Eeva Raike and Sirkka-Liisa Seppälä

NAARANKALMANMÄKI
An Iron Age Complex in Lempäälä, Southern Finland[1]

Abstract

The paper deals with the functional, chronological, and spatial aspects of an Iron Age settlement and cemetery complex excavated in 1995–1999. The chief questions of the cemetery analysis pertain to the definition and interpretation of the burials and the concomitant ritual structures. In the settlement analysis, the structural features, function, and spatial arrangement of the building are explored. The discussion examines the relationship between the house and the burials, as well as the position of alive and dead children in the everyday life of Iron Age society.

Keywords: Iron Age, child and female burials, building remains, macrosubfossils, ritual archaeology

Eeva Raike, National Board of Antiquities/Department of Archaeology, P.O. Box 913, FIN-00101 Helsinki. E-mail: eeva.raike@nba.fi

Sirkka-Liisa Seppälä, National Board of Antiquities/Department of Archaeology, P.O. Box 913, FIN-00101 Helsinki, Finland. E-mail: sirkka-liisa.seppala@nba.fi

INTRODUCTION

The archaeological fieldwork carried out at the Naarankalmanmäki site in Lempäälä was a consequence of the construction of the VT 3 -motorway from Helsinki to Tampere. The site was discovered in 1994 by Hans-Peter Schulz, who was conducting an archaeological reconnaissance for the National Board of Antiquities along the route of the motorway. Test excavations took place at the site in 1995 (Schulz), and area excavations in 1997–1999 (Eeva Raike and Sirkka-Liisa Seppälä; Hanna-Maria Pellinen). The total excavated area covered 1350 m^2. The project was financed by the Häme District of the Finnish National Road Administration.

The excavations in 1995–1999 showed that the Naarankalmanmäki hill contained ten Iron Age burial cairns, as well as other structures, some of which may represent building remains. Cremation burials were recorded in at least three of the cairns and in one of the other structures. Osteological analysis revealed that the burial in one of the cairns was a child, while a third cairn contained a child and at least one young adult. Few grave goods were included with the burials, and only one of the interments can be securely dated through artifact typology. Radiocarbon dates reveal four chronological horizons at the Naarankalmanmäki site: Bronze Age, the period around the birth of Christ, Middle Iron Age, and Terminal Iron Age.

The fieldwork at Naarankalmanmäki was exceptional by Finnish standards, since it constituted a total excavation. It has seldom been possible to excavate in one undertaking all of the visible structures in a more or less undisturbed cairn cemetery. Decisions made during the excavation affected the formulation of the research questions and the development of the research process as a whole. The results of the fieldwork revealed a chronological and spatial activity complex comprising an occupation site, burials, and accompanying ritual structures.

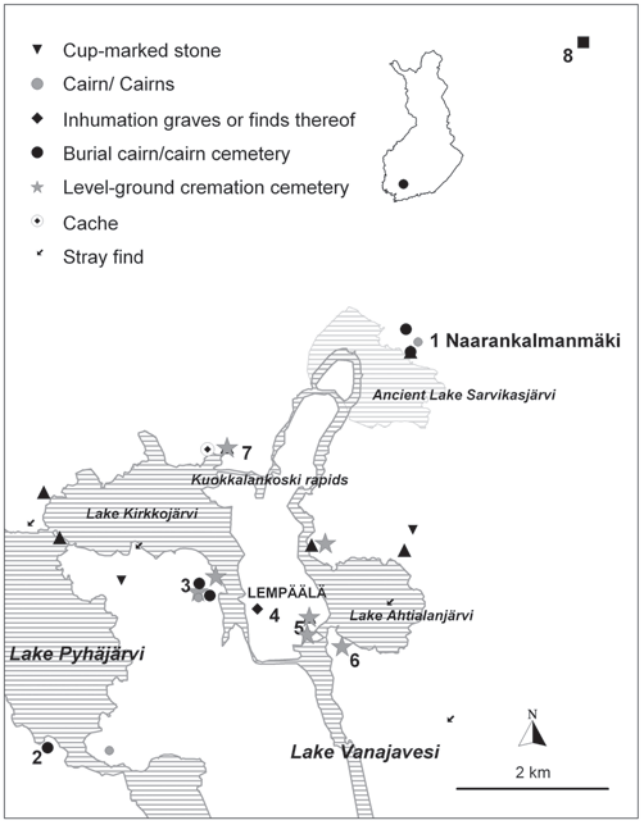

Figure 1. The distribution of Iron Age sites in the Lempäälä region. 1. Naarankalmanmäki, 2. Päivääniemi, 3. Henneri – Kirjakka, 4. Lempäälän kirkko, 5. Lempoinen – Mottinen, 6. Vaihmalanharju, 7. Sarapisto, 8. Pirunlinna. S.-L. Seppälä.

The most salient questions pertaining to the site were concerned with the functional, chronological, and spatial relationships between the structures. In this study, the functions of the structures are determined through their construction, their finds assemblages, and the recovered macrosubfossils; the criteria used for identifying burials, sacrificial cairns, and occupation sites are given special attention. The spatial analysis concentrates on the relationships between the burials and the other structures. In interpreting the site, the focus is on what the Naarankalmanmäki material reveals about child burials, about the position of the deceased in the everyday life of the community, and about Iron Age belief systems and religious practices at large.

The chapters concerning the research methods, the burials, the other ritual structures, the finds assemblage, and the children are written by Eeva Raike, while those concerning the topography, the building, and the chronology and spatial analysis of the activities within the complex are by Sirkka-Liisa Seppälä. The initial research ideas and the conclusions are the result of cooperation between the writers.

A SURVEY OF THE PREHISTORY OF THE REGION

Archaeological finds from the Lempäälä region include more than thirty prehistoric sites and some sixty stray finds. Most of the sites derive from the Iron Age (Fig. 1; Table 1), but Stone Age finds include Mesolithic, Corded Ware, and Kiukais Culture material (Huurre 1991). The Iron Age settlement concentrates on the isthmus between Lakes Vanajavesi and Pyhäjärvi, which forms an intersection of travel routes by land and by water, and on the shores of the sheltered bays around the isthmus.

The extensive cairn cemetery at Päivääniemi is generally considered the oldest Iron Age site in the region (Fig. 1, no. 2). The excavated burials of the cemetery range in date from the end of the Migration Period to the end of the Merovingian Period (Honka-Hallila 1984), but

even Viking Age and Crusade Period finds have been encountered. One of the burials in the cairn cemetery at Haurala Kirjakka (Fig. 1, no. 3) has also been dated to the 6th century (Mäkelä 1954). During the Merovingian Period the settlement of the area, as reflected in the distribution of cemeteries, expanded: in addition to Päivääniemi, burials of this period have been recorded at Vaihmalanharju (Fig. 1, no. 6), and Sarapistonmäki in Kuokkala (Fig. 1, no. 7). While the Päivääniemi cemetery at this stage continued the old cairn burial tradition, the latter cemeteries represent a new practice, interment in level-ground cremation cemeteries. The finds indicate that the use of these cemeteries continued into the Viking Age, at the same time as areas around Lake Ahtialanjärvi and the present municipal centre in Lempoinen (Fig. 1, no. 5) received their first inhabitants. The fact that Crusade Period inhumation burials have been encountered in the Lempoinen region (Honka-Hallila 1984; Purhonen 1998: 245) suggests that an occupation centre had emerged here by the end of the Prehistoric Period. This suggestion is supported by the Crusade Period artifacts interpreted as grave goods that were discovered while the Lempäälä church (Fig. 1, no. 4) was excavated in the 1980s (Hiekkanen 1986).

Two cup-marked stones have also been discovered in Lempäälä, and at least the one on the village hill in Ahtiala may have ties with the Iron Age settlement. The most impressive ancient monument in the region is the rocky Pirunlinna hillfort in the hinterland beyond Kuivaspää. The site is already mentioned in 18th century sources and is interpreted as a refuge fort because of its out-of-the-way location (Taavitsainen 1990). The Iron Age site nearest to Pirunlinna is Naarankalmanmäki, which lies 5 km to the southwest from the fort, in the core area of the Kuivaspää village.

TOPOGRAPHY

Naarankalmanmäki lies on the former shore of the dried-up Lake Sarvikasjärvi, which used to be part of the Lake Vanajavesi basin. The site is located a couple of kilometres northeast of the Kuokkalankoski rapids, which form the outlet of the basin. The water flows in torrents northwards from Lake Ahtialanjärvi. As it reaches the former Lake Sarvikasjärvi the stream bends abruptly towards the south and Kuokkala Village. Naarankalmanmäki hill can be seen northeast of the bend, nearly a kilometre from the present shoreline (Fig. 1).

Table 1. The Iron Age sites in the Lempäälä region. S.-L. Seppälä.

Stray finds	8
Cairn sites	4
Cup-marked stones	2
Hill forts	1
Inhumation graves/cemeteries	2
Level-ground cremation cemeteries	7
Burial cairn/cairn cemeteries	6
Occupation sites	7

The history of Lake Vanajavesi, which is part of the Kokemäenjoki lake and river system, has had a fundamental effect on the landscape south of the Naarankalmanmäki hill. The lake basin was isolated from the terminal Ancylus sea during the Mastogloia stage some 8000–7500 years ago (Auer 1968; Donner 1991: 221). The Vanajavesi basin is transgressive, since its outflow is in the direction of the maximum isostatic recovery. Near the isolation threshold at the Kuokkalankoski rapids, however, the current has probably caused the lake surface to remain at practically the same level throughout the existence of the lake (Auer 1924, 1968). The water level of Lake Vanajavesi was lowered by some two metres to its present mean water level of 79.4 m above sea level, when the Kuokkalankoski rapids were dredged out in the 19th century (Auer 1924, 1968). As a result, Lake Sarvikasjärvi, which was an open lake in the Iron Age and far into the Historical Period, was isolated from the main rapidly flowing stream. It shrank into a shallow bay, and was eventually dried up altogether.

Naarankalmanmäki and its environs are characterised by the low undulating clay terrain with rocky moraine hills that typifies the Lempäälä region (Fig. 2). The clays and moraines have been deposited mostly during the time of the Ancylus Lake (9500–8900 BP; Alhonen 1988: 31). In the agricultural classification the clay areas belong to silt clays, which are typically characterised by gently undulating contours.

North of the Naarankalmanmäki hill the terrain rises towards a low moraine hillock, on the west side of which a small brook runs into the

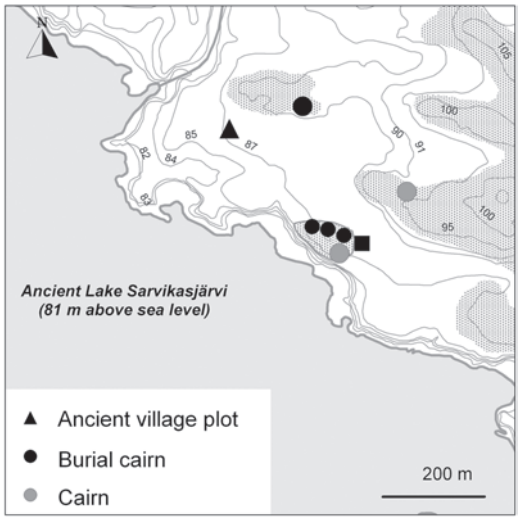

Figure 2. Naarankalmanmäki with its environs. S.-L. Seppälä.

former Lake Sarvikasjärvi. In the northeast, the view is restricted by a fairly high moraine hill, aligned northwest to southeast. In the south and southeast, the shoreline banks of ancient Lake Sarvikasjärvi are clearly discernible at an elevation of 82–85 m above sea level. During the Iron Age, the Naarankalmanmäki hill (87–90 m above sea level) was probably right by the lake shore, rising some nine metres from the lake surface. The hill itself is aligned northwest to southeast and consists of moraine with largish rocks (Figs. 3–4). It covers an area of 100 x 60 m, and has a gentle slope towards the northwest and a slightly steeper slope towards the northeast. A large erratic boulder east of the hill forms a landmark for the site.

As regards the land use history of the region, it is interesting that the border between the Kuivaspää and Maisenranta villages runs across the Naarankalmanmäki hill. According to historical maps, the clay areas around the hill have long been under cultivation. In the key of the 1849 map of the grounds of the Ryödi farm in Kuivaspää, north of the hill, Naarankalmanmäki is described as 'åkerlinda, rösen, utan växande skog' [fallow field, cairns, no growing forest]. A small field is depicted in the southeastern part of the hill, transected near the middle by the village border. At the time of the drawing of the map, the village plot of Kuivaspää still lay on the moraine island 250 m NNW of Naarankalmanmäki, which is today bisected by highway 9. During the fieldwork, the location of the field on Naarankalmanmäki was clearly discernible from its more rocky surroundings as a level area cleared of stones. In the vegetation surveys carried out by Petteri Pietiläinen and Tanja Tenhunen, a number of species indicating long-term human influence, such as dark mullein (*Verbascum nigrum*) and tower mustard (*Arabis glabra*), were identified on the southeastern side of the hill in particular. These species are thought to signify Iron Age activity.

RESEARCH METHODS

The strategy of the 1997 fieldwork at Naarankalmanmäki included comparisons between different excavation methods. The aim was to find an excavation technique that would secure a sufficient amount of information about the construction method and function of the cairns in a short enough time. Three excavation techniques were used: bisection, the so-called cumulative technique, and excavating the cairn as a single entity.

Cairns 1 and 2, which were located next to each other, were divided into western and eastern halves and each half was excavated separately. One half was first excavated down to the bottom of the cairn, and a plan of the section was drawn. Subsequently, the remaining half of each of the cairns was excavated. In addition to the sections, drawings were made of the surface stones and those levels that displayed distinct changes from the levels above. The advantage of this method was its rapidity and the fact that it made it possible to draft a section through the middle of the cairns. Its main drawback was the difficulty in identifying possible structures within the cairns.

One of the cairns was excavated by the cumulative method, in which the two halves of the cairn were excavated in turns. This permitted the gradual plotting of the section through the middle of the cairn. This method had the advantage that it produced a section drawing and at the same time made it possible at 2–3 level intervals to see the whole surface of the cairn at the same level. This was the most labourious and time-consuming method for studying cairns of this kind.

Most of the cairns, i.e., ten, were excavated from top to bottom as single entities, stone layer

Figure 3. General view of the site area from the east. National Board of Antiquities/ S.-L. Seppälä 1997.

by stone layer. Plans were drawn of the top surface and of those levels where the layout of the stones differed from the previous drawn surface, or where internal structures, such as circles of stones were detected. Excavating the cairns as single entities without dividing them into sectors was clearly the quickest way of dealing with these kinds of structures. Since the internal structures of cairns are usually horizontal, this method makes it easiest to detect them. The method also allows a comprehensive view of possible burials and their grave goods (Mäkivuoti 1993: 112). One drawback is the fact that the method does not allow for the drawing of a section, which would best show the vertical changes in, e.g., the types of stone setting. Transects of the surface contours of some of the cairns were, however, drawn from two directions.

In addition to the cairns, large portions of the level terrace on the eastern end of the Naarankalmanmäki hilltop were excavated as an area excavation, since testing had revealed cultural layers in this zone. In part of the area the topsoil was removed with machinery, after which the excavation proceeded in 5 cm spits. In spit 4 of excavation area 1 several stained and burnt patches were detected. These were excavated as individual units. The rest of the area excavations were dug spit by spit without interruption. The finds were recorded by metre square, except for concentrations of finds, which were recorded as units.

Soil samples were taken from each of the cairns and other excavation areas. A total of 150 samples were analysed for macrosubfossils by Tanja Tenhunen. The most interesting macrosubfossil finds were obtained from Cairn 5 in the southeastern part of the hill, as well as the area excavations.

The research also included osteological analyses of the bones from the cairns and other structures. The bones from the 1997 and 1999 field season (Cairn 3, part of Cairn 8, and part of Structure 13) were analysed by Niklas Söderholm, and the bones from the 1998 field season (the building structure, Cairn 10, Cairn 5, part of Cairn 8) by Tarja Formisto.

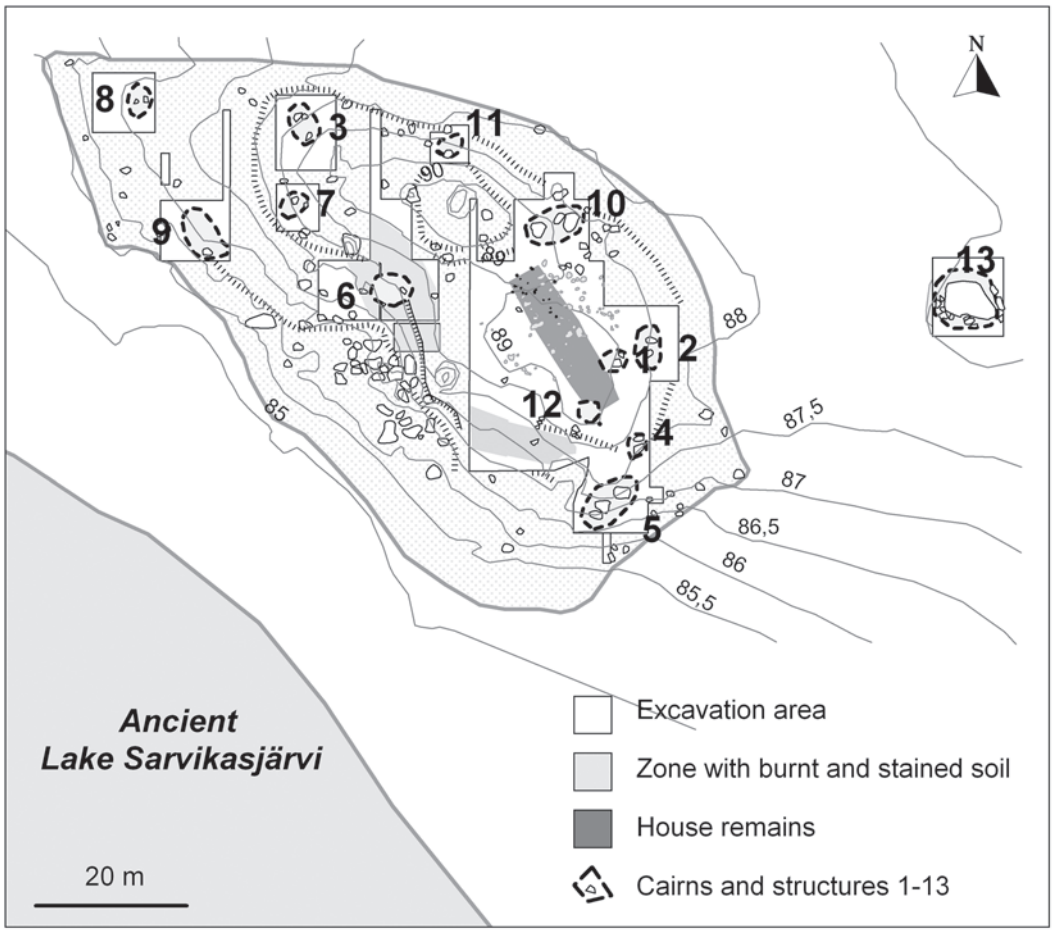

Figure 4. General plan of the site area. J. Taivainen, M. Haimila, S.-L. Seppälä.

The vegetation of the hill was charted by Tanja Tenhunen and Petteri Pietiläinen during two field seasons. The plants were divided into five categories according to the probability with which they had migrated into the area as a result of human activity. The categories are as follows: complementary indicator species of Iron Age sites, indigenous concomitant species of Iron Age sites, other archaeophytes, neophytes, and indigenous species.

THE BURIAL CAIRNS

Burial cairns are a characteristic type of Iron Age monument in Häme. There is variation in the shape of the cairns, as well as in the proportions of stones and soil in them (Kivikoski 1955: 58). The Naarankalmanmäki cairns (Fig. 4) have been built around one or several large boulders, which has reduced the number of construction stones required.

Cairn 3 was located in the northern part of Naarankalmanmäki, on the highest point of the hill (Figs. 4–5). Its length was 6 m from north to south and 4 m from east to west. The central stone – a large boulder in the core of the cairn – was a glacial boulder split in two, with some smaller stones laid in the cleft. No internal structures were observed in the cairn. Instead, the stones were haphazardly gathered around the central boulder. The outer limit of the cairn was difficult to determine, since the natural subsoil consisted of very rocky moraine. The most conspicuous concentrations of finds and stained soil were located on the

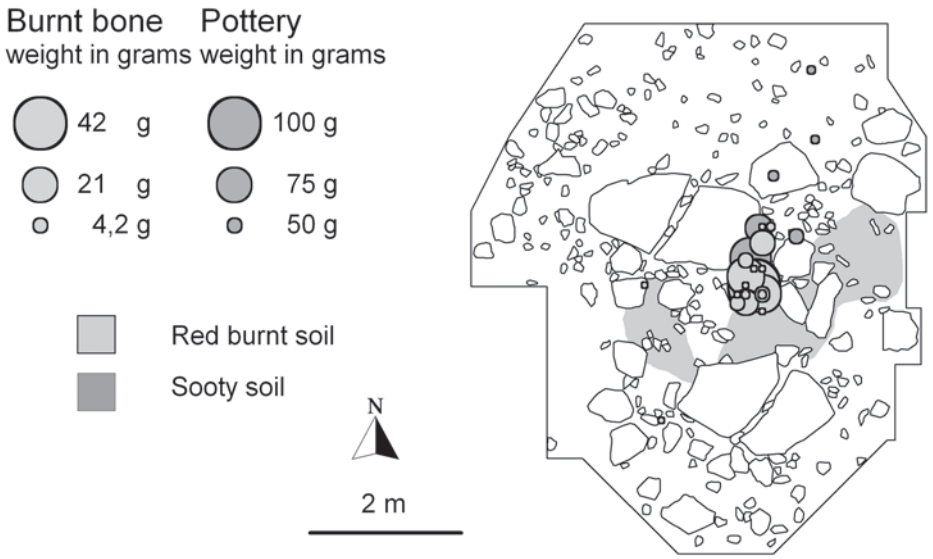

Figure 5. Cairn 3 and its finds distribution. V. Laulumaa and M. Haimila.

southern and eastern side of the central stone. In the south the stained area extended up to another split boulder. The stone setting itself was fairly shallow in depth, but the stained areas under it continued to a depth of nearly 70 cm. The few finds were concentrated in the stained soil east and south of the central stone and consisted of burnt bone, pot sherds, and quartz (NM 30485: 1547–1607). During the test excavations of 1995 a test square was dug into a low rectangular stone setting adjacent to the northern edge of the cairn. According to the excavator, H.-P. Schulz, the stone setting looked like a cairn structure. It yielded a number of clay objects, some of which resemble Stone Age clay figurines (NM 29290: 11–16).

Cairn 8 lies in the western part of the hill, some 18 m west of Cairn 3 (Figs. 4 & 6–7). Before deturfing this was the most indistinct and difficult cairn to identify. Removing the turf revealed a central stone, once again a split glacial boulder. Only a few stones were visible around it, but the stone setting grew in extent and density during the excavation of level 1. It reached its widest extent in level 3. At this stage a circle of stones was identified north of the central stone, consisting of large boulders carried to the site, and bordered in the north by bedrock or a large glacial boulder.

The length of Cairn 8 was 6 m from east to west and c. 6.5 m from north to south. Apart form the central stone and the stone circle, it consisted of fairly small rocks and – like the rest of the cairns on the hill – only a little earth between them. An area of stained soil was observed under the stone setting around the central stone (Fig. 7), reaching a depth of some 40 cm below the cairn. Two clearly circumscribed concentrations of burnt bone were discovered, each covering a small area: one between the split halves of the central stone and one to the north of it. Almost all of the metal objects of this cairn (NM 30485: 1622, 1640, 1645, 1647, 1677, 1683) were found inside the stone circle. Only one iron arrowhead (NM 30485: 1629) was located outside the stone circle, east of the central stone. Scattered occurrences of burnt bone were also discovered outside the stone circle. The area south and east of the central stone contained distinct clusters of pottery, but was otherwise practically devoid of finds. The pottery from this cairn represents the standard coarse Iron Age type.

Cairn 10, built around two glacial boulders, was in the northeastern part of the hill, some 15 m northwest of Cairn 2 (Figs. 4 & 8). The excavation revealed an elongated stone setting between the boulders and extending to the edge of the cairn. It consisted of sharp-edged rocks of vari-

Figure 6. Cairn 8. The stone circle north of the central stone, level 3, from the south. National Board of Antiquities/ E. Raike 1997.

ous sizes, part of which were burnt. As the excavation proceeded, the stone setting was seen to expand to include the area around a split glacial boulder north of the cairn. The cleft between the halves of the split boulder was filled with stones. The top of the stone setting as a whole was c. 40–50 cm above the surrounding ground level, but still clearly lower than the glacial boulders. No regular stone circles or other structures were detected, although there was a line of larger rocks between the glacial boulders on the southeastern edge of the stone setting. Stained and burnt

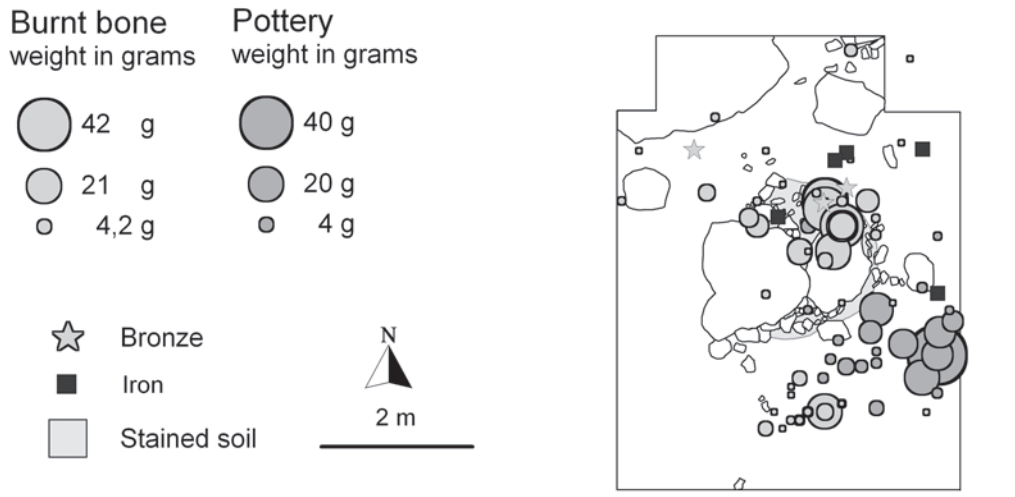

Figure 7. Cairn 8 and its finds distribution. S. Koivisto and M. Haimila.

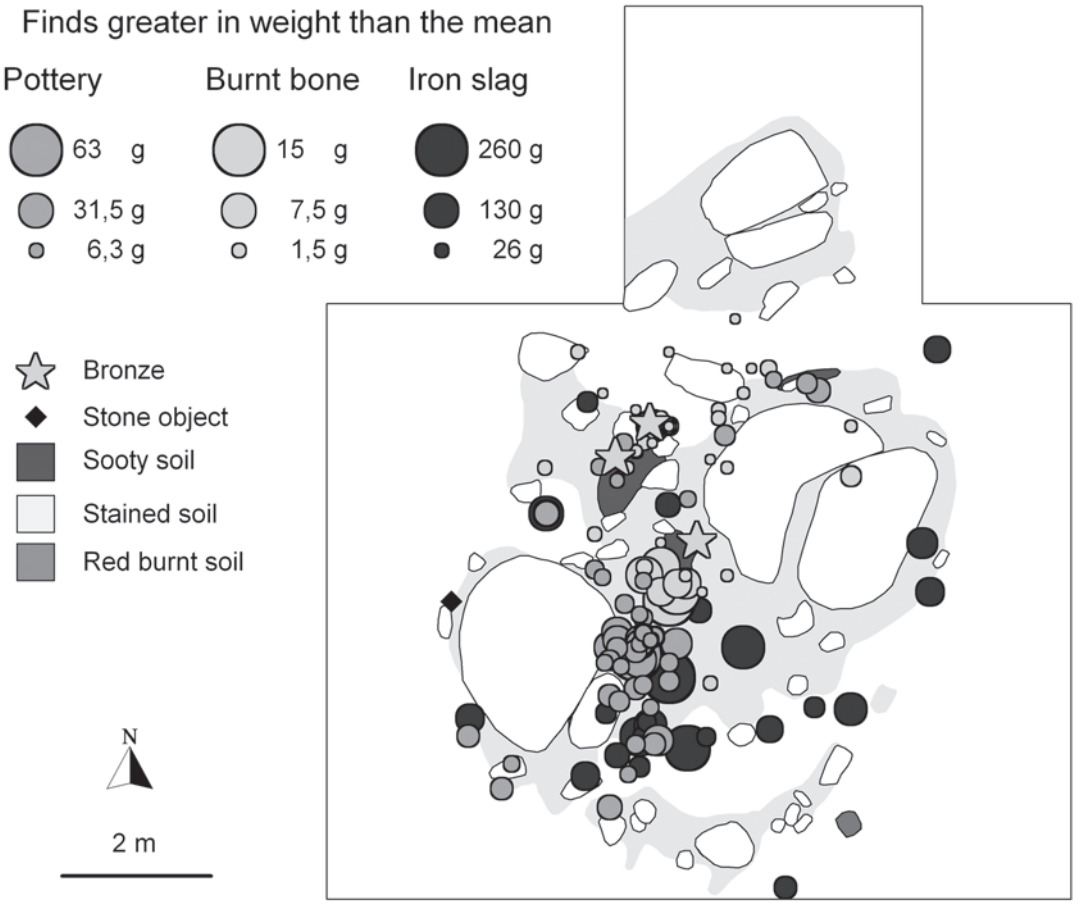

Figure 8. Cairn 10 and its finds distribution. J. Seppä and M. Haimila.

patches were detected in the area outside the stone setting. Some of them were interpreted as post holes.

The various finds categories in Cairn 10 were clearly clustered in different parts of the cairn (Fig. 8). Burnt bone was found in the middle of the cairn, as well as in the northwestern part of the stone setting. The northwestern cluster also included two small equal-armed bronze brooches (NM 30975: 1048, 1072), one of which is fragmentary. Pottery and iron slag also formed distinct clusters south of the southwestern glacial boulder. (See table 2.)

Structure 13 was located c. 35 m east of the Naarankalmanmäki hill, around a large erratic boulder, where some signs of stone setting were detected at ground level. The stones formed a narrow band around the central boulder, fringed in the northeast by large rocks split from the central stone. The maximum thickness of the stone setting was one metre. Finds were recorded from the whole area of the cairn, though they were few and far between. An iron knife (NM 31582: 10) lay between the rocks with its point down. The stone setting around the knife contained most of the 13 burnt bones from the structure, a little more than 150 g in weight. The rest of the finds consisted of pottery, burnt, clinkered clay, iron slag, and 4 quartz flakes (NM 30975: 1658–1676, NM 31582 :1–52).

On the basis of their structure and the presence of burnt bone, Cairns 2, 3, 8, 10, and Structure 13 were classified as burial features containing one or several interments. The functions of the cairns discussed in the next chapter cannot be determined with confidence.

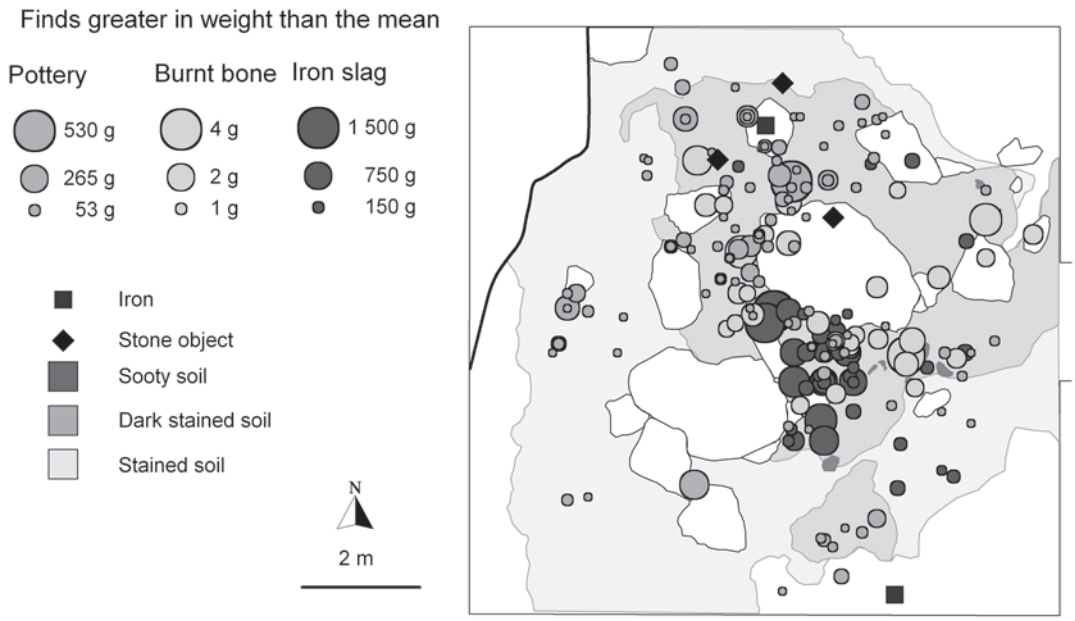

Figure 9. Cairn 5 and its finds distribution. S. Koivisto and M. Haimila.

OTHER STRUCTURES

Cairn 5 lay on the southeastern edge of the hill (Figs. 4 & 9). Only two large glacial boulders were exposed, but after deturfing they were seen to be the central stones of a practically round cairn with an area of c. 90 m^2. The northern half of the cairn had been built on top of mixed soil and gravel, while the southern half lay on clay. Level 2 revealed a very dense stone setting north of the central boulders, consisting partly of burnt stones. The earth between the stones was very strongly stained. The most intense stained area was between the central stones and north of them, where it was bordered by larger boulders.

The maximum thickness of the cairn, around the central stones, was about a metre. South of the central stones the stone setting continued partly into the clay subsoil. The southern half of the cairn consisted of larger stones than the northern half, and the stones in the south did not display evidence of burning. The edges of the stained patch in the clayey subsoil were at their most distinct in level 4. The area between the central stones had been tightly packed with sharp-edged boulders. Between them, a large amount of slag, primarily iron slag, was found. The largest clusters of pottery were discovered in the cairn's compact northern stone setting.

In addition to the central stones, there was another well-defined structure: a circle of larger boulders on the northern side of the cairn. It began at the edge of the western central stone, circled the other central stone, and ended at the southern edge of the western central stone. The largest and most distinct pottery and iron slag clusters were inside the circle. The cairn yielded a total of more than 8.5 kg of pottery and more than 21 kg of iron slag (Table 2). Two metal implements were also found: a fragment of a knife (NM 30975: 1892) lay at the southern edge of the cairn, and a fragment of iron rod (NM 30975: 2017) was discovered within the northern stone setting. Other implements included two cube stones (NM 30975: 2498, 2570) and a fragment of a clay disc (NM 30975: 2032), all found within the compact stone setting in the north. Burnt bone was not found in clusters, but was scattered in small quantities over the whole cairn.

Soil samples from Cairn 5 were analysed for macrosubfossils (Tenhunen 1998). Eleven cereal grains were identified: eight were barley (*Hordeum vulgare*), one was rye (*Secale cereale*), and two were unclassified cereal grains (Cerealia). Macrosubfossil analyses of soil samples from the other cairns produced only meagre results.

Cairns 1 and 2 were located side by side in the

eastern part of the hill (Figs. 4 & 10). Cairn 1 was identified after the excavation as a field clearance cairn, the stones of which had been carried from the fields around the hill, or from the small level terrace on top of the hill, which is displayed as a field on historical maps. Cairn 2, on the other hand, turned out unequivocally to be an Iron Age structure.

The core of Cairn 2 was again a large glacial boulder that had been split in two (Fig. 11). Between the halves of the boulder there was a tight setting of small stones. It continued on the western side of the split central stone, where it was bordered by a number of larger boulders. The large western edge boulders and the split central stone enclosed a distinct man-made stone setting and an area of stained soil. The absence of burnt bone rules out the presence of a cremation, but the north–south aligned inner structure may have contained an inhumation burial.

The maximum thickness of Cairn 2 was about a metre. The cairn had been built on the eastern slope of the hill so that it initially appeared to be almost level with the ground surface. The length of the cairn was 6 m from north to south and 5 m from east to west. The periphery of the structure contained some secondary finds, but all of the finds from the cairn proper were prehistoric. About 1.7 kg of pottery was found clustered between the two halves of the split central stone. The sherds derive from the standard coarse tempered Iron Age type vessels with a slightly narrowing mouth. Other finds included slag, primarily iron slag (454 g), burnt clay (113 g), and burnt bone (0.3 g) (NM 30485: 1339–1546). No metal objects were encountered.

Cairns 6 and 9 were comparatively similar to the ones described above, and both were centred around a split central stone. They were difficult to distinguish from the surrounding burnt and stained soil area, where rocks were endemic (Fig. 4).

Cairn 6 consisted of a thin (c. 20–30 cm) layer of stones set between the split halves of a glacial boulder. The location of the cairn in a small hollow made it difficult to discern from the surroundings, and it can be considered indistinct as to shape and structure. The stone setting extended from the central boulder towards the southeast and the northwest, following the contours of the terrain. It may not have been an actual cairn, but part of the structure of an occupation site or building in the same area.

Table 2. The amount of pottery and slag in the cairns and other structures. E. Raike.

	Pottery	Iron slag
Cairn 1	53.8 g	846.7 g
Cairn 2	1897.0 g	454.0 g
Cairn 3	114.2 g	7.2 g
Cairn 4	-	3.2 g
Cairn 5	8552.7 g	21,175.5 g
Cairn 7	-	118.0 g
Cairn 9	714.9 g	92.4 g
Cairn 10	959.1 g	4357.1 g
Structure 12	-	539.3 g
Structure 13	3.4 g	215.6 g

The stones of Cairn 9 were fairly scattered and its edges were difficult to determine. The cairn was covered by a thick layer of earth, with only a few stones sticking out here and there. Deeper down, the stone setting became denser, and the 'central stone' turned out to be a bare outcrop of bedrock. An unequivocally man-made stone setting was detected north of the outcrop, but it contained no finds. More finds, predominantly pot sherds, were recovered in the area south of the bedrock outcrop, where the stone setting was very indistinct. The pottery again represented typical Iron Age ceramics with coarse temper and no decoration.

The only metal object from Cairn 9, an iron knife blade (NM 30975: 1718), was found southeast of the bedrock outcrop, where it lay between three stones with its blade up. In addition to this, the cairn yielded some fragments of slag and burnt clay, and a few quartz flakes (NM 30975: 1691–1740). Cairn 9 cannot be considered a separate unit but rather part of the stone setting encircling the southern edge of the hill, which also includes Cairn 6.

Cairns 4 and 7 were well-defined, intentionally built heaps of stone set around central boulders, but the finds recovered did not include any evidence of burials. Finds in primary context included pieces of slag, as well as quartz flakes (Cairn 4 NM 30485: 1580–1588; Cairn 7 NM 30485: 1589–1607). One unidentified iron object was found in Cairn 4. Apart from the split central stones, no structures were detected in Cairns 4 and 7.

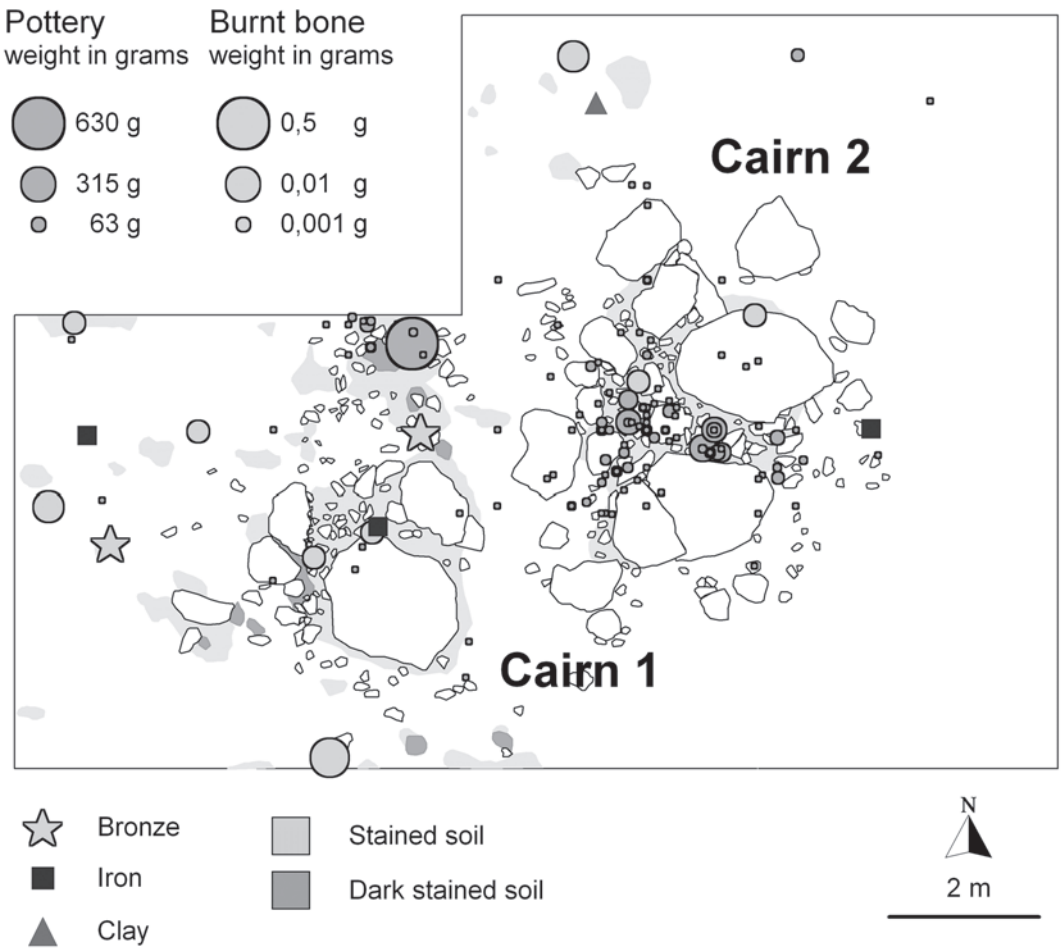

Figure 10. Cairns 1 and 2 and their finds distribution. S. Koivisto and M. Haimila.

THE BUILDING

In the eastern part of the hill, stone settings and stained pits suggesting the presence of an occupation site were detected during the excavation of Cairns 1 and 2 in 1997. The levelled area northwest of these cairns, i.e., the former field, was deturfed in 1998. The excavation revealed several stains in the clay and sand subsoil, below a layer of mixed field soil (Figs. 4 & 12). These were interpreted as building remains. Similar stains were detected in the excavation areas opened between Cairns 1 and 5. The most distinct features included stone settings, stains interpreted as post holes, and a variety of pits filled with stained or burnt soil (Figs. 13–14).

Three distinct stone settings were discovered. One (Fig. 14, Stone Setting A) was located north of Cairn 1. It was an oval pit measuring 100 x 60 x 40 cm, filled with stones and containing sherds of a pottery vessel apparently broken *in situ*, a large amount of burnt, slag-like clay (NM 30485), and a grain of rye (*Secale cereale*) identified through macrosubfossil analysis. Four metres northwest of the pit another, less deep pit filled with stones was revealed (Fig. 14, Stone Setting B). It measured 150 x 100 x 10 cm and contained a couple of pot sherds and some burnt clay, slag, and burnt bone (NM 30485; NM 30975). According to the osteological analysis, at least one of the bones from the top of the pit (NM 30975: 238) was human and derived from a young adult (*Juvenilis–Adultus*). This identification suggests a burial, but the structure of the feature makes a hearth a more plausible interpretation. At the

Figure 11. Cairn 2. Stone structure west of the central stone, level 2, from the south. National Board of Antiquities/ E. Raike 1997.

northwestern edge of the stone setting a pit containing a large number of barleycorns (*Hordeum vulgare*) was uncovered. One barleycorn was found within the stone setting itself. A third stone setting measuring 150 x 150 x 25 cm was found ten metres south of the other two (Fig. 14, Stone Setting C). It was very different from the others and consisted of fairly large stones that had been piled on top of the subsoil, forming a circular or square structure. Several stained pits were observed in the gravel beneath the stones.

Features interpreted as postholes were characterized by the presence of either well-defined supporting stones or dimensions indicative of postholes (diameter 20–40 cm, depth >10 cm). A total of thirteen were recorded; the identification of three, however, was not unequivocally confirmed. Twelve of the postholes were located as a cluster in the clayey subsoil of the northwestern end of the excavation area, at c. 1.5 m intervals and covering an area of 8 x 6 m. The circular or square stains were clearly distinct from their surroundings when damp, and had a mean diameter of 30 cm (range 20–40 cm) and a mean depth, measured from the top of the subsoil, of 17 cm (range 9–29 cm). The bottom of the pits was flat or rounded, and the deepest ones had a tapering profile. Most of the postholes were encircled by upright stones of variable length (10–30 cm), with either a square (diameter 10–15 cm) or a rectangular (10 x 20 cm) cross section. Some of them had been split into long and narrow wedge-like pieces. The top of the supporting stones was usually an average of five centimetres above the top of the subsoil. A few of the stones had evidently been split by fire. The thirteenth posthole, which differed from the others in size and structure, was discovered in the trial trench between Cairns 1 and 5. It was square, and had a diameter of 50 cm and a depth of 60 cm from the top of the subsoil. Large upright stone slabs (25 x 10 x 50 cm) had been placed along two sides of the posthole.

The contents of the postholes were usually made up entirely of stained clay – charred matter was observed in only a few. Five of the postholes were sampled for macrosubfossils, but no charred

Figure 12. General view of the building features from the east. National Board of Antiquities/ S.-L. Seppälä 1998.

plant remains were identified. Finds from the postholes consisted almost exclusively of burnt clay and slag, as well as some fragments of burnt bone and quartz (NM 30975). Distinct imprints were detected on some of the clay and slag fragments. They apparently represented clay used as daub, which had subsequently burned.

The stained pits usually showed as oval or roundish patches (diameter 75–100 cm) and were fairly shallow (15–25 cm) – the deepest, however, reached 35 cm and more. Some of them contained stones, but no regular stone structures. Burnt clay and slag were the most common find categories. Nearly all of the slag was found in one pit. The pits in the southeastern part of the area also yielded its only metal object finds. Two unusual pits were also located in the southeast. The first contained a fragment of a polished stone implement, a pot sherd, a small amount of burnt clay and slag, and 21 rye grains and grain fragments.

Figure 13. Post holes and pits in the northwestern section of the building, from the west. National Board of Antiquities/ S.-L. Seppälä 1998.

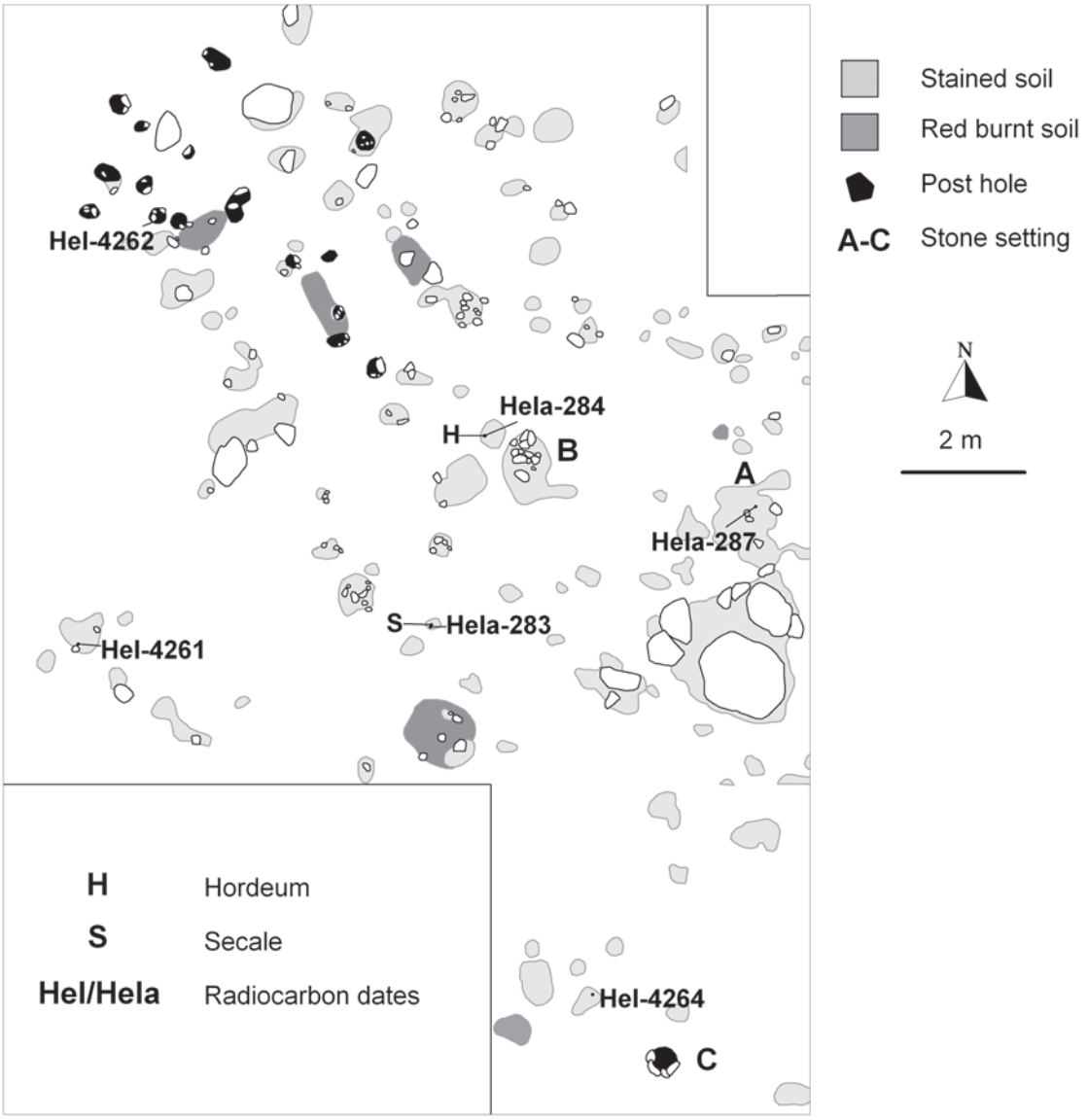

Figure 14. The building features. J. Seppä, S.-L. Seppälä, and M. Haimila.

The other pit, found in conjunction with a stone setting, contained a large amount of burnt clay and slag, and as many as 49 cereal grains, 36 of which were identifiable to the species level as barley.

The clayey subsoil in the northwestern part of excavation area 1 also included four burnt patches. Three elongated ones seemed to be connected. The two largest ones, measuring 150 x 60 cm and 125 x 50 cm, respectively, were side by side, about two metres apart, with their long axis in a northwest-southeast direction. A third elongated patch, measuring 100 x 55 cm, was located northwest of them and aligned in a southwest-northeast direction. The burnt patches lay close to stained pits, some of which may have been postholes. The few finds consisted mostly of burnt, slag-like clay. The most unusual burnt patch was located in the southeastern part the area. It was almost round and measured 150 x 150 cm. A stone

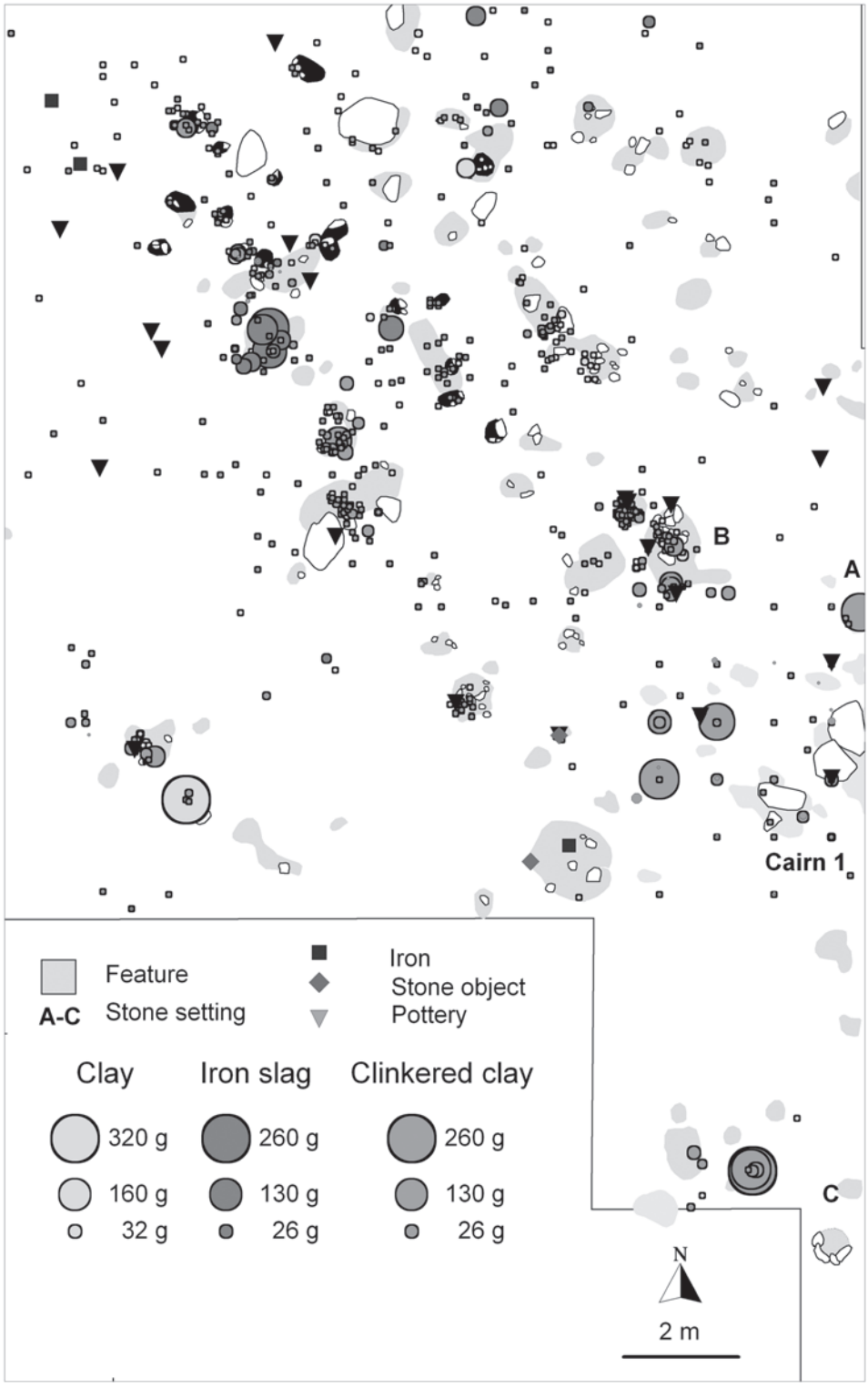

Figure 15. The distribution of metal and stone objects, pottery, burnt clay, clay daub, and slag in the building area. M. Haimila and S.-L. Seppälä.

axe with a rectangular cross section (NM 30975: 222) had been planted almost upright by the edge of the patch. Two darker stains, one of which yielded a horse-shoe nail (NM 30975: 313), were also detected in the patch.

The total of finds from the features interpreted as building remains was small (Fig. 15). In addition to the horse-shoe nail, the only metal finds were a small bronze ring, possibly an finger ring, and a fragment of bronze rod (NM 30485: 1218, 1225), which were obtained from the small dark stained pits in the vicinity of Cairn 1. One of the patches northwest of Cairn 2 yielded a fragment of a clay disc/loom weight (NM 30485: 1377). An almost complete loom weight (NM 30975: 1648) and fragments of another (NM 30975: 1657) were obtained from beneath the stone setting (Fig. 4, Structure 12) in the trial trench, from among the burnt, slag-like clay daub. Only 100 g of pot sherds (0.6 g/m^2) were found outside the pottery concentration (820 g) that was in Stone Setting A north of Cairn 1. In addition to the coarse Iron Age pottery, four pot sherds (NM 30975: 85, 89, 128, 286) were found in the topsoil, which may be classifiable as Corded Ware on the basis of their temper and drawn line decoration. Together with the stone axe of Battle Axe Culture type they bespeak Stone Age activity on the hill or in its vicinity. The context in which the axe was found, however, suggests secondary use, probably during the Iron Age.

The amount of burnt clay (clay daub, unclassified burnt clay, slag-like clinkered clay) exceeded 3 kg in the excavation area (10 g/m^2). In addition, the pottery concentration in Stone Setting A alone contained another 3 kg of burnt clay. Imprints of wooden twigs and narrow logs were observed in less than a third (700 g) of the burnt clay, and more than half of the fragments with imprints was found in one pit in the southwestern part of the level terrace. The rest of the potential clay daub has apparently vitrified into slag, the total of which probably also includes burnt pot sherds and fragments of clay implements.

The meagre finds assemblage has a general Iron Age character and is of little help in dating the building remains. The age determination is, therefore, based on radiocarbon dates, which will be discussed in the chapter dealing with the chronology of the site.

The majority of the features discussed above are within a roughly 16 m long by 6–8 m wide zone aligned in a northwest-southeast direction. The postholes in the northwestern end of the zone appear in a cluster, but form no regular pattern. Nevertheless, at least one 8 m long northwest-southeast feature alignment, and possibly another aligned in a southwest-northeast direction, can be discerned. The small pits at the southeastern end of the zone may represent stoneless or partly destroyed postholes. It is possible that in a gravel subsoil, contrary to clay, supporting stones have been unnecessary. In any case the postholes and the pits form a line and are, therefore, unequivocally connected.

The features reveal the presence of the remains of one or several buildings in the area. If only one building is indicated, it has been at least 16 m long and 6 m wide. If the southern features between Cairns 1 ja 5 are included, the length of the building reaches as much as 23–25 m. The large posthole in the southeast may have supported the principal bearing structures at the gable. On the other hand, the southeastern end may also constitute a separate complex of its own. Southwest of the building remains, a wide area of burnt and stained soil was discovered (Fig. 4). It may be partly connected with the levelling and clearance of the settlement terrace.

Although the layout of the house or houses cannot be unequivocally reconstructed from the observations, the building structure appears to have been at least partly based on upright posts. Other distinct evidence of the type of wall structure was not forthcoming. The small clay daub assemblage is concentrated in a couple of locations and contains imprints of both twigs and narrow logs. The interpretation is complicated not only by the equivocality of the features but also by poor preservation: the crumbling stones, vitrified clay and badly charred plant remains are evidence of a violent fire that apparently devastated the house already during the Iron Age.

THE IMPLEMENT ASSEMBLAGE

The largest quantity of metal implements was found in Cairn 8. Their dating, however, poses a problem. The finds include three iron arrowheads (NM 30485: 1629, 1645, 1674). They represent Hiekkanen's types 3AII and 3BII (Fig. 16), which can be dated to the Late Roman Iron Age-Migra-

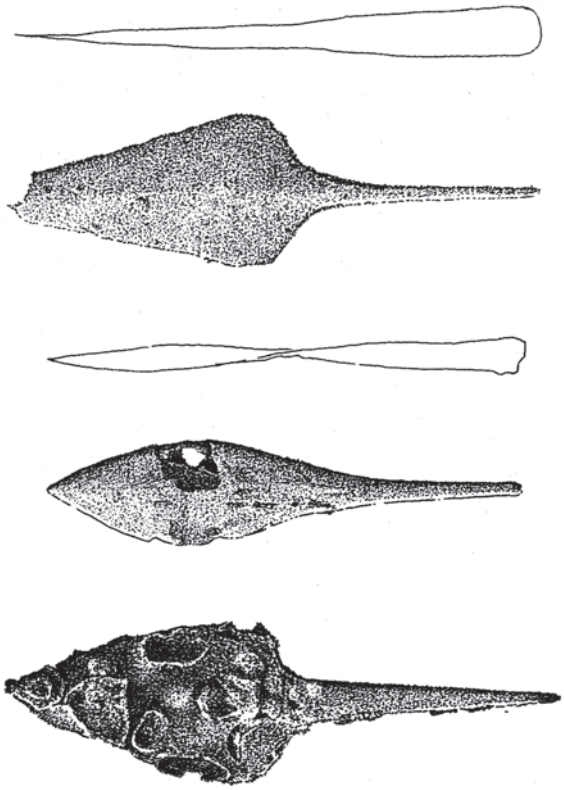

Figure 16. The iron arrowheads from Cairn 8. NM 30485:1647, 1645, and 1629. Drawing © National Board of Antiquities. Published with the permission of the National Board of Antiquities.

tion Period (Hiekkanen 1979). In arrowheads of type 3AII the widest point of the blade is at the mid-point or above it, and the edges of the blade curve outwards. The cross section of the tang is rectangular and at right angles to the plane of the blade. In type 3BII arrowheads the widest point of the blade is below the mid-point. In the distal part of the blade the edges curve outwards, but in the proximal part they may curve either outwards or inwards. The cross section of the tang is again rectangular and at right angles to the plane of the blade (Hiekkanen 1979: 65–7).

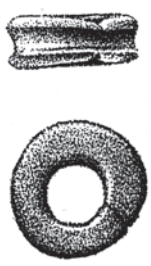

Figure 17. The grooved ring from the iron belt mount from Cairn 8. NM 30485:1683. Drawing © National Board of Antiquities. Published with the permission of the National Board of Antiquities.

In addition to the arrowheads, Cairn 8 yielded an iron belt mount with a grooved ring (NM 30485: 1683). Mounts like this (Fig. 17), but invariably made of bronze, have been found in Finland at least in Lempäälä Päivääniemi (NM 5151: 8) and Vammala Karkku Arvela (NM 5576: 11). Sirkku Pihlman dates the bronze mounts to the early 6th century. The mount is part of an implement complex that also includes a type of socketed spearhead (B_2O), shield bosses with a buttoned or wide top, swords, and bird pins (Pihlman 1990: 202). The fact that the Naarankalmanmäki belt mount is made of iron makes it difficult to decide whether it can be assigned a similar date as the bronze ones. Three small undatable bronze rivets (NM 30485: 1622, 1640, 1677) were also found in Cairn 8.

The dates of the implements from Cairn 8 differ considerably from the radiocarbon date of a charcoal sample, cal. AD 880, which indicates the Viking Age. It is difficult to decide which of the dates is the correct, or the more correct, one. Did something contaminate the charcoal sample during the recovery or analysis making it younger? Cairn 8, in any case, is lower and closer to the ground level than the other Naarankalmanmäki cairns interpreted as burials.

In Cairn 10 the only typologically datable implements are two identical equal-armed brooches, one of which is fragmentary (NM 30975: 1048, 1072). They were found about half a metre apart. Their decoration consists of lines. The undamaged brooch (:1048) is 32 mm long and 12 mm wide. The equal-armed brooch is a Swedish type and is dated to c. AD 550–600. Most of the ones found in Finland derive from the 7th and 8th centuries. The early brooches are smaller than the later ones. After AD 800, approximately, the use of this brooch type ended (Ranta 1996: 37).

The equal-armed brooches from Naarankalmanmäki are very small (Fig. 18). This means that they are either early, dating approximately to the 7th century, or belonged to a young girl and were intentionally made in a smaller size.

Cairn 9 yielded a very heavy knife blade (NM 30975: 1718) that had been placed between three

Figure 18. The equal-armed brooches from Cairn 10. NM 30975:1048 and 1072. Drawing © National Board of Antiquities. Published with the permission of the National Board of Antiquities.

rocks with its point up. It was not in a burial but separate, and had been very purposefully planted in its place. The curved contours of the blade are due to repeated sharpenings of the blade worn dull through use. It has been hammered from an old broken knife by reshaping the snapped tang: some of the blade has been made into a new tang (Fig. 19). The blade of the original, subsequently broken, knife was c. 19 cm long and 3 cm wide at its widest point. This places it within Pihlman's type 'large knives', that can also be called scramasaxes or seaxes. Bladed tools classified as scramasaxes have been encountered already in Late Roman Iron Age contexts, but they became gradually more common during the 6th century (Salmo 1938: 131; Pihlman 1990: 249–50). According to Kivikoski, the poor condition of knives usually makes their typological dating impossible (Kivikoski 1939: 220–1).

A sample of organic crust from the pottery from Cairn 9 yielded the radiocarbon date cal. AD 430. Since the dated pot sherd was found very close to the knife blade, they can be assumed to have been buried at the same, or practically the same time. This means that both derive from the Migration Period.

Structure 13 yielded a tanged, curved-backed, straight-bladed knife (NM 31582: 10) with a counterpart in the Merovingian Period cemetery at Laitila Vainionmäki (Pellinen 1999).

The rest of the metal implements found in the various structures cannot be typologically dated. They include fragments of bronze implements from Cairn 1 (NM 30485: 1218, 1225), the small bronze rivets from Cairn 8 (NM 30485: 1662, 1640, 1677), the knife fragment (NM

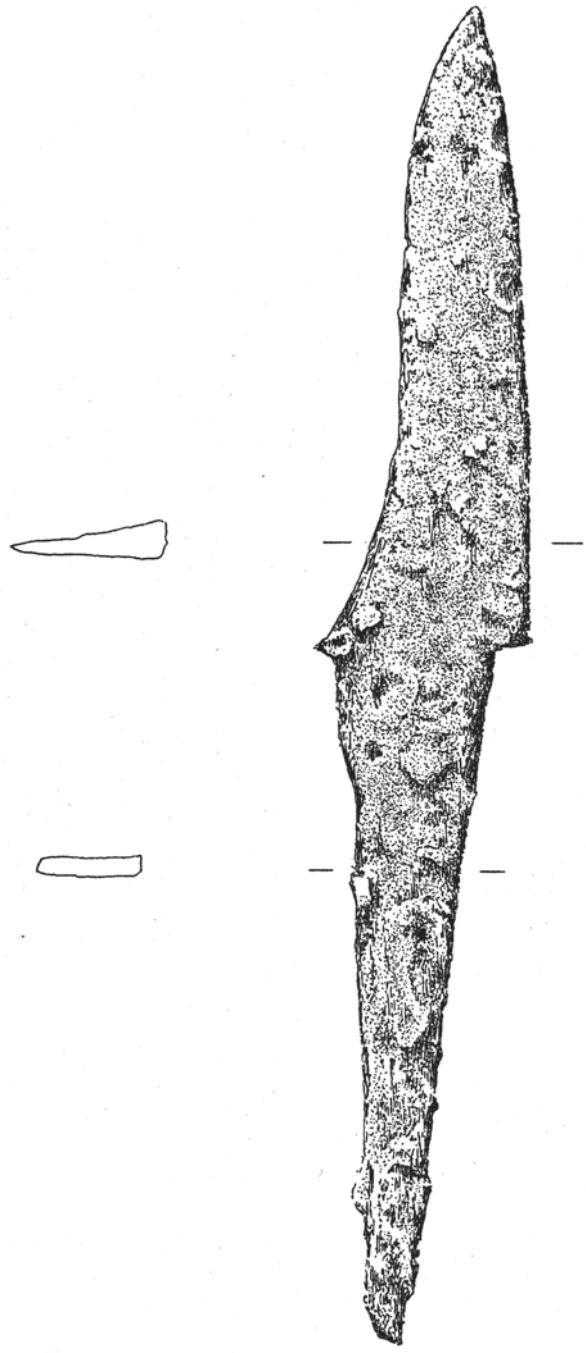

Figure 19. The iron knife from Cairn 9. NM 30975:1892. Drawing © National Board of Antiquities. Published with the permission of the National Board of Antiquities.

Table 3. The chronological phases and the respective calibrated radiocarbon dates. The border values are based on the most probable calibrated values (Stuiver & Reimer 1993; Stuiver et al. 1998). S.-L. Seppälä.

Phase	The most probable calibrated age (sample)	FEATURE
1 1250-920 BC	cal BC 1250 - 1210 (Hel-4115) cal BC 920 (Hel-4107)	- Cairn 3 - zone with burnt and stained soil
2 30-120 AD	cal AD 30 - 50 (Hela-283), cal AD 80-120 (Hel-4109; Hel-4105; Hel-4263)	- building remains - zone with burnt and stained soil
3 260-560 AD	cal AD 260 - 340 (Hela-285), cal AD 380 - 430 (Hela-286; Hela-270; Hel-4108; Hela-217-218; Hela-288-289), cal AD 470 - 560 (Hel-4114; Hel-4261-4262; Hela-287; Hel-4264), cal AD 600-670 (Hel-4106; Hel-4113)	- Cairn 3 - Cairn 5 - Cairn/Structure 6 - Cairn/Structure 9 - zone with burnt and stained soil - building remains, Cairn 2
4 780-880 AD	cal AD 780 - 800 (Hel-4265) cal AD 880 (Hela-211)	- Structure 13 - Cairn 8

30975:1892) and the iron rod with a rectangular cross section and a hook at one end (NM 30975: 2017) from Cairn 5, and a bronze ring (NM 30975: 844) from Cairn 10.

THE RADIOCARBON DATES

Charcoal samples for radiocarbon analysis were collected in 1997–1998 from all well-defined features, such as whole posts, post holes, pits, and charcoal concentrations within cairns. In addition to the 18 charcoal samples, five cereal grains and two samples of organic crust were dated. For comparative purposes, some of the samples were taken from the same structures[2].

The Naarankalmanmäki dates reflect the most common problems that plague radiocarbon analysis. The various sources of error (such as problems with sampling procedures, the composition of the sampled material, statistical factors, etc.) and their effects on the results and interpretations have been discussed in the contexts of both archaeology and the natural sciences (e.g. Taavitsainen 1990: 28–9; Kankainen 1992; Jungner 1995). At Naarankalmanmäki the greatest problems include the notable age difference between the two charcoal samples from Cairn 3 (Hel-4115 and Hela-270), which should originate from the same context based on the sampling location, and the variation in the ages of different sample materials from a stone setting in the building structure (Hel-4113 and Hela-287) and from the post hole in Structure 9 (Hel-4106 and Hela-285). In the latter case, the purpose of the dating was specifically to compare the dates of charcoal and cereal grains from the same context.

In certain contexts charcoal has been observed to produce dates that are considerably earlier than assumed, and this has been explained by referring to the so-called old wood problem caused by the high intrinsic age of the sample material (see, e.g., Carpelan & Kankainen 1990; Taavitsainen 1990: 29). This may not be the right explanation for the Naarankalmanmäki age variation, however, since the charcoal samples appear to have produced slightly younger dates than the cereal grains. A general survey of the dates reveals the wide age range of the conventional charcoal dates, as well as the age variation among conventional dates from a single stratigraphic

Table 4. The chronological sequence of Naarankalmanmäki based on the features, the finds assemblage, and the radiocarbon dates. S.-L. Seppälä.

PERIOD	FEATURE
1) Stone Age	
2500 – 2000 BC (uncalibrated)	-Battle Axe Culture finds, occupation site?
2) Bronze Age	
Early Bronze Age Late Bronze Age	- zone with burnt stained soil, uncertain - Cairn 3, uncertain
3) Iron Age	
Late Pre-Roman Iron Age Early Roman Iron Age	- building remains, uncertain - the earlier horizon of the zone with burnt and stained soil?
4th-5th centuries: Late Roman Iron Age first half of the Migration Period 6th-7th centuries: second half of the Migration Period	- Cairn 3 - Cairn 5 - Cairn/Structure 6 - Cairn/Structure 9 - the late horizon of the zone with burnt and stained soil? - Cairn 8, date based on implement typology - building remains - Cairn 2 - Cairn/Structure 9, uncertain - Cairn 10
8th-9th centuries: Late Merovingian Period-Viking Age	- Cairn 13 - Cairn 8, radiocarbon date - occupation ceased?
4) Historical Period	- slash-and-burn and field cultivation

context. The AMS analyses, on the other hand, came up to expectations by producing tight clusters of dates regardless of the sample material and the character of the sampled feature. The low intrinsic age of the AMS samples and the fact that they unequivocally reflect human activity make them the most reliable basis for chronology.

The radiocarbon dates (Appendices 1–2) reveal four chronological phases, shown also in Table 3. Their border values represent the most probable ages of the earliest and latest dates of each phase. The chronological differences between the Iron Age dates are rather small, and when the margins of error are taken into account, it seems probable that some activity has been going on at the site throughout the period. The majority of the dates (See Table 3), and perhaps also of the preserved features, focus on the time zone between the late 4th and the mid-6th centuries.

THE CHRONOLOGICAL SEQUENCE

The chronological sequence based on strati-

graphy, implement and feature typology, and radiocarbon dates reveals activity during three time periods – or four, if Historical Period land use is included. The suggested chronology of the Naarankalmanmäki site is presented in Table 4. The earliest activity stratum is represented by finds from the Battle Axe Culture (2500–2000 bc), which, however, are not accompanied by recognizable features. Two of the radiocarbon dates suggest some activity during the Bronze Age, but no archaeological finds or features assignable to this period have been encountered. One of the Bronze Age dates (Hel-4115), obtained from Cairn 3, is obviously not correct for the structure, since the burial in the cairn is interpreted as an Iron Age one on the basis of its structure, the finds encountered, and the control date (Hela-270). The third period present covers the whole of the Iron Age, but can be subdivided on the basis of radiocarbon dates and stratigraphic observations.

The earliest phase of the Iron Age activity brackets the birth of Christ, extending from the late Pre-Roman Iron Age to the Early Roman Iron Age. Apart from one cereal grain date (Hela-283), all of the dates from this period derive from the zone of stained and burnt soil and may reflect the initial clearance of the site. An alternative explanation is that these dates represent old wood used during a later activity phase. The date of the cereal grain that was stratigraphically connected with the building remains is considerably earlier than expected, and is an anomaly in the otherwise uniform series of dates from the structure. The wide margin of error of the analysis result manifests the uncertainty of the date and reduces its usability.

According to the most reliable dates, the most intensive use of the site appears to extend from the 4th century to the beginning of the 7th century. On the basis of the dates and the dominating topographical position of the structure, the earliest burial seems to be that in Cairn 3, dating probably from the late 4th or the early 5th century. Cairn 5 can be assigned a similar date. There may have been a settlement on the hill at the same time, but the excavated building remains and the accompanying Cairn 2 may as well date to the period after the first burial, i.e., the late 5th or the 6th century. This period, at the latest, saw also the construction of the cairn-like stone settings 6 and 9 in the zone of burnt and stained soil. This activity apparently disturbed an earlier cultural layer. The implement-typological date of the burial in Cairn 10 is the early 7th century, which means that the cairn was constructed during or after the existence of the building. The community that constructed the cairn must have used the building or at least been aware of its presence. According to the radiocarbon date, the burial in Cairn 8 derives most likely from the 9th century, but implement typology also allows a date in the 6th century. The pyre or burial in the cleft of the erratic boulder east of the hill (Fig. 4, Structure 13) can be dated to the late Merovingian Period or the Viking Age.

The radiocarbon dates, structural features, and finds thus suggest that the burials in Cairns 3, 10, and 8 are not contemporaneous. The interesting problem of the chronological relationships between the settlement – as represented by the clearance and the building remains – and the burials is left unsolved, however. In any case, the arrangement of the cairns on the hill indicates a degree of topographical continuity.

THE BURIALS

Before the excavations, all of the similar-looking mounds on Naarankalmanmäki hill were classified as cairns with a central stone, without commenting on their potential function. Cairns of this type were the preferred mode of burial as early as the Roman Iron Age in the whole of southern Finland. The cremated remains of the deceased and the remnants of the objects that had accompanied him or her on the funeral pyre were buried in a mound of stones and earth. In rare cases, the body was interred in the cairn uncremated. The structure of the cairns varied. Some consisted predominantly of stones, while others included more earth (Salmo 1952: 5).

The largest cairn cemetery in the Lempäälä region is Päivääniemi, which contains a total of 128 stone-and-earth cairns. Seventeen of the cairns have been excavated fully (Salmo 1952: 122–3); half of an eighteenth has also been investigated (Katiskoski 1987). According to Salmo, all of the fully excavated cairns contained burials. Likewise, the cairn partly excavated in 1987 contained the burial of a juvenile.

The cairns at Naarankalmanmäki are similar to the ones in Päivääniemi. The excavation results indicate that at least Cairns 3, 8, and 10 can be

classified as burial cairns on the basis of the presence of burnt human bone. Cairn 2, in addition, may be a burial cairn on the basis of its structure. An osteological analysis of the bones has been carried out by Niklas Söderholm (1997) and Tarja Formisto (1998).

The structure of Cairn 2 suggests the possible presence of an inhumation burial, where the body had totally decomposed. West of the central stone the removal of the covering stones revealed a north-south aligned structure, the inner dimensions of which were 3 x 1 m. The structure was large enough to have accommodated a body.

Cairn 3 contained 124.1 g of burnt human bone. According to the osteological analysis it represented a child 4–14 years of age (*Infans I-II*). In addition to the bones, the cairn yielded 38 pot sherds, all from the same vessel. The vessel or vessel fragments represent either a part of the grave goods or refuse from a burial ritual. The preserved sherds are insufficient for reconstructing a complete pot.

Cairn 8 yielded 300.4 g of burnt human bone, which allowed the identification of the deceased as a human. The grave goods included three iron arrowheads and possibly a belt that had been adorned with the bronze rivets and the iron mount with a grooved ring. In addition to human bone, sheep/goat bones were found mixed with the bones of the deceased. Like the burnt bone, the metal objects were found mostly north of the central stone. The fire patination on the iron objects indicates that the grave goods had accompanied the deceased onto the pyre. A separate cluster of pot sherds was found southeast of the central stone, unconnected with the burial.

In Cairn 10, burnt bone was found in two concentrations. The total of burnt bone was 142.2 g. North of the central stone bone was found together with bronze objects. The osteological analysis showed that the bones here derived from a young person 5–24 years in age (*Infans II–Juvenilis*). The same cluster also included 2–3 fragments of bones of a child 0–7 years of age (*Infans I*).

Another concentration of human bone was found between the central stones – a position that suggests this was the primary burial of the cairn. The bones are identified as those of a young adult (*Juvenilis–Adultus*). According to the osteological analyses, thus, Cairn 10 contained at least two burials. One included bones of a juvenile and a small child, the other those of a young adult. These results, together with the grave goods, suggest the burials of a young woman with her small child, and another young adult in this cairn. The grave goods do not give clues to the sex of the latter. Only pot sherds, burnt clay, and iron slag were found together with the bones.

Structure 13 contained a total of 178 g of burnt bone, all from an adult (Adult). The relatively large amount of bone, most of which was found concentrated in the southern part of the cairn, supports the interpretation of this structure as a burial cairn, although its location differed from the rest of the burial cairns on the hill.

THE SACRIFICIAL CAIRNS

Cairn 5 contained a number of burnt bones, not clustered, but scattered over a large area among the stones. According to the osteological analysis, the bone, amounting to 53.4 g, derived from at least one child 5–15 years of age (*Infans II-Juvenilis*). A burnt elk (*Alces alces*) bone was found among the human bones.

Although the finds from Cairn 5 include burnt human bone, it may be a sacrificial cairn instead of a burial cairn. Its size and finds resemble the sacrificial cairn excavated in 1967 by Jaakko Sarkamo in Hattula (previously Tyrväntö) Retulansaari. The Retulansaari cairn was built around a central stone, within a circle constructed of large boulders. The circle of stones detected in Cairn 5 at Naarankalmanmäki lay mostly to the north of the two central stones, partly adjoining them. Both Cairn 5 and the sacrificial cairn in Retulansaari contained a very large amount of pottery. In both cases it was mostly undecorated, and scattered over the whole stone setting. Only three or four of the sherds from the Retulansaari sacrificial cairn were line decorated (Sarkamo 1970: 42–3). The pot sherds from Cairn 5 at Naarankalmanmäki were all coarse and undecorated, and several of them had deposits of crust on the interior surface. The crust may have been formed by burning from foodstuff kept in the vessels.

In addition to pottery, the Retulansaari cairn contained a clay disc, half of a casting ladle, a whetstone, one whole and two fragmentary cube stones, a few metal objects, and seven glass beads,

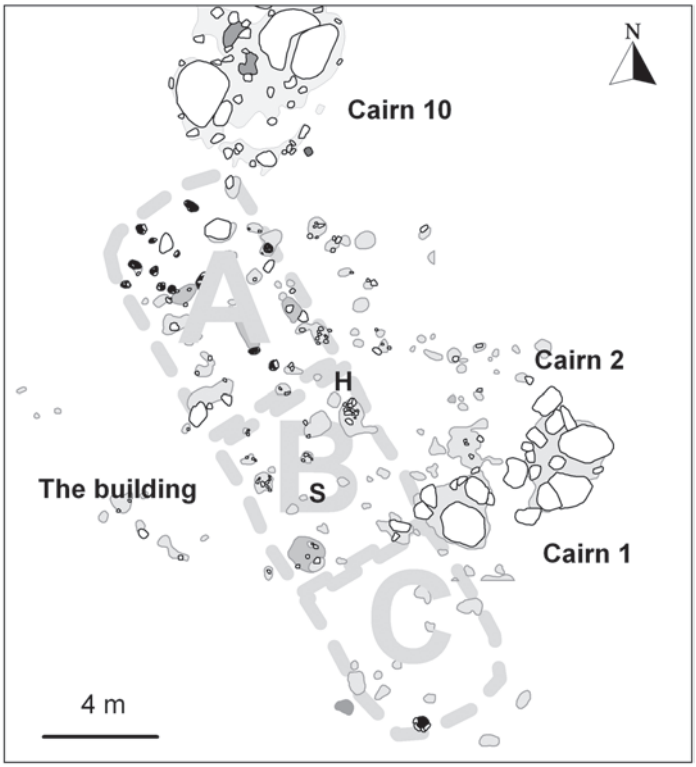

Figure 20. A functional interpretation of the building. S.-L. Seppälä and M. Haimila.

as well as bones of both wild and domestic animals (Sarkamo 1970: 44–5). The Naarankalmanmäki cairn contained objects of the same character, even though only one animal bone was encountered. In addition, Cairn 5 contained a very large amount of iron slag, which was totally absent from the Retulansaari cairn. The burnt stone setting in the northern part of Cairn 5 contained two cube stones. According to Kaliff (1997: 88), cube stones may have been used to crush ritually burnt bones, after which use the particular stone gained a completely new symbolic meaning. This transformation of a functional tool into a ritual object might explain the inclusion of cube stones in burials or, as in Naarankalmanmäki and Retulansaari, in sacrificial cairns: the stone was not usable in everyday chores any more. An alternative interpretation suggests that cube stones may have symbolically represented eggs or bread, for example, making their inclusion in cairns into a symbolic food offering (Kaliff 1997: 88).

Both cairns contained cereal grains. Sarkamo interprets the Retulansaari cereal grains as offerings to ensure, for example, a good growing season (Sarkamo 1970: 46). The cereal grains may also have been meant as food offerings for the dead. The ritual contexts of the grains, seeds, and bread in prehistoric cemeteries are, however, difficult to infer. They may have been parts of rituals linked with fertility, prosperity, or rebirth (Viklund 1998: 157).

Cairns 4 and 7 at Naarankalmanmäki can also be classified as sacrificial cairns. They contained few finds and no burnt bone, but were nevertheless stone structures piled around one or several central stones.

THE FUNCTION OF THE BUILDING

The building remains discovered in the southeastern part of the Naarankalmanmäki hill indicate that in addition to the burial cairns, one or several houses stood on the site during the Early or Middle Iron Age. No reliable conclusions can be drawn about the plan or mode of construction of the building, but part of the stains encountered probably derive from vertical post structures. Post holes are the most common evidence of Iron Age houses, but it is difficult to reconstruct the structure of the walls based on post holes alone. The

dimensions of the Naarankalmanmäki remains justify comparison to the most common Scandinavian house type during the Iron Age, the long house. A house of this type, built around a framework of posts, commonly measured 20–30 x 5–9 m, and had walls made of wattle, or, less often, of heavier timber using a grooved corner-post construction and/or a vertical stave structure (Uino 1986; Viitanen 1996).

A dozen or so Early and Middle Iron Age houses are known from Finland. The most extensive research has been carried out in Salo Isokylä Ketohaka. The sites in Ketohaka bear evidence of continuous long-term settlement, and unequivocal interpretation of the remains has been difficult. Several Early Iron Age buildings have, however, been identified, mostly dating from the Roman Iron Age. The best preserved remain (Ketohaka 1, House C) has been interpreted as a longhouse with minimum dimensions of 12 x 6 m. Its wall structure consisted of wattle, staves, and/or a grooved corner-post construction, and it may have had a three-naved plan with two separate rooms (Uino 1986). Liedgren (1994), has estimated the size of the building as considerably larger, and regards it as very similar to the long houses in Central Norrland. The Ketohaka House C dates from between the late 2nd and the early 4th centuries. The youngest Ketohaka house is dated to the 8th century. The intensity of the settlement at Ketohaka is manifested also by the numerous burial cairns in close proximity to the buildings, which have been in use from the Late Roman Iron Age to the Merovingian Period (Uino 1986; Liedgren 1991, 1994; Nuñez & Uino 1997).

Longhouses from the Middle Iron Age have also been studied at Maalahti Kalaschabrännan, where evidence of a settlement was detected on a cleared, levelled terrace between two burial cairns. Analyses indicated the presence of the remains of several houses of different ages, partly overlaying one another. The remains suggest long and narrow (18–24 x 5–6 m) three-naved longhouses with convex walls. According to the interpretations, posts supporting the roof have been present in two of the houses and the walls have been made of wattle or by the grooved corner-post method. The interior may have been divided into three sections, with the living quarters in the centre and the gables occupied by storage space and a cattle shed. The sparse finds assemblage and the radiocarbon analyses suggest a date in the Merovingian Period, most likely the 7th century. The settlement site as a whole appears to have come into use earlier, during the Migration Period, and been abandoned during the 8th century (Liedgren 1991, 1994; Nuñez & Uino 1997).

The material from Naarankalmanmäki is not sufficient for detailed interpretations of house structure. The remains are difficult to explain in detail, but form a stratigraphically and spatially fairly integrated whole. This makes it possible to examine whether potential functional differences in the use of space can be detected on the basis of the distributions of structural features, finds, and other material, as suggested, e.g., by Ramqvist (1983) and Viklund (1998).

Based on the distribution of features (Fig. 14), the area with house remains can be divided into a northwestern sector characterized by post holes, low pits, and elongated burnt areas, and a southeastern sector characterized by stone settings and roundish pits of stained soil. The majority of the finds (Fig. 15), including all metal, stone, and clay objects, derive from the stained pits in the southeast. Practically all of the pottery was found in a single cluster (Stone Setting A; Fig. 14, Fig. 15). The material in and around the post holes was scanty and monotonous, consisting of burnt clay and slag. Iron slag finds were concentrated in the northwestern sector or the zone between the sectors.

A total of 30 soil samples were taken from several of the house features. The samples were analysed by Tanja Tenhunen (1998). They contained 90 charred plant remains, comprising 18.7 % of the whole identified assemblage. Nearly all (72) of the identified charred plant remains were cereal grains. This material was clearly concentrated in two features. One was the pit (Fig. 20, H) adjacent to Stone Setting B. In addition to a large amount of slag it contained 36 grains of barley (*Hordeum vulgare*) and 13 grains of cereal not identified to the species level. Four metres southwest of this, a smaller pit (Fig. 20, S) contained 21 whole or fragmentary grains of rye (*Secale cereale*) in addition to a polished stone implement, a pot sherd, and slag. Furthermore, Stone Settings A and B (Fig. 14) contained a rye grain and a barley grain, respectively. No charred plant remains were encountered in the post holes.

Viklund (1998) has discussed the meaning of

macrosubfossil distributions as reflections of the functional use of space. According to her, the cereal concentrations observed in several Swedish house studies can be interpreted as caches or storage containers. They have often been found in a sector of the house that contained a hearth, in the vicinity of hearths, or in the living area between the hearth and the gable wall. In a house that has burned down the cereal grain concentrations might reflect the positions of, for example, wooden bowls or leather bags. The storage spaces may have been located close to the warm living quarters for practical and safety reasons. The archaeobotanical material could, thus, also be used to indicate the position of the cooking area (Viklund 1998: 110–29).

The Scandinavian Iron Age long houses are assumed to have incorporated, apart form living quarters, a cattle shed or a stable, although firsthand evidence of this has seldom been forthcoming. The sector of the house presumed to have contained the cattle shed has often been found to be very poor or completely devoid of plant remains, even in cases where the living quarters have yielded large amounts of seeds and grains. The dry living quarters that accommodated the hearth may have burned more completely than the damp cattle shed (Viklund 1998: 127–8).

Viklund also discusses the ritual interment of cereal grains, although in her opinion most of the archaeobotanical material derives from grain processing or cooking. The burial of grains, seeds, and bread in graves or buildings may, according to her, have involved complex symbolic meanings; it may have been part of ceremonies tied with rites of fertility, prosperity, and rebirth. Unequivocal ritual interments in house structures include, according to Viklund, the foundation offerings laid down during construction, which have been reported already from Neolithic contexts: cereal grains in hearths and post holes, under the floor, and occasionally contained in pottery vessels. There is no evidence of sacrifices in Iron Age long houses after the construction period (Viklund 1998: 153–60).

The macrosubfossils or other material from Naarankalmanmäki do not allow reliable functional divisions along the lines outlined by Viklund. Some observations and hypotheses based on the above interpretations can, however, be presented.

The northwestern part of the house area (Fig. 20, A) includes a structure with upright posts, stretching over at least 8 x 6 m. The post holes are small and occur very close to one another, and may, thus, not be the remains of a framework supporting heavy house structures. The scarcity of finds, the absence of implements, and the results of the macrosubfossil analyses suggest either little activity in the area, or the complete eradication of the material. The features may also represent a separate building or set of buildings. It may not have constituted an active residential or working area, but perhaps a storage space or a cattle shed or pen – an interpretation supported by the clayey subsoil. On the other hand the area contained no stains indicative of dung deposits.

The southeastern sector (Fig. 20, B–C) includes several features: a stone setting interpreted as a hearth, the cereal grain clusters, and a number of pits containing stained soil. The cereal grains have obviously been selected by species and appear to have been placed in shallow pits, probably in a vessel or a bag. The context of the finds suggests that the clusters are not accidental dumps brought about, for example, by a fire destroying the house, but represent intentional depositories. All of the implement finds also derive from this section of the house. Stone Setting A, which contained the sherds of a complete clay vessel, may be a part of the same construction. The features, finds, and macrosubfossils from this section of the house support its interpretation as a residential and working area. The remains at its very southeastern end (Fig. 20, C) – a stone setting, post holes, and pits – may represent a separate structure, perhaps a working or storage space. The southeastern section of the house covers an area of at least 6 x 6 m – or 13 x 6 m, if part C is included.

The grain pits might also be interpreted as the kind of ritual interments connected with cult activities described above. This model is supported by the presence of a stone axe in an Iron Age context. Stone Age axes and adzes have occasionally been encountered in Iron Age burials (Lehtosalo-Hilander 1984: 308), but in this case the axe might have been used in a rite to ensure the protection of the house. The pottery vessel placed in a stone-lined pit and the fragments of bronze objects found in pits among stained soil might have served the same purpose.

The above discussion has dealt with the inner division of the structure interpreted as a house. A building, however, is not detached from its environment, but has to be examined in relation to other observations; a functional interpretation needs support also from the context. Of the features recorded on the hill, the one that may most comfortably be connected with the house structure is the zone of burnt and stained soil on its southwestern slope. This area may have been cleared originally around the birth of Christ, and again in the 4th–6th centuries, during the presumed use period of the house. It may represent a terrace delimiting the courtyard or activity sphere of the house, and may also have accommodated various structures.

THE BUILDING AND THE BURIALS

Among the most important aspects of contextual interpretation is the building's stratigraphic, chronological, and spatial relationship with the burials. No burials have been detected within the house area, nor do the house remains extend to the burial cairns. Cairn 1, built partly on top of the house remains, and perhaps originally from material scavenged from the house, is interpreted as a late structure. The chronology of the rest of the structures suggests, however, that burials have taken place at least in Cairn 3, and possibly also in Cairn 10, during the use period of the house.

The possible ritual meaning of the building also needs to be considered when discussing the interrelationship of the house and the burials. Ritual buildings have been present in Scandinavian cemeteries since the Stone Age (Kaliff 1997: 54 with references), but they cannot be considered a common phenomenon (cf. Johansen 1997: 32). The Naarankalmanmäki building contained no structures or finds – such as altars or status objects – that could be tied to ritual activity and that have usually been observed in buildings interpreted as ritual structures (Kaliff 1997: 54 with references). The point of departure here is that the house is a normal residence.

Iron Age cemeteries are usually assumed to have been located quite close to the residences of the communities that used them (Uino 1986: 136). The Early Iron Age cairns were originally constructed for one burial, a fact that has been interpreted as evidence of a single farm settlement pattern (Lehtosalo-Hilander 1984: 310; Salo 1984: 214). Similarly, it is assumed that as late as the Merovingian Period each farmstead had its own cemetery in the vicinity of the settlement, and the settlement pattern as a whole was sparse and scattered (Schauman-Lönnqvist 1996: 130).

Baudou (1989) drew upon the finds from Central Norrland and southwestern Norway to discuss the relationship between Iron Age cemeteries and settlements. His attention was drawn, in particular, to the scarcity of Early Iron Age burial cairns in comparison with the number of known occupation sites. During the Roman Iron Age, for example, perhaps only one person per generation or per the use period of a farm was furnished with a burial mound. Employing etymology and the archaeology of religion as his points of departure Baudou reached the hypothesis that the burials reflected the cult behaviour of the community, which was based on ancestor worship. According to his model the burial mound was the religious centre of the farm, and was sometimes constructed intentionally on top of an earlier building. The other burial rites and symbols connected with belief systems and social practices may not have developed immediately, but were present during the Migration Period, at the latest. Baudou considers ancestor worship and its belief systems part of the farming culture based on settled field cultivation and animal husbandry, which, according to him, was adopted in Norrland from the south around the birth of Christ.

Swedish models, naturally, cannot be applied without modification to Finnish material which, as Lehtosalo-Hilander (1984: 274) has pointed out, differs from the Swedish material in many respects. As an example of the differences, she mentions the level-ground and subterranean collective cemeteries in Finland, which make it difficult to draw conclusions about the number of burials or the size of the population. Even in Finnish archaeology, nevertheless, the notion of the many meanings of Iron Age burials has become an established model. The close proximity of residences and cemeteries is interpreted as evidence of the significance of the dead in the life of the surviving. It is assumed that the ancestors were appealed to in times of danger and need, and offerings to the dead were made to ensure the well-being and prosperity of the living. Ancestor worship has been linked in particular to a fertil-

ity cult and the improving of subsistence conditions. It has also been suggested that other transactions significant to the community, such as matters of justice, were conducted at the cemeteries, with the ancestors taking part in the proceedings (Lehtosalo-Hilander 1984: 308–9; Purhonen 1996: 125, 1998: 41, 160).

It is unlikely that child burials were significant in ancestor worship, but they can be tied in general terms to the cult of the dead. As Welinder (1995) has pointed out, children were prevalent during prehistory. What makes Naarankalmanmäki special is the fact that at least in two cases children have been afforded an obviously individual burial. The age and the sex of the deceased may also have had an influence on the location of the burials.

THE VISIBILITY OF CHILDREN IN ARCHAEOLOGY AND IN CEMETERIES

The first Nordic archaeologist to publish a paper about children was Anne-Sofie Gräslund. Her 1973 study of the child burials in the inhumation cemetery at Birka focussed on grave goods and on identifying objects typical to child burials in the graves of adults. The purpose was to find children buried together with adults (Gräslund 1973).

The direction that the archaeological research concerning children took in Scandinavia was determined by the studies published by Greta Lillehammer in the 1980s, which discuss the socialization of children. Joanna Derevenski's research, on the other hand, emphasizes children as learners of gender roles (Ylönen 1998: 4–6).

The number of children identified in cemeteries is usually much smaller than might be assumed. According to social scientific research, child mortality in prehistory was as high as 50 % (Welinder 1979: 83). However, in Swedish cemeteries the percentage of child burials varies between only 18 and 27 % (Björkhager 1995, 46). The latest cemetery excavation to be published in Finland, that of Vainionmäki in Laitila, unearthed 25 burials, eight (32 %) of which were those of children (Formisto 1996: 87).

The young Swedish scholars who published the book *Arkeologi om barn* in 1995 attempted to distinguish between adults and children through osteology. In the articles childhood is seen as a socially and culturally determined structure.

The skeletal material from Finnish cemeteries has been studied by osteologists Pirjo Lahtiperä and Tarja Vormisto (now Formisto). In their respective papers they point out the small number of children present, especially in cremation cemeteries. This observation leads to the suggestion that children may not always have been cremated, as adults have (Lahtiperä 1970: 214; Vormisto 1985: 166–7).

Archaeological research concerning children in Finnish prehistory has been carried out by Leena Söyrinki-Harmo. Her paper *Unohdetut vai kadonneet? Lapset rautakautisessa aineistossa* [Lost or forgotten? Children in Iron Age Material] was published in 1992. In this article, Söyrinki-Harmo discussed the study of children, which has had a subordinate position in archaeology due to the emphasis on the study of objects. She also addressed the problems of the preservation and identification of child burials, and the effects of the status of children on their visibility in the archaeological record. According to Söyrinki-Harmo, although children have not been very much studied in Finnish archaeology, child burials were identified already during the early excavations, but usually received no further attention. An excavation report or a research paper may have included a reference to a child burial, identified on the basis of the assemblage or, in the case of inhumation burials, the size of the grave pit or the small number of grave goods. The final conclusions, however, ignored the children completely (Söyrinki-Harmo 1992: 578).

In prehistoric times the percentage of children reaching adulthood was very different from the present figure. Nearly half of the population died in childhood or early youth. This caused, as well as presupposed, a very different attitude towards children. Examples of different attitudes can be found in societies with high child mortality rates. These societies make a clear distinction between children and adults. Children are not considered real persons before they have been given a name, since the name is considered the abode of the soul. The moment of name giving is very significant, and the age at which a child receives its name varies from one culture to another (Björkhager 1995: 53).

Name giving is an ancient tradition, and was significant, e.g., among the Pre-Germans. According to their religion, the soul of a recently de-

ceased relative lived on in his or her name and was reborn in the child to whom that name was subsequently given. The significance of name giving was enhanced by the fact that it also meant providing the child with a soul (Kaliff 1992: 73). The Swedish scholar Bo Gräslund, among others, has reached the conclusion that a similar tradition may have prevailed in Scandinavia during prehistoric times (Gräslund 1994: 17). Finno-Ugric peoples held the same view (Harva 1948: 238). The word *sielu* (soul) was introduced in the Finnish language with Christianity. Before, the word *henki* (spirit) was used instead of the word *sielu* (Harva 1948: 238).

What, then, was the age at which a child (before the Christian religion) received a name, together with a soul or a spirit, and became a member of the community? The age varied from one community and time period to another. Name giving involved providing the child also with a soul. A nameless, i.e., a soulless child did not require cremation to free the soul from the body (Purhonen 1998: 40). According to this model, the death of the young woman and infant buried in Cairn 10 at Naarankalmanmäki cannot have taken place at childbirth, because in that case the child would not have been cremated. The possible mother and child must therefore have died after the child had been given a name and a soul. The Vainionmäki cremation cemetery in Laitila contained some unburnt teeth of a small child. The child may have received an unusual burial because it had not yet received a soul to be released in cremation into the hereafter, or to be transferred through name giving to a new member of the community (Purhonen 1996: 122).

The age at which a child received a soul through name giving is not known, but it must have happened fairly soon after birth. The next major step in a child's life was the achievement of adult status. This took place at very different ages, depending on the culture and the time period. In the Middle Ages childhood was, at least in Sweden, very short. A child became a full member of the society at approximately the age of seven, when the critical period of the early childhood was over (Ariès 1982: 157).

According to the research by Hagberg, during prehistoric times childhood probably ended and youth began between the ages of 12 and 18. The Icelandic sagas cite the unusually late age of 18 as the end of childhood (Hagberg 1949: 36).

The children found in burials are, of course, those who did not survive into adulthood. These children may not yet have achieved the kind of status in the society that would be displayed through grave goods. They had not attained, for example, gender roles that would involve symbolic representation through artifacts (Lempiäinen 1999: 14). Following this line of reasoning, at least part of the graves devoid of grave goods could be child burials. Combining this interpretation with osteological analysis forms one of the major methods of determining the age of the deceased, especially in cremation burials.

THE CHILDREN OF NAARANKALMANMÄKI

The burnt bone material from the Naarankalmanmäki cemetery represents the burials of 4–5 individuals in three cairns. In addition, there may have been an inhumation burial in Cairn 2. What makes the cemetery exceptional is the large proportion of child burials. The individuals identified include three children, one unequivocal juvenile, and one young adult. The analysts used the following age classification system, put forward by Torstein Sjövold (1978: 99–117):

age class	age (yr)
Infant	-1
Infans I	0–7
Infans II	5–14
Juvenilis	10–24
Adultus	18–44
Maturus	35–64
Senilis	50–79
Adult	18–79+

In this system, classes Infant, *Infans I*, and *Infans II* represent children, while *Juvenilis* is a juvenile, and the rest are adults.

The individuals buried at Naarankalmanmäki included no unequivocal adults. Other such Iron Age cemeteries that include exclusively child and juvenile burials are not known in Finland. Cremated children have usually only been identified through osteological analyses, or sometimes through the presence of small objects made specifically for children. In inhumation cemeteries the size of the grave pit has been used as an identifying marker. Grave goods are usually very

Table 5. The amount of burnt bone in the cairns and other structures. E. Raike.

	Burnt bone
Cairn 3	124.1 g
Cairn 5	53.4 g
Cairn 8	300.4 g
Cairn 10	142.2 g
Structure 13	2.8 g

few or completely absent from child burials. Child burials generally occur in cemeteries that also include adults (e.g. Söyrinki-Harmo 1993: 2).

At Naarankalmanmäki, the amount of bone in each cairn was relatively small (Table 5), possibly because the cremation took place at some other location, and only a small portion of the bones of the deceased reached the burial site. The cremation may also have been incomplete, resulting in the decomposition of some of the skeletal material.

The grave goods in child burials, especially the metal objects, usually consist of clothing accessories, such as fibulae, pins, belts, and belt fittings (Lundin & Skoglund 1995: 62). At Naarankalmanmäki, Cairn 10 yielded two equal-armed brooches used for fastening garments, while the assemblage in Cairn 8 included bronze rivets that may have adorned a belt, and an iron belt mount with a grooved ring. The only non-clothing objects are the three arrowheads from Cairn 8.

Grave goods give an incomplete view of the range of objects manufactured specifically for children. The decomposition, or, in cremations, the burning of organic material obliterates a large portion of the assemblages. It is not known whether child burials were furnished with actual toys, or if only objects that had a value in the adult world were included. Have adults ever paid attention to all of the improvised toys from nature that children played with in their fantasy games? (Söyrinki-Harmo 1992: 580).

On the northern edge of Cairn 3 a small rectangular stone setting, measuring c. 60 x 50 cm, was constructed into the stone circle surrounding the cairn. On the basis of its location it was interpreted as contemporaneous with the cairn. A number of clay objects (NM 29290: 11–16) were found on top of the stone setting. Some of them bore a resemblance to Stone Age clay figurines (Schulz 1995: 8). Might these fragments of burnt clay that resemble clay figurines be toys included with a child burial, toys that were not interred with the cremated bones but buried in a separate stone setting?

In addition to age, the decision to furnish a child with grave goods according to the adult pattern in burial may have been affected by the differences in rank between the children of the community. Söyrinki-Harmo (1992: 578–9) has suggested that during the Iron Age the status of children depended on the social position of the family, and the manner of their burial varied according to their parentage. The burial location also depended on the children's age and on whether they had already received a name.

The children of Naarankalmanmäki were all buried in cairns characteristic of the time period, but in a cemetery restricted to young people. The burials are not contemporaneous or even very close to each other in time, which means that the exclusive use of this cemetery for child burials must have been recognized in the community for a long time. Did the children buried in this cemetery have a special position in the community? It is difficult to imagine what kind of a special position these children might have had. The situation also raises the question of where the other members of the community have been buried.

ETYMOLOGICAL OBSERVATIONS

According to Kalevi Konsala of Jutila farm, one of the two holdings that used to own the property, the traditional name of the hill is Naarankalmanmäki. The name is not found on the topographic map, because it fell into disuse in the 1930s–1940s. The toponym consists of three parts: *naara*, *kalma*, and *mäki*.

The word *naara* can be interpreted in three different ways. *Naara* means a hooked drag used to haul, for example, logs or drowned people out of the water. *Naara* can also mean a kind of trap, a snare. In addition, the word *naara/naaras* is used to denote a bitch or a sow. It is also used of women in a defamatory sense. Variations of the word include the terms *narttu*, *natu*, *naakku*, and *nakku*. The stem of the word can also be connected with the term *nainen/naini*, which, in addition to woman in general, signifies a married woman

(Suomen sanojen alkuperä 1995: 201).

The word *kalma* here unequivocally denotes a grave, a burial site. The word *kalma* has a wide distribution in the eastern dialects as a name for pagan burial sites or burial mounds (Suomen sanojen alkuperä 1995: 201). *Mäki* is the common word for a hill, which is what Naarankalmanmäki used to be.

The toponym Naarankalmanmäki can, thus, be interpreted as a hill used as a cemetery for the female sex. If the interpretation is correct, it means that children were conceptually connected with women – especially small children, who had not yet acquired a significant social role in the community.

DAUGHTERS OF HADES?

A survey of the spatial arrangement of the various activity foci at Naarankalmanmäki reveals a number of remarkable features. All of the burials that unequivocally contain human remains lie on the northern side of the hill at 20–30 m intervals, although Cairn 8 is on level ground at a lower elevation. In each cairn, the cremated bones and the personal grave furnishings focus on the northern half. These observations raise some questions. Is the spatial arrangement of the burials according to the cardinal directions intentional? Has it been important to make the burial cairns visible specifically from the north?

Liedgren (1992) used the material from Helsingland to examine Baudou's hypothesis (Baudou 1989) of the close association between houses and burials during the Early Iron Age. His observation about the spatial arrangement of the burials is particularly relevant to Naarankalmanmäki. In his material, in cases where only 1–2 graves were present, they often lay to the northwest, north, or northeast of the building. Liedgren acknowledged the possibility that local topography had an effect on the position of the features, but emphasized the importance of the northern direction in the spatial arrangement of the building and the graves. He also pointed out that the northern side of Medieval churches was considered negative and had connotations to sex differences, the clearest example of which are the burials of women on the northern side. He regarded the spatial arrangement of Iron Age burials as a reflection of the social conventions of the community. Thus, for example, men, women, and children may have been buried at different locations in relation to the house. Variation in burial location may also have depended on the generation or the social category of the deceased (Liedgren 1992: 199).

Few studies have examined the Finnish material from this point of view, but a number of comparative situations have been recorded in individual cemeteries. At the Laitila Vidilä Vainionmäki cremation cemetery the burials of men, women, and children were in different parts of the area, a fact that has been interpreted as a reflection of both the religious practices and the social relations within the community. Men's graves that included weaponry lay in the southern and eastern sections of the cemetery, while the objects indicating the presence of women were scattered on top of the cemetery mound. Indications of a settlement site possibly connected with the cemetery were detected to the south of it. The most prominent men of the community may have been intentionally buried close to the house (Purhonen 1996: 126–7, 1998: 39, 41).

Purhonen (1998) noted the significance of the northern direction in her studies of Crusade Period and Medieval burials. She argued that the meaning of the north did not derive from Christian symbolism, but was a part of a cluster of Scandinavian and Germanic traditions, according to which the northern direction was something to be avoided and feared. The mythical realm of the dead, *Pohjola*, also lay in the north. According to Purhonen, an attempt to find a simple explanation to Medieval information about the burial of women north of the church is ill advised. The tradition may derive from the lower social position of women, but also from where women's place was inside the church building (Purhonen 1998: 128–9, 162–3, with references).

As already mentioned, the burial cairns at Naarankalmanmäki lie in the northern section of the hill, whereas Cairn 5 faces south and differs from the rest of the cairns not only in its location but also in its structure, finds assemblage, and macrosubfossil material. The datings place it in the same period as Cairn 3 and possibly also Cairn 10. Cairn 5 can be interpreted as a ritual structure connected with the funeral event, where subsequent episodes of ancestor worship also took place. The pottery and cereal grains encountered

within the stone setting may derive from food sacrifices and fertility rites, while the abundant iron slag might be interpreted as evidence of ceremonies to emphasize the significance of fire (cf. Purhonen 1998: 41–2; Kaliff 1998).

The present research situation does not allow any definitive arguments about how the children and juveniles buried on the northern slope of the Naarankalmanmäki hill might reflect the religious and social practices of the Iron Age, let alone ancestor worship. Nevertheless, it is clear that the spatial arrangement of the burials is not accidental but intentional. The archaeological material, the burial structures, and the layout of the cemetery suggest a symbolic value for the cairns, both during the burial ritual and after it, as conspicuous religious signals in the landscape.

An alternative explanation to the locations of the cairns might be the position of the hill in the landscape, together with its relationship with the other cemeteries and occupation sites nearby. The latter might explain the northern orientation of the cairns: on a hill 300 m north of Naarankalmanmäki lies another burial cairn. Topographically, it may have offered a more favourable environment for permanent settlement than Naarankalmanmäki. The village of Kuivaspää, known from historical sources, eventually grew up in its vicinity.

The above discussion was able to touch on only a few of the questions that emerged during the study of the Naarankalmanmäki cemetery, and several interesting problems still remain. Perhaps the most significant issue from the point of view of future research is the character of the site: does Naarankalmanmäki reflect the social and religious views of the Early and Middle Iron Age society at large, or is it a solitary exception?

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NOTES

[1] The manuscript for this article was written in 1999, but due to economic difficulties encountred by the intented publisher, it was never published according to the original plan. The authors are deeply grateful to Fennoscandia archaeologica for the opportunity to publish this article, although some of the views expressed in it are somewhat outdated. May the debate continue.

[2] The conventional radiocarbon analyses (Hel-) were carried out at the Dating Laboratory of the University of Helsinki under the direction of Dr. Högne Jungner. The cereal grain and crust samples were prepared in Helsinki and analysed by Accelerator Mass Spectrometry (AMS) in Uppsala (Hela-). All of the dates have been calibrated to allow comparisons with the Iron Age periodization. The dates quoted in the text are the most probable dates, unless otherwise indicated. The calibration is based on the University of Seattle calibration curve INTCAL98 (Stuiver et al. 1998) and has been performed with the CALIB program of the same university (Stuiver & Reimer 1993, ver. 4.1, 1999). The samples and the dates with their calibration results are presented in Appendices 1-2.

Appendix 1. The radiocarbon dates from Naarankalmanmäki. Calibration by the University of Washington, Seattle, CALIB program (Stuiver & Reimer 1993), ver. 04.02.1999. The calibration curve employed is INTCAL98.14c (Stuiver et al. 1998), with an estimated intrinsic age of 10 years. In the charcoal samples the curve has been smoothed by estimating an intrinsic age of 40 years.

feature	material	context	Lab. no.	$\delta^{13}C$	age (BP)	calibrated age (rounded)	maximum-minimum, 1 sigma	maximum-minimum , 2 sigma
Zone with burnt and stained soil	wood charcoal	post 401827/888748	Hel-4107	-25,6	2790 ± 110	cal BC 920	cal BC 1052 -823	cal BC 1264 - 791
Zone with burnt and stained soil	wood charcoal	post 402739/888288	Hel-4109	-24,9	1930 ± 90	cal AD 80	cal BC 38 - cal AD 210	cal BC 160 - cal AD 321
Zone with burnt and stained soil	wood charcoal	post 401748/888925	Hel-4105	-24,6	1930 ± 80	cal AD 80	cal AD 0 - 136	cal BC 99 - cal AD 311
Zone with burnt and stained soil	wood charcoal	wood 400380/890010	Hel-4263	-24,9	1890 ± 90	cal AD 90, 120	cal AD 25 - 235	cal BC 81 - cal AD 343
Zone with burnt and stained soil	wood charcoal	post 400722/889619	Hela-218	-23,4	1640 ± 55	cal AD 420	cal AD 351 - 437	cal AD 257 - 539
Zone with burnt and stained soil	wood charcoal	post 402139/888850	Hela-217	-24,7	1595 ± 55	cal AD 430	cal AD 412 - 537	cal AD 343 - 598
building remains	cereal grain	pit, Secale, sample 8/98	Hela-283	-22,8	1975 ± 175	cal AD 30,40,50	cal BC 197 - cal AD 238	cal BC 396 - cal AD 424
building remains	wood charcoal	pit 401490/890155	Hel-4261	-24,0	1560 ± 90	cal AD 540 cal AD	cal AD 412 - 605	cal AD 261 - 658
building remains	wood charcoal	post hole 402355/890315	Hel-4262	-25,9	1530 ± 110	cal AD 540	cal AD 416 - 645	cal AD 257 - 685
building remains	cereal grain	stone setting 401760/891480, Secale, sample 43/97	Hela-287	-24,1	1525 ± 70	cal AD 540	cal AD 431 - 619	cal AD 399 - 658
building remains	wood charcoal	stone setting/pit 400800/891200	Hel-4264	-26,2	1510 ± 90	cal AD 550 - 560	cal AD 430 - 643	cal AD 359 - 678
building remains	wood charcoal	stone setting 401760/891480	Hel-4113	-25,5	1350 ± 100	cal AD 670	cal AD 619 - 775	cal AD 535 - 892
building remains	cereal grain	pit, Hordeum, sample 15/98	Hela-284		undated	-	-	-
Cairn 3	wood charcoal	bone concentration 404585/887400	Hel-4115	-24,3	2980 ± 110	cal BC 1250, 1240, 1210	cal BC 1387 - 1014	cal BC 1492 - 902
Cairn 3	wood charcoal	bone concentration 404540/887310	Hela-270	-24,9	1670 ± 70	cal AD 400	cal AD 259 - 431	cal AD 234 - 541
Cairn 5	cereal grain	Hordeum, sample 91/1998	Hela-286	-26,1	1685 ± 70	cal AD 380	cal AD 257 - 427	cal AD 183 - 538
Cairn 5	organic crust	pot sherd KM 30975:2381	Hela-288	-23,5	1605 ± 65	cal AD 430	cal AD 396 - 538	cal AD 260 - 602
Cairn/Structure 6	wood charcoal	post 402516/888356	Hel-4108	-24,2	1640 ± 90	cal AD 420	cal AD 264 - 535	cal AD 222 - 611
Cairn 2	wood charcoal	401650/891935	Hel-4114	-25,4	1570 ± 80	cal AD 470,490,530	cal AD 412- 595	cal AD 264 - 648
Cairn 8	wood charcoal	bone concentation 404950/885245	Hela-211	-24,6	1180 ± 55	cal AD 880	cal AD 775 - 951	cal AD 690 - 987
Cairn 1	wood charcoal	401460/891385	Hel-4112	-24,0	200 ± 100	cal AD 1670, 1790	cal AD 1637 - 1950	cal AD 1467 - 1955'
Cairn/Structure 9	cereal grain	Hordeum, sample 16/97	Hela-285	-24,5	1725 ± 70	cal AD 260,280,340	cal AD 239 - 411	cal AD 130 - 526
Cairn/Structure 9	organic crust	pot sherd KM 30975:1696	Hela-289	-23,8	1625 ± 65	cal AD 420	cal AD 360 - 534	cal AD 257 - 598
Cairn/Structure 9	wood charcoal	post 403052/886324	Hel-4106	-24,2	1490 ± 110	cal AD 600	cal AD 430 - 658	cal AD 264 - 768
Structure 13	wood charcoal	charcoal concentration 402160/896550	Hel-4265	-25,4	1210 ± 110	cal AD 780,790,800	cal AD 682 - 977	cal AD 640 - 1023

Appendix 2. Diagram of the calibrated radiocarbon dates. For details of the calibration, see Appendix 1.