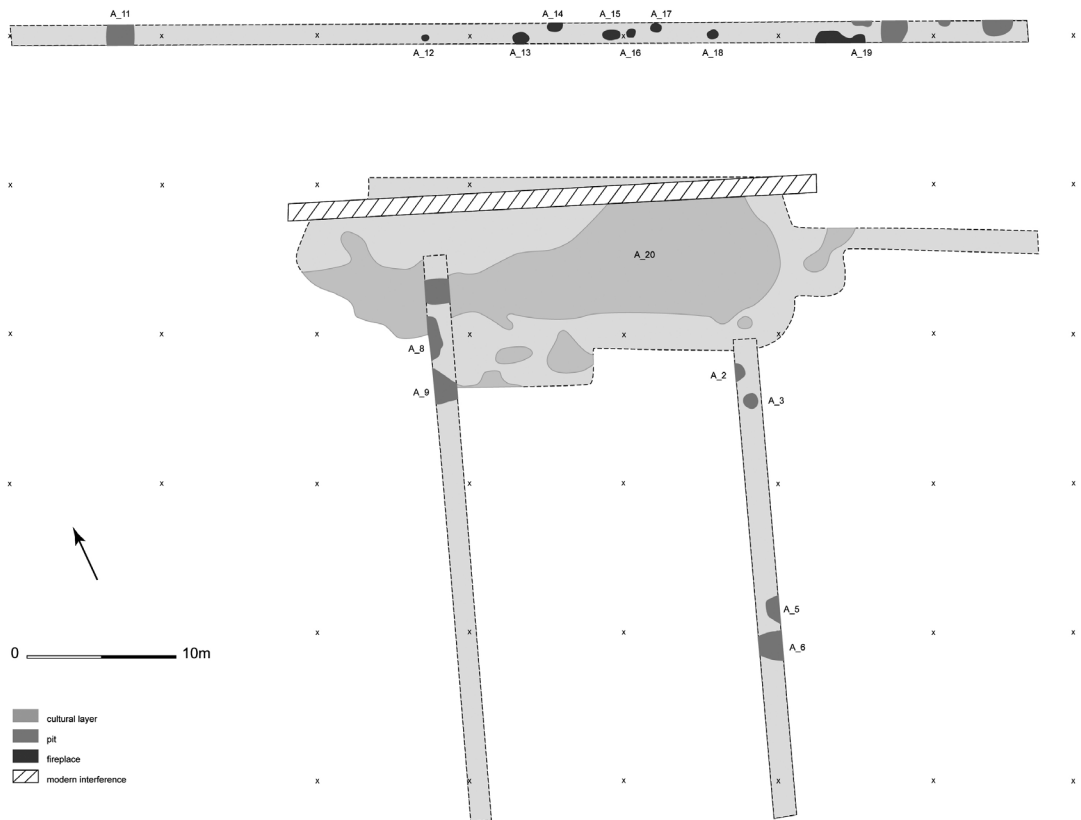


Figure 2. Example of settlement structures that can be dated to the Funnel Beaker Culture: "Ubby Hovvej" (Det Kulturhistoriske Centralregister Stednr. 030109 sb. 243) with cultural layer, pits and fireplaces. Illustration: Pia Brejnholt after original plan by Jens Nielsen (with permission by Kalundborg og Omegns Museum).

## Settlements

“Settlement” is still a euphemistic expression within Funnel Beaker Studies. Only a few structures that can be described as houses or as other settlement specific buildings have been found in Denmark (Nielsen 1997). In Southern Sweden however, some settlement complexes lately have been excavated through extensive surface-excavations (Artursson et al. 2003). In Northwest Zealand, as in so many other areas, there are mainly two groups of material expressions that can be classified as belonging to the category of settlements:

1. Single structures, such as hearths, garbage pits or postholes, which through their connection with certain objects such as flint tools and pottery sherds are labelled as “settlement”. Most of them are found in the course of rescue excavations, which only followed narrow search trenches (fig 2). We know around 50 sites of this kind from the study area. Only at one place ground-plans of houses which might date to the Funnel Beaker Culture have been recorded (Det Kulturhistoriske Centralregister, Stednr. 030109 Loknr. 247; Bican 2004).
2. Assemblages of stray-finds with artefacts that are classified as being of typical “settlement” character, such as flint tools and -debris, pottery sherds, traces of fire, burnt clay and animal bones (Andersen 1997: 89; Schirren 1997: 29ff).

The fragmentary expression of these sites, even if they also have to be regarded as space-bound constructions (see next section), makes it problematic to look at these places as architectural monuments, e.g. in the sense of a farm or a village. Much more, the archaeological remains can stimulate a new look at these places that is not primarily fixed on a place-distinctive interpretation: The find spots should be regarded as what they also are: as place-bound phenomena that witness of countless activities.

If we look at the place-bound activities, which are connected with the structures itself, we can e.g. in the case of a pit (see fig 2) say the following:

- pits witness of digging, e.g. clay-digging or the specific digging of waste pits (Andersen 1999: 75ff)
- the deposition in the pits witnesses of place-bound activities like the throwing away of garbage or the deliberate deposition of objects which had to be taken out of the life-cycle (Andersen 1999: 76ff).

Apart from this, the find-objects themselves, such as flint tools and vessels, which by nature are moveable objects, give hints about other, spatially related, activities. It is important to bear in mind that the find objects most likely have had a much more complex spatial history than their final place of deposition suggests. Today, only their deposition at the specific place, in the pit, gives a faint hint about their former spatial use in depositional contexts. But it is important to bear in mind that their spatial history exceeded the place of deposition itself. If we as an example take ceramic remains, which occur in high number and in high quality in Funnel Beaker contexts of the study area (fig 3):

- The vessels, which we find as sherds in a pit, have most likely been manufactured at another spot in the near or distant vicinity (maybe even outside the study area)
- They were produced while using handed down know-how that followed certain functional and aesthetic standards (Koch 1998: 122ff). This introduces the spatial aspects of rules and traditions, and their existence at certain times and in certain areas.

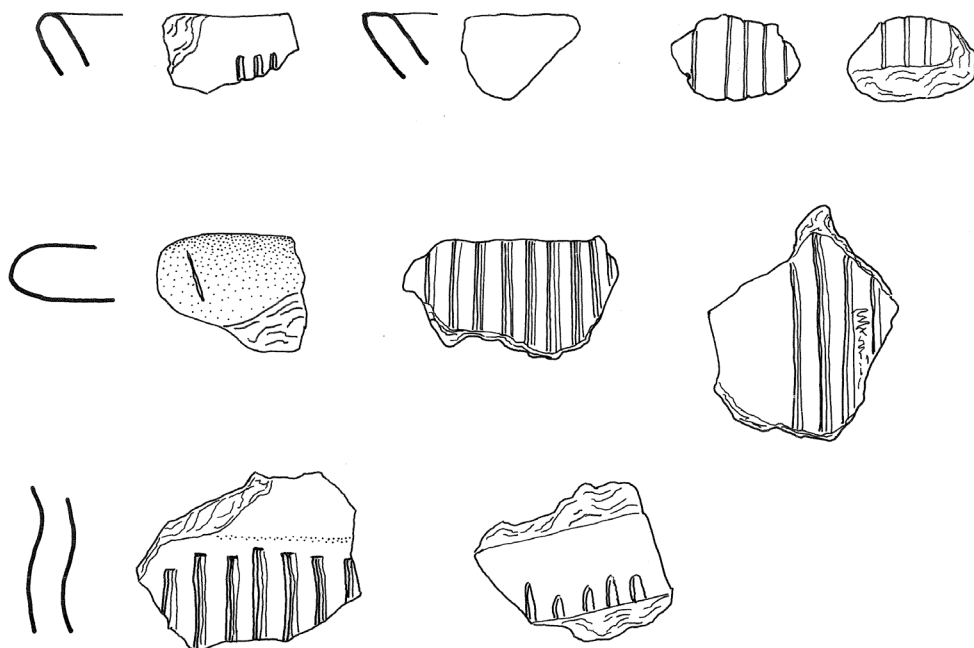


Figure 3. Ceramic finds from EN II/MN IA from the cultural layer (A 20) at "Ubby Hovvej" (see fig 2). Illustration: Eva Koch after original sketch by Almut Schülke (with permission by Kalundborg og Omegns Museum).

- These sherds originally belong to vessels, which have been used in certain contexts. In these contexts, they had their innate place: Most likely they have been used to store special things or liquids, they have been emptied, washed, refilled and so on. They have been looked at, some of them have been admired because of their elaborate decoration. They have been touched, carried around, and their clinking has been heard. One day they were, deliberately or not, broken. Vessels might have been given as gifts or as inheritance, and they may have had, through repeated daily use, or through a special relation to the pottery-maker, a special personal meaning to certain persons: Even if the concrete spatiality of a distinct vessel's life history, in the sense of reconstructing the spatial stations of its use, is difficult if not impossible to grasp (see above), the thoughts about the objects pre-depositional spatial life are important for understanding the background of its later deposition.

An important point is the question about the time-relation between the pre-depositional use of the objects that are found deposited together in, for example, a pit. Did these objects, whose context is described as "closed find" by archaeologists, also have parallel lifetimes and life-histories? The more varied the find material from a closed find is, the more varied is the complexity of spatial aspects that are contained in the specific archaeological record.

What is important in our context is, whether the regularity that we see in the distribution of settlement-structures like waste pits with debris, reveal an intentional use of particular places/topographical situations that reveal certain rules of structuring space. Even if the structures mentioned are only remnants from an activity conducted without conscious forethought, it has to be admitted that they also are place-markers: structures, whose construction has changed a place by at least establishing a trace of inhabitation. It might be that these structures hint to more monumental settlement places (as the very restricted excavation practice suggests). But, as described using a "vessel" as example, things and their material context extend beyond their final depositional spot. These things open up for a broader interpretation, which also embraces the surrounding space.

## Megalithic monuments

There are recorded more than 400 megalithic monuments from the study area. They consist of several types, amongst them as definable main types: long- and round dolmens (88 and 144 specimens respectively), passage graves (33 specimens) and double passage graves (15 specimens). The chronology of these





Figure 4. Double passage grave “Loddenhøj”/“Nordenhøj” at Rørby parish (Det Kulturhistoriske Centralregister Stednr. 030104 sb. 1). Photo: Almut Schülke.

types is not finally established, but researchers agree in that the dolmens are earlier than the passage graves (Nielsen 1984, Hansen 1993:11, Koch 1998:190, Ebbesen 2007:19f). Seen as a whole, megalithic monuments first occur from the middle part of the Funnel Beaker Culture, from ca. 3500 BC (the phase EN II). Their different, developing architectonic traits can be interesting for a discussion of the monuments’ spatial significance. Megalithic monuments are space-bound structures (fig. 4).

Clearly they are built to be monumental. Even though their locations vary significantly and we both find them in low topographic positions, in hilly areas, and on hilltops, in the inland and coast-bound, it can be assumed that their locations are deliberately chosen. There are many spatial aspects that these space-bound structures embrace:

- Megalithic monuments are made to be focal points. Their meaning as focal point gives not only their physical location a special meaning, but it also involves their surrounding space, as it is from there, that relations to this focal points were established. The relationships that established towards the single monuments are countless, and they have a historic dimension.
- The megalithic construction itself has many spatial aspects, which extend beyond the megalithic site as such: Behind the construction lies a plan about how to build the monument. Even if this plan only may have been stimulated by a neighbouring site, or deliberately or undeliberately by social rules or habits, the use of the megalithic concept reveals that also the people who left these architectonic traces were part of a bigger, communicating world, which went far over the defined spot or the study area as such.
- Megalithic monuments reveal building activities, which stretch far beyond the spot. They involve people who know how to build them (Hansen 1993: 21ff), which implies that these people may have learnt their craft elsewhere, at other places. It involves the knowledge about, the choice and the transport of raw materials (Dehn et al. 1995: 141ff), together with all the physical aspects of transportation through the surrounding space with its accessible and non-accessible areas. It reveals that many individuals have been involved, who worked together on the task (Andersen 1997: 99; Sjögren 2003: 237).
- Furthermore, the erection of the monument had a social background. The possible religious, political and economic significances of erecting the monument at distinct places has been discussed intensely (for a summary of the debate, see Sjögren 2003: 33ff).
- Once erected, the monuments were used. It is difficult to say how much the users had to do with the people who commissioned and built the monuments.
- The usage of the monuments also includes the physical accessibility of the site. There are areas where it seems as if the megalithic monuments were erected at liminal places outside the settlement areas (Sjögren 2003: 311ff). Such examples also occur in the study area. However, there are also other examples that show that the monuments at the same time were erected alongside communication corridors, where people that had access to these roads could pass along a chain of monuments (Schülke 2009a).

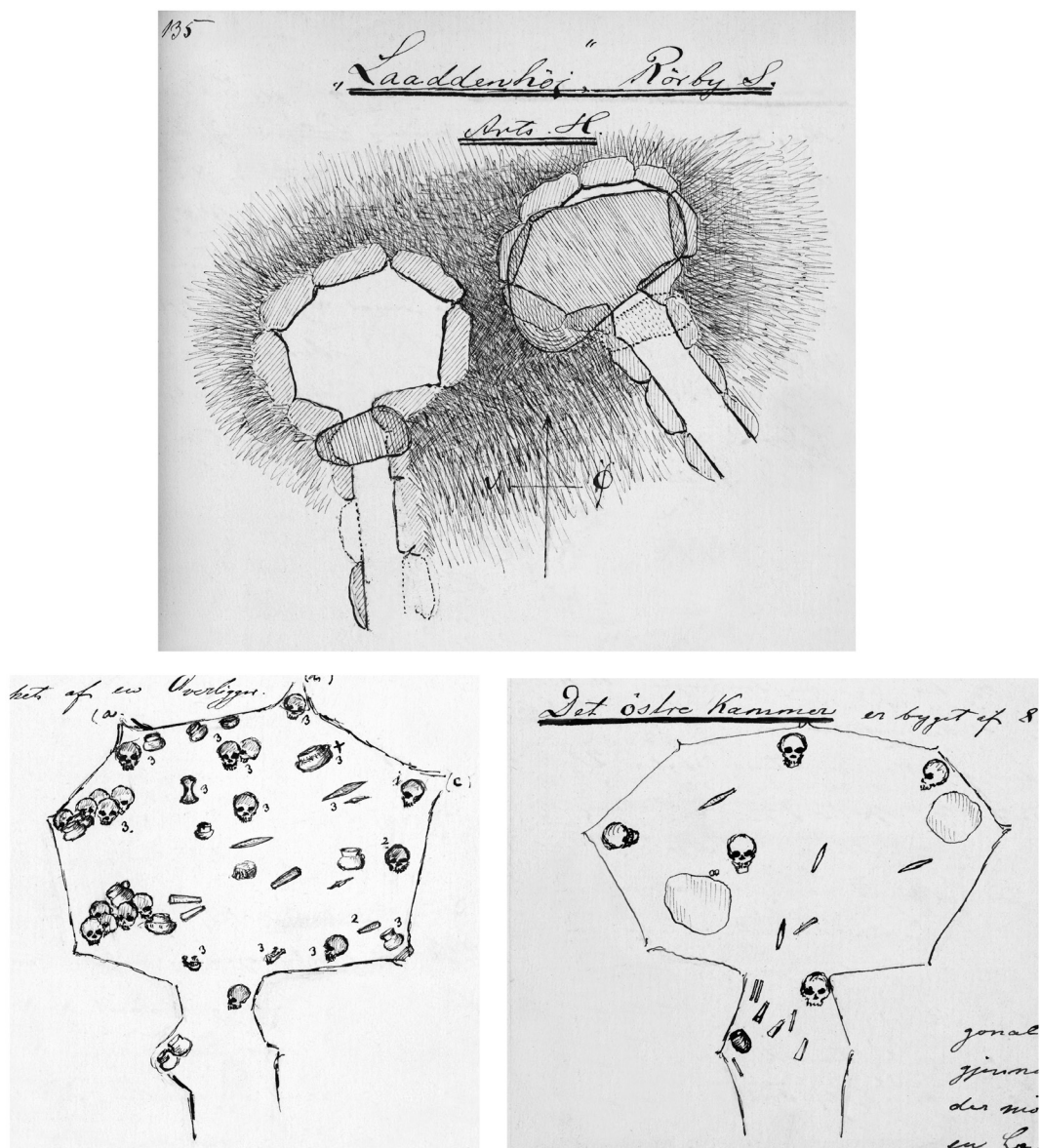


Figure 5. Plan of the double passage grave "Loddenhøj"/"Nordenhøj" at Rørby parish (Det Kulturhistoriske Centralregister Stednr. 030104 sb. 1). The finds from the chamber are mapped. Illustration: Ludvig Zinck 1885 (with permission by The National Museum of Denmark).

- One of the megalithic monuments' meanings is their religious significance, as meeting point between the "real" world and "the other world" (Holten 2009). As such, the monuments and their find-context can be interpreted as markers of human communication with the supernatural, with the non-physical and non-spatial (Schiffer & LaMotta 2001: 35)
- The moveable "things" and remains of animated beings, which are deposited inside and outside the monuments, stand in a relationship to this monument and are placed in relation to the monument (fig 5).

The objects deposited have the same multiple spatial, place-exceeding aspects as the ceramic sherds in waste pits named above. Also in this respect, the megalithic monuments are containers of mobility. Finally it has to be said that the meaning of the monuments, which were materially marked throughout the Funnel Beaker Period and in later periods, possibly changed through time.

## Concluding remark

I have tried to formulate the theoretical approach to the material of my study area, and to formulate possibilities, for how aspects of the fluidity of human existence and aspects of interplaying mobility can be integrated into the analysis of an archaeological record, which is from the archaeologist's perspective experienced as static, and also recorded as such. Further studies within my project will show whether the theories developed here are elaborate enough, and can bring in new results into the research on Funnel Beaker Culture, which try to overcome static and one-dimensional interpretations and instead focus on the multiple perspectives of social space.

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## **What Makes a Place?**

### **Feature Perspectives on Site Locations**

#### **Abstract**

When discussing the Swedish Middle Neolithic material, the focus has mainly been on verifying differences between the Pitted Ware Culture and the Boat Axe Culture. Traditionally, the different distributions of these two assemblages have been understood as designating two different more or less contemporary ethnical cultures: the seal-hunting Pitted Ware Culture in the coastal area and the agro-pastoral Boat Axe Culture in the interior. In contrast to the location of sites, enquiries of stray finds show a presence of the Boat Axe Culture all over the landscape, while the Pitted Ware Culture is more or less absent. The question examined in this paper is why the Pitted Ware sites are fixed to the coastal zone. I suggest that by using an approach focusing on site performance characteristics the issue can be further elucidated. An investigation of the formal characteristics of Pitted Ware sites is carried out including the use of a GIS-based viewshed analysis. The results suggest that the Pitted Ware sites should be considered as nodes in a social network, and that the locations of the sites are connected to journeys across the sea.

*Keywords: Sweden, Middle Neolithic, Pitted Ware Culture, Site Performance Characteristics, Viewshed analyses, Communication, Nodes*

## Introduction

Research on the Swedish Middle Neolithic has largely focused on verifying differences between the two different material cultures that are present during the second half of the period (c. 2800-2300 BC): the Pitted Ware Culture and the Boat Axe Culture.

The Boat Axe Culture is said to have emerged in Sweden as a result of immigration (Müller 1898:278; Forssander 1933:142f; Oldeberg 1952: 148ff) or from a new set of ideas issuing from contacts with the Corded Ware Culture and later the Bell Beaker Culture in Denmark and the rest of Europe (Åberg 1935; Malmer 1962:677ff). Despite the explanation concerning the emergence of the Boat Axe Culture, the culture is usually positioned in a dualism with the Pitted Ware Culture. The two cultures are said to have been representing two different ethnic and/or economically different groups. Based on the assumption that an unstructured grave design existed within the Pitted Ware Culture, the society has been understood as a profane and egalitarian hunter-gatherer group with a marine economy sometimes including animal husbandry (Tilley 1982; Knutsson 1995:166ff). Although rare, remains indicating cultivation have been found on some Pitted Ware sites (Welinder 1987:117f; Edenmo et al. 1997: 180; Welinder 1998: 97ff, 183ff). Conversely, the Boat Axe Culture is perceived as an agro-pastoral society living in the inland (Malmer 1975: 116f, 2002: 177ff; Welinder 1998: 185f). In contrast to the great variation of grave designs found in the Pitted Ware Culture, the Boat Axe Culture is understood as a more totalitarian and ritualised society, since the graves are more formally designed (Tilley 1982; Knutsson 1995:166ff). There are however some researchers that question the supposed cultural dualism and the very existence of ethnicity during this time. Based on different investigations they prefer to interpret the differential Middle Neolithic material as a result of different actions performed within one society (Carlsson 1987; Nordqvist in Edenmo et al. 1997; Strinnholm 2001; Gill 2003; Svensson 2006; von Hackwitz 2008).

In my recently published thesis (von Hackwitz 2009) I examined the basis for the conventional view stressing that the Middle Neolithic material culture represents two different groups of people. To briefly summarize, I believe that the perceived cultural dualism is mainly the result of archeological research treating the identification of the two ethnic groups as a goal in itself. In pursuing the ethnic framework, examples of the different cultures are taken from different geographical areas and presented as if they represent an actual situation of social and economic interaction between two different ethnic groups. This is partly due to different preservation conditions in different geographical areas. However,

the Pitted Ware Culture is reconstructed mainly from sites located in the outer archipelago of east central Sweden and on the larger islands in the Baltic, particularly the island of Gotland, in terms of social structures and ideology (see for example Wyszomirska 1984; Knutsson 1995; Fahlander 2003; Pappmehl-Dufay 2006), economy and DNA (see for example Eriksson 2003; Malmström et al. 2008). Reconstructions of the Boat Axe Culture are usually based on sites located in the province of Scania in southernmost Sweden (see for example Malmer 1962; 1975; 2002; Tilley 1982, see however Edenmo 2008). Hence, the ethnic understanding can be questioned when the two different cultures are studied in one specific area (von Hackwitz 2009). Still it is clear that Pitted Ware sites are mainly found in the coastal area and Boat Axe sites are mostly found in the interior (fig 1, table 1). If it can be presumed that these sites were the places where people lived and expressed their ethnicity the distinctive distributions may provide support for the ethnic model. The aim of this paper is to question the conventional understanding of the Middle Neolithic by presenting an alternative interpretation of these sites, which also takes into account the distribution of stray finds from the two cultures. The question that will be discussed in the paper is why the Pitted Ware sites are fixed to the coastal area.

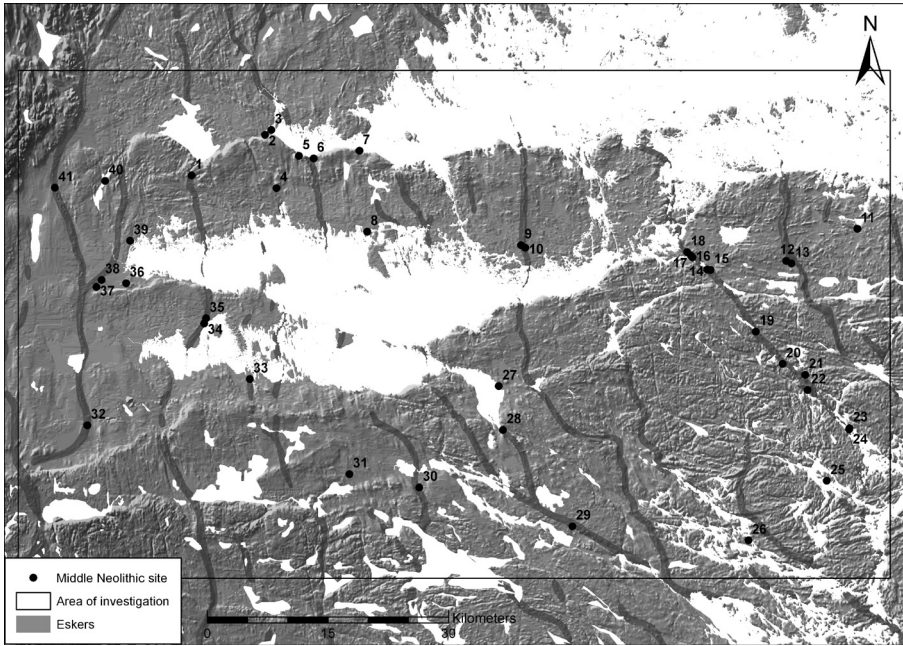


Figure 1: Sites associated with the Pitted Ware Culture (PWC) and the Boat Axe Culture (BAC) marked on the map. The numbers correspond to the ones presented in Table 1. The eskers are hatched. 25 m a. s. l. After von Hackwitz 2009.

Table 1. Middle Neolithic sites in the area of Lake Hjälmaren. The numbers correspond to the ones presented in figure 1.

Nr	Site	Parish	Province	Culture
1	Skumparberget	Glanshammar	Närke	BAC
2	Körartorpet	Götlunda	Närke	PWC
3	Frötuna gård	Götlunda	Närke	BAC
4	Högby	Lillkyrka	Närke	BAC
5	Sjölunda	Fellingsbro	Västmanland	PWC
6	Urvalla	Götlunda	Närke	PWC
7	Gärdselbäcken	Arboga	Västmanland	PWC
8	Nannberga	Götlunda	Närke	PWC
9	Snickartorpet	Västermo	Södermanland	PWC
10	Täby	Öja	Södermanland	BAC
11	Tobo	Härad	Södermanland	PWC
12	Eka	Ärla	Södermanland	BAC
13	Ästorp	Ärla	Södermanland	BAC
14	Moäng	Husby-Rekarne	Södermanland	PWC
15	Hagby udde	Ärla	Södermanland	PWC
16	Lundby-Ålång	Husby-Rekarne	Södermanland	PWC
17	Lundby 1	Husby-Rekarne	Södermanland	PWC
18	Hällsta	Husby-Rekarne	Södermanland	PWC
19	Hagtorp	Lilla Malma	Södermanland	BAC
20	Barrsjön	Dunker	Södermanland	BAC
21	Domarhagen	Lilla Malma	Södermanland	BAC
22	Länsmansgården	Lilla Malma	Södermanland	BAC
23	Hyltinge nya kyrkogård	Hyltinge	Södermanland	BAC
24	Sparreholms slott	Hyltinge	Södermanland	PWC
25	Ådön 1	Helgesta	Södermanland	PWC
26	Katrineborg	Vadsbro	Södermanland	BAC
27	Julita kyrkogård	Julita	Södermanland	BAC
28	Gimmersta	Julita	Södermanland	BAC
29	Villa Julsäter	Stora Malm	Södermanland	BAC
30	Sävsta gård	Västra Vingåker	Södermanland	BAC
31	Knutstorp	Västra Vingåker	Södermanland	BAC
32	Sannahed	Kumla	Närke	BAC
33	Valsta	Askers	Närke	PWC
34	Bärstalund	Stora Mellösa	Närke	PWC
35	Tallåsen	Stora Mellösa	Närke	PWC
36	Tybble	Örebro stad	Närke	PWC
37	Adolfsberg	Örebro stad	Närke	BAC
38	Gustavsvik	Örebro stad	Närke	BAC
39	Krånglan	Örebro stad	Närke	PWC
40	Gottsäters mosse	Axberg	Närke	PWC
41	Vallby	Kil	Närke	BAC

## Stray finds in the area around Lake Hjälmaren

The area in concern is centred on the area surrounding Lake Hjälmaren in east central Sweden. Hjälmaren is the fourth largest lake in the country, with a water area of 458 square kilometres (Claesson & Klingnéus 1999: 7). Several glaciofluvial eskers cross the area in a north-south direction as landscape relicts from the last glaciation. There are plenty of archaeological and historical remains found on and nearby the eskers. The reason could be that the eskers have been used as roads (Malmer 2002: 138) and because they contain sandy light soils good for farming. There are 41 sites that have been dated to the Middle Neolithic in the area: 20 Pitted Ware sites and 21 Boat Axe sites (fig 1, table 1). During the time period in question the area consisted of a lake with brackish water connected to the Baltic Sea, which at this stage (the Littorina Sea stage) had a higher salinity than today. At the beginning of the Middle Neolithic the land had risen to about 35 m.a.s.l. By the end of the period the sea level had fallen to at least 25 m.a.s.l. Today, Lake Hjälmaren lies at 22 m.a.s.l.

Stray finds hold a meaning in themselves, as they can be connected to different actions in the landscape. Additionally, they contribute to a deeper understanding concerning the past landscape and the activities occurring there (see for example Karsten 1994; Lekberg 2002: 52; von Hackwitz & Lindström 2004). In a comparative study regarding how and where Middle and Late Neolithic sites and stray finds appear, Per Lekberg questions the Middle Neolithic dualism. His analysis shows not only a continuous use of the landscape through the “culture dualistic” Middle Neolithic and the “homogeneous” Late Neolithic (his quotation marks) but also a continuous *understanding* of the landscape, as the sites are located in the same topographical settings (Lekberg 2002: 52ff, 70). Lekberg also demonstrates how the division between the two Middle Neolithic cultures as two geographically separated cultures is a simplified explanation, since the Boat Axe sites and stray finds (mainly boat axes and concave-edged flint axes) are located in the inland as well as in the coastal area. Moreover, the stray finds from the Boat Axe Culture dominate all zones in the landscape (Lekberg 2002: 52ff, fig 3.12a-b, fig 3.13a-b; von Hackwitz 2008). On the other hand, Pitted Ware stray finds are more or less absent in the material (Carlsson 1987; Lekberg 2002; von Hackwitz & Lindström 2004; von Hackwitz 2008).

If one wants to maintain the image of a dualistic Middle Neolithic, it could be argued that the pattern reflects exchange between two ethnic groups. Nevertheless, this hypothesis is contradicted by the fact that, already from their introduction, the distribution of stray finds of Boat Axes is fairly even between the different topographical contexts. Furthermore, the Boat Axe finds in the



coastal area include pre-forms, supposed votive depositions, broken axes etc (von Hackwitz 2009). It appears that the finds represent the whole production chain, which in turn suggests that they were not brought there through exchange.

## Site Performance Characteristics & Landmark Theory

*Site performance characteristics* are what make a place suitable for specific activities, such as location direction, view, acoustics, distance etc. The concept was introduced by Michael B. Schiffer and James M. Skibo (1997) in order to explain artefact variability. The theory was later used and developed in a paper by María Nieves Zedeño (2000), where she investigates how people build social environments in the process of “appropriating nature”. Usually, a “built environment” is associated with modification of the earth, such as houses and monuments. However, the framework is not suitable for people who build their social environment around natural recourses, such as plants and landforms. For that reason, Zedeño suggests an alternative view, whereby the concept of *landmark* is introduced (Zedeño 2000; see also Zedeño et al. 1997).

A landmark is a place that has become a material culture category through the transformation of human action. A landmark can include unmodified features such as rock formations or human modified features, such as a monument. What makes it significant is that it constitutes a piece of history of land and resource use practices. For example, a landmark can start out as a hunting place. Through time, it also becomes a place for the memory of successive use, an ancestral place. For that reason, a landmark has a role of multiple functions including events of ritual, economic and social nature. “As material culture, places have properties, performance characteristics, and life histories that must be brought to life before we can understand how social environments are built from nature” (Zedeño 2000: 98). A landmark study includes the identification of the formal properties and performance characteristics of a place in order to evaluate its potential for attracting people to carry out activities there. Furthermore, it includes the study of interactions and activities that transformed the place into a landmark (Zedeño 2000). Below I will test this approach on Pitted Ware sites located on the shores of Lake Hjälmaren.

## What Makes a Pitted Ware Site?

The conventional view of Pitted Ware sites denotes that they are located on sandy slopes facing south or south-west as those directions expose the site to more sunlight and warmth. These slopes are often located in narrow valleys, protected from the wind by the surrounding higher terrain (Edenmo et al. 1997: 172ff; Malmer 2002: 77ff). In other words, the Pitted Ware sites hold excellent features

for settlement location including warmth and shelter. Furthermore, the Pitted Ware sites display a great variation in size ranging from 500 m<sup>2</sup> up to 90 000 m<sup>2</sup> (Edenmo et al. 1997: 173). In addition to huge amounts of fragmented pottery, objects such as amber items, clay beads, burnt bones, stone, quartz and flint items have been found on the sites. At several sites, the pottery is of both early and late types. This could mean that these sites were in use during an extensive period of time, since the Pitted Ware Culture is in use between 3100-2300 BC. The interpretation agrees with a conventional view on Stone Age settlements, as expressed by Mats P. Malmer who suggests that:

“If we want to find Stone Age settlement sites within a particular area, we can start by registering those already known and compiling statistics about how they are located in relation to different landscape formation, and then on the basis we can do reconnaissance on the ground. Another method, however, is *simply to sit down on a slope and feel whether there is shelter from the wind and the whether the sun provides warmth, If it feels pleasant, it might be worth digging a test pit*. Even if this simple form of archaeological actualism is not sufficient alone as a survey method, it can be of good assistance.” (Malmer 2002: 174, my italics).

Malmer’s somewhat phenomenological approach for finding Stone Age sites, conflicts to some extent with my own experience of Pitted Ware sites around Hjälmaren. I would describe them as rather wind-torn in relation to the surrounding area. This impression can be formalised by a GIS analysis of the Pitted Ware sites in the Lake Hjälmaren area. The analysis indicates that none of the sites face south and 12 out of 20 sites are located in slopes facing other directions than south or south-west (fig 2). The winds in the Nordic countries are affected by the Gulf Stream, and Sweden is situated in the so called “west wind belt” (Swe: västvindbältet) and is predominantly exposed to wind coming from the south-west or west (SMHI). It is rather certain that the winds were the same during the Neolithic (Erlingson 2003, 2004, 2005, 2006). This means that 11 out of 20 sites are exposed to wind. This can be further noticed on several of the Pitted Ware sites, even those not facing the south or south-west, in the form of physical phenomena such as uprooted trees, wind-broken trees, terraces in the slopes formed by the waves beating the shore and water-affected till (fig 3A-C). I will demonstrate this by presenting in more detail two sites in the area, Lundby and Lundby-Åläng.

The two sites are situated at 32-38 metres above the sea level only a few hundred metres apart in a southwest facing slope of an esker. During the time of the Pitted Ware Culture, the sites were situated on a sandy shore inside a bay of

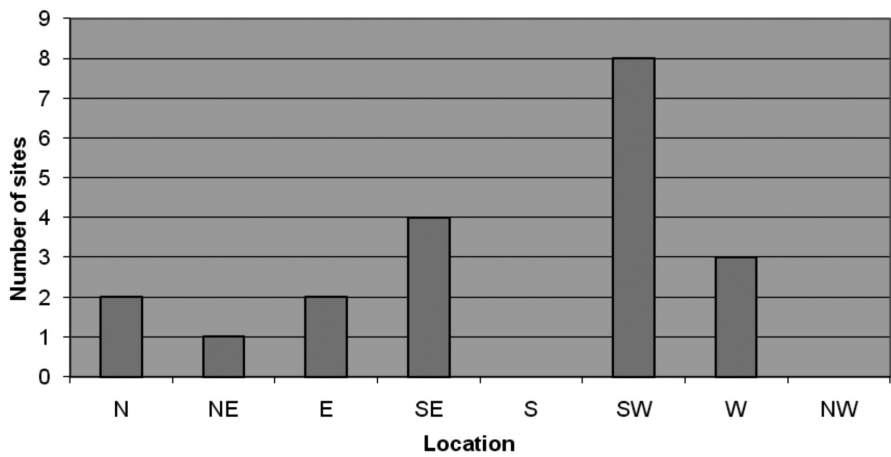


Figure 2. Aspect investigation of the Pitted Ware sites in the research area. N = site facing north, NE = site facing northeast, etc. The diagram show that a majority of the sites are facing west or southwest towards the dominant west/southwest wind.



Figure 3. Phenomena indicating strong wind at Pitted Ware sites. A: Terraces formed by waves beating the shore, B: Up-rooted tree, C: Wind broken tree. Photos by the author.

Lake Hjälmaren. The location would presumably have granted access to a rich marine life. The sites were excavated in 1969 and 1982. The findings consist of fragmented Pitted Ware pottery, clay beads, burnt bones, tools of stone, quartz as well as sunken features such as hearths and pits (fig 1, table 1 site nr 16 and 17; Olsson 1984). In contrast to the conventional view presented above, the formal properties and performance characteristics of the sites can be described as an exposed landscape setting, facing the incoming wind from the south-west. A survey documented 68 wind-broken trees, up-rooted trees, water-affected till and terraces created by waves beating the shore, which in turn can be considered as indicating continuous wind activity extending to prehistoric times. Pottery and fire-cracked stones were retrieved from two of the up-rooted trees.

The sites should in certain parts of the year have been exposed to harsh conditions and cold wind. For this reason I think it is possible to suggest that the activities resulting in the sites at Lundby and Lundby-Åläng have not primarily been of settlement character.

If windy and harsh conditions did not discourage the location of Pitted Ware sites, the next question is what kind of activities were carried out at the sites. The conventional view would stress that the people maintaining these sites focused on seal hunting and fishing, and this would be the most important factor in explaining their locations. However, why did they not choose more protected locations? Especially when such places are usually available very close to the sites and often used during the previous period (von Hackwitz 2009). For these reasons I think that the Pitted Ware sites can not be interpreted solely as fishing camps. It should be noted that the archaeological materials on these sites suggest that they functioned as places for social gatherings and rituals (see for example Gill 2003). In addition, many Pitted Ware sites also contain exotic material and/or objects that indicate contacts over large geographical areas (see for example Björck 1998; Nordlund et al. 2002; Holm 2003). For that reason, I believe that the site location characteristics and the material culture probably have an explanation that goes beyond pure economy and hunting strategies.

## Visuality and Communication

Current landscape archaeology has often stressed the importance of investigating visibility between places and features in the landscape. Many works dealing with visibility has focused on issues concerning visual relationship between monuments and whether sites can be related to specific topographic features (Bradley 1991, 1998, 2000; Bender 1992; Tilley 1994; Lake 2007). During the past ten years, GIS methodology has improved the possibilities to perform

visibility analyses between sites. One of the methods estimating visibility between selected points is viewshed analysis. A viewshed is an area of land, water or other elements in the environment that is visible from a selected point, i.e. a prospect. Through the use of viewshed analysis, it is possible to compute and visualize the various local visibilities to and from each other and the visibility towards the surrounding topography. The method has been used in landscape reconstructions by modeling visual relations between Neolithic monuments in northern England (Llobera 2007), in works reconstructing ancient landscape perception (Fitzjohn 2007) as well as in research aiming to understand how the surrounding landscape influenced the design of monuments (Lake & Woodman 2003).

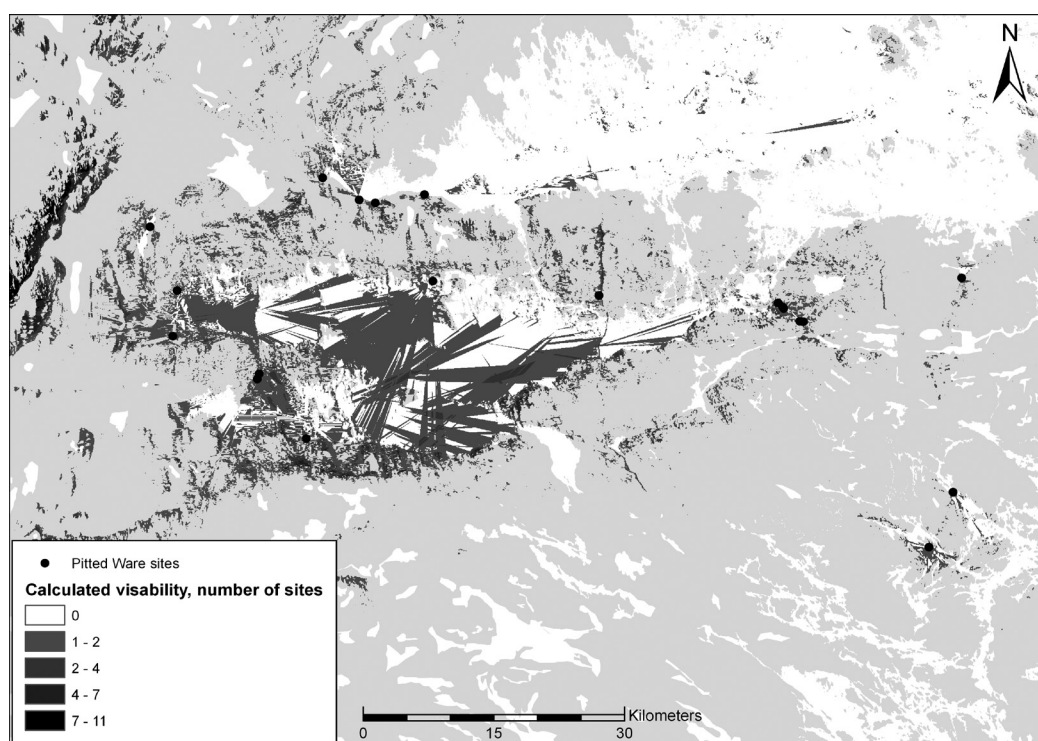


Figure 4. Viewshed analysis including the 20 Pitted Ware sites in the research area. The results from the analysis suggest that the location of the Pitted Ware sites is dependent on extensive view over large bodies of water. 25 m.a.s.l. Modified after von Hackwitz 2009.



It should be noted that the method has received criticism. A part of the criticism is based on the fact that it does not take into account vegetation in the landscape, such as trees and shrubs, which could block the view (Llobera 2007), nor does it consider from how far away an object or a location is visible to the human eye (Ogburn 2006). In some cases, visibility between objects was not correct in reality as the objects were too far apart or were too vague in the terrain to be identified by the human eye. Other criticism is that the method has focused too much on visibility, neglecting other possibly relevant phenomena such as hearing and smell, thus creating a so-called “Western perspective” (Bender 1999).

Nevertheless, the viewshed analysis of the Pitted Ware sites around Lake Hjälmaren indicates that not only did they have good visibility across large bodies of water, their viewshed also covered a large area of ancient Hjälmaren, the entrance from Littorina Sea and the outer archipelago (fig 4). The sites have probably also been clearly visible from boats on the waters as they were located directly on the beach without protection of outer islands. Some sites have a view to each other but as we lack absolute dates for many of them it is impossible to say if the sites have been in use simultaneously and thus if the visibility between sites were of importance. The sites are in all cases directed towards the waters around them and in some cases towards a nearby land area such as the other side of a bay.

Several studies in western Sweden have discussed the relationship between monuments and the sea (Clark 1977; Blomqvist 1989; Bradley & Phillips 2004). Bradley and Phillips (2004) interpret megaliths erected on the Swedish islands of Tjörn and Orust as strategically located towards main exits and entrances of water routes. Similarly, GIS based studies of Neolithic monuments on Orkney indicate that their placement was mainly based on access to a view of the ocean (Phillips 2003). The monuments on Orkney also appear to be located in strategic locations such as narrow passages. Phillips interprets them as landmarks for sea travelers and therefore they are positioned on places which grant prospect from the sea (Phillips 2003: 376ff). Further, Gordon Noble suggests that coastal areas nurtured more intense social interaction compared with inland areas. Therefore, coastal sites served as meeting places for people from widely dispersed areas. This is also evident in the archaeological material from the megaliths of the Orkney Islands, which can be associated to different geographic areas (Noble 2006: 100ff).

There are several similarities between the location of the Pitted Ware sites and the megaliths of the Orkney Islands: Both types of sites are strategically located at places with a view over the surrounding water areas, but limited view over the inland. Both types of sites contain archaeological material indicating long distance contacts, suggesting that they had a role as gathering sites. Furthermore, the megaliths on the Orkney Islands are located in areas where boats can pass on their way to calmer waters and inland roads. The same can be said concerning some of the Pitted Ware sites. Several of the sites are not adequate as ports owing to their exposed position towards the sea where hard waves would make a landing difficult. However, just behind the sites we often find quiet beaches where boats could land and access the inland.

## **Nodes in Communication – final remarks**

Based on the discussion above I believe it is possible to argue that Pitted Ware sites in the Lake Hjälmaren area lack the qualities that are usually considered as important for settlements. Rather than being located in protected habitats, in most cases they are positioned in places affected by strong and continuous south-westerly or westerly winds. This can also be observed in the geomorphology and present vegetation at the sites. A GIS model based on a viewshed analysis infers that the Pitted Ware sites were strategically located on places with views covering large areas of water, including the entrance into the ancient Lake Hjälmaren from Littorina Sea. Further, exotic items from different geographical areas retrieved from the sites suggest that the Pitted Ware sites constituted a network of sea routes and important places for creating social interaction.

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## More than Meets the Eye

Pottery Craft in Transition at the End of the Middle Neolithic in Eastern Sweden

### Abstract

Pottery has a central position in the Neolithic and is often used by archaeologists to identify and categorize cultures and groups. Yet the definition of types often rests on style and does not go deeper than the surface. Theories on change and continuity in ceramic style which are said to relate to cultural changes also tend to lack a deeper knowledge of craft processes and the situated knowledge of potters. Ethnoarchaeological studies have given us a better insight into the mental and embodied practices that govern and steer change both individually and collectively. Craft is both a social and socialising part of life in traditional societies, and the *chaîne opératoire* of pottery making is therefore a glimpse into the ideologies and processes of prehistoric cultures. At the end of the Middle Neolithic, the two distinct pottery traditions of the Pitted Ware culture and Battle Axe culture in Eastern Central Sweden are showing signs of hybridization of the crafts. Analyses of certain beakers show that there is more going on beneath the surface than is immediately evident to the naked eye. Several beakers are now made with techniques more commonly associated with Pitted Ware pottery craft.

*Keywords: Middle Neolithic, Late Neolithic, Battle Axe culture, Pitted Ware culture, third group pottery, craft, pottery, chaîne opératoire, practice, embodied, ethnoarchaeology, change*

## Introduction

Stone Age archaeologists are under challenge to understand societies where there is no historic information whatsoever. All that is left are fragmentary material remains and scarce evidence of built structures. Any attempt to interpret social events and processes from these must therefore rely heavily on theories regarding the relationship between humans and material culture. It is mainly from within anthropology and sociology that we can hope to find such theories, constructed out of the study of living societies.

Unfortunately, for most of the 20<sup>th</sup> century these disciplines have been reluctant to study material culture. Thoughts, mental constructs and spiritual aspects of society were worthy of study, not the ‘physical debris’ (Trigger 1998; Ingold 1999). In the past few decades however, more and more researchers in sociology, anthropology and even philosophy have come to realise that it is a fallacy to view the human body and its actions as mere superficial symptoms of the cultural mind. Body and mind are interlinked in ways that inform and shape each other (Bourdieu 1990; Lakoff & Johnson 1999). Through this increased interest in the embodied mind, cognitive systems and situated experience, archaeologists have been given a better chance to understand the material remains at their disposal and what they might tell us – and *not* tell us – about a prehistoric human community.

Material culture is important, not only because it is shaped and created by members of a community, but because it in turn has an influence on what is considered familiar or exotic. In traditional small-scale societies where most daily objects were crafted by local residents, the socialisation of children into society is intimately linked to embodied experience through the learning of a craft. This has triggered our interest in pottery craft in general, and in ‘atypical’ vessels in particular. We will here discuss certain types of vessels appearing at the end of the Middle Neolithic in Eastern Sweden, that appear to have mix of traits from both pitted-ware and battle-axe pottery. In order to arrive at a better understanding of what these vessels might represent, we will argue that it is imperative to combine stylistic and technological analysis, and especially to take anthropological studies of craft, learning and embodied practice into consideration.

## Background

The results reported here have been attained through the “third group pottery project” involving both of the authors and financed by the Berit Wallenberg



Foundation. The outlines of the project were presented at the first Uniting Sea Workshop in 2002 (Larsson 2003), and the preliminary results were published in 2004 (Graner & Larsson 2004). The questions triggering this project concern the appearance of pit decorated battle-axe beakers on Middle Neolithic sites in South Sweden, that were named “third group” pottery (Fig. 1) (Olsson 1996). Group in this case, refers not to another archaeological culture or ethnic group, but to an atypical kind of battle-axe beaker with decorative elements from pitted-ware.

The relationship between the Battle Axe culture and the Pitted Ware culture is a contested subject in Swedish archaeology (Larsson 2009c: chp 3). The Pitted Ware culture is found mainly along the southern East Coast of Sweden, from Gästrikland to Skåne. The oldest sites appear in Eastern Central Sweden (*Mälardalen*) around 3400-3200 BC, and shortly thereafter on the large islands of Gotland and Öland, in the Åland archipelago, and southwards and northwards along the coast. The settlements are noted for their large quantities of pottery, osteological remains of wild fauna that over time become almost entirely marine (e.g. seal, porpoise, fish, water fowl). There are also finds of slate tools and zoomorphic objects otherwise known from Northern Sweden, Finland and the Baltic states. Dietary studies on human bones from Pitted Ware burials show an almost completely marine diet (Eriksson 2003; Lidén & Eriksson 2007; Fornander et al. 2008).

During the third millennium BC there are marine hunter-gatherers along the Swedish West Coast as well, that are often referred to as Pitted Ware culture (Becker 1950). However, the material remains on these sites differ in many respects from that of the eastern and southern coasts, and several archaeologists have questioned the notion that all marine hunters in South Sweden at this time should be viewed as a single culture (Wyszomirska 1984; Thorsberg 1997; Pappmehl-Dufay 2006; Larsson 2009c:55-58). In this paper we will only refer to the East Coast sites, including Skåne, as Pitted Ware culture.

Battle Axe culture is the Swedish-Norwegian regional version of the continental Corded Ware complex, that covers most of Central and Northern Europe in the period between 2900-2300 BC. The Battle Axe sites are mostly found a bit removed from the contemporary shore-line, on light sandy soils by the glacial eskers and in the inland. Burials, stray finds and the occasional house are found all over South Sweden, from Uppland to Halland to Skåne. The settlements have only small amounts of preserved remains, and most of the material evidence comes from the burials. In the graves there are tools made of sheep bones, as

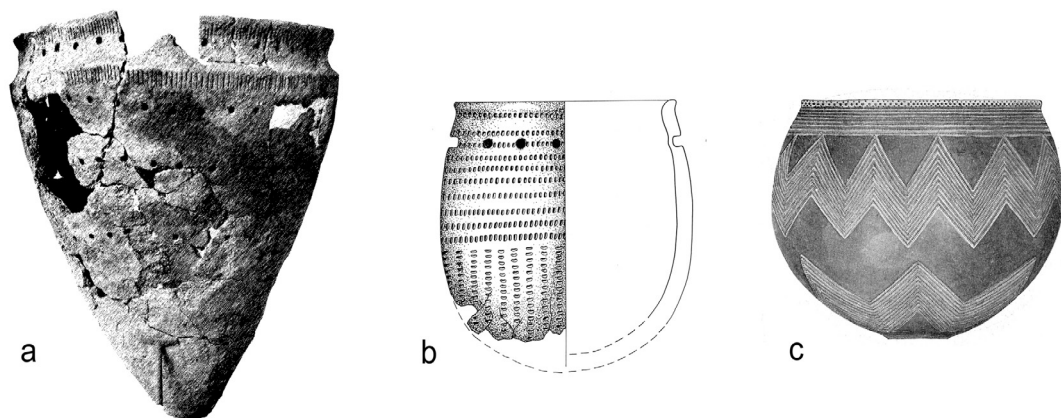


Figure 1. Pottery types of the Middle Neolithic B in South Sweden: a) Pitted-ware pottery (Siretorp, Blekinge); b) 'Third group' beaker (Turinge, Södermanland); c) Battle-axe beaker (Högarne, Västergötland).

well as bone and antler from deer. Dietary analyses on a few individuals have shown that they had a diet based on land animals and plants (Lidén et al. 2004; Lidén & Eriksson 2007).

These two archaeological cultures co-existed partly in the same regions over a long period of time (Middle Neolithic B), and both 'disappear' at around the same time, 2300 BC, when the Late Neolithic culture replaces them. The pottery of each culture is quite distinctive, and pottery showing traits of both traditions are extremely rare. In order to be able to discuss the "third group" pottery and other hybrid types, it is necessary to give a short presentation about what defines each craft tradition.

## Pitted-ware pottery

The general shape of pitted-ware is that of a conical vessel with a rounded-pointed base, carinated shoulder, and a straight or slightly concave neck (Fig 1). Vessels of this shape occur in all sizes, from large containers with a rim diameter of over 40 cm, to miniature vessels less than 10 cm in height. The most common decoration is that of at least one horizontal row of large round pit impressions, which is present on most though not all vessels. Apart from these general characteristics, there is a considerable variation in the shape of rim edges, which can be anything from thin and rounded to large and flat or bulbous. The decoration on the vessels is deceptively simple, since it often involves short

vertical or oblique strokes/comb impressions which create horizontal fields of patterns, often with herring-bone motif. However, the tools and application techniques may vary considerably, and the combinations of various fields and patterns on vessels are such that it has proven to be virtually impossible to create typologies based on style for pitted-ware. Typical pitted-ware is often referred to as Fagervik III (F III) and Fagervik IV (F IV), after a systematic study on the eponymous site by Axel Bagge (Bagge 1951, Larsson 2009c: 97).

Pitted Ware sites are comparatively easy to identify today due to the vast quantities of pottery sherds, quite often in excess of a hundred kilos. In most cases, the pots seem to have been deposited in a more or less fragmented state. On several sites otherwise complete bases have been deposited upside-down. What is interesting is the fact that upside-down bases also appear in some Pitted Ware burials. In fact, the graves only rarely contain any pottery, except for in a few cases just the bases, or a few sherds, or occasionally miniature vessels/cups (Larsson 2009c:345ff).

Technologically speaking, the vessels were fashioned with coiling, and the coils were usually fastened through N-technique (smoothed by being drawn upwards on one surface and downwards on the other). The surfaces are fine but not at all smoothed or polished, and the vessels were fired in an open fire. Thin section microscopy has been performed on pitted-ware pottery from a number of sites over the last few decades. Most of these sites are from Eastern Central Sweden, though there are additional settlements on Gotland and Öland to act as a comparison (Papmehl-Dufay 2006; Larsson 2009c: chp 7). In Eastern Central Sweden virtually all the pitted-ware was made with fine clay, mostly non-calcareous (c. 75 %).

On Öland and Gotland in contrast, most vessels were made with coarse or medium-coarse clay. That the gotlandic vessels were almost exclusively made with calcareous coarse clay is perhaps not surprising, considering virtually any clay that can be found on the island is of that nature. The ölandic vessels are interesting, however, as they are all non-calcareous despite the fact that it is difficult to find such clay on the island. In addition, over 25% are made with fine clay, which is quite rare on the island. This leads Papmehl-Dufay (2006:209f) to suggest that either the potters spent a concentrated effort on finding the few clay sources of non-calcareous clay on the island, or most of them were made on the nearby mainland and transported to the island sites. Another alternative is that the raw clay was transported by boat from the nearby mainland to the island settlements.

A technological novelty of pitted-ware is the use of calcareous materials for temper: calcite, burnt bones and shell have been identified (Brorsson 2008; Larsson 2009c:205-209). This increased use of calcareous temper is evident in the fact that over time a larger portion on pitted-ware is notably poriferous. This is a result of the temper being dissolved in the mostly sandy, acidic soils over time, and would not have been evident to the prehistoric population. Apart from this, there is a somewhat greater variation in the types of rocks used as temper as well (Larsson 2009c: fig. 7.4). Not just crushed granite, as was the general rule in the earlier funnel-beakers, but also quartz, sandstone and natural sand. Calcite was also commonly used as temper on Gotland. However, on Öland very little of the pottery is poriferous and only a few of the analysed sherds contained calcite and none contained bone temper. Instead, most of the sherds from the northern site Köpingsvik were tempered with sandstone, whereas the majority of the sherds from the southern site Ottenby were either tempered with natural sand, or had no temper at all added to the coarse clay (Papmehl-Dufay 2006; Stilborg 2006).

## Battle-axe pottery

Battle-axe beakers are mainly known from the graves, where they are a common burial gift. Small, globular and thin-walled, they both strongly resemble and clearly differ from the contemporary corded-ware beakers of Denmark, Germany and Poland. In terms of shape, the closest parallel outside Sweden-Norway is Finnish corded-ware (Edgren 1970; Larsson 2009c:257ff). The early beakers are mostly cord decorated, as the name implies, but later types in Sweden are also often decorated with dense square-pegged tooth-stamp and at the end of the period also by whipped cord-stamp. The decorative patterns are quite rigidly prescribed in their composition, and similar across the whole of South Sweden (Malmer 1962; 2002). The beakers often have a carefully smoothed, even glossy surface, and several have undoubtedly been fired in a reduced atmosphere in a pit or beneath a covering, resulting in a pitch black ware. However, the vessels were often cooled in open air when still hot, which makes the exterior oxidized whereas the ware directly beneath the surface is black (Rye 1981:98, 116f; Larsson 2009c:242ff, fig. 8.8).

As mentioned, these small beakers are found in the graves, but they also occur in settlement layers and at the long houses of the Battle Axe culture. There is usually only a small amount of battle-axe pottery to be found at settlements due to several reasons: the small sizes of the vessels, the thin walls, no routine of depositing vessels in pits, and the continued settlement at many of these sites in

the Late Neolithic which increases the destruction. But the fact that Battle Axe communities used pottery for different reasons is another aspect contributing to the difference in quantity compared to the Pitted Ware sites (Larsson 2009b). It should be noted that there is also a type of more purely ‘domestic’ ware associated with the Battle Axe culture. These larger vessels are sparsely decorated with cord, dots, or a short-wave moulding at the upper part, but otherwise undecorated. The surface was also often brushed when still wet with grass or something similar, unlike the carefully smoothed surfaces of the beakers (Larsson 2008, 2009c:242). As these types of vessels are not included in the graves, and are only known through fragments on the settlements, they are often overlooked by archaeologists. Especially since many Battle Axe sites have phases of later settlements as well, mainly of the Late Neolithic and Bronze Age. Since similar versions of coarser domestic ware exist in these periods as well, it is often problematic to ascertain which undecorated sherd belongs to which period.

Technologically the battle-axe pottery differs notably from other contemporary and earlier types of Neolithic pottery in Sweden (Larsson 2009c: chp 8). The reduced firing mentioned above is virtually unknown before this, but even the very earliest beakers are often fired this way. The beakers are also fashioned by pinching rather than coiling, though the rim may be added as a coil. But the defining trait of the Battle Axe pottery craft is perhaps the use of grog (*chamotte*), crushed pottery, as temper. The earliest beakers are tempered with little else, and there are cases of grog-tempered grog used as temper. Some vessels have a combination of grog and crushed granite, especially the larger storage vessels and the later types of beakers, and a few have only granite temper. It should be pointed out that grog is at times very difficult to identify in a thin section, unless it is made from a different type of clay, or the initial vessel was fired at a higher temperature (Lindahl 1990; Stilborg 2005). Other non-plastic inclusions are very rare. In Skåne a few vessels have been tempered with sandstone or natural sand. Most of these are of younger types.

## Learning to be a potter and the *chaîne opératoire*

Most studies of pottery in archaeology have tended to focus on either style or function. Stylistic qualities have been defined as cultural embellishments and often viewed as a means of symbolic communication. Decoration, in short, is often approached as ‘text’ or ‘symbolic’. In contrast, the technology of pottery is mostly viewed in functionalistic terms, as a way of rationally solving a problem. Both these viewpoints tend to focus on intellectual intentions and the *finished* product, not the process that makes the product or the person performing the task. Ethnoarchaeological methods have been employed to study these aspects

in living traditional societies, but the results of these studies were often hard to fit into the theoretical templates of style vs. technology (Gosselain 1994). With the exception of a few highly specialized uses of ceramics in smelting, or the advent of market economy specialists, there is very little in terms of rules about what type of clay or temper is used for a specific purpose (Arnold 2000). For every example of pottery decorations having specific meanings and interpretations, there are ten examples of potters not being able to “translate” motifs and designs into meaning the way a written text can be (Smith 1989; Gosselain 1992; Barley 1994:121).

That is not to say that ethnoarchaeology is not useful when trying to understand pottery craft in traditional societies. Over the past few decades a greater interest in the learning of a craft, and the embodiment of practice, have helped reveal that the creation of material culture is a deeply socially embedded part of not just society, but also the individuals themselves (Larsson 2009c: chp 6.1). The growing interest in the social aspect of making objects draws upon the works of the French archaeologist André Leroi-Gourhan (1993 [1964]), anthropologist Pierre Lemonnier (Lemonnier 1986; 1993), as well as the research into learning structures of the Americans Jean Lave and Etienne Wenger (Lave & Wenger 1991).

Leroi-Gourhan has introduced the concept of *chaîne opératoire*, the operational sequence, which highlights that technology is more than an assortment of raw materials and procedures: it involves a sequence of events, specific gestures, choices and routinized actions. There is in effect an interaction of technology, techniques and cognition. While the operational sequence is dependent upon social structure, it is not in itself necessarily a conscious ethnic or cultural marker. Most importantly, the operational sequence is a process of socialisation in itself, much in the same way as Bourdieu (1990) discussed the creation of a *habitus* through daily practice. Understanding the stages of the manufacturing process can potentially offer insight into many different levels of society, including the socialisation of children, the organisation of production in a traditional society, and attitudes toward authority and innovation in a cultural setting.

A growing number of ethnoarchaeological studies focused on pottery craft from this perspective have resulted in a better understanding about how potters work, how they teach and learn, what aspects are more prone to change and what the reasons for resistance to change may be. These are discussed extensively in another publication (Larsson 2009c: chp 6), however, a synopsis of the general conclusions are presented here.

## Clay selection

Clay is almost always retrieved from within a distance of 3 km of the pottery production site, unless modern transportation is available. Only rarely do potters use sources further away than that, and in those cases the source is usually located close to a relative's settlement (Sillar 1997:table 1; Arnold 2000:343; Livingstone Smith 2000; Gosselain & Livingstone Smith 2005:35; Gosselain 2008b:70). Far more important than the actual energy expenditure when using a source are social and cultural factors, including pathways across the landscape and traditional ancestral ties to a source, or part of the land (Smith 1989; Frank 1994:29; Sillar 1997). An important aspect is that the clay sources tend to be situated close to areas frequented for other reasons as well, so they are part of the general appropriation of the landscape (Gosselain 2008b:70). The source is hardly ever personal property, but collectively owned and maintained by all or many of the local potters – sometimes even potters from completely different ethnic groups (Livingstone Smith 2000; Wallaert-Pètre 2001).

Clay can have many properties, but some of the most apparent to potters are coarseness, plasticity and amount of inclusions. While many potters may profess to a preference for a specific type of clay and declare its optimal qualities for the intended use of the vessels, it is equally clear that these preferences are anything but universal. One community may use coarse clay for a cooking pot, where another uses fine clay (Gosselain 1994; Sillar 1997). Technological analysis of shock resistance and thermal characteristics in a laboratory might indeed prove that certain pastes do indeed have more or less optimal qualities. The problem is that this does not seem to influence pottery craft among non-specialists to any notable degree (Sillar 1997; Arnold 2000:345). Potters will evaluate potential clay with the help of the senses. Sight, smell and even taste are employed, but the most important help is *touch*. The clay is rolled into coils, rubbed between fingers and on the cheek to check the plasticity and coarseness. The physical property of clay is extremely important for potters when they make their selection (Dietler & Herbich 1989:153; Sillar 1997:11; Gosselain & Livingstone Smith 2005:40).

## Tempering

Clay generally needs to have non-plastic material added to prevent it from cracking and fracturing during firing. A large number of materials are used as temper: sand, bones, shell, hair, grog, plant material, dung, blood, rice, cereal husks, wool, ash, asbestos etc, as well as crushed rocks of every kind (granite, calcite, flint, quartz, slate, volcanic) (Rye 1981:31ff; Lindahl et al. 2002:18ff). Different materials can also be mixed together to form a type of 'recipe' for the final paste. While the material used and the amount added to the clay is mainly



culturally prescribed, the potter will often adjust the quantities in a manner that will result in a paste that ‘feels right’ (Frank 1994:40; Arnold 2000:355).

## Shaping

Forming a vessel is often roughly divided into primary and secondary stages, as well as surface modification.

**Primary forming** is the basic converting a lump of clay into something resembling the final shape. Different parts of a vessel can be made in separate stages. Techniques of primary forming are mainly versions of coiling, pinching, molding, pounding, slab-building, drawing and/or wheel-throwing (Johnston 1977; Rye 1981). A vessel might be shaped using only one or several different shaping methods. Coiling is the general technique of Neolithic Scandinavia, which means that the vessel is constructed from coils of clay placed on top of each other or added as a spiral. The way in which the coils are then made to form a smooth wall can vary. The most commonly used technique in Neolithic Sweden is N, which means that the coils are smoothed downwards on one side, and upwards on the other, creating sloping joints (Lindahl et al. 2002:21 ff).

**Secondary forming** involves adjusting and completing the vessel shape. Techniques used involve turning, scraping, paddle-and-anvil, beating, trimming, and additional wheel-throwing, coiling and/or joining. The proportions and finer aspects of the shape are set, and features such as the shape of the rim are completed (Rye 1981:84 ff). **Surface modification** can take place during either of the previous stages and/or after them. This means changing the texture of the surface to some degree, e.g. by scraping, smoothing, polishing, burnishing, or applying slip etc (Rye 1981:62 ff; Gosselain 2000; Lindahl et al. 2002:25 f). Separating surface modification from decoration is perhaps an arbitrary division, but it is unfortunately often overlooked by archaeologists. Surface modification can take longer and be more difficult to master, than applying decoration.

## Decoration

Embellishment and decoration can take almost any form imaginable, from impressions of tools or objects, to painting motifs, to molding 3-dimensional patterns. Although most archaeological works have tended to focus upon decoration as symbolic text and/or as an identity marker, examples of this in ethnographic research are quite scarce. There are of course cases of decorative patterns of symbolic meaning (Gosselain 1992:574), however there are far more cases of patterns being viewed as traditional embellishments and nothing more (Smith 1989:62 f; Gosselain 1992:574): “[D]ecoration belongs to a category of

*manufacturing stages that are both particularly visible and technically malleable, and likely to reflect wider and more superficial categories of social boundaries”* (Gosselain 2000:193). The tools used to create decorations and patterns are very often simple and non-specific: a sharpened twig, a piece of cloth, a shell, an ear of corn. Some are specifically made, such as pegged comb or tooth stamps. Gosselain has studied the widespread use of various types of roulettes in sub-Saharan Africa, made of fibre or carved out of wood. These were not restricted to certain areas, or to certain ethno-linguistic groups. However, their distribution was not completely random either, as they tended to be handed down from teacher to disciple (Gosselain 2000:200). The use of such tools then represented teaching networks, developing over time.

## Firing

For many potters, this is the most perilous phase of the manufacturing process. All previous hard work may come to nothing if the vessels fracture and crack when fired, which can easily happen. The firing is therefore often surrounded by many taboos and ritual prescriptions, and it is not something potters tend to experiment with. It is also usually a collective affair as most firings tend to include vessels made by many potters, if more the community has more than one (Dietler & Herbich 1989:155; Frank 1994:32; Sillar 1997; 2000; Gosselain & Livingstone Smith 2005). In Neolithic Scandinavia kilns were not in use, which leaves two main methods:

**Open Fire:** The basic method is to place dried vessels on wood, dung, grass or other types of fuel. While it is deceptively simple, it requires a lot of experience and know-how by the potter in order to avoid extreme temperature variations that may cause the vessels to fracture. An open fire can easily reach 800°C, or even above 900°C if it is constructed properly (Rye 1981:102f). Firing too short a time will make the vessels unstable or prone to disintegration, while firing too long a time may make them too brittle. Clay containing calcite, or being tempered with shells or limestone, will be weakened by temperatures above 800°C, and should preferably be fired at lower temperatures (Rye 1981:98). An open fire creates an oxidized atmosphere, meaning the clay interacts with the air and the surface is light yellow to reddish brown in colour, depending on the minerals (e.g. calcite, iron) it contains.

**Closed Fire:** An alternative way is to cover the vessels and the fuel with a layer of non-combustible insulating material, such as earth, dung, wet grass or stones. Either this is constructed as a mound around the vessels, or they are placed inside a pit. Since this creates a reduced atmosphere, the vessels become dark

and blackened. However, if the still warm pots are allowed to cool off in open air, the outermost surface can become oxidized (Rye 1981:98, fig 105).

Some interesting aspects about the conservative nature of potters are revealed by research undertaken among present day potters in traditional societies, where pottery is still produced for domestic purposes rather than as a commodity for sale. While there can be no denying that potters in these societies are skilled craftspeople, sometimes exceptionally so, it is a fallacy to assume that this means that functional optimisation is the main goal of their technology. Even when potters of different ethnic groups live close by, even in the same village, the craft rarely changes (Gosselain 2008b).

Sometimes one group is willing to admit that the other group's pottery has a better reputation or that their shaping method is more efficient, yet they are still reluctant to change their practice. The main stated reason for this is that craft is consciously and intimately linked with social identity and family traditions. Pottery craft is almost always taught by a close relative, often a parent, and it is therefore part of the cultural inheritance of an individual (Dietler & Herbich 1989; Smith 1989; Gosselain 1998). Since most teaching takes place informally from a very young age by 'peripheral participation' (see Lave & Wenger 1991), most aspects of the operational sequence is integrated on a partly sub-conscious level. The potter simply does not think of it in terms of technical *choice*, it is simply 'the way to make pottery' (Gosselain & Livingstone Smith 2005:41). Even when confronted with alternative technological choices, most will reject them as valid but 'foreign'.

The shaping is especially conservative, and strongly associated with tradition and cultural identity. The reason for this is partly because it is often taught at a young age, and partly because it becomes embodied in motor habits which are difficult to change (Lackey 1993; Gosselain 2000:192, 210). One of the authors of this paper, Gunlög Graner, has extensive experience of making pottery, and has also worked with making replicas of prehistoric pottery. She makes the following observation about the embodiment of motor habits:

*Long before I knew that there were anthropological studies on the matter, I noted for myself the firm opinion of potters as to how shaping and firing should, and must, be carried out to avoid cracking. I have met several Swedish potters holding entirely opposite, but very decided opinions concerning the necessity for instance of scraping the surface of the coils, or to use slip between them, when building the vessel. Firing vessels in an open fire without pre-heating or covering them is also a method that many potters do not believe to be possible until seeing it*

*with their own eyes. As for myself, I have noticed with astonishment how certain parts of the working process have become embodied routine, for example in what direction to build up the coils. Working in another way than my usual one gives me such an awkward feeling that I would rather avoid doing it.*

In fact, the stages of the production process that are the least visible in the final product tend to be quite conservative, as there is rarely any external pressure to change these. So the shape of a vessel may be altered, but the *method* of shaping stays the same (Nicklin 1971:23; Wallaert 2008:186, 196). Any stage that is undertaken collectively, such as clay collecting and firing, will also be resistant to individual innovation and experimentation. Depending on the cultural ideology, potters may be more or less actively pressured by the rest of the community to keep to the established norms as well. Anyone who deviates will run the risk of being ridiculed or even publicly censured.

The most common reason for changing ones craft is relocation, and the most common reason for relocation is marriage (Stark 2003; Lane 2006; Gosselain 2008a). A marriage may take place within ones own ethno-linguistic group or it may involve moving to a completely different ethnic community. Depending on the circumstances, the craft may be practiced very much in the same manner in which the potter has been taught, or the local potters may have a very different *chaîne opératoire*. Different societies may have very diverse attitudes toward variations in craft practice. In some groups the potters are expected to change the outward style to fit with local norms, but are allowed to fashion vessels in the manner with which they are familiar, which means they will also teach their children to make vessels in the same way (Gosselain 1998). This will lead to very varied craft practices across a region over time. Indeed, sometimes co-wives in the same compound will keep parts of their own craft tradition despite working next to one another (Nicklin 1971:26).

However, other societies have very different customs and demand that all potters not only make similar looking vessels, but also that the basic manufacturing process conforms to the local norms. Among the Luo of East Africa, who practice polygamy and patrilocality, a new wife is immediately expected to begin re-training under her mother-in-law or a senior co-wife. Every stage is carefully supervised, as deviation from it is viewed as synonymous with disrespect for authority and the lineage (Herbich 1987; Dietler & Herbich 1989). Despite the fact that all married women in a community come from somewhere else originally, the pottery produced will have a specific and very coherent style associated with that particular pottery centre. There is also the possibility that

potters will voluntarily adjust their craft over time, to fit more with that of other potters. This will mainly affect aspects of the craft that are easily perceived as different, such as tempering, primary shaping or decoration, whereas the fine motor-habits associated with finishing the walls or shaping the rim, and the type of decorative tool used, will not always be consciously considered as 'different' (Gelbert 1999:221f).

Peer pressure among fellow potters, or from a socially and politically influential segment of society, can act as an agent of change. It is important to note however, that when new types of pottery are adopted by imitation rather than through active re-training by experienced potters, the technological aspects are often not changed. Instead, the potters use familiar techniques and raw materials to make the new types of vessels (Nicklin 1971:20; Wallaert 2008). When reasons for substantial changes in shape, technology or style are stated to be for efficiency, functionality or aesthetic values, the pressure is almost always from a market economy and commercialisation. Potters in small-scale traditional societies who make pottery for the own group, for domestic and ceremonial purposes, tend to be quite conservative since the craft is deeply embedded in their identity and acts as a link to preceding generations. Change occurs over time of course, but the pace and extent of changes from one generation to the next depend very much upon the culturally specific attitudes towards innovation, variation and proper behaviour.

In most small-scale societies today, pottery craft is in the hand of women – though not necessarily *all* women (Arnold 1985; Sassaman & Rudolphi 2001:420). Sometimes most women of an ethnic group are expected to learn how to make pottery (Bowser & Patton 2008), sometimes the potters are concentrated to a few communities (Dietler & Herbich 1989), certain lineages, or a specific social class or caste (Gosselain 2008a). There are examples of male potters in traditional societies as well, though in most cases they are more likely to make pottery as a commodity for sale (Barley 1994:25; Gosselain 1999:210; Gosselain & Livingstone Smith 2005:42). There are also societies where both men and women become potters, often as part of a household team, though they might make different types of pots (Lackey 1993; Sillar 1997; Degoy 2008). With what we have learnt about small-scale pottery craft in traditional societies, it is time to look at some of the atypical types of Middle Neolithic pottery. We are hoping to show that it is necessary to take the operational sequence and the context of pottery depositions into consideration, when trying to understand both material culture and exceptional examples.

### Third group pottery

Large pit impressions, which are found on the great majority of pitted-ware vessels, are extremely rare on battle-axe beakers. In the 1990's the term "third group" pottery was used among field archaeologists when discussing the phenomenon of pit impressions on beakers. The term designated a third kind of pottery with traits from both battle-axe pottery and pitted-ware, and therefore not easily categorized to one of Malmer's battle-axe pottery groups. **It was not, as some have later on inferred, meant to suggest a third archaeological culture or ethnic group.** The vessels in question were known only through a few examples, and only on sites that were otherwise dominated by Pitted Ware culture or Battle Axe culture (see below).

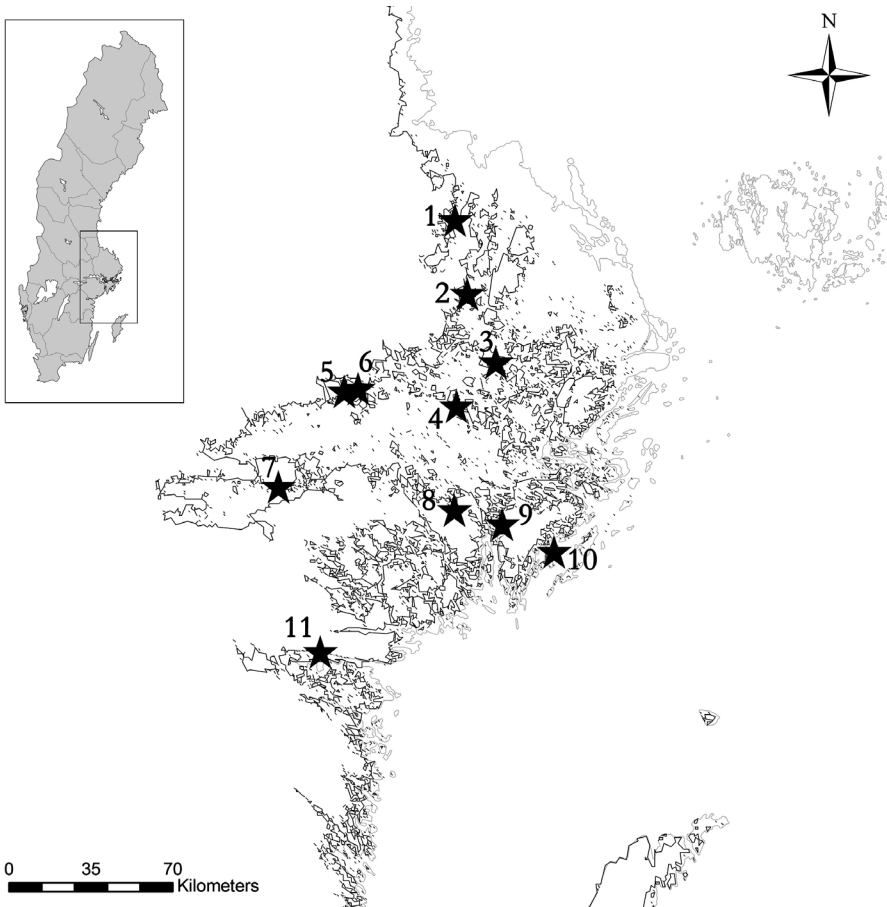


Figure 2. Map of sites with pit decorated or poriferous battle-axe beakers: 1. Torslunda; 2. Tibble\*; 3. Vrå; 4. Apalle; 5. Fågelbacken; 6. Bollbacken\*; 7. Täby; 8. Turinge; 9. Kyrktorp; 10. Torpaskog; 11. Fagervik. \* = poriferous beakers. (Shoreline map for 4000 BP created by Lars Andersson and Tore Pässe)

Table 1. Sites with pit-decorated battle-axe beakers, the so-called ‘third group pottery’. Also discussed in the article are two sites where beakers with poriferous ware have been found, which is usually characteristic for pitted-ware pottery. PWC = Pitted Ware culture; BAC = Battle Axe culture; LN = Late Neolithic; ps = parish.

No	Site	Atypical beakers	Culture	Type of site
1	Torslunda, Tierp parish Uppland	Pit-decorated beakers	PWC	Settlement
2	Tibble, Björklinge ps Uppland	Poriferous beakers	PWC	Settlement
3	Vrå, Knivsta ps Uppland	Pit-decorated beakers	BAC/LN	Settlement
4	Apalle, Övergrans ps Uppland	Pit-decorated beakers	BAC/LN	Settlement
5	Fågelbacken, Hubbo ps Västmanland	Pit-decorated beakers	BAC	Settlement
6	Bollbacken, Tortuna ps Västmanland	Poriferous beakers	PWC	Settlement
7	Täby, Öja ps Södermanland	Pit-decorated beakers	BAC	Burial
8	Turinge, Turinge ps Södermanland	Pit-decorated beakers	BAC	Mortuary house
9	Kyrktorp, Grödinge ps Södermanland	Pit-decorated beakers	PWC	Settlement
10	Torpaskog, Muskö ps Södermanland	Pit-decorated beakers	PWC	?
11	Fagervik, Krokek ps Östergötland	Pit-decorated beakers	PWC, BAC	Settlement
12	Hedningahällan, Enånger ps Hälsingland	Pit-decorated beakers	-	Aggregation site

Definitions of the “third group” were vague, and at times seemed to include battle-axe beakers with other pitted-ware traits such as poriferous ware (Olsson & Edenmo 1997). In order to determine whether the group was in any way a viable category of prehistoric pottery or not, it was decided to undertake a small project, which has been generously funded by the Berit Wallenberg Foundation (Larsson 2003). This included compiling all the cases we could find, and also making thin section analysis on a few of them. We decided to go with the initial definition of “third group” pottery: i.e. small globular beakers with pit impressions. We wished to investigate whether this category had any validity at all, or if it was simply the result of random variation. Initial results of the archaeological part of the project have been published previously (Graner &



Larsson 2004). Additional thin section analysis of the Torslunda settlement has been done by Torbjörn Brorsson (2006). The results of these are discussed below.

A total of ten sites with anything from one sherd to several beakers with pit impressions have been identified in various reports (Tab 1). While this is a very small number, one is immediately struck by the limited geographic spread of these sites: all but one are found in Eastern Central Sweden. Hedningahällan, the one exception, is situated further up the eastern coast in Norrland (Schierbeck 1994; Holm 1997). The southernmost site is Fagervik in Östergötland (Bagge 1951). Apart from this there are four sites in Södermanland, three in Uppland and one in Västmanland. This strongly suggests that neither the presence nor *absence* of pit impressions on beakers is a coincidence, but a socially significant fact.

It should be pointed out that in our previous article, we also listed another find spot: the cave Stora Förvar at Stora Karlsö (Gotland), which is not included here (Graner & Larsson 2004:fig 6b). This vessel is decorated with wolf-tooth pattern and a row of pits. Wolf-tooth pattern, made with comb stamp, is particularly associated with the late pitted-ware type Fagervik IV in Sweden and on Åland. F IV vessels usually have a very diminutive shoulder, and sometimes no shoulder at all making the vessel conical or rounded-conical like most of the Finnish comb-ware. The shape of the Stora Förvar vessel is more reminiscent of that, than of the battle-axe beakers whose middle has equal or greater circumference as the rim. It also has an uncharacteristically flat rim for a beaker (Schnittger & Rydh 1940:fig LV:2). On closer deliberation, for this reason we have decided to not include the vessel in the “third group”.

Apart for the limited geographic spread, there is also another aspect that is common to all the “third group” vessels: chronology. Although exact dating is not possible, all the pit decorated beakers are found in contexts that suggest they were made at the end of the Middle Neolithic B or at the beginning of the Late Neolithic. Also, apart from the pits the decorations on these vessels are otherwise consistent mostly with Malmer’s late battle-axe pottery groups J and K. On Hedningahällan some beakers with decoration resembling group M had pits, and there are also some examples of otherwise undecorated globular beakers with large sparsely placed pits. Apart from this consistency, there is no clear correlation between a certain type of decoration and pit impressions. Some vessels have oblique lines in the J-style, others have dense herring-bone

pattern of the K-beakers, and still others have vertical lines formed by tooth stamp or whipped cord stamp. The largest variation is found at Hedningahällan, where various types of single stamp are used to create surface covering patterns. However, since some of the beakers are only preserved as rim sherds, it is not always possible to tell what kind of decoration existed on the body.

There is no apparent consistency in which context these vessels appear. They have been found in two Battle Axe burial contexts, as well as on both Battle Axe and Pitted Ware settlements, and in Late Neolithic settlement layers. They have not as yet been found in any Pitted Ware burial. If these beakers were meant for a specific use or occasion, it is not possible to determine this. In general, battle-axe beakers of later types (G, H, J and K) do occur in the younger Pitted Ware settlement layers with certain consistency. It is usually only a few vessels found at the lower elevations and/or with Fagervik IV pitted-ware, a very small amount compared to the huge quantities of pitted-ware at these sites. Interestingly, pitted-ware does not occur on Battle Axe settlements, at least not in contemporary assemblages. For instance, in Västmanland at the Pitted Ware settlement Bollbacken, <sup>14</sup>C-dated to the second half of the Middle Neolithic B, a small amount of G, H and J battle-axe beakers were found together with pitted-ware in the northern part of the site close to some of the small houses there (Artursson 1996). A few kilometres away there was a roughly contemporary Battle Axe settlement with a long house, at Fågelbacken (Hallgren 2000). Sherds from several battle-axe beakers were found in and around the house, but no pitted-ware at all. However, though most of the beakers were typical battle-axe pottery, there was one sherd of the “third group” with pit impressions.

In order to examine whether the “third group” represented a cohesive craft a few sherds were selected for analysis by thin section microscopy. From Fågelbacken the “third group” sherd and two sherds of typical battle-axe beakers were selected for comparison. A single grave at Täby (Öja ps), in Södermanland contained two beakers, one with a horizontal row of pits by the rim and vertical stamped lines over the body, and one J-vessel (Malmer 1962:934). The burial gifts also included two hollow-edged ground stone axes, a hollow-edged stone chisel, and an E:2 battle axe, which is the youngest type. Independently, Torbjörn Brorsson (2006) has also analysed sherds from the late Pitted Ware site Torslunda (Uppland) which are included here as well. The project also analysed some beakers with poriferous ware (see below).

## Technological analysis of “third group” pottery

### Fågelbacken, Hubbo ps, Västmanland

A Battle Axe culture house. Three sherds were analysed (Fig. 3). Two battle-axe sherds of types M and G/H are made with coarse clay tempered with a combination of grog and crushed granite, completely consistent with Battle Axe craft tradition. The “third group” sherd in contrast, comes from a vessel made with calcareous fine clay tempered with calcite. Both of these materials are otherwise virtually unknown in battle-axe beakers (though see below), but are consistent with pitted-ware pottery craft. Unfortunately the sherd was so small that a proper thin section could not be made, only a microscopy of the cut surface. While this is enough to identify the type of clay and rock mineral used, it was not possible to ascertain whether there was any grog temper present or not. The shape of the rim and the tooth stamp used do not in deviate from battle-axe tradition, but the exterior surface was perhaps less smoothed and glossy than many of the other battle-axe sherds at the settlement.

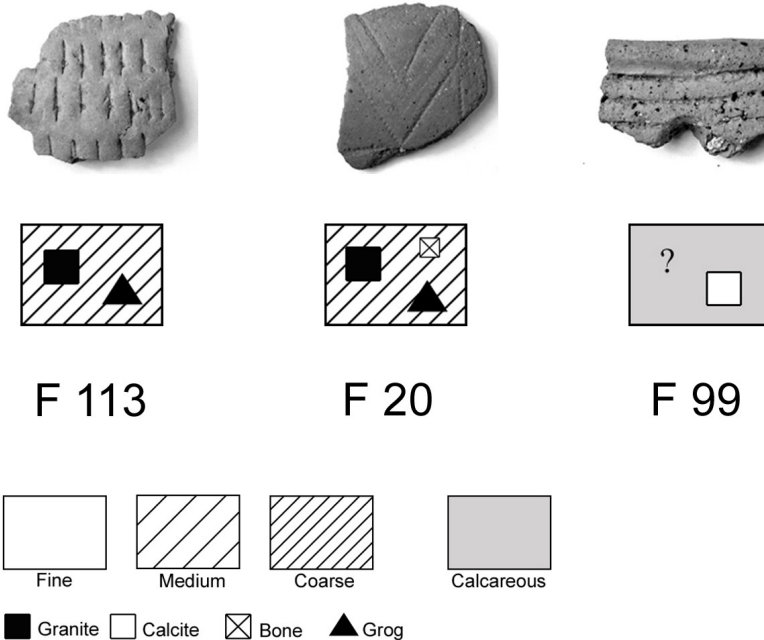


Figure 3. Battle-axe pottery sherds from Fågelbacken settlement, analysed by microscopy of thin sections. F 113 and F 20: Beakers made of non-calcareous coarse clay, tempered with crushed granite and grog. F 20 also had a fragment of burnt bone. F 99: Pit-decorated beaker, made of calcareous fine clay, tempered with calcite. The sherd was too small for a proper thin section, so it could not be ascertained whether it also contained grog. Photo: Åsa M Larsson

The “third group” vessel at Fågelbacken was made with a technology more at home in the Pitted Ware culture, where calcite was a common temper and fine calcareous clay was used in c. 25 % of the vessels in Eastern Central Sweden. Equally important to note is the fact that the other battle-axe beakers at the house do *not* deviate from the Battle Axe pottery craft. This suggests that the application of pit impressions were not just being a decorative embellishment, but were visual markers of something even more atypical beneath the surface. Looking beneath the surface can also potentially reveal aspects of variation in the craft that are not visually apparent. One of the typical battle-axe beakers also contained a piece of burnt bone, which might possibly suggest that a small amount of burnt bones were added as temper in addition to the granite and grog. Bones are commonly used as temper in pitted-ware, but not in battle-axe pottery. The decoration and surface treatment of the sherd were otherwise a fairly typical, though somewhat clumsily executed, angular band known on the G-group. It is possible to interpret the pit decorated beaker as a vessel made by a potter initially taught the craft in a Pitted Ware community, and forced to change at least the outward appearance of the vessels she made when relocated to a Battle Axe community. It is of course also possible that the vessel was made in another location entirely.

### Täby 221:2, Öja ps, Södermanland

Battle Axe culture burial. Two beakers, a J-vessel and one “third group” beaker which Malmer originally designated to his group O of irregular beakers (Fig. 4). The J beaker was made with fine non-calcareous clay tempered with granite and grog, which means it fits very well with the Battle Axe craft tradition. The “third group” beaker was made with coarse clay tempered with granite – which *also* fits with the Battle Axe craft of the late Middle Neolithic B when grog became less frequently used. Though it is interesting to note that the pit decorated vessel has not been tempered with crushed pottery unlike the J beaker, both are made with traditional methods. It is possible that the “third group” beaker has less careful surface treatment, but as it is also somewhat weathered and eroded, this might be due to taphonomic processes.

The difference in coarseness of clay is also interesting, as most potters tend to choose clay based on sensory experience. This might suggest that the pots had a different intended purpose, for which different kinds of clay were considered optimal, or it may mean that the vessels were made by two different potters. Since the same kind of beakers can be made with different kinds of clay in South Sweden (e.g. Brorsson 2003; 2007), there is not much evidence supporting the theory of different functions: it is not immediately apparent on most finished

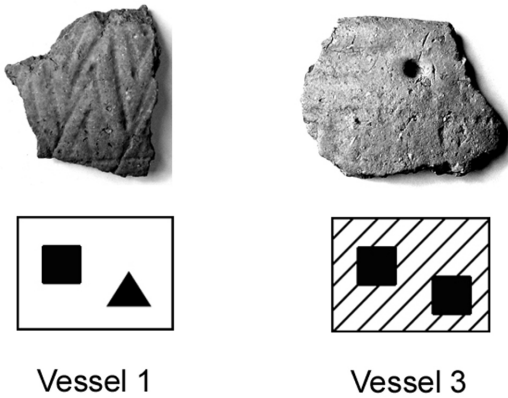


Figure 4. Analysed sherds from two beakers found in burial 221:2 at Tåby. Vessel 1 (type J) is made of fine clay tempered with crushed granite and grog. Vessel 3 (pit-decorated) is made of coarse clay tempered with crushed granite, no sign of grog. See legend in figure 3. Photo: Åsa M Larsson

vessels whether they were made with fine or coarse clay. There are some burials that do contain beakers made with rather different raw materials however, which would suggest that it was occasionally the tradition to include beakers made by different potters: perhaps they were heirlooms, or represented different branches of a kinship group.

### Torslunda, Tierps, Uppland

Late Pitted Ware culture settlement. A small number of thin walled sherds from small wide mouthed beakers/bowls were found in connection with late pitted-ware (F IV) on what was a coastal site at the time (Segerberg 1995). They were decorated with very thin pieces of cord, as well as pits (Fig. 5). While they closely resemble battle-axe pottery they also differ from that tradition to some degree. Similar pottery has been found at the early Late Neolithic site Apalle in Uppland as well. There were also some sherds that are more typically battle-axe in style: glossy surface treatment and decoration made with whipped cord. Birgitta Hulthén (2009) and Torbjörn Brorsson (2006) have done thin section microscopy on sherds of both these types of pottery, as well as some typical pitted-ware.

The three pitted-ware sherds were decorated with comb stamp, two had poriferous ware and one had firm ware. The firm ware sherd was tempered with granite, whereas one of the poriferous sherds was tempered with bones, and the second one with a combination of granite and calcite. This latter vessel had also been made of calcareous clay, unlike any of the others. The two “third group” beakers were tempered with crushed granite. The battle-axe sherd was tempered with a combination of granite and grog. There was also a fairly thick-walled rim sherd, decorated only with pits. It should probably be classified as an F IV

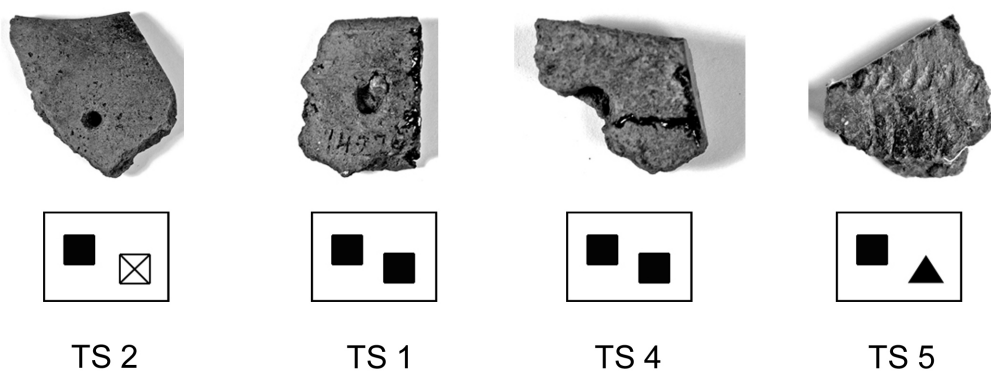


Figure 5. Sherds of analysed typical and atypical battle-axe pottery from Torslunda. All are made with fine, non-calcareous clay. TS 2 is from a coarse beaker-like vessel undecorated except for pit impressions, tempered with granite and burnt bones. TS 1 and 4 are from small, thin-walled beakers decorated with fine cord and pits, tempered with granite. TS 5 has a glossy surface decorated with whipped cord, typical dense thin-walled battle-axe pottery ware. Tempered with granite and grog. See legend in figure 3. Photo: Åsa M Larsson

pitted-ware sherd as it came from a vessel with no neck or carinated shoulder. It was tempered with a combination of granite and bones. All of the analysed sherds were made with fine clay. Two things stand out. Firstly that neither the “third group” nor battle-axe vessels were tempered with calcareous material, despite almost all the pitted-ware at this part of the site being heavily poriferous. Most of the non-poriferous pitted-ware was found a few hundred meters off on a slightly higher elevation. Secondly, that the “third group” vessels did not contain grog, despite the fact that the more typical battle-axe beaker did.

To summarise: the “third group” vessels are not made with a coherent technology with regard to raw materials. They can be made with coarse or fine clay, calcareous or non-calcareous, and tempered with granite or calcite. What lacks so far is grog temper in any of these vessels, which is curious. However, since so few have yet been analysed future analyses may come to a different conclusion. “Third group” vessels do not represent a specific type of use, as far as we can tell. Rather, they occur in the very same contexts where we find “typical” battle-axe pottery: burials and settlements, including the younger settlement layers on Pitted Ware sites. The fact that they are almost exclusively confined to Eastern Central Sweden, and that they do not appear until at the very end of the Middle Neolithic and in the early Late Neolithic, suggest that this is more than random variation. There is also another type of ‘atypical’ battle-axe pottery that also appears in this region at this time: poriferous beakers.

## Poriferous battle-axe beakers

A defining characteristic of pitted-ware in Eastern Central Sweden is that more and more of it becomes notably poriferous over time (Larsson 2009c: chp 4). It appears to some extent in early pitted-ware and by the end of the Middle Neolithic virtually all pitted-ware of the region is tempered with calcareous materials (calcite, bones, shells). These grains then tend to disintegrate over time, leaving large pores in the ware. Battle-axe pottery on the other hand is hardly ever found with poriferous ware, even on Pitted Ware sites. There are a few exceptions to this rule however, and at two of these sites thin section analysis has been performed on such pottery sherds.

### Bollbacken, Tortuna ps, Västmanland

Pitted Ware settlement situated on a small island at the time, some 7 km from Fågelbacken. Six small houses have been identified at the site, including one in the south-eastern part which was probably used as a mortuary house (Larsson 2009a, 2009c). In addition to the c. 55 kg of pitted-ware found in pits and culture layers across the site some 70 sherds (500 g) of battle-axe pottery was found mainly in the northern part, representing 10-15 vessels. Stratigraphically these sherds cannot be separated from the pitted-ware. Most came from fairly typical beakers of type G/H/J and also M. The vessel surfaces are mostly diligently smoothed and glossy, unlike the pitted-ware found here and at other sites. What was unusual was the fact that 13 of the 70 sherds had poriferous ware (Fig. 6) (Artursson 1996).

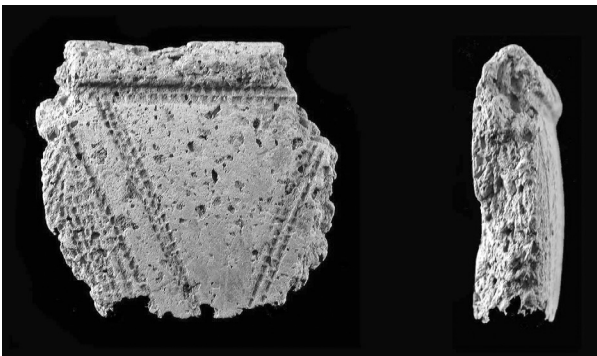


Figure 6. Battle-axe beaker (1859-21a) from Bollbacken with notably poriferous ware. This is the result of calcareous temper which has dissolved over time, i.e. calcite, burnt bones or shells. Photo: Åsa M Larsson

Four battle-axe sherds from Bollbacken have been analysed, one of which (type H/J) was poriferous. One G-beaker was made of medium-coarse clay tempered with a combination of granite and grog. The way the sherd was broken suggests that it had been made with coiling technique, rather than the pinching that was usually employed on these beakers. The other two beakers with firm ware, of



type G/H and M, were made of fine clay tempered with granite. The angular band on the G/H-beaker was rather poorly executed, with lines suddenly ending and being discontinued. This suggests a decorator not used to planning and executing this kind of motif, or not particularly concerned with the finer details. The poriferous beaker was also made with fine clay, but tempered with burnt bones. Apart from the beaker from Fågelbacken containing a fragment of bone, this is the only battle-axe beaker shown to be tempered with bones. It is likely that the other poriferous beaker sherds at Bollbacken also have calcareous temper – either calcite or bone. Of the 26 sherds of pitted-ware from this site that have also been analysed, eight were tempered with bone and two with calcite.

Most aspects of the beakers suggest that they were made by potters only moderately familiar with Battle Axe pottery craft. The use of bone temper, the poorly executed decoration and the lack of grog temper in three of the sherds are indications of this. The G-beaker did conform more closely to Battle Axe pottery traditions, with the use of medium-coarse clay (only used in two undecorated possible pitted-ware sherds at Bollbacken), tempered with granite and grog. It also had a rather well made angular band as decoration. However, the fact that it was broken in a manner suggesting it might have been formed through coils rather than pinching is also unusual – though not unknown – for Battle Axe beakers.

The lasting impression is that most, though perhaps not all, of the beakers found at Bollbacken were made by potters brought up within the Pitted Ware pottery tradition, attempting to imitate battle-axe beakers. The maker(s) of the battle-axe beakers found at Bollbacken must have had more than a mere superficial familiarity with the pottery craft of the Battle Axe culture. This is strongly suggested by the fact that the decoration and surface treatment, as well as the shapes and to some degree the raw materials, conform very well to the standards of that craft tradition. The potter(s) in question might have been shown the operational sequence by a Battle Axe potter, perhaps a close relative. When attempting to make the beakers herself, the potter may then have used the raw materials, paste and shaping method with which she was familiar in the first hand.

### **Tibble, Björklinge ps, Uppland**

Late Pitted Ware site with firm and poriferous pitted-ware pottery of Fagervik III and IV type (Seegerberg 1978; Bergh & Seegerberg 1993). On the lower elevations of the slope five sherds of battle-axe pottery were found as well, all of which were more or less distinctly poriferous (Bergh & Seegerberg 1993). Two of these

sherds were analysed as part of the “third group” pottery project. One belonged to a small beaker with a neck, a feature that does not really occur on Swedish battle-axe beakers (Fig. 7: vessel 3). The ware was extremely poriferous and the decoration in zones marked by horizontal lines across the body is also atypical for Swedish beakers, though it can be seen on corded-ware beakers and bell beakers. Another sherd (vessel 4) was decorated with whipped cord, probably in J-style. The ware was slightly poriferous, though the surface seems to have been carefully smoothed.

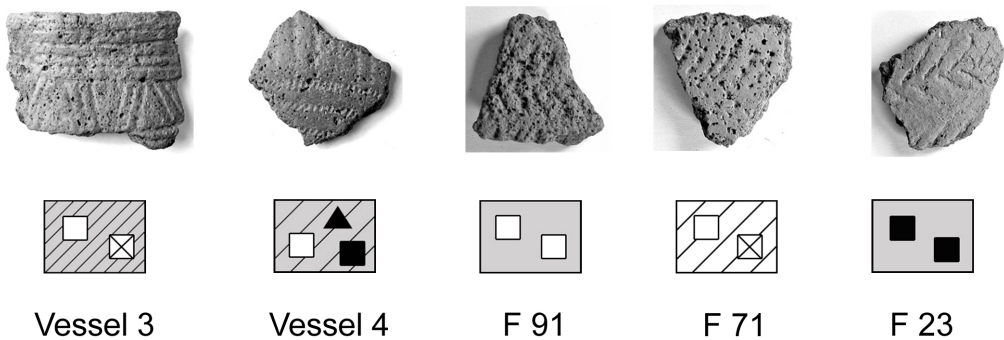


Figure 7. Analysed pottery from the Pitted Ware site Tibble. Vessel 3 is an atypical battle-axe beaker, in terms of shape, pattern and poriferous ware. Vessel 4 is a more typical beaker in terms of glossy surface and decoration, but with poriferous ware. Both are made with coarse/medium-coarse calcareous clay, tempered with calcite (and bone). Vessel 4 also contained grog. The remaining sherds belong to pitted-ware pottery. See legend in figure 3. Photo: Åsa M Larsson

The thin section analysis on vessel 3 showed that it was made of coarse calcareous clay, tempered with a combination of calcite and burnt bones. Vessel 4 was made with medium-coarse calcareous clay tempered with a combination of granite, grog and calcite. Three pitted ware sherds, two poriferous and one firm ware, were analysed as well. Calcareous fine clay was used in the latter, as well as one with poriferous ware. Medium-coarse non-calcareous clay was used in the other poriferous vessel. The ones with poriferous ware were tempered with calcite and bones, whereas the firm one was tempered with granite. In the case of the battle-axe sherds, they are made with raw materials that seem to suggest both Pitted Ware craft (calcareous clay and temper), Battle Axe craft tradition (coarse clay and grog temper). The atypical shape and decoration on vessel 3 can be explained in several ways. Either the potter was fairly unfamiliar with the way a proper beaker should look, and/or did not really care, or alternatively it was meant to be an imitation of a continental tradition of beakers. While coarse clay

is never used in pitted-ware in Eastern Central Sweden, it is commonly used among Pitted Ware potters on Gotland and Öland. Vessel 4 might actually have been made by a Battle Axe potter, but one that had relocated to a Pitted Ware community and used their communal calcareous clay source, and added some crushed calcite in addition to the granite and grog to appease local sensibilities.

## Conclusion

There is a lot more to be learnt by looking beneath the surface of the material culture at our disposal – in this case pottery. Understanding material culture and change has too often drawn upon stylistic analysis, either through a typological and evolutionary model, or by viewing style as symbolic text. By focusing less on the finished product, and more upon the operational sequence of a craft, we can get a better understanding of practice and agency in prehistoric societies. Craft is more than mere manufacture in traditional societies. There is no alienation between the producer, product and consumer. Craft is an inseparable aspect of society and a primary cause of socialisation of young members into the community. Teaching is not something separate from everyday activities in most cases, and it is a powerful tool by which behaviour, mentality, ethics and norms are embodied in individuals in a way that will influence their actions and choices for most of their lives. Embodied practice can always be changed, but this often calls for a conscious effort that is not just a mental exertion but also a physical one. Likewise, many embodied practices are so routinized in the operational sequence that people do not perceive them as choices at all unless they are pointed out by an observer.

Pitted Ware and Battle Axe pottery traditions differ from each other not just in the choices of raw materials and the way in which to shape a pot, but also in how to treat the surface, fashion the rim and fire the vessels. This state of affairs lasts most of the Middle Neolithic B, even if there are some changes and alterations to the crafts over time. Not until the end of the period do any ‘hybrid’ vessels appear, despite the fact that the two groups clearly lived relatively close to each other and had continuous contact with each other. At the second half of the Middle Neolithic B battle-axe beakers start appearing in small numbers on many Pitted Ware sites along the east coast of South Sweden. Pit decorated beakers however, the so-called “third group” pottery, are consistently dated to the very end of the period, and occur almost exclusively in Eastern Central Sweden. The exception being Hedningahällan, an aggregation site in Hälsingland with many different types of pottery.

The “third group” pottery is not a coherent new type of vessel or craft tradition. Beakers with pit impressions are found on Battle Axe settlements, in Battle Axe burials and on Pitted Ware sites together with ‘typical’ battle-axe pottery. There is no unified way of making these beakers either. Some are made in a way very consistent with general Battle Axe craft, others seem to combine aspects of Pitted Ware craft in terms of choice of clay or temper. Some might have been made by Pitted Ware potters relocated to Battle Axe communities, possibly because of marriage, trying to master a new technology with more or less success. Others could have been made by Battle Axe potters moving to a Pitted Ware community and being expected to use the clay source, temper and paste as the other potters in the group. Each vessel really has to be interpreted on its own merits and in its own context, considering the lack of coherent techniques.

The beakers of the Corded Ware culture complex, of which the Battle Axe culture is a regional version, were probably used as drinking cups in many cases, possibly for fermented beverages (Sherratt 1997 [1987]; Klassen 2005a; b, Larsson 2009c:247ff). The practice of ceremonial and ritual drinking has been and continues to be an important custom in many societies (Hamilakis 1998; Joffe 1998; Jennings et al. 2005; Dietler 2006). A possible reason then for the appearance of small quantities of battle-axe pottery on Pitted Ware sites in Sweden could be that the ceremonies and rituals were adopted by Pitted Ware communities over time. These ceremonies could have been used as a way for members of both groups to meet and deal with each other under organised and familiar circumstances. Anthropologically we know that most traditional societies, and by all means modern societies too, feel that it is necessary to create rules and ceremonies to guarantee the smooth process of interaction when there are social or cultural differences (Kan 1989; Wiessner & Tumu 1998; Arthur 2003; Eves 2004).

The occurrence of both the “third group” beakers and poriferous beakers could point to the fact that the interactions between the two groups grew especially intense and intimate in Eastern Central Sweden at the end of the Middle Neolithic. Exchange of marriage partners occurred more regularly, and more importantly, old rigid traditions regarding the making and decoration of beakers were dissolved to a certain extent. It is interesting that the same does not really apply to the Pitted Ware vessels: they do not contain grog temper nor are they decorated with cord, whipped cord or tooth stamps. This suggests that the beakers were used in special contexts by members of the two groups, in a way the pitted-ware vessels were not.

From around 2400/2300 BC both Battle Axe culture and Pitted Ware culture seem to “disappear” from the archaeological material, to be replaced by a Late Neolithic culture which has traits from both, though mostly the Battle Axe culture and its successors on the continent. Pottery now ceases to have a prominent position both on settlements and in burials, and only rather crude and simple containers are made. On early Late Neolithic sites “third group” beakers with cord and pit decoration do occur to some extent, suggesting the practices involving them are still around for a while longer. But in the second half of the period we no longer find any small thin walled beakers. It really seems that pottery in general loses its prominent position in society at this time. The reasons for this are in all probability multiple and complex, but changes in the role of pottery in ceremonies, rituals and everyday activities must have played a part.

The apparent joining of the two groups at this time would also have removed the role as visual markers these pots probably had before. The social identity of being a Pitted Ware potter or a Battle Axe potter slowly dissolved by opening up for alternative ways and traditions. This happened in different ways in different regions. On Gotland for instance, where there was no established Battle Axe culture, many late pitted-ware vessels are covered with cord impressions creating a false “textile” pattern reminiscent of the textile pottery of south Finland and the Baltic states (Rydh 1937; Meinander 1954; Lavento 2001; Kriiska et al. 2005). Pitted Ware culture is most strongly established in Eastern Central Sweden, and seems to continue longer there as well than in Skåne and Blekinge in the south. This could be one reason why pit decorated beakers appear here and nowhere else.

More studies are needed of the pottery traditions and crafts in different regions and periods of the Middle Neolithic. We must remember that the *making* of objects was as important, or more important, as the object itself. Crafting connected people to the present by contributing to everyday life and practices, and it also connected them to the past by continuing in the footsteps of their ancestors. We have to stop taking material culture at face value, and probe beneath the surface.

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## **The Lower Odra Enclave of the Corded Ware culture**

**In the Light of Contacts in the Southwestern Baltic Zone**

### **Abstract**

This paper deals with the Late Neolithic Corded Ware culture in the region of the lower Odra River, covering the area of the Szczecin Lowlands (on the Polish side) as well as Wkrzańska Primeval Forest and Wkrzańskie Hills (on the German side). This region – which is so crucial on the prehistorical map of Europe – has been marginalized by archaeologists for 30 years, and in consequence, it is the least recognized area in European prehistory. However, the lower Odra group – which was marked in this area – is an essential and cognitively inspiring element in the context of the problem of contacts in the Baltic Sea region. Above all, it pertains primarily to the model of the functioning of this group either as a closed communicative enclave that is not under any major external influence, or – as the research indicates – as an element of a wider communicative community. This element is defined as *a circum-Baltic circle of the CWC* (Koško 1988). There are certain exogenous features, easily interpretable in the lower Odra source materials, which are characteristic for different areas located primarily in the south and in the west. At the same time, it is possible to show a number of local features which to a significant degree have influenced the characteristics and development of the CWC.

*Keywords: Corded Ware Culture, contacts, southwestern Baltic zone*



## Short review of the previous conceptions

In the Late Neolithic Period, the southwestern Baltic zone was under the influence of the Corded Ware Culture. This notion – defined several times in the subject literature by Polish archaeologists – is limited in the west by the lower Łaba River Valley, in the south by the central European Lowland Valley, and in the east by the upper Vistula River Valley. The northern border is marked by the southwestern Baltic Sea shores. Within the framework of a widely understood circle of Corded Ware Culture, all the northern groupings connected with this phenomenon were the subject of scientific research already in the 19<sup>th</sup> century. As a result, there were many different suggestions regarding the taxonomical outlines, and in consequence, complex models of historic interpretation were formulated. This fact determines the need to trace next stages of the approach to the problem of a “northern ecumene” of the Corded Ware Culture and the “Lower Odra group” against a background of this “northern ecumene” of the corded circle. However, it should be noted at the very beginning that the conditions of research in the particular regions are very varied. There are a few reasons for such conditions, the key reason probably being the uneven state of recognition of the source materials connected with the CWC. The next problem is the discrepancy between the different approaches to the phenomenon under discussion. This discrepancy results from the different scientific centres in these particular regions.

I am particularly interested in the region on the lower Odra River, which have been of interest to German explorers for many years. The explorers’ interest in this subject is dated from the end of the 19<sup>th</sup> century. Here, at the mouth of the Odra River, A. Göetze distinguished in 1891 the local group of Corded Ware Culture, which genetically would have been connected with central Germany (Göetze 1891). Successive systematic investigations connected with the Corded Ware Culture issue were undertaken here by E. Sprockhoff in the 20<sup>th</sup> century (Sprockhoff 1925; 1926). As for the origin of the “Lower Odra” of the Corded Ware Culture, Sprockhoff completely agreed with the opinions of A. Göetze, underlining the specific, local features of the discussed cultural entity.

It is not possible to omit the for our consideration highly significant book by R. Schroeder, a monograph presenting the phenomenon (Schroeder 1951). This researcher distinguished the so-called “*wkrętańska group of the Corded Ware Culture*”, which origin, as he saw it, was the result of influences of many elements at the predominant role of the Single Grave Culture from northwest Europe. At the same time, however, he assigned a number of determinants of this group such as a) the beaker with an S-profile decorated with an engraving or impressed with a cord raster ornament or plastic ornament only; b) the beaker-shaped pottery with two or four handles and an S-profile decorated similarly to beakers; c) stone axes of a C1a type; d) single flat graves with loose stone enclosures.

In 1972, K. Siuchniński undertook the effort of a taxonomic-chronological arrangement of the materials of the Corded Ware Culture from West Pomerania (Siuchniński 1972). He claimed that the analysed area had not been subject to penetration of groups connected with the oldest (the pan-European) horizon of the Corded Ware Culture. According to Siuchniński, the Corded Ware Culture from West Pomerania had developed at the transition between the Neolithic and the Bronze Age. The “Lower Odra” groups would have been one of the component parts of “beaker groups” of the Corded Ware Culture on the central European Lowland.

In 1979, in the collective work *The Prehistoric of Poland*, J. Machnik summed up the knowledge about the Corded Ware Culture in the Polish area (Machnik 1979). Machnik assigned the “Lower Odra group” to the “beaker circle” of the Corded Ware, also including northern Germany, the Netherlands and Denmark. However, according to J. Machnik, this group carries a number of local features, and its separation and development took place in the period of forming the local groups of the Corded Ware Culture in different regions. The distinction of the “Lower Odra group” would first have been manifested in ceramics and graves constructions.

The next group of research postulates that continued this trend of reflections over the Corded Ware Culture problems in West Pomerania is described in a book published in 1983 – a result from a scientific symposium in Słupsk (Malinowski 1983). Here, T. Wiślański expressed the opinion that materials of the Corded Ware Culture from the western and central Pomerania area show strong similarities with the German Lowlands and Denmark, creating an “*integral part Northern / corded beaker province*” (Wiślański 1983). He also underlined the relationships between the Corded Ware and Funnel Beaker Cultures, visible e.g. in the pottery technology, in some vessel forms as well as in ornamentation. J. Machnik also participated in this discussion, questioning some opinions expressed several years earlier by K. Siuchniński (Machnik 1983). He claimed that the area of western Pomerania in the Late Neolithic was intensely penetrated by a population from the Corded Ware Culture from the beginning of the culture’s existence. According to Machnik, the material sources of the Corded Ware Culture have left characteristical traces in the whole seaside zone from the Netherlands to Estonia. Keeping the two-phase division of the “Lower Odra group”, as proposed by many researchers in this area, he noticed influences in the earlier phase of the comb-pitted culture, and in the later phase he found elements of different groups of the Corded Ware Culture from other Polish areas (e.g. from the Upper Odra River, Upper Łużyce and Silesia).

Several years later, the “Wkrzańska group” was defined by A. Koško as the southeast border of the latest phase of the Single Grave Culture (Koško 1988). At the same time, Koško created the concept called the *circumbaltic circle of Corded Ware Culture*, as a special community of communication, rooted in the Mesolithic. The last concept (by J. Czebreszuk) referred to a wider perspective, from the Late Neolithic to the beginning of the Bronze Age in the southwestern Baltic zone, and originated in the circle of archaeologists from Poznań University (Czebreszuk 1996; 2001). This zone would have to stay in range of the so called “Single Grave Culture package”. This package would first of all modify burying behaviours and every regional change that depended on “quiet” features which were clearly related to the Single Grave Culture.

## The taxonomy of the Corded Ware Culture on the Lower Odra

I am particularly interested in the region on the Lower Odra River (fig 1), which covers the area of the Szczecin Lowlands (on the Polish side) as well as Wkrzańska Primeval Forest and Wkrzańskie Hills (on the German side). This region – which is so crucial on the prehistorical map of Europe – has been marginalised by archaeologists for 30 years and consequently belongs to the ones poorly recognised on the archaeological map of Europe. Whereas the “Lower Odra group” is clearly seen in this region - in the context of the problem of contacts in the Baltic Sea region – the group appears to be an extremely essential element and a source of inspiration.

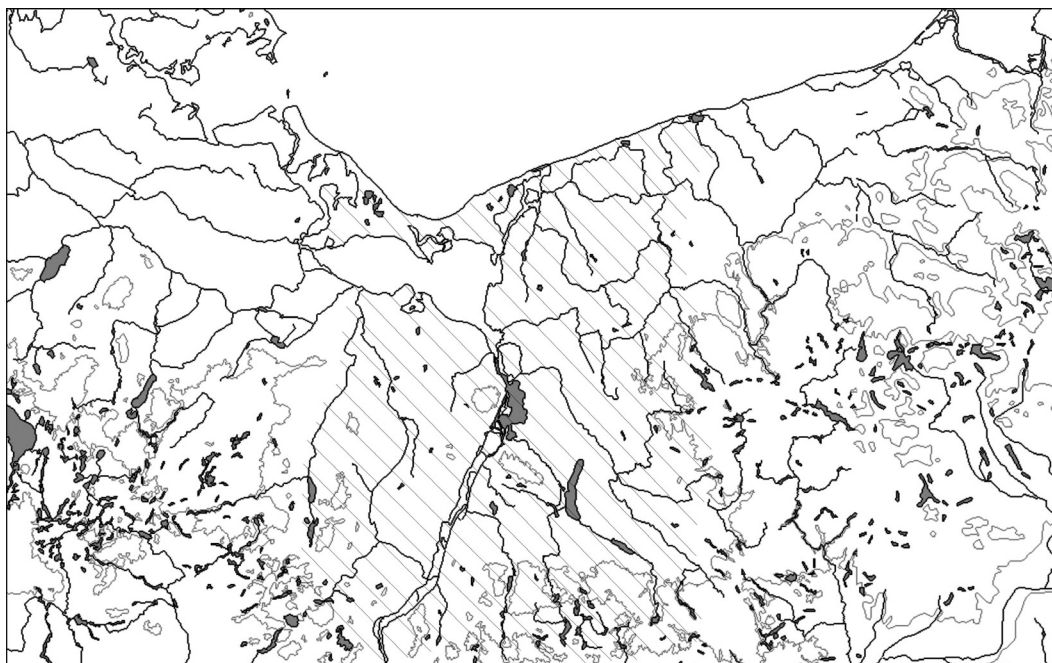


Figure 1. Map showing the areas covered in the present paper (grey hatched areas).  
Scale 1: 1 000 000.

Here, I would like to show the taxonomy of the CWC in the Lower Odra region, in other words to present which archaeological features are characteristic of the CWC. The primary taxonomical features are connected with stationary and mobile objects. Within a framework of the stationary objects, graves with additional stone constructions such as stone enclosures, coffins or stone packing should be mentioned (fig 2). However, among these, level graves were dominant; although we also know cases where the accompanying element was a mound. Moreover, there are many level graves. However, features related to this category should also include instances where a stone construction originally existed and was later destroyed. If we analyse features such as the laying fold of a grave and its equipment, we should note some facts. All information in relation to late burials suggests a relative homogeneity (a shrunken position). Most often, one or two pottery shards were deposited in the grave, often accompanying a stone axe or flint axe. Furthermore, we know some graves with very rich equipment, such as several vessels and stone or flint tools.

From a perspective of mobile sources, the Lower Odra CWC-characterised features are mainly connected with pottery and stone and flint staff. Within a framework of macromorphology of the vessels connected with the analysed culture, we should mention the shape of all sets (fig 3, fig 4). The category which most often appears is S-profile beakers. In addition, we can mention funnel beakers, amphoras, pots, bowls and – less numerous – mugs, jugs and amphoras without ears. The almost complete absence of straightwall beakers which are identified with influences from the SGC circle is noteworthy. Elements of micromorphology that are most often associated with the CWC at the mouth of Odra include pottery (fig 5). The observable ornamentation is rich and complex. (fig 6). Apart from the simple motifs generally associated with the CWC (simple engraved lines, horizontal cord impression, the so-called fish-bone motif), we also see a development in the engraving technique, cord impression and knurling technique. Ceramics production is predominately based on a very small or average coarse-grained mineral admixture. It is worth noting the almost complete absence of fat coarse-grained admixtures and the frequent utilisation

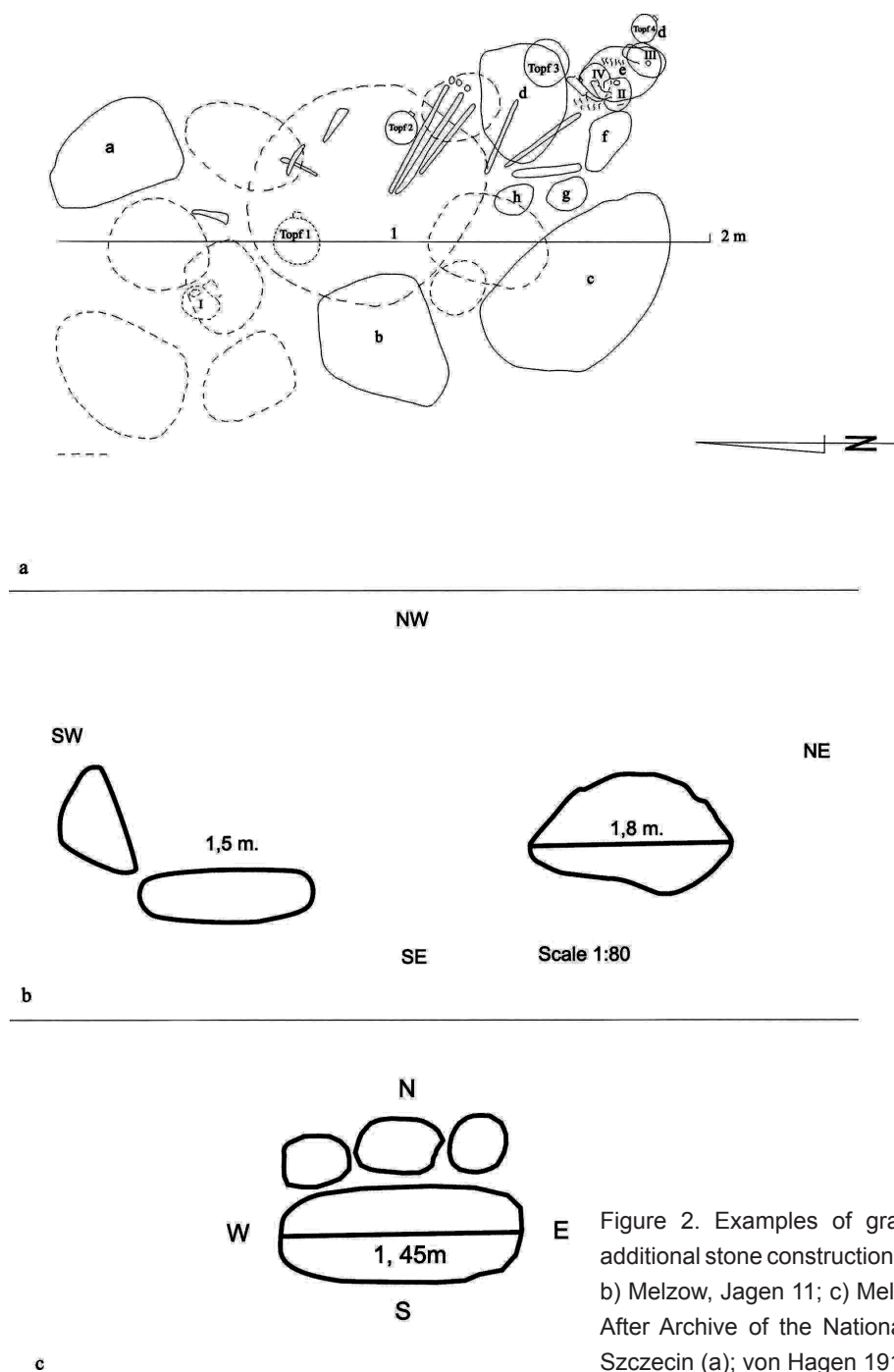


Figure 2. Examples of graves with the additional stone construction. a) Dębogóra; b) Melzow, Jagen 11; c) Melzow, Jagen 4. After Archive of the National Museum in Szczecin (a); von Hagen 1915 (b, c).

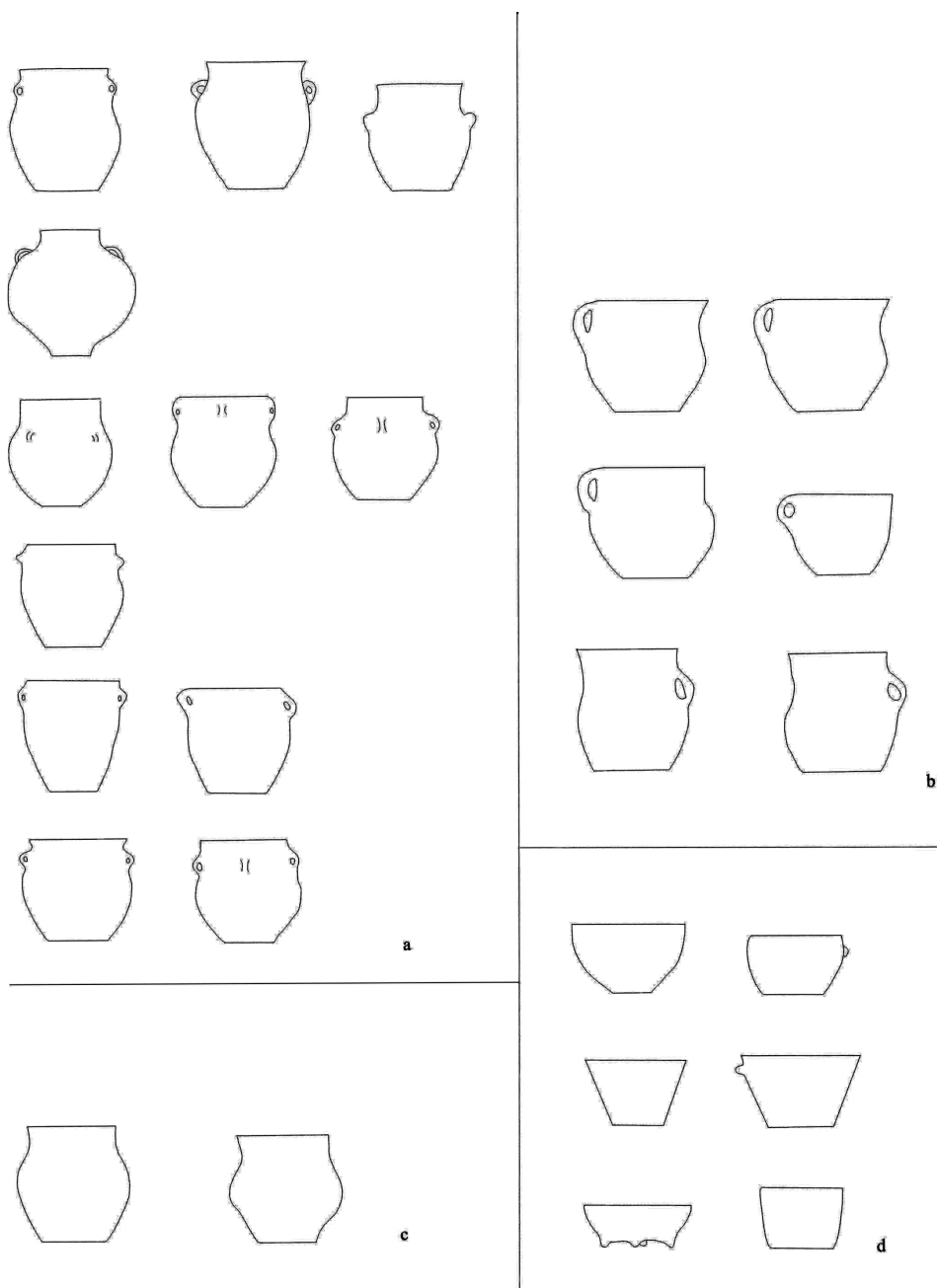


Figure 3. Division of the “Lower Odra group” pottery into macromorphological groups. a) amphoras; b) mugs and jugs; c) amphoras without ears; d) bowls.



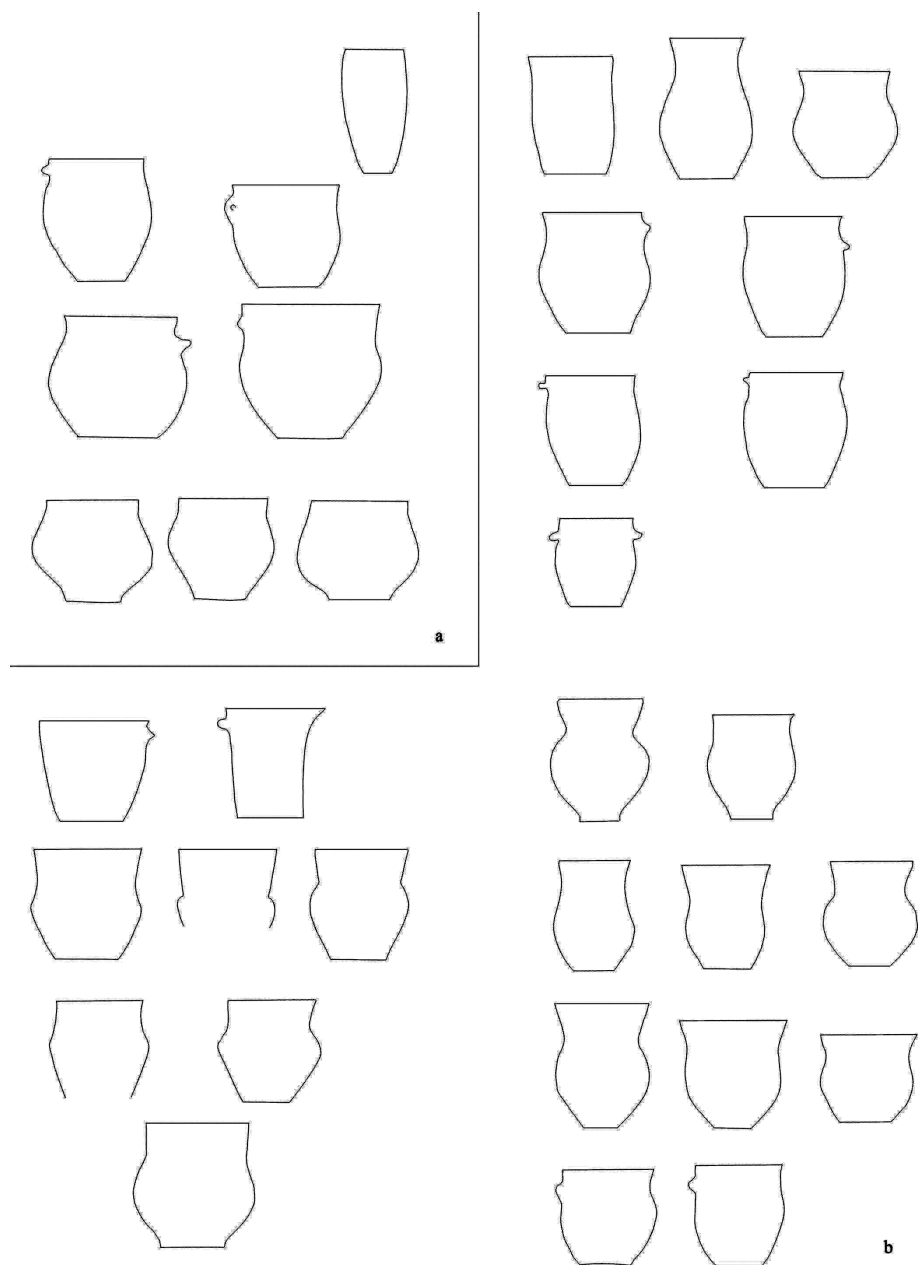


Figure 4. Division of the “Lower Odra group” pottery into macromorphological groups. a) pots; b) beakers.

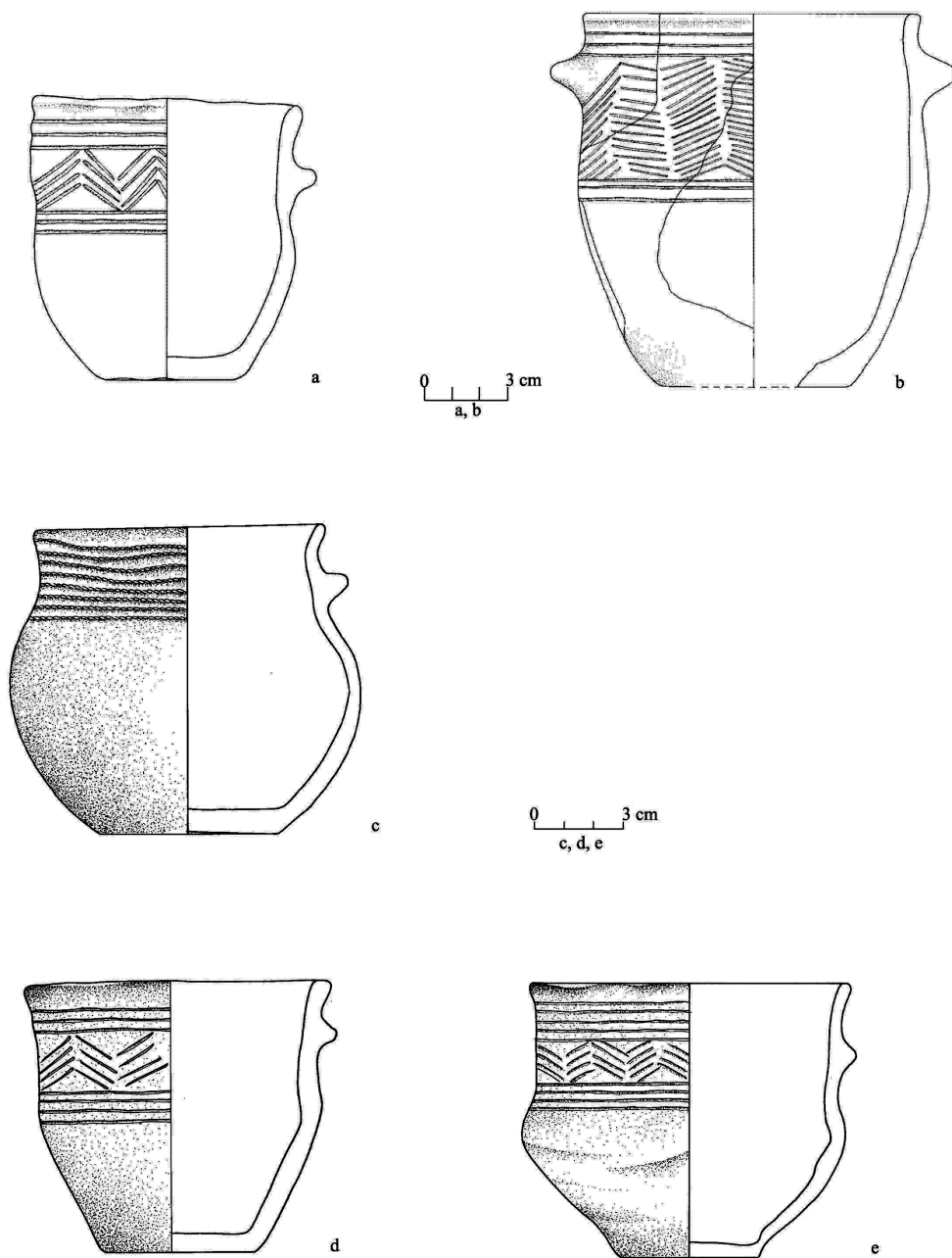


Figure 5. Examples of pottery providing in hand. a) Ramin; b) Żelisawiec, c) Schönow; d) Kasekow; e) Kolin 13.

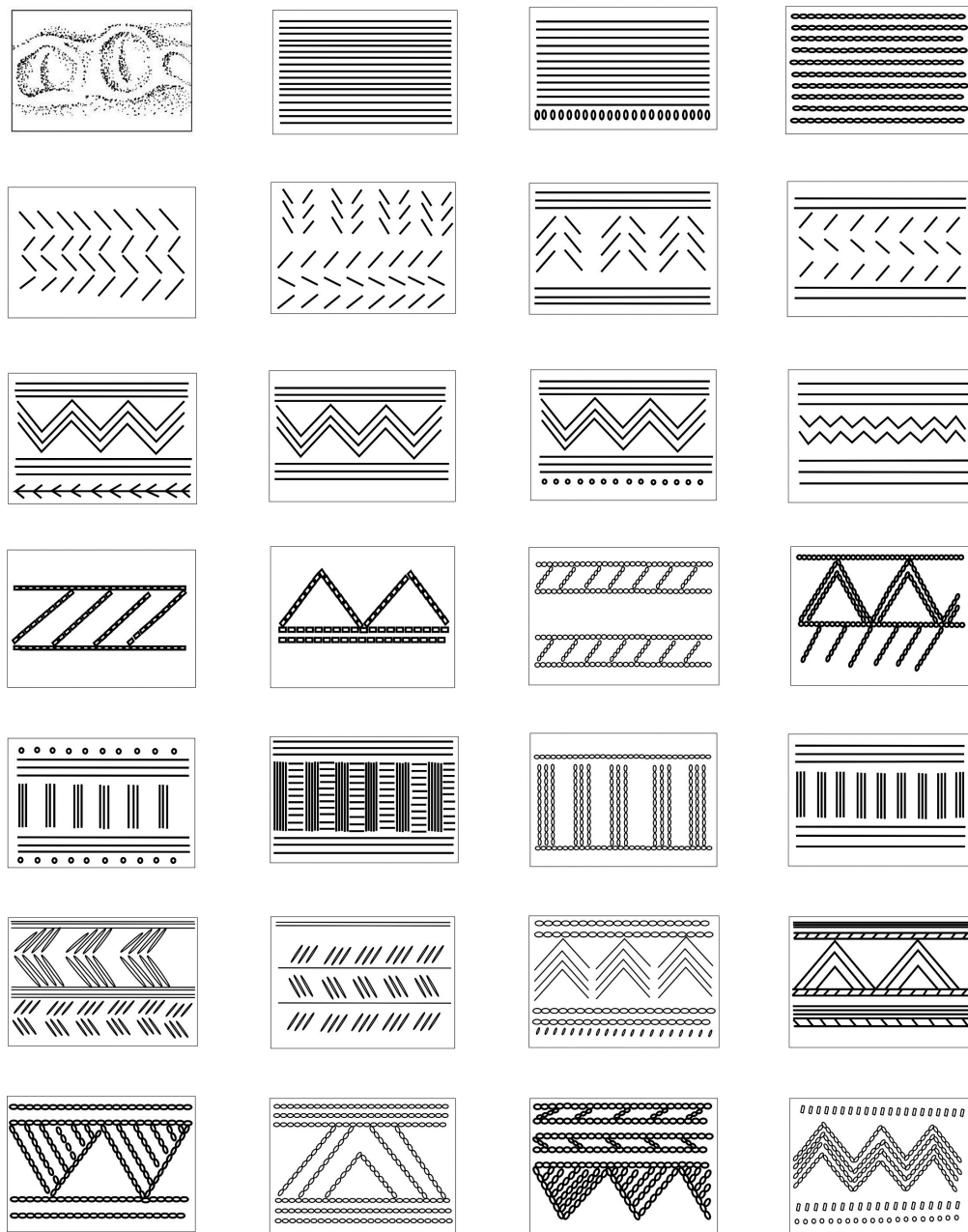


Figure 6. Selection of pottery ornamentation.

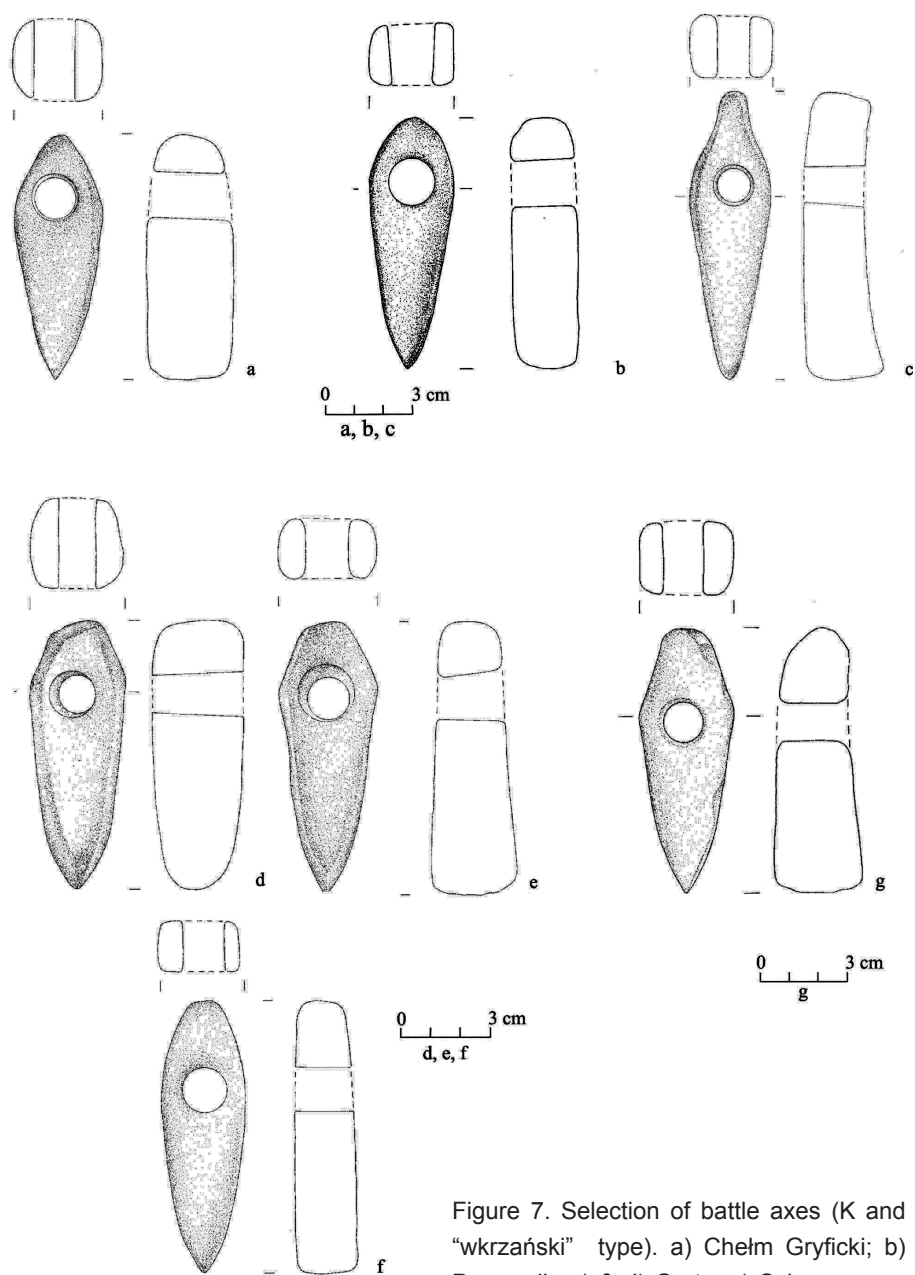


Figure 7. Selection of battle axes (K and "wkrzański" type). a) Chel'm Gryficki; b) Pasewalk; c) & d) Gartz; e) Schmagerow; f) Rothenklempenow; g) Grünz.

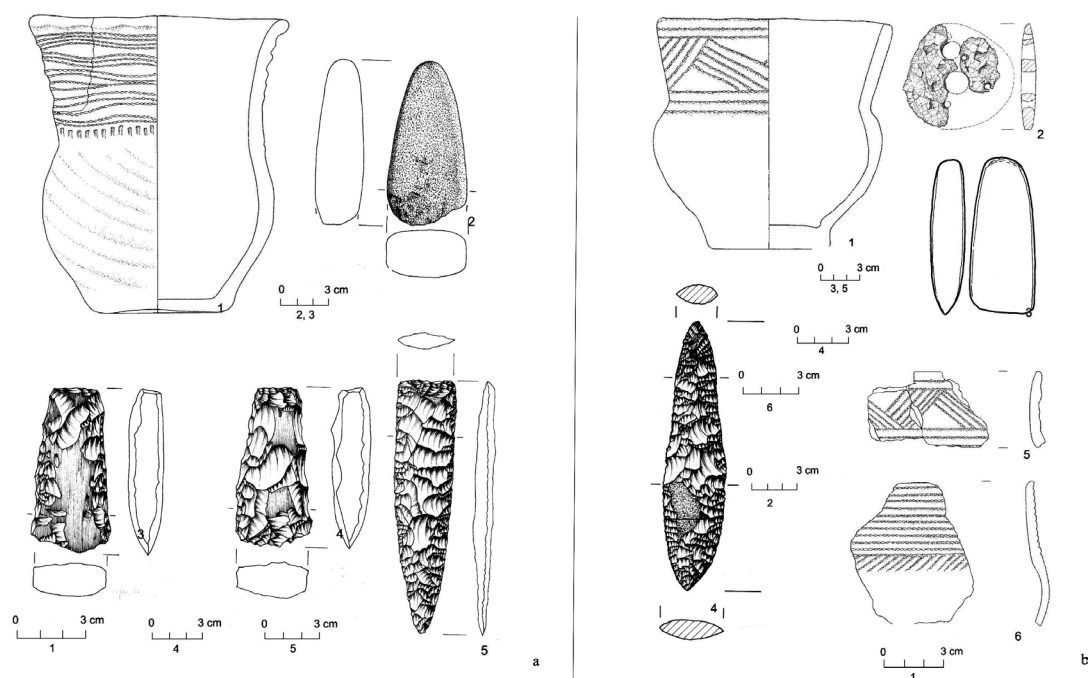


Figure 8. Examples of grave goods with flint daggers. a) Duchowo; b) Szczecin-Podjuchy 2.

of pink breakstone and mika. To summarize the features connected with stone products, namely with their single category, battle axes, we have to study their local type (wkrzański type) and their forms referring to type K e.g. to P. V. Glob (Glob 1944), which often appear in a degenerate form (fig 7). For flint sources, I have noticed the presence of four-side axes with thick bottom and mainly convex surfaces or one convex surface and a blank second surface. Among the flint arrowheads, the slender heart-shape forms predominate. In conclusion, I would like to note the presence in the Lower Odra CWC materials of flint daggers, the appearance of which in the discussed region we should definitely connect with “corded” communities (fig 8).

## The Lower Odra CWC and SGC communities

Regarding ceramics and other elements of inventory, as well as certain burial rules are concerned, the “Lower Odra group” of CWC and the SGC communities from Jutland, Szlezwik-Holsztyn and Mecklenburg connect many parallel features. On this level, many forms were omitted which were common for the whole South Baltic zone, and which will be discussed separately. Regarding pottery, this includes forms such as funnel beakers, vases, bowls and pots. The difference in the discussed regions is their varying occurrence intensity (for example, there is an absence of funnel beakers in Mecklenburg). However, it seems that the chronological position of this particular form within the analysed areas is approximate. In Jutland and Szlezwik-Holsztyn, funnel beakers were registered in all phases of the SGC; however, the largest intensity was in the earliest stage (phase 1a i 1b). Over Lower Odra, it is possible to identify funnel beakers with CWC1 and CWC2. The forms included in the vase categories in Jutland and Mecklenburg are connected with the latest period of SGC (phase 3b in Jutland, specimens with a knurling technique in Mecklenburg). Similar (late) chronology includes forms of the “Lower Odra group”. Bowls in Jutland are identified with phases from 2a to 3a, whereas in Mecklenburg, they appear quite early (the beginning of FG II). In the “Lower Odra group”, they are connected with the proto-Bronze influence phenomenon (phase 3a i 3b); however, we know of single specimens from CWC 2. The last category, pots, is included for the decadent phases of SGC through Danish and German research. In the material that I have analysed, using inventories of CWC3a in 3b phases, the pots, similar to bowls, also appear earlier (CWC 2). A small frequency (an almost complete absence) of a form of Lower Odra straightwall beakers is interesting in the CWC inventories. In the area of Jutland, Szlezwik-Holsztyn and Mecklenburg, this form has an unequivocally late chronology, not many Lower Odra objects have a similar position (for example Plöwen).

When studying the remaining elements of the inventory, we should note the absence of a register of features that would be diagnostic only for the SGC and the “Lower Odra group”. In this context, we should only pay attention to flint

heart-shaped arrows, known beyond the Lower Odra-area from the Mecklenburg SGC. Among the forms of graves known from the “Lower Odra group”, a miscellaneous version of stone constructions such as graves with stone packing, graves beneath paving and secondary graves within megalithic constructions seem to be of great importance for the problems under discussion. We should attribute a particular position to small stone coffins, which appear only in the discussed regions in the South Baltic zone. When graves are analysed, it is possible to ascertain the problem of chronological position. In the “Lower Odra group” and the SGC, it is approximate. Graves have occurred in all phases of the discussed cultural units. We are faced with a different situation considering graves beneath stone paving. In Jutland, they are connected with the FBC and the transitional period between the FBC and the SGC. Their chronological position above Lower Odra definitely seems late. They are noted most strongly in the latest (third) phase of the local CWC. We meet a similar situation in the case of secondary graves in megalithic constructions. In the SGC, they are connected with the oldest phases; in the material sources in the Lower Odra region, their longer chronology is suggested. Chronological and quantitative differences are also observed on the analysis of the surfaces of stone battle-axes. In the area of Jutland and Szlezwik-Holsztyn, the sequence of development of the discussed category is simple and there is no doubt of the chronology (from the oldest A-beakers to the youngest K and L type). The situation in the Lower Odra area is in many ways analogous to that in Mecklenburg. We should mention the uneven occurrence of individual types and the survival of some of the types (e.g. the A type) until the latest phases of the CWC.

## Coherence of the Lower Odra CWC communities with Wielkopolsko-Kujawska Lowland

The register of features, which is possible to interpret as an indicator of coherence of the CWC “Lower Odra group” with communities from Wielkopolska-Kujawy Lowland, include ceramic sources from a range of macromorphology (two part funnel beakers, vases, bowls) and of micromorphology (suppling pottery in



a vessel). We should attribute a special position in this context to mugs, jugs, amphoras without ears and amphoras. In the South Baltic zone, these forms (excluding one specimen, an amphora from Mecklenburg) are only registered in the Lower Odra, Wielkopolska and Kujawy areas. In all the mentioned regions, their chronological position is also similar. They are generally recognised as a phenomenon of received proto-Bronze features by CWC communities, such as the Protounietyce Culture (PUC) and the Bell Beakers (BB). When describing non-pottery equipment, we cannot omit the problem of the distribution of battle-axes, especially the wkrzański type, which is characteristic of the Lower Odra region. In addition to Mecklenburg, they also appear in Wielkopolska and Kujawy. Regarding burials, we should mention the common graves forms such as stone packed graves and graves beneath stone paving. In the Lower Odra area, those types have a long chronology (stone packed graves), or it is possible to identify them with a definite time partition (graves beneath stone paving). In the area of Wielkopolska-Kujawy Lowland, stone packed graves and graves beneath stone paving, can, on the basis of equipment, be associated with phases CWC 3 and CWC 4 according to J. Czebreszuk (Czebreszuk 1996). A grave from Żerniki 27, for which we have two radiocarbon dates (95.4% probability - 2870-2520 BC, 2880-2610 BC; Czebreszuk 2001: 216, tab. 4), has the earliest position.

## CWC in the entire South Baltic zone

When analysing the position and coherence of the group of the Lower Odra CWC in the entire South Baltic zone, we have to indicate certain features that are common for them. Such features include pottery forms such as beakers and amphoras of A-type, S-profile beakers, straightwall beakers, pots and pottery of the WLT type. Considering other elements of the CWC inventory, it is necessary to mention the stone battle-axes (of A-type) and the presence of flint axes as a grave equipment element. In addition, we should mention level graves without any protection. The degree of repeatability of these elements in the individual regions as well as their chronological position is obviously different. Regarding the range of coherence between the Lower Odra CWC and other groups from the individual regions discussed above, it seems that it shows a maximum of

common features with Mecklenburg, Wielkopolska and Kujawy. However, exogenous features were adopted during its development were subjected to a selective reception. In the initial phase of development, the “Lower Odra group” featured “western orientation” and it is clear that they played a considerable role in the sphere of distribution of features on the west-east axis. A certain change is observed in the later phase. The still existing reception of western elements (late SGC, BB) is currently studied regarding their contacts with the south. Our analysis of contacts between CWC societies from the Lower Odra and the southeast Baltic zone indicates that the hypothesis about their limited scale is most likely.

## Chronology

Using the scheme presented in figure 9, we can observe that in a majority of the discussed regions, the CWC appears about 2900/2850 BC. It is difficult to comment on this problem with reference to the Lower Odra, Wielkopolska and Ziemia Lubuska areas. The turning point of the appearance of the first “corded” elements has been established through radiocarbon designations from neighbouring fields. However, it is possible to risk the statement that this turning point is no later than about 2800 BC. It is interesting to draw the chronological relationships of the CWC from the southeast Baltic area. CWC features appear in this region about 2850 BC and they last until 2550 BC. This length of time is brief enough in comparison with the chronology of the entire Baltic zone. In the South Baltic zone, the Przymorska culture (PC) has the longest chronology. It starts near 3200/3100 BC. With regard to the taxonomic position, the material identified with the discussed unit (e.g. Machnik 1997), we have to connect the earliest period with the southeastern GAC group. Elements of PC survived until 2100/2050 BC. The problem of the end of the CWC in the entire Baltic zone is a thought provoking question. In a southwestern part of the Baltic zone connected with SGC, this moment is dated to 2300/2200 BC. A decidedly longer chronology of this phenomenon can be observed in Kujawy, where the decline of the local CWC is dated to about 2000 BC. CWC features survive the longest on Lower Odra, in Wielkopolska and Ziemia Lubuska, i.e. until 1950/1900? BC.

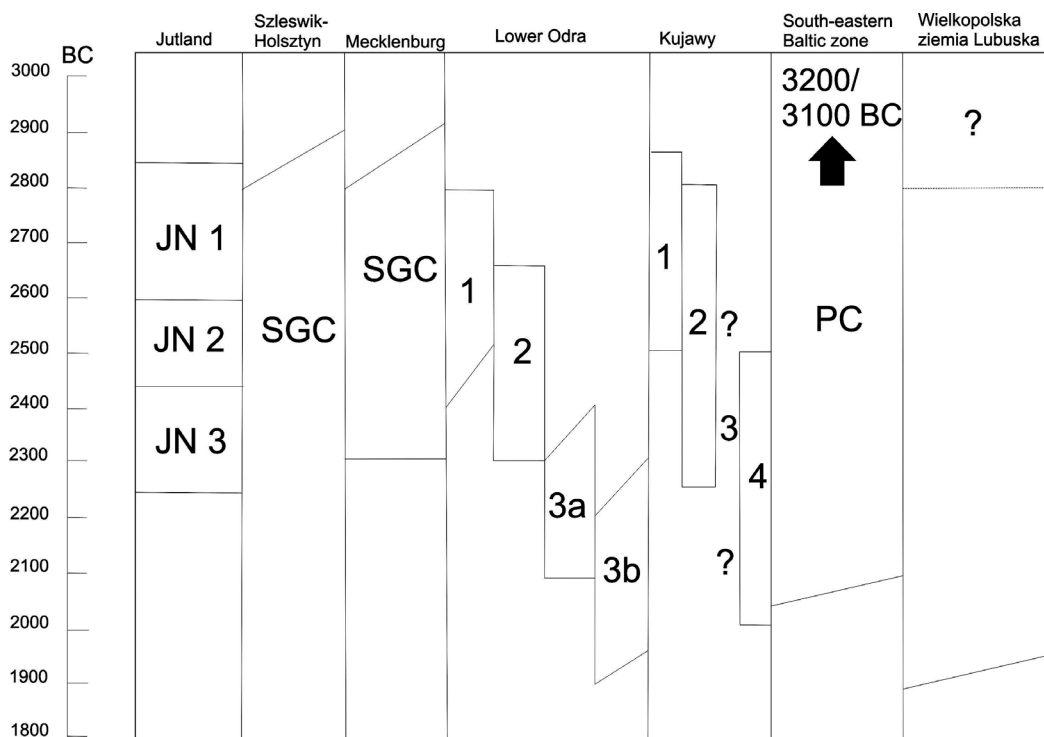


Figure 9. The chronology of cultural phenomena connected with the Corded Ware Culture in the South Baltic are (Jutlandia, Szleswik-Holsztyn After Hübner 2005; Kujawy After Czebreszuk & Szmyt 2001).

## Conclusion

About 2900/2850 BC in the south Baltic zone, the first representatives of the CWC appear. The oldest dating we have at present is for a territory which is identified with the SGC (Jutland, Szleswik-Holsztyn, and Mecklenburg) and with Kujawy. The appearance of the CWC on Lower Odra had undoubtedly an exogenous character and was connected with the oldest all-European Horizon of CWC. It should be associated with the migration of small groups of people (from western Europe - Mecklenburg). Limited sources linked to it suggest a small population potential of newcomers. The area of their penetration is principally concentrated to an area on the west part of Odra. From the field of today's Poland we can only mention a small settlement from Szczecin-Mścięcino

and stray finds of pottery and A-type stone axes. The Lower Odra region in this period presented only one of elements of the wider ecumene penetrated by the mobile CWC communities. One aspect of their presence on the archaeological surface is the scarcity of grave objects. It seems that in this period, they founded small settlements of a transitory character.

We did not record any reliable chronological premises indicating the decline of CWC 1. The material aspects characteristic for this group are registered in the context of a “transitional” group between CWC 1 and 2 (Duchowo?) or CWC 2. They could indicate a poly-linear co-existence of communities of the pan-European horizon with later communities. However, in this case I would rather accept another variant. This presupposes a relocation of small populations from the SGC circle, linked with the subsequent taxonomical-chronological units – CWC 2.

The features tied to CWC 2 forms a continuation between certain local patterns connected between FBC/GAC and the CWC A-horizon. It is difficult to precisely establish the moment of appearance of objects generally identified with the central German territories, i.e. the faceted stone battle-axes. At present, we can hypothetically connect it with CWC 2. The role of “transmitter” was fulfilled in this particular case by the Brandenburg region, where these objects appear at the end of phase FG I (Fundgruppe I; Jacobs 1991). In the course of time, we can observe a process of gradual decrease of “assimilability” of supraregional traits. The ecumene, occupied until now, was extended, particularly in an easterly direction. We can state that communities connected with the CWC gradually occupied the territories of the FBC communities. It seems that the latter were pushed northwards (to the fields north of Szczecin, Wolin Island?), and southwards (Cedynia), regions that were less attractive from an ecological aspect. The role that CWC 2 communities played in initiating this process is unclear. A local group identified with CWC 2 seems to have stimulated the transformation process. c. 2500/2400 BC is the prime period of the Lower Odra CWC.

Important changes followed about 2400/2300 BC, in the period identified with the beginning of CWC 3. On Lower Odra, we observe a dualism of development of local CWC-groups that is difficult to explain. A stage of cultural stability and a spatial expansion of Lower Odra CWC communities exist in this period together with a simultaneous phenomenon of the adaptation of proto-Bronze features. The dynamics of this process is clearly visible. CWC communities were included in all changes taking place in the wider area (e.g. Kujawy and Wielkopolska). This process is difficult to understand and interpret. It is possible that there was a slow breakdown of agricultural economy, and consequently a crisis in the FBC circle. Another hypothesis admits the probability that the CWC had more direct contacts with the local population that facilitated assimilation and naturalisation in the local environment. In the first phase identified with CWC 3a, we observe the phenomenon of the “Lower Odra group” (or only some part connected with them?) “closure” on the standards from outside (especially from the late SGC circle and central Germany). The need for a link with the genetic area dies out. This phenomenon is especially visible in comparison with neighbouring areas, particularly Wielkopolska and Kujawy. In Wielkopolska, we discern links with central Germany (Pospieszny 2007, s. 118), whereas Kujawy has been put under the Jutland-Mecklenburg SGC influence. Cultural development of CWC features in this period is a stabilisation expressed e.g. in a growing settlement ecumene. The settlement structure is considerably condensed. Mobility is partially limited. This rather homogenous cultural system does not show any traits of differentiation or symptoms of disintegration. Regarding pottery (especially in 3b phase), we see features that are generally recognised as specific for the area (complicated engraving motifs, suppling pottery in hands). Other aspects worth mentioning are the production of battle-axes of a wkrzański type on a mass scale. This phenomenon is hard to explain at the present. It seems that in this period, the basic meaning must be intraregional contacts.

About 2300 BC, we have observed the phenomenon of an adaptation of Late Neolithic features from the west (BB) and proto-Bronze features from the south (PUC); in this case, the southern factor was predominant. “Corded

communities” took an active part in the proto-Bronze acculturation process and were included in the process of dynamic changes, presenting a basic cultural substratum of these changes. The adaptation of the new standards had a selective character and had been limited to a selected category of material sources. At this time, we must interpret the cultural status of BB on the Lower Odra in the “cultural package” category, selected elements of which always appear in CWC material sources context. We agree with J. Machnik, who supports the presumed infiltration of the Baltic zone by CWC by communities of BB, which showed strong connections with the local “corded” character (Machnik 1978, s. 126). Within the analysed area, features identified with BB enrich an assortment of “corded” features as well as undergo local transformations (ornament of the *Gurtband* type).

A key issue is the relationship between the CWC and the UC. I would suggest that after their contact with the CWC community, they took over certain standards, although retaining their cultural identity. Simultaneously we can observe a continuous development of the CWC tradition.

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## **The Valley of the Central Odra River**

**In the Light of Long-Distance Exchange Contacts with the Baltic Area in the Late Neolithic and Early Bronze Age**

### **Abstract**

This article presents the Kościan Group (Únětice culture) along the route of the long-distance contacts between Moravia and the Baltic Zone (the Lower Odra river-basin) in the Early Bronze Age. The Kościan region possessed numerous features, which contributed to the emergence of the route along which people travelled carrying new cultural patterns (the discoveries in Łęki Małe, Bruszczewo and Kokorzyn; further exceptionally geographical conditions).

*Keywords: Neolithic/Early Bronze Age, Odra River, Únětice culture*

## Introduction

This paper will attempt to outline the structure of long-distance contacts of the Kościan group (KG) belonging to the Únětice culture (UC), and more specifically to distinguish the characteristics of their most probable directions of long-distance exchange, on the basis of diagnostic features.

## The Kościan group

The discoveries of the cemetery in Łęki Małe and the settlement in Bruszczewo were extremely significant events in the history of the research on the UC in Poland. The results of the research carried out at the sites (as well as the attempts to identify the long-distance trade exchange routes running across that area) resulted later in the distinguishing of another UC group – the Kościan group. Z. Pieczyński had already postulated such a new group, based on the cultural distinction of that area (Pieczyński 1970: 268ff). However, the Kościan group, in the chronological sense discussed below, appeared in the literature for the first time in 1979 (Koško 1979). Koško regarded the KG as an important factor that played a significant transitory role between the north (Kujavia) and Lower Silesia and Germany (Koško 1979).

The Kościan group is regarded as a peripheral UC group, manifesting its distinctiveness especially in the classical stage. The KG community was strongly hierarchical, as evidenced by the rich burials in Łęki Małe. As a hypothesis it has even been suggested that they were of a protodynastic character, which may be proved by their linear arrangement and the find of an object that functioned as an insignia (halberds). The KG was considered to play a key role in the circulation of bronze objects from the west to the east, and of bronze from the north to the south (Romańska 2000).

The KG occupied an area of south-west Great Poland (fig 1). In physical-geographical terms, these are the regions of the Kościan Plain, the valley of the central Obra River and a part of the Sława and Krzywín Lakelands (Krygowski 1961).

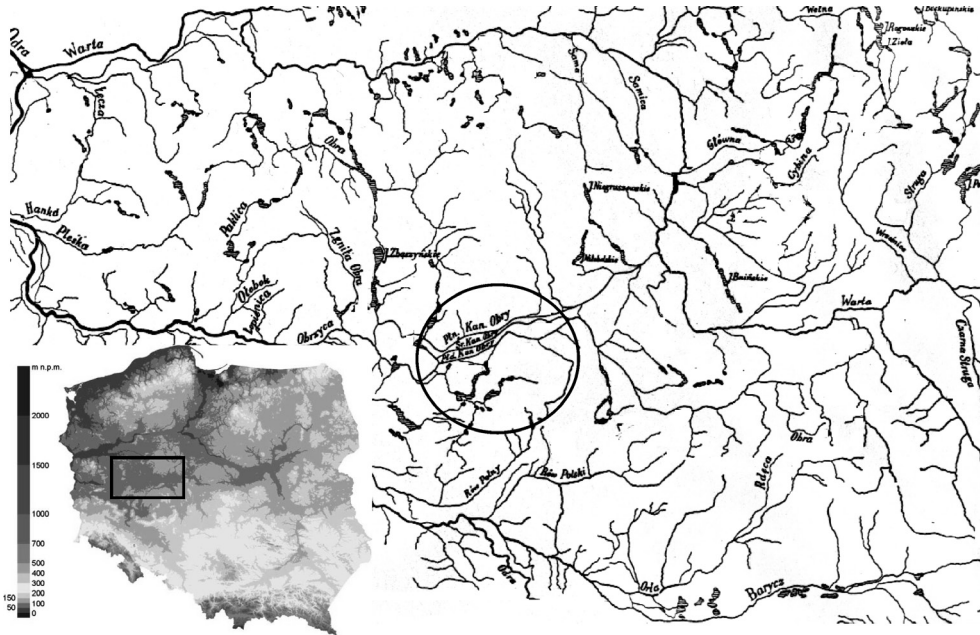


Figure 1. Map of the study area and its location in south-west Great Poland.

## Long-distance exchange

The course of the hypothetical directions of exchange, which are discussed below, is determined on the basis of archaeological sources displaying exogenous features. These are mostly pottery and minor metals, and to a smaller extent amber and lithics.

### Pottery vessels

Concerning long-distance contacts, the following types of pottery vessels are most important: bowls, cups, pots, storage vessels and amphorae. Among the bowls, the most significant is the find from Kokorzyn (fig 2). It was originally identified with the Corded Ware culture (Waga 1931); later it was recognised by J. Machnik as an exemplification of the so-called Dobre type (Machnik 1967, 1978: 9ff). The bowl had four plastic pellets below the rim; the surface colour was dark brown. Analogies may be found in Silesia – in the form of the finds from Przecławice, district of Wrocław, and from Wrocław-Oporów (Sarnowska 1969:



Figure 2. A bowl from Kokorzyn (from the collection of the Archaeological Museum in Poznań – further: AMP).

283f) as well as from Kujavia in the material from the cemetery in Bożejewice (Dobre type) (Koško 1991; Cofta-Broniewska & Koško 2002). From Bohemia, this type of vessel is known from Plotistě (Filip 1966: Plate 15), Moravská Nová Ves – Hrušky (Stuchlík & Stuchlíková 1996: fig 22) and from the Saale River valley near Merseburg (Zich 1996: plate 61) and the Lower Odra Basin River (Matuszewska & Szydlowski 2007).

Special attention should be given to a specimen found in the barrow mound IV, a pottery vessel with the richest kind of engraved ornamentation indicating an early-Únětice origin – horizontal grooves and triangles are commonly associated with the oldest UC horizon (fig 3). This find has analogies in the form of a vessel from Grzegorzowo, district of Strzelin, which is similarly decorated with horizontal grooves and a “hanging-triangle” motif (Sarnowska 1969: 261). Vessels of similar decoration and shape were also found at the cemeteries in Marszowice and in Kuyavia (Bożejewice). In Bohemia, analogous forms have been found for example in Pňow (Bartelheim 1998); vessels with the same morphology, but undecorated, are known also from graves in Mergendorf, Riesa (Billig 1958) and on the lower Oder (e.g. Babin, Barnisław) (Matuszewska, Szydlowski 2007).



Figure 3. A cup from barrow IV from Łęki Małe (from the collection of AMP).

## Amber

In the discussed area, amber is represented mainly by grave finds: from Przysieka Polska in the form of a perforated amber disc; similar objects have also been recorded in Brusy and Szczecin-Płonia (Bukowski 2002). At Łęki Małe, amber beads were found in burial mounds 1 and 2, and in burial mound 3, one large amber bead measured over 5 cm in diameter. Another amber bead was found in Bruszczewo during the excavations in the 2005 season.

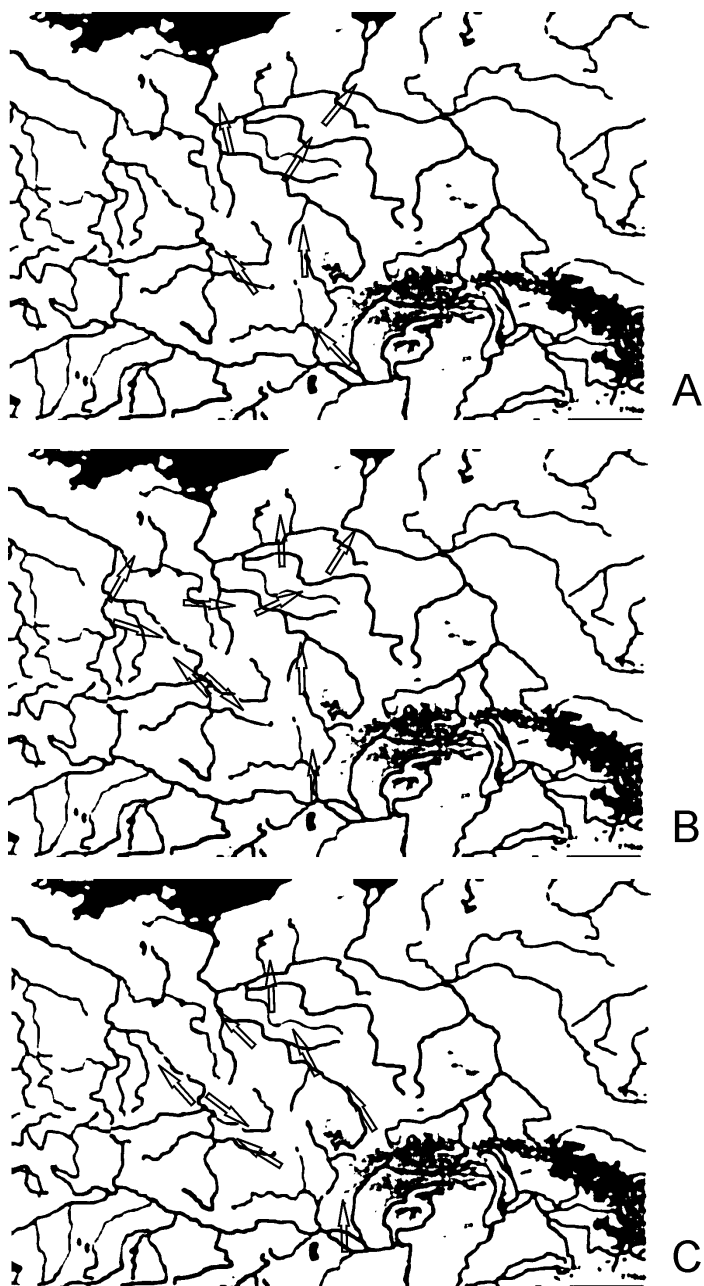


Figure 4. Directions of exchange and cultural influences during a) the Proto-Únětice stage, b) the classical stage and c) the final stage of the Únětice culture.



## Exchange directions

The above mentioned brief characteristics of the resource material concerning the spatial context of its occurrence may be a helpful premise in the analysis of potential exchange directions.

In the time of the Proto-Únětice culture (fig 4a), the main direction of the population and new cultural pattern inflow could have been from the central Danube, along the river arteries and the Morava and the Elbe to the area of Rudawy, to the north along the Nysa Kłodzka and the Ślęza. They probably reached Kuyavia along two “ways”: along the Oder to Głogów and further to the north through the Kościan region (Kokorzyn) or up that river to the Pyrzyce region, along the rivers of Warta and Noteć (Skrzatusz i Śmiardowo Krajeńskie) towards Kuyavia (Szydłowski 2003; 2004).

During the crystallisation period of the classical UC (fig 4b), the direction of exchange had a parallel dimension. On the basis of a stronger concentration of the classical Únětice resources at the confluence of the Nysa Łużycka and the Oder, as well as in the vicinity of Głogów, we may suggest that the crossings of the rivers were located here, as well as local trade exchange centres. Thus, the route ran almost parallel from Saxony to the river mouth of Nysa Łużycka, and then towards Głogów, and further crossing the Odra River near Kościan towards Kujavia. Here, a resilient Early Bronze Age exchange centre was located, which probably linked “the South” with the Baltic coast – an area where succinite was acquired. The Elbe and the Oder also functioned as signposts directing the “ways” of exchange. The first was an axis of cultural circulation with the area of central Bohemia and Moravia during the classical UC period; while the Oder was an artery along which classical Únětice bronzes could be spread to the north of the UC reach.

During the final period of the UC (fig 4c), next to the exchange route that most probably still existed within the parallel system, a southeastern direction was becoming increasingly important. The so-called Mad’arovce-Věteřov patterns

were transmitted along the Morava, the Elbe to Saxony, and along the Oder, through Głubczyce Upland (Nowa Cerkwia, Jędrychowice) to Lower Silesia and further from Głogów to the north through the Kościan region (Bruszczewo). One of the directions could have been the lower Warta basin, as indicated by a fortified site from that period discovered in Słopanów (Szydłowski 2003).

Therefore, we can state that the area of Elba and the Saale basins was a dominant UC centre, especially in the northern part of the area. It also influenced the area north of the high-density UC range.

## Conclusion

The Kościan region possessed numerous features, which contributed to the emergence of the route, along which people travelled carrying new cultural patterns. According to M. Dobrowolska, there are many factors and conditions (Dobrowolska 1974: 91ff; Brencz 1996) contributing to the cultural scenery: e.g. geographical conditions. The Obra with its minor tributaries and wide periodic pools created favourable conditions for travelling and the transportation of large amounts of goods in winter, when its comparatively shallow and wide-spread waters froze (Bartkowski 1953: 77ff; Kurnatowski 1963: 181ff, 1968: 183ff, 1992: 15ff, 1994: 33ff; Wędzki 1987), as evidenced by animal bones processed into ice skates (Silaska 2001). The geographical factor is considered superior in terms of the influence on the human activity in the surrounding environment. The way it was perceived was important to the spatial organisation of the area penetrated by a given group. Another significant element was the economic-cultural conditions; in order for a route to emerge, there must be a certain group of people with strong economic foundations, producing high value products to offer something valuable to the neighbouring settlements – one example is the metallurgist's workshop from Bruszczewo. Social and political factors are equally important; first of all creating social-political structures able to direct that field of activity, to profit from it and to develop that economic branch. The linear arrangement of the barrows in Łęki Małe could suggest a significant stratification in the community inhabiting the central Obra basin in the early

period of the Bronze Age (Czebreszuk 2001). The route, once formed, stays in the social consciousness for a long time and plays a significant role in that community, and was cultivated generation after generation, as proved by J. Burszta in his ethnographic research (Burszta 1966: 651ff; Nowakowski & Rączkowski 2002: 247ff).

It should be emphasised that to a very slight degree, the existing research allows for a comparison of the “Proto-Únětice” materials. Only in the classical stage can comparative analyses be carried out, however, and only within the sphere of grave wares. On the other hand, for the post-classical stage, only settlement material has been recorded. Based on the available material, numerous similarities were noticed – hence that area was included to the UC occurrence area – as well as many differences. The KG has some exogenous features, on the basis of which we can definitely identify it as an important exchange point on the map of the long-distance exchange contacts in the Early Bronze Age.

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