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The Kvarnbo Hall: Reconsidering the Importance of the Late Iron Age Åland Islands

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ABSTRACT

This article accounts for and contextualizes a newly discovered monumental longhouse, a potential hall from the Late Iron Age, on the Åland Islands, Finland. The 45 m long building and its location are discussed in regional and historical context, in comparison to the full data set of coeval houses on Åland, and are argued to signal a social stratification, manifesting a higher level of achievement in this Late Iron Age society. This is further examined in the context of Iron Age settlement development. A rapid and large-scale colonization to Åland, evident in the middle of the first millennium AD, is for the first time explanatorily discussed, addressing the question of why this process occurred. Sudden population growth is linked in part to large-scale climatic disturbances, with fatal consequences in those areas of heavy agricultural dependency, forcing population movement to Åland driven by the presence of maritime resources, particularly seals, and available land.

Keywords Åland Islands, central place complex, houses, Iron Age settlement changes, colonization, climatic disturbances in the sixth century AD

INTRODUCTION

The Åland Islands, today an autonomous, monolingually Swedish-speaking region of Finland, is made up of nearly 7,000 islands larger than 0.25 ha situated in the northern part of the Baltic Sea between Finland and Sweden. The main island of Fasta Åland is 70 km from the Finnish mainland and 36 km from the Swedish mainland; however, due

to shore displacement, resulting in raised shorelines on Åland and its neighboring areas, these distances were greater in prehistory than they are today (Figure 1).

Åland has always been linked to movements of people, particularly during the Late Iron Age (AD 550–1050) when the archipelago saw the greatest increase in human population and activity. This cannot be understood as an endogenetic demographic

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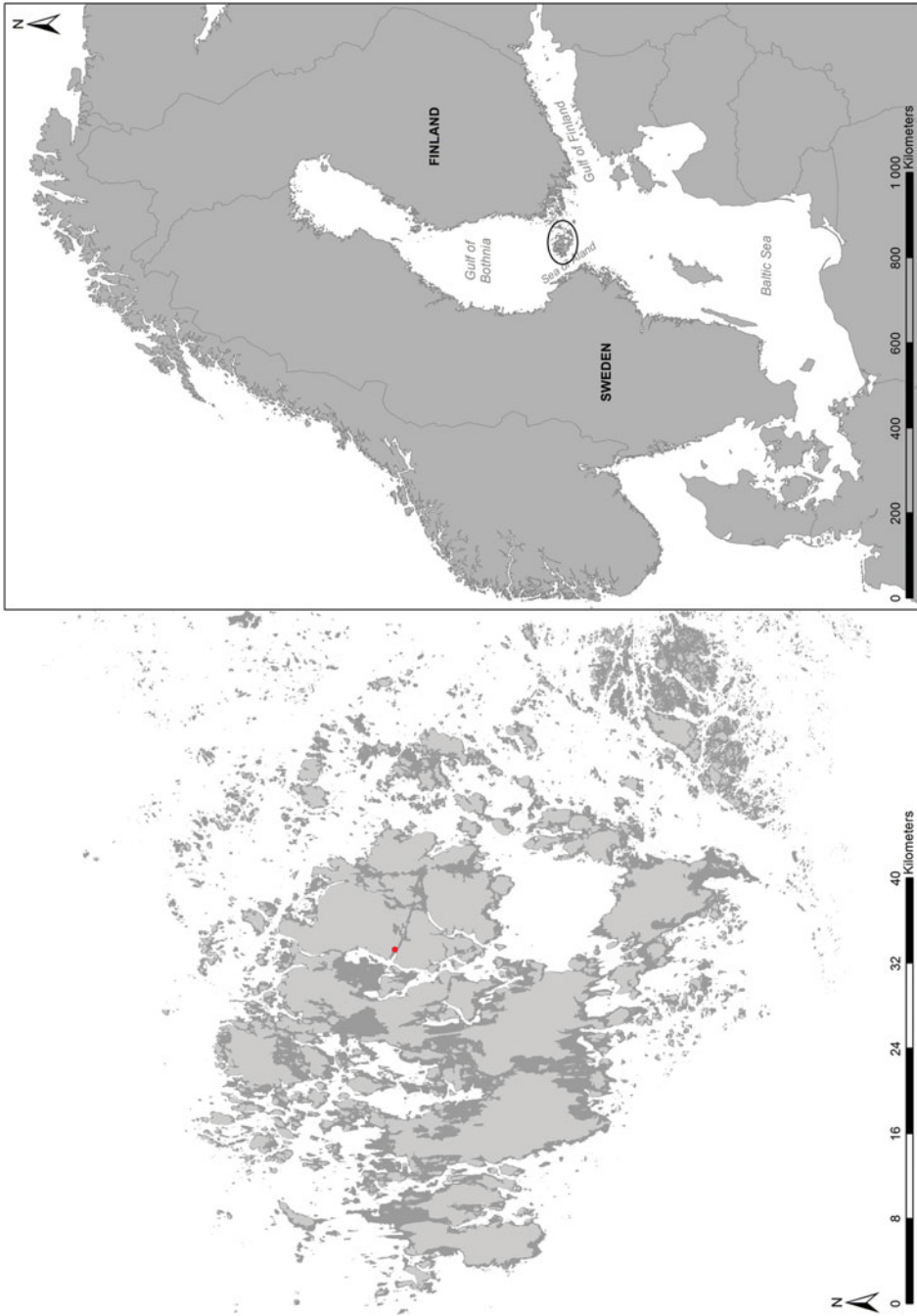


Figure 1. The location of the Åland Islands on the map of Northern Europe (encircled), and the position of the longhouse site in Kvårbo on the map of Åland where the lighter areas mark the shoreline roughly consistent with that of Iron Age.

process. The rapid population growth is interpreted as a large-scale colonization process in the beginning of the period (Callmer 1994; Dreijer 1979; Gustavsson et al. 2014; Hackman 1924; Kivikoski 1962; Núñez 1995; Tomtlund 1999). There is no clarity from where this population originates; it is likely that the immigrants came from more than one region (Callmer 1994:19), but the period of Late Iron Age on Åland is generally—based on many similarities in material culture—argued to have been dominated by “Swedish” peoples and culture. Furthermore, the predominant view, beginning with the earliest scholars (e.g., Hackman 1924), proposed that during the period in question, the islands were governed from a central power located elsewhere, most frequently understood to be eastern-central Sweden.

In 2014, the remains of a monumental longhouse structure, a potential hall-building from the Late Iron Age were discovered in the village of Kvarnbo, Saltvik parish, located centrally on the Åland Islands (see also Figure 1). This is the first discovery of its kind in Finland, and as such motivates a reevaluation of the dominating view of Åland as a political periphery (see Núñez 1995; Tomtlund 1999). In this article, I present and contextualize the structure of the longhouse site—registered as Sa 14.9—to examine settlement archaeology of Iron Age Åland. I argue that there was a significant level of centralization and power manifestation at the site, which raises the issue of Åland’s role in the Late Iron Age of the Baltic Sea region. I also discuss the potential importance of the Åland Islands during the establishment of the grand longhouse site in Kvarnbo, that provides background as to how political elites became established here.

THE KVARNBO HALL

The contours of a longhouse, convex in shape and approximately 45 m long and 15 m wide, clustered together with several circular features, are visible on a large, dark

patch of soil on an infra-red aerial photograph over the area north of the medieval St. Maria church in the village of Kvarnbo (Figure 2). This infra-red image, that was brought to our attention by staff of the Museum of Åland, served as a starting point for the first archaeological investigations carried out at the site in 2014 (Ilves 2015a). Following a field-walking survey that resulted in the discovery of fire cracked stones and wattle-and-daub and clearly indicated a pre-historic settlement, a metal-detector survey was conducted covering the central part of the field. As a result, a number of finds from the late sixth century AD to the end of the Viking Age, consisting mainly of personal ornaments of silver and bronze, were unearthed and pointed toward the existence of an elite settlement at the site (Ilves 2015b; see also Figure 2). Subsequent ground-penetrating radar survey and minor archaeological test-excavation revealed archaeological features consistent with the information from the aerial photography. Among other finds, a small section of what was interpreted as the southern wall, coinciding with contours observed in the infra-red aerial photograph, was also uncovered (for further details see Ilves 2015a). These data strongly suggested that a Late Iron Age hall building was present.

The Kvarnbo site is situated at about 11 m a.s.l. During the time of its use, it would have been placed on a small peninsula-like landform close to the shoreline. Due to shore displacement resulting in a regressing shoreline, the landscape situation is somewhat different today; however, during the Late Iron Age when sea level was higher, the landmass of Åland was still intersected by a multitude of smaller and larger waterways. Two major straits connected to each other at Kvarnbo, in the center of Åland, enabled both south-north and east-west directed sailing through the Åland archipelago that sits at the confluence of three major bodies of water: the Baltic Sea to the south, the Gulf of Finland to the east, and the Gulf of Bothnia to the north; the Sea of Åland sits to the west (see also Figure 1). Framed by water at the crossroads of major waterways, the position of

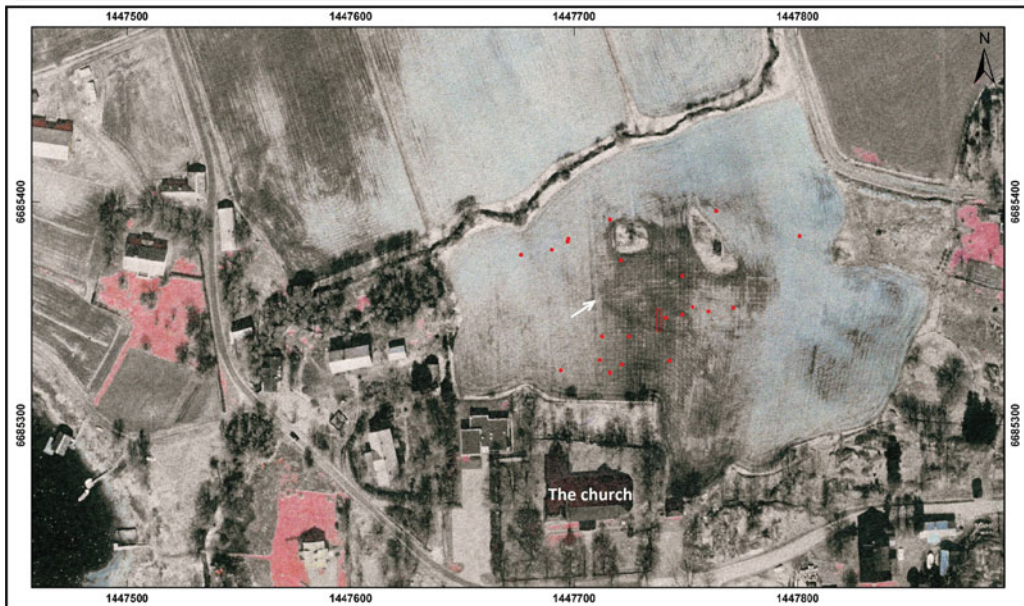


Figure 2. *Infra-red aerial photograph over the area north of the medieval church in Kvarnbo, with the location of the test-trench as well as with the find spots of diagnostic artifacts recovered during the first metal-detector surveys at the site (the contours of a longhouse are marked with an arrow) and some of the metal finds from the site (see also Ilves 2015b). Photos of artifacts: author; infra-red aerial photograph of unknown origin: the government of Åland, the Museum of Åland, with permission.*

the Kvarnbo longhouse site on the Late Iron Age landscape was notably prominent. It is possible that the location was also artificially emphasized, as there are indications of terracing on the eastern, landward directed side of the site. Situated at this location, positioned centrally on the Åland Islands and not directly on the open coast, the longhouse site had an excellent view of the waterways leading in all four cardinal directions. Larger, cohesive areas of usable land were available to the northeast, and the site was supplied with fresh water from a nearby stream that during the Late Iron Age debouched into the shallow bay directly north of the longhouse.

Closeness to and easy access to water and waterways is common for the documented Late Iron Age settlements on Åland, though dwelling sites were not as a rule situated directly on the open coast, but on the shores of the sounds penetrating Åland. This meant that when approaching Ålandic Late Iron Age settlements from the seaside, there would have been a number of sites that stood out in the surrounding landscape while the majority were hidden in sheltered coves. None of these settlement sites can be argued to have formed a central place of intraregional importance. The longhouse site in Kvarnbo differs from other settlements as to the number of archaeological and historical indications suggesting that this settlement functioned as a political and administrative center.

In the immediate vicinity of the longhouse site in Kvarnbo (see also [Figure 3](#)), some 50–150 m to the south and southwest and situated on the same northern shore of the former east-west directed waterway, is evidence of Late Iron Age/Early Medieval settlements. Excavations in the area have yielded traces of constructional features upon which the church was built; in places, the layer is over 1 m thick (Drejjer 1954, 1960), which is rare on Åland. On the basis of surface observations, the finds and layers associated with the longhouse might be connected to these settlement layers, indicating a potentially very large, cohesive, and intensive settlement at the site. About 100 m southeast from the longhouse is

Åland's largest Late Iron Age cemetery. Opposite the longhouse site, some 300 m to the southwest and situated on the other bank of the former east-western waterway, another Late Iron Age settlement has been registered and interpreted as a beach camp (Drejjer 1945; see also Ilves 2014). This site was discovered and defined as a result of an ornamented animal-head shaped brooch being found, characteristic of the Viking Age island of Gotland, Sweden. Such brooches are not unique, but they are argued to have been made almost exclusively on Gotland (Carlsson 1983:83). As such, if these are found outside of their area of origin, they suggest exchange between Viking Age societies. In addition, there are other archaeological traces of Late Iron Age and early medieval dates in the vicinity of the longhouse site, including another settlement site—Sa 14.7 at Kohagen—with a number of house foundations and a very rich archaeological assemblage just 350 m to the north. These finds strongly suggest that this particular area was rather heavily populated during the Late Iron Age and with clear signs of social stratification (see Ilves 2015a with references).

The prehistoric centrality of the Kvarnbo area is furthermore indirectly supported by the medieval evidence. According to the oldest written sources, the medieval St. Maria church in Kvarnbo, situated just 50 m south from the grand longhouse and on top of the extensive settlement layers, was the place for meetings of the Ålandic provincial assembly during the Middle Ages (Voionmaa 1916:84). *Curia Saltviik* (i.e., a royal estate in the parish of Saltvik) is mentioned in King Magnus's letter of donation confirmation in 1351 (Sundwall 1954:nr 33). The location of this Crown estate is unknown. However, it is very likely that it was near the church given that such a significant facility must have been located centrally in the settlement, as is the case of, for example, Old Uppsala, Sweden. It is also interesting to note that the village of Kvarnbo was initially known as "Bo." In Scandinavia, this place-name has been argued to refer to ancient administrative centers, signifying that it was a major

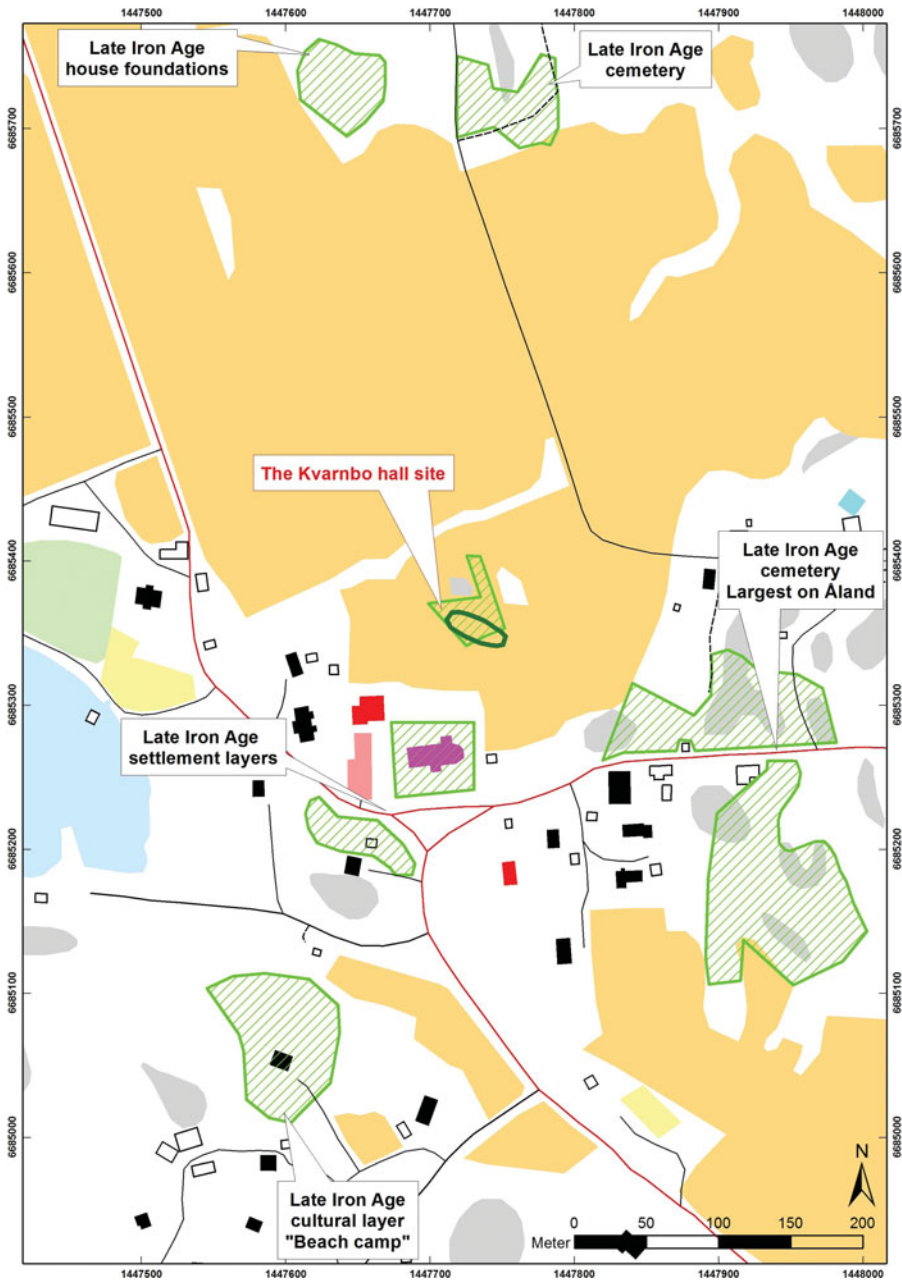


Figure 3. The Kvarnbo hall site and the contours of a longhouse with its immediate surrounding—green hatched polygons indicate the location of registered ancient monuments.

farm belonging to a chief or king (Hellberg 2013 [1975]:12).

The longhouse site in Kvarnbo is singled out in terms of its placement on the landscape. Although the available empirical data in regard to landscape setting is still unclear in a number of aspects, requiring targeted research initiatives, there is support to argue for a significant level of centralization in the Kvarnbo area appearing during the Late Iron Age and continuing into the Middle Ages. The Kvarnbo area seems to have acted as a central place complex that was comprised of a network of sites with different economic, ritual, and identity-creating functions (see Brink 1999:235, 434–435). A hall was a symbol of such a complex.

Large buildings interpreted as Iron Age halls are connected with central places, aristocracy, and power; these are places of feasting and socio-political gatherings directed towards the strengthening of horizontal and vertical social bonds. Following the initial definition of a hall proposed by Frands Herschend (1993), the number of archaeologically identified halls in the North has steadily grown. However, well-substantiated hall sites remain relatively scarce. According to a recent compilation study by Lydia Carstens (2014), there are more than 70 halls archaeologically excavated in Scandinavia. These are dated from the Roman Iron Age (AD 1–400) all the way to the Scandinavian Middle Ages, starting in 1050, with a quantitative emphasis on the first-mentioned period.

Iron Age halls are a geographically and temporally widespread social phenomenon with an ideological meaning that evolved through time. They constitute an interface between wealthy families and their peers or other invited guests. As such, the study of hall sites is a facet of archaeology that deals with the development of complex power relations and the establishment of centralized power in a pre-state context. Due to this, there are no established archaeological criteria that can be used to define a structure as a hall that could be used universally for all situations. Although

there are many common attributes to consider (see Carstens 2014:15), there are also characteristics that distinguish different types of halls, and regional as well as temporal variations should be taken into consideration. Furthermore, in terms of archaeological traces, one should not be confined to only directly building-related criteria at the site; for example, the continuity of settlement and the proximity to the medieval church are often important components in discussions concerning central places of varying local, regional, and intra-regional significance (e.g., Larsson and Hårdh 1998 with references). Notably, a number of halls have been documented in the vicinity of churches—such as Old Uppsala and Uppåkra in Sweden, Aggersborg, Dejbjerg, and Jelling in Denmark, and Borg in Norway—well in line with the notion of how power is consolidated and continued over time (see Andrén 2013).

Given that the study of the grand longhouse in Kvarnbo is in its infancy, it is not entirely clear whether it truly functioned as a hall. It does stand out in terms of its placement on the landscape, and as I demonstrate below, differs significantly in comparison to coeval houses on Åland.

THE HOUSES AND SETTLEMENTS OF LATE IRON AGE ÅLAND

In the current register of ancient monuments on Åland held by the Museum of Åland, there are about 85 locations catalogued as containing traces of Late Iron Age settlement. In relation to the ca. 450 registered Late Iron Age burial sites with almost 11,000 burial mounds, widely distributed on the Åland Islands, it is more than probable that quite a number of settlements are yet to be found, as every burial ground presumably had a farm or farms attached to it, while some farms probably lacked a cemetery. This suggests a considerable population size in the archipelago, which at that time would have had an inhabitable area of around 900 km² (see also Núñez 1995). At 64 of the sites, a total of at least 162 house foundations from the Late Iron Age and

early medieval times has been recorded¹ (Figure 4).

Almost all of the registered houses are so-called stone foundation houses, which is a unique Ålandic phenomenon during the Late Iron Age. The closest parallels to the Ålandic stone foundation houses are to be found at an earlier stage and in another Scandinavian region, Gotland and Öland, Sweden (see Carlsson 1979; Fallgren 2006). Between AD 200 and 700, dry-stone walls were set on the outside of inner wood-wall house structures on these islands. On Åland, based mostly on artifact typology, the studied house foundation sites ($n = 20$) have been dated from the end of the sixth century to the beginning of the eleventh century. In a few cases, ¹⁴C dating has been used to show that settlement extended into the late thirteenth century. The method of construction has also been shown to remain largely unchanged from the beginning of the Late Iron Age well into medieval times (Kivikoski 1962:19). Thus, there are clear chronological differences between stone foundation houses on the Åland Islands and those found on the islands of Gotland and Öland. From a construction point of view, however, the houses display some similarities. Even in the case of Ålandic buildings with a stone foundation, stone walls have been interpreted to have been set on the outside of inner wood and turf structures (Dreijer 1955:38–39; Hackman 1940:79; Kivikoski 1946:73). Such a building method means that the width of the walls might vary greatly and there can be a considerable difference between the inner and outer dimensions of the house.

It has been stated that houses around 20 meters in length are typical for the Late Iron Age Åland (see Vuorinen 2009:37). Using maximum length data from 71 constructions from 29 sites, this has been shown to be incorrect (Figure 5). There are only 29 house foundations from 13 sites that have been archaeologically investigated, with results including information on the maximum length. More house foundation sites have been excavated (see above), but have not always focused on the build-

ing(s), succeeded in determining their measurements, or have accessible reports. The majority of the data used here originates from landscape survey reports and maps, most of which date to the first part of the twentieth century. Since no archaeological excavations have been conducted at these sites, these data must be considered incomplete and critically assessed. However, as most of the registered houses are stone foundation constructions, often quite visible (even in the landscape today), the estimations are deemed reliable. As can be seen in the summary of results (Figure 5), the length of the Late Iron Age and early medieval houses on Åland varies from 4.5 m to 45 m, with most measuring between 5 m to 16 m in length. The length of the archaeologically investigated foundations varies from 5 m to 45 m, with most between 9 m to 15 m in length. The median length of the Late Iron Age and early medieval buildings, considering either just archaeologically investigated or all house foundations, is 13 m. In addition to the Kvarnbo-longhouse, there is information about only five house foundations that are 20 m or longer, with only two such houses having been archaeologically excavated (Hackman 1940; Kivikoski 1946). Thus, based on the available empirical data, the houses of Late Iron Age and early medieval Åland were quite small.

The 64 sites with house foundations are not evenly distributed across the Åland Islands: two-thirds of the sites ($n = 42$) are in the northeastern part of Åland, spread more or less evenly between the parishes of Saltvik and Sund, while the remaining third ($n = 22$) has an unbalanced distribution, with most of the sites ($n = 13$) found in the parishes of Finström and Jomala. Dividing house foundation sites according to their size, four categories of Late Iron Age and early medieval farms are evident. Most of the farms on Åland were small—almost half of the house foundation sites ($n = 29$) have only one building recorded. The next size category has two ($n = 16$), and the following, three buildings ($n = 7$). The largest farms ($n = 12$) had 4 to 10 buildings, but their use may have been spread over several centuries. Four of the six

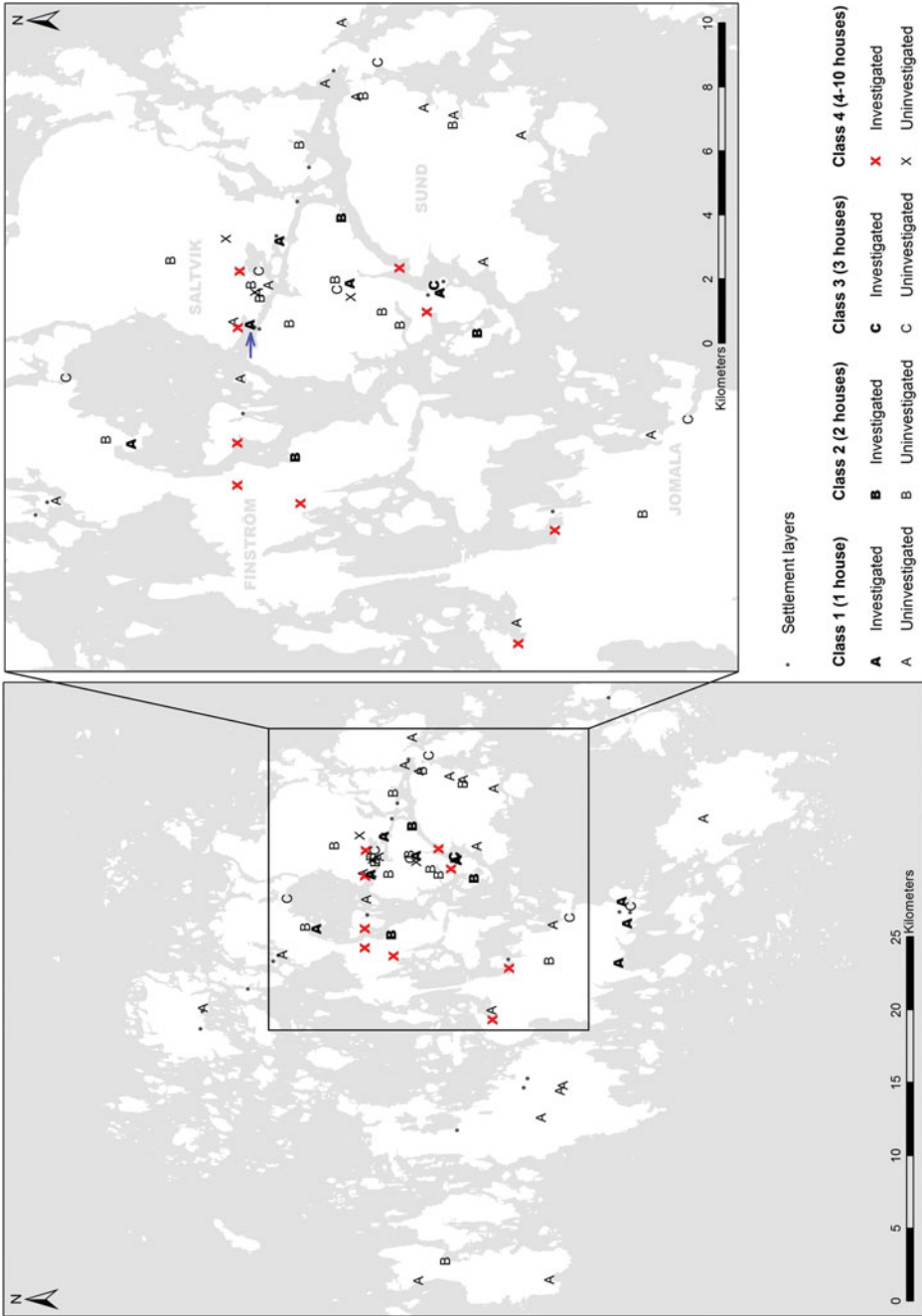


Figure 4. The distribution of Late Iron Age settlement layers and house foundations on the Åland Islands. The house foundations have been divided into four size categories, each subdivided into groups of investigated and uninvestigated structures. Kvambo marked with an arrow. The shoreline roughly consistent with that of Iron Age.

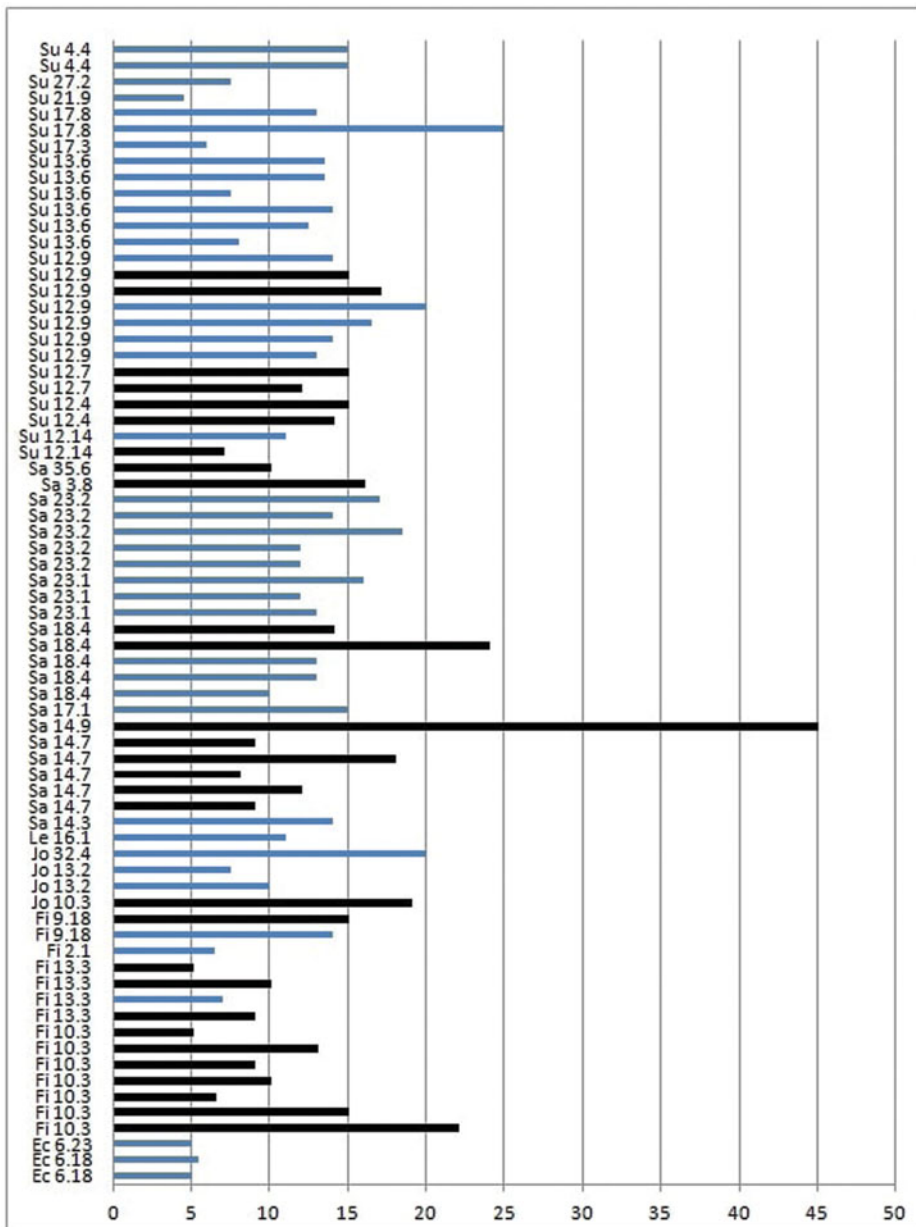


Figure 5. The maximum length of the Late Iron age and early medieval house foundations on Åland with the site labels; the length of the investigated structures marked with black.

house foundations, which are 20 m or longer, have been documented from house sites of the largest category. Large farms are known from all of the four above-

mentioned parishes where house foundations concentrate (see also Figure 4). Although it is not entirely clear whether the primary settlement units on Åland were

predominantly villages or single farmsteads, the latter finds more support in the house foundation sites' relation to each other. However, there are a few cases when the documented house foundations cluster in villages, particularly evident in the case of Rangsby in the parish of Saltvik. Furthermore, the clustering tendencies of around 450 burial sites that do indicate settlements, as well as the existence of some very large cemeteries, should not be entirely ignored in this context. In the middle of the last century, when most of the house foundations known today were already recorded, the need for more thorough surveys in connection to the burial sites was emphasized in order to relocate further traces of settlement (see Dreijer 1955:28–29). The last 30 years have revealed only two Late Iron Age settlement sites with remains of buildings: the longhouse site Sa 14.9 in Kvarnbo and the site Ma 5 within the city limits of Mariehamn, both of which are close to nearby Late Iron Age cemeteries. Meanwhile, these two sites include remains of houses that are not of the stone foundation type, but a timber structure. This is a clear illustration of the methodological challenges confronted when attempting to identify empirical evidence of settlement archaeology on Åland (also Karlsson 1997:93). Nevertheless, the available archaeological material is enough to show the unprecedented size of the Kvarnbo-longhouse. As a larger timber structure, the longhouse in Kvarnbo is even further distinguished from the contemporaneous houses of Åland by the use of what seems to be, judging from its context, an unusual building material/technique. The high status character of the finds unearthed at the site, coupled with its situation on the Late Iron Age landscape and the later historical importance of the area, shows that the longhouse site in Kvarnbo has a number of signatures that point towards a significant power manifestation at the site.

IRON AGE DEMOGRAPHICS ON ÅLAND AND SURROUNDING REGIONS

The longhouse site in Kvarnbo is dated by artifact typology from the late sixth century

AD to the end of the Viking Age. A ^{14}C date (Ua-50629 of 1278 ± 40 BP, or cal AD 650–870 [2 σ]) from one of the constructional features corresponds to this period. The site was, thus, probably established in the first half of the Late Iron Age. This seems typical of the Late Iron Age sites on Åland, with the majority of both burial- and settlement sites beginning around AD 600.

There is just one known case—at Su 12.25 in Kastelholm, Sund—of a Late Iron Age settlement site possibly succeeding an older dwelling place. The chronology of this site has not been fully clarified however, and there is a probable discontinuity between the phases (see Núñez 1985). The chronological gap and detachment are more explicitly stated in the documented cases of Late Iron Age burial grounds being situated on top of earlier settlement sites, such as at Fi 8.9 and Fi 8.11 in Godby, Finström (see Hörfors 1989 *resp.* Karlsson 1984:123). But, it has also been noted that our understanding of the continuity between “old” and “new” structures on Åland in the middle of the first millennium AD remains ambiguous as the Early Iron Age (500 BC–AD 550) tradition of burying the dead in cairns seems to have extended into the Late Iron Age when individuals were commonly interred in mounds (see Dreijer 1979:60; Edgren 1983:96). As such, comparing the data regarding the Late Iron Age settlement on Åland with the data concerning the preceding periods of the Early Iron Age, there is a great discrepancy concerning the visibility of ancient monuments, whether they are burial sites or settlements.

In the current register of ancient monuments on Åland, there are only 13 locations catalogued as containing traces of Early Iron Age settlement; no house foundations have been registered. Just six sites have been investigated. Of these, four dwelling sites have been estimated settled at the end of the Bronze Age/beginning of the Early Iron Age, and only two clearly during the Early Iron Age. The chronological estimation has, however, been based on pottery typologies (Andersson 1989; Hörfors 1989; Karlsson 1984:110ff.; Tomtlund 1990) that date between 1200 BC and AD 300 (Asplund

Table 1. The total number of registered house foundations and graves from Early and Late Iron Age on Åland and their yearly rate of construction in relation to the duration of the respective period.

Period	Duration	No. of house	House/per year	No. of graves	Graves/per year
Early Iron Age (500 BC–AD 550)	1,050 years	0	0	1,370	1.3
Late Iron Age (AD 550–1050)	500 years	162	0.3	10,830	21.7

2008:219). The broad chronological range is obviously problematic, as is the low number of sites and studies. The 135 registered Early Iron Age burial sites with 1,370 burial cairns indicate more dwellings, but an overall quantitative contrast to the amount of evidence from the Late Iron Age is striking.

Table 1 summarizes the known archaeological data to help visualize the marked demographic difference between the Early and the Late Iron Age. While the total number of 10,830 registered Late Iron Age graves would mean that 21.7 graves per year were constructed within a 500 year period, the total number of 1,370 registered Early Iron Age graves means that only 1.3 graves per year were constructed within a 1,050 year period. Even if the number of Early Iron Age graves were doubled or tripled on the basis of the hypothesis that there was seldom just one person buried in an Early Iron Age burial cairn (see Edgren 1983:90), the quantitative difference is still substantial.

On the one hand, the lack of Early Iron Age settlement sites on Åland should be considered as the result of source-critical factors; that is to say, temporary or permanent dwelling sites of this period have just not been recorded. In this context, I would like to note that up and until the spread of large-scale contract archaeology projects in the 1980s, the number of Early Iron Age settlements was low in relation to the number of Late Iron Age settlements in Sweden too. Today, the vast majority of known Iron Age settlement sites in Sweden belong to the Early Iron Age (Göthberg 2011). On the other hand, however, a scant number of both settlement sites and burials of Early

Iron Age Åland is also demonstrating something about the period in question.

There is enough evidence to refute the notion that settlement declined or that the archipelago became uninhabited. It is clear that during the Early Iron Age, Åland had a permanent population (Callmer 1994:17; Dreijer 1979:58; Edgren 1983). Despite the fact that the majority of dwellings were occupied during the beginning of this period, there is evidence of intensified land use and continuous cultivation during the latter part of the period (Alenius 2014). Furthermore, according to research on where Early Iron Age burial grounds were situated on the landscape (Edgren 1983), at least three populations with different economic behaviors or strategies may have characterized Early Iron Age settlements on the Åland Islands. The first group, with burial sites situated inland around forested mires, was mainly involved in fishing and cattle rising; the second group, with burials inland and close to arable lands, had an economic structure based on farming; and the third group, with burial sites on the coast, was focused economically on seal hunting and open sea fishing. However, according to our current state of knowledge (in contrast to the Late Iron Age), the settlement of the Åland Islands during the Early Iron Age was not dense or large, and the changes in the Ålandic settlement structure around AD 600 were truly profound.

At the end of the Early Iron Age and in the beginning of the Late Iron Age, there were changes in Scandinavian settlement as well—the so-called Migration Period crisis that actually comprised many different economic, religious, social, and political

changes (see Näsman and Lund 1988 with references). This process of widespread cultural transformation had a prolonged and varied course (Herschend 2009; Näsman 2012). In many regions, this resulted in rather marked abandonment of settlements that had previously been in continuous use for hundreds of years, along with reforestation of agricultural land (Gräslund and Price 2012:431ff. with references) and the desertion of burial grounds (Löwenborg 2012:10–13; Solberg 2000:180–182, 197–198). In other regions, although on a much smaller scale, settlement continuity into the Late Iron Age is evident (Göthberg 2011:117) along with an increase of human exploitation of land resources (Pedersen and Widgren 2004:304–311). It is clear that the nature and extent of socio-cultural changes that occurred during the so-called Migration Period crisis varied regionally, but in regard to settlement structure, it is generally agreed upon that there was a widespread decline of settlements in Scandinavia and concentration into fewer villages.

Thus, in the middle of the first millennium AD, there were pronounced changes in how settlements were structured in the north. While many settlements in Scandinavia disappeared or were concentrated differently, there was a concomitant “explosion” of sites on Åland. The idea of a major population dispersal to the Åland Islands is not new, but why Åland, and why at this particular time? Is this colonization connected to changes occurring more broadly in Scandinavia? And how does the longhouse site in Kvarnbo relate to these developments?

ÅLAND AS A REFUGE

Increasingly, demographic decline has been argued to be the result of fundamental socio-cultural changes visible in Scandinavia’s archaeological record, and to a great extent, it is related to the large-scale climatic disturbances in the middle of the first millennium AD (Gräslund and Price 2012 with references). The most recent research

on climate anomalies (Sigl et al. 2015) during this time demonstrates that at least two large volcanic eruptions occurred—in AD 535 or early 536, and in AD 539 or 540—that led to subsequent cooling, with cold summer temperatures persisting in the Northern Hemisphere until almost AD 550. These events have been used to help explain the pandemic Plague of Justinian that reached Europe in AD 541 and that was responsible for an extensive demographic decline (Findlay and Lundahl 2006:159; McMichael 2012:4734). It has been further suggested that weather conditions that followed the large volcanic events in the middle of the sixth century AD were connected to the varying, but widespread growth and spread of poisonous ergot in cereals and grass for as long as a decade, which affected humans and livestock alike and contributed to an *irregularly distributed* depopulation (see Bondeson and Bondesson 2014, my emphasis). In areas of heavy agricultural dependency and lower margins of agricultural resilience, ruined harvests and grazing for several years in a row inevitably led to famine, resulting in mass starvation, disease, and death. In the following I will discuss the rapid population growth on the Åland Islands in the beginning of the Late Iron Age within the context of these natural disasters.

Large-scale colonization to Åland in the middle of the first millennium AD could be explained by the increased availability of highly productive land through shore displacement (e.g., Callmer 1994:17) and greater opportunities for accessing marine resources (e.g., Dreijer 1968:8; Gustavsson et al. 2014:162). The fact that shore displacement in the Åland Islands through time has contributed to new and usable land—from the flat meadows along the sounds, which provide excellent grazing habitat, to the inland plateaus suitable for tillage—and a rich maritime economy that persisted even after the introduction of farming still makes these explanations unsatisfactory as to the issue of “why now?”² If, however, the rapid and large-scale colonization is put into the context of large-scale climatic disturbances having, among

other things, long-term negative effects on harvests that caused serious famine and social unrest, this explanatory factor begins to make more sense.

Considering the causalities of past disasters, Felix Riede has pointed out (2014:351) that population displacement is one of the major coping strategies used by individuals and groups. It is difficult to overlook the impact of substantial climatic disturbances in the middle of the first millennium AD in liminal areas of agricultural land in the north. With crops also suffering from infestation by ergot, for some, movement to areas with access to multiple resources served as a necessary survival strategy. Because the Åland Islands are situated in the middle of the Baltic Sea region, permitting relatively easy access from all directions, maritime connectivity and related economies developed and persisted for thousands of years. I suggest that in the middle of the first millennium AD, maritime resources (seals in particular), served as a motivating factor for the colonization of Åland from neighboring areas in response to the effects of climatic disturbances. Extensive osteological analyses of Late Iron Age settlement sites on Åland indicate that seals were an important resource (Storå et al. 2012; Storå and Lõugas 2005). Furthermore, analysis of vertebrate material from several Late Iron Age dwelling sites indicates that there was a regional specialization in seals on Åland (Gustavsson 2007, 2013), particularly at the beginning of this period (Gustavsson et al. 2014:164). It has been established that the rather high frequency of seals in archaeological assemblages from Late Iron Age dwelling sites on Åland is in obvious contrast to the geographically closest neighboring areas of eastern central Sweden (Storå et al. 2012:181). Archaeological data indicate that those areas with rich marine resources and less reliance on agriculture, such as northern Norway, came out of the sixth-century climatic disturbances with fewer negative effects (Gräslund 2007:112).

It seems fairly clear that at the end of the Early Iron Age, there were not so many people on the Åland Islands, but enough arable land to enable large-scale coloniza-

tion. The proportionally greater number of scattered, single farmsteads during the Late Iron Age might be seen as a result of peoples spreading across the landscape. Many scattered, single farms on Åland were a preferred form of settlement as it was resulting from a sudden growth in population. The form of the settlement is mainly governed by landscape and available resources; nevertheless, it indicates social pressure too (see Kaldal Mikkelsen 2000). Another aspect to consider in this framework is the Late Iron Age reuse of Bronze Age monumental burial cairns documented on Åland. A direct genealogical link between Late Iron Age and Bronze Age burials is hardly probable; reuse was possibly connected to the location (Wickholm 2008:92). Torun Zachrisson has argued (1994) that burial monuments could have acted as manifestations of land-claims during Late Iron Age. As property rights were connected to both the past and present use of land, the reuse of Bronze Age cairns on Åland might have been a way to legitimize the newcomers' rights to land. This was likely not entirely a straightforward process, but also probably associated with certain levels of social disturbance as reflected in the number of weapon graves documented on Åland. At the same time, however, the archaeological material of Late Iron Age Åland suggests a significant level of hybridization. It has been argued that human groups in the Åland Islands were culturally more similar to one another than to the parent populations in neighboring areas (Heininen et al. 2014:343) from where they largely originated.

At the end of the Early Iron Age and in the beginning of the Late Iron Age, new power structures emerged in Scandinavia with an increased focus on elite ownership of land (Herschend 2009). The environmental disaster of the mid-sixth century AD probably contributed to, and perhaps even accelerated this process of economic concentration of power to a land-owning upper class (see Löwenborg 2012). With large areas of usable land and maritime resources available in and around Åland, the potential to establish a socially higher position during a time of instability should also

be acknowledged in regard to settlement of the islands. The longhouse site in Kvarnbo, evidence of prosperity and manifestation of power, should be understood as one such outcome of this process. The establishment and maintenance of a place underpinning power, such as hypothesized in Kvarnbo, was a result of significant investments on many different levels. This must have involved the consolidation of political and social legitimacy. As such, I question earlier views that Åland was on the political periphery. If the Kvarnbo longhouse is indeed a hall as is strongly suggested by archaeological evidence, then the Åland Islands should be incorporated and placed in discussions of how Nordic Late Iron Age elite systems developed across time and space.

CONCLUSION

The grand longhouse in Kvarnbo contrasts considerably with the more common houses of Åland during the Late Iron Age. Its monumental size and different building materials, coupled with its prominent location, functioned as a visual means of power manifestation. Among the many indicators of centrality, evidence for the intensive settlement around the longhouse site should be considered as a nexus between elite structures and semi-urban society on Åland.

As I have argued, the establishment of the emerging power center of Kvarnbo at the beginning of the Late Iron Age should be understood in the framework of a sudden colonization of Åland that was induced by large-scale climatic disturbances following volcanic eruptions in the middle of the first millennium AD. From a source-critical point of view, this statement is still weakly substantiated as Åland lacks a solid Iron Age chronology. More accurate dating is necessary, since the available evidence from the neighboring areas does not indicate a long-lasting climatic crisis. However, by examining human movement and settlement of the islands within the context of social developments occurring in the north—which were causally linked to environmental disasters of the mid-sixth century AD—the sudden set-

tlement expansion on Åland at the beginning of Late Iron Age can ultimately be seen as an outgrowth of both natural and social processes that structured its history over a period of several centuries.

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END NOTES

1. The given figure of house foundations differs notably from some of the earlier published data; for example, 175 are mentioned by Karlsson (1987, 1997:90) and nearly 200 are stated by Núñez (1995:116). Those data are based on calculations, including houses from the high medieval and later periods (such as some dozen house foundations at Prästgården, Jo 22.4, and Borgboda, Sa 3.5) and the number of nearly 200 foundations is most likely a result of a positive approximation. In this connection, it is, however, also important to emphasize that the register of ancient monuments on Åland is not a static database, but subject to, among other things, re-evaluations and modifications, thus resulting in an ever changing basis for the general statistics.
2. Matts Dreijer has, however, arbitrarily hypothesized (1968:9) that colonization was connected to the growing demand for animal/seal oil due to whale allegedly vanishing in Western Europe in the middle of the sixth century AD.

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