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ECONOMY AND MODE OF LIFE OF THE NEOLITHIC POPULATION ON THE EASTERN SHORE OF LAKE ONEGA

Abstract

This article describes the economy and the mode of life of the Neolithic population according to e.g. the archaeological and osteological find material and the rock art on the eastern shore of Lake Onega, Russia.

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The sources for studying the economy and the mode of life of ancient people are usually scanty and fragmentary. Recently some interesting material from the eastern shore of Lake Onega (the Besov Nos area) has been obtained (Fig. 1). The aim of this paper is to study that material. It includes data on paleoflora and paleofauna, ancient ceramics production, the still scanty results of microwear analyses of the stone tools, and the rock engravings dated back to the Neolithic period. Petroglyphs have been commonly considered as important evidence that gives insight into the economy and the mode of life of the Neolithic man. But in my opinion one should not approach this cultural heritage too straightforwardly. What is depicted on the rocks in most cases are not fishing and hunting objects, but mythological and fantastic images of animals, birds, reptiles etc., although fishing and hunting scenes are also represented.

At present there are over 50 known archaeological sites in the vicinity of the petroglyphs and they are situated on the shore that stretches 20 km to the south from the mouth of the greatest Karelian river Vodla. The sites include long- and short-term sites and find locations which are dated back to different periods (from the Late Mesolithic to the medieval times), and a Neolithic cemetery (Fig. 2). The investigations in the area (excavations of the sites surrounding the petroglyphs) were started in the 1930's by A. Brjusov (1940). Further explorations were carried out during the

1960–90's under the guidance of G. Pankrušev, Ju. Savvateev and the author of this article (Lobanova 1988). The work was of a complex character, with specialists in palynology and geomorphology taking part in it. As a result of these investigations a number of Late Mesolithic and Eneolithic dwellings with Asbestos ceramics were excavated on the eastern shore of Lake Onega. Pits and structures, a number of ceramic vessels, stone tools and a lot of burnt bone were also unearthed.

The rock art in the Besov Nos area consists of 24 groups of rock engravings that are found within a range of 20 km on 11 capes and 6 islands. Practically everywhere in the vicinity of the petroglyphs some archaeological material was found. The material is dated back to the Neolithic period between 4200–2700 B.C. and is associated with the Pit-Comb Ware Culture (Lobanova 1991). The Neolithic sites and the petroglyphs are situated on the same level, which refers to the notion that they were contemporaneous. Consequently, I have reached the conclusion that the Lake Onega rock art was created and served its purpose during the Neolithic period. The dating of the sites is based on: 1) artifact material recovered from the sites; 2) ¹⁴C-dating of charcoal; 3) palynological and geomorphological observations.

The population of the Pit-Comb Ware Culture in the Besov Nos area was the greatest in number. The number of sites is taken to be no less than 40.

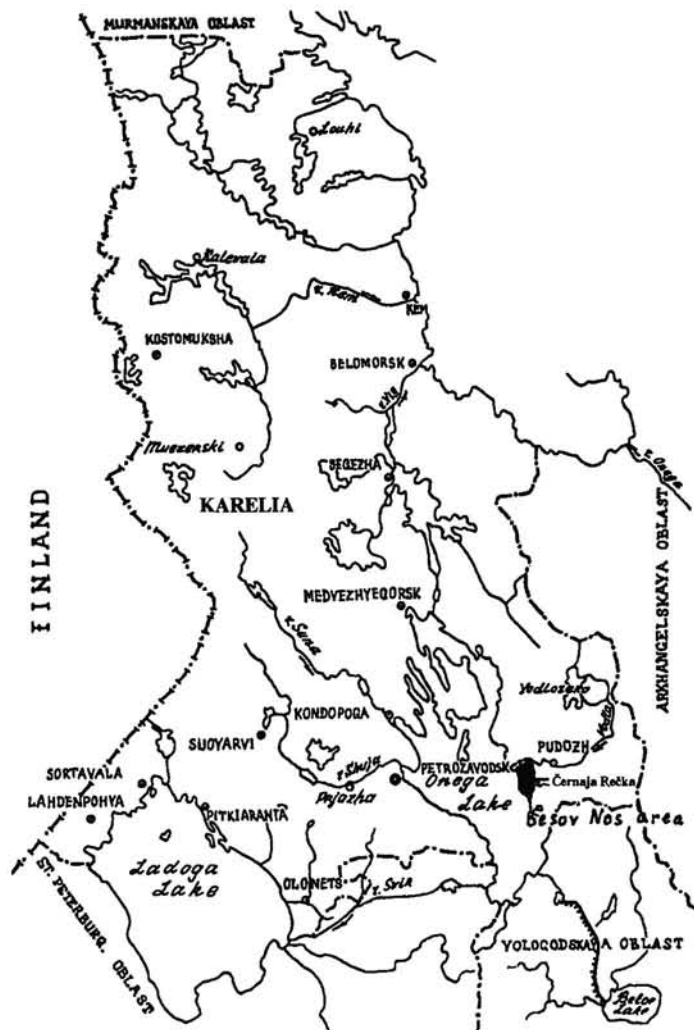


Fig. 1. The research area.

Some of them, especially those on the banks of the Rivers Černaja and Vodla, have characteristics which suggest that they were inhabited over a long period of time. Unfortunately many such sites have been disturbed by ploughing, particularly the upper part of the cultural layer. The area of each site covers about 1000–1500 m². The short-term sites were situated on the capes and islets and occupied ca. 100–400 m² each. The topography of the sites and the nature of the findings refer to a connection between the sites and the rock pictures.

The Neolithic population of the area lived in fa-

avourable conditions during the second part of the Atlantic Zone when the climate was warmer than now and the flora and the fauna excelled in abundance and diversity. The pollen analyses indicate the presence of broad-leaved trees, such as elm, hazel, oak and beech. A series of chemical analyses were made on several Neolithic sites (Devjatova 1988). They revealed the presence of phosphorus, nitrogen, carbon and humus in the cultural layer. The performed analyses give some idea about the nature of the economy of the ancient inhabitants. For example, the saturation of the cultural layer with phosphorus presumably in-

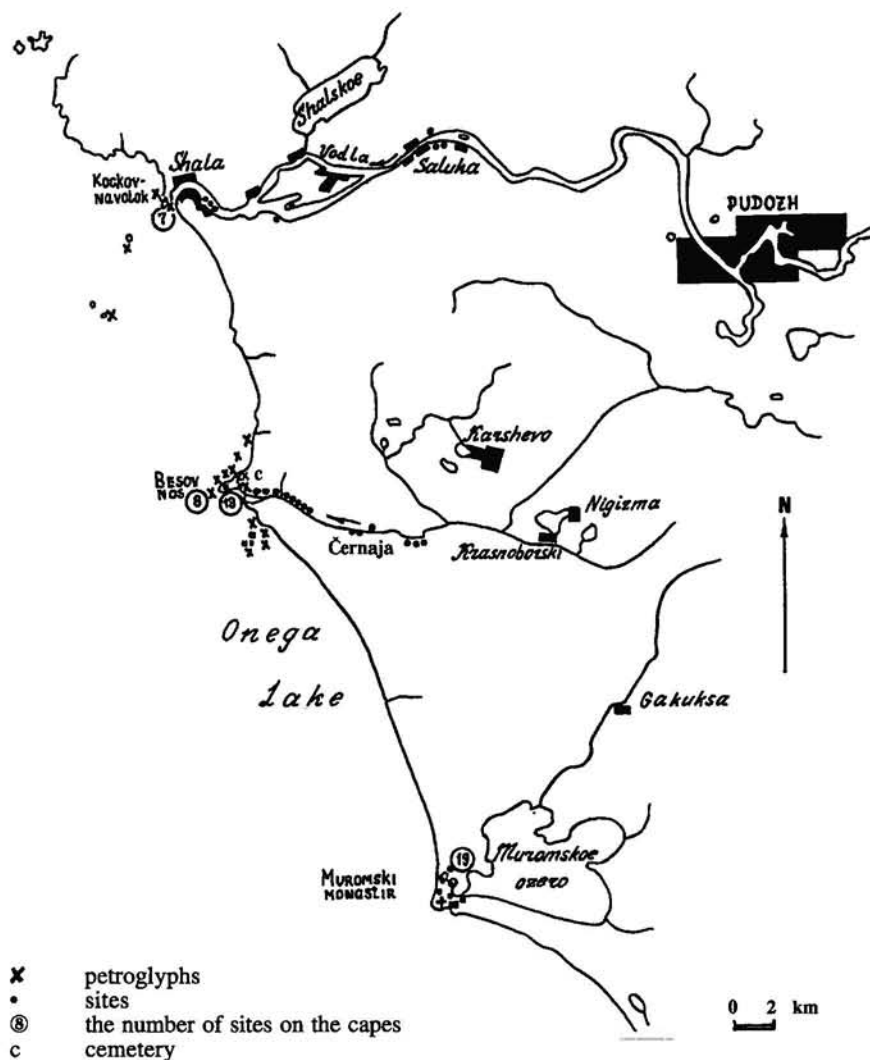


Fig. 2. Besov Nos area.

indicates a primarily fishing-oriented mode of life, whereas nitrogen indicates a hunting oriented one.

The analysis of the material obtained in the Besov Nos area shows that the basic means of livelihood were hunting and fishing. At many of the sites stone tools were found (in one case even a bone one) that are related to these activities. The majority of them (over 60%) consists of implements made of flint such as scrapers, knives and shaving-knives (Fig. 3). The flint is of local origin: it comes from the southern shore of Lake Onega. Another large group of stone artifacts are the polished tools made of green or grey slate (Fig.

4). It is very likely that the slate comes from the Zaoneže peninsula. It was used for wood-working instruments such as axes, adzes and palstaves. The polishing slabs, whetstones and saws were made of granite, sandstone, quartzite and sometimes of slate. Quartz tools are not very usual in southeastern Karelia.

I have made a histogram which demonstrates the characteristic functional-typological structure of the stone tools from the basic site of Černaja Rečka I (Fig. 6). Seven functional categories have been separated: A) hunting and cutting tools; B) tools for the treatment of skins and hides; C) tools

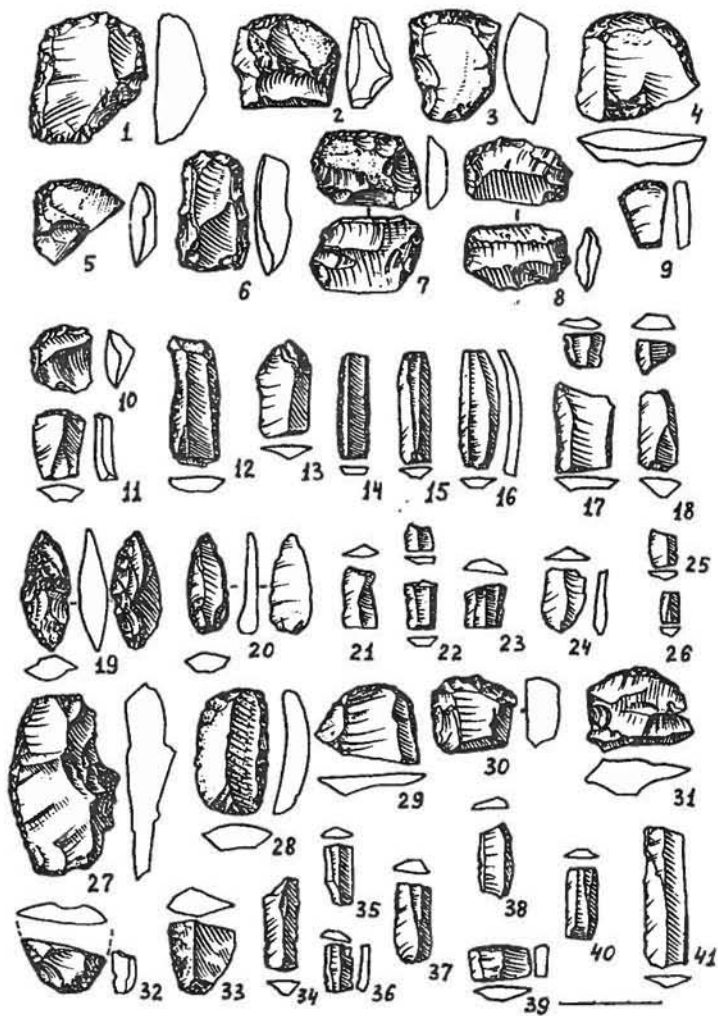


Fig. 3. Flint tools: scrapers (1-11, 27-32, 39-41), points (19-20) and knives from Černaja Rečka I.

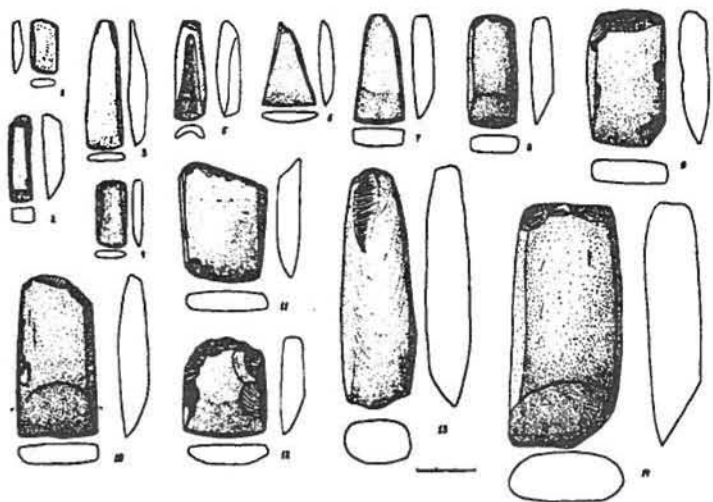


Fig. 4. Slate tools from Černaja Rečka I. Axes, adzes and chisels.

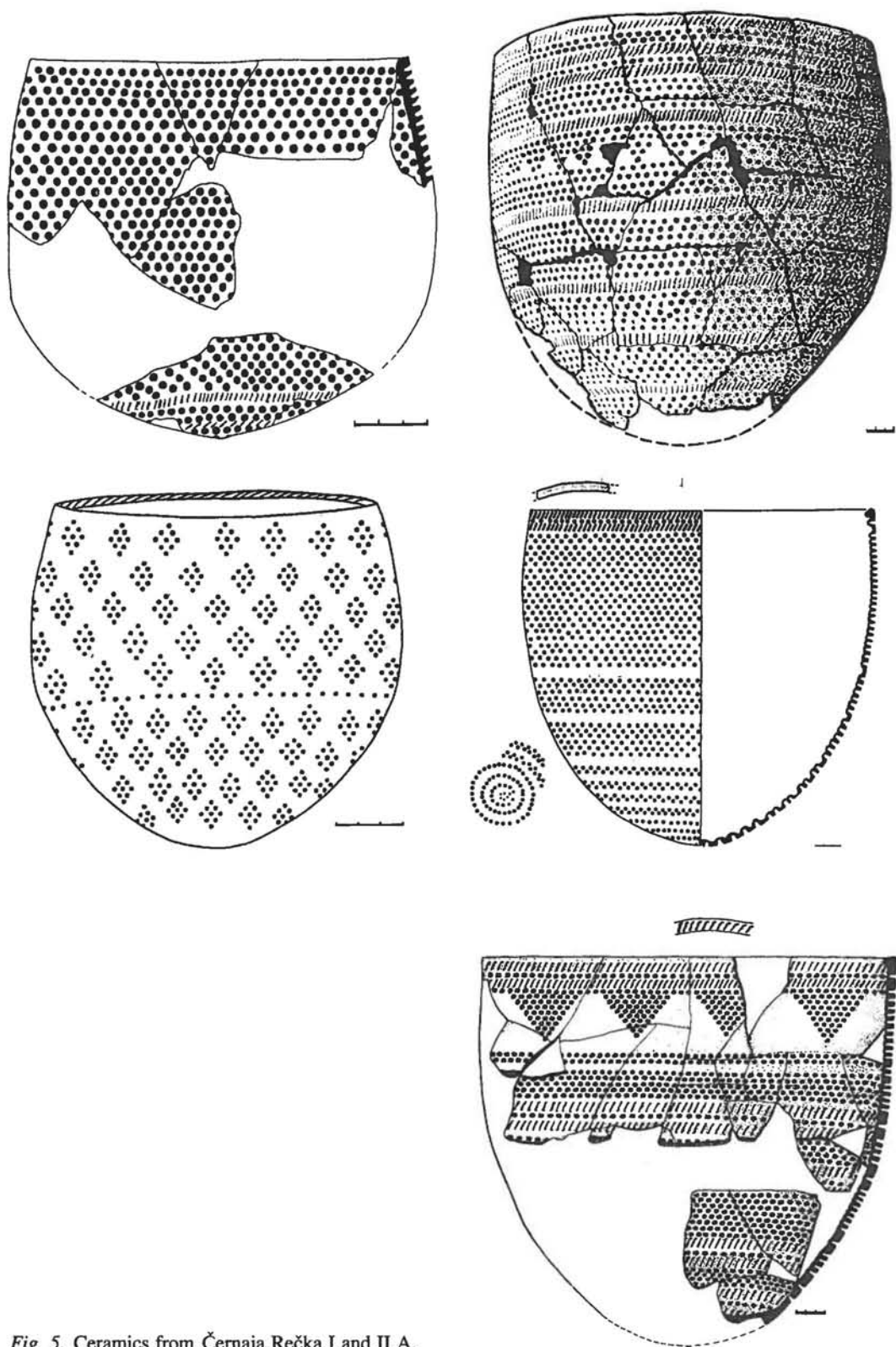


Fig. 5. Ceramics from Černaja Rečka I and II A.

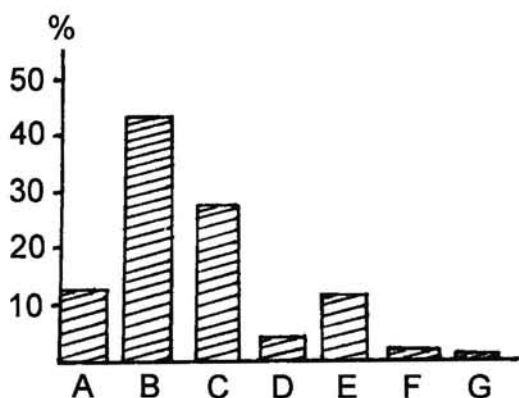


Fig. 6. A – Hunting and cutting tools; B – tools for the treatment of skins and hides; C – tools for wood-working; D – tools for the treatment of bones and horns; E – tools for stone-working; F – fishing tools; G – others.

for wood-working; D) tools for the treatment of bones and horns; E) tools for stone-working; F) fishing tools; G) others. The functions of the stone implements were determined with the help of micro-wear analyses in the Experimental Use-Wear Laboratory at the St. Petersburg Institute of the History of Material Culture. The above-mentioned site Černaja Rečka I was in continuous use as a hunting station for no less than 600–700 years according to ^{14}C -dating (Lobanova 1984). Only a few artifacts related to fishing were found at the site: stone plummet for fishing lines and nets. They have biconic holes or grooves at their edges. No information on gathering was obtained. It stands to reason, however, that this form of human activity was quite common, too.

The analysis of the osteological material from the sites Černaja Rečka I, Kladovec II and III has enabled us to determine the species included in the material (Savvateev & Vereščagin 1978): elk, reindeer, wolf, beaver, bear, fox, lynx, marten, roe, otter and seal. Roe and seal are not found in this area at present. The rock art depicts people hunting seals with the help of boats and harpoons (the scene on Cape Besov Nos) (Fig. 7:14). The most popular images among the petroglyphs are swans (Fig. 7:1, 7). Ducks and goose are also represented (Fig. 7:2). On Cape Kladovec Nos, the island Bolšoi Guri and at some riverside sites remains of vertebra were found that belong to perch and salmon. The petroglyphs include for example the figures of burbot and sterlet (Fig. 7: 5–6). As a whole, the Lake Onega rock art (a total of over 1000 figures) presents the following images of an-

imals, birds and fish:

About 120 animals which mainly consist of elk (Fig. 7:3), 17 reindeers, 8 bears (Fig. 7:12), 3 otters (Fig. 7:8), 4 beavers (Fig. 7:9–11), 5 seals (Fig. 7:13–14), 1 dog (Fig. 7:16), 4 snakes (Fig. 7:17) and 3 fishes (Fig. 7:5–6, 7:14).

The bone material from the sites include elk (over 25 small pieces), reindeer (30), beaver (7), wolf (15), fox (2), marten (1), roe (2), seal (25) and perch (10).

The most numerous artifacts at the sites are pottery fragments with pit-comb ornament. Special instruments for making this ornament have also been found in Černaja Rečka I, II and II-A, such as pivots made of slate and clay (11 items) and a comb-stamp made of slate (Fig. 8). We have a lot of information on the pottery production in the Neolithic period (technology, shapes of vessels, ornamental motifs and composition), but that could be a subject for another paper (see Fig. 5).

The Neolithic settlements on the eastern shore

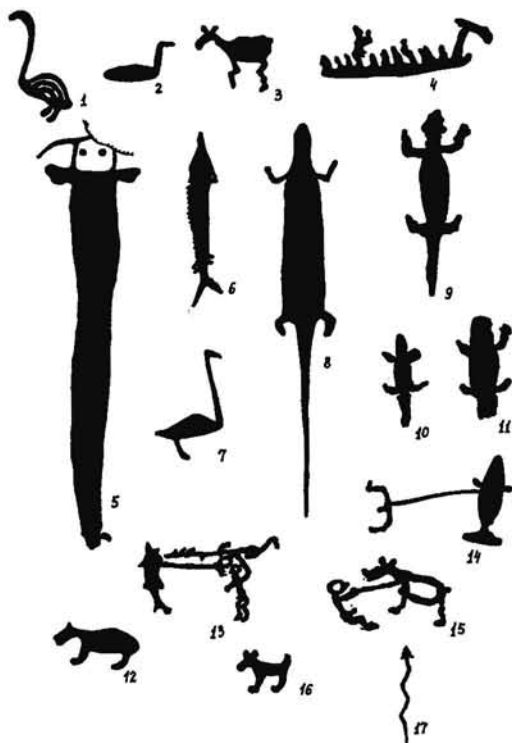


Fig. 7. Petroglyphs of the Lake Onega.

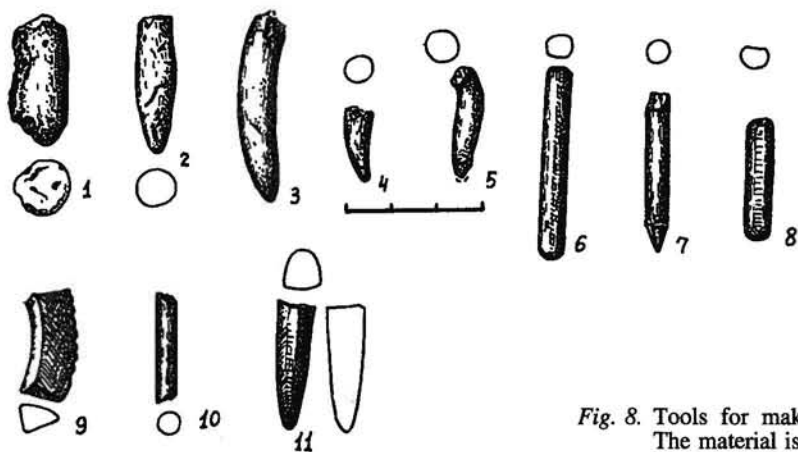


Fig. 8. Tools for making ornaments on ceramics. The material is clay (1-5) and slate (6-11).

of Lake Omega are characterized by a great number of pits of different forms and of varying depth (Fig. 9). For the most part they must have served for garbage disposal. The pits contained stores of vessels and pieces of broken pottery, stone tools, flakes of flint and slate, burnt bone

and charcoal. It is remarkable that almost always the vessels were found lying in the pits (Fig. 10). The Neolithic people used widely red ochre. Many pieces of red ochre with traces of abrasive rubbing have been found. Besides them some stone hearths and a number of fireplaces have



Fig. 9. Plan of the trench site of Černaja Rečka I.

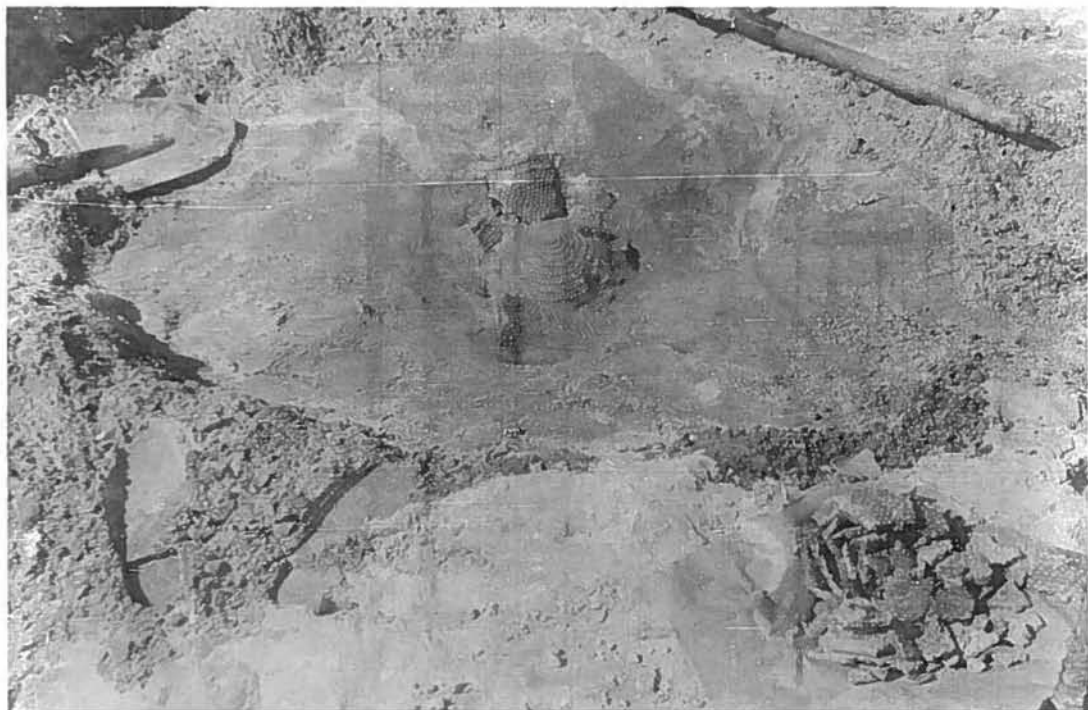


Fig. 10. Černaja Rečka I.

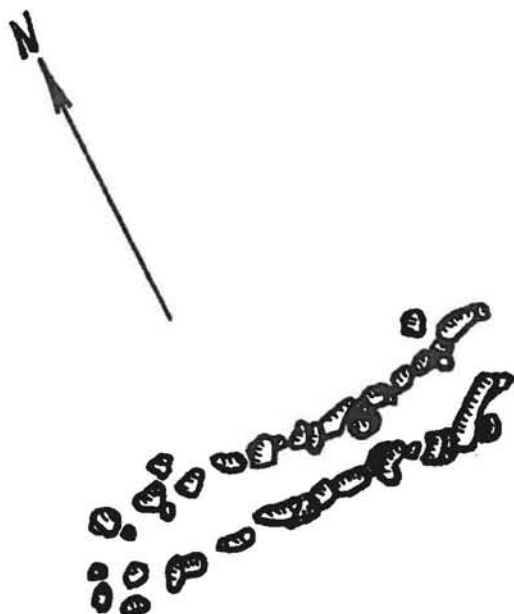


Fig. 11. Masonry from Kladovec VI.

been unearthed. Four sites (on Capes Kladovec and Besov Nos) contain masonries of unknown purpose. They consist of two-layered parallel stone structures 0.6–2.5 m in length (Fig. 11). As a rule, they formed the bottom of the cultural layer of the four sites dated back to the end of the Atlantic period. These structures are not real hearths; there were no coal between the stones. They were oriented mainly in the west-east direction and were very likely of cult origin. We do not know if there are any analogous masonries elsewhere in Karelia or in the adjacent territories.

The Neolithic population of the area used water as a means of communication: among rock art motifs there are 40 boats with oars (Fig. 7:4). There have been found various stone tools which are believed to have been used in building boats (Fig 4:5).

No remains of Neolithic houses have been discovered on the eastern shore of Lake Onega. It can probably be explained by the fact that people did not build deep pit-dwellings but preferred the light above-ground ones, the traces of which are very difficult to find.

The eastern shore of Lake Onega has been ex-

tensively excavated and carefully studied by archaeologists. All the cited data together with the rock art material provide an opportunity to widen and deepen our knowledge of the Neolithic people's economy and mode of life which were based on hunting and fishing.

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