Grave Monuments and Landscape in South-Eastern Sweden

BY DAG WIDHOLM AND JOACHIM REGNÉLL

Abstract

Widholm, Dag & Regnéll, Joachim. 2001. Grave Monuments and Landscape in South-Eastern Sweden. Lund Archaeological Review 7 (2001), pp. 29–49.

During the last decade several scholars have analysed the meaning and importance of agriculture for the development of Late Bronze Age society. The present article has a starting point in pollen analyses performed at two sites in the province of Småland. The interpretation has a focus on one of the sites – the Bronze Age grave cemeteries of Snäckedal, Misterhult parish – which stands out as an extremely monumental site, yet totally without traces of agriculture, pasture or other kinds of human impact in prehistoric time. These results are compared to recent research on similar features in the Baltic region.

The article concludes with an interpretation of differences in the perception of monumentality between modern and prehistoric societies. Special attention is given to the symbolism of the grave constructions, above all the meaning of ships and houses in the Bronze Age grave ritual of northern Europe.

The fieldwork and pollen analysis have been made possible by grants from Birgit and Gad Rausing's Foundation for Humanistic Research.

Dag Widholm, Department of Humanities and Social Sciences, Kalmar University College, Linnégatan 5, SE-391 82 Kalmar.
Joachim Regnéll, Department of Mathematics and Natural Sciences, Kristianstad University, SE-291 88 Kristianstad.

Introduction

This paper treats of the relationship between grave structures, agricultural development and prehistoric perception of landscape. The area of investigation is situated in the north-eastern part of the province of Småland, and it extends over the parishes of Misterhult and Gamleby, both of which are situated on the coast, at a distance of 60 km from each other (Fig. 1). The chronological framework of the investigation is the Bronze Age. The primary issue concerns a hypothetical dialectical relationship between a cult centre and the contemporary development of the cultural landscape.

The areas now covered by Gamleby and Misterhult constitute two central parts of the Bronze Age settlement district, as is clear from a survey of cairns with a diameter of not less than 10 metres (Fig. 2). Gamleby parish belongs to the hundred of Tjust, which attracted attention at an early stage in Bronze Age research (Hansson 1936; Ekelund 1960). Tjust, which in modern administrative terminology corresponds to the

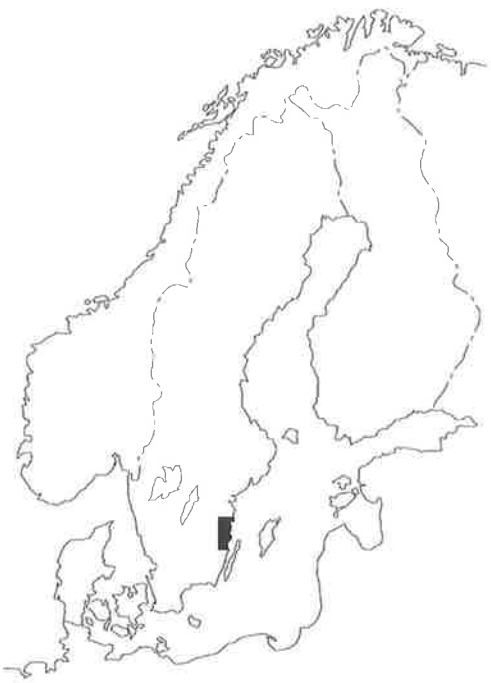

Fig. 1. Area of the present investigation in the north-eastern part of the province of Småland, south-eastern Sweden.

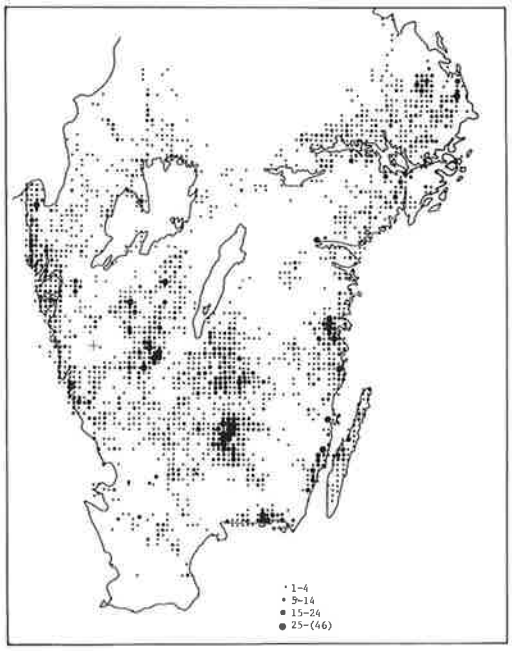

Fig. 2. Distribution of cairns with a diameter of at least 10 m (from Hyenstrand 1974).

rural district of Västervik, is also one of the well-known areas of Swedish rock carvings, and as such it has been the subject of special study (Friberg 1966; Magnusson 1989). The Bronze Age of Misterhult parish, on the other hand, has not been observed until recently, as a result of the national inventory of ancient monuments (Magnusson 1986). The lack of interest in that area in previous research is rather strange, above all considering the monumental aspect and the frequency of Bronze Age sites.

One of the starting points of the present paper is Widholm's dissertation of 1998; a result of the quantitative analysis of Bronze Age graves in north-eastern Småland is that one place appears unique compared to the rest of the region, namely, Snäckedal in Misterhult parish. The monumental antiquities within a limited area are without parallel in the coastal area which has been investigated (Fig. 3). Misterhult parish comprises a very big territory, which consists of mountainous terrain, with limited area for farming and pasture. The limited potential for supply has therefore led to an interpretation of the magnificent grave fields as a ritually determined central place, where outstanding persons within a large area of surrounding country were buried. The prominent prehistoric landscape surrounding Västervik, on the other hand, has been interpreted as a rich Bronze Age area, but with a conventional technique for supply as a base for prehistoric population density. The difference between the two interpretations is due partly to the structure of the ancient monuments, partly to an analogy to the historically known cultural landscape, where the valleys of the Västervik district (Tjust hundred) to a great extent stand out as a rather prosperous landscape with the establishment of manors during the Middle Ages, and with an expansion of manors during the 19th century. Misterhult parish does not show any equivalent

Fig. 3. Bronze Age grave monuments at Snäckedal, Misterhult parish, Småland.

structure: the livelihood in the historically known period has been fishery, limited agriculture and – during the last few centuries – stone quarries. The single manor has a building surviving from the 18th century. This manor might be compared to the expansion of manors in the Västervik district, which has such an extent that its characteristic style of architecture has been given a term of its own, the "Tjust Empire style". This fact is mentioned in order to illustrate the difference between the basis for supply of the two areas of investigation and – above all – to illustrate the basis for supply in Misterhult parish.

Of special importance for the interpretation of the structure of the Bronze Age monuments of Misterhult is the fact that the relatively vast area of the parish lacks Iron Age grave fields of a type that is frequent within the municipality of Västervik, north of Misterhult. The magnificent establishment of the Bronze Age in the Misterhult area therefore seems to lack continuity to the Iron Age. Occasional cairns of Bronze Age type are, however, situated so near the present-day shoreline that they seem to have been erected after the end of the Bronze Age (Dahlin 2000). These conditions are treated in the conclusion to the present paper.

An aspect of the natural resources of Misterhult parish has been treated in previous research, namely, the copper mining at Solstadström, which was carried on until the beginning of the 20th century: there might be a hypothetical connection between the occurrence of copper and the rich Bronze Age. It has not yet been possible to test this question empirically.

Another open question concerns the frequency of finds of precious metal in the investigation area. In the current analysis of prehistoric landscapes, with a dialectic relationship between centre and periphery, the analysis of precious metals play a very important role. In the investigation area of the present paper no such analysis is possible: occasional hoards of the Bronze Age occur in Loftahammar

and Hjorted parishes. No such find is known from Misterhult parish. The reason for this lack of knowledge is a matter of source criticism: Misterhult parish is cultivated to a small degree. The conventional background of rich hoards is therefore missing, as they were to a great extent found and registered in connection with agriculture at the beginning of the 20th century, or even earlier. Offerings of metals and of other material certainly took place during prehistoric time, but there is no basis for such places to stand out against the current archaeological record of the area.

Another question of importance for interpretation of the grave and settlement structure can be touched upon, namely, the mounds of fire-cracked stones. In north-eastern Småland there are mounds of fire-cracked stones primarily in the parishes surrounding Västervik, but even there at a low frequency compared with the amount of known grave monuments and rock carvings (Widholm 1998, p. 99). Further to the south on the Småland coastline the amount of registered mounds of this type decreases and vanishes, a fact which is probably related to the ambitions of the survey of ancient monuments at the end of the 1970s (Eklund 2001, p. 257). But the investigations connected with the construction of the new highway E22 to the south of Kalmar have yielded new evidence of a mixture of mounds of fire-cracked stones of central Swedish type and areas with fireplaces and hearth-pits of Danish or Scanian type. In one of the mounds of fire-cracked stones from the E22 project there was a find of human bones. Some of these areas with hearths were situated by prehistoric wetlands. The interpretation of these ancient monuments must be that they should not be regarded in a dialectic way as belonging *either* to secular settlements *or* to ritual environments of offerings and funerals. Both these functions occur in the investigation area of the E22 project (Eklund 2001, p. 274). Eklund's analysis is of importance for the interpretation of the Bronze Age environment of Misterhult, where some ten occurrences of mounds of fire-cracked stones are registered: they are parts of the ancient monuments with cairns and stone settings, in one case in the Snäckedal area. The occasional occurrence of this type of ancient monument in this specific environment should be related to the grave ritual and possibly to funeral pyres (cf. Kaliff 1997, p. 58). Regarding the occurrence of fire-cracked stones in this environment as a proof of settlement activities would be a misunderstanding of the same type as the interpretations of the early 20th century, where mounds of fire-cracked stones in central Sweden were taken as remains of settlements, although they have later on turned out to be situated in grave environments (cf. Carlsson 2001, p. 38). To sum up, the occasional occurrence of fire-cracked stones at Snäckedal does not admit any interpretation of settlement and supply in this area.

In connection with the first analysis of the prehistory of Misterhult, a preliminary pollen analysis from the Snäckedal area was carried out, but this did not give concrete evidence of agriculture in prehistoric time (Magnusson 1986). In Widholm's dissertation the interpretation of the history of vegetation is expressed with caution, although with a preliminary assumption that the lack of evidence of agriculture strengthens the interpretation of Snäckedal as a central place of religious importance. The empirical starting point for the present paper is a new palaeoecological investigation of the Bronze Age of north-eastern Småland, which is based on a pollen analysis partly from the area of the big cemetery of Snäckedal, partly from another site connected to the large-scale Bronze Age environments in Gamleby parish, to the north of Västervik. By means of a new palaeoecological analysis, the purpose is to deepen the interpretation of land use and the relationship between secular agriculture on the one hand, and the ritual veneration of different sites and parts of the landscape on the other hand. The theoretical starting point of the present historical

interpretation is thereby given: the perception and division of sites, districts and landscapes of prehistoric society can be interpreted on the basis of material culture and the preserved structure of the ancient monuments. The present paper thereby links up with the English landscape archaeology of the 1990s (cf. below).

This renewed analysis of the structure of ancient monuments in north-eastern Småland has been made possible by grants from Birgit and Gad Rausing's Foundation for Humanistic Research. Of the two authors – Joachim Regnéll and Dag Widholm – Regnéll is responsible for the palaeoecological investigation (p.82-88), and Widholm is responsible for the historical background and the interpretations of the remaining sections.

Central places and prehistoric perception of landscape

During the last few decades, different perspectives have been applied to analyses of central places compared to surrounding countryside or to peripheral sites. Processual archaeology worked with dialectically arranged models of centre–periphery, above all in order to explain the frequency of metals on a local, regional or interregional level (Bergström 1980; Larsson 1986; Kristiansen 1987). In recent years the economic determinism of that kind of analysis has proceeded to interpretations of ritual sites, with an inclination towards the conception of the world and landscape of prehistoric man. In British archaeology the big monuments have been regarded as parts of a great ritually determined landscape, in which access and closedness are crucial conceptions for interpretation and understanding (Bradley 1993; 1998; Tilley 1994). In Swedish archaeology this model has been used by Michael Olausson in his analysis of ancient fortresses of Uppland (1995). The recent evidence of very big settlements connected to the rock carving area at Norrköping is of great importance in this context (cf. Borna-Ahlkvist 2002), where a continued analysis of the relationship between cult and settlement will have an influence on the interpretation of the equivalent structures in the present investigation area in north-eastern Småland.

In an attempt to discern central places or areas with graves as a starting point, one could on the one hand investigate the occurrence of very large constructions, i.e. cairns or barrows with a diameter of 35 metres or more; on the other hand one could interpret the meaning of specialized forms of graves. The former method belongs to the classic Bronze Age research in Denmark (Thrane 1984; Randsborg 1993), and it has been carried out in Sweden by Thomas B. Larsson in an investigation which, among other things, comprises south-eastern Sweden (Larsson 1993a, p. 49). The latter method of investigating special forms of graves has been applied by Widholm in the investigation area of the present paper, in an attempt to demonstrate grave sites of a distinctive dignity, with the occurrence of stone ships and rectangular stone settings (Widholm 1998, p. 148). The combination of ship and house symbolism in the appearance of the graves obviously has a special meaning in south-eastern Sweden. It is evident from an investigation of Gotland, but in a partly different form: with its more than 350 stone ships, Gotland is the province of Scandinavia which has the highest known number of Bronze Age stone ships; at the same time, this island has the highest frequency of house urns in Sweden, three-quarters of which have been found in stone ships (Widholm 2002, in press). This strengthens the interpretation just mentioned, of grave forms in north-eastern Småland, which might be applicable to a bigger area of the southern Baltic region as well. The important problem is to find the common religion behind this symbol, which has the same ritual and religious meaning, but – like the ships – was realized in different material and in different contexts within a large area of the European Bronze Age (cf. Kristiansen 1999, p. 538).

The religious symbolism of the rectangular grave form – like that of the rectangular or oval

house urns – has its material starting point in the house, the dwelling or the repository for the remains of deceased men or women. The phenomenon is illustrated, for instance, by the peculiar construction at Sandagergaard in northern Jutland, where a rectangular stone structure lacked any traces of settlement, but instead had a content which included urn graves datable to period IV; outside the southern gable of the structure a group of five stone slabs with rock carvings was found (Kaul 1987, p. 50). This site has been equated with the mortuary houses which have previously been found in Germany (Harding 2000, p. 311). In other parts of Europe too, there are signs of the increased role of the house within the cult of family and household of the centuries BC: the house is associated with the ancestors, and the funerals are performed close to houses and settlements (Gerritsen 1999, p. 146). Swedish material which illustrates this feature has recently been demonstrated in Sörmland: rectangular graves built of stone slabs framed an urn grave. In one case the house- or room-like grave had an antechamber, it too with an urn grave. This complicated construction is supposed to have had a superstructure similar to a roof (Damell 1999, p. 45). This grave has been dated to the end of period VI or the transition to the Pre-Roman Iron Age.

The religious symbol of the house and of the room is probably proved in the cited cases. To the same religious sphere one might also assign the rectangular structures that occur in some parts of Sweden (Burenhult 1999, p. 85; Widholm 2002; Victor 2001), and which have also been identified as cult houses. Constructions of this kind also occur in the archipelago of north-eastern Småland and in the region to the south of Kalmar (Gurstad-Nilsson 2001, p. 234). The cult houses occur in connection with central grave monuments, as at Kivik and Tofta Högar in Scania and at Håga in Uppland. Their presence indicates sites for the prehistoric cult and the veneration of the ancestors. Yet the role of the cult houses in rite and religion is not unambiguous, and different functions of symbolism could be interpreted from constructions of wood and of stone. In some of the wooden houses burials were performed as well (Victor 2001, p. 147). The important aspect in relation to the present issue is the connection which has been proved, in some cases, between cult houses and stone ships, above all at the sites with cult houses of Kivik and Tofta Högar in Scania. The double symbolism of house and ship also occurs in the exterior shape of graves at several sites in south-eastern Sweden, demonstrating superior sites for cult and religion. Of these sites – as already mentioned – Snäckedal has no counterpart as regards the number of monuments and their prominent situation in the landscape.

The cited examples of analyses of the central places of the Bronze Age have their starting points in the British archaeology of the last decade. The investigation area of the present paper also gives reason for a comparison with research on similar features in the southern part of the Baltic area, and – for the Late Bronze Age – with the construction of the Lusatian culture of northern Poland and Germany. The empirical evidence of religion in this area is said to be rare, above all in a quantitative comparison with the roughly 120 known fortresses, 400 settlements, 600 hoards and more than 4,000 rather similar grave fields. Accordingly there is abundant material referring to the secular sphere, but very little empirical evidence of religion (Bukowski 1999, p. 43). Against this, on the other hand, it could be argued that the obvious uniformity of the grave fields of this period, from Central Europe to Southern Scandinavia, *per se* is an expression of a religion of equal generality and extent (Bouzek 1999, p. 58). At the fortified sites in the middle and northern part of Pomerania, however, the remains of cult are very few. This problem is best illustrated by the construction of Biskupin, which lacks interpretable remains of religious activities, although 80% of the settled area has been investigated (Bukowski 1999, p. 46). In contrast to this, the structures within the Lusatian culture which are interpreted

as ritual sites are limited to Silesia in southern Poland and have a characteristic position on mountain tops (Gediga 1992, p. 113). The distinctive purpose of the fortresses of the northern Lusatian culture seems to have been defensive. The possible Swedish parallel at Vistad in Östergötland and the interpretation of this site will not be touched upon in the present paper (cf. Larsson 1993 b; Olausson 1995, p. 49).

To sum up, two different assumptions have been stated for the interpretation of central places in eastern Småland: apart from the peculiar concentration of grave monuments at Snäckedal, there are sites of special importance, with religious functions of symbolism reflected by the exterior form of the house- and ship-shaped graves. This feature can be traced from the northern part of the province to the Bronze Age environments in eastern Blekinge. There is an obvious basis for analyses of this kind on Gotland and Bornholm. It is also possible that the ancient perception of ritual sites and the view of landscape from a ritual or a practical-economic point of view changed during the Bronze Age, parallel to the development of supply. This question is treated in the summary of the present paper.

The structure of graves in north-eastern Småland, in relationship to the southern Baltic and central Sweden

The area of the present investigation is situated between several regions with evident differences in the grave structure of the Bronze Age: on one hand Scania, Bornholm and the southern coasts of the Baltic Sea, on the other hand Östergötland and the Mälaren valley. It would be most interesting to make a comparison with the equivalent features of Öland, Gotland and Saaremaa (Ösel), which – with the exception of Gotland (Hallin 2002) – is a difficult task to accomplish because of the lack of general analyses and modern publications. In order to analyse the similarities and differences between the present investigation area and its surroundings, a brief comparison will be made with eastern Scania, north-eastern Germany, Poland and with the provinces of Östergötland and Sörmland.

The Bronze Age of north-eastern Småland differs in many ways from the corresponding features of Scania. Above all the Scanian urnfields of the Late Bronze Age are on a completely different scale: the three well-known grave fields at Svarte, to the west of Ystad, and Piledal and Simris to the east of Ystad have about 100, 60 and 60 documented graves respectively. In terms of size and number of graves they are similar to the urnfields of Poland and Germany (Stjernquist 1961; Olausson 1987). The similarities between the grave fields of the German and Polish coastal areas and Southern Scandinavia has been demonstrated by previous research (Thrane 1975, p. 42; Jaanusson 1981). In a recent compilation of the North European Bronze Age, the repeated similarity between the different grave fields is underlined as one of the characteristics of the Lusatian culture (Harding 2000, p. 113). Behind the very big grave field of this type there might have been a different kind of mortuary ritual, but – above all – a different settlement structure compared to the tentative pattern of eastern Småland (Widholm 2002). If – on the other hand – one looks at the grave structure of Östergötland and the Mälaren valley, there are great possibilities of comparison with north-eastern Småland, among other things concerning the introduction and establishment of cremation. In the Mälaren valley the cremation graves are often set up in cairns and barrows, and often without traces of pottery; the urnfield tradition was not established until the last periods of the Late Bronze Age (Jaanusson 1981). At the same time, grave fields with stone settings develop as a frequent feature, and often together with rather small cairns (Damell 1999, p. 40). In Östergötland the grave field of Fiskeby at Norrköping was for a long time the main source material. That grave field was established at the end of the Bronze Age and continued into the

Iron Age, with a predominance of the latter period (Lundström 1970). The recent and comprehensive investigations in Östergötland have modified this picture, as regards both the chronological and the geographical extent of the urnfield tradition (cf. Kaliff 1999, p. 59): thus the grave field of Klinga has cremation burials dating from period III (Stålbom 1994, p. 44), while the grave field of Ringeby might have 60 funerals in a single grave field (Kaliff 1997, p. 46). In this case there is a *quantity* of graves which might be compared to the urnfields of Scania and Denmark, but with a different exterior shape of the graves. In this connection it is important to underline that the extensive grave structures of Östergötland were unknown before the rescue excavations of the 1990s. Together with the material of the Pryssgården settlement at Norrköping, they constitute completely new source material. It is possible that modern investigations of these dimensions would alter the image of the ancient monuments in the investigation area of the present paper as well. Such investigations will not be possible in the foreseeable future, so analyses of ancient grave ritual and settlement must be performed using the very extensive material of the inventory of ancient monuments.

With the reservations mentioned so far, a comparative summary of the mortuary tradition of the Middle and Late Bronze Age of the regions mentioned, along the Swedish coast of the Baltic Sea, would give the following pattern:

- The mortuary tradition of north-eastern Småland has similarities to the development that is demonstrated in the Mälaren valley and Sörmland.
- In this case there is a more evident parallelism than between north-eastern Småland and Scania-Denmark.
- There are similarities in tradition and the shape of graves between Östergötland and north-eastern Småland, above all during Late Bronze Age.
- The extensive grave fields of Norrköping lack known parallels in north-eastern Småland. The numerically superior Snäckedal complex is divided into grave fields covering an area of 1 km^2, which gives another image than the closed grave fields of Östergötland.
- The urnfields of south-eastern Scania also are without parallels in north-eastern Småland.
- In north-eastern Småland minor groups of graves were established during the Late Bronze Age, sometimes in the shape of small grave fields with roughly five structures. Single graves, however, constitute the most prominent group of ancient monuments.
- A crucial difference between north-eastern Småland on one hand and the Mälaren valley and Scania on the other hand is that in the former case, judging by the known source material, there is a development towards single stone settings during the span of the Late Bronze Age, while, in the latter case, there is a development towards urnfields with at least 50 graves, and in one case with about 100 graves.
- The settlement structure and the agricultural economy that might constitute a back-ground to the single stone settings will be demonstrated in the following section.

Strategies for supply and settlement during the Middle Bronze Age

The present paper will concentrate on the grave fields of Snäckedal, the dating of which cannot be established on an empirical basis. The only excavation performed so far – of a rectangular stone setting – is dated to period IV (Widholm 1998). The total impression of highly varied shapes of graves on this site gives evidence of a time of use from the middle of the Bronze Age up to the end of that period. As mentioned in the introduction, the evident monumentality has been contrasted with the lack of capacity for supply in this area. The continued analysis with that starting point will be related in the next

section of this paper to the actual debate on the development of agriculture and pasture during the Bronze Age.

Since the end of the 1980s English archaeologists have demonstrated changes of agricultural technique during the Middle and Late Bronze Age (Harding 1997; Bradley 1997, p. 5). A similar agricultural expansion has been demonstrated for southern Sweden by the Ystad Project (Engelmark 1992; Olausson D. 1991). At the same time, large areas of clearance cairns in the inner part of Småland have been chronologically reassigned to the Late Bronze Age and Early Iron Age, which might demonstrate a similar expansion in that area (Gren 1996). The debate of the last few years on this issue concerns, among other things, whether the demonstrated results are general for southern Sweden, and whether the agrarian expansion could be related to the stabling of cattle (Lagerås & Regnéll 1999). A certain aspect concerns the level of the household in prehistoric society (Skoglund 1999, p. 282). A theory which has been presented in several contexts claims that the intensification of agriculture in certain regions during the middle part of the Bronze Age is connected to a general transition to family- or household-based responsibility for agrarian supply (Skoglund 1999). This tendency is demonstrated both at the large settlement of Apalle (Ullén 1994; 1999) and at the single farm settlement that has been documented in western Sweden (Artelius 1999).

Concerning Småland, the discussion of agrarian changes during the Bronze Age has also been related to the contemporary development of mortuary tradition: a transition to single stone settings in marginal situations during the Middle Bronze Age indicates a new responsibility for the funeral rites, from the level of the clan to that of the household. This change might in turn be related to a corresponding change in the responsibility for agricultural production (Widholm 1999, p. 258). The distribution of single, round stone settings seems to reflect both an expansion further into the landscape and a simplified mortuary ritual on the level of household.

The latest analysis of vegetation history of importance for the present issue has been demonstrated in connection with the E22 project to the south of Kalmar (Engelmark & Olofsson 2001; Svensson 2001). These results are based on samples from sites that are situated about 110 kilometres to the south of Misterhult. Despite the distance, these results must be of importance for the interpretation of the Bronze Age of north-eastern Småland, so they are summarized concerning the periods of interest for the problems of the present paper (cf. Svensson 2001, p. 669).

- At the beginning of the Late Neolithic there is an increase of indications of farming; this maximum of agriculture culminates at 2200 BC. At the transition to the Bronze Age, agriculture decreases and birch forests start to expand.
- Around 1300 the birch forests are cleared and a period of farming starts with a culmination at the beginning of Late Bronze Age, *c.* 1000 BC. For a couple of hundred years the farming seems to be occasional, while – on the other hand – pasturage increases, probably on the abandoned tilled fields.
- Farming and pasturage cease *c.* 850 BC. At the same time there is an increase of birch, and the whole district seems to have been transformed into a birch forest. According to the interpretation of this analysis, a climate change might have had an influence.
- Extensive clearance took place in the birch forests *c.* 600 BC; with lots of weeds and ribwort plantain (*Plantago lanceolota*). In contrast to the previous periods there is a lack of pollen of crops. Agriculture seems to be inclined to pasturage.
- Around the birth of Christ the forests expand; there is a decrease of pollen indicating pasturage

As mentioned by Engelmark, this interpretation corresponds to the image of the development of the south Swedish cultural landscape, as demonstrated, for instance, by the Ystad project (Engelmark 2001, p. 623). It also corresponds to the arguments cited above for a certain agricultural expansion during the middle part of the Bronze Age. The discontinuance of farming *c.* 800 BC and – above all – the increased development and importance of pasturage is of particular importance. Summing up, there seem to be certain similarities in the development of agrarian supply and its changes in southern Sweden around 1000 BC, which can be related to the extensive changes of the Bronze Age society at the same time (cf. Kristiansen 1998). Compared to the structural similarities, which so far might be discerned in the activity of farming and pasturage of this time, there were of course certain distinctive features in the local way of organizing supply and settlement. There is a problem concerning general interpretations of this type when it comes to local variations in the empirical material available. As mentioned above, north-eastern Småland has not been the subject of extensive field investigations of the type seen in Östergötland and the district to the south of Kalmar during the last decade. The interpretations must therefore be made with different assumptions for different regions. With these conditions in mind, an attempt at an interpretation and synthesis of the special conditions in the investigations area of the present paper will be undertaken in the summary.

In the following account the issues referred to above will be related to the palaeoecological investigations in Misterhult and Gamleby, and to the questions about the environment of the gravefields at Snäckedal. In the latter case it will be a question of how changes in supply, social structure and mortuary ritual are related to the hypothetical cult place of greater importance. The question concerns the chronological relationship between these variables and – above all – the ancient society's establishment, strengthening or abandonment of a ritually constituted central place.

Paleoecological investigations in Misterhult parish (Snäckedal) and Gamleby parish

Methods

Field work

Fieldwork was carried out in August 1999. Both sites were cored using a 1 m Russian corer, 5 cm in diameter. The small peatland at Snäckedal, previously cored by Thomas Persson in 1981, was now revisited in the hope of finding a longer sequence. No better stratigraphy was found, however, in spite of reconnaissance coring along several transects. We therefore decided to continue working with Persson's cores and pollen samples, which were stored at the Department of Quaternary Geology, Lund University.

Mineral magnetic analysis

Magnetic susceptibility analysis was performed to correlate the cores. Measurements were made at every 4 mm using a TAMISCAN-TS1 at the Laboratory of Mineral Magnetism, Lund University.

Pollen analysis

Samples were taken at every 5 cm and prepared using standard methods (Berglund & Ralska-Jasiewiczowa 1986, Moore *et al.* 1991). Pollen analysis was done using a Zeiss light microscope at 400X and 1000X, with the possibility of using phase contrast. At least 1000 pollen were counted at most levels, but substantially fewer were counted in the lowermost samples which had a low pollen content. The pollen spectra of these samples imply a much older age than the rest of the sequence and were therefore considered of little interest for the investigation. Pollen was identified according to the keys of Moore *et al.* (1991) and Reille (1992), and with the help of reference collection of the Department of Geology, Lund University. Nomenclature follows Moore *et al.* (1991). Spores, charcoal >25 mm, and algae were counted parallel with pollen. Pollen diagrams were constructed using theprogram TILIA. The diagrams are percentage

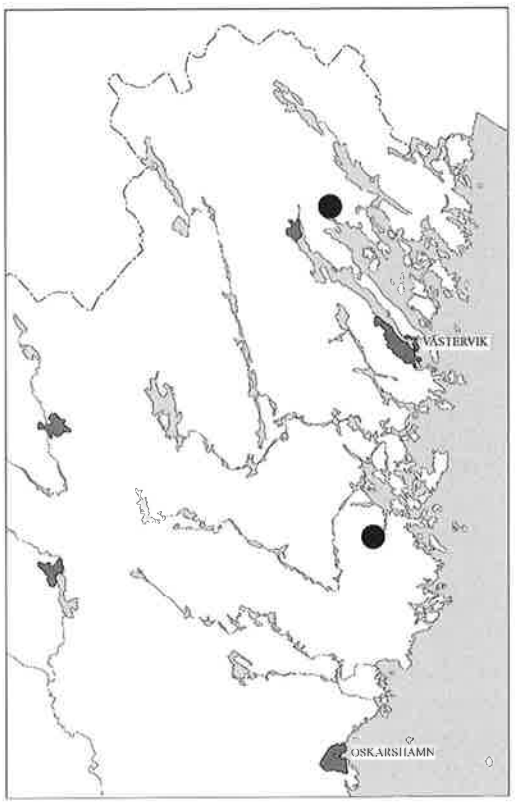

Fig. 4. The investigation area, marking the sites of pollen analysis.

diagrams, where data are plotted on a depth scale, with a secondary scale in calendar years. The diagrams were zoned, according to the questions raised, based on changes in the frequencies of cultural landscape indicators, such as *Artemisia, Calluna, Juniperus, Plantago lanceolata* and *Rumex acetosella.*

^{14}C dating

Several samples were prepared for AMS dating. Plant remains, e.g. seeds, fragments of bark and twigs, and charcoal particles were collected and dried. Two samples from each site were dated at the ^{14}C Laboratory, Department of Ionic Physics, Ångström Laboratory, Uppsala University. The results were calibrated to calendar years using OxCal, version 3.5.

Results

Site description and stratigraphy

The Mossen site lies in Gamleby parish (Fig. 6). It is a raised bog, drained by three major ditches. Therefore, the surface of the peat bog is dry and wooded, mainly with birch (*Betula*) but also with some single trees of spruce (*Picea*). The main shrub-layer species are *Betula, Frangula* and *Rubus idaeus*, and the most common field-layer species are ferns (Polypodiaceae), grasses (Poaceae), *Vaccinium myrtillus* and *Calluna vulgaris*.

The stratigraphy of the uppermost two metres is shown in Table 1. The stratigraphy below that was not investigated.

The Snäckedal site lies in Misterhult parish (Fig. 7). It is a small open fen with a field layer of Cyperaceae species and a ground layer of *Sphagnum* species. The stratigraphy is shown in Table 2.

Chronology

The results of the ^{14}C datings are shown in Table 3. Furthermore, the ages of the upper part of the sequences were given an age by interpolation between the year of sampling (Snäckedal in 1981, Mossen in 1999) and the uppermost ^{14}C dates. The chronology of the lowermost part of the Mossen stratigraphy was constructed using extrapolation.

Vegetation and land use history

Snäckedal

Zone S1, Late-Glacial

The zone is characterized by high pollen frequencies of *Pinus* and *Betula*, while other tree taxa are more or less missing. This is a pollen spectrum reflecting a Late-Glacial vegetation probably from the chronozone Younger Dryas (12,800–11,500 cal. BP). This is also implied by the high pollen frequencies of Chenopodiaceae and *Artemisia*, and the fine-grained sediment probably originating from the Baltic Ice-Lake (cf. Svensson 1989). The zone is followed by a hiatus spanning the entire Early Holocene and part of the Mid-Holocene.

Table 1. The Mossen site. The stratigraphy of the uppermost two metres.

Depth (cm)	Lithology
0–75	*Sphagnum* peat
75–80	Fen peat with *Eriophorum*
80–140	Fen peat
140–151	Clayey gyttja
151–200	Clay gyttja

Table 2. The stratigraphy of the Snäckedal site.

Depth (cm)	Lithology
0–64.5	Fen peat
64.5–68.5	Sandy silty clay
68.5–82	Clay with scattered plant remains

Table 3. ^{14}C dates.

Site	Sample number	^{14}C-years BP	Calibrated age (95.4%)
Mossen	Ua-17976	1040±65	860–1170 AD
Mossen	Ua-17975	1855±60	20–340 AD
Snäckedal	Ua-17977	4885±65	3910–3880 BC (1.1%)
			3800–3510 BC (94.3%)
Snäckedal	Ua-17978		

Zone S2, *c.* 4700–4200 BC

The zone is characterized by high pollen frequencies of *Pinus* and *Betula*, and increasing frequencies of *Alnus, Corylus* and *Quercus. Ulmus, Tilia, Fraxinus* and *Juniperus* occur in low frequencies. The presence of the algae *Pediastrum* and *Botryococcus*, together with the sandy, silty sediment, implies limnic conditions in a small pond isolated from the Baltic. The pollen data suggest a light forest, probably caused by the thin soil layer of the area.

Zone S3, *c.* 4200–3900 BC

The zone is characterized by high frequencies of *Pinus* pollen. The high and increasing pollen frequencies of Poaceae are remarkable, as are the increasing frequencies of charcoal particles. The change in lithology implies that the site turned into a fen characterized by Cyperaceae and *Sphagnum*. Vegetation around the site consisted of an open *pine-birch* woodland with a field layer of grasses. The increasing frequencies of charcoal particles imply frequent fires, probably caused by lightning in a period of low humidity (cf. Königsson 1968; Gaillard & Digerfeldt 1991). Pine has thick bark and is well-known for being resistant to fire, while e.g. juniper seems to decrease. Heather (*Calluna*) starts to spread during this period, a species favoured by fires of moderate intensity (Legg *et al.* 1992).

Fig. 5. The rift-valley to the north of Västervik, with one of the hundreds of cairns in the foreground.

Zone S4, *c.* 3900–500 AD

The zone is characterized by high pollen frequencies of *Pinus, Calluna* and *Betula.* The frequencies of Poaceae decrease at the lower zone boundary. During this period the field layer was characterized by heather, while grasses were less dominant. This may be a result of the negative effect of the fires on the soils in the area. Soils poor in nutrients favour heather. In the lower part of the zone, where the samples show a high time-resolution, there is a pattern of repeated peak values of *Pinus* and *Calluna* showing a cycle of about 100 years. This may reflect fire frequency, as studies from eastern Finland show a fire frequency of 25–150 years in pine forest with heather in the field layer (Tolonen 1983).

In the upper part of the zone charcoal particles are not found in every sample, and seem weakly negatively correlated to the pollen frequencies of *Calluna*, but weakly positively correlated to *Pinus.* This may imply a decreasing fire frequency caused by a change towards a more humid climate (cf. Königsson 1968). A decrease in fire frequency causes more litter to accumulate on the ground and heather will grow tall, and therefore the few fires that do occur may be more intense and may be severely destructive or even lethal to heather (Maltby *et al.* 1990).

Zone S5, *c.* 500 AD–

Zone S5, represented by only one sample, is characterized by high pollen frequencies of *Pinus* and the appearance of cultural indicators, such as Cerealea, *Plantago lanceolata* and *Juniperus.* The pollen frequencies of *Calluna* and *Corylus* decrease, and pollen of deciduous trees, such as *Ulmus* and *Tilia* is totally absent. For the first time there is a weak, but distinct, signal of human impact in the diagram, mainly implying grazing.

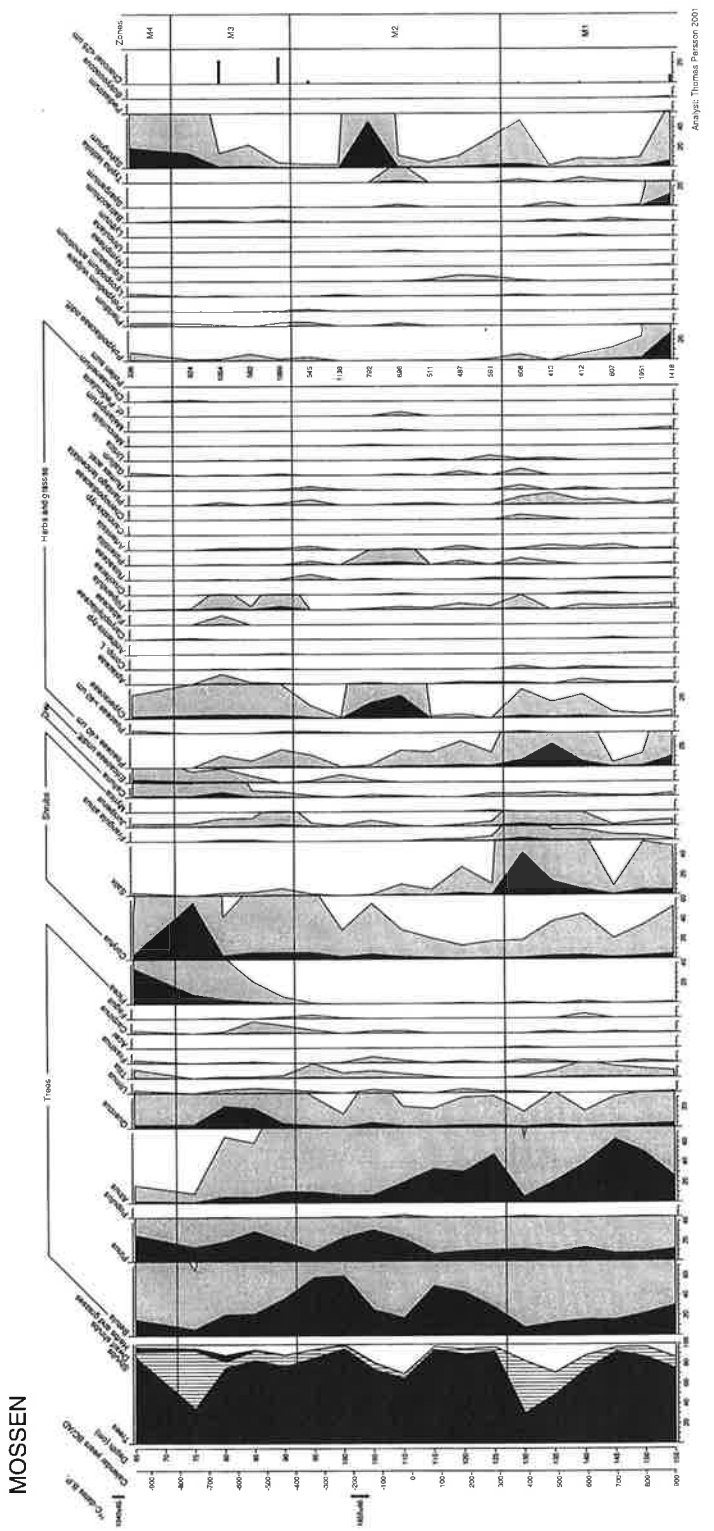

Fig. 6. Pollen diagram from the Mossen site, Gamleby parish.

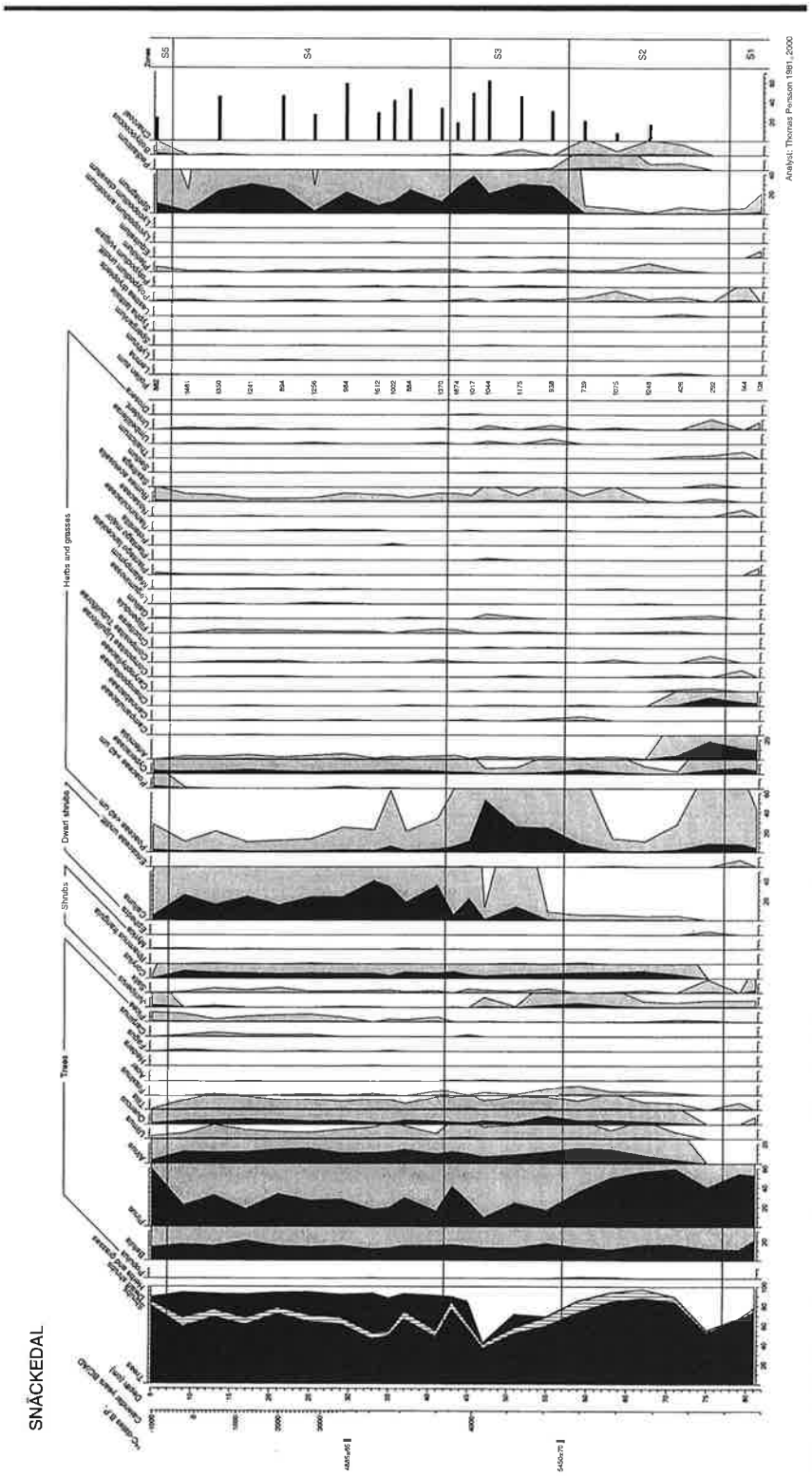

Fig. 7. Pollen diagram from the Snäckedal site, Misterhult parish.

Mossen

Zone M1, *c.* 900–300 BC

Zone M1 is characterized by high pollen frequencies of wetland species *Alnus* and *Salix*. Poaceae show maximum frequencies in the diagram. The dominant pollen taxon from dry land is *Pinus*. Cultural indicators are represented, e.g. *Plantago lanceolata, Artemisia* and *Juniperus*. *Nymphea* pollen and the green algae *Pediastrum* and *Botryococcus* occur in the lowermost sample and, like the lithology, show that the sequence represents an overgrown lake. The alder wood that grew around the site seems to have screened out the pollen data from dry ground. When the pollen frequencies of *Alnus* decrease, the taxa of grasses and herbs become more represented. The vegetation on dry ground was probably a mosaic of open land and woodlands of pine, birch, oak and hazel.

Zone M2, *c.* 300 BC – 400 AD

Zone M2 is characterized by high pollen frequencies of either *Betula* or *Pinus*. The pollen frequencies of *Alnus* are decreasing. Only a few cultural indicators are found. This pattern is interpreted as a change of the wetland from an alder fen to an open sedge fen caused by hydrological changes. At the same time there seems to be a decrease in grazing in the area, resulting in a more closed landscape with tree vegetation on former open land, consisting of birch followed by pine. The upper peak of *Betula* pollen in the diagram, and a corresponding low in the Cyperaceae curve, imply a local overgrowing of the wetland with birch.

Zone M3, *c.* 400–800 AD

The zone is characterized by decreasing pollen frequencies of *Betula* and, in the upper part of the zone, high frequencies of *Quercus* and *Corylus*. Cultural indicators, e.g. *Juniperus, Calluna, Plantago lanceolata* and *Artemisia*, occur. Once more the fen is turned into an open sedge fen with *Filipendula*. The occurrence of cultural indicators combined with high pollen frequencies of *Quercus* may seem contradictory, but probably reflects a change from a more area-extensive land use to a polarized land use whereby some areas are more or less permanently forested and others kept open (cf. Regnéll 1989, p. 51). The distinct peak in *Corylus* pollen in the upper part of the zone implies an overgrowing of former open grassland, as there is a parallel decrease in cultural indicators.

Zone M4, *c.* 800–1000 AD

The uppermost sample of the diagram reflects a Boreal landscape with spruce as the most important tree species, a landscape which may be interpreted as a succession of the forests described for the former zone.

Concluding remarks

The two pollen diagrams of Snäckedal and Mossen show many differences concerning pollen spectra, time-span and time resolution, making comparisons complicated, but there is one major distinction to be made between the two. The pattern of the Mossen diagram is much more dynamic than the pattern of the Snäckedal diagram. The vegetation of the Snäckedal area seems to be above all controlled by climate, whereas the vegetation of the Mossen area has changed several times depending on how and how much humans and their livestock influenced the landscape.

Interpretation of the cultural history of the sites

As stated in the introduction to the article, the pollen analysis was undertaken to determine prehistoric land use around Snäckedal, and thereby to compare Snäckedal with the Bronze Age area of Gamleby-Lofta north of Västervik. The results available from the site in Gamleby have their oldest date at 1000 BC. Comparisons between Misterhult and Gamleby are thus as yet only possible for the Late Bronze Age, from the middle part of period IV onwards.

When the results from the two sites are considered from the viewpoint of cultural history, certain similarities are observed, above all in the vague traces of cultivation. The differences that occur must be related to the great differences in the physical geography of the two areas; above all, the rocky terrain of Misterhult, in a location close to the shore in prehistoric times, restricted both natural vegetation and cultural impact in the form of cultivation. In my own interpretation of the material I shall concentrate on the following differences:

- *Plantago lanceolata* is found at Gamleby but is absent from Snäckedal before the Late Iron Age. This might suggest pasturing at the former site, not existing at the latter. Another explanation, however, could be the differences in terrain. However, there are other indicators of pasturing at Gamleby, more weakly represented at Snäckedal.
- There is a slight rise in cultural impact at Gamleby at the end of the Late Bronze Age which is not found at Snäckedal.
- The analysis from Snäckedal shows a generally low cultural impact in prehistoric times. The diagram instead shows even vegetation over a very long time, from the Neolithic to the Late Iron Age. The Bronze Age does not distinguish itself at all in the diagram.

Comparison of Snäckedal and Gamleby and between these sites and some other comparable analyses

Both Gamleby and Misterhult are parts of the Bronze Age district, which stands out by its frequency of graves in north-eastern Småland. One feature differs between the two analyses of Gamleby/Misterhult on one hand and the results from the E22 project and the analogies by Engelmark, which have been mentioned above: in the first case there are no traces of farming, whether at Snäckedal throughout the Late Bronze or at Gamleby for most of the Late Bronze Age. This result was expected for Snäckedal – see below – but it was unexpected for Gamleby. In the latter case the sample was taken in a district which previously has been noticed for the relationship between Bronze Age society and farming: a settlement in a major Bronze Age environment at Hermanstorp, to the west of Västervik, has among other things given extensive evidence of millet, which indicates a relationship to the countries south of the Baltic Sea (Engelmark 2001, p. 623). The distance between Hermanstorp and the site of the sample at Gamleby is not more than 10 km, and both sites are situated in similar environments in the rift-valley landscape. The importance of farming – on several levels – is also evident from the rock carvings in this part of north-eastern Småland: the site at Gamleby is situated a few kilometres from the well-known "Utrike stone" in Lofta Parish, on which a farming scene is represented. To sum up, there are two opposite variables for interpreting the Bronze Age landscape in this region: On one hand the empirical evidence for the growing of millet, combined with the ritual depiction of farming; on the other hand the sample site of Gamleby, in a rich Bronze Age environment, but with trifling evidence from pollen analysis for agriculture during the Late Bronze Age. So this particular site seems to confirm the recently produced picture of Bronze Age society in the region to the south of Kalmar, whose agriculture switched to pasturage during the Late Bronze Age (Svensson 2001, p. 669).

As mentioned above, the approach of the present project concerns the problem of whether it is possible by pollen analysis to demonstrate a particular form of land use concerning Snäckedal, which could be related to the hypothetical status of this site as a holy ground. As regards that question, the following arguments can be adduced:

As demonstrated above, the diagram of Snäckedal demonstrates an even, open vegetation of pine and birch forests with elements of heather, without distinct changes and without evident signs of human influence. The Bronze Age does not stand out in the diagram. According to this analysis people did not stay on this site for very

long in the Bronze Age. A peculiar feature of this site is the limited basis for supply in this terrain of primary rock. From this point of view the equally limited traces of secular activities during the Bronze Age are not surprising. Yet a very large number of monumental graves were erected within the area, which can have left traces in the diagram. So the conclusion must be that the Snäckedal region was chosen as a monumental mortuary site for people who had kept their settlements and supply in other places, in other parts of the landscape or in completely different districts. So far the new results of the present paper are a confirmation of the tentative interpretation that was presented in Widholm's dissertation in 1998. In addition, some further interpretations will be presented in the summary below.

Summary

For a visitor of today the hill of Snäckedal, with its many graves, stands out as a monumental and – at the same time – silent, quiet and shielded world. This picture apparently had its counterpart in prehistoric times: even though it is the biggest grave site in the region during the Bronze Age, no interventions were made in the environment to strengthen the monumentality of the stone-built graves. The curtain of trees was not opened in order to increase the visibility of the site; the wonder of today's visitor over these facts is based on our own perceptions and on our expectation of wide views connected to prominent monuments. The biggest cairn of Snäckedal is situated on the peak of the central mountain, right beside the big stone ship: this is evidently a distinct position, a situation between heaven, sea and mountain, but it was in combination with the conditions of the site itself – and not through any human influence – that the graves acquired their prominent character. The "Woodland Cemetery" of our own time, Skogskyrkogården to the south of Stockholm, has been designated a World Heritage site for its planted woodland environment, an artificial world for the deceased. In a prehistoric society a forest cemetery could evidently appear out of nature and still gain extensive fame. People certainly "altered the earth" (cf. Bradley 1998) with the numerous graves at Snäckedal, but they did not change the mountains and the trees physically.

The continuous, open forest vegetation of the Snäckedal diagram shows no manifestations corresponding to the social and economic changes of south Swedish – and not least Smålandic – Bronze Age society, which have been discussed in section 4. Judging by the exterior shape of the graves, however, the cemeteries were used during the major part of the Bronze Age, not least during the period around 1000 BC, when several of the changes so far demonstrated took place. In contrast to a possible transition to a household-based economy in the middle part of the Bronze Age, and even to a decentralized responsibility for funerary rites to the household level, Snäckedal stands out as unalterable and continuous. It has often been pointed out that the Bronze Age demonstrates few ritual "sites" – in the sense of erected constructions – which could be interpreted as the scenes of religious and ritual activities: the ambition to see traces of Bronze Age religion instead might lead to trivial over-interpretations (Harding 2000, p. 309). Against the demands of empirical evidence in that kind of approach, the Bronze Age research of recent years has presented several interpretations of religious phenomena, using both rock carvings and other source material, which were previously interpreted with the aid of socio-economic models (cf. Kaliff 1997; Kaul 1998; Goldhahn 1999). Against that background it is most reasonable to interpret the prominent characteristics of the Snäckedal context in terms of the rite and religion of prehistoric society. And it is also against a background of that kind that one can explain the relatively short time of use for the site, with its limitation to the Bronze Age. The vegetation of the site demonstrates no interruption, whether at the beginning of the

Bronze Age or at the time when the funerals came to an end. At the times when the grave fields of Snäckedal were established and when they ceased, it was not nature, agriculture or the local economy that changed, but the religion and cosmology of man. This site thus confirms the interpretation of Bronze Age cosmology as something unique for this period, which might have its roots in the Late Neolithic, but which was interrupted at the beginning of the Iron Age (cf. Kaul 1998). When it comes to Snäckedal, the magnificent site rests in the memory of men and society during the Iron Age: evidence of this is the cairns of Bronze Age character which were erected on the shores, at a level that was covered by water during the Bronze Age (Dahlin 2000). The erection of cairns dating to the Iron Age is certainly not a unique feature of this region, but it might be a unique kind of tradition that has been demonstrated in this region. And apparently the memory of the magnificent graves is not limited to prehistoric times: the oldest maps of Misterhult state the name *Snäckberget* for the site of the biggest grave field of Snäckedal. The element *snäck-* is usually connected with Viking Age ships, and in early place-names it designates landing places for the warships of the Late Viking Age or Early Middle Ages (Olausson 1979). In southern Sweden there is evidence both of *Snäckberget* and *Snäckedal* as names for sites connected with the early naval organization, the *ledung*. In the former case it concerns a site with a shipyard of the 11th century at Falster, Denmark; in the latter case it is a place with a supposed naval harbour at Kabusa in south-eastern Scania, with a connection to supposed stone ship (Tesch 1993, p. 74). In the same region – Kabusa in Scania – ship-shaped cropmarks have been documented in connection with several monumental Bronze Age barrows, but – above all – in the same region two ploughed-out stone ships have been investigated within a big cemetery of the Late Bronze Age, where funerals in house urns took place at the same time (Tesch 1993, p. 71; Widholm 1973). Two features stand out as important, if one compares this with the investigation area of the present paper in north-eastern Småland: (1) the peculiar place-names, with a link to the Viking Age; (2) the very peculiar combination of ships and house symbolism during the Bronze Age, which has been illustrated above, in the present paper. At Snäckedal in Misterhult there is no evidence of graves from the Viking Age; on the contrary, this site stands out as a monument of the Bronze Age, whose most prominent type of grave has borne a name down to modern times. This feature may indicate that parts of the name tradition of north-eastern Småland might have their origin in the Bronze Age, as has previously been demonstrated for the Västervik district (Brink 1998). At all events, the name of Snäckedal shows the long continuity in human perception of the distinctive nature of sites, their spiritual content and importance on a higher level than everyday provision.

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