

**Gytis Piličiauskas**

## **ECHOES OF THE DAGGER PERIOD IN LITHUANIA, 2350–1500 CAL BC**

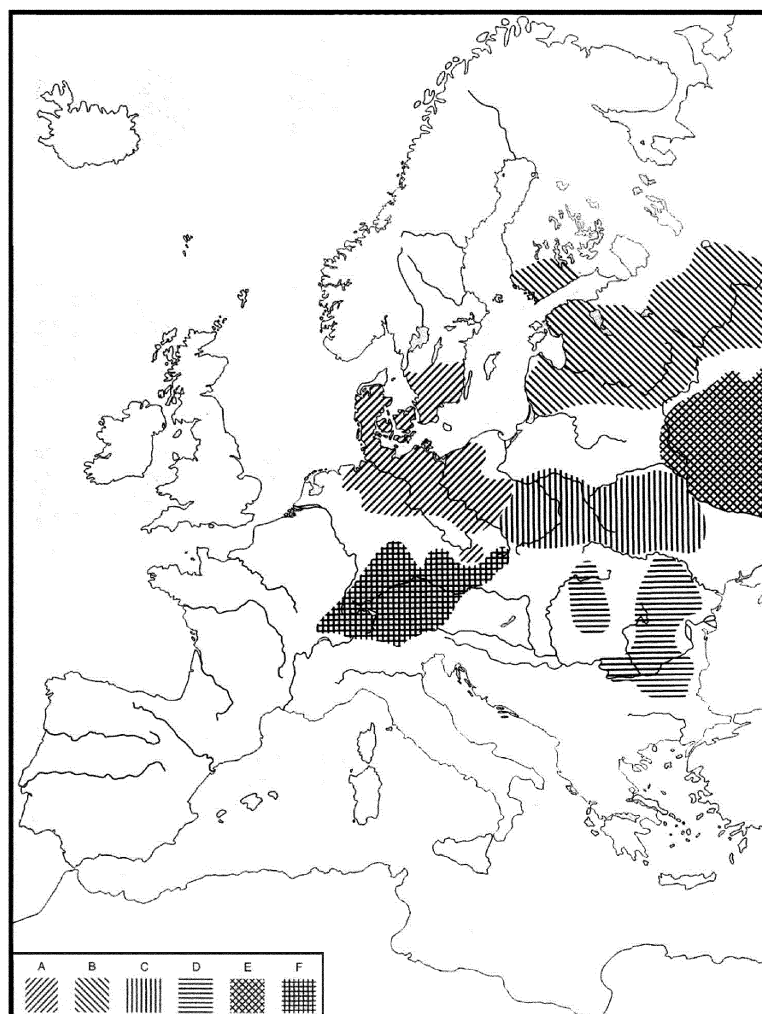
This paper deals with large bifacial flint points, i.e. daggers and spearheads, in Lithuania during the Late Neolithic – Early Bronze Age. 13 find places of such artefacts were registered in Lithuania. Find places, contexts, raw material and forms of these tools were examined. Highly diverse origins of flint daggers and spearheads found in Lithuania were suggested. It emerged that the artefacts came from the Upper Volga, Volhynia and south Scandinavia. Some evidence of local production of large bifaces were identified near flint outcrops in the Upper Nemunas. An attempt to explain strikingly different production scales and number of daggers in south Scandinavia and the Upper Nemunas basin was made, and a role of social factors responsible for that was emphasized.

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### **Introduction**

The term “Dagger Period” is most common when dealing with the archaeology of south Scandinavia. In Denmark it synchronizes Late Neolithic and Period I of the Bronze Age, i.e. 2350–1500 cal BC (Lomborg 1973; Apel 2001). In the main, the Dagger Period in south Scandinavia coincides with the Early Bronze Age in western and central Europe. Flint daggers, the first metal artefacts and bell beakers are significant archaeological markers of this period. This paper analyses one of them – the production and distribution of large bifacial points, i.e. flint daggers and spearheads.

The inspiration for this article came from the book by the Polish archaeologist Jerzy Libera in which he describes bifacial artefacts found in Poland and west Ukraine (Libera 2001). This monograph contains the map of distribution of bifacial forms in Europe, in which the Upper Nemunas has been left not hatched – like the area with no distribution of the bifacial artefacts (Fig. 1). In a sense Libera was right – large flint daggers and spearheads are seldom found in the Upper Nemunas if compared to south Scandinavia, Volhynia or the Upper Volga. However, the experience in excavations of Stone Age sites in south Lithuania



**Fig. 1.** Distribution zones of bifacial forms in Europe according to Jerzy Libera (2001, fig. 36). A western Baltic, B eastern Baltic, C Volhynian – Little Poland, D south Carpathian – Balkanian, E Dnieper – Volga, F north Alpine.

and the finds observed in museum collections suggest that large bifaces were produced in the Upper Nemunas basin and imported daggers were used in the rest of Lithuania (Fig. 2).

The aim of this article is to analyse large bifacial points, both tools and find places, as well as to answer the question why the large-scale production of flint daggers never began in the flint-bearing Upper Nemunas basin. A short survey of find places of large bifacial points and discussion on their probable origins should be done first.



Fig. 2. Find places of large bifacial points in Lithuania.

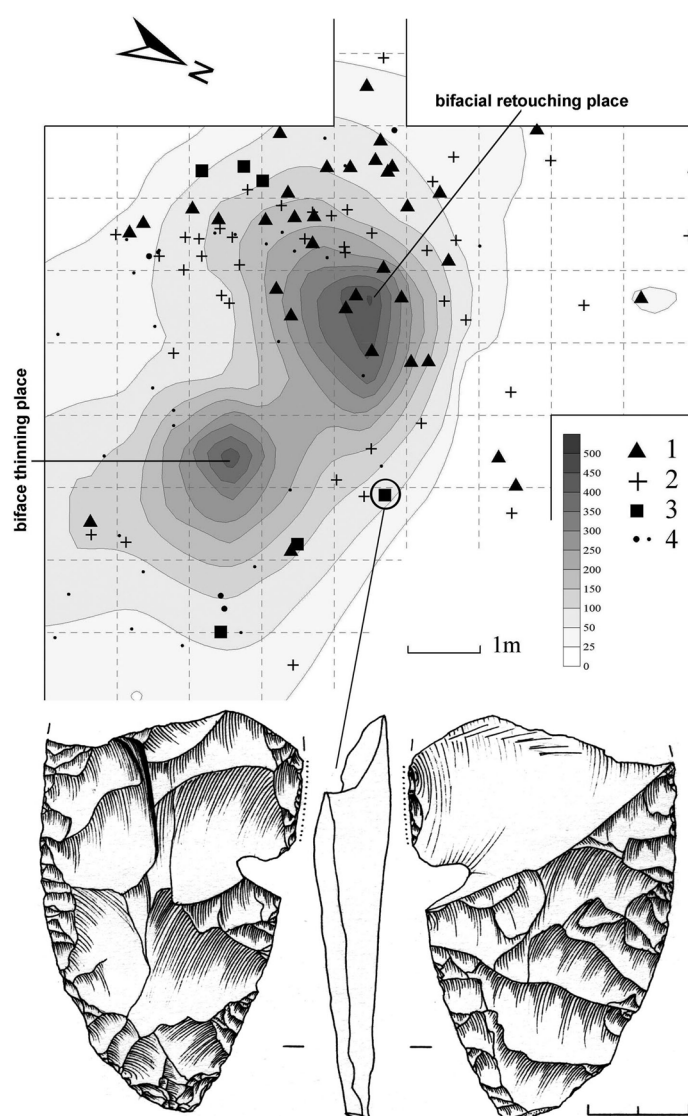
### Daggers and spearheads in Lithuania. Find places and origins

Flint points longer than 10 cm, processed bifacially by the soft hammer technique and having at least one sharp point, are discussed in this paper. Large bifacial artefacts have been used as daggers, spearheads or knives. Sometimes the function of weapons is confirmed by archaeological research. For example, flint dagger (spearhead?) from the male grave in Stare Gorozhenno burial-mounds (Yamnaya culture, Ukraine) had its sharp point broken and left in the abdominal region of the dead man (Klochko 2001, fig. 29: 6, 8). The majority of daggers found in Scandinavian graves had been placed in the waist area of the dead, evidently the way the daggers used to be worn (Wojciechowski 1976, 38).

Applying the above description of large bifacial points, about 13 artefacts from Lithuania could be related to this category of prehistoric finds.

During archaeological excavations in the Barzdis 1 (Varėna district) Stone Age site, a dagger was found. It was 10 cm long and 3 cm wide. The tool was made of a thick blade (Rimantienė 1999, fig. 17: 2). The raw material is of local origin, i.e. grey erratic flint demonstrating black transparent and lighter opaque zones. It is very common to Upper Nemunas basin. No ceramics typical of the Corded Ware Culture (henceforth – the CWC) were found in this sandy site and the dagger should be related to the post-CWC pottery which used to be decorated with imprints, incisions and lines (e.g. Rimantienė 1999, fig. 10).

In 1998–1999 excavations of a flint knapping site took place in Karaviškės 6 Stone Age settlement (Varėna district, Piličiauskas 2004). Bifaces used to be knapped in this flint knapping place, approx. 6 m in diameter, and the produced flakes were mostly used in making knives and arrowheads. A fragment of a large biface broken during the production process was found alongside plenty of biface thinning and pressure flakes (Fig. 3). Most likely it was supposed to become a



**Fig. 3.** Broken and discarded biface from biface thinning place in Karaviškės 6 site, Varėna district. 1 heart-shaped arrowheads, 2 other pressure flaked tools and fragments, 3 large bifaces, 4 stone pieces. According to Piličiauskas 2004.

dagger, but an unsuccessful stroke damaged the preform. Length: 7.7 cm, width: 5 cm, thickness: 1.2 cm. The thickness/width ratio of the artefact is 1/4–1/5. According to Errett Callahan's model, the dagger must have been damaged in one of its late production stages (Apel 2001, fig. 2: 4). If finished successfully, it could be approx. 16 cm long. As no large cortex flakes have been found, it is possible that the tool was being produced not from a piece of raw material, but from a bifacial preform that had been prepared earlier somewhere by the flint extraction place. Flakes gathered around the biface thinning place weighed about 1.5 kg. It is not a great weight and this supports an idea that only one dagger was produced here. Except for some ceramics from the Early Neolithic, there were no pottery materials in the excavated area. The work producing many sharp flakes took place farther from the residential zone or in some special camp. The Karaviškės 6 sandy site has no organic materials, therefore the flint knapping place can be dated to the Early Bronze Age just by flint artefacts, i.e. an endscraper with pressure flaked base, knives with convex working edges made on thick flakes and heart-shaped arrowheads with convex flanks (Piličiauskas 2004, figs 16, 18).

A few fragments of daggers that were made from local Upper Nemunas flint have been found in the Katros ištakos 1 site (Varėna district). The ceramics are very diverse and have some characteristics of the CWC, the Nemunas culture and the Globular Amphora culture (Ostrauskas & Rimantienė 1998 and personal information from dr. Tomas Ostrauskas).

The dagger found in Rudnia vicinities (Varėna district) is currently displayed at the National Museum of Lithuania (Fig. 4: 2). It is not quite regular in shape and was made of local erratic Upper Nemunas flint. Length: 11.4 cm, width: 3.9 cm.

An 18.2-cm long dagger (Fig. 5) was found by accident in Kuršeliai village (Klaipėda district). It is 4 cm wide and 1.5 cm thick. This is a Scandinavian dagger of type I, made from grey turbid and spotty flint with both surfaces polished. The surface of some daggers used to be polished before final retouch in Denmark (Stafford 1998).

Not much is known about the dagger that was found in the 19th century in Kuršių Nerija (Jentzsch 1892). Judging by its outline drawing (Fig. 6: 3), the artefact resembles Scandinavian artefacts of type I (Lomborg 1973) and the Płonia type daggers that are widespread in Polish Pomerania (Libera 2001).

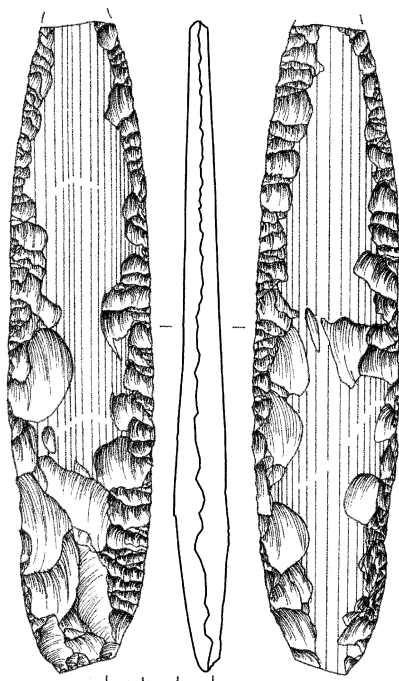
In the Netiesos 1 site (Varėna district) a fragment of dagger was found during the archaeological excavations by Rimutė Rimantienė (Fig. 6: 1). Length: 6.9 cm, width: 3.6 cm, thickness: 1.1 cm. It was made from grey chalk flint of local origin. In the form of a wide leaf, this dagger is similar to the one from the Karaviškės 6 site.

The Archaeological Atlas of Lithuania contains a notice about the finding of “a wide tanged spearhead” in the Prūseliai village (Panevėžys district; Rimantienė 1974, 66). The size of the artefact is unknown, maybe it is just a large arrowhead.

Before World War II, a 2-m long wooden spear with its flint head of 15 cm was found in Vaitkūnai (Rokiškis district), in the Jara River bed (Rimantienė 1974, 75). It is mentioned that signs of the spearhead fastening have survived.



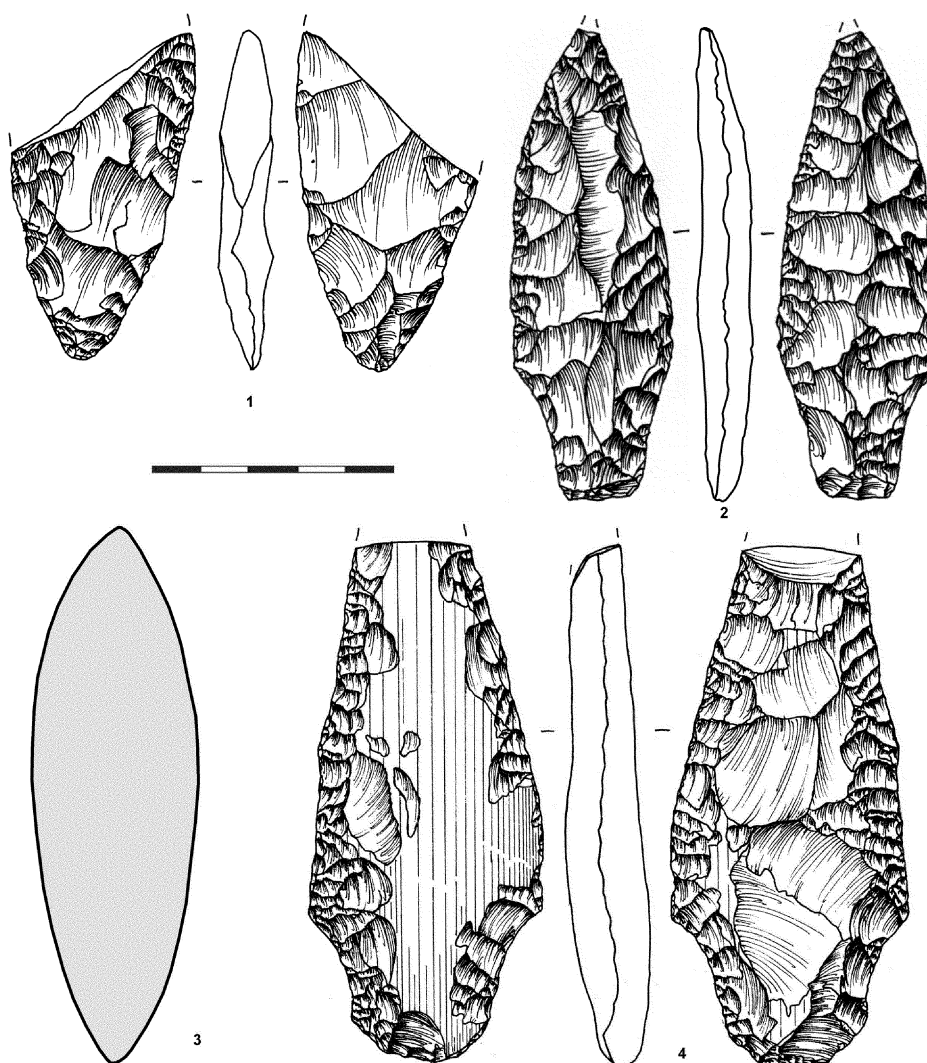
**Fig. 4.** Bifacial tools from Lithuania. 1 Kretuonas 1 site, Švenčionys district (Nalšia Museum in Švenčionys), 2 Rudnia, Varėna district (National Museum of Lithuania EM-2043: 523), 3 Veliuona, Jurbarkas district (National Museum of Lithuania EM-2054).



**Fig. 5.** Flint dagger from Kuršeliai, Klaipėda district (History Museum of Lithuania Minor 453).

A fragment of roughly knapped dagger was found during archaeological excavations at the site Varėnė 10, Varėna district (Juodagalvis 2000). Length: 5.9 cm, width: 2.6 cm, thickness: 1.1 cm. The dagger is hardly burned and fragile. However, it could have been about 10 cm long before it broke.

A large bifacial point with wide and short tang was found in Varguliai hillfort (Anykščiai district; Fig. 6: 4). Length: 10.7 cm, width: 4.8 cm, thickness: 1.4 cm. In the early 20th century the artefact belonged to the collection of W. Szukiewicz and now it is displayed at the National Museum of Lithuania. The place of its finding is unusual, and its appearance is unique too. One side of the artefact has been polished and then edges have been knapped off. The final processing was done in a very ignorant manner. During



**Fig. 6.** Bifacial tools from Lithuania. 1 Netiesos 1 site, Varėna district (National Museum of Lithuania EM-1987: 1957), 2 Velžys, Panevėžys district (Panevėžys Local Lore Museum A1212/PKM12677), 3 Kuršių Nerija, Neringa city (Jentsch 1892), 4 Varguliai, Anykščiai district (National Museum of Lithuania EM-228).

the final stage, short flakes have been knapped off and the edges ended up being blunt. The spearhead seems to have been tampered with by someone without any experience in bifacial knapping. The initial form of this large biface must have been pretty different from the present one. The finding place of the artefact is possibly not the primary one and the artefact turned up at the hill fort in the Iron Age as a strange object. More cases like that emerge when investigating the find places of flint axes (Piličiauskas 2007).

14.6 cm long and 3.6 cm wide bifacial artefact was brought to the Veliuona School (Jurbarkas district; Fig. 4: 3). The exact original locality is unknown. One of its sides is almost straight and the other is bent, so the artefact resembles a bifacial knife or a sickle. The artefact is knapped and precisely retouched. The flint is transparent, fine-grained and homogeneous. The Veliuona point is certainly imported and the place of its origin must be in regions farther to south, maybe Volhynia. Stone artefacts made in Volhynia have been already found in south Lithuania (e.g. stone axes from Norūnai hoard, Prienai district; Brazaitis & Piličiauskas 2005, 87).

There is a record in Archaeological Atlas of Lithuania about a spearhead found in the vicinities of Velžys (Panevėžys district; Rimantienė 1974, 77). This artefact is kept in the Panevėžys Local Lore Museum (Fig. 6: 2). Length: 10 cm, width: 3.3 cm, thickness: 1.2 cm. The spearhead was made of dark grey flint. There is no such raw material in the Upper Nemunas. Very likely it is a variety of Valday flint. The form of the point resembles some bifacial tools found in both Latvia and the Upper Volga basin.

A whole spearhead was found in the top layer of the Kretuonas 1 site (Švenčionys district; Fig. 4: 1; Girininkas 1998). It is 8.9 cm long, i.e. shorter than it should be according to the suggested definition of large bifaces. However, the artefact is unique due to its raw material and form, and is mentioned for that reason. Judging by the photo the spearhead was made of opaque brownish siliceous raw material, maybe Valday flint (see also: Lietuvos archeologija, 2002, 23, bottom cover).

One more find place of flint daggers is mentioned in archaeological literature. There are two Scandinavian daggers of types III and VI (?) in the Museum of Stockholm. The tools were brought from Lithuania by Oscar Montelius in 1880 (Lamm 1997). In the mid-19th century these artefacts formed a part of the collection of Livonian nobleman Carl von Schmith. In his manuscript titled “Necrolithuanica”, the then owner described their find place as the vicinity of Druskininkai (Varėna district; Schmith 2006). The circumstances of the finding are still uncertain. Druskininkai is quite far from Scandinavia and finding two daggers at once in the same place is not very likely. Considering von Schmith’s life story, the idea that he got these things from other antiquaries or borrowed them from the Museum of Antiquities in Vilnius becomes most credible. In 1843 count E. Tyszkiewicz had increased the collection of this museum with daggers brought from Sweden. Von Schmith headed the Section of Archaeology of the museum in 1863–1869 and all archaeological finds were his responsibility (Kulikauskas & Zabiela 1999, 85).

In sum, the number of large bifacial points in Lithuania is very small. In Poland, almost 600 of the same objects were registered (Libera 2001, 137 ff.), and 4200 – in Denmark (Apel 2001, tab. 9: 2). Most often, unbroken daggers are found in Lithuania accidentally (Kuršeliai, Vaitkūnai, Varguliai), whereas the fragments tend to be found during excavations (Karaviškės 6, Varėnė 10, Katros ištakos 1). In Poland unbroken flint daggers are found by accident as well, and



such cases make up about 90% of all find places (Libera 2001, 131). When examining flint axes, such connection between a condition of an artefact and finding circumstances is even more evident (Piličiauskas 2007). Large bifacial artefacts that required much time and skill and are sometimes made of non-local raw material, were considered as valuable items in prehistory. Accidentally found unbroken daggers and spearheads may have been lost or sacrificed. In East Baltic no such tools have been discovered in graves.

### **Chronology**

In Lithuania there are no flint daggers from closed and well-dated complexes; for this reason their chronology can be determined only by comparing them to reliably dated finds in other countries and by trying to get the daggers attached to the ceramic complexes of some sandy sites.

The first flint daggers in Poland appeared in the middle of the third millennium cal BC and are being related to the CWC (Libera 2001, fig. 38). So far there is no data about people of the CWC using flint daggers in Lithuania. No daggers have been found in either CWC graves or settlements. Daggers and their fragments found in the Stone Age settlements seem to be related to the post-CWC period complexes. Based on the radiocarbon dates of Papiškės 4 (Brazaitis 2004, 217), Šventoji 9 (Rimantienė 2005, 405 ff.) and Kretuonas 1C (Antanaitis & Girininkas 2000) sites, the post-CWC horizon may be dated to 2300/2200–1600/1500 cal BC. This period almost coincides with the stages of intense dagger-making in Lesser Poland and Scandinavia, i.e. the Mierzanowice and Bell Beaker archaeological cultures.

### **The traditions of biface-making in eastern, central and northern Europe**

Biface thinning and pressure flaking techniques spread widely in Europe in the Middle and Late Neolithic. Various bifacial artefacts are characteristic finds in the settlements of this period. The production of small bifacial points, for example heart-shaped arrowheads, is simple enough as they can be made of wide and thin flakes just by pressure flaking. Even erratic flint of poor quality and small size will do for this task. Therefore bifacial arrowheads spread widely over a large area. The production of large, symmetrical, relatively wide and thin bifacial artefacts requires both pressure flaking and high skill in biface thinning. The combination of these two techniques used to give good results. Bifacial thinning of a macrolithic tool gives plenty of wide flakes suitable for production of smaller tools by the method of pressure flaking. Biface thinning flakes have been used as performs for smaller artefacts in the flint knapping place Karaviškės 6 (Fig. 3). The hoard of large bifacial flakes was found in the area of Jara 1 site, Anykščiai district (Girininkas 1977). Judging by the form and size of these flakes, the kit has been

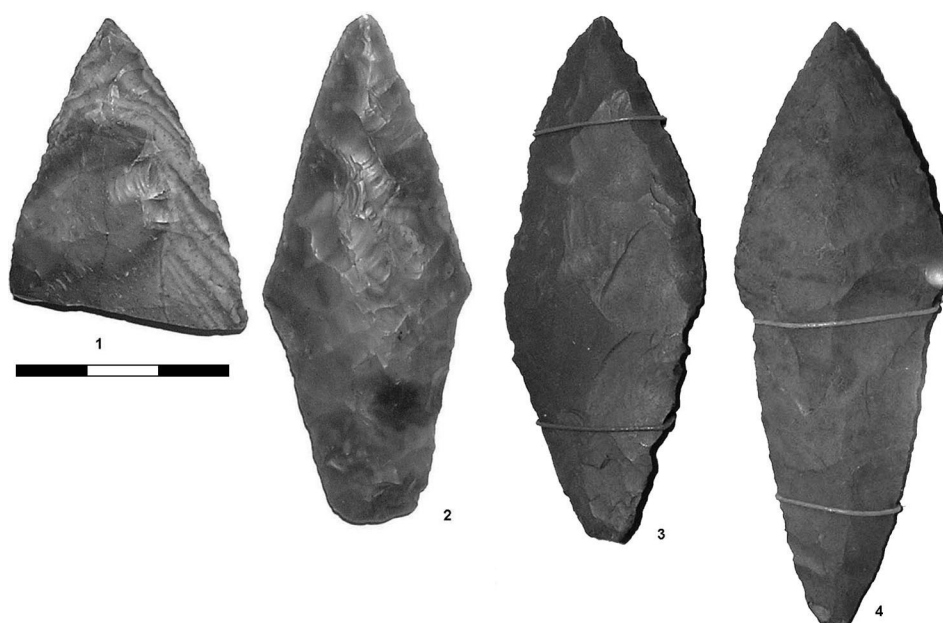
formed in the place of biface thinning and certain criteria of selection have been applied. Wide and thin flakes were picked out as valuable performs, while smaller and thicker pieces were left over. Judging by the texture and colour of raw material, the Jara 1 hoard could have been brought from the Upper Nemunas.

The production of large bifaces does not only need knowledge, but also practical skills that can be passed on from generation to generation, especially in places rich with flint raw material of sufficient size and quality (Apel 2001). In most parts of the eastern Baltic region there is no flint raw material suitable for the production of such elaborated tools. Only a small part of south-east Lithuania has enough raw material of good quality. Daggers and spearheads found in other places were imported – made far away from their finding places. A few regions with natural conditions favourable to the production of large bifacial artefacts are in eastern, central and northern Europe: the Upper Volga, Middle Dnieper, south Scandinavia, Volhynia, south Poland, and the upper reaches of the Nemunas and Pripet rivers (Fig. 7).

A bifacial knapping technique seems to be the first to prosper in the Upper Volga somewhere in the fourth millennium cal BC (Krainov 1987). Bifacial spearheads made of the Upper Volga or the so-called Valday flint are found in distant regions, e.g. Latvia (Fig. 8), Estonia, Finland. However, most of these



**Fig. 7.** Distribution of good size and quality flint in eastern, central and northern Europe. According to: Gurina 1973, fig. 1; Wiślański 1979, fig. 122; Olausson 1983, fig. 1; Madsen 1993, 126; Zhilin 2000.



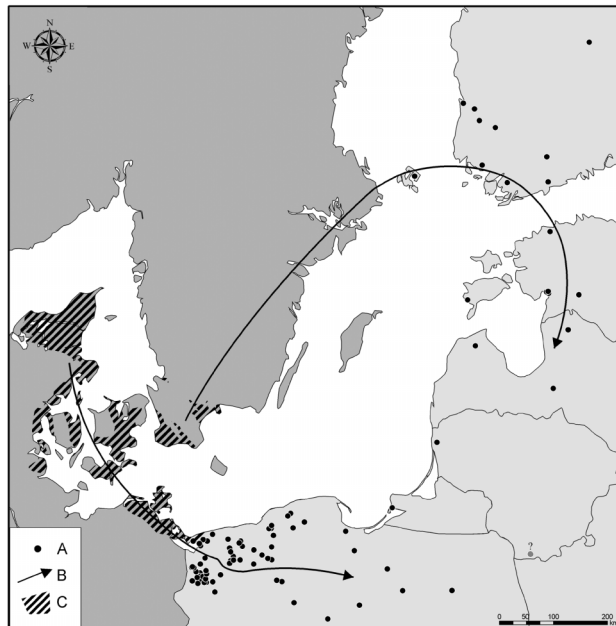
**Fig. 8.** Bifacial points from Latvia (History Museum of Latvia).

artefacts are comparatively small, shorter than 10 cm. Some of them are not of common leaf shape, but look rhombic or have short tangs (Zagorskis 1987, pl. 20: 5; Loze 2001, fig. 53). A similar tanged point is known from north Lithuania (Fig. 6: 2). Some bifaces of the Upper Volga are much like artefacts that used to be made in the Middle Dnieper during the Late Neolithic (Artemenko 1967). The spearhead from Kretuonas 1 site (Fig. 4: 1) is close to the traditions of bifacial artefacts of the Volga and Dnieper regions. Judging by the dates of Stralica burial ground, such points were still used in 1800–1700 cal BC (Kryvaltsevich & Kovalyukh 1999, pl. 1).

In south Scandinavia, the production of daggers was started already after the Single Grave period at about 2350 cal BC. The impressive scale of production, variety of forms and some highly standardized types are characteristic of this region (Fig. 9). Flint daggers are considered to have been copies of metal daggers and symbols of man's social status. Large quantities of Scandinavian flint daggers spread far away from their production places by means of exchange. These artefacts can be met in the east Baltic region as well (Fig. 5). It is interesting that in south Finland and Polish Pomerania, these daggers are found in larger quantities than in Estonia, Latvia and Lithuania. These facts suggest an idea that Scandinavian daggers might have spread by two ways – along the south Baltic coast and through the Åland Isles (Fig. 10). Further from places of production the number of daggers seems to gradually decrease, and the distribution is dispersive. All this suggests that daggers have been travelling from hand to hand, from one



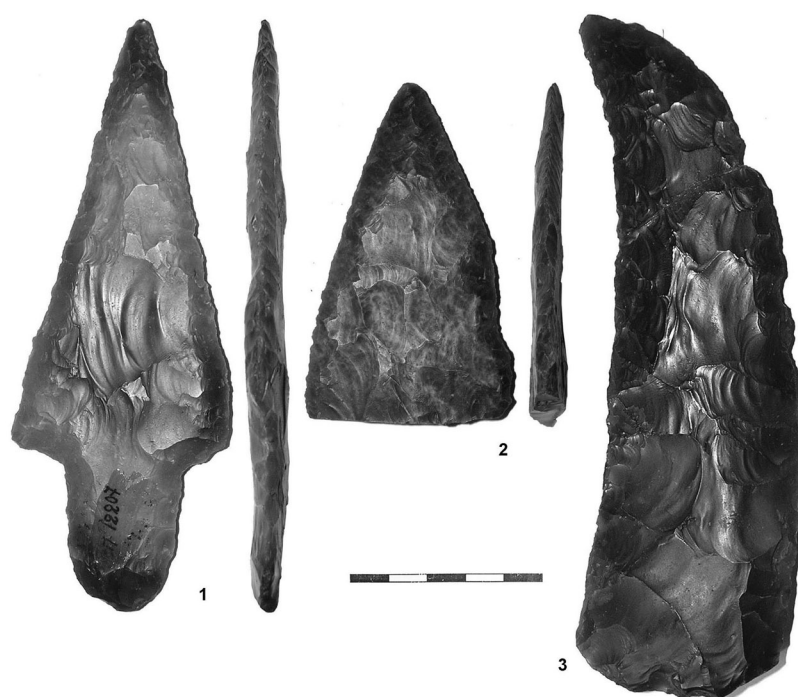
**Fig. 9.** Scandinavian flint daggers from Sweden (National Museum of Lithuania).



**Fig. 10.** The distribution of Scandinavian flint daggers (A) in the east and south Baltic region and possible trends of “down the line” trade (B). Good size and quality flint zone in the south-west Baltic region is hatched (C). According to: Wojciechowski 1976; Olausson 1983, fig. 1; Madsen 1993, 126; Libera 2001; Kriiska & Tvauri 2002, 86.

village to another. Exchange of this kind is called “down the line” trade (Renfrew 1975). Most probably this is the way the Kuršeliai dagger reached western Lithuania (Fig. 5). A dagger of similar length was found by Lake Mezha in Vitebsk district, the north-west Belarus. In archaeological literature this artefact has been related to the influence of the west and also to the Bell Beaker culture (Czebreszuk & Krywaltsewitsch 2003). The polished surface, size and form of the artefact resemble Scandinavian daggers of type I, but most likely it has been made of the Valday flint. If the supposition about the origin of flint raw material is correct, then the idea of Scandinavian import is wrong. Nevertheless, the hypothesis of Bell Beaker culture in the east Baltic is worth examining. In northern Europe, complexes of this culture have been scattered as some kind of islands and the phenomenon of Bell Beaker culture may be considered as the network of cross-cultural contacts, including distant ones (Vandkilde 2005, 37).

In Volhynia and south Poland, large bifacial artefacts have spread in the cultures of Mierzanowice, Strzyżów and Gorodok-Zdolbitsa 2200–1600 cal BC (e.g. Libera 2001). Grain-growing was important for people of these cultures, therefore large bifacial knives and sickles were produced along with flint spear-heads. Several bifacial artefacts made in south Poland–Volhynia tradition were found in south-west Belarus (Fig. 11). Such artefacts could not get to Lithuania



**Fig. 11.** Bifacial tools from south-west Belarus (National Museum of Culture and History of Belarus).

in large quantities as the outcrops of good quality flint can be found much closer – in the upper reaches of Nemunas (Fig. 7). The dagger (knife?) from Veliuona might have been brought from Volhynia (Fig. 4: 3).

At about 2200 cal BC, remarkable changes occurred in flint industry in Lithuania. Sites of the post-CWC period are rich in flint tools and waste, contrary to earlier CWC ones bearing only small quantities of flint. These changes might have something to do with a more settled way of life. This does not signify the end of mobility so characteristic of the CWC groups, but instead, the routes of cattle breeders became more fixed. This must be the reason why a lot of quality flint from the Upper Nemunas appeared in north-east Lithuania (Kretuonas 1C site, Jara 1 hoard of flakes, Dumblynė site). People used to stay in seasonal settlements longer than they did before. The conditions favourable to the developing of advanced flint processing techniques emerged in south Lithuania. The production of large bifacial artefacts was started near rich outcrops of quality flint. As compared to the artefacts from south Poland–Volhynia and south Scandinavia, most artefacts made in the Upper Nemunas are small to medium in size and yield in quality much as well. However, certain artefacts, i.e. the Karaviškės 6 dagger (Fig. 3) and some bifacial axes (Brazaitis & Piličiauskas 2005, fig. 26: 1), bear witness to the supreme skill of some flint masters in bifacial thinning. Then why was the mass dagger production in the Upper Nemunas not started? In my opinion, the reasons are of social character.

### **Large bifacial points as prestigious objects. Concluding remarks**

The value of large flint tools depends on production time, the masters' skills and raw material features, i.e. availability, texture, etc. Therefore large bifaces must have been universally valued items and particularly prized in some regions. However, all household tasks could be done using simple tools and large daggers and spearheads were not necessary in everyday life. Elaborated flint tools of impressive sizes must have been prestigious objects stressing the social status of the owner. Helle Vandkilde has noticed that the first metal artefacts are very rarely found together with flint artefacts in south Scandinavian graves. It seems that metal and flint tools competed with each other as symbols of wealth and status (Vandkilde 1996, 273). Stone axes and sometimes flint ones carried the same function in the east Baltic region during the Late Neolithic and Early Bronze. They are often found in graves while flint daggers are entirely absent there. In the Late Neolithic, almost every man was able to make stone axes and medium-size polished flint axes. Making these artefacts does not require much knowledge and skill, although polishing and hole-boring took much time (Olausson 1998; 2000). Not taking into account some carefully processed artefacts of impressive size, the major part of stone and flint axes were the result of household production, plus male attributes of slightly stratified egalitarian society.

Making flint daggers is more complicated than making stone and flint axes and it can be carried out only in few places that are rich in quality flint. In the east Baltic region, where cattle-breeders of the post-CWC traditions coexisted with hunters and fishermen, the possibility of an elite class who shared and sought the same values is most unlikely. Manifestations of individualism and exceptional male status certainly existed there. Most probably all members of the community tried to get stone and flint axes, but would not order them from skilled knappers, trying instead to make them themselves or acquire by exchange. In this situation the excellent flint knapping skills of some people, who lived in flint bearing areas, were not sufficiently put into practice. Few people had knowledge and experience in dagger or spearhead production. They used to provide themselves and only closest people with such tools. That is why fragments of daggers found in the Upper Nemunas sites are merely echoes of the Pan-European fashion in local flint industry of household character.

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Gytis Piličiauskas

## PISTODA PERIOODI KAJASTUSI LEEDUS 2350–1500 eKr

### Resümee

Termin *pistoda periood* on kasutusel peamiselt Lõuna-Skandinaavia arheoloogias. Tulekivist pistodad, esimesed metallesemad ja kellpeekrid on selle ajajärgu olulised arheoloogilised markerid. Käesolevas artiklis on käsitletud neist üht – suurte labade, tulekivist pistodade ja odaotsede valmistamist ning levikut Leedu alal. Artikli eesmärgiks on analüüsida labasid, sh nii tööriistu kui ka leiukohti, otsimaks vastust küsimusele, miks ei toimunud laiaulatuslikku tulekivist pistodade valmistamist Ülem-Neemeni tulekivialadel.

Artiklis on vaadeldud kahepoolsest pehmes lööktehnikas valmistatud enam kui 10 cm pikkusi tulekivist teravikke. Suuri labatööriistu kasutati pistodade, odaotsede ja nugadena. Leedu esiajaloolistest leidudest kuuluvad sellesse eseme- liiki 13 laba (joon 2), samas kui näiteks Poolas on niisuguseid tööriistu registree- ritud 600 (Libera 2001, 137–152) ja Taanis 4200 (Apel 2001, tabel 9: 2).

Enamik Leedu suurtest labadest on terved ja saadud juhuleidudena (Kuršeliai, Vaitkūnai, Varguliai), kuid katkeid on leitud ka kiviaja asulatelt arheoloogiliste kaevamiste käigus (Karaviškės 6, Varėnė 10, Katros ištakos 1). Kalmetest ei ole aga seni niisuguseid esemeid kusagil Ida-Baltikumis leitud. Leedu tulekivist pistodadest ei pärine ükski suletud leidudest või hästi dateeritud muististest. Asula- kohti, kust pistodasid või nende katkeid on saadud, võib pidada n-ö järelnõor- keraamika kompleksideks, mida Leedus on dateeritud vahemikku 2300/2200– 1600/1500 eKr.

Kahepoolne töötlus ja surutehnika olid Euroopa hilisneoliitikumis laialdaselt levinud. Suurte labade tegemine ei nõua aga ainult teadmisi, vaid ka oskusi, mida sobiliku suuruse ja kvaliteediga tulekivi rikastes piirkondades anti edasi põlvest põlve (Apel 2001). Suuremal osal Ida-Baltikumi alal ei leidu pistodade tootmiseks sobilikku tulekivi, erandiks on vaid Kagu-Leedu, kus tulekivikonglomeraadid on piisavalt suured ja kivim kvaliteetne. Nii on enamik tulekivist pistodasid ja oda- otsi sisse toodud. Ida-, Kesk- ja Põhja-Euroopas on tulekivist labasid toodetud Ülem-Volgal, Kesk-Dnepril, Lõuna-Skandinaavias, Volõnjas, Lõuna-Poolas ning Neemeni ja Pripjati jõe ülemjooksul (joon 7).

Ülem-Volgal algas labatehnikas tööriistade valmistamine IV aastatuhandel eKr (Krainov 1987). Ülem-Volga või nn Valdai tulekivist valmistatud nooleotsi on leitud laialdastelt aladelt, sh Lätist (joon 8). Siiski on enamik esemeid suhteliselt väikesed, jäädes lühemaks kui 10 cm, ja osa otsikuid ei ole lehe-, vaid rombi- kujulised või isegi väikese rootsuosaga (Zagorskis 1987, tahvel 20: 5; Loze 2001, joon 53). Rootsuga otsikuid kasutati ka Põhja-Leedus (joon 6: 2). Osa Ülem- Volga labasid on sarnased Kesk-Dnepri hilisneoliitilistele esemetele (Artemenko 1967). Leedus Kretuonas 1 asulakohalt leitud tulekivist odaots (joon 4: 1) on ana- loogne Volga ja Dnepri regiooni labatööriistade traditsiooniga. Toetudes Stralica

matmispaiga andmetele, kasutati niisuguseid otsikuid veel 1800–1700 aastat eKr (Kryvaltsevich & Kovalyukh 1999, tahvel 1).

Lõuna-Skandinaavias algas pistodade valmistamine vahetult pärast üksikhaudade perioodi umbes 2350 eKr. Sellele regioonile on omane toodangu suur hulk, vormivariatsioonid ja mõned väga standardiseeritud tüübid (joon 9). Tulekivist pistodad kopeerisid ilmselt metallist analooge ja olid mehe sotsiaalse staatuse sümboliks. Vahetuse korras jõudis hulgaliselt Skandinaavia pistodasid oma valmistamiskohast kaugele. Niisuguseid esemeid on leitud ka Ida-Baltikumis (joon 5). Skandinaavia pistodad levisid kaht teed mööda: piki Läänemere lõunaranda ja läbi Ahvenamaa saarte (joon 10). Pistodade arvukus väheneb järk-järgult ja leidude jaotus näib olevat hajus. See paneb uskuma, et pistodad liikusid käest kätte ja ühest külast teise. Sedalaadi vahetust nimetatakse arheoloogiakirjanduses *down-the-line*-kaubanduseks (Renfrew 1975). Ilmselt just niisugusel viisil jõudis tulekivist pistoda Lõuna-Skandinaaviast Kuršeliaisse Lääne-Leedus (joon 5).

Volõnjas ja Lõuna-Poolas on suured labatööriistad levinud Mierzanowice, Strzyżówi ning Gorodok-Zdolbitsa kultuuris 2200–1600 cal BC (Libera 2001). Sealt on aga Leedu alale jõudnud vaid vähesed esemed (joon 11), kuna kvaliteetset tulekivi oli võimalik leida palju lähemalt, Neemeni jõe ülemjooksult (joon 7). Praeguseks teadaolevatest leidudest pärineb vaid Veliuonast saadud pistoda või nuga Volõnjast (joon 4: 3).

Umbes 2200 eKr toimus Leedu alal tulekivitöönduses märkimisväärne muutus. Erinevalt nöörikeramikakultuurist on n-ö järelnöörikeramilised asulakohad rikkaliku tulekiviainesega. Võimalik, et see muutus on seotud püsivama eluviisiga. See ei pruugi tähistada nöörikeramikakultuuri kogukondadele omase mobiilsuse lõppu, vaid seda, et kariloomakasvatus hakkas toetuma kindlamale alusele. Sel põhjusel jõudis Ülem-Neemenilt arvukalt kvaliteetset tulekivi Kirde-Leedusse. Inimesed elasid sesoonsetes elupaikades kauem kui varem. Lõuna-Leedus kujunesid tulekivitöötlemistehnika arenguks soodsad olud. Kvaliteetse tulekivi piirkondades algas suurte labade valmistamine.

Võrreldes Lõuna-Poola ja Volõnja ning Lõuna-Skandinaavia esemetega, on enamik Ülem-Neemeni labasid väiksemad ja ka kehvema kvaliteediga. Igal juhul tunnistavad leiud, et mõned tulekivitöömeistrid valmistasid labatehnikas esemeid. Aga miks ei tekkinud Ülem-Volgal massilist pistodade tootmist?

Lisaks tulekivitöötlejate oskustele ja toormaterjali olemasolule pidid suured labad ka nõutud olema. On selge, et enamik töid tehti lihtsate tööriistadega ja suured tulekivist pistodad ning odaotsad ei olnud igapäevaelus vajalikud. Suured kunstipärased tööriistad olid prestiižsed esemed, näidates nende omanike sotsiaalset staatust. Helle Vandkilde on märkinud, et Lõuna-Skandinaavias on tulekivi- ja esimesi metallsemeid väga harva haudadest koos leitud. See näitab, et nii metall- kui tulekiviesemed olid iseseisvalt rikkuse ja staatuse sümbolid (Vandkilde 1996, 273). Kivi- ja mõnikord ka tulekivikirved täitsid sama funktsiooni hilisneoliitikumis ning varasel pronksiajal Ida-Baltikumis. Neid on haudadest sageli leitud, samas kui tulekivist pistodad puuduvad neis täiesti. Hilisneoliitikumis oli peaaegu iga mees võimeline kivikirvest ja keskmise suurusega lihvitud tulekivi-

kirvest tegema. Selliste tööriistade valmistamine ei nõudnud suuri teadmisi ja oskusi ning aeganõudvam protsess oli vaid eseme poleerimine ja varretusaugu puurimine (Olausson 1998; 2000). Arvestamata mõningaid suuri põhjalikult töödeldud esemeid, on suurem osa kivi- ja tulekivikirvestest toodetud kodus ning see oli nõrgalt kihistunud egalitaarse ühiskonna meestele omane.

Tulekivist pistodade tootmine oli palju komplitseeritum kui kivi- ja tulekivikirveste valmistamine ning see toimus ainult mõnes paigas, kus leidis rikkalikult kvaliteetset tulekivi. Ida-Baltikumis, kus nõorkeraamikakultuurijärgsed karjakasvatajad elasid koos küttide ja kaluritega, on eliitklassi olemasolu ühiskonnas raske uskuda. Nähtav on vaid individualismi ja mehe staatuse esmane väljendus. Tõenäoliselt valmistasid kõik kogukonnaliikmed kivi- ja tulekivikirveid ise või said need vahetuse teel. Niisugustes tingimustes olid isegi tulekivirikastes piirkondades elavatel oskuslikel tulekivilõhestajatel tootmistevõimeks väikesed võimalused. Mõnedel inimestel olid küll pistodade ja odaotste tootmiseks teadmised ning kogemused, kuid nad varustasid esemetega vaid ennast ja oma lähikonna inimesi. Seetõttu on Ülem-Neemeni asulakohtadest leitud pistodade katked vaid pan-euroopalike kommete kajastus kohalikus tulekivitöönduses.