

Implications of Baltic amber finds in northern Finland 4000–2000 BC

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INTRODUCTION

Some time during the late 5th millennium cal BC (cal), East Baltic amber imports began to reach Finland, where it occurred associated with the so-called Typical Comb ware (TCW, c. 4100–3500 cal BC). Imports of this rare fossil resin continue through the remaining of the Finnish Middle Neolithic, but seem to dwindle by the end of the 3rd millennium BC (Äyräpää, 1945, 1960; Luho, 1962; Edgren, 1966, 1992; Siiriäinen, 1967; Rankama, 1977; Torvinen, 1979; Koivunen, 1996, 2006; Oikarinen, 1998; Franzén, 2009).

The North European amber deposits exploited in prehistoric times came from submarine formation(s) close to certain stretches of South Scandinavia and the southern Baltic shores, particularly the East Baltic lands (Jaanimäe, 1975; Loze, 1975, 1988, 1993, 2000, 2001, 2003; Gimbutas, 1956, 1985; Bērziņš, 2003; Ots, 2003; Zagorska, 2003). Despite the relatively restricted nature of its sources, the material appears to have been widely traded. It was hardy and light, which made amber an ideal long-distance trade good. Moreover, it can be regarded as a typical exotic good (*cf.* Taffinder, 1998) and thus a likely symbol of prestige and wealth in areas distant from its source. As reasons we may blame its beauty, its unusual “magic” piezoelectric properties (hence *electrum*) and, of course, its rarity.

Amber was traded far and wide far in ancient Europe. We see it for example in northern Finland by 4000 BC, at numerous Neolithic/Metal Age sites in Central and Western Europe (e.g. Bátor, 1995; Gardin, 1996, 2003; Bankus, Rieder, 1997; Eogan, 1999; Mohen, Eluère, 2000; Czebreszuk, 2003; Marková et al., 2003; Sprincz, 2003; Todd, 2003) and in the Greco-Roman world (Herodotus [c. 450 BC], 1996; Plinius [AD 78], 1971; Tacitus [AD 98], 2004; Spekke, 1957; Bouzek, 1993, 2003; Todd, 2003). It is indeed very interesting

what Roman historians had to say about the nature of amber and, particularly, its trade. Around AD 78, Plinius the Elder gave a lengthy discussion about amber in his *Naturalis Historia*. He begins with the information provided by the explorer Pytheas of Massilia four centuries earlier:

Pytheas speaks of an estuary of the Ocean named Metuonion and extending for 750 miles, the shores of which are inhabited by a German tribe, the Guiones. From here it is a day's sail to the Isle of Abalus, to which, he states, amber is carried in spring by currents, being an excretion consisting of solidified brine. He adds that the inhabitants of the region use it as fuel instead of wood and sell it to the Teutones (Plinius, 1971, p. 191).

After discussing some notions to which he does not seem to give much credibility, Plinius states a series of facts that clearly show that he had a fairly good idea of what amber was:

It is well established that amber is a product of islands in the Northern Ocean, that it is known to the Germans as 'glaesum,' and that, as a result, one of these islands, the native name of which is Austeravia, was nicknamed Glaesaria, or Amber Island, when Caesar Germanicus was conducting operations therewith his naval squadrons. To resume, amber is formed of a liquid seeping from the interior of a species of pine, just as the gum in a cherry tree or the resin in a pine bursts forth when the liquid is excessively abundant. The exudation is hardened by frost or perhaps moderate heat, or else by the sea, after a spring tide has carried off the pieces from the islands. At all events, the amber is washed up on the shores of the mainland, being swept along so easily that it seems to hover in the water without settling on the seabed (Plinius, 1971, p. 195–197).

Plinius also discusses the amber trade between the Northern (Baltic) Sea and the Mediterranean region, including that it was used to adorn the gladiators in Nero's time (AD 54–68). Writing two decades after Plinius, Cornelius Tacitus briefly mentions East Baltic

amber in the *Germania* when describing the people he calls Aestii:

[The Aestii] *even search the deep, and of all the rest are the only people who gather amber. They call it glasing [glaesum], and find it amongst the shallows and upon the very shore. But . . . they have neither learnt, nor do they inquire, what is its nature, or from what cause it is produced. In truth it lay long neglected amongst the other gross discharges of the sea; till from our luxury, it gained a name and value. To themselves it is of no use: they gather it rough, they expose it in pieces coarse and unpolished, and for it receive a price with wonder* (Tacitus, 2004, p. 23–24).

Surveys of Finland's amber finds have been published by A. Äyräpää (1945, 1960) on two occasions but, despite the wealth of amber finds unearthed since 1960, no attempts have been made to chart the new material. One of the purposes of this paper is to address this deficiency, the other to discuss the significance of Neolithic amber objects in Finland, particularly the newly made finds in the northern half of the country.

AMBER IN FINLAND 4000–2000 CAL BC

Although it is difficult to pinpoint their exact geological source, most Finnish amber finds can be traced to the East Baltic on typological grounds. Only one of them can be said to be clearly of Scandinavian type (Lep-päaho, 1955; Äyräpää, 1960; Purhonen, 1973). Amber finds occur throughout the country, the northernmost one in Kittilä, northern Lapland. Their distribution suggests some sort of trade network along the coast and/or inland waterways (Fig. 1). However, we should bear in mind that this pattern may merely reflect the modern concentration of settlement and archaeological activity with which it also roughly coincides. One possible exception is the Åland Archipelago, where fairly extensive archaeological fieldwork has failed to produce any amber objects. This is interesting because it would agree with the idea of a distinct archipelago-based Comb ware group in 4th millennium cal BC but, on the other hand, by 3000 cal BC the islands were no longer Comb ware territory and had in fact become part of the South Scandinavian Pitted ware complex (Núñez, 1986, 1994).

In Finland amber objects have been found mainly in graves, in dwelling site layers and as stray finds

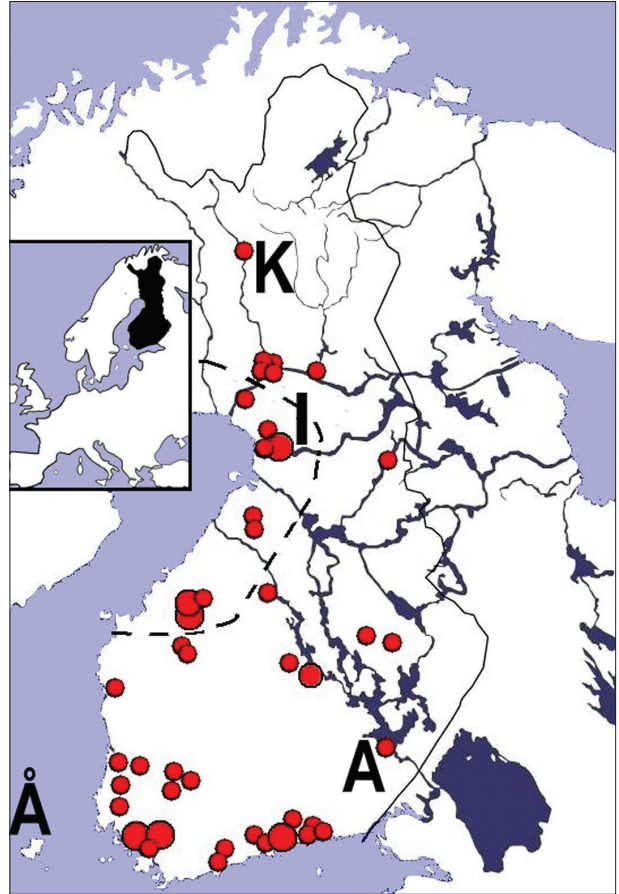


Fig. 1. Sites with Middle Neolithic amber finds in Finland with some of the sites mentioned in the text: (A) Astuvansalmi. (I) Ii river sites. (K) Kittilä. (Å) Åland. The larger circles correspond to greater number of objects.

I pav. Suomijos archeologijos paminklai, kuriuose buvo rasta vidurinio neolito gintaro dirbinių, ir kai kurie tekste minėti paminklai: (A) Astuvansalmi; (I) paminklai prie Ii upės; (K) Kittilä; (Å) Ålando salose. Didesniais apskritimais pažymėtas didesnis objektų skaičius

(Fig. 1). To these we may add three anthropomorphic and one zoomorphic amber objects that were apparently deposited as votive offerings at the base of the Astuvansalmi rock painting (Grönhagen, 1991, 1994). This is indeed a new unique context that stresses both the especial nature of amber and the likely cult function of Finnish prehistoric rock art sites, which may link them closer to the *sieidi* or votive sites of the historical Sámi (e.g. Núñez, 1981, 1995b; Lahelma, 2008).

Most of the amber finds from the southern half of the country come from burials, where they have been deposited as grave goods (e.g. Äyräpää, 1945, 1960; Luho, 1962; Edgren, 1966; Torvinen, 1979; Miettinen, 1992; Halinen, 1997). This has led some to suggest

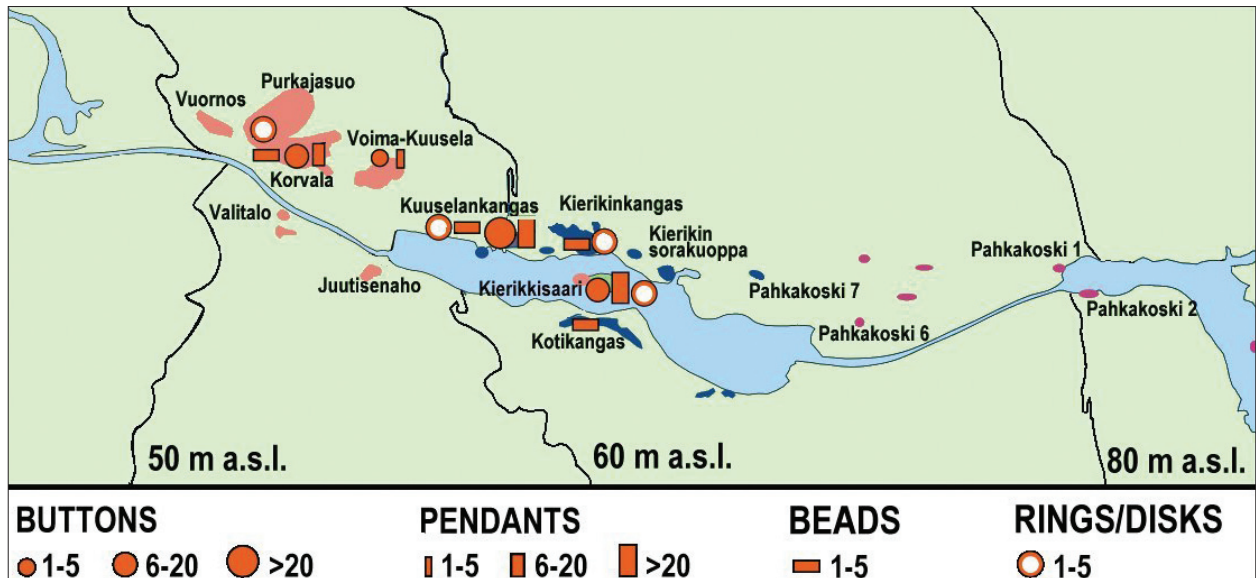


Fig. 2. Type and amounts of amber objects found at some of the sites along the Ii river in Yli-Ii. The contour lines of 80, 60 and 50 m above sea level respectively correspond to the position of the shoreline at around 5000, 3500 and 3100 cal BC (after Franzén, 2009). Today the shore lies about 30 km to the west.

2 pav. Gintaro dirbinių, rastų kai kuriose Yli-Ii vietovėse palei Ii upę, tipas ir kiekiai. 80, 60 ir 50 m virš jūros lygį žyminčios kontūro linijos atitinka 5000, 3500 ir 3100 m. pr. Kr. (pagal Franzén, 2009). Mūsų dienomis krantas driekiasi apie 30 km į vakarus

that the amber found in dwelling site layers may actually come from destroyed graves (Pesonen, 1998; Leskinen, Pesonen, 2009). This may well be so in some cases, but there are also many clear occurrences of amber objects within cultural layers. Since some graves are rich in amber goods while others are completely devoid of them, it has been generally assumed that the amber burials belong to individuals of higher status (Edgren, 1984, 1992; Halinen, 1997). Although amber has also been reported in burial contexts in northern Finland (Pesonen, 1997), the bulk of amber finds from this part of the country seem to come from the cultural layers of dwellings sites (Siiriäinen, 1967; Koivunen, 1996, 2006; Koivunen, Makkonen, 1998; Oikkarinen, 1998; Franzén, 2009). Of particularly interest are the rich amber finds from a series of sites along the river Ii in the municipality of Yli-Ii (Fig. 2).

THE YLI-II SITES

The 1990s saw an explosion of sites with semisubterranean houses remains in northern Finland, triggered by the discovery of several of them at the Kuuselankangas site in Yli-Ii in 1993. Hundreds of such structures

datable mainly to the 4th and 3rd millennia cal BC have been recorded in northern Finland so far. (e.g. Núñez, 1995 a, 2004, 2009 a; Koivunen, 1996, 2002; Koivunen, Núñez, 1996; Núñez, Uino, 1998; Núñez, Okkonen, 1999, 2005; Pesonen, 1999, 2002; Vaara, 2000; Ikäheimo, 2002; Kankaanpää, 2002; Vaneeckhout, 2008, 2009; Mokkonen, 2011). The advent of semisubterranean houses may have been related to a general trend towards more stable settlement patterns that seems to take place in Finland and Fennoscandia in the late 5th millennium BC (cf. Núñez, 2004; Nordberg, 2008; Vaneeckhout, 2009; Mokkonen, 2011).

Perhaps the best known sites are those of the Ii river valley, where they seem to have been situated close to the rivermouth during occupation and are now found at more or less regular intervals along the river (Figs. 2, 5D). Apparently the people kept moving periodically downriver as the rivermouth was gradually shifted by isostatic uplift. The earliest sites with amber at Yli-Ii date from the Typical Comb ware period (c. 4100–3500 cal BC), but the great majority of them fall within the subsequent asbestos ware phases (Table 1; Franzén, 2009). In addition to asbestos-tempered wares, most of the latter sites are characterized by clus-

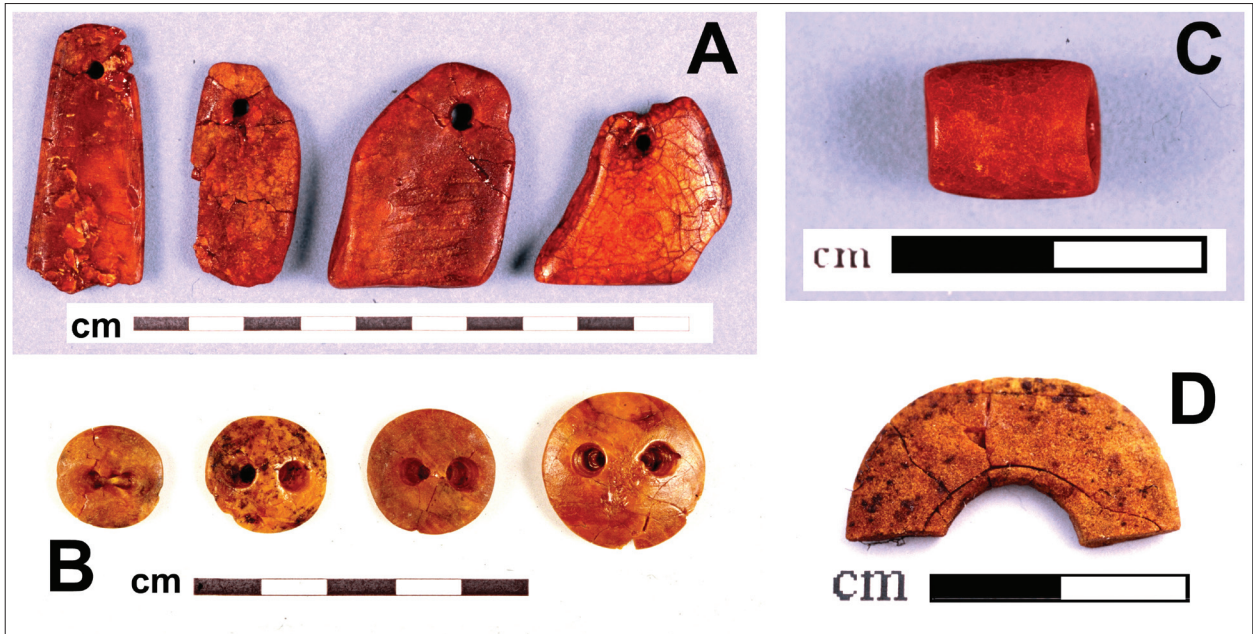


Fig. 3. The main types of amber objects found at the Yli-Ii sites: pendants (A), V-perforated buttons (B), beads (C) and rings/disks (D). (Photographs: Mika Friman, Patrik Franzén).

3 pav. Pagrindiniai Yli-Ii paminkluose rastų gintaro dirbinių tipai: kabutis (A), V pavidalo perforuotos sagos (B), karoliai (C) ir žiedai / diskai (D). (Mika Friman ir Patrik Franzén nuotraukos)

Table 1. Number of identified amber forms from the Yli-Ii sites and the wares found in association with them: Typical Comb ware (TCW, c. 4100–3500 cal BC) and Asbestos-tempered wares of the Kierikki (c. 3600–3000 cal BC) and Pöljä (c. 3000–1900 cal BC) variants (Franzén, 2009).

1 lentelė. Nustatytų gintaro dirbinių tipų skaičius iš Yli-Ii paminklų ir su jais susiję keramikos dirbiniai: tipinė šukinė keramika (TCW, apie 4100–3500 m. pr. Kr.) ir keramikos su asbesto priemaišomis tipai iš Kierikki (apie 3600/3000–3000 m. pr. Kr.) ir Pöljä vietovių (apie 3000–1900 m. pr. Kr.) (Franzén, 2009)

	TCW	Kierikki	Pöljä	Sum
Pendants	1	93	21	115
V-perforated buttons	1	70	15	86
Beads	6	2	1	9
Rings/disks	1	3	3	7
Other	1	5	2	8
All types	10	173	42	225

ters of semisubterranean houses and a variety of exotic materials (Siiriäinen, 1967; Núñez, 2004, 2009 a; Koivunen, 1996, 2006; Koivunen, Núñez, 1996, Koivunen,

Makkonen, 1998; Núñez, Uino, 1998; Oikka-rinen, 1998; Ylimaunu, Costopoulos, 1998; Núñez, Okkonen, 1999, 2005; Pesonen, 1999; Ylimaunu, 1999; Franzén, 2009; Ikäheimo, Pääkkönen, 2009).

Well over 200 whole or fragmentary amber artifacts have been retrieved from the Yli-Ii sites (Fig 2; Franzén, 2009). Despite new finds elsewhere, this has completely shifted the “center of gravity” of amber finds in Finland. About 220 of the Yli-Ii ambers finds se can be grouped into the four main categories of pendants, buttons, rings/disks and beads (Table 1, Fig. 3). With the exception of a few stray finds, most of these amber objects come from diverse points within the cultural layers of dwelling sites. Many pendants seem to have broken off at the perforation, suggesting that they fell and were lost by the owner. The general impression obtained from the Yli-Ii finds is that, despite its exotic nature, amber was fairly common in the district some 5000 years ago.

The oldest of the Ii river sites lacks amber and dates to the early Comb ware period in the 5th millennium cal BC (Table 2; Franzén, 2009). Although a few were found in association with Typical Comb ware (TCW, c. 4100–3500 cal BC), the bulk of the amber finds occur in Asbestos ware contexts (ATW, 3600–1900 cal

Table 2. TL, OSL and radiocarbon dates from fire-cracked stone heaps from the megastructure complexes of Kastelli and Kettukangas (Fig. 6). Based on data in Forss (1998), Eskola et al. (2003) and Okkonen (2003).

2 lentelė. TL, OSL ir radiokarbono datos iš Kastelli ir Kettukangas megastruktūrų kompleksuose rastos nuo ugnies suskeldėjusios akmenų sandraupos (6 pav.). Remiantis Forss (1998), Eskola et al. (2003) ir Okkonen (2003) tyrinėjimų duomenimis

Site	Dated material	Dating method, number	Date BC
Kastelli	Stone in the heap	TL	2400–2600 BC
	Sand below the heap	OSL	2400–2600 BC
	Charcoal in the heap	AMS, Hela-522	2870–2580 cal BC
	Charcoal in the heap	AMS, Hela-521	2890–2670 cal BC
Kettukangas	Charcoal in the heap	Conventional (2σ), Hel-4032	3115–2565 cal BC
	Charcoal in the heap	Conventional (2σ), Hel-4033	3140–2575 cal BC

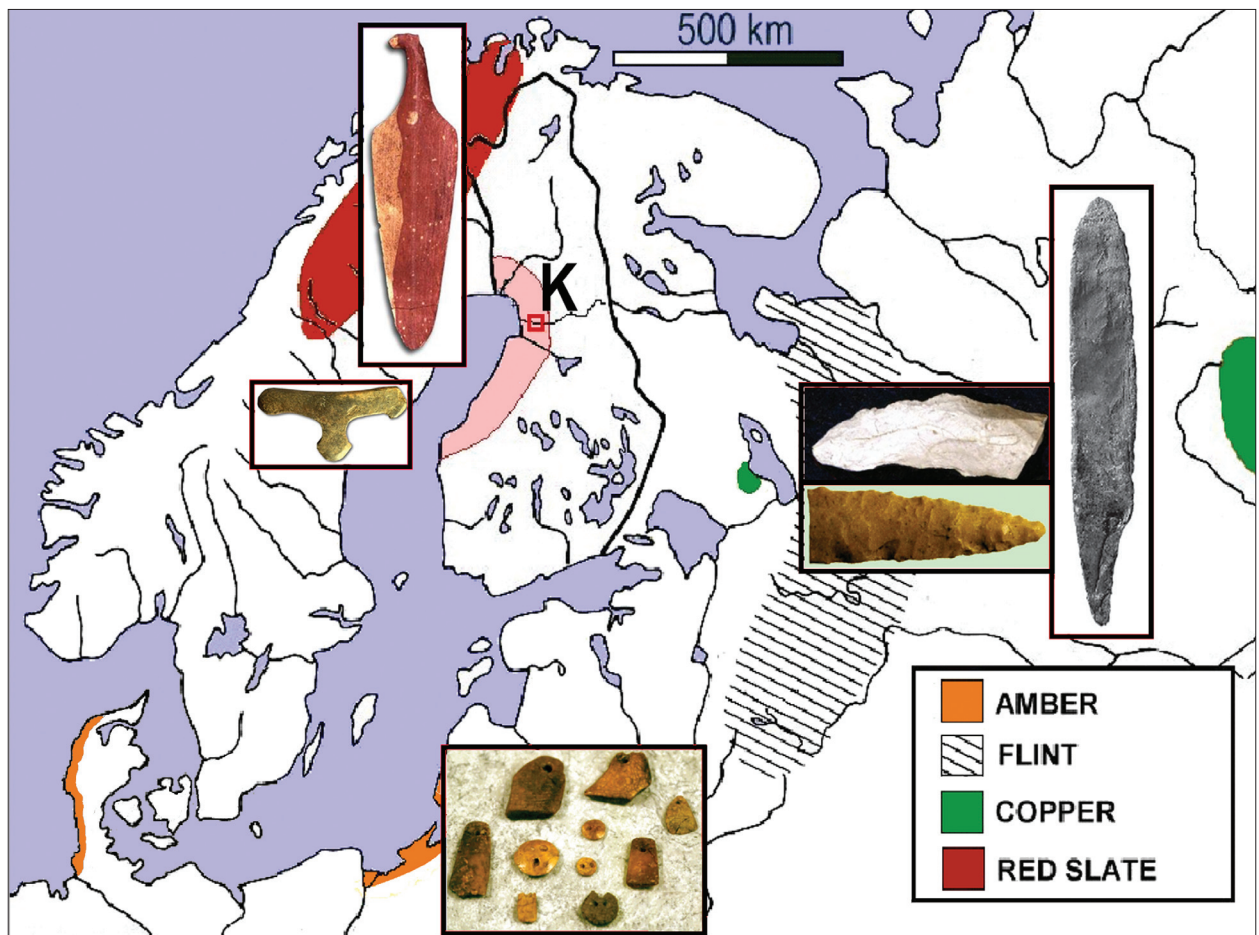


Fig. 4. Sources of some of the exotic goods found at the Yli-Ii sites. Red slate from northern Scandinavia, T-shaped slate knives from Sweden, flint points/knives and copper objects from Russia (Urals or Onega), and East Baltic amber. This illustration is based on Huurre's map (1995), which only shows the main sources of amber in Denmark and Lithuania/Latvia but, as mentioned in the text, amber could be collected on a much broader stretch of the southern Baltic coast.

4 pav. Kai kurių egzotiškų daiktų, surastų Yli-Ii paminkluose, vietovės. Raudonas skalūnas iš šiaurės Skandinavijos, T formos skalūno peiliai iš Švedijos, titnaginiai antgaliai / peiliai ir variniai radiniai iš Rusijos (Uralas arba Onega) ir Rytų Baltijos gintaras. Iliustracija remiasi Huurre žemėlapiu (1995), kuriame tik Danija ir Lietuva / Latvija pažymėtos kaip pagrindiniai gintaro centrai, tačiau, kaip minėta tekste, gintaras galėjo būti renkamas daug platesniame pietinės Baltijos pakrantės ruože

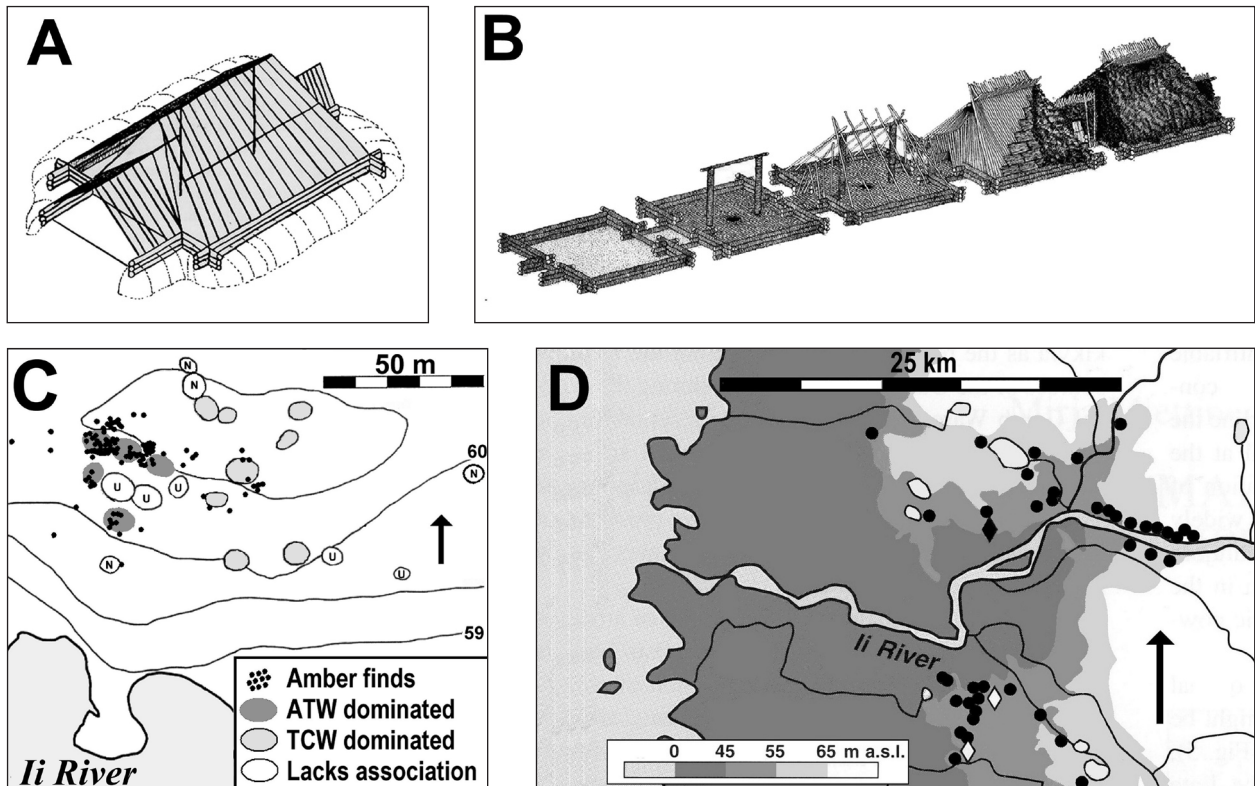


Fig. 5. Semisubterranean houses and sites from Yli-II. (A) Reconstruction of a semisubterranean house (Vaara, 2000). (B) Reconstruction of the later dwelling type of interconnected semisubterranean houses in a row (Drawn by A. Heikkilä and H.-P. Schulz). The Kuuselankangas site, dated to the Typical Comb ware/Asbestos ware transition, c. 3600–3500 cal BC (Table 2), with the cultural affiliation of the different houses and the distribution of amber finds (Koivunen, Núñez, 1995; Vaneekhout, 2009). (D) Dwelling sites (black circles) and megastructure sites (white rhombs) in the vicinity of the present Ii river catchment (Ikäheimo, 2002). The contour lines of 65, 55 and 45 m above present sea level respectively correspond to the shorelines around 3700, 3200 and 2300 cal BC.

5 pav. Pusiau žeminiai pastatai ir archeologijos paminklai Yli-II vietovėje (A). (A) Pusiau žeminio pastato rekonstrukcija (Vaara, 2000). (B) Vėlesnių gyvenamųjų namų, kuriuos sudaro viena eile išsirikiavę, tarpusavyje sujungti pusiau žeminiai pastatai, rekonstrukcija (A. Heikkilä ir H.-P. Schulz brėžinys). Kuuselankangas archeologijos paminklas, datuojamas tipinės šukinės keramikos / keramikos su asbesto priemaišomis kultūros pereinamoju laikotarpiu – apie 3600–3500 m. pr. Kr. (2 lentelė), pažymint kultūrinę skirtingo pobūdžio pastatų afiliaciją ir gintaro radinių paplitimą (Koivunen, Núñez, 1995; Vaneekhout, 2009). (D) Gyvenamosios vietos (pažymėtos juodais apskritimais) ir vietos, kuriose rasta megastruktūrų (pažymėtos baltais rombais), netoli Ii upės baseino (Ikäheimo, 2002). 80, 60 ir 50 m. virš jūros lygį žyminčios kontūro linijos atitinka 5000, 3500 ir 3100 m. pr. Kr.

BC). The amber-rich Yli-Ii sites seem to be related to the unusual and vigorous cultural development undergone by North Ostrobotnian hunter-gathering society during the 4th and 3rd millennia cal BC. This is manifested by a series of apparently related cultural phenomena:

- 1) New wares characterized by large, asbestos-tempered vessels (Kierikki & Pöljä wares).
- 2) An abundance of exotic goods, some from hundreds of kilometers away (Fig. 4).

- 3) Clusters of semisubterranean houses, often arranged in village-like pattern (Fig. 5).
- 4) Introduction of the tradition of erecting burial(?) cairns (Fig. 6)
- 5) Construction of large stone enclosures, megastructures, known commonly as *jätinkirkko* (giants' churches) in the local lore (Fig. 6).

These developments point to a rise in social complexity among the hunter-gatherers in northern Ostrobotnian during 4000–2000 cal BC. For a more detailed

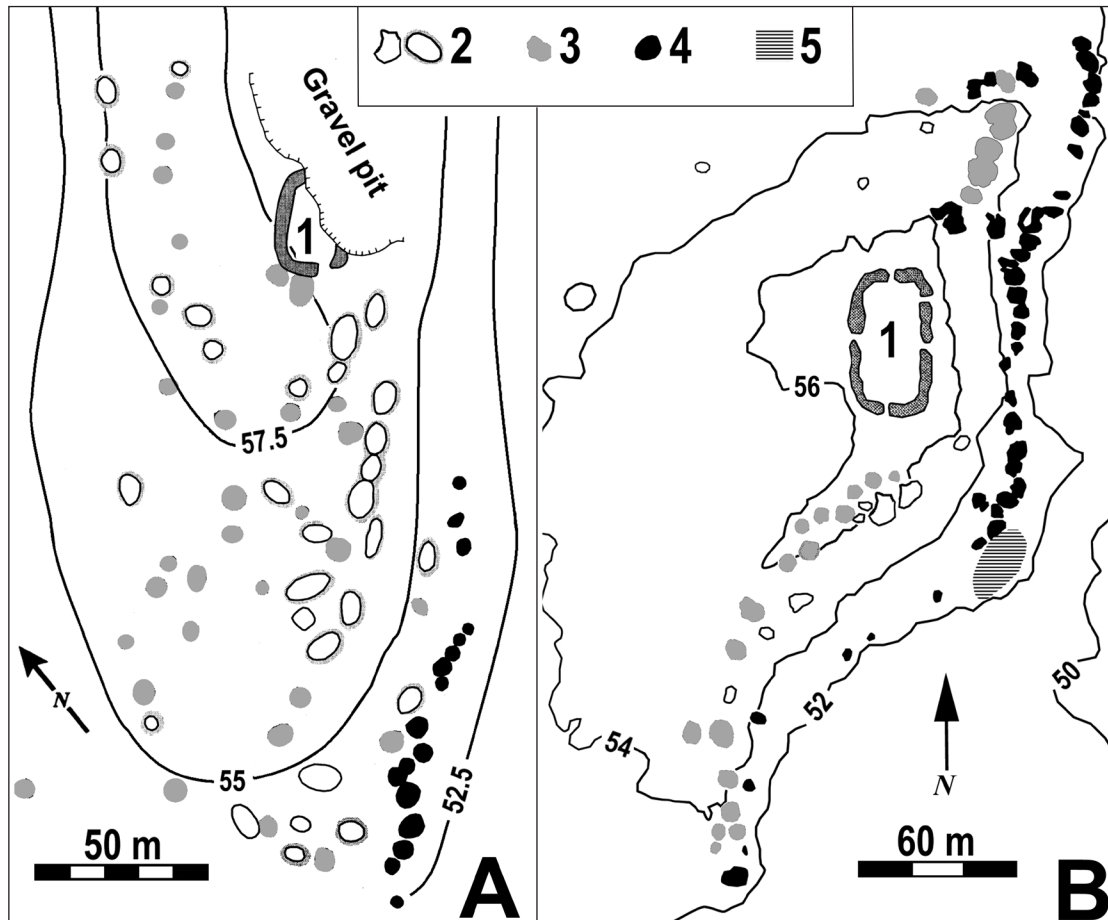


Fig. 6. The megastructure complexes of Kettukangas (A) and Kastelli (B) and their structures: (1) Megastructures. (2) Semisubterranean houses. (3) Burial(?) cairns. (4) Fire-cracked stone heaps. (5) Cultural layer. (Okkonen, 2003; Nuñez, Okkonen, 2005; Núñez, 2009).

6 pav. Kettukangas (A) ir Kastelli (B) megastruktūrų kompleksai ir jų struktūra: 1) megastruktūros, 2) pusiau žeminiai pastatai, 3) laidojimo (?) akmenų krūsnys, 4) nuo ugnies suskaldėjusios akmenų sankaupos, 5) kultūrinis sluoksnis (Okkonen, 2003; Nuñez, Okkonen, 2005; Núñez, 2009)

discussion see Núñez, Okkonen (1999, 2005), Okkonen (2003) and Núñez (2004, 2009 a, 2009 b).

The abundance of amber and other exotic materials suggests an established presence that would have served as support for long-distance trade. Other features that also point to a certain degree of settlement stability are the occurrence of large non-transportable pottery vessels (some over 100 liters in size) and the semisubterranean houses. Both pottery and semisubterranean houses require a fair amount of labor investment, which made no sense unless the site was to be utilized for some length of time. The same would apply to the elaborate wooden constructions found at Purkajasuo, another of the Yli-Ii sites, similar to those found at Sarnate, Latvia (Fig. 7; Núñez, 1995;

Koivunen, 1996; Koivunen, Núñez, 1996; Bērziņš, 2008; Koivisto, 2009). Finally there are the cairns and megastructures. Regardless of their function, they were an attempt to permanently modify –humanize– the landscape and, moreover, must have required some degree of planning and organization generally found in societies more complex than those of hunter-gatherers (Núñez, Okkonen, 1999, 2005; Okkonen, 2001, 2003; Núñez, 2004, 2009 a, 2009 b).

The rich occurrence of amber at some of the Yli-Ii sites is unique in Finland so far (Fig. 3). This society was no stranger to amber despite the long distance to its sources. At Yli-Ii, unlike most other amber find places in Finland, amber does not appear to be a rare precious material meant for a few privileged persons to own,

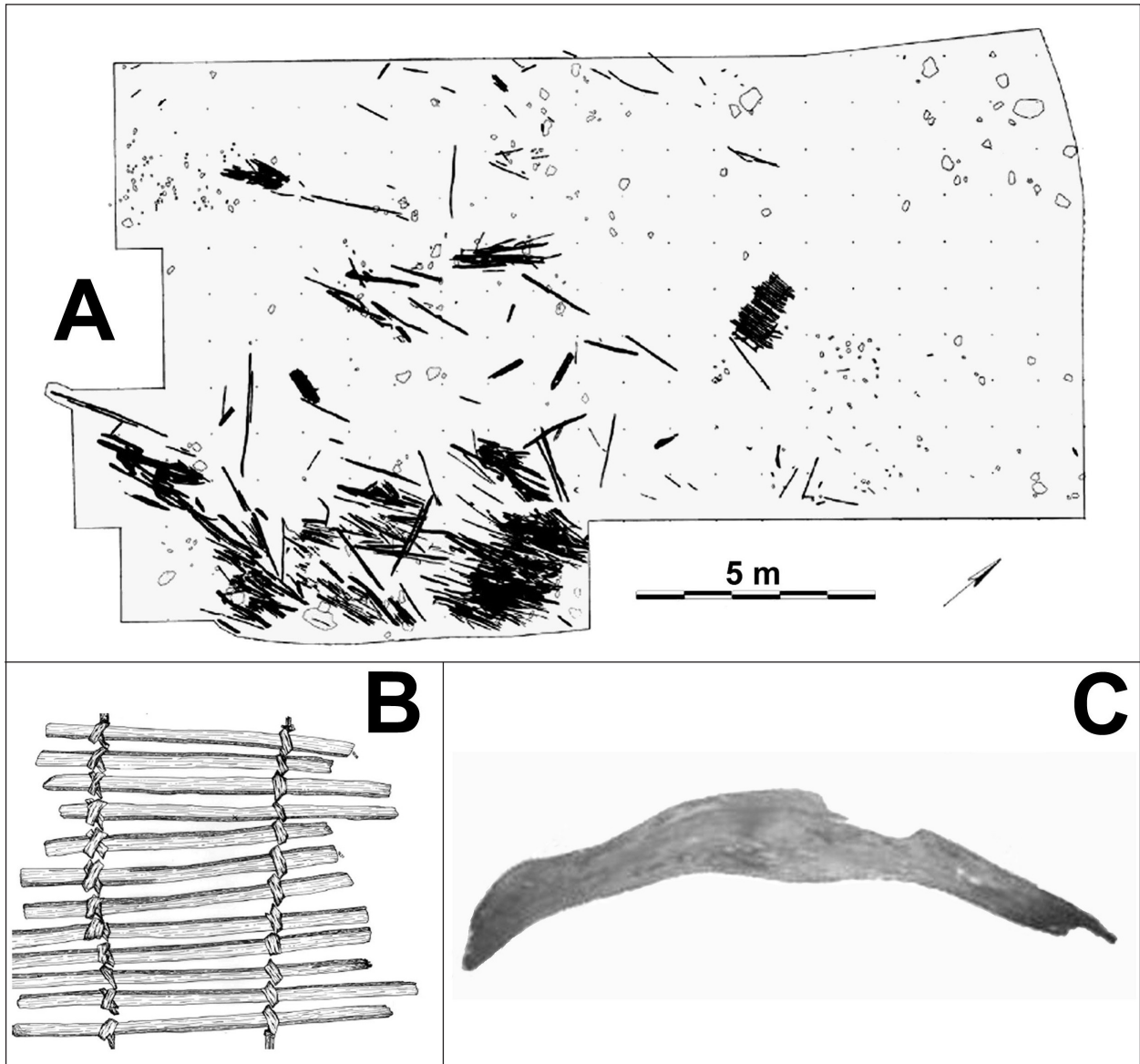


Fig. 7. Wooden artefacts (A) from the excavations of the waterlogged site of Purkajasuo (Fig. 2) in Yli-Ii. All these artefacts were probably buried by a flash flood of the Ii river some time around 3000 cal BC. (B) Satu Koivisto's drawing of one of the many segments of fishing fence made of birchbark-tied laths. (C) Wooden artefact similar to the eel-catching forks described by Bērziņš from the Middle Neolithic site of Sarnate, Latvia. Both B and C have counterparts in Sarnate (Bērziņš, 2008; Koivisto, 2009).

7 pav. Mediniai dirbiniai (A), rasti kasinėjimų metu užpelkėjusioje Yli-Ii Purkajasuo vietovėje (2 pav.). Greičiausiai, visi šie radiniai buvo palaidoti staigaus Ii upės potvynio metu, maždaug apie 3000 m. pr. Kr. (B) Satu Koivisto piešinys, vienos iš daugelio žvejybos užvarų, sujungtų beržo žieve, dalis. (C) medinis dirbinys, primenantis specialias šakes, skirtas unguriams gaudyti, kurias aprašė Bērziņš, apibūdinamas Latvijoje esančią vidurio neolito Sarnate gyvenvietę. Tiek B, tiek C turi savo atitikmenis Sarnate gyvenvietėje (Bērziņš, 2008; Koivisto, 2009)

display and take to their graves. The abundance and mode of occurrence of amber at Yli-Ii does not agree with a restricted possession of the material, but rather suggests that amber may have been available to all/most members of the group. Obviously this was due

to a local surplus of the material, but what could have been the reason for such unusual condition?

One possible explanation would be the privileged situation at the mouth of the 350-km long Ii River during the 4th and 3rd millennia cal BC. Such loca-

tion would have provided easy access to the maritime, riverine and forest resources nearby. Moreover, there are indications that the North Ostrobothnian coast may have experienced a very advantageous period in terms of natural resources during the 4th and 3rd millennia cal BC (Núñez, Okkonen, 1999, 2005; Núñez, 2004, 2009 a). All these favorable factors could have contributed to a healthy and prosperous settlement in the district during the time in question, and this is amply supported by the archaeological record (e.g. Koivunen, Núñez, 1995; Núñez, 1995, 2004, 2009; Koivunen, 1996; Koivunen, Makkonen, 1998; Núñez, Okkonen, 1999, 2005).

Furthermore, In terms of trade and connections, the Ii river mouth would have been a perfect location for linking a sea route operating along the coast with one of the main arteries between the Botnian Gulf and the White Sea. However, it should be pointed out that the Ii River is not the only route connecting the Ostrobothnian coast with the White Sea and Northwest Russia and, consequently, that a similar situation may have developed at the mouths of other major Ostrobothnian rivers as well (Fig. 1).

Based on all this, one could picture the Yli-Iians of the Ii river in the 4th and 3rd millennia cal BC, and perhaps peoples living at the mouths of other major Ostrobothnian rivers, as the successful controllers of a long-distance trade of important goods in northern Finland (Figs. 1, 6) This situation would have made amber more common in the Yli-Ii district and led to its observed distribution. Support for this could be found in the amber objects found on the White Sea coast and northern Norway (Ramstad, 2003, 2006; Zhulnikov, 2008) and in the array of intrusive materials from these and other areas recovered at the Yli-Ii sites.

SOME IMPLICATIONS OF AMBER FINDS IN FINLAND

It is not clear, however, what goods the Ii-river people had to offer in exchange for the precious amber. Furs? Feathers? Dried/smoked fish? Seal train oil? All of these are indeed possible. Admittedly, some of these goods would have been also available further south, but then again the demand may have been simply too great. Furs and train oil would have been perhaps the

most important ones, and precisely these items are known to have been important exports in later times. Cornelius Tacitus (2004, p.23) was probably referring to the characteristic seal skin markings when he wrote in AD 98 that the tribes on the Rhine and Danube used *the spotted skins of beasts, the produce of the outer ocean, and of seas unknown to us*. Furs/hides and seal train oil were important Swedish export goods in the 16th century (Tegengren, 1965).

There is also ample evidence for the mass production of seal train oil in the eastern Åland Archipelago between 1000 BC and AD 500 (Gustavsson, 1987, 1998; Núñez, Gustavsson, 1997; Núñez et al., 1997; cf. also Ylimaunu, 1999). Furthermore, numerous heaps of fire-cracked stones similar to those associated with train oil production in the Åland Archipelago have been reported from Ostrobothnia, especially in association with the megastructures (Fig. 6; Miettinen, 1982; Nordberg, 1994; Forss, 1998; Okkonen, 2003; Nunez, Okkonen, 2005). Radiocarbon, TL and OSL determinations from fire-cracked stone heaps from two megastructure sites have yielded six dates within 3200 and 2400 cal BC (Table 3; Forss, 1998; Núñez, Okkonen, 1999, 2005; Okkonen, 2003; Núñez, 2004, 2010). Interestingly, these dates coincide with the period of Asbestos Tempered wares (ATW, c. 3600–1900 cal BC), particularly the Pölja phase (c. 3000–1900 cal BC), which generally occurs at megastructure sites.

Train oil, whose production may have led to the fire-cracked stone heaps, could have been one of the goods exchanged for amber by the Yli-Iians. Furs or other possible trade items have unfortunately left no evidence.

A final question concerns the path(s) followed by amber trade/traders. Although we cannot pinpoint exact trajectories, it is possible to envisage three different sorts of possible paths between the amber-rich East Baltic shores and North Ostrobothnia (Fig. 8):

- 1) *A western or sea route*: Northwards along the East Baltic coast, across the mouth of Gulf of Finland, and then along the western Finnish coast up to North Ostrobothnia (Fig. 8:1). This is feasible and it agrees with the current distribution of amber finds (Fig. 1), but it is somewhat weakened by the complete lack of amber finds from the Åland archipelago.

Table 3. **Radiocarbon dates (2σ) from the Yli-Ii sites.** All or nearly all the dated material is charcoal. In addition to those listed, there are ten dates within the Early Metal Age (1600 BC–300 AD), 9 from the Kotikangas area and one from Kuuselankangas. Based on Vaneekhout (2009).

3 lentelė. Radiokarbono datos iš Yli-Ii paminklų (2σ). Visa ar didžioji datuojamos medžiagos dalis – medžio anglis. Be jau minėto datavimo, dešimt objektų datuojama ankstyvuosiu metalo laikotarpiu (1600 pr. Kr.–300 m. po Kr.), tai devyni objektai iš Kotikangas regiono ir vienas iš Kuuselankangas regiono. Remiantis Vaneekhout tyrinėjimais (2009)

SITE	METHOD, NUMBER	Cal BC (2σ)
Pahkakoski 2	AMS, Hela-99	4904–4341
Pahkakoski 2	AMS, Hela-96	4825–4450
Pahkakoski 2	AMS, Hela-98	4689–4177
Sorakuoppa	Conventional, Hel-2466	4340–3768
Sorakuoppa	Conventional, Hel-2472	4276–3704
Sorakuoppa	Conventional, Hel-2474	4228–3538
Kotikangas 07	AMS, Beta-231987	4032–3796
Kotikangas 06	AMS, Beta-217712	3970–3613
Sorakuoppa	Conventional, Hel-2475	3956–3376
Kotikangas 06	AMS, Beta-217716	3955–3711
Kuuselankangas	AMS, Hela-75	3937–3367
Kuuselankangas	AMS, Hela-71	3937–3346
Purkajasuo	Conventional, Hel-2740	3933–3110
Kuuselankangas	AMS, Hela-76	3893–3365
Kuuselankangas	AMS, Hela-74	3770–3352
Kotikangas 07	AMS, Beta-231996	3759–3533
Kotikangas 06	AMS, Beta-217714	3696–3382
Kuuselankangas	Conventional, Su-2699	3636–3117
Kotikangas 03-04	AMS, Beta-192925	3635–3375
Kuuselankangas	Conventional, Hel-3684	3635–2942
Kierikkikangas	AMS, Hela-1707	3631–3370
Kotikangas 05	AMS, Beta-205610	3631–3370
Kotikangas 06	AMS, Beta-217711	3626–3362
Kotikangas 05	AMS, Beta-205608	3599–3103
Voima-Kuusela	AMS, Beta-12092	3516–3095
Kuuselankangas	Conventional, Hel-3683	3495–2880
Purkajasuo	Conventional, Hel-3918	3488–2899
Kotikangas 06	AMS, Beta-217715	3485–3099
Kuuselankangas	AMS, Hela-52	3360–2901
Korvala	AMS, Hela-136	3357–2935
Purkajasuo	Conventional, Hel-3917	3348–2678
Kotikangas 03-04	AMS, Beta-192924	2858–2485
Kotikangas 03-04	AMS, Beta-192927	2464–2145
Kotikangas 05	AMS, Beta-205613	2457–2136
Kotikangas 05	AMS, Beta-205609	2275–1979

- 2) *A sea-land route:* By sea/land to the southern shores of the Gulf of Finland, sea crossing to Finland, and then to North Ostrobothnia via inland waterways (Fig. 8:2). It agrees with the distribution of amber finds (Fig. 1), though such route(s) would also imply that at least some of the amber moved in different ways than the eastern goods it is often found with.
- 3) *An eastern or land route:* eastwards through the Carelian Isthmus (Ladoga/Onega area), and from there to North Ostrobothnia via inland waterways (Fig. 8:3). This would mean longer distances than the other two alternatives, but this way amber would have moved together with other presumably eastern goods that occur in Finland and Yli-Ii. We say presumably because some of the flints found at Yli-Ii look very much like the flint observed by M. Núñez in Latvian collections.

It is important to stress that these three “routes” need not have been – and most likely were not – covered in a single voyage, but rather in a series of relatively short journeys made by different individuals, possibly along a loosely established network. Another point to make is that the use of one route does not necessarily exclude the others. Moreover, there may be a time factor connected with both the distribution of amber in Finland and its routes into the country. Some of the three routes may have been more/less active, or inactive, at different periods.

FINAL REMARKS

The rich occurrence of amber at Yli-Ii sites, indicates some sort of connection between North Ostrobothnia and the East Baltic lands in the 4th millennium cal BC. Although it is not clear at this point, it is unlikely that the Ii-river people were the only ones in North Ostrobothnia engaged in this activity. We do know that amber was an exotic good in Finland and that Finnish furs/hides and train oil may have been very valuable commodities elsewhere to the south in the 4th and 3rd millennia cal BC. The latter seems to have been the case later at least in the 1st millennium BC (Gustavsson, 1998). Boat travel across the Finnish Gulf and along Finland’s west coast was possible, and there was always the ice in winter (*cf.* Jaanits, 1985; Núñez, 1994; Kriiska, Lougas, 1999). Moreover, the advent of a fairly seaworthy watercraft type in the Baltic is suggested by the rise of cod

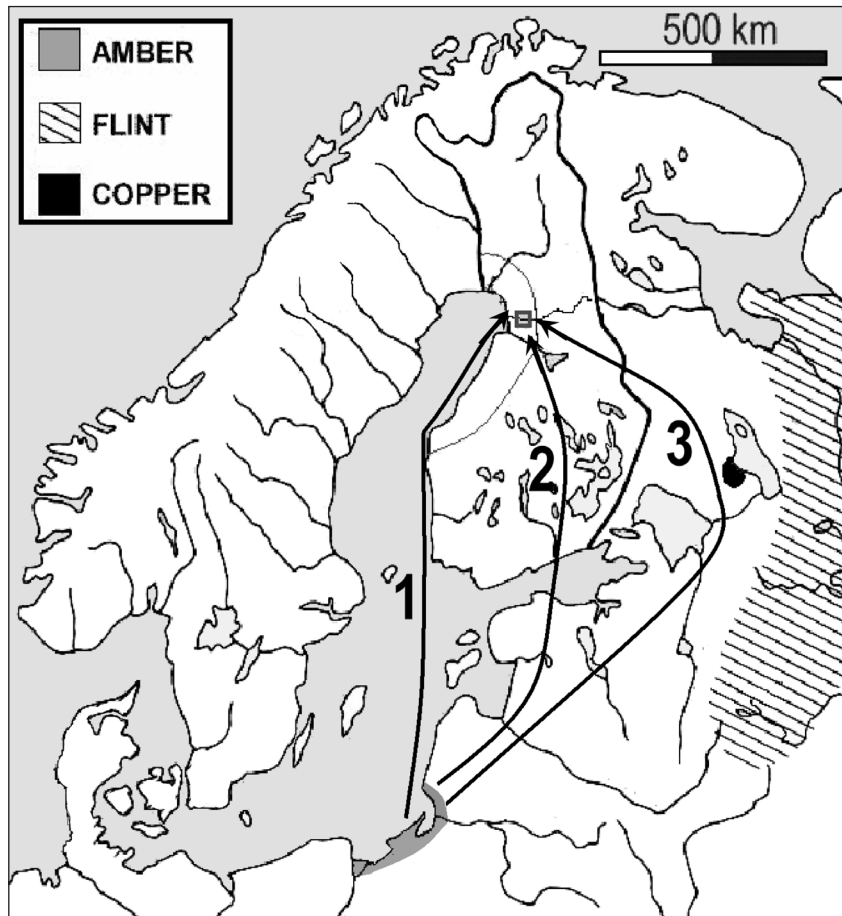


Fig. 8. Paths that may have brought East Baltic amber to North Ostrobothnia and the sources of some of the eastern exotic goods that are often found in association with amber artefacts in Finland. For further details about these three paths see the text. This illustration is based on Huurre's map (1995), which only shows the main source of amber of Lithuania/Latvia but, as mentioned in the text, amber can be picked up on a much broader stretch of the southern Baltic coast.

8 pav. Keliai, kuriais galėjo būti gabenamas gintaras iš rytų Baltijos į šiaurės Ostrobotniją, ir kai kurių Rytų egzotiškų daiktų, dažnai aptinkamų Suomijoje kartu su gintaro dirbiniais, radavietės. Detalesnė informacija apie šiuos tris galimus kelius pateikiama tekste. Ši iliustracija remiasi Huurre žemėlapiu (1995), kuriame parodyta tik pagrindinė Lietuvos / Latvijos gintaro paplitimo teritorija, tačiau, kaip minėta tekste, gintaras galėjo būti renkamas daug platesniame pietinės Baltijos jūros pakrantės ruože.

and porpoise in the refuse faunas of coastal sites in the 4th and 3rd millennia cal BC (Núñez, 1994, 1996). The introduction and propagation of such watercrafts may have created a demand for waterproofing substances like train oil. Another possibility is that need for train oil 3500-2000 cal BC came from the Carelia or further east in the Russian interior, where direct access to train oil may have been restricted. Sites from the broad Carelian district and the Volga-Oka region have yielded finds of amber, flint, copper and other materials (e.g. Meinander, 1961; Taavitsainen, 1982; Carpelan, 1999, 2006; Oshibkina, 2001; Zvelebil, 2006; Zhulnikov, 2008), many of which were also found at Yli-Ii and other Finnish sites.

Another aspect likely to be related to long-distance trade in North Ostrobothnia is a local trend towards more sedentary and complex communities, as reflected by the advent of semisubterranean house clusters, cairns and megastructures within 4000–2000 cal BC. All seems to indicate that there was a surge of cultural complexity in North Ostrobothnia during the 4th and 3rd millennia and amber trade and train oil production may have been a connected to this.

Admittedly much of what is said above may border on speculation. Future research will hopefully shed further light upon the Middle Neolithic settlement of North Ostrobothnia and help determine whether or

not the tentative interpretations made on the basis of newly collected data are correct. One thing is clear, however, a considerable amount of East Baltic amber

was found over 1000 km north from its source, within the layers of Middle Neolithic dwelling sites in Yli-Ii, North Ostrobothnia.

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BALTIŠKO GINTARO RADINIAI ŠIAURĖS SUOMIJOJE 4000–2000 M. PR. KR.

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Santrauka

V tūkstantmečio prieš Kristų pabaigoje Suomijoje pasirodė gintaras. Jis buvo susijęs su tipiška šukinės keramikos kultūra (apie 4100–3500 m. pr. Kr.). Šių ankstyvųjų gintaro radinių paprastai aptinkama kapuose, kuriuose yra ochros ir dažniausiai gausių titnago įkapių. Tokios egzotiškos įkapės tam tikruose palaidojimuose rodo buvus transegalitarinę tradiciją.

Tikėtina, kad iki ketvirtojo tūkstantmečio prieš Kristų vidurio įvyko Suomijos šukinės keramikos kultūros visuomenės regionalizacija. Tai matyti iš regioninių keramikos skirtumų. Šiaurės Ostrobotnijos vietiniai gyventojai pradėjo naudoti šukinę keramiką, kuri panaši į *Kierikki* ir *Pöljä* keramiką su asbesto priemaišomis (atitinkamai apie 3600–3000 m. pr. Kr. ir apie 3000–2000 m. pr. Kr.). Atrodo, kad jie tęsė savo transegalitarinę tradiciją ir davė pradžią daugumai naujų kultūros reiškinių. Tai matyti iš socialinio kompleksškumo didėjimo III ir IV tūkstantmetyje prieš Kristų. Šiai raidai būdingi tokie požymiai: 1) egzotiškų daiktų iš įvairių, tolimų vietų atsiradimas; 2) pusiau žeminio tipo pastatai, įrengti kaip kaimeliai, kurių dažnai aptinkama prie upių žiočių; 3) tradicijų krauti akmenų krūsnis atsiradimas ir 4) didelių akmeninių aptvarų, megastruktūrų, paprastai žinomų kaip *jättekyrkor* (milžiniška bažnyčia), statyba.

Per pastaruosius 15 metų buvo atlikta nemažai pusiau žeminių pastatų tyrimų, ypač buvo tyrinėjama Yli-Ii ir Ii upės slėnyje. Tyrinėjant Yli-Ii paminklus, buvo rasta įvairių egzotiškų radinių, tarp jų titnago, skalūno, gintaro ir greičiausiai vario dirbinių. Įdomu, kad gintaro radinių aptikta ne laido-

jimo pamikluose, bet gyvenviečių kultūrinuose sluoksniuose. Susidaro įspūdis, kad, nepaisant gintaro egzotiškumo, jis buvo gana būdingas regionui prieš 5000 metų. Kitaip nei kitose Suomijos vietovėse, neatrodo, kad gintaras buvo reta, brangi medžiaga, kurios įsigyti, ją nešioti ar dėti šalia mirusiojo į kapą galėtų tik keletas privilegijuotų visuomenės narių. Gintaro gausa Yli-Ii vietovėje ir jo atsiradimo būdas niekaip nepaaiškina ribotos jo kaip medžiagos nuosavybės. Priešingai, archeologiniai tyrimai perša išvadą, kad gintaras galėjo būti prieinamas visiems arba daugeliui visuomenės narių.

Akivaizdu, kad Yli-Ii vietovėje būta gintaro pertekliaus, tačiau kokios šio neįprasto reiškinio priežastys? Visi gintaro radiniai tipologiškai gali būti siejami su Rytų Baltijos regionu. Vis dėlto lieka neaišku, kaip šie gintaro dirbiniai pasiekė šiaurės Ostrobotniją: 1) Laivais palei Suomijos pakrantę? 2) Sašumos keliais arba ežerais per Pietų Suomiją? 3) Per Vakarų Rusiją ir plaukiant ilgąja Ii upe?

Pirmoji versija yra galima, tačiau ją kiek paneigia tai, kad Ålandų archipelage nerasta gintaro dirbinių. Antroji versija būtų patikima, turint omenyje gintaro radinių paplitimą, tačiau tai reikštų, kad gintaras keliavo kitu keliu nei medžiagos iš Rytų, su kuriomis jis aptinkamas. Trečioji versija, nors ir apima didesnę atstumą, reikštų, kad Baltijos gintaras ir titnagas iš Rytų buvo gabenami tuo pačiu maršrutu. Nors šiuo metu įtikinamiausia yra trečioji versija, būtina atsižvelgti į tai, kad visi trys išvardyti gintaro gabenimo keliai yra įmanomi ir vienas kito nepaneigia.

Iš anglų kalbos vertė *Auksė Pūraitė-Kuokštienė*

Įteikta 2011 m. kovo mėn.