A. Saksa

RESULTS AND PERSPECTIVES OF ARCHAEOLOGICAL STUDIES ON THE KARE-LIAN ISTHMUS

Abstract

The article summarizes the present state of research concerning the archaeology of the Late Iron Age and early medieval period on the Karelian Isthmus. The processes of the formation of the culture of the ancient Karelians are discussed and perspectives for future research are presented.

A. Saksa, Academy of Sciences of the USSR, Leningrad Branch of the Institute of Archaeology, 191041 Leningrad, Dvortzovaya nab. 18, USSR.

The archaeological remains of the Karelians have become well-known due to excavations of Crusade period (12th-13th centuries AD) Karelian cemeteries carried out in the late 19th century and the investigations of ancient town sites in the North-West Priladogye region (Schwindt 1893; Appelgren 1891). In the first three decades of this century new material on the Crusade period was obtained. Also sites dating back to the second half of the first millenium AD and the beginning of the second millenium AD were studied, thus enlarging the range of considered problems of the ancient history of the Karelians (Europaeus 1923; Kivikoski 1942).

Field work in North-West Priladogye was recommenced in the 1970s with the excavations of the Tiverskiy township and ancient Korela (Kirpičnikov 1979 52-73; 1984 119-149; Kočkurkina 1981 30-62).

In 1978 Karelian antiquities were included in the working plan of the author. Two scientific directions were envisaged to be elaborated: 1) analysis and systematisation of the well-known archaeological remains; 2) surveys and investigations of new remains on the Karelian Isthmus. The results of the studies were summed up both in a dissertation and a number of articles (Saksa 1981 51-56; 1984a; 1984b 112-117; 1984c 93-97). This article presents a brief survey of these results. The finds and excavations conducted previously have provoked interest among Finnish and Soviet scholars. As a result, a large number of works on both general problems of Karelian history and the analysis of separate categories of typical Karelian artefacts have been published (Tallgren 1910 121–134; Ailio 1922; Europaeus 1923 61–75; Nordman 1924; Raudonikas 1930, 1931, 1939; Kivikoski 1944, 1–22; af Hällström 1948 45–65; Salmo 1956 5, 9–94; Lehtosalo 1966 22–39; Linturi 1980; Kočkurkina 1982; Saksa 1984).

Despite progress made in the study of the ancient Karelians many questions requiring additional elaboration have not yet been solved. These include the ethnic history of the Karelians, the composition of their material culture, the dating of the remains and the development of ideological phenomena, all of which are still open to debate. The links of the Karelians with the populations of neighbouring areas call for special interpretation and the boundaries of their settlement in different stages of their history have not yet been distinguished with sufficient validity or accuracy. Also, the study of the various chronological periods and regions of the ancient Karelians has been irregular.

Archaeological sources provide the basis for a consideration of a number of these questions.

The earliest finds of the Iron Age in North-

West Priladogye date from the first half - third quarter of the first millenium AD. They consist of block-shaped firesteels, axes and spearheads, which, according to Ella Kivikoski, belonged to nomadic hunters. Analogous artefacts of the period were distributed throughout the northern part of Europe including Finland and the Baltic region. Provenance of axes is indicated by the presence of Central and East Russian types. All of these finds show the direction of trading routes, hunting and fishing. The existence of such links is also confirmed by the grave material from Nukuttalahti on the island of Riekkala in Lake Ladoga (6th century AD). Here, artefacts of both western and eastern origin were found (Kivikoski 1939 1-11).

The following chronological stage is documented by the burial complex found near the village of Lapinlahti (present-day Olhovka) which has been dated back to around 800 AD. In the literature the complex is given as key evidence for the occupation of the Karelian Isthmus from the western regions of Finland. It has been seen that the similarity of this burial under an earth-mixed cairn with burial constructions of West-Finnish distribution can be explained by its origin among West-Finnish settlers (Nordman 1924 99; Kivikoski 1966 161; Huurre 1979 140). Let us examine in detail the burial inventory and the burial rite. Five out of seven tanged spearheads are of the type known as type Aspelin 1651.

There are two spearheads of a type found on the Karelian Isthmus; firstly in Naskalinmäki, Lapinlahti and secondly in Hovinsaari, Räisälä. The main distribution of these falls in the Merovingian period (8th century AD). Spearheads of this type are also well known in the finds of Finland and the Baltic region (Salmo 1938 24, 347). It must be noted that only at Lapinlahti has such a number of spearheads of the same kind been found. Two other tanged spearheads of a more cruder form are probably of local manufacture. The damascened socketed spearhead of Petersen's type A is of foreign origin, most likely from the Rhine region and is rare in Merovingian period contexts in Finland. The flat penannular brooch has no direct Finnish counterparts and resembles the Finnish specimens only roughly. The arc has no widening towards the middle but it is flat and of equal width. The ornamentation is composed not of parallel lines of triangles but of groups of small circles placed symmetrically round the arc. The penannular brooches of round section with spirally rolled ends were distributed in the period under review

not only in Finland but also further afield. The handle of a lash with rings of Hackman's type C finds parallels in contemporary Scandinavian patterns (Hackman 1938 124-128).

Consequently, with the exception of two slightly differing small equal-armed brooches, which became a typical West-Finnish ornament of the Merovingian period, the rest of the artefacts from the burial are either of international or local character. Moreover, it is important to note that in the territory of West Finland such artefacts are found in areas where the rite of cremation on a large stone setting was already practised extensively by the beginning of the Merovingian period (ca. 600 AD) (Kivikoski 1947 11; Huurre 1979a 128). These settings practically ceased to be used as burial constructions about 200 years before the burial construction at Lapinlahti was erected. However, in answering questions concerning migrations the decisive point is whether certain rites were followed. At best, the artefacts from Lapinlahti testify to links and contacts with the population of West Finland, as the difference in burial rites precludes any suggestion of direct migration. It is customary to consider that the cairn burials carry on a local ancient tradition of the Bronze Age in Finland (Huurre 1979a 128). The inventory of these is not as expressive as that of the Lapinlahti burial and there are no analogies. It is possible that the Lapinlahti burial was carried out by a local Finno-Ugrian population. This is indicated indirectly by the presence of tools. This population kept to some more ancient general Finnish burial tradition of the autochtonous ethnic groups although in comparison with the inhabitants of the inland regions it maintained more active and direct links with the coastal regions of West Finland, where at the time another burial rite predominated. It is possible that this fact determined a subsequently earlier transition to the rite of cremation involving a stone setting. As the available Viking period material testifies, representatives of the military aristocracy - the main users of foreign weapons and ornaments were the first to do so.

Obviously the material of a single burial does not provide answers to the question of the origin of a whole ethnic community, even more so when we are investigating the monuments and remains of kindred nations. To solve this problem it is necessary to combine the efforts of all specialists studying the historical past of the Karelians.

In this case we must consider first of all the archaeological aspects of the problem, which in

my opinion are as follows: 1) definition of the time and stages of the formation of Karelian burial rites and their material culture proper, 2) solution of problems of settlement and socioeconomic development.

The archaeological remains of the following period – the Viking period (9th-11th centuries AD) – make it possible to suggest solutions to the questions defined above.

Eight cemeteries laid on level ground and more than 30 stray finds in North-West Priladogye date from the 9th-11th centuries. One of the earliest monuments of the period and also one of the best known ones is a burial from Kurkijoki (Lopotti) from the 10th century. The site was found on the southern slope of Linnavuori hill by a gulf in Lake Ladoga. The gravegoods consist of artefacts of military equipment, various female ornaments and other artefacts. The burial was on a stone setting (Appelgren 1891 148-151).

The armament, namely a type H sword, three type E spearheads and an axe of Petersen's type C testify to the high status of the deceased. The equipment of the buried warrior was supplemented by a whip-handle, an annulated bit, a scythe and fragments of an iron kettle. The set of female ornaments is characterized by a mixed Scandinavian-Baltic-Finnish aspect: two Scandinavian oval tortoise brooches, two boatshaped cast bracelets, a Baltic-Finnish arbaletlike brooch, a neck-ring and a spiral bracelet, two round Finnish concave-convex brooches, finger-rings, beads and bronze spirals.

The set of armaments is even to a greater degree international. Weapons of the above-mentioned types were popular in the 9th-11th centuries in all of the countries on the Baltic Sea: the North of Europe, the Baltic region proper and Old Russia. However, the burial rite is a typically Finnish one involving a cremation on a stone setting. The facts prevent us from agreeing with an interpretation of this burial as a Scandinavian one (Kočkurkina 1982 18) and suggest a connection with a local population. Other finds of analogous types of weapons in the interior regions of the Karelian Isthmus corroborate our assumption. A type H sword, two type E spearheads and a type C axe were found in ploughing work in the village of Uosukkala in Valkjärvi. The finds were in a stone setting. Swords and spearheads dating back to the 9th century and the first half of the 10th century have been found in the villages of Ylä-Kuusa and Kyyrölä in Muolaa. There are also some other stray finds of lancet-shaped spearheads, axes and fragments of swords of the period. The remains of burials from the 10th-11th centuries (two spearhead with sockets encrusted with silver, two scythes and a bit) and the 11th-12thcenturies (sword, a spearhead and a pole-axe) were found at Koukunniemi (Läenmäki) in Metsäpirtti. Two burials with artefacts of armament and other material of the 11th century were investigated in the above-mentioned village of Lapinlahti at Naskalinmäki and Hennonmäki. All of these burials were on stone settings.

These facts show that a regular set of armaments is found in 10th century burials on the Karelian Isthmus, viz. a sword, a spear (or spears), an axe, sometimes a sickle and a hoe. This set is formed of different distinct types of armaments at different times. In the 10th century these are swords of Petersen's types H, E and X, lancet-shaped spearheads and axes of type C (Petersen's classification). From the end of the 10th century to the 11th century the set of armaments is renewed with the use of swords of type V (according to Kirpičnikov) and spearheads of types III and IV. This regular set of artefacts was in use through the 11th century and part of the 12th. In North-West Priladogye only 14 swords, 25 spearheads and 15 battle-axes of the 9th-11th centuries have been found. These figures and the high quality of the weapons bear witness to a considerable part of the military element in the population of the Karelian Isthmus.

There is less data on female burials in the 9th-11th centuries, but we can note one regularity, i.e. only finds that were more popular in the region enjoyed an advantage. However, the area of their distribution was limited to the Finnish regions to an even greater degree. The material consists of equal-armed brooches of Kivikoski's group 7 (7 specimens), boat-shaped cast bracelets with undulating ornament in relief (11 specimens), penannular brooches with arcs hexagonal in section and funnel-shaped ends (9 specimens) and penannular brooches with thornlike ornaments at the ends (6 specimens). The new variants of the ornaments which are typical only to the considered territory appear in the 11th century, viz. boat-shaped bracelets with ornament changing from a wavy to a broken line (10 specimens) and hollow massive bracelets with an inset in the central part (14 specimens).

All these facts show that a singular archaeological culture, characterized by established burial rites was developed on the Karelian Isthmus by the 11th century. The construction of burial grounds with stone settings has direct analogies with West Finland. This is apparently explained by the fact that these remains belong to the same cultural sphere. It is probable that we can tell about general Finnish phenomena rather than West-Finnish adopted features when considering the general traits connected with the monuments and remains of Finland and Karelia. The custom of burial on stone settings and the use of ornaments with Finnish distribution denote these general Finnish phenomena. Inhumation burials, cremations on level ground without stone settings and other practices occurred in West Finland in the 9th-11th centuries alongside the above mentioned rite (Huurre 1979a 128-136; Lehtosalo-Hilander 1984 27, 9-284). It is to be noted that the actual stone settings were greatly larger in size than those found in Karelia. In other words, burial rites in West Finland did not display as strict a degree of stability as in Karelia.

On the basis of Viking period burials on the Karelian Isthmus we can observe the formation of a local and established burial inventory complex reflecting in my opinion the beginning of the composition of the medieval pagan culture proper of Karelia.

The geographical distribution of the finds of the 9th-11th centuries shows us that all of the territories from which we know later Karelian remains and monuments of the 12th-14th centuries were mainly occupied by the end of the above period.

Thus, the kernel of the ethnic community of Karelia (Korela) took shape on the Karelian Isthmus by the 12th century. However, the appearance of the culture of the Karelian burial grounds of the 12th-14th centuries is accompanied by a break in tradition and by the beginning of new qualitative phenomena in the material culture and burial rites of the ancient Karelians. New types of ornament appeared and there was a transition to inhumation burial. As a result, the original culture of the Karelian burial grounds of the 12th-14th centuries, connected to the Korela of annalistic sources came about.

Despite the spasmodic character and rapidity of the above changes, the connections of the Karelian burial grounds with the burial remains of the preceding period can be retraced rather well in the burial rites and inventories. Karelian male graves of the 12th-14th centuries are accompanied by the same established set of artefacts as in the Viking period, viz. a sword, a spear, an axe, a bit, a kettle and a scythe. Remains of sacrificial animals, fragments of vessels and slag were placed in graves as in former times and a stone was often used in the construction of the graves. Some of the ornaments of the 12th-14th centuries have prototypes in earlier periods. Finally, the succession can be retraced in the coincidence of the territories settled by the population in the 9th-11th centuries and in later times (fig. 1), as well as in the neighbourhood of 11th century burials and the earliest inhumation graves. Also the materials of the ritual cairns continued the burial tradition of the end of the Merovingian period. These changes are connected first of all with the regularities of the inherent development of Karelian society and they are typical of a definite stage in the development of the Finno-Ugrian tribes.

Let us examine the archaeological materials of the 12th-14th centuries and above all the burial rites and inventory of the Karelian inhumation burials. We can distinguish certain groups of graves through the comparison of strictly selected signs of burial rites (fig. 2).

The first group is characterized by the presence of certain sets of artefacts (weapons, tools, domestic articles and articles of dress), northward orientation and by burial in a coffin with a bottom and lid of planks (Kekomäki 1, 2, 3, 5, 6). The burial rites of the second group of graves are characterized by the presence of stone settings with traces of fire on top of the graves and the northward orientation. Fragments of pottery and animal bones are often found in these stone settings. As a rule, definite sets of articles are not found in burials of this group and there are only separate articles of armaments and tools. Burials are in box-like coffins in wooden frames with cross-walls of thick beams (Suotniemi 1, 2, 4; Tontinmäki 1, 3/1886, 1, 3, 4/1888, 6, 7/1888; Kulhamäki 2). The third group of graves (Pajamäki 1917, Patja 21, Pajamäki 1931, Leppäsenmäki 4, Leinikylä, Ivaskanmäki, Säkkimäki, Tontinmäki 5/1888) is characterized by the absence of traces of burial constructions and stone settings and also by the nearly total absence of artefacts and the presence of pot sherds and animal bones. It is possible that in these cases coffins made of thin boards were not preserved.

In essence, one can name the burials of these three groups as evidence of the flowering of the medieval culture of Karelia. Possibly later graves with pot sherds, charcoal and a dark earth filling form a separate group.

The burial inventory permits a division of the graves into groups of similar burials. There are two groups of male burials and three groups of female burials (fig. 3, 4). The graves of the first

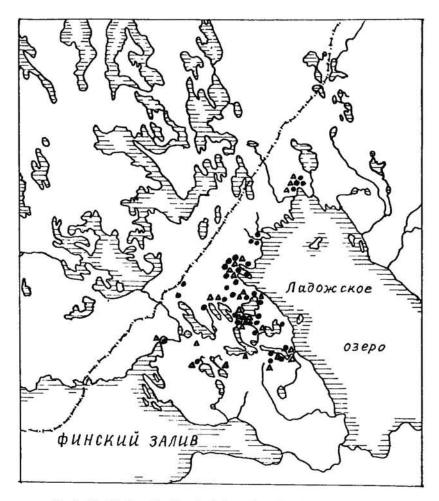


Fig. 1. Distribution of archaeological remains of the 9th-14th centuries.
△ the remains of the 9th-11th centuries.
• the remains of the 11th-14th centuries.

male groups are accompanied by sets of armaments, coppers, bits, scythes and articles of dress. (Kekomäki 1:3, 1:4, 5:2; Suotniemi 1, 2, 4, Kekomäki 2). Most of the burials of the second group contain only a knife and a firesteel, sometimes an axe, arrows and a belt buckle (Tontinmäki 2, 3, 5, 8, 9/1888).

The female burials are distinguished also by definite sets of ornaments and tools. The graves of the first group (Leinikylä, Patja 1937, Pajamäki 1917, 1931) contain only the necessary set of ornaments, viz. tortoise brooches, tubes with rings, chain holders, ear spoons and knives with sheaths of the same types and variants.

The female attire in the graves of the second group (Tontinmäki 1/1886; 6, 7, 9, 13/1888, Kekomäki 3) is represented by tortoise brooches, penannular brooches, tubes with rings, chain holders, ear spoons and knives with sheaths but of other types and variants.

The graves of the third group (Tontinmäki 3/ 1886; 1, 5/1888, Leppäsenmäki 4; Kekomäki 1, 5, 6; Suotniemi 3; Kulhamäki 2) contain besides the above-mentioned artefacts also pins and sykerö-type head ornaments, breast brooches, lockets, necklaces, penannular brooches of silver, flat and convex-concave brooches, fingerrings, silver beads, sickles and shears. Thus, each group of female burials is characterized by sets of ornaments of definite types and variants and by the presence or absence of cutting tools.

As a whole, attire remains traditional consisting of a practically standard set of artefacts with changes in types and variants. These circum-

burials	inhumation	rcclining	attire	the set of cutting tools in a grave	orientation N or NE	birch bark on the deceased	burial construction in the form of a box	stone setting	burnt stones	animal bones in setting	ceramics in setting	animal bones in grave	separate cutting tools outside grave	separate cutting tools in a grave	the set of cutting tools outside grave	coffin in the form of a box	frame	no traces of any burial construction	ceramics in grave	burnt bones in paving	charcoal in grave	group
1 Pajamäki 1917	×	×	×															×				
2 Leppäsenmäki 4	×	×	×							-								×				1
3 Leinikylä	×	×	×															×				1
4 Ivaskanmäki	×	×	×															×				
5 Säkkimäki	×	×	×															×				ш
6 Tontinmäki 5/1888	×	×	×											×				×				Ľ.
7 Patja 21	×	×	×	×														×				
8 Pajamäki 1931	×	×	×	×	×						1 <u>.</u>		×					×	×			
9 Kekomäki 6	×	×	×	×	×													×				
10 Kekomäki 5	×	×	×	×	×										×		×					ĺ.
11 Kekomäki 2	×	×	×	×	×	×	×															I
12 Kekomäki 3	×	×	×	×	×	×	×					×										
13 Kekomäki 1	×	×	×	×	×	×	×						×								1	
14 Tontinmäki I/1886	×	×	×	×	×	×	×	×	×			×								×		
15 Suotniemi 1	×	×	×	×	×			×	×	×		×			×						- 8	
16 Tontinmäki 4/1888	×	×	×	×	×			×	×	×		×			×	×			×		×	1
17 Tontinmäki I/1888	×	×	×	×	×	×	×	×	×		×		×	×					×			
18 Tontinmäki 3/1888	×	×	×		×			×	×	×	×		×	×		×						
19 Suotniemi 2	×	×	×		×			×	×	×	×		×	×			×					п
20 Suotniemi 4	×	×	×		×			×	×	×	×		×				×		al series			
21 Tontinmäki 3/1886	×	×	×		×			×	×	×	×		×							×		E .
22 Tontinmäki 6/1888	×	×	×		x	×		×	×							×					×	
23 Tontinmäki 7/1888	×	×	×		×			×	×					_		×			×	×		F.
24 Kulhamäki 2	×	٠×	×		×			×	×													

Fig. 2. Burial rites

		x x x x ueck-bands	eross of cross of cro	-swords with disc-	sqouy bedation and a state of the state of t			neck-bands cross of "Scandinavian"type finger-rings swords with disc- shaped knobs bits oval fitesteels axes ares	×	×	× × × × × × ×	× × ×	-	×	× ×	×		×	× ×	×	,
			x x x x ueck-pauga	"Scandinavian" type	Yestion X X X X X X X X Yestion Yestion <t< td=""><td>Scandinavian"type x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x</td><td>Image: Second constraint of the second constraint of t</td><td>kettles spears</td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Scandinavian"type x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x	Image: Second constraint of the second constraint of t	kettles spears						×							
				x x <td>x x x x x x kettles x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x</td> <td>Image: Second second</td> <td>Image: Second second</td> <td></td> <td></td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td></td> <td></td> <td>-</td> <td></td> <td>~</td> <td></td> <td></td>	x x x x x x kettles x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x	Image: Second	Image: Second			×	×	×	×	×			-		~		
x x x x x x belt details				x x <td>x x x x x kettles x x x x x reck-bands x x x x x reck-bands</td> <td>Image: Second second</td> <td>Image: Second second</td> <td>belt details</td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td></td> <td></td>	x x x x x kettles x x x x x reck-bands	Image: Second	Image: Second	belt details	×	×	×	×	×	×					×		
Image: Second		x x x x x x Scandinavian "type x x x x x x shaped knobs x x x x x x x	x x <td>x x x x x x x x x x x x x x x x</td> <td>X X X X X X X A A A A A A A A A A A A A</td> <td></td> <td></td> <td></td> <td></td> <td>^</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>^</td> <td></td> <td></td>	x x x x x x x x x x x x x x x x	X X X X X X X A A A A A A A A A A A A A					^									^		
Image: Second	Image: state	x x <td>x x x x x x x x x x x x x x x x x x x x x x x x x x x</td> <td>x x x x x x x x x x x x x x</td> <td>x x x x x area x x x x x area</td> <td>Saxe X X X X X</td> <td></td> <td></td> <td></td> <td>~</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td></td> <td></td>	x x x x x x x x x x x x x x x x x x x x x x x x x x x	x x x x x x x x x x x x x x	x x x x x area x x x x x area	Saxe X X X X X				~									×		
1 1 <td>Image: Second condition of the second</td> <td>x x<td>x x<td>x x<td>x x<td>x x x x gate x x x x x gate x x x x x x</td><td>X X X ALL ALL ALL ALL ALL ALL ALL ALL AL</td><td>to saxe</td><td></td><td></td><td></td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td></td><td></td><td></td><td>(</td><td></td></td></td></td></td>	Image: Second condition of the second	x x <td>x x<td>x x<td>x x<td>x x x x gate x x x x x gate x x x x x x</td><td>X X X ALL ALL ALL ALL ALL ALL ALL ALL AL</td><td>to saxe</td><td></td><td></td><td></td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td></td><td></td><td></td><td>(</td><td></td></td></td></td>	x x <td>x x<td>x x<td>x x x x gate x x x x x gate x x x x x x</td><td>X X X ALL ALL ALL ALL ALL ALL ALL ALL AL</td><td>to saxe</td><td></td><td></td><td></td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td></td><td></td><td></td><td>(</td><td></td></td></td>	x x <td>x x<td>x x x x gate x x x x x gate x x x x x x</td><td>X X X ALL ALL ALL ALL ALL ALL ALL ALL AL</td><td>to saxe</td><td></td><td></td><td></td><td></td><td>×</td><td>×</td><td>×</td><td>×</td><td></td><td></td><td></td><td>(</td><td></td></td>	x x <td>x x x x gate x x x x x gate x x x x x x</td> <td>X X X ALL ALL ALL ALL ALL ALL ALL ALL AL</td> <td>to saxe</td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td></td> <td></td> <td></td> <td>(</td> <td></td>	x x x x gate x x x x x gate x x x x x x	X X X ALL ALL ALL ALL ALL ALL ALL ALL AL	to saxe					×	×	×	×				(
Image: Solution of the state of the stat	Image: Second constraint of the second constrated constraint of the second constraint of the second cons	x x <td>x x<td>x x<td>x x<td>x x x x x scolution x x x x x scolution</td><td>x x x x science x x x x x science</td><td>swords of</td><td></td><td></td><td></td><td>×</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td>_</td><td></td><td></td></td></td></td>	x x <td>x x<td>x x<td>x x x x x scolution x x x x x scolution</td><td>x x x x science x x x x x science</td><td>swords of</td><td></td><td></td><td></td><td>×</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td>_</td><td></td><td></td></td></td>	x x <td>x x<td>x x x x x scolution x x x x x scolution</td><td>x x x x science x x x x x science</td><td>swords of</td><td></td><td></td><td></td><td>×</td><td>×</td><td></td><td></td><td></td><td></td><td></td><td>_</td><td></td><td></td></td>	x x <td>x x x x x scolution x x x x x scolution</td> <td>x x x x science x x x x x science</td> <td>swords of</td> <td></td> <td></td> <td></td> <td>×</td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td>	x x x x x scolution x x x x x scolution	x x x x science x x x x x science	swords of				×	×						_		
Image: Second	Image: Second	Image: Second	Image: Constraint of the constr	x x <td>x x<td>x x<td>x x<td>oben-work cross</td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td></td></td></td>	x x <td>x x<td>x x<td>oben-work cross</td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td></td></td>	x x <td>x x<td>oben-work cross</td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td></td>	x x <td>oben-work cross</td> <td></td> <td></td> <td></td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td></td> <td></td> <td></td> <td></td>	oben-work cross				×					×				
Image: constraint of the constr	Image: constraint of the constr	Image: Second	Image: Constraint of the constr	Image: Constraint of the constr	x x <td>Image: Constraint of the constr</td> <td>Image: Second second</td> <td>sələlər</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td>×</td> <td></td> <td></td> <td></td> <td></td>	Image: Constraint of the constr	Image: Second	sələlər								×	×				
1 1 x <td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<td>Image: Second constraint of the second c</td><td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<td>x x<td>x x x</td><td>Image: Second second</td><td>penanular silver brooches</td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td></td></td></td>	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>Image: Second constraint of the second c</td> <td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<td>x x<td>x x x</td><td>Image: Second second</td><td>penanular silver brooches</td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td></td></td>	Image: Second constraint of the second c	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<td>x x<td>x x x</td><td>Image: Second second</td><td>penanular silver brooches</td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td></td>	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>x x<td>x x x</td><td>Image: Second second</td><td>penanular silver brooches</td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td>	x x <td>x x x</td> <td>Image: Second second</td> <td>penanular silver brooches</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	x x	Image: Second	penanular silver brooches							×						
Image: constraint of the constrain	1 1	Image: Construct of the state in the st	Image: Constraint of the state of the s	Image: Second	x x <td>(x) (x) <t< td=""><td>x x x</td><td>belt laps</td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td>	(x) (x) <t< td=""><td>x x x</td><td>belt laps</td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	x x	belt laps							×						
1 1	1 x <td>Image: Constraint of the constr</td> <td>x x<td>x x x</td><td>X X</td><td>x x<td>x x<td>handicraft tools</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td></td></td>	Image: Constraint of the constr	x x <td>x x x</td> <td>X X</td> <td>x x<td>x x<td>handicraft tools</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td></td>	x x	X X	x x <td>x x<td>handicraft tools</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td></td>	x x <td>handicraft tools</td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td>×</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	handicraft tools			_				×						

Fig. 3. The groups of male grave-goods bound by correlation

43

+ 1 1 +	21 Tontinmäki 13/1888	20 Tontinmäki 9/1888	19 Tontinmäki 7/1888	18 Tontinmäki 6/1888	17 Tontinmäki 1/1886	16 Kekomäki 3	15 Kulhamäki 2	14 Tontinmäki I/1888	13 Suotniemi 3	12 Kekomäki 6	11 Kekomäki 1:2	10 Kekomäki 1:1	9 Kekomäki 5:2	8 Kekomäki 5:1	7 Tontinmäki 3/1886	6 Leppäsenmäki 4	5 Tontinmäki 5/1888	4 Pajamäki 1917	3 Pajamäki 1931	2 Patja 1937	1 Leinikylä	burials
Image: constraint of the second se	+	1	1	+	+	1	1	+	+	+	+	+	+	+	1	+	+	+	+	+	1	-disturbed, +non-disturbed
1 X X X X X X X X X X Y								×		×												sykerö head-piece
Image: Second					1			×	×	×	×	×										tortoise brooches C2/3a
Image: constraint of the second systemImage: constraint of the systemImage: constraint of					×	×	×	×	×	×	×		×	×		×					×	
Image: Second					×		×	×		×	×			×								penannular brooch I:Ia
Image: constraint of the second systemImage: constraint of the secon							×	×			×		×		×			×				
Image: start of the start										×			×	×								penannular brooch II:2
Image: Constraint of the structure of the s							×	x			×	x		1,01								
Image: constraint of the second systemImage: c								×				×										
Image: Second											×	×			×							tubes I:2a
Image: Sector of the sector												×		×								chain holder 1:1
Image: Constraint of the second se											×	×		×		×						pin
Image: Constraint of the second system second system of the second system second system of the second sy	1												×									tortoise brooch F3
Image: Second system Image: Second system <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>tubes 1:2c</td></td<>														×								tubes 1:2c
Image: Second system Image: Second system <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td>×</td><td></td><td></td><td></td><td></td><td></td><td>neck-band</td></td<>										×						×						neck-band
x x												×					×					tubes I:1
x x									x		x											sheath III
x x					x	\top						x							-			sheath II
x x		×			1	×	×	\square	-						-	×	x					
x x		-		x	X	-	t		\vdash	×				×	×	-			×	×	1	
Image: state of the state		-		1	-	1			x					-		-						
Image: Construction of the second				-	1				1				-	-	×	1	1		-			
Image: state of the state				1						-	\vdash				1	t		X				tortoise brooch H/IIB2 variants
x x			-	+	1	-	\vdash	\mathbf{t}	1	×	1	1				\vdash	\vdash	-	×	+	1	
Image: Second system Image: Second system <td< td=""><td></td><td></td><td></td><td>+</td><td>×</td><td></td><td></td><td>\mathbf{T}</td><td>+</td><td></td><td>1</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>×</td><td>×</td><td></td></td<>				+	×			\mathbf{T}	+		1	1								×	×	
Image: state of the state	-	-	-	+	t	1		+	+-		-	\vdash	1-	-		1	+	\vdash	-	-	-	
Image: Second system Image: Second system <td< td=""><td></td><td></td><td></td><td>1</td><td>+</td><td>-</td><td></td><td>\mathbf{T}</td><td>+</td><td></td><td>1</td><td>-</td><td></td><td>1</td><td>-</td><td>×</td><td>x</td><td>t</td><td>1</td><td>+</td><td>-</td><td></td></td<>				1	+	-		\mathbf{T}	+		1	-		1	-	×	x	t	1	+	-	
Image: Second system Image: Second system <td< td=""><td></td><td></td><td>-</td><td>+</td><td>1</td><td>+</td><td></td><td>1</td><td></td><td>+</td><td>+</td><td></td><td></td><td>\vdash</td><td></td><td>-</td><td></td><td>X</td><td>1</td><td>+</td><td>-</td><td></td></td<>			-	+	1	+		1		+	+			\vdash		-		X	1	+	-	
Image: state of the state			+		+	+	t	+	+	\vdash	+			-		×	\vdash	t	1	+	$t \rightarrow t$	
× ×		-		+	+	+		+	+		+	+	-	\vdash	t	+	\mathbf{T}	+		+	+	
x x	-		-	1	1×	+	\vdash	+	+	1	+	1	+	-	1	1	1		-	\vdash	+	the second se
x x	-		-	+	+	+	t	1	+	+		1	\vdash	+	+	-	×	1×	1	+	-	
x x			+		1	+	+	+	+	\vdash	+	-		\vdash	+	+	Ê	1 [~]	+	+	+	
x x	-		+	×	×		t	-	+	+	+	-	+		1	-	+	+	1	+	+	
× ×	-		+		-	+	+	+	+	1	+	-	+	+	+	-	-		+	+	+	
× ×	-	-	×	-	-	-	-	+	-	+	+	-	+	+	1	1	-	-	1	+	-	
Image: Second system Image: Second system <td< td=""><td>×</td><td>×</td><td>-</td><td>-</td><td>+</td><td>-</td><td>+</td><td>+</td><td>+</td><td>\vdash</td><td>+</td><td>+</td><td>1</td><td>\vdash</td><td>+</td><td>+</td><td>+</td><td>+</td><td>1</td><td>-</td><td>+</td><td></td></td<>	×	×	-	-	+	-	+	+	+	\vdash	+	+	1	\vdash	+	+	+	+	1	-	+	
Image: Second	-	Ê	f	-	+	+	\vdash	+	+	+	+	1	+	+-	+	+	1×	+	\vdash	+-	-	
Image: Second	-		+	+	+	+	1 _×	+	+	+	+	+-	-	+	-	+-	+^	+	-	+	+-	
Image: Second system Image: Second system <td< td=""><td>-</td><td>-</td><td>+</td><td>+</td><td>+</td><td>+</td><td>1^</td><td>+</td><td>V</td><td>+</td><td>+</td><td>+</td><td>-</td><td>+</td><td>+</td><td>+</td><td>-</td><td>-</td><td>-</td><td>-</td><td>+</td><td></td></td<>	-	-	+	+	+	+	1^	+	V	+	+	+	-	+	+	+	-	-	-	-	+	
Image: Normal line Image:	-	+	+-	+	+	+	+	+	+^	V	V	1×	-	1v	+	+	+	+	-	+	-	
× × × × × × × × silver beads × × × × × × × × × silver beads		-	+	+	+	+	+	+-	+	+^	-	+	+	+^	-	1-	+	-	-	+	+	
	v	-	+	+	+	-	+	+^	-	-	-	-	-	+	-	+^	+	+	-	+	+	
	~	-	+	+	-	-	+	+		-	-	-		+	1^	+	+^	+^	+	+	+	
I I I I I I I I I I I I I I I I I I I	-	-	-	+	-	-	+	+		-	_		+	+-	+	+	+	+	-	+	+	
group	-	1	-	_	L×	<u> </u>	+	1	×	1^	1×	×		1×	-	-		+	×	_		

Fig. 4. The groups of female graves' things bound by correlation

44



Fig. 5. A view of the rural settlement in Olhovka (Lapinlahti): I the Leppäsenmäki burial ground, II the Olhovka I site.

stances are assumed as a basis for the chronology of the Karelian inhumation graves.

As both complexes of ornaments existed simultaneously, including serially-made brooches (burials of the same group), and there being a large number of collective graves with male and female burials we can compare and link the inventory of male and female burials. Correlations of ornamented artefacts and the typological connections of their separate groups permit the construction of a relative chronology of burials.

The dated artefacts from these complexes provide absolute datings for the examined burials. Taking into account the existing elaborations on the separate categories of artefacts, one can regard the following as the earliest burials; Pajamäki 1917; Tontinmäki 1/1886, 3, 6/1888 and possibly the destroyed burial 7/1888. The artefacts from these connections are dated to the 12th-13th centuries and it is very likely that the burials were carried out in the period from the second half of the 12th century to the first half of the 13th century. The following graves – Kekomäki 5; Tontinmäki 3/1886; Pajamäki 1931; Kekomäki 1, 6; Suotniemi 3, Tontinmäki 1/1888; Leppäsenmäki 4, Kekomäki 3; Kulhamäki 2 – and the male burials of Suotniemi 1, 2, 4 and Kekomäki 2 are related to the later chronological period. They probably date back to the end of the 12th or the 13th century.

Burials containing brooches of types C3 and D constitute the last chronological stage in the history of the Karelian inhumation graves conforming to heathen rites. These graves (viz. Leinikylä, Patja 1937; Tontinmäki 5/1888) can be dated from the second half of the 13th century to the early 14th century.

Thus, the graves of the developed stage of the Karelian heathen culture as a whole date back to the period from the second half/late 12th century to the beginning of the 14th century.

As indicated by the correlations of ornamented artefacts, a considerable part of the Karelian graves are chronologically near each other and in reality this period could even be shorter.



Fig. 6. The cult centre near the Olhovka village (Lapinlahti).

Over the past 10-15 years systematic investigations of settlements in ancient Karelian territory have been carried out. Field work has been carried out in Korela, the township of Tiverskij as well as at the sites of ancient towns in Lopotti and Paaso (Appelgren 1891 51-80; Schwindt 1898; Kočkurkina 1981 30-87; 1982 37-41; Kirpičnikov 1984 119-149).

The sites of ancient towns in North-West Priladogye are not similar. Korela and the township of Tiverskiy were the outposts of Novgorod. Many of the fortified settlements are mostly connected with the inherent development of ancient Karelian society. Some of them had burial grounds and sanctuaries before the appearance of the settlements while others were used for refuge or constituted the original settlements.

Unfortified rural settlements have lately been discovered and partly investigated. They are situated on hills or gentle slopes on river banks and by the shores of lakes (fig. 5). The settlements are small in area (average 3000 m^2). A group of settlements in the region of the Olhov-ka village (formerly Lapinlahti) on the southern shore of Lake Suhodolskoje is of special interest (Saksa 1984 112–117). The settlements form a

chain along the shore of the lake at a distance of 0.7-1 kilometre from each other. They can be well connected to previously excavated burial grounds by virtue of their ceramic material and their topography. The settlements are located in similar conditions and at distances of 150-200 metres from the burial grounds (fig. 5). The settlements of few households correspond to these small burial grounds. This probably signifies the existence in the 13th-14th centuries and later of a definite economic system with each settlement forming an economic unit.

The above-mentioned settlements appeared, according to the data of the 13th century, on sites not previously settled. The regularity of their locations at a kilometre's distance from each other attracts our attention. In my opinion, it indicates the formation of a new economic system based on ploughing agriculture. To this formation are also connected social changes in the lives of the local populations caused by the allotment of independent economic units.

In the centre of the Olhovka (Lapinlahti) region there is a singular worship centre consisting of a sacrificial stone, an accumulation of ritual stone-earthern cairns and a spring. The area in



Fig. 7. A ritual cairn.

question was settled at the time on the top of a high hill by the lakeside (fig. 6). Near the centre there 7 similar sacrificial stones.

Excavations of the earth-mixed cairns referred to above have revealed remains of fire in all of them. In some cases, there are only stones that have been burnt with soil blackened by charcoal and ashes. Usually the cairns contain pot sherds, horse teeth or animal bones, pieces of flint or quartz and separate artefacts. The cairns take the form of a circle or embankment and are often formed around a larger stone in the soil or between two such stones (fig. 7). We have investigated 6 such cairns and regard them as being of ritual character and the actual hill as a site for rituals.

In searching for new archaeological remains 5 unfortified rural settlements have been discovered. They were either partly ploughed over or covered and were located near the villages of Melnikovo and Solnechnoje (Räisälä, Salitsanranta; Hovinsaari, Kivipelto). The settlement in former Hovinsaari is of main interest. It was found on the same hill where in the late 19th century T. Schwindt had excavated a cemetery and the remains of household buildings (Schwindt 1893 57). Large-scale excavations were not carried out at the site, but pot sherds were collected (fig. 8) along with slag and blooms and an ice-pick. Five sacrificial stones with shallow pits were found near the settlement.

Thus, it can be said that new excavations have brought to light important material on the spiritual and material life of the Karelians. We have now the necessary complex of data on these aspects, viz. fortified sites of ancient towns, rural settlements, burial grounds and cult sites. The archaeological material is supplemented by information from written sources.

However, some problems of ancient Karelian history still remain and will determine the direction and perspectives of future research. The first problem is the study of remains of the first millenium AD. It is necessary to investigate in full the Kalmistomäki hill in the village of Melnikovo (Räisälä) where textile-impressed pottery has been found, as well as other remains of the period, known from the unpublished material on research carried out by A. Rumjantsev. The second task is to continue the investigations of medieval settlements and the excavations of buKäkisalmi (Korela)

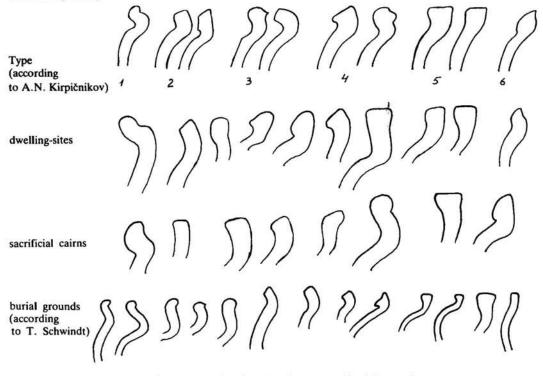


Fig. 8. The ceramics of rural settlements and burial grounds.

rial grounds and cult sites. The third aim is to re-excavate the sites of ancient towns in North-West Priladogye with special interest in the active investigation of their immediate vicinity. This, in our opinion, constitutes the programme for the investigation of Karelian archaeological sites and remains in the near future.

REFERENCES

- Ailio, J. 1922. Karjalaiset soikeat kupurasoljet. SMYA XXXII:3.
- Appelgren, Hj. 1891. Suomen muinaislinnat. SMYA XII.
- Europaeus, A. 1923. Muinaistutkimuksen tehtäviä Karjalassa. KSV 3.
- Hackman, A. 1938. Das Brandgräberfeld von Pukkila in Isokyrö. SMYA XLI.
- Ниште, М. 1979а. М. Хурре, Концепции финских археологов о происхождении племени карелов и культуры Карелии в эпоху железного века. .:Финно-угры и славяне. Ленинград.
- 1979b. 9000 vuotta Suomen esihistoriaa. Helsinki.
- Hällström, O. af 1948. Lisiä suomalaisten soikeiden kupurasolkien syntyhistoriaan. SM 1947-1948.

- Кігріčnikov, А. N. 1979. А. Н. Кирпичников, Историко-археологические исследования древней Корелы: ("Корельский город "XIVв.). .:Финно-угры и славяне. Ленинград.
- 1984. А. Н. Кирпичников, Каменные крепости Новгородской земли. Ленинград.
- Kivikoski, E. 1939. Svenskar i österled under 500-talet. FM 1939.
- 1942. Lisiä Karjalan ristiretkikauden ajanmääräykseen. KSV 22.
- 1944. Zur Herkunft der Karelier und ihrer Kultur. Acta Archaeologica XV.
- 1947. Suomen rautakauden kuvasto. Porvoo.
- 1961. Suomen esihistoria. Suomen historia I. Porvoo.
- Kočkurkina, S. I. 1981. С. И. Кочкуркина, Археологические памятники Корелы. Ленинград.
- град. – 1982. С. И. Кочкуркина, Древняя Корела. Ленинград.
- Lehtosalo, P-L. 1966. Rapukoristeisten solkien ajoituksesta. SM 1966.
- 1984. Keski- ja myöhäisrautakausi. Suomen historia I. Helsinki.
- Linturi, E. 1980. Ristiretkiajan soikeat eläinkoristeiset kupurasoljet. Helsingin yliopiston arkeologian laitos. Moniste 24.
- Nordman, C. A. 1924. Karelska järnåldersstudier. SMYA XXXIV:3.
- Saksa, A. I. 1981. А. И. Сакса, Древности Карельского перешейка (по материалам карельских могильников). КСИА 166.

- 1984а. А. И. Сакса, Карельская земля в XII-СІУвв. (по археологическим данным). Автореферат кандидатской диссертации. Ленинград.
- 1984b. А. И. Сакса, Комплекс археологических памятников у дер. Ольховка (Лапинлахти). .: Новое в археологии СССР и Финляндии. Ленинград.
- 1984c. Medieval Karelia On European Trade Rou-tes. Iskos 4.
- Salmo, H. 1938. Die Waffen der Merowingerzeit in Finnland. SMYA XLII:1.
- 1956. Finnische Hufeisenfibeln. SMYA 56.
- Schwindt, T. 1893. Tietoja Karjalan rautakaudesta. SMYA XIII.
- 1898. Käkisalmen pesälinnan ja entisen linnoitetun

kaupungin rakennushistorian aineksia. Analecta Archaeologica Fennica II:2. Tallgren, A. M. 1910. Suomen Karjalan rautakaudes-

ta. Karjalan Kirja. Porvoo.

ABBREVIATIONS

- FM = Finskt Museum
- KSV = Kalevalaseuran vuosikirja
- SM = Suomen Museo
- SMYA = Suomen Muinaismuistoyhdistyksen Aikakauskirja
- КСИА = Краткие сообщения Института археологии АН СССР