

# Prehistoric lifestyles on Gotland – Diachronic and Synchronic perspectives

Helene Martinsson-Wallin, Paul Wallin and Jan Apel

The prehistoric period of Gotland Island covers around 8000 years of human occupation. In this paper we will concentrate on the period from the initial colonization to the end of the Bronze Age, a period of c. 7000 years. The prehistory of the people, who populated the Island of Gotland during this time, is diversified and reflects a variety of activities and lifestyles, which are influenced and interact with different regions around the Baltic Sea. The cultural traits seen in the material culture point to various contacts spheres over time. So far we do not have any conclusive evidences if the initial Mesolithic groups, whom were the pioneers to Gotland, settled here on a permanent basis and could be considered as the original ancestors of the Gotlandic people. This is something that was suggested by Österholm (1989). It seems more likely that various groups of settlers have arrived in Gotland at different times and/or that it has been a constant flow of goods and genes both from the Scandinavian and Baltic areas during the investigated time span. Throughout these 7000 years this region has also experienced dramatic environmental changes, which have affected the living conditions and patterns of subsistence for the groups of people living here. In this paper we will discuss different prehistoric lifestyles and the question of origin of the people living on Gotland. This is done in the light of our new research where we are compiling and re-analyzing old data as well as working with some specific case studies carrying out new excavations.

## THE PIONEER SETTLEMENTS ON GOTLAND

Gotland was first populated by humans around 9400 years ago. The initial traces of human activity are found on the Lime Stone Rock Island Stora Karlsö in the large open mouth cave Stora Förvar (Lindqvist and Possnert, 1999). Here traces of activities of human occupation and human skeletal remains have been found.

The remains indicate subsistence based on seal hunting and fishing. Since human skeletal remains are found in the cave deposits and the distribution of seals hunted at various seasons are indicated (Storå, 2001) the bones has been interpreted as intentional burials and that there could have been an around the year occupation (Lindqvist and Possnert, 1999). Another possibility is that Stora Karlsö and the cave of Stora förvar (great storage place) (Fig.1) was a special site used occasionally, but around the year by groups from some of the mainland areas surrounding the central Baltic Sea. However, the pioneers who reach the island in the late boreal period had to adapt to an unfamiliar environment and had to change subsistence strategies from hunting big game to rely on marine resources as fish and seal. The earliest sites on the “mainland” of Gotland range between Early- Mid Mesolithic and ended c. 7400 years ago when what appears to be a 1000 year hiatus is indicate in the available radiocarbon record. These sites have generally been difficult to find since it is likely that the main bulk of them was situated by the coast at the time of occupation and thus subsequent covered by the Litorina maximum transgression which appeared in close proximity in time with the abandonment of the sites. The changes in the Baltic Sea is not as dramatic during the Early Holocene as during the Late Pleistocene but environmental changes probably affected the success of the first colonisation phase. When the first people arrived at the end-phase of the Ancylus fresh water lake, the water level slowly increased and transformed the Baltic basin into the transitional Mastogloria stage (Lindquist and Possnert, 1999). Veski et al., 2004, p. 83) have estimated that cyclonic activities increased in the Baltic Sea around 8200 years ago, which was caused by climatic changes in the North Atlantic Region. This might have affected the lifestyles of the pioneer settlers to this Island environment. When it concerns the



Fig. 1. The Cave “Stora förvar” at the raised limestone island Stora Karlsö, West of Gotland Mainland.

1 pav. Urvas „Stora förvar“ kalkakmenio saloje Stora Karlsö, Vakaru Gotlandas

lithic techno-complexes, the pecked and ground axes found on Gotland during this early settlement phase, are among the earliest examples in the Baltic region and could indicate contact with Easter central Sweden and maybe to Finland and the Baltic countries and the area of the Petrosavodek axe-manufacturing site in Onega, Russia (Clark, 1976). The blade technology on the other hand have parallels in the southern Scandinavian Maglemosian techno complex (Sørensen, 2006 a and 2006 b) but also sites in Estonian Pärnu Bay (Kriska et al., in press). Further detailed studies regarding this will be carried out by Jan Apel. An aDNA-analysis of the Mesolithic hare (*Lepus timidus*) found in excavated deposits is currently carried out by Hans Ahlgren (Stockholm university). The aim of this study is to discuss their origin and genetic relationship of the contemporary hare-population in the area. Fur-

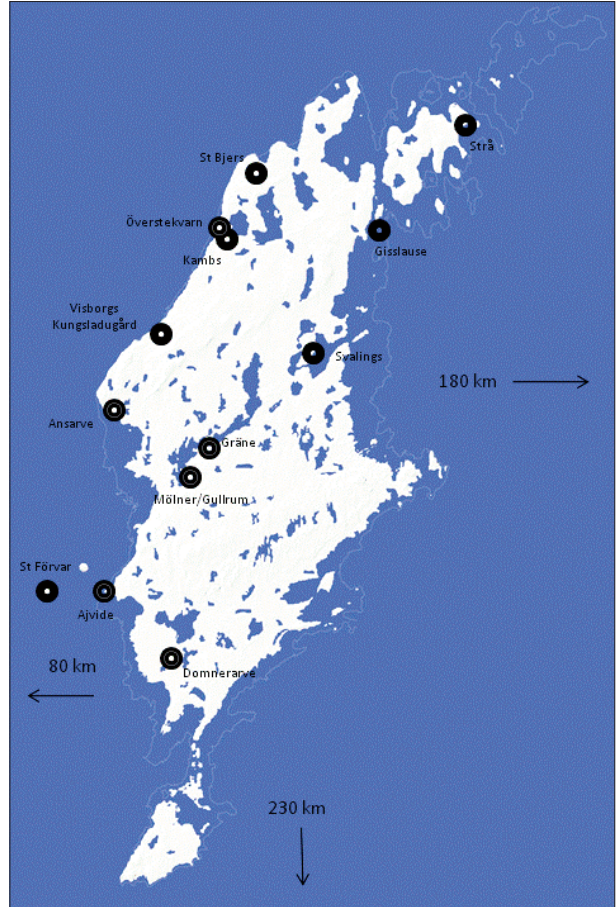


Fig. 2. Map of Stone Age Sites on Gotland mentioned in the text.

2 pav. Tekste minėtu Gotlando akmens amžiaus paminklų žemėlapis

thermore is the marine mammal hunting of seals under investigation both concerning possible techniques and a discussion on the fluctuation of the seal population and adaption of hunting strategies due to environmental changes and human impact. These strategies will be compared to the subsequent strategies used by the sub-Neolithic Pitted ware groups on Gotland. Since Gotland never have been attached to the mainland and emerged from the Baltic Ice Lake it provides an opportunity to study the impact of human behavior on the environment and the lifestyles and strategies used.

The earliest dated burial found on the mainland is a man from Kams in Lummelunda Parish north of Visby (Fig. 2). He was buried together with a stone axe in sitting-hocker position and has been dated to c. 7000 BC. Two other burials, possibly from the same time were recovered at the same site but have not been

dated (Larsson, 1982). At this site, further investigations are planned in order to find additional burials. At Stora Bjers I Stenkyrka Parish, a couple of km north of Kams (Fig. 2) another Late Boreal burial was recovered in 1955. It was a man, 35–40 years old, who had died from wound caused by crush injury on the left chin and a composite projectile point that had been shot into his hip (Arwidsson, 1979). He was buried in hocker position and one of the gifts in the grave is an antler from red deer (Arwidsson, 1979). This indicates contacts with the main land since red deer antler were an exotic item to Gotland where no large terrestrial animals were present in the boreal and early Atlantic periods. The finds of burials are usually a sign of sedentary settlement but it is not conclusive in this case.

### Case Studies of Mesolithic settlements

The earliest sites and the origin of the people and their adaptation to the Island environment are currently under investigation by Jan Apel (Gotland University) and Jan Storå (Stockholm University) in a project called *the Pioneer Settlements of Gotland*. Initial investigation of already excavated material of the sites of Gisslause in Lärbro Parish, Strå in Bunge Parish, Svalings in Gothems Parish and Visborgs Kungsladugård in Visby Parish (Fig. 2) have been carried out with the aim to obtain a more secure dating sequence and investigate the stone technology used by these early settlers. The latter could possibly provide a “fingerprint” as to cultural affiliation. New excavations carried out on Gisslause have among other things produced an interesting faunal material that shed new light on the economy of Gotlands earliest inhabitants (Apel & Vala in prep.).

## NEOLITHIC LIFESTYLES ON GOTLAND

### Transitions from late Mesolithic to early Neolithic

The transition phase from Mesolithic hunters to the introduction of farming and use of domesticated animals are quite unclear and poorly investigated on the island. There are indications of so called “axe settlements” or places that show agglomerations of axes and preforms of axes made from green stone. These sites are on Gotland generally dated to the late Mesolithic. The abundance of axes is explained in relation to clearing

of the land and the introduction of more sedentary settlements (Österholm, 1989, p. 191).

Indications of early Neolithic Funnel Beaker settlements are found at c. 10 sites around the Island, mainly at inland locations on sandy soils which are favorable for early farming. Only a few of these sites have been investigated in some detail. At Mølner and Gräne sites in Väte Parish, ceramics (see Fig. 2) and stone tools were recovered, but no bone materials due to the poor preservation conditions in the sandy soil. The settlements were dated by four radiocarbon samples. Two of the Mølner dates and a single date from Gräne came out as Mesolithic, and can be tied to the Mesolithic activities indicated at the bottom layers at the sites. One additional charcoal sample from the Mølner site was dated to just before 4000 BC (Cal 2 sigma), which indicate an early Neolithic date (however uncertain since it is a single date) (Österholm, 1989, p. 82). There are imprints of grains (wheat) found in the ceramics that also have been characterised as early TRB ceramics, similar to continental pottery, and might therefore be one of the earliest TRB sites in Sweden (Althin, 1967, p. 39; Österholm, 1989, p. 82–84). Flint axe deposits made of imported south Scandinavian flint also indicate early contacts in this direction. The cave site at Stora Förvar on the small island Stora Karlsö just outside the SW coast of Gotland include bones of domesticated animals that date to the Early Neolithic, which indicate that these animals were brought to the island at this time. Cattle and sheep/goat also exist in two other funnel beaker locations on the mainland (Stora Domnerarvet II in Hablingbo Parish and Överstekvarn in Lummelunda Parish) (Lindqvist and Possnert, 1997, p. 73).

One dolmen of late early Neolithic type (Fig. 3), defined as a rectangular dolmen, has been found at Ansarve, Tofta Parish (Bägerfeldt, 1992; Wallin, 2010 a; Martinsson-Wallin and Wallin, 2010). Excavations of the monument revealed human bones, stone axes, flint (both local and South Scandinavian), and fragments of amber. Three AMS-dates from three human mandibles all indicated an age of the grave to c. 3400–3000 BC (Cal. 2 sigma). The  $^{13}\text{C}$  value of the dated individuals showed a terrestrial food intake among the buried individuals. This indicates that the subsistence was based on farming and possibly the existence of domesticated



Fig. 3. **The Megalith at Ansarve.**

*3 pav. Ansarve megalitas*

animals (Lindqvist, 1997, p. 365). The osteological analysis of the bone remains showed that c. 30 individuals were buried and that they were adult males and females, as well as, children (Wallin and Martinsson-Wallin, 1997, p. 25).

### **The mid-Neolithic marine choice**

A completely different or perhaps “old fashioned” lifestyle, was selected around 3000 BC, when moving into the mid-Neolithic era. The subsistence strategy favoring seal hunting and fishing dominated the scene and the groups of people making this choice have been called the Pitted Ware groups, after the characteristic pits that occur on their ceramics. The settlements from this period are distributed all around the coasts of the island. At several of these locations there are large burial grounds found including c. 50–85 graves. These are (with few exceptions) single inhumations buried under flat ground. Males, females and children are found and all age groups are present, from infant to senile. The time span when these burial grounds were used is set between c. 3000–2400 BC, a use period of c. 500 years (Wallin, 2010 a). On these Pitted Ware sites large quantities of ceramics, animal bones and artefacts of bone and stone are recovered (Fig. 4a of ceramics and Fig. 4b of artefacts). The  $^{13}\text{C}$  values reported from human bones indicate a clear marine diet

in line with what is indicated in the bone remains from seals, fish and sea birds observed in the cultural layers. However, small quantities of sheep/goat and cattle are also present. The pigs, which have been introduced to the island, however possibly run wild, were of some importance, at least at certain events, for example at burial practices and feasting occasions. New studies of the burial grounds on the Gotlandic Pitted Ware sites show a complex pattern of practice. Several ways of burial treatment can be distinguished. The ideal burial seems to be that the body was placed on back with the head towards north, but other directions and body postures exists as well. In many cases the skeleton has been manipulated, heads removed, and sometimes the bones are deposited in something that may be defined as a package (Larsson, 2009; Norderäng, 2007; Wallin, 2010 b; Fahlander, 2003). The burial rituals as a mirror of social group dynamics have been studied recently by Wallin, and there are indications that important social indicators were constructed locally when it comes to gender and regionally determined when tied to age (Wallin, 2010 b, p. 73). (Fig. 5 of burial).

Besides the Pitted Ware culture there are indications of contacts with the so called Battle Axe culture. This is seen in the find material (Battle Axes, bone ornaments and multi-surfaced grinding stones) sometimes found in some of the graves at the Pitted Ware

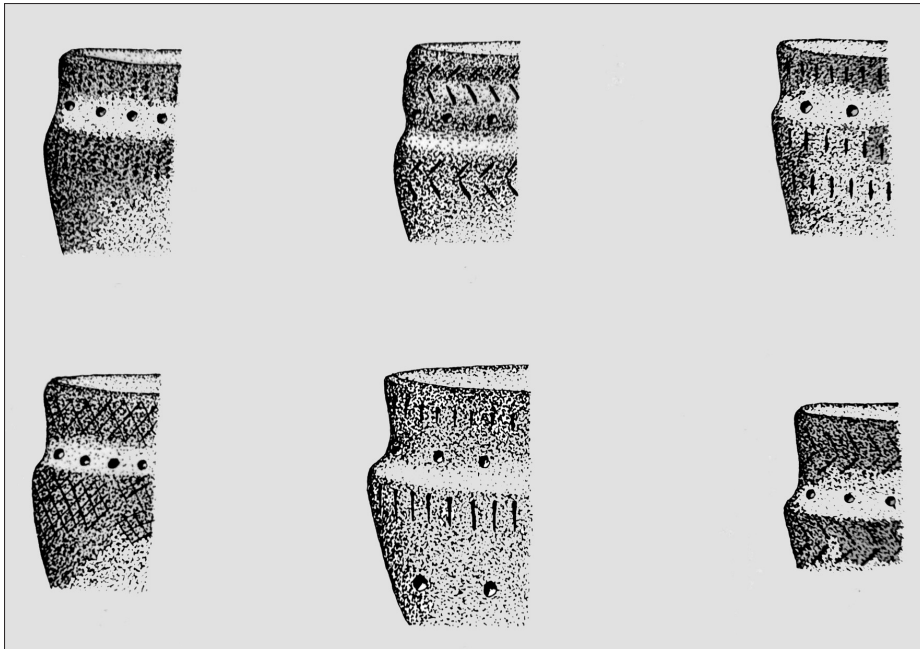


Fig. 4a. Pottery from a Pitted Ware site on Gotland.

4a pav. Keramika iš duobinės keramikos kultūros paminklo Gotlande

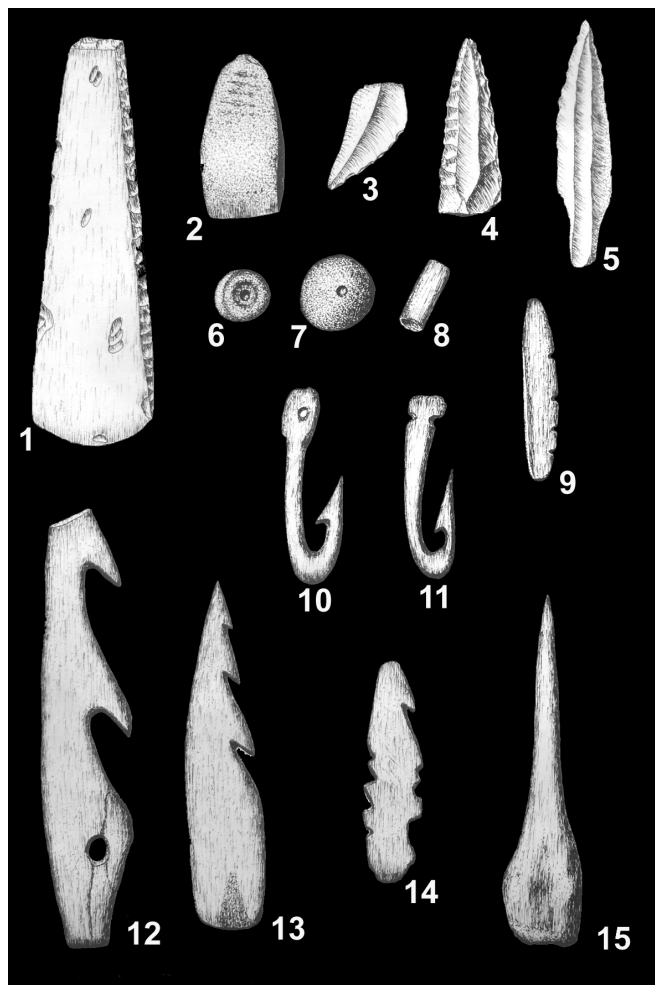


Fig. 4b. Artifacts from a Pitted Ware site on Gotland.

4b pav. Dirbiniai iš duobinės keramikos kultūros paminklo Gotlande



Fig. 5. **Burial from Ajvide Pitted Ware Site.**

*5 pav. Kapas iš Ajvide duobinės keramikos kultūros paminklo*

burial grounds as well as Battle Axes found as stray finds around the island. However, no settlements of Battle Axe culture type are found and the existence of these finds may just reflect contacts with this group on the mainland (Lindkvist, 1993).

### **The late Neolithic stone cists**

During the late Neolithic a new burial custom was established. Now the grave was built of quite large limestone slabs visible above ground. It took the shape of a stone cist surrounded by concentric granite stone circles, occasionally covered by a stone setting (Fig. 6). These burials sometimes contain up to c. 20 individuals, which again show a mixture of males, females and children. However, at times the cists only include a single individual. The size of the cist also varies from c. 1–3 meters in length and around 0,5–1,5 meters in width. This variation in size and amount of buried

individuals cannot be tied to a chronological explanation, since the find material of daggers etc. seems more or less to be the same within the different cist shapes. The explanation may instead be found in social differentiations and distinctions in genealogies, senior and junior branches, and experts within the society given different treatments (Wallin, 2010 a).

The settlement pattern from the late Neolithic is unclear, and no settlements with house foundations and distinct cultural layers have been found. The distribution of the stone cists is concentrated to the coastal areas, and this pattern is the same as indicated for the Pitted Ware sites and the dolmen. In other words, the graves have always been tied to the coastal area. Contrary to this the stray finds of late Neolithic simple shaft-hole axes show a distribution spread all around the island (Österholm, 1989, p. 70).

In the Early Bronze age around 1800 BC the same burial pattern tied to the coastal areas is continued, and at that time it is sometimes seen that some of the late Neolithic stone cists were covered by a monumental stone cairn, and additional burials were added outside the stone cist (Burenhult, 1986, p. 344–351; Stensköld, 2004, p. 155–157). This act protected the old genealogical burial place and possibly tied these earlier generations to the followers, as well as, the cairns became clearly visible monuments in the landscape. The cairns became the new statement indicating more complex social formations and distinctions that already started in the late Neolithic. The Neolithization with control over land resources and extensive use of domesticated animals was a long struggle during a time period of c. 2000 years that finally around 1800 BC could be put in practice and developed further during the Bronze Age.

### **MOVING FROM THE NEOLITHIC TO THE BRONZE AGE**

One obvious change which probably indicates the establishment of far reaching contacts is the introduction of metal. Copper started to appear in graves during the late Neolithic and flint daggers, which imitated daggers of metal, is a very common find in graves from this time as well. Recent studies of copper in bronze artefacts indicate that southern west Europe is a likely source of origin, and it is almost certain that this alloy found its way to Gotland through bartering/trade.



Fig. 6. Late Neolithic grave with concentric circles.

6 pav. Vėlyvojo neolito kapas su koncentriniais vainikais

The material culture that constitutes the Bronze Age on Gotland is the alloy bronze, large cairns, stone ship settings, rock carvings, cup mark-sites, fire cracked stone mounds and pits. There are according to the Swedish National Site Survey over thousand cairns on Gotland belonging to the Bronze Age. Around two hundred of these are large ones, over 20 meters in diameter (Fig.7). There are only a few measuring over 30 meter in diameter and the largest one, is Uggarderojr cairn on the South East of Gotland, which is 50 meter in diameter and seven meters high. There are so far around two hundred radiocarbon dates carried out on samples from Bronze Age contexts on Gotland. The majority of the radiocarbon dates are charcoal samples from hearts, fire cracked stone mounds or pits with fire cracked stones and cultural layer contexts. Very few large cairns have been investigated but the ones that have been excavated show multiple burials and re-use and internal structures in the form of concentric circles (Stenberger, 1941, 1942; Nylén, 1959; Hallström, 1971, 1973; Lindquist, 1976, 1977; Burenhult, 1986). One feature that is prevalent are the so called “south constructions” which are erected stones and stone-settings often with fire cracked stones, located south or south west of the large cairn (Nylén, 1959; Martinsson-Wallin, 2010). According to Hansson (1927)

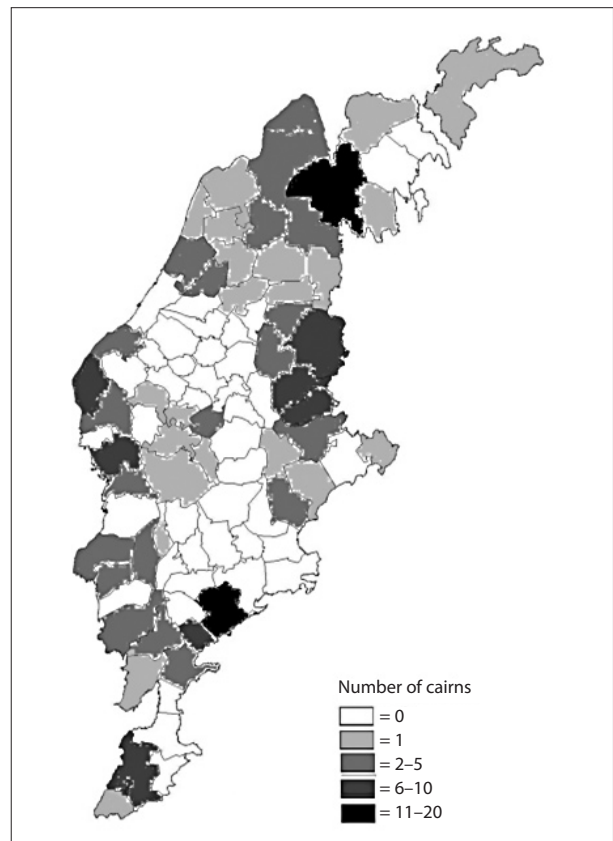


Fig. 7. The distribution of Bronze Age Cairns with a diameter over 20 meter.

7 pav. Žalvario amžiaus krūšnių, kurių skersmuo daugiau kaip 20 m, paplitimas

the bronze finds on Gotland show local character in the ornamentation already in period I (Montelius period system) but with close resemblance with finds from areas to the South West and South East. Finds of so called *Mälardal* axes show connections to the East but also ties to the East Swedish area. During the late Bronze Age the connections with the East Nordic area are stronger than contacts with South Scandinavia according to Hansson (1927, p. 100p). Eriksson (2010xx) who have studied pottery from the Bronze and Iron Age contexts in East Sweden suggests that Gotland show a mixed find material and contacts from several areas around the Baltic Sea are indicated. In an extensive study of the spatial distribution of the cairns, Nilsson (1986) have suggested that it is possible to indicate five chiefdom groups according to social models developed by Renfrew (1973). Hallin (2002, p. 20) on the other hand stress that the large cairns probably have a long history and are added on over time and that Nilsson's model is a simplified way of discussing social relations on Gotland during the Bronze Age.

### Settlement and field systems

It has been difficult to locate distinct settlement areas from the Bronze Age (Hallin, 2002, p. 64), but in areas as Vinarve in Rone (Lindquist, 1974), Liffride in Alskog (Hallin, 2002), Ekeskogs in Kräklingbo (Carlsson, 1992), Bönde in Lau (Carlsson, 1979) and Terra Nova close to Visby (Wickman-Nydolf, 1980), field systems have been found, which have indicated Bronze Age dates (Fig. 8). Lindquist (1974, p. 30) suggests that evidences point to the fact that Gotland during the end of the Bronze Age was organised in units that were larger than the extended family level with a possible division of labor into farmers, herdsman, and craftsmen. During this time was an extensive farming and herding method used. According to Lindquist (Ibid) the land-use changed into intensification of agriculture with arable meadows and grazing in smaller "privatised" established areas with a fencing system, during the pre-Roman Iron Age. These types of smaller irregular farming units are also found in Estonia. Lang (1996) calls these "Baltic fields" and according to him they reflect the boundaries of clearing of the arable soil and centered on clearing cairns. Thus they diverge from the larger regular Celtic fields, which



Fig. 8. Map showing settlement and field systems which indicated Bronze Age dates and the wall at Gothemshammar and the large cairns at Uggarderojr.

*8 pav. Žemėlapis, kuriame pažymėtos gyvenvietės ir laukai datuojami žalvario amžiumi bei pylimas Gothemshammar ir didelės krūsnys Uggarderojr*

reflect a conscious land-division and land ownership. Hallin (2002, p. 34) suggest that the Baltic field type is found on Gotland as well.

Settlement activities in the form of post holes, fire cracked stone, cooking pits dated to the Bronze Age have in addition to the areas with the field systems mentioned above been found at various locations on the Island as Stora Bjers in Stenkyrka (Silvén, 1954), Stora Vikers in Lärbro (Gräslund, 1967; Rydh, 1967), Gardarfe in Fardhem (Schönback, 1977), Burs in Norrlanda (Wickman-Nydolf, 2001) and Gudings in Alva (Carlsson, 1979) (Fig. 8). A few middle Neolithic sites as for example Ajvide have also indicated to have been utilised during the Bronze Age (Österholm, 1989) and some dated samples from henge sites have shown Bronze



Age dates, especially this case have been secured at the recently investigated stone wall site at Gothemshammar (Fig. 8) (Wallin, 2010, p. 49–52; Wehlin, 2010, p. 98, 100–101).

### Case studies of Cairns and south constructions

When studying the spatial distribution of the largest Bronze Age Cairns on Gotland, they are located mainly by the coast and/or close to wetlands. Larger cairns could of course have been built in the inland area and subsequently destroyed by farming activities as suggested by Hallin (2002). However, it is not very likely that subsequent prehistoric farmers have moved large cairns for developing farming, but the idea that the cairns are placed in the boundary between the arable land and non arable land as proposed by Lang (1996) is more likely. We also see that smaller cairns do exist in the inland areas usually in positions on non arable land or bordering to these areas. One factor to consider is of course the building of the over 1,800 long houses with stone walls during the Early Iron Age when building material from the cairns could have been utilized, but it is more probable that the house walls were built by stones which were removed from arable land in the vicinity. The careful study of historical maps would indicate if large cairns have been destroyed by modern farming, but so far this pattern is not indicated to a major extent. In previous studies by Hallin (2002) and Nilsson (1986) they have estimated that large cairns are the ones over 10 meter in diameter, which according to Hallin (2002, p. 19) comprise of 405 cairns but she think that the number must have been higher due to subsequent destruction of sites. According to her (2002, p. 19) the largest cairn was 57 meter in diameter and 6 meter high and called *Storerör* by Hilfelings who visited this place in the late 1800's (Gislestam, 1994). This is interpreted as the Bâticke cairn in Anga parish, which is a crater cairn with a strange arrow like construction to the south. However, Second World War military activity is indicated here and the cairn could have been altered around during this time. Otherwise the largest and most intact cairn on Gotland is, *Uggarderojr* located close to the coast on South East Gotland in Rone parish (Fig. 8). This is also surrounded by five other extensive cairns (Martinsson-Wallin and Wehlin, 2010). There is only

a handful excavated large cairns on Gotland, they all indicate re-use and to house multiple burials, some show to be utilised for burials from the late Neolithic until the Early Iron Age. This indicates that the graves have been added on over time and their more extreme monumental expression and size could very likely be a last stage in a building process. Some structures could have been utilised during the whole Bronze Age period. Some areas have in one way or another probably been more important, and show agglomerations of large cairns. This could indicate powerful families with strong genealogies and also closeness to areas with extensive field systems. The large *Uggarderojr* site with several large cairns is for example located no more than 2 km from Vinarve field system and the large *Digerrojr* site is located 3 km from the Bönde site in Lau.

The cairns have been interpreted mainly as burial grounds but Nylén (1959) observed that many of them had up-right stones or stone-settings close by in a south or south west location in relation to the cairn. He coined the concept of “south constructions” and this indicated that the cairns and area around them probably was used for ceremonies and ritual activities in addition to be a burial ground. This makes both the macro pattern of spatial distribution of the cairns on Gotland, and the investigation of the micro area around them important to study. These studies could say something about the socio cultural relations outside of Gotland during the Bronze Age and also about the lifestyles and relationships among the various groups on the island. In 2008, new research on cairn milieu on Gotland was initiated by Martinsson-Wallin. The research focus has been set on understanding more about the social, cultural and natural environment around the largest cairns on Gotland. Also the internal structure, mortuary practices and various investigations of the skeletal remains are going to be carried out. An investigation of south constructions at the large *Uggarderojr* cairn was carried out in 2009, which resulted in the excavation of a stone setting and a fire cracked stone mound (Martinsson-Wallin and Wehlin, 2010; Martinsson-Wallin, 2010). In this excavation and subsequent excavations of a south stone construction at *Digerrojr* cairn in Garde (Martinsson-Wallin and Wehlin, 2011) indicated that activities including extensive

fires including stones have been part of some kind of ritual carried out at the large cairns. Further investigations of south constructions will show if this pattern is confirmed elsewhere. The stone setting excavated next to Uggarderojr cairn gave dates as would be interpreted as contemporary with the initially constructed large cairn. The stone setting included selected stones, and stones with cup marks, as well as, flaking of flint which could be interpreted as a ritual activity. Subsequently, during the late Bronze Age and Early Iron Age un-cremated and cremated human and animal bones and additional stones was placed on to this structure (Martinsson-Wallin and Wehlin, 2010). A recent micro analysis of the previously totally excavated cairn of Kauparve on the north of Gotland has indicated that two of the skeletal remains buried in one of the two cists, who earlier was determined to be a man and a woman and dated by a spiral pin to Montelius period II by Stenberger (1942), instead after re-analysis indicated two women, and new radiocarbon dates show that the skeletons are not contemporary. The older woman was buried in the mid-Bronze Age (period III) and the younger in succession to that. An older man is buried in another stone cists and an artifact in the form of a bronze fibula indicate that he also is buried here in the mid-Bronze Age (Oldeberg, 1974). This show that Kauparve cairn has been re-used during the Bronze Age, and it is very likely a family grave of genealogical importance. aDNA and isotopic analyses of the skeletal remains would be of importance to evaluate the internal and external contact and lifestyle approaches of these buried people. Equivalents to the spiral pin

found at Kauparve have been found in two other contexts on Gotland and this type have also been found in Lithuania (personal communication with professor Algimantas Merkevičius) and in one instance in Poland (personal communication with MA student Dominika Kofel). The  $^{13}\text{C}$  values of the buried women indicate that they have a terrestrial diet. Natural environmental changes during the Bronze Age, which affected the landscape is the isostatic uplift and shore line displacement. Gotland has risen more rapidly in the North and it is tilted from West to East. Hansson (1927) indicated some areas that could have been utilised for settlement and farming/herding activities but subsequent research show that these areas are extended. The correlation between areas with large cairns and areas for settlement and field systems is a focus for further research.

## SUMMARY AND CONCLUSION

Österholm (1989) suggested that it was the same population group who inhabit Gotland territory from the Mesolithic until the Bronze Age. She is of the opinion that the dramatic environmental changes were the decisive factor of the various lifestyle approaches and settlement patterns seen over time, a period of 7000 years. New research and diachronic and synchronic perspectives show that these patterns are not so simple and straight forward. Interactivity between changes in natural, social and cultural milieu are all driving forces at play in the lifestyle approaches, settlement patterns, social formations and external influences indicated on Gotland in prehistoric times.

## LITERATURE

- Althin A., 1967. Mølner i Väte – en preliminär redogörelse. In: *Gotländskt Arkiv*. Visby.
- Apel, J. & Vala, C. in prep. Den mesolitiska lokalen Gisslause (raä 413:1) i Lärbro sn.
- Arkeologisk rapport, Högskolan på Gotland. Utgrävningsrapport, Högskolan på Gotland. Visby.
- Arwidsson G., 1979. Stenåldersmannen från St Bjärs i Stenkyrka. Arkeologi på Gotland. In: *Gotlandica nr 14*. Nyköping.
- Burenhult G., 1986. Speglingar av det förflutna. Bra Böcker.
- Bägerfeldt L., 1992. En studie av neolitikum på Gotland: problem och konsekvenser, utifrån undersökningen av en dös och neolitiska lösfynd. Gamleby: Arkeo-förl.
- Carlsson D., 1979. Kulturlandskapets utveckling på Gotland. En studie av jordbruks- och bebyggelseförändringar under järnåldern. Nyköping.
- Carlsson D., 1992. Storbranden i Kräklingbo Gotland. Inventering av skadade fornlämningar. Förslag till åtgärder. In: *Rapport 1992:8. LST*. Visby.
- Clark G., 1976. A Baltic Cave Sequence: A Further Study in Bioarchaeology. In: *Archaeologia Austriaca*, 13, p. 113–123.
- Eriksson, 2010. Käril och social gestik. Keramik I Mälardalen 1500 BC-400 AD. AUN 41. Riksantikvarieämbetets Arkeologiska undersökningar Skrifter No. 76.
- Fahlander F., 2003. Materiality of Serial Practise. A Microarchaeology of Burial. Gotarc Serie B, No. 23. Göteborg University. Göteborg.

- Gislestam T. (Ed.), 1994. CGG Hifselings gotländska reisor 1800 och 1801. II. Gotlands Fornsal förlag. Visby.
- Gräslund B., 1967. Grav och boplatssfynd från brå samt P.M. ang. Jää-grav-fynd från Stora Vikers 1:77, Lärbro socken. Dnr 2817/67.
- Hallin G., 2002. Kummel, skepp och koksten. -en studie om bosättningsområden och social struktur under bronsåldern på Gotland. Solna.
- Hallström A., 1971. Boplatser och gravar på Nygårdsrum i Vallstena. In: *Gotländskt Arkiv*. Visby.
- Hallström A., 1973. Bronsåldersgravar vid St. Källstade i Lärbro. In: *Gotländskt Arkiv*. Visby.
- Hansson H., 1927. Gotlands bronsålder. Kungl. Vitterhets Historie och Antikvitets Akademiens Handlingar, Del 37:1. Stockholm.
- Kriiska A., Hertell E., Manninen M. A., in press. Stone Age Flint Technology in South-western Estonia – Results from the Pärnu Bay Area. In: Rankama T. (Ed.). *Mesolithic Interfaces – Variability in Lithic Technologies in Eastern Fennoscandia*. Helsinki.
- Lang V., 1996. Fossil Field Systems of the Late Bronze Age and Pre-Roman Age at Saha-Loo and Prppsä. In: *Acta Archaeologica*. Stockholm.
- Larsson L., 1982. De äldsta gutarna. In: *Gotländskt Arkiv* 1982, p. 7–14.
- Larsson Å. M., 2009. Breaking and Making Bodies and Pots. Material and Ritual Practices in Sweden in the Third Millennium BC. Aun 40. Uppsala Universitet.
- Lindkvist E., 1993. Stridsyxekultur på Gotland. BA-thesis. Stockholms Universitet.
- Lindqvist S. O., 1974. The Development of the Agrarian Landscape on Gotland during the early Iron Age. In: *Norwegian Archaeological Review*, vol. 7, no. 1.
- Lindqvist C., 1997. Ansarve hage-dösen. Tvärvetenskapliga aspekter på kontext och den neolitiska förändringen på Gotland. In: *Till Gunborg. Arkeologiska samtal*. Eds. Åkerlund A., Bergh S., Nordbladh J., Taffinder J. SAR, no 33, p. 361–378. Stockholms Universitet.
- Lindqvist C. and Possnert G., 1997. The subsistence economy and diet at Jakobs/Ajvide, Eksta Parish and other prehistoric dwelling and burial sites on Gotland in long-term perspective. In: *Remote Sensing*, vol. I. Ed. G. Burenhult. Theses and Papers in North-European Archaeology 13:a, p. 29–90. Stockholm University.
- Lindqvist C. and Possnert G., 1999. The First Seal Hunter Families on Gotland. On the Mesolithic Occupation in the Stora Förvar Cave. In: *Current Swedish Archaeology*, vol. 7, p. 65–88.
- Martinsson-Wallin H., 2010. Bronze Age Landscapes on Gotland: Moving from the Neolithic to the Bronze Age Perspective. In: *Baltic Prehistoric Interactions and Transformations: The Neolithic to the Bronze Age*. Ed. H. Martinsson-Wallin. Gotland University Press 5, p. 63–78.
- Martinsson-Wallin H. and Wallin P., 2010. The story of the only (?) megalith grave on Gotland Island. In: *Dokumenta Praehistorica XXXVII*, p. 77–84. Ljubljana.
- Martinsson-Wallin H. and Wehlin J., 2010. Rapport från arkeologisk undersökning i Uggarderojrområdet 2009. Gotland, Rone sn, Uggårda 3:1, RAÄ 10:1, 3, 4, 5.
- Martinsson-Wallin H. and Wehlin J., 2011. Rapport från arkeologisk undersökning i Rojrsbogen 2010. Gotland, Garda och Lau sn. Goks 1:8, RAÄ Garda 1:2–3 och Lau 41:1.
- Nilsson, 1986. Bronsåldersrösen. En korologisk studie med personator. In: *Varia*, nr. 12. Oslo.
- Norderäng J., 2007. Paketgravar från stenåldern. In: *Gotländskt Arkiv*:15–22. Länsmuseum på Gotland.
- Nylén E., 1959. Gotlands murade rösen och bronsålderns fjärrhandel. Förslag till ett forskningsprogram. In: *Gotländskt Arkiv*. Visby.
- Oldeberg A., 1974. Die älteren Metallzeit in Schweden I. Gotland 2160.
- Renfrew C., 1973. Monuments, mobilization and social organization in neolithic Wessex. In: *The explanation of culture change: models in prehistory*. Ed. Renfrew C. Duckworth.
- Rydh S., 1967. Stora Vikers i Lärbro. In: *Rapport Dnr 2817/67. ATA*.
- Schönback B., 1977. Bronsåldersfyndet från Gardarfve. *Gotländskt arkiv*. 1977, p. 75–77.
- Silvén, 1954. Bronsåldersboplatser och skeppssättningar vid St. Bjers, Stenkyrka socken. In: *Gotländskt Arkiv*. Visby.
- Stenberger M., 1941. Gotländska bronsåldersrösen. In: *Gotländskt Arkiv*. Visby.
- Stenberger M., 1942. Ett kraterröse på Goltand. *Fornvännen* 1942, p. 96–113.
- Stensköld E., 2004. Att berätta en senneolitisk historia. Sten och metall i södra Sverige 2350–1700 f. Kr. Stockholm Studies in Archaeology 34. Stockholm University.
- Storå J., 2001. Reading Bones. Stone Age Hunters and Aeals in the Baltic. In: *Stockholm Studies in Archaeology*, 21. Stockholm.
- Sörensen M., 2006. Rethinking the lithic blade definition: towards a dynamic understanding. In: Apel J. & Knutsson K. (Eds.). *Skilled production and Social Reproduction. SAU Stone Studies*, 2. Uppsala.
- Sörensen M., 2006. Teknologiske traditioner I Maglemosekulturen. En diakron analyse af maglemosekulturens fleakkeindustri. In: Eriksen B. V. (Ed.). *Stenalderstudier. Tidlig mesolitisk jeagere og samlere i Sydsandinavien*. Jysk Arkeologisk Selskab. Århus.
- Veski S., Heinsalu A., Klassen V., Kriiska A., Lougas L., Poska A., Saluäär U., 2005. Early holocene coastal settlements and palaeoenvironment on the shore of the Baltic Sea at Pärnu, southwestern Estonia. In: *Quaternary International*, 130, p. 75–85.

Wallin P., 2010 a. Neolithic Monuments on Gotland: Material Expressions of the Domestication Process. In: *Baltic Prehistoric Interactions and Transformations: The Neolithic to the Bronze Age*. Ed. Martinsson-Wallin H. Gotland University Press, 5, p. 39–62.

Wallin P., 2010 b. In search of rituals and group dynamics: correspondence analyses of Neolithic grave fields on the Island of Gotland in the Baltic Sea. In: *Dokumenta Praehistorica XXXVII*:65–75. Ljubljana.

Wallin P., Martinsson-Wallin H., 1997. Osteological analysis of skeletal remains from a megalith grave at Ansarve, Tofta Parish, Gotland. In: *Remote Sensing Vol. I*. Ed. Burenhult G. Theses and Papers in North-European Archaeology 13:a, p. 23–28. Stockholm University.

Wehlin J., 2010. Approaching the Gotlandic Bronze Age from Sea. Future Possibilities from a Maritime Perspective. In: *Baltic Prehistoric Interactions and Transformations: The Neolithic to the Bronze Age*. Ed. Martinsson-Wallin H. Gotland University Press 5, p. 89–110.

Wickman-Nydolf G., 2001. Arkeologisk förundersökning. Burs 1:3, Norrlanda Gotland. Länsstyrelse Dnr. 220-3102–99.

Wickman-Nydolf G., 1980. Terra Nova. In: *Gotländskt Arkiv*. Visby.

Österholm I., 1989. Bosättningsmönstret på Gotland under stenåldern. En analys av fysisk miljö och social struktur. Theses and Papers in *Archaeology* 3. Stockholm University.

## **PRIEŠISTORINĖ GYVENSENĖ GOTLANDE – DIACHRONINĖ IR SINCHRONINĖ PERSPEKTYVA**

Helene Martinsson-Wallin, Paul Wallin ir Jan Apel

Santrauka

Österholm (1989) daro prielaidą, kad Gotlando teritorija nuo pat mezolito iki žalvario amžiaus buvo apgyvendinta tos pačios grupės gyventojų. Ši mokslininkė laikosi nuomonės, kad dramatiški aplinkos pokyčiai nulėmė įvairių gyvenseną ir apgyvendinimo struktūrą istoriniu 7000 metų laikotarpiu.

Nauji tyrimai bei diachroninės ir sinchroninės perspektyvos rodo, kad šios struktūros nėra nei paprastos, nei primityvios. Priešistorinio Gotlando gyvensenos pobūdį, apgyvendinimo struktūrą, socialinius darinius ir išorinę įtaką nulėmė įvairių gamtinės, socialinės bei kultūrinės aplinkos pokyčių sąveika.

Iš anglų kalbos vertė *Auksė Pūraitė-Kuokštienė*

*[teikta 2011 m. spalio mėn.]*