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**ALTERATION TECHNIQUES OF ELK (*ALCES ALCES*)  
AND BEAR (*URSUS ARCTOS*) TOOTH PENDANTS  
AT THE LATE MESOLITHIC CEMETERY ON YUZHNIY  
OLENIY OSTROV, THE ONEGA LAKE — INDICATORS  
OF CULTURAL AND SOCIAL HOMOGENEITY?**

**К. Маннермаа, Е.Ю. Гиря, Д.В. Герасимов. *Различия в технике изготовления подвесок из зубов лося и медведя из позднемезолитического могильника на Южном Оленьем острове Онежского озера — признаки культурной и социальной однородности?***

*Из раскопок мезолитического могильника на Южном Оленьем острове Онежского озера получена крупнейшая в Европе коллекция подвесок из резцов европейского лося. Кроме того, коллекция содержит значительное количество подвесок из резцов бобра, а также подвески из клыков бурого медведя, и в небольшом количестве волка, собаки, дикого северного оленя и кабана. Технология изготовления подвесок из резцов лося представлена несколькими вариантами — это могут быть насечки или кольцевая канавка у основания корня зуба. Но в целом эта технология резко контрастирует с представленной в материалах балтийского побережья и Скандинавии, где подвески изготавливались путем просверливания или прорезывания сквозных отверстий в корне зуба. В то же время подвески из клыков медведя из Оленеостровского могильника изготавливались как путем просверливания или прорезывания отверстий, так и нанесением нарезок и насечек. На фоне прочих имеющихся данных полученные результаты могут свидетельствовать о том, что материалы могильника были оставлены сообществом, состоявшим из коллективов с разными традициями, но демонстрирующих свое единство в некоторых культурных проявлениях, одним из которых могла являться традиция изготовления подвесок из резцов лося.*

Northern Europe's largest Mesolithic cemetery Yuzhniy Oleniy Ostrov (YOO) on the Lake Onega, northwestern Russia, has provided the largest number of European elk (*Alces alces*) teeth from burial contexts in Europe. More than 3200 elk incisors, most of them fashioned to pendants, from more than 70 burials form the most common artefact type in this burial ground. Eurasian beaver (*Castor fiber*) tooth pendants are also plenty, but difficult to count due to their very

fragmented condition. In addition to elk and beaver tooth pendants, several pendants of brown bear (*Ursus arctos*) canine and occasional ones of grey wolf (*Canis lupus*), dog (*Canis familiaris*), wild reindeer (*Rangifer tarandus*) and wild boar (*Sus scrofa*) are present. Stoliar (2001, p. 83) gives numbers to tooth pendants: 4372 elk incisor pendants representing at least 739 individuals, found in 84 graves, 1155 beaver incisor pendants of at least 574 individuals from 70 graves, and 170 bear canine pendants from 60 graves. However, in our analysis the number of pendants is lower, probably because not all the materials were available for our study. It is based on analysing of archaeological collection 5716 from the Peter the Great Museum of Anthropology and Ethnography /Kunstkamera/ Russian Academy of Sciences. St.-Petersburg, Russia, which contains the most part of artefacts obtained from the cemetery. Some materials are kept in the National Museum of the Republic of Karelia, Petrozavodsk, Russia.

Pendants derive from mortuary features which were unearthed during the archaeological excavations in 1936–1938. Altogether 141 graves with 171 burials were excavated. Estimations have been made that the burial ground and the original number of burials may have been much larger (Равдоникас, 1956; Гурина, 1956; Jacobs, 1995). The whole area is marked by relatively uniform burial features, with orientation of the long axis in all determinable burial pits roughly from east to west, red ochre in practically all graves, and a selection of grave goods consisting mainly of animal tooth pendants, but also bone, antler and stone tools and weapons (Равдоникас, 1956; Гурина, 1956; O’Shea, Zvelebil, 1984; Mannermaa et al., 2008). 28 burial features are without any finds.

Whether the population using the cemetery represent local inhabitants is uncertain. Two contemporary settlement sites, YOO 1 and YOO 2, have been detected on the island in close occupation (Тарасов и др., 2007; Мурашкин и др., 2011), but probably are remains of funeral crew camps. It is possible that the cemetery was not used only by local settlers, but acted as a central cemetery for a heterogeneous group of peoples, living in a large geographical area but sharing similar ideology and subsistence basis.

Anthropological studies have suggested some heterogeneity of skull types, mainly North-European and Uralic components with

features from Southern and Eastern Europe (e.g., ЯКИМОВ, 1960; Беневоленская, 1990; Гохман, 1994; Jacobs, 1992), but later MtdNA-analysis of nine individuals indicates that they represent people with diverse backgrounds (Der Sarkissian et al., 2013; Semenov, Bulat, 2016, p. 43). Earlier it was proposed that the cemetery was perhaps used by a community of 400–500 members, formed by several smaller populations, during a short period of time, perhaps only 100 years (O’Shea, Zvelebil, 1984; Zvelebil, 1997).

We have studied all elk and bear tooth pendants from collection MAE 5716 in order to analyse the manufacture technique. In this paper we present our study and consider the attachment technique as indication of cultural tradition. We propose that cultural unity and also differences can be reflected in the pendant manufacture technique. The study is in progress and we will present only preliminary observations and hypotheses.

In Mesolithic Europe, several ways have been applied to fashion animal teeth to pendants. Either hole was drilled directly or from a grounded platform at the tip of the root, or grooves were made on one or two sides of the tip of the root. Sometimes an unbroken circular groove covers the whole circumference of the groove tip.

A striking observation is that at YOO the attachment method for elk pendants is similar in all burials. Without exceptions, the roots of elk incisors were worked by carving one or several notches or grooves around the root tip in order to fasten the pendant with a thread. Remarkably, none of more than 3200 elk tooth pendants from YOO have holes. However, some variation can be observed how the grooves were made. A groove can cut the whole or part of the circumference, or, one or several distinct grooves on opposite sides were made. Sometimes grooves are deep and carefully made, and sometimes they are hastily made. In some graves part of the elk teeth are without any manufacture.

Making drilled or carved perforations is the most typical attachment method for Cervid tooth pendants in the Mesolithic burial sites of Baltia and Scandinavia (e.g., Larsson, 1988, 2006; Butrimas, 2012; Brinch Petersen, 2015, p. 98). Elk tooth pendant manufacture technique using solely grooving seems to distinguish YOO and other cultural complexes in the area around Onega from western regions; the

same tradition prevails in neighbouring areas, e.g., sites representing slightly older cultural traditions Veretye and Butovo (see Oshibkina, 1989; Ошибкина, 2006; Жилин, 2014).

Interestingly the suspension modes for bear canines at YOO show a distinct, not uniform tradition. Bear canines have been turned into pendants either by piercing (by drilling or cutting) or grooving on parts or all of the circumference. Such a heterogeneous mode applied for manufacturing bear canine pendants is in contrast with the uniform technique of making pendants from elk and beaver teeth.

We suggest two alternative explanations for the homogeneity of elk tooth alteration: 1) all excavated graves of this cemetery were made by members of the one and the same cultural group that probably contradicts to the other data; or 2) the people using the cemetery represent various communities living in large area but shared identical tooth pendant technology. In the light of this uniformity, it is interesting that the bear canine pendants show various attachment methods: the roots have carved or drilled holes (sometimes both), or they have grooves carved in multiple ways. The variability in artefact technology has previously been interpreted mirroring acceptance of a variety of norms and attitudes relating to different kins or families. In our understanding, the unchangeable way of making and using elk incisor pendants at YOO indicates that strict norms prevailed in the industry of these artefacts, and, thus strong symbolic and ideological values prevailed in their uses and meanings.

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