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## **BURIAL CAIRNS IN THE REGION OF THE ANCIENT BAY OF PANELIA**

### **A study of cultural formation processes**

#### *Abstract*

Studying the local history and the archaeological surveys, it can be found that only about half of the burial cairns in the region of the Ancient Bay of Panelia have survived from the beginning of the 19<sup>th</sup> century to this day. The condition of the remaining cairns has also deteriorated. The reason leading to the current situation has been the expansion of settlement after the general parcelling out of land in the late 18<sup>th</sup> century. This has been fatal for the burial cairns situated on the same slopes as spreading settlement. Drawing archaeological conclusions becomes difficult because of the diminishing representativity and source value of the archaeological material. The destruction of the remains of the past is also an antiquarian concern. How can the remains be preserved for the generations to come? The decentralisation of antiquities administration and the emerging appreciation of the cultural heritage give hope for the future. The registration of the new archaeological remains has also changed the picture of the archaeological coverage in the area. The surveyors' subjective choices and the tradition of intuitive survey, developed for the protection of the remains and for antiquities administration, have affected the results of the surveys. The listed burial cairns are concentrated in the vicinity of a modern cultural landscape. The low and small sized cairns are underrepresented. This is probably caused by the unsystematic surveys of low intensity.

*Keywords:* burial cairns, archaeological formation processes, archaeological surveys, preservation of antiquities.

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#### **INTRODUCTION**

The vulnerability of the remains of the past has been noticed in Finland since the beginning of scientific archaeology (Appelgren 1894: 65-66; Heikel 1894a; 1894b; Pälsi 1939: 20-22). The archaeologists' concern for preserving the cultural heritage has been obvious through the centuries. The questions concerning the protection of the remains are still topical (Alueellisen muinaismuistohallinnon kehittämistoimikunnan mietintö 1993: 102-104; Edgren 1995; Lilius 1997).

The burial cairns, located on the surface of the ground, form a group of archaeological remains, easily reacting to human activity. They are exposed to damage caused by land use, the exploiting of the stones of the cairns, vandalism and digging for reasons of curiosity. The destruction of remains and the registration of new remains continuously change the picture of the archaeological coverage. In the following, the changes in the coverage of burial cairns in the region of the ancient bay of the Eurajoki River, in Lower Satakunta, are studied. This article deals with the following ques-

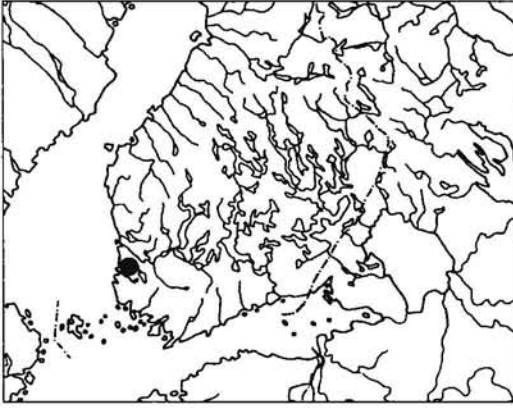


Fig. 1. The study area is located in Lower Satakunta, Western Finland.

tions: how do the remaining cairns represent the original coverage of cairns, and how do the listed cairns represent the whole coverage of cairns in the study area, and finally, some ideas concerning the preservation of the remains of the past and the cultural landscape are presented.

The cairns in the study area have a long history of documentation. Several excavations of burial cairns, archaeological surveys of varying type and intensity and inspections of remains have been carried out. Added to the rich local history, information of good source value can be obtained. From this information, the destruction of cairns, and the earlier number of cairns led from this, can be established. In addition to the destruction of cairns, the changes in the appearance and condition of the preserved cairns are studied.

The Ancient Bay of Panelia (Fi. *Panelian muinaislahti*) or the Bay of Panelia (Fi. *Panelianlahti*) are the names commonly used of the ancient bay area of the Eurajoki River (Fig. 1). This bay covered the most of the present village of Panelia of the commune of Kiukainen in prehistoric times. The bay has also reached the region of the communes of Eura and Eurajoki. The Bay of Panelia is distinguishable both archaeologically and geographically. The neighbouring area in the south is the region of the Lapijoki River (the region of Rauma) and the region of the Kokemäenjoki River in the north (the communes of Kokemäki, Harjavalta, Nakkila, Ulvila and Pori). The Bay of Panelia and its neighbouring areas have been regarded

as the cultural provinces of Finland's Western Bronze Age culture, and the differences in the archaeological coverage, as understood at present, are caused by the prehistoric cultural differences (Salo 1981: 331-383).<sup>1</sup>

The first written mention of the archaeological remains in the area of the Bay of Panelia is to be found in a description of Eura Parish from 1850, mentioning the cairns at Panelia (Lindström 1850). The first survey was carried out in 1878 (Killinen 1880), and the latest in 1984 (Kuokkanen 1986).<sup>2</sup> Before the Second World War, a few cairns were excavated (Appelgren 1889; Aspelin 1885; Hackman 1894; 1924a; Tallgren 1918a; 1918b). After the Second World War the emphasis of the archaeological research was still on cairns (Itkonen 1967; Keskitalo 1951; Virtamaa 1973; Ridha & Vuorinen 1985; Saloranta 1986). Besides the cairns, part of the Late Bronze Age dwelling site in the area has been excavated (Wallenius 1988a; 1988b). "Kuninkaanhauta" (The King's Grave) serves as a symbol of the area's prehistory (Fig. 2).

#### THE DESTROYED CAIRNS

How do the preserved cairns represent the original distribution of burial cairns in the study area? Suggestions that the distribution of cairns in the study area has not remained unchanged can be obtained from the first survey. Kustaa Killinen (1880) mentions the following about the cairns at Panelia: "People talk about cairns destroyed during this generation. Who knows how much has been destroyed in times gone by, when mansions were built and fields were cleared." The oldest information about destroyed cairns is partly based on Killinen's mentions in his survey report. The main source of the information comes from the documentation made by a local teacher in Panelia, Veikko Roiha. Also oral history, documented by him and covering many generations, goes back to the time before the establishment of antiquities administration and scientific archaeology (Roiha 1969; 1982; 1983: 56-59). At the beginning of the 19<sup>th</sup> century, probably only a small proportion of the instances of destruction cases were documented. The number of the documented cases increases and the information becomes more specified when mentions in the



*Fig. 2. Panelia, Kuninkaanhauta (the King's Grave). Photo: J. Harjula.*

survey and inspection reports began in the late 19<sup>th</sup> century.

The information on the destroyed burial cairns is presented in Appendices 1 - 3. The location, number, and the time and cause of destruction are mentioned if known.

Three time periods are used. The first covers the time span between the early 19<sup>th</sup> century and the year 1878, when the first survey in the study area was carried out (Appendix 1). The second period covers the time span between the years 1878 - 1951 (Appendix 2). This was a critical cultural, economic and social period in Finland, when also scientific archaeology was established. In 1951 the first survey after the Second World War was carried out. The last period covers the years 1951 - 1984 (Appendix 3). In 1963 the present Antiquities Act was passed. The latest survey of burial cairns, covering the whole area of the Bay of Panelia, was carried out in 1984.

Because all the cases of destruction have not been documented, the cairns presented in Appendices 1 - 3 represent the minimum number of destroyed cairns. The number of destroyed

cairns is 64 - 66, besides which, there are three mentions by Kustaa Killinen (1880) about "several" destroyed cairns. If the term 'several' is understood as implying at least three and at most five cairns, the number of the destroyed cairns will be 74 - 80. When these destroyed cairns are added to the known and preserved cairns<sup>3</sup>, the number of 164 - 170 cairns for the early 19<sup>th</sup> century is obtained. About 53 - 55 per cent of these remain. Thus, during the last two centuries, about half of the burial cairns have been destroyed.

The proportion of the destroyed cairns seems large. In a study on Bronze Age and the Early Iron Age cairns, Tiitinen (1988: 26) found that about 60 per cent of the cairns in the region of Rauma had deteriorated in condition between 1890 and 1980. In comparison with the Nordic Countries, the destruction of the cairns in the Bay of Panelia does not seem exceptional. In Denmark, about half of the megalithic monuments in Funen were lost in two hundred years (Kristiansen 1985b: 116). According to some estimates, only about 10 - 20 per cent of the Danish Bronze Age burial mounds

have been preserved (Eriksen 1987: 19). Between the years 1867 - 1964, 37 per cent of the burial mounds in Ångermanland, Sweden, locating in the vicinity of a modern settlement as the cairns in the Bay of Panelia, were destroyed (Baudou 1968: 112-113). During the time span of the same length, 34 per cent of the cairns were destroyed in the Bay of Panelia. According to Lundborg (1972: 98), in some parts of Halland, 50 per cent of the burial mounds were destroyed between the years 1890 - 1967. According to some estimates, in the research area of the Ystad project in Southeast Scania (Skåne), only a third of the original burial mounds exist (Tesch 1983: 23).

When the number of the destroyed cairns is proportioned to time, the following distribution is obtained.

- The Years 1800 - 1878  
(18 - 25 destroyed cairns) = 0.3 cairns/year
- The Years 1878 - 1951  
(37 - 39 destroyed cairns) = 0.5 cairns/year
- The Years 1951 - 1984  
(19 destroyed cairns) = 0.6 cairns/year

#### THE DETERIORATING CONDITION OF THE BURIAL CAIRNS

In the following, the deteriorating condition of the burial cairns is studied by looking at the shape of the base and profile of the cairns. In the latest survey in 1984, the cairn shape was divided into four classes, which are: round/oval, shapeless, rectangular and triangular.<sup>4</sup> The cairns' profile was divided into five classes, which are: shapeless, convex, crater-like, even-topped and even.<sup>5</sup>

In table 1 gives the shape of the base and profile of cairns, of which both properties of are known (88).

On grounds of the base's shape and the profile, at least three types of burial cairns can be distinguished. One basic type of the Bronze Age cairn is a cairn of round/oval shape and convex profile (Salo 1970: 122-126). The second type is a cairn, the shape and profile of which are shapeless. This type is possibly the result of the manipulation of the cairn (Tuovinen 1994: 70). Most of the cairns now shapeless, have probably been originally round/oval. Between the two latest surveys<sup>6</sup> during the last 20 - 30 years, the shape and profile of numerous cairns have changed to shapeless configuration. This was caused by digging the cairns. Digging pits have appeared in at least 16 cairns which had previously been intact.<sup>7</sup>

The third type of cairn is round shaped, which has a crater-like pit in the middle. The craters in the cairns are considered to have been formed, when the stone layers have collapsed because of the decaying of the wooden chamber, or secondarily, because of the digging of the cairn (Meinander 1954: 101-103; Stenberger 1942: 184-185). According to Lindquist (1979: 40-41) the craters are the result of construction, they would have been left visible consciously.

In the Bay of Panelia, the craters seem to be connected to the round shaped cairns. Of the crater cairns, 83 per cent (20) are round shaped and only 12 per cent (3) shapeless. The craters connected to the round cairns of good condition,

	Shapeless	Round/Oval	Angular	Total
Shapeless	32	4	1	37
Convex	10	15	0	25
Crater-like	3	20	0	23
Even-topped	0	2	0	2
Even	0	1	0	1
Total	45	42	1	88

Table 1. The profile of the cairns (rows) and the shape of the base (columns).



refer to the possibility that in part of the cairns the crater marks a collapsed chamber or, according to Lindquist's alternative interpretation, an original structure collapsed. Examples of this kind of cairn exist in the study area. For example, the deep pit in the destroyed cairn of Tutkamenmäki, can be regarded as the result of a collapsed chamber (Salo 1981: 135, 159).

The theory of a collapsed chamber, or structure, does not fit all cases. In some cairns, a crater-like pit has appeared during the last few decades. These crater-like pits differ from typical digging pits by their regular shape and larger size. Usually pits of this kind exist in the middle of the cairn. They have probably been dug consciously in the intention of finding the remains of burials. The other parts in the cairn have usually remained intact.<sup>8</sup>

According to the latest survey, 77 per cent (85) of the burial cairns had marks of manipulation (digging pits, craters, changed shape and profile because of the removal of stones). Most cairns seem to have been objects of manipulation at some stage of their existence. Between the two latest surveys, 19 cairns were destroyed (Appendix 3). At the same time, traces of manipulation have appeared in at least 20 cairns. About 40 per cent (39) of the cairns in the study area have been objects of manipulation during the last 20 - 30 years. The manipulation of cairns has led to the destruction of structures and burials and possibly to the disappearance of burial finds.

According to Wildesen (1982: 68), the risk of impact on the archaeological site increases, if the remains are in poor condition and not looked after. The risk also increases if the remains display signs of earlier manipulation. In the Bay of Panelia 46 per cent (18) of the cairns, which had been manipulated between the last two surveys (the destroyed cairns are included) had signs of manipulation. Still, 54 per cent (21) of the cairns which had been manipulated had been intact or almost intact previously. Wildesen's thesis does not hold true in the study area, at least not statistically. In the light of a few individual cases, the situation seems different. A cairn with a long history of documentation is chosen as an example. This is a cairn, registered by Lindelöf at the ridge of Vaani in Eura.

*...about 1 ½ m. high burial cairn, size of 10 m x 9,50 m. The cairn has several pits. On the western edge is a large pit, on the bottom of which, remains of the stone cist can be seen. Only the even-edged side stones remain, the end stones do not exist. Some stone slabs are in disorder on top of the cist. On the eastern side there are two pits, on the bottom of the other there are some flagstones, maybe from the stone cist (Lindelöf 1916: 175).*

*...Only half of the cairn's base remains. The other part of the cairn was probably destroyed in the removal of sand (Hirviluoto 1959).*

*...Completely destroyed in 1968 (Hirviluoto 1959).<sup>9</sup>*

#### THE CHANGES IN THE LIGHT OF ARCHAEOLOGICAL FORMATION PROCESSES

The manipulation of the burial cairns is crucially connected to the theory of archaeological formation processes. The ancient remains in the Bay of Panelia became more widely known during the past two centuries when information about the remains began to be collected. At the same time the remains have become subject to increasing human activity. The influence of the historical formation processes on archaeological material has been studied especially in Denmark, where the recognition and analysis of formation processes have been found necessary before drawing conclusions of the source value and representation of the archaeological material (Kristiansen 1985a).

According to Kristiansen (1978: 2-3; 1985a: 7-8), the factors affecting archaeological material, can be divided into the physical and environmental factors, cultural and economic factors and factors of research and archaeological registration. The cultural and economic factors can be divided into active and passive. The active factors include such activities as the cultivation of new areas, industrialisation and war. By passive factors are meant the presence of peatlands and other such areas, of which we have a limited archaeological knowledge caused by environment. Active human activity also occurs in swamps and forests. For example, the draining of swamps and mechanised forest

management can destroy or reveal new remains. In the following, the changes in the coverage of the burial cairns in the Bay of Panelia is studied in the light of cultural and economic factors, and also in the light of archaeological registration.

### *The period until 1878*

The practical importance of the year 1666 royal decree *Om gamle Monumenter och antiqviteter* (On Ancient Monuments and Antiquities) has been considered minor, because the consequences of violations were not mentioned. The regulations of the Swedish rule were valid in Finland until the Antiquities Act was laid down in 1883 (Härö 1984: 12-13; 1985: 12).

Besides written laws, unwritten laws, ethics and beliefs also affect a community. Different names used of the cairns - *vatturaunio*, *raparaunio*, *kääppä*, *jätinroukkio* and *hiittenvare* in the Bay of Panelia (Killinen 1880: 78) – and the beliefs connected to them tell us about the meaning of the cairns in people's lives (Vilkuna 1965). Names have been given even to individual monuments, for example, the "Kuninkaanhauta" (The King's grave) in Kiukainen, Panelia.

The beliefs had an effect in two ways. They could make manipulating a cairn a taboo, but the beliefs could also instigate someone to dig the cairn. The destroying of cairns to make room for spreading settlement and the use of cairn stones in construction was probably an acceptable activity in the eyes of the community. Searching for treasures and digging cairns for fun was probably considered a waste of time and resources, even as sacrilege. One could still suffer moral judgement for digging a cairn even after the effects of old beliefs had weakened. Christian ethics taught that tampering with burials was unacceptable.<sup>10</sup>

The robbing of the burial cairns to find treasure can be considered sporadic and unsystematic in all period. Robbing is demonstrated more often by the appearance of digging pits than by the destruction of a whole cairn. Instead, levelling cairns out of the way of spreading settlement and construction has been systematic and large-scale activity from time to time.

### *The effects of the general parcelling of land*

The general parcelling of land, with all its secondary effects - the policy of settlement and taxation - became the most important act of agricultural policy in the final phase of old, traditional agriculture (Soininen 1980: 402-404). The mappings of the general parcelling were carried out in Panelia between 1780 and 1782. The earlier settlement was concentrated in the grouped village and the fields in its vicinity. After the general parcelling, settlement and the cultivated land expanded outside the village centre. The settlement expanded immediately after the parcelling to different directions from the village.

In addition to transferring the farms, the crofts were founded. At the end of the 18<sup>th</sup> century, there were 26 crofts in Panelia. In 1845 they were 107. Panelia became the most important village of tenant farmers in Lower Satakunta during the 19<sup>th</sup> century (Roiha 1983: 94, 105, 117, 119-121).

The settlement preceding the general parcelling probably destroyed some burial cairns in the area of the grouped village. In the area, there is only one cairn at present, but at the beginning of the 19<sup>th</sup> century they were several (Killinen 1880: 79). Because most of the cairns in the Bay of Panelia are located in the islets of forest, where also the oldest fields were cleared (Roiha 1983: 24), it can be presumed that cultivation destroyed some cairns in those areas.

Although the grouped village had not remained unchanged because of the splitting of the farms (Roiha 1983: 59), it was only when farms were transferred to their new locations and the new fields were cleared, crofts founded and construction activity became more lively that the destruction of burial cairns began outside the village centre. The pattern of settlement changed later still. Many parts in Panelia were populated during the 19<sup>th</sup> and 20<sup>th</sup> centuries.

The changes in the village pattern in Eurajoki were minor. The general parcelling of land caused the farms closest together separate. A few farms were transferred outside the old centre of farms, but mostly the farms stayed on the edge of the old cultivation area. The general pattern of settlement remained unchanged and the villages remained by the Eurajoki River (Heino 1990: 40).



Fig. 3. The cairn of Panelia, Junnila, in course of excavation, 1924 (Roiha 1983: 48).

#### *The Years 1878 - 1951*

At the end of the 19<sup>th</sup> century a critical cultural, economic and social period started in Finland. The period continued into the 20<sup>th</sup> century and the times after the Second World War. The mechanisation of agriculture in Southern and Western Finland was part of a process of structural change in agriculture (Talve 1990: 381). The intensifying of land use and the changes in the cultivation techniques started to threaten prehistoric remains. The birth of scientific archaeology and the preservation of archaeological sites, took place in the same critical period of mental and material culture.

All the major changes in agriculture were shown in Panelia. The poor village in wilderness started to develop and become affluent. The great peatlands, earlier functioning as meadows, were cleared as fields from the 1850s onwards. The mechanisation at the end of the 19<sup>th</sup> century was shown in steam-engine threshing machines, dairies, sawmills, water powered mills and iron ploughs. Prosperity also made it possible to rebuild structures. The cowsheds and granaries were now built of stone (Roiha

1983: 130-141). These changes also appear in the coverage of burial cairns. The destruction of burial cairns doubled compared to the times before these drastic changes.

According to the 1883 Antiquities Act, a landowner had to inform the Archaeological Commission, if he or she wanted to tamper with the remains. Mikko Härö (1984: 73-74) describes the procedure as follows:

*The Commission decided if the remains had to be protected. If so, the landowner or holder could apply for the compensation from the state. Then an inspection, according to the statute of expropriation, was carried out to determine the amount of compensation. After the compensation was ratified, the senate decided if the remains were to be redeemed by the state for protection. In the negative case, the landowner or holder could act how he or she wanted to. The precondition was that a possibility of researching the remains was reserved for the Archaeological Commission before the destruction of the remains, without unnecessary delay or hindrance for the landowner. Without*

*the permission of the commission, a feature could be removed if it hindered public construction, and transferring the remains could not be avoided without great hindrance. The building and developing of the road, railway and canal network were the great reforms of the close of the century, and considered so important, that one was very careful in determining antiquarian interests.*

In the Bay of Panelia, obstacles for the public construction were, for example, the cairns in the way of the Peipohja - Rauma railway, or cairns on the slopes where gravel was dug for the railway embankment. Also the cairns in the way of the road lines could be levelled without the permission of the Archaeological Commission.<sup>11</sup> Cairns were also destroyed when new buildings were constructed. The cairn stones were also used as construction material.

The monuments of historical times, such as castles and castle ruins came in the sphere of protection. In the case of prehistoric remains, usually a decision of granting permission to clear away remains had to be made, and also research, stipulated in the permit (Härö 1984, 110). In the Bay of Panelia, only the monumental cairn of Tutkamenmäki was protected in 1924 (Hackman 1924b).

Only a small proportion of cairns, cleared away because of the land use, were excavated. The cairns of Panelia, Uusi-Heiska and Eura, Sorkkinen, Lähteenmäki, were excavated before the new buildings rose in the same place. In the case of Panelia, Junnila, the Commission was asked to "reduce the size and transfer the cairn", because a building was about to be built at the site (Hackman 1924a) (Fig. 3). In Eura, Kahala, Kivimäki, there were three cairns of which Tallgren (1918a) excavated one, the other two were cleared away without being excavated.

In some cases, a cairn could be transferred to another place instead of clearing it away. Sakari Pälsi (1928) was engaged in relocation the cairn of Panelia, Suoja. The cairn was transferred about ten meters and at the same time the cairn's height increased by half a meter. Pälsi's observations about the defects of the Antiquities Act are evident in the inspection report of Suoja.

*The cairn of Suoja is a little bit larger and in better condition than the nearby cairn of Junnila,*

*excavated and cleared away in 1924. Thus, clearing away the cairn would violate more the principle of the protection of the remains. On the other hand, it will probably become difficult to prevent Mr Heiska's construction plans, because the necessary expenses of the protection measures of the 1883 ruling, with compensation to be paid off to the land owner, would go up notably. The destruction probably threatens other Bronze Age cairns too, in the lively progressing village of Panelia. Cultivation, spreading along the low lands, probably leaves these cairns untouched. However, by the roads, the cairns will be an obstacle to the growing settlement. Thus, requests for removing cairns will be expected. All the requests cannot be turned down, but as up to now, permissions will be given to clear away the small and insignificant cairns. Thus, the area's archaeological picture will change in a way that only the large cairns remain and small cairns will be destroyed in the course of time. To preserve the small cairns, a proper area should be selected and be preserved for all times.*

Cultivation, progressing along the drained peatlands, did not threaten the cairns, locating on moraine slopes. However, when little islets, locating in the middle of the fields, were cleared, some cairns were destroyed. The spreading of the settlement and the land use and construction connected to the settlement, were the major causes for the loss of cairns.

Violations of the 1883 ruling were common. The prosecution measures were not very widespread, and seldom did they increase the efficiency of following the ruling. The 1883 Act was open to various interpretations because of the mention of punishment only in cases when one knew or should have known that one had tampered with antiquities (Härö 1984: 147).

The protection of antiquities affected the measures of parcelling the land. If the remains were located in a place to be parcelled, the land surveyor had to request to leave the area as a common property. However, if the area was parcelled, the remains should not be transferred without informing the Archaeological Commission. While the lands were being parcelled, the remains were mapped as had been done during the Swedish rule since the 17<sup>th</sup> century (Härö 1984: 70, 74). In Panelia, the



cairns were left in areas of common use. According to the parcelling agreement, ratified in the Rural District Court, no individual landowner could tamper with the antiquities without the permission of the whole village community (Roiha 1983: 152). In addition to the Act of 1883, this contract had a preserving effect. However, the practical effect was small.

#### *The Years 1951 - 1984*

The present Antiquities Act was established in 1963. According to section 8 of the Act all remains are automatically preserved. Despite the Act, the destruction of cairns has increased in the Bay of Panelia. The phenomenon is not unique, for the destruction of cairns has also increased in the region of Rauma after the 1960s. The major causes for the deteriorating condition of the cairns are according to Tiitinen (1988: 26), the use of cairns as scrap yards and the use of cairn stones as construction material. In the Bay of Panelia, new causes for destruction are, in the latter half of the 20<sup>th</sup> century, the digging of gravel and mechanised forestry.

At least two listed cairns have been destroyed in the mechanised forestry. In the case of Panelia, Ruohomäki, it is possible that the person who carried out the ploughing of forest did not perceive the cairn, which was already low and moss-grown at the time of the 1951 survey (Salo 1951). However, someone has driven over the cairn of Eura, Sorkkinen, with a forest tractor, despite the fact that the cairn is easily observed. Pure negligence can be suspected as the cause.

Especially the low cairns and the cairns covered with vegetation are in danger. Also possible settlements, ancient fields, and all remains not visible on the surface and situated in the "empty" areas between cairns, are in danger. There is no monitoring of forest ploughing in Finland (Alueellisen muinaismuistohallinnon kehittämistoimikunnan mietintö 1993: 87). The Bay of Panelia has not been surveyed using underground prospecting methods. That is why the areas between the cairns are totally uninvestigated. Connected with the insufficient or lacking survey, the mechanised forestry can destroy large archaeological sites (Jönsson 1994; Miettinen 1987).

The digging of sand has destroyed at least two cairns and has covered one cairn. At the same time, a large area of the cultural and natural environment has been destroyed. All the listed cairns destroyed because of digging of gravel or sand, were located on the same ridge.<sup>12</sup>

#### *Archaeological registration and the representativity of cairns*

The numerical representativity refers to how the listed archaeological remains relate to the whole coverage of archaeological remains in the area. If only a few or no new remains are registered during a period, it can be assumed that the listed remains form the most part of the area's archaeological coverage. Thus, representativity is good. This "general rule" must always be confirmed by source-critical analyses (Kristiansen 1978: 3).

How do the listed cairns represent the whole coverage of cairns in the Bay of Panelia? The Bay of Panelia is typical in Finland with regard to the survey situation.<sup>13</sup> According to an official report on regional antiquarian administration (Alueellisen muinaismuistohallinnon kehittämistoimikunnan mietintö 1993: 95) Kiukainen, Eura and Eurajoki belong to the class "communes, the survey situation of which is satisfactory". Eurajoki is the only one of the three communes, where the number of listed cairns has increased considerably in the survey of 1984 (the grown of 27 per cent). After this, three more cairns have been found in inspections of the road lines (Heikkurinen-Montell 1994; Vuorinen 1995). In Kiukainen and Eura, the registration would seem to have reached its peak, and the numerical representativity of the cairns could be considered good. However, the source-critical analysis refers to the fact that by increasing the intensity, new cairns could also be found in Kiukainen and Eura.

The intensity of the surveys refers to the fact how systematically an area has been searched through (Plog *et al.* 1978: 389; Schiffer 1987: 346; Schiffer *et al.* 1978: 13-14). In the surveys of low intensity, usually the remains large and easy to perceive are to be found. When intensity is increased, the number of remains easy to perceive is increased. Also remains which are smaller and harder to observe, are to be found (McManamon 1984: 224; Schiffer 1987: 346-347). The intensity of

survey can be estimated by comparing the frequency of remains containing visible features to remains without visible features. Also the frequencies of remains of different size can be compared. If remains which large, or easy to perceive, form the majority of antiquities, the wrong emphasis may be expected (Schiffer 1987: 348).

The surveys carried out in the Bay of Panelia have been traditional, so called intuitive surveys. The intensity of this type of survey is low, because the sites to be inspected are chosen by the surveyor's subjective choice. The problem of intuitive survey is that investigations focus on areas where remains are expected to be found. The surveyor looks for remains in places where "the soil or terrain... seems appropriate" (Huurre 1973: 35). Sites with features on the surface are also over-represented (Alexander 1983: 183; Nissinaho & Tiitinen 1988; Weiler 1993). Intuitive criteria of choices skew results with regard to the number, quality and location of the remains. The most unbiased results are to be achieved by using different sampling strategies (Nissinaho & Tiitinen 1988: 169; Tuovinen 1994: 47, 52).

Usually the visible monuments form only a small part of the area's archaeological coverage. A subsurface investigation, and often just the removal of surface cover may reveal types of sites previously unknown. Also the number of sites of already known type increases (McManamon 1984: 243-244; Weiler 1992; 1993). Dwelling sites, low cairns and stone settings are usually found in so-called intensive surveys with various prospecting methods<sup>14</sup>.

Most of the known archaeological coverage in the Bay of Panelia is formed by the burial cairns. Settlement sites and other types of sites without visible structures, are lacking almost completely.<sup>15</sup> Looking at the coverage of cairns, attention is drawn to the fact that the proportion of small cairns is very small compared to the rest of the Province of Satakunta. The cairns with a diameter not over five meters, are lacking almost completely in the study area. They are only 5 per cent of the cairns. In the neighbouring areas, in Harjavalta and Nakkila, the proportion of the cairns of the same size is 34 per cent (Salo 1970: 119), and 40 per cent in the whole of Satakunta (Salo 1981: 131).

The lack of small cairns has been seen as a mark of deteriorating settlement at the end of the Bronze Age. The lack of cemeteries of small cairns has been regarded as evidence that in period VI and afterwards only a few cairns were constructed (Salo 1981: 334, 336; 1987: 40). Still, the present relations of the material do not necessarily have to correspond to the original situation. The distribution of cairn size may be caused by the destruction of small cairns.

The possibility of the vanishing of small cairns can be estimated by looking at the size of the cairns listed at different times. Of the cairns listed by Killinen (1880), only 3 per cent were cairns under five metres. Of the cairns registered by Lindelöf (1916), 4 per cent were under five metres. At present, cairns of this size amount to 5 per cent. The large cairns, over 15 meters in diameter, amounted to 28 per cent in Killinen's survey and about the same share in Lindelöf's inventory. At present, they represent 17 per cent. Thus, the proportion of small cairns has remained almost the same since the end of the 19<sup>th</sup> century. Previously, the proportion of large cairns was even larger.

The possibility that the small cairns had been destroyed even before the documentation of destruction cases had begun must be considered. However, the destruction of cairns does not seem to have been so marked that most of the cairns under five metres had been destroyed. The destruction would probably not have concentrated only on smaller cairns either.

An alternative is that the small cairns, if they ever existed, have not been found yet. If the diminishing size of cairns is considered as a chronological aspect and the location of cairns shore bound, there is a possibility that the low and small cairns of the Late Bronze Age and the Early Iron Age are located on the lower shore levels. Thus, most likely, these cairns will be found in Eurajoki, as the surveys carried out so far also suggest.

The representativity of remains can also be rated by their distribution (Kristiansen 1978: 3). The lack of remains in certain areas and their concentration in other areas can be caused simply by the emphasising of the research to certain areas. "Absence of evidence is evidence for absence?" (Schiffer 1987: 356). Conclusions drawn from negative evidence have been common in the study of Finnish prehistory.<sup>16</sup>



*Fig. 4. Site management in the 1960s. The cairn of Panelia, Kaalperko, is cleared of vegetation by the pupils. The man, standing on the left, is Veikko Roiha, teacher and an active local historian (Roiha 1983: 57).*

One way to evaluate the representativity of the distribution of remains is to look at their distance from a fixed point of modern culture. "Typically, low-intensity surveys rely inordinately on existing roads and communities to anchor their crews. Thus, if the distribution of discovered sites corresponds to modern cultural landscapes in the region, one can suggest that the archaeological record is under-represented" (Schiffer 1987: 349).

The cairns in the Bay of Panelia are located, apart from a few exceptions, very close to roads, fields or buildings. The cairns in the study area are clearly connected to the modern landscape. Only 5 per cent (6) of the listed cairns are located over a hundred meters from a road, field or building. Correspondingly, 93 per cent (108) of cairns are located at most 100 meters from a fixed point of modern culture. The distribution of cairns cannot be considered to be real, but caused by the low intensity surveys of intuitive type.

#### DISCUSSION

The destruction of remains affects the conclusions drawn from the archaeological record. It

concerns the problem of the source value and representativity of the archaeological material. For example, the comparisons made by the frequencies of remains become difficult, when a large part of the original coverage of archaeological remains is destroyed. Comparisons of this kind are, for example, the paleodemographic estimates, which are often made on the basis of the graves. The deterioration of the condition of cairns, the destruction of burials and structures diminish the archaeological source value of the cairns. However, the representativeness and source value are determined finally by the questions directed to the material.

The surveys have affected greatly the formation of the prehistoric picture of the Bay of Panelia. The low and small sized cairns - probably because of the unsystematic and low-intensity surveys - are under-represented. The listed cairns centre on the vicinity of the modern cultural landscape. The surveyors' subjective choices have affected the results of surveys. On the background, there's been the traditional/intuitive survey, developed for the purposes of antiquities administration and for the protection of the monuments.

In addition to the archaeological value and the factors threatening it directly, the factors threatening the whole cultural environment should also be noticed. To the local people the environment has been an entity with all its aspects and details, including the archaeological remains. The places of environment have been socialised by naming them. The naming has changed the physical and geographical places to places to be experienced historically and socially. The cultural and personal identity has been created in relation to places (Tilley 1994: 14-34; Zachrisson 1994: 40-44).

As society changes and links with the traditional life form and environment are severed, the meaning of places in people's lives also disappears. A cairn with a name and a place in their lives changes into a nameless and meaningless pile of stones.

When scientific archaeology was born, the antiquarian interests focusing on the cultural environment and the interests of local people, started to separate. The archaeologists saw different time levels in the cultural landscape through the remains. They started to become distinct as separate elements in archaeologists' eyes. The remains have been objects or groups of objects. This is apparent even in the present Antiquities Act<sup>17</sup>, in the 2. § of which the remains are clearly distinguishable.

In Sweden, in the past few years, the concept of archaeological remains has been discussed. Areas of clearing cairns and ancient field systems, covering as much as half of a commune, have been found in forest areas of Southern Sweden (Connelid et al. 1993; Gren 1993; Gustafsson 1993). When the objects considered become whole landscapes, the concept of archaeological remains changes, as well as the conceptions of how to preserve remains.

In a way, the new orientation emphasising the wholeness of the cultural environment is can be

seen as a return to the old. Originally, there was only one discipline studying the past, encompassing history, archaeology, ethnology and philology. It dealt with people, nature and cultural environments. When the disciplines split, archaeology was to become the study of the remains of the past as objects.

However, the changing demands of preservation of the cultural environment force us to use interdisciplinary methods. People involved with remains - local inhabitants, officials, local and regional authorities, planners of land use in communes - should understand the real value of the cultural environment, which is only seen when remains are set in some significant context, and not seen only as lists and tables (Burström 1993; Gren 1993: 26-27; Sjösvärd 1994).

Signs of changes of this kind can be seen in Finland. The Section for Site Management at the National Board of Antiquities maintains traditional cultural landscapes, and in many types of environmental projects the whole history of an area, changes in culture and possibilities of preserving it, are studied.<sup>18</sup>

According to the above-mentioned committee report on regional antiquities administration (Alueellisen muinaismuistohallinnon kehittämistoimikunnan mietintö 1993: 102-104), the development of protection could be carried out by changing the concentrated antiquities administration to one on a provincial level and directing the information and education to those interest groups, which because of hobbies or work, have to deal with cultural environments (Fig. 4). By this means one would affect the valuation of remains, the aspect of which the whole idea of preservation is basically dependent on.



## NOTES

1. On this basis, all the cairns in Kiukainen, except the cairns in Uotinmäki, belonging to the region of the Kokemäenjoki river, have been included in the material. Of the cairns in Eurajoki, the cairns in Irjanne, Kaukomäki, Mullila, Sydänmaa and Vuojoki are included, distinguished from the cairns in the region of the Lapijoki River. In Eura, the cairns in Kahala, Vaani and Sorkkinen are included, belonging to the group of cairns of Panelia.
2. In the latest survey of burial cairns, the TYARKTIKA code of the database of archaeology at the University of Turku was given to every listed cairn. This code is used in this article when certain cairns are referred to.
3. The number of preserved and known burial cairns (90) is obtained by subtracting the cairns, classified as destroyed by the criteria explained in Appendix 1, from the listed cairns in the latest survey (Kuokkanen 1986). The four cairns, listed in the 1990s, are also included in the study (Harjula 1995; Heikkurinen-Montell 1994; Vuorinen 1995).
4. Of the listed cairns in the Bay of Panelia, the shape of which is known (98), 49 per cent are classified as round/oval. Almost as many, 48 per cent, are classified as shapeless. 3 per cent are rectangle or triangular (Kuokkanen 1986; Tuovinen & Vuorinen 1992: 18-19, 30-32).
5. Of the cairns, the profile of which is known (90), 42 per cent (38) are classified as shapeless. 28 per cent (25) are convex. Crater-like cairns are 27 per cent (24). 2 per cent (2) are even-topped and 1 per cent (1) even (Kuokkanen 1986; Tuovinen & Vuorinen 1992: 18-19, 30-32).
6. Kiukainen (Salo 1951), Eura (Hirviluoto 1959), Eurajoki (Huurre 1965) - The whole area of the Bay of Panelia (Kuokkanen 1986).
7. Several small digging pits have appeared between the years 1951 - 1984, for example, to cairns TY H2620107008, TY H2620134008, TY H2620145000 and TY H2620163000.
8. A large, crater-like pit, has appeared between the years 1951 - 1984 to, for example, cairns TY H2620103004, TY H2620119001, TY H2620153009 and TY H2620121004.
9. The mention of the destruction of the cairn in 1968 is added to the 1959 inspection report afterwards.
10. Tallgren documented the following series of events in Harjavalta. In the middle of a large cairn, a tenant farmer named *Korrela* and *Fältin Haartti* had probably in the 1860s dug out a long stone cist, which contained a *man's skeleton*; "even the jawbone was terribly long". Some say that a cist contained a bronze sabre. *Korrela* had kept the bones with him for a few years. Then the minister of the congregation had requested to put the bones back were they belonged. It is not known whether that happened (Tallgren 1906: 44).
11. In Sweden, according to the 1867 Royal Decree, the remains to be cleared away if a road, railway or canal, had to be documented and the description had to be sent to the *Kungliga Vitterhets Historie och Antikvitets Akademien*. The possibility to research the remains also had to be reserved for the Academy.
12. Of the cairns destroyed in the digging of gravel, the most famous is the one at Tutkamenmäki. This monumental cairn was pushed to the nearby gravel pit with a bulldozer in 1965. The case was given a great deal of publicity (Ilta-Sanomat 20.12.1965; 22.12.1965; Roiha 1969; Satakunnan Kansan 1.12.1965).
13. The situation of the surveys in 1992: 42 % of the Finnish communes have been surveyed satisfactorily. 26 % of the communes have been surveyed tolerably. Badly or well surveyed communes both amount to 16 % (Alueellisen muinaismuistohallinnon kehittämistoimikunnan mietintö 1993: 95).
14. The prospecting methods can be divided roughly into four groups, which are: surface inspection, aerial remote sensing techniques, geophysical prospecting methods and subsurface probes of different size and type with sample taking.
15. One unresearched settlement site of the Kiukainen culture (Salo 1981: 41) and one partly researched settlement site of the Late Bronze Age are known in the Bay of Panelia (Wallenius 1988a; 1988b).
16. As an example, suggestions regarding the lack of finds from the Pre-Roman Iron Age can be mentioned. Research, concentrated on the metal finds and burial finds, led to a theory of depopulation, until the discovered settlement sites proved that settlement had continued from the Bronze Age to the Iron Age in the coastal regions (Huurre 1990: 118-119). "A great many important archaeological inferences have been established prematurely on the basis of small numbers of sites and inadequate coverage of study areas. Such inferences are quite vulnerable to new discoveries and, consequently, are overturned and replaced at a prodigious rate" (Schiffer 1987: 341).
17. The Antiquities Act. Issued in Helsinki, 17 June, 1963.
18. Of the Finnish projects, *Muuttuva miljöö - muuttuva yhteisö* (Changing Environment - Changing Community), by the University of Turku and Åbo Akademi, can be mentioned (Nissinaho 1994; 1995). In Sweden, the *Ystad*-project of the University of Lund (Berglund 1994), and the *Ångersjö*-project of the Universities of Lund, Stockholm and Uppsala, can be mentioned (Andersson et al. 1995).

Appendix 1. The cairns destroyed before the year 1878.<sup>1</sup>

Location	Time of destruction	Number of cairns destroyed	Cause of destruction	Cairn index <sup>2</sup>	References
Panelia, Mattilan Vainiomäki	1870s	One	The cairn was removed from under a window	-	Killinen 1880: 85. <sup>3</sup> Roiha 1983: 57.
Panelia, Majjala hill	at the beginning of the 19 <sup>th</sup> century	Several	The construction of the manor or the filling of a bridge with stones	-	Killinen 1880: 79. <sup>4</sup> Roiha 1983: 56.
Panelia, Mäkilänvainio	in 1832	Several	The filling of a bridge with stones	-	Killinen 1880: 79. Kuokkanen 1986. <sup>5</sup> Roiha 1983: 56.
Panelia, Manor of Ellaa	in the 1860s	Several	The stones were used for the foundation of a road	-	Killinen 1880: 80. Roiha 1983: 56. <sup>6</sup>
Panelia, Vähä-Jaakkola	in the 1870s	Several	The stones were used for the construction of a fence and were cleared because of the construction of a building	LXII; LXIII	Killinen 1880: 80. <sup>7</sup> Roiha 1983: 57.
Panelia, Tupen Urmpäita hill	in the 1850s	One	The cairn was levelled by some local boys for amusement	R10	Ailio 1901. <sup>8</sup> Roiha 1983: 58.
Panelia, Toukola hill	at the beginning of the 19 <sup>th</sup> century	One	-	R14	Roiha 1983: 58.
Burajoki, Irjanne, Selkie rock	in 1800 - 1878	Three	The stones were used for the construction of a fence	-	Killinen 1880: 93. Salo 1987a: 52.

<sup>1</sup> I have classified a cairn as destroyed if it does not exist any more, or the appearance has changed to the extent that no hint of the original appearance can be obtained. If only a base or some part of a base exists, a cairn is classified as destroyed. Most of these cairns belong to group II of the protection classification. In many cases, the destruction of a cairn has been a multiphase process. For example, a cairn might have been destroyed except for the base, and the base has been cleared away later. In these cases, both points of time are mentioned if known.

<sup>2</sup> The cairn indexes refer to the following sources: Roman numbers - Killinen 1880; L = Lindelöf 1916; S = Salo 1951; H = Hirviuoto 1959; Hu = Huurre 1965; R = Roiha 1982; TY = Kuokkanen 1986.

<sup>3</sup> The man who had destroyed the cairn told that on the bottom of the cairn was a stone cist one fathom long containing pieces of bone.

<sup>4</sup> With the "construction of the manor", Killinen probably means the rebuilding of the Manor of Majjala after the fire in the village of Panelia. The fire of 1798 destroyed completely eight farms, including the Manor of Majjala.

<sup>5</sup> In the survey in 1984, a previously unregistered cairn (TY H2620402006) was found. Killinen might have considered this cairn as belonging to the group of destroyed cairns, which he mentions. In the survey in 1951, this cairn was not noticed.

<sup>6</sup> The stones were transported in winter with the help of many households. Loading the stones to sleighs from the cairns was easy. The foundation of a road was cleared away from the field by the farmers Toivo and Hannu Heikkilä in the 1970s. The foundation was about 700 meters long and contained 350 tractor-loads of stones.

<sup>7</sup> The last-mentioned one contained a stone cist.

<sup>8</sup> The master of the croft of Junni told to Julius Ailio that when he was a little boy, he had destroyed a cairn in Tupenumpaita hill with some other boys. The cairn had contained a stone cist.

Appendix 2. The cairns destroyed between 1878 and 1951.

Location	Time of destruction	Number of cairns destroyed	Cause of destruction	Cairn index	References
Panelia, Rõyskä rock	in 1916 - 1951	Two	-	CII, L11; CIII	Killinen 1880, 86. Lindelöf 1916, 180. Salo 1951.
Panelia, The northside of Koto-oja	at the beginning of the 20 <sup>th</sup> century	Five	-	-	Salo 1951.
Panelia, Saarenmaa, Koivistonpelto	in the 1940s	One	The stones were used in the construction of the local cooperative store	S75, TY H2620175003	Kuokkanen 1986. Roiha 1983, 58. Salo 1951. <sup>1</sup>
Panelia, Metsä-Juusela	in 1901 - 1950	One	The stones were carried to a cowshed	L10, S50, TY H2620150006	Kuokkanen 1986. Lindelöf 1916, 179. Salo 1951.
Panelia, The fields of Mäkilä <sup>2</sup>	at the beginning of the 20 <sup>th</sup> century	four or five	A field was cleared	Mm. LIX	Killinen 1880, 79. Roiha 1983, 58. Salo 1951.
Panelia, Eilaanharjanne	in 1889	One	Leveling the road or clearing the cairn because of a new building	LXI	Killinen 1880, 80. Roiha 1983, 51, 56-57. <sup>3</sup>
Panelia, Uusi-Heiska	in 1889	One	The cairn was not reconstructed after being excavated	LXVIII, L18, R8, TY H2620493006	Appelgren 1889. <sup>4</sup> Killinen 1880, 80. Kuokkanen 1986. Lindelöf 1916, 180.
Panelia, Vähä-Jaakkola	in 1901 - 1951	One	-	L37	Lindelöf 1916, 181. Salo 1951.
Panelia, Vähä-Jaakkola	in 1878 - 1951	Seven	-	LXIV; LXX; LXXI; LXXII; LXXIII; LXXIV; LXXV	Killinen 1880, 80-81. Salo 1951.
Panelia, Kahalankulma, Kaalperko	at the end of the 19 <sup>th</sup> century or at the beginning of the 19 <sup>th</sup> century	One	-	LXXXIX	Killinen 1880, 83. Salo 1951.
Panelia, The property of the Velmämylly company	at the end of the 19 <sup>th</sup> century	Two	The construction of the railway or the expanding settlement	LXXXVII; LXXXVIII	Killinen 1880, 83. Salo 1951.
Panelia, Junnila	in 1924	One	The construction of a cottage	R13, TY H2620413008	Hackman 1924a. <sup>5</sup> Kuokkanen 1986.
Panelia, The hill, next to the Junnila croft	in 1878 - 1901	One	The stones were used when a well was constructed	R24	Ailio 1901. Roiha 1983, 58.
Panelia, Ristinsaarikko hill	in 1890s	One	Digging of gravel needed for the railway bed	XCII, R21	Killinen 1880, 84. Roiha 1983, 58.
Panelia, The road, leading to the railway station	in 1896 - 1900	One	The cairn was cleared because of a road	R25	Roiha 1983, 58.
Panelia, Piennesuo hill	in 1878 - 1901	two or three <sup>6</sup>	The construction of a drying barn	-	Ailio 1901. Kuokkanen 1986. Roiha 1983, 58.

Panelia, The road leading to the railway station	in 1896 – 1900	one	The construction of a road	R26	Roiha 1983, 58.
Eura, Kahala, Kivimäki	in 1918	Three	The construction of a cowshed	L5, H28, R30, TY H0500928004	Hirviluoto 1959. Kuokkanen 1986. Lindelöf 1916, 174. Tallgren 1918a, 1918b. <sup>7</sup>
Eurajoki, Irjanne, Kydönperä	in 1878 - 1965 <sup>8</sup>	One	-	Hu <sup>9</sup> Mullila 5 <sup>9</sup>	Huurre 1965. Salo 1987a, 52.
Eurajoki, Irjanne, Selkatie rocks	in 1878 - 1948	One	-	CIX, Hu1134 03A: 6	Huurre 1965. Killinen 1880, 93. Salo 1987a, 52.
Eurajoki, Sydänmaa, Hiidemmäki	in 1900 - 1911	One	-	L3, Hu113402 D: no 2, TY H0513502028	Huurre 1965. <sup>9</sup> Kuokkanen 1986. Lindelöf 1916, 175. Salo 1987a, 57.

<sup>1</sup> The cairn base was triangular-shaped. The base was cleared away between the time span 1951 - 1984.

<sup>2</sup> In the same field, a bronze celt (KM 3361:1) was found in 1896 (Hackman 1897, 405-406).

<sup>3</sup> When clearing away the cairn, a bronze spearhead (KM 3036:1) was found.

<sup>4</sup> Even before the excavation, the cairn was half destroyed. Presumably the excavated half was not reconstructed.

<sup>5</sup> Alfred Hackman excavated the cairn, which contained two inner walls and situated in the way of a cottage. The cairn was not reconstructed after the excavation.

<sup>6</sup> A cairn, TY H2620492005, was found in the 1960s in connection with gravel digging. One of the three cairns, regarded as destroyed, was covered with vegetation and found its way into the archaeological context for over 50 years. On the discovery and researching of the cairn, see Hirviluoto 1967; Itkonen 1967; Salo 1966.

<sup>7</sup> There were three cairns on the hill, one of which was excavated by A.M Tallgren in 1918. The cairn contained a rectangular wall and within it was a wall constructed of stone slabs. In addition to the walls, two stone cists were found. It took only four days to excavate this cairn, over 20 meters long. About the excavation and interpretation of the cairn: Salo 1981, 143-146; Tallgren 1918a, 1918b.

<sup>8</sup> Because the cairn was not found in the survey in 1965, and the cairn was also vanished from local people's memory, it can be presumed that the cairn was destroyed at the beginning of the 20<sup>th</sup> century at the latest.

<sup>9</sup> There's been a large cairn, which has been cleared away. There exists a cowshed and other buildings now.



Appendix 3. The cairns destroyed between 1951 and 1984.

Location	The time of destruction	The number of cairns destroyed	The cause of destruction	The cairn index	Notes
Panelia, Röyskä rock	in 1951 - 1984	Four	-	S54, TY H2620154000 S55, TY H262015501 S56, TY H2620156002 S57, TY H2620157003	Kuokkanen 1986. <sup>1</sup> Salo 1951.
Panelia, Saarenmaa	in 1951 - 1984	Four	-	S73, TY H2620173001 S77, TY H2620177005 S79, TY H2620179007 S80, TY H2620180009	Kuokkanen 1986. Salo 1951.
Panelia, Saarenmaa, Pajula	in 1951 - 1984	One	-	S71, TY H2620171009	Kuokkanen 1986. Salo 1951.
Panelia, Saarenmaa, Suojamaa	in 1951 - 1984	One	-	L20, S61, TY H2620161008	Kuokkanen 1986. Lindelöf 1916, 180. Salo 1951.
Panelia, Loukomäki	in 1956	One	The stones were used for the foundation of a road <sup>2</sup>	XCVI, L1, S40, TY H2620109000	Killinen 1880, 85. Kuokkanen 1986. Lindelöf 1916, 179. Roiha 1983, 58. Salo 1951.
Panelia, Loukomäki	in 1951 - 1984	One	-	S43, TY H2620143008	Kuokkanen 1986. Salo 1951.
Panelia, Ruohomäki	in 1951 - 1984	One	The cairn was destroyed in the ploughing of forest	S38, TY H2620138002	Kuokkanen 1986. Salo 1951.
Panelia, The property of the Vehnämylly company	in 1951-1984	One	-	L43, S16, R12, TY H2620116008	Kuokkanen 1986. Lindelöf 1916, 181. Salo 1951.
Panelia, Tutkamenmäki	in 1965	One	Digging of gravel <sup>3</sup>	XCI, L52, S9, TY H2620109000	Killinen 1880, 84. Kuokkanen 1986. Lindelöf 1916, 182. Salo 1951.
Eura, Sorkkinen, Hyväntoden risti	in 1965 - 1984	One	The cairn was covered with gravel	CVI, R20, TY H0500420001	Killinen 1880, 86. Kuokkanen 1986.
Eura, Vaani, Välimäki	in 1959	One	Digging of gravel	L6, H31, TY H0500931008	Hirviluoto 1959. <sup>4</sup> Kuokkanen 1986. Lindelöf 1916, 175.
Eura, Vaani, Solbringen	at the beginning of the 1980s	One	The cairn was driven over with a forest tractor	H32, TY H2620932004	Hirviluoto 1959. <sup>5</sup> Kuokkanen 1986.
Eurajoki, Mullila, Viro-mäki	in 1965 - 1985	One	-	Hu1134 03 A n:o 1, TY H0513503119	Huurte 1965. Kuokkanen 1986.

<sup>1</sup> These cairns could not be found, maybe because of the rocky and forested environment.

<sup>2</sup> On the investigation of the exceptional crater-cairn (Salo 1970, 124, 1981, 148) because of the extension of the piggery, see Keskitalo 1951. A bronze razor (KM 12858:1) and a possible flint object (KM 12858:2) were found in the cairn. Before the research, a bronze sword (KM 12243) was found in the cairn. During the inspection (Keskitalo 1966), it was found that the cairn stones were used as the foundation for the road in 1956.

<sup>3</sup> The cairn, 20 meters in diameter and three meters high, was pushed to the nearby gravel pit with a bulldozer. Before the destruction, a local teacher, Veikko Roiha (1969), had noticed piled stones on the edges of the funnel-shaped crater, which existed in the middle of the cairn. This inner structure extended to the top of the cairn. The area of the cairn base was excavated (Lehtosalo-Hilander 1971; Virtamaa 1973).

<sup>4</sup> In 1959, a half of the cairn base existed (Hirviluoto 1959). The other part was destroyed when gravel was dug. Two stone cists were visible in the cairn. In the inspection in 1968, the cairn was found to be completely destroyed (Hirviluoto 1959). About the interpretation of the cairn: Salo 1981, 157-159.

<sup>5</sup> In the inspection in 1959, a small part of the cairn still existed. In the 1980s the cairn was driven over with a forest tractor and was destroyed, except for the base.

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