SOME ASPECTS OF CORDED WARE ON ROSSON RIVER (NARVA-LUGA KLINT BAY)

Margarita Kholkina

Two different pottery traditions were defined in Corded Ware materials from the Rosson microregion in the Narva–Luga interfluve on the basis of analyses of technology, morphology and ornamentation. In most cases the studied pottery has many similarities with Corded Ware from other sites of the eastern part of the Gulf of Finland region. It is proposed that some decoration features could have been adopted from the local Late Combed Ware tradition. Another pottery tradition (beakers and beaker-like pots) is presented in much fewer numbers and has many parallels in Corded Ware materials from Eastern and Central Europe.

Margarita Kholkina, Altai State University, 61 Lenina Pr., 656049 Barnaul, Russia; Saint-Petersburg State University, 7–9 University Emb., 199034 Saint-Petersburg, Russia; tyttokulta@yandex.ru

Introduction

Corded Ware tradition spread into the Gulf of Finland region in the 3rd millennium BC (Nordqvist & Häkälä 2014, 22; Kriiska et al. 2015, 197). This region can be considered as the most north-eastern periphery of the area of this tradition – and the vessels here combine local features with similarities to the materials from south and west. The Corded Ware tradition in the eastern part of the Gulf of Finland region coexisted for a long time with the local Comb Ware tradition that dominated here from the Neolithic (Äyräpää 1930; 1933; Edgren 1970; Matiskainen 1993; Lõugas et al. 2007). In the 3rd millennium BC Comb Ware on the southern shore of the Gulf of Finland was presented by the Late Comb Ware with organic temper and comb-pit ornamentation (Kriiska 1995).

About 30 new archaeological sites with Corded Ware materials have been discovered during the last two decades on the southern shore of the Gulf of Finland – between the Narva and the Luga rivers and in the lower course of the
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Narva River (Gerasimov et al. 2012; Kriiska & Nordqvist 2012; Krijska et al. 2015). A group of sites on the Rosson River is of special interest. Ten new sites with Corded Ware have been found here in 2011–2013 in an area of less than one sq km by systematic surveying, both Corded and Comb Ware materials are presented in some of them (Fig. 1). The high density of Corded Ware sites and a large amount of archaeological material in this microregion is quite a unique phenomenon for the eastern part of the Gulf of Finland. Interdisciplinary studies of the Rosson microregion bring new data on settlement patterns of population with Comb and Corded Ware tradition, on chronology of Corded Ware culture and on regional palaeogeography (Rosentau et al. 2013; Gerasimov et al. 2014; Krijska et al. 2015).

The purpose of the study is to characterize the Corded Ware materials from the Rosson River and compare them to the Corded Ware materials from the territories to the west, and to the pottery traditions presented in the Gulf of Finland region in the 3rd millennium BC. The studied pottery is characterized by peculiarities of clay mass composition, techniques of vessel making, vessel morphology and decoration. Special attention was paid to those features that allow comparing to the published materials.

![Fig. 1. Archaeological sites with Corded Ware on Rosson River (the number of dots corresponds to the number of sites – Rosson 1–12). a homogenous Corded Ware contexts, b Corded Ware contexts mixed with Late Comb Ware.](image)
Materials and methods

Corded Ware was found on 10 sites in the Rosson River microregion. Six of them are presumably homogeneous Corded Ware contexts (Rosson 1, 2, 3, 8, 10, 12); and four (Rosson 5, 6, 7, 9) contain both Late Comb and Corded Ware materials. Archaeological materials were obtained by intensive systematic stray finds collecting (Gerasimov et al. 2013); on Rosson 9 small-scale excavation (total 20 sq m in three areas) was also conducted in 2015 by D. V. Gerasimov, Museum of Anthropology and Ethnography (Kunstkamera) of Russian Academy of Sciences.

More than 3500 shards of Corded Ware were obtained from the Rosson sites, 376 shards were selected as identifiable, and they present no less than 22 vessels. The main part of the material (308 shards, no fewer than 8 vessels) came from Rosson 9 excavations, this material includes several variants of Corded Ware tradition, and can be considered as a representative collection.

Clay mass was analysed visually, with hand magnifier (x8), and with scanner microscope Leica DVM 5000 (x35–x70). The technique of vessel-making was studied on shards with broken edges, which display junctions of vessels’ structural elements (coils or patches). Shapes of vessels were modelled on the basis of morphology of preserved profiled fragments, mainly rims and bottoms.

The diameter of the vessel was estimated by the formula \( d = \frac{b^2}{a} + a \), where \( b \) – a half of a chord; \( a \) – a height of the arc that is limited by the chord. Decoration was analysed through its structure: morphology of decoration elements, combinations of used elements, arrangement of elements in motives and compositions.

Results

Analysed fragments of Corded Ware include combined temper of mineral and organic components. Mineral temper is presented by chamotte – light-coloured (contrasted with the surrounding mass) inclusions of irregular shape with sharp ribs, 1–3 mm in size, most probably of crushed ceramic shards (Fig. 2: 1). Evidence of organic temper includes pours of elongated shape with round cross-sections – they can be defined as traces of burnt wool or bird down (Fig. 2: 2). There are only few exceptions with no organic temper: three vessels from Rosson 9 with an admixture of fine sand, and one from Rosson 7 that was tempered with crushed stone (Fig. 4: 4–5).

Some features of pottery making technique can be traced by studying a vessel from Rosson 9 that was presented in more than 200 fragments, which represent the most part of the vessel’s body (Figs 2: 3, 5–7; 3: 1, 2). Shards’ fractures show that the vessel-making began more likely from the bottom – a flat “cake”, 1–1.5 cm thick, ca 15 cm in diameter. Walls of the vessel were attached to the bottom in a way that a small canting strip was left on their outer side (Fig. 2: 10, 11).
Fig. 2. Corded Ware from Rosson sites. 1 chamotte temper (Rosson 3), 2 organic temper (Rosson 5), 3–7 traces of modelling technology (3, 5–7 – Rosson 9, 4 – Rosson 7), 8 imprints of twisted cord (Rosson 7), 9 scratching on the inner surface (Rosson 9), 10–11 fragments of flat bottoms (Rosson 9).

The bottom is slightly concaved. Most probably it was made of a single piece of clay mass, whereas the rest of the vessel was made of patches. It is evident by morphology of the shards’ fracture profiles (Fig. 2: 3, 5–7), as well as by their often exfoliation (53% of fragments have no inner, outer or both surfaces) – a result of large extension of patches overlapping. At the same time, the upper
Fig. 3. Fragments of vessels of predominant “hybrid” pottery tradition (with chamotte and organic temper) on Rosson sites (1, 2, 5, 6 Rosson 9; 3 Rosson 3; 4 Rosson 5; 7 Rosson 11; 8, 10 Rosson 7; 9 Rosson 12).

part of the rim could be made of a single coil – it is evident by morphology of the rim shards (Fig. 3: 1). Shards from the other sites also display obvious traces of using patches for vessels making (Fig. 2: 4).

It was possible to estimate the diameter of vessels in two cases only – one ca 30 and another ca 40 cm (Figs 3: 1; 4: 1). Fragments of flat bulged bottoms ca 10 cm in diameter were identified for three vessels (Figs 2: 10, 11; 3: 7). There are also large fragments of upper parts from two vessels (Fig. 3: 1, 4). They have gently profiled S-shaped necks and strait slightly inclined inside rims.

Inner and outer surfaces of the vessels are usually well-smoothed. Sub-parallel unsystematic traces of smoothing by fingers were found on fragments
from a vessel from Rosson 9 (Fig. 4: 4). At the bottom parts of the vessels and on the vessels’ neck sometimes one can see shallow regular horizontal traces made probably by tufts of grass (Fig. 2: 9). In one case some imprints of a twisted cord wound on a stick (so called ‘twisted cord’ or “cord stamp”) were identified (Fig. 2: 8; cf. Glushkov & Glushkova 2009, 160).

Ornamentation was found on the upper part of the vessels only. It mainly consisted of imprints of a twisted cord (Fig. 3: 1, 2, 8–10) with S-type twisting by Larsson (Larsson 2009, 243), which is typical of Corded Ware ornamentation. These imprints are usually organized in several parallel strait lines (in one case wavy — Fig. 3: 1). Two vessels from archaeological sites Rosson 3 and 5 were decorated by a row of cylindrical pits under the rim (Fig. 3: 1, 3, 4). In one case the edge of the rim was decorated by oblique lines of cord imprints (Fig. 3: 1). The rim of a vessel from Rosson 9 site was shaped with fingers crimps. Lower on the same vessel there is a bulge decorated the same way (Fig. 4: 1).
Discussion

Thus all the Corded Ware from the sites at the Rosson River except two vessels can be considered as belonging to the same pottery tradition. Vessels with flat bottoms and wide mouths, with slightly profiled rims, which sometimes are inclined inside are characteristic of this tradition. Those vessels were made of clay patches, clay mass includes temper of chamotte and organic materials (wool?); they were ornamented by cord imprints in combination with pits. Those vessels seem to be pots, which were used and which are found on settlements. Distinctive features of those vessels are large volume, big diameter of mouth, simple pot-like shape and rather plain decoration.

This pottery has many similarities with Corded Ware vessels widely presented in archaeological materials of the Gulf of Finland region; among them S-shaped profiling, small bottom diameter, ornamentation of cord imprints in the upper parts of the vessels (cf.: Edgren 1970; Nordqvist et al. 2012). But there are also some distinguishing features – very slightly shaped necks, using large pits in decoration, ornamenting of rim edge by oblique lines of cord imprints. Shape and decoration of the rims look very similar to how the rims of Combed Ware vessels were shaped and ornamented. Similar vessels with cord imprints and with a row of pits under the rim, with porous body (remains of bone temper) were described in archaeological materials from Sweden (Larsson 2009, 366). They appear at the end of the period of Corded Ware tradition. Those vessels were considered as a result of the combination of Corded Ware and local Pitted Ware pottery-making tradition. Such ‘hybrid’ Corded Ware vessels with a row of pits under the rim are also known in the Baltic countries (Yanits 1959; Loze 1979; Rimantienė 1980, 54; 1989, 108; Vankina 1980, 58). The vessels with a raw of pits from Rosson are different from the Swedish materials in technology (wool or down temper instead of bone temper), but are very similar in design – and could be probably also considered as a ‘hybrid’ tradition.

This case allows us to trace an order of adoption of elements of pottery-making tradition. New traits in ornamentation (pits and rim decoration), and probably also in morphology (smooth unshaped necks) and technology (use of organic temper) of Corded Ware vessels might be seen as a superficial imitation of the local pottery traditions. The way of vessel modelling is generally considered as the most conservative element of pottery-making tradition, which survives better than the others when different pottery traditions interacting (Shepard 1956, 351; Bobrinskij 1978, 124; 1999, 53; Goesselain 2002, 23; Tsetlin 2012, 131). This is what we can see in Rosson materials. A technique of vessel modelling of small clay patches with an attached coil or a band for making a rim was defined in materials of Fatyanovo variant of Corded Ware (Volkova 1996, 48 ff.; 1998, 5). In contrary, pottery-making of Comb Ware tradition in the Gulf of Finland region was based on use of clay coils (Gurina 1967; Kriiska 1995). The existence of a special modelling technique, which is similar for Corded Ware vessels in a rather wide region, can thus probably prove the conservativeness of Corded
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Ware culture bearers on this stage of pottery-making. Swedish Corded Ware vessels were also made in a technique that was different from the local Pitted Ware one – it was made not of coils, but by pressing of a single clay clod, as the coil technique did not allow producing spherical vessels with so thin walls (Larsson 2009, 138).

The above-mentioned similar technological peculiarities of the Corded Ware from Rosson and Fatyanovo variant of Corded Ware well fit to recently shown likeness of stone axes and a certain category of pottery – Corded Ware bowls – from those areas (Kriiska et al. 2015, 201). Very similar peculiarities in technology (clay paste composition and modelling technique) can be considered as an evidence of close relations between the population of these two regions in a certain period of time (probably the beginning of spreading of Corded Ware tradition in Eastern Europe). It was proposed that such long-living ‘super-utilitarian’ elements of pottery-making tradition like using chamotte temper might be seen as a way “to tie the new vessels to those of the ancestors” (Larsson 2009, 353), and cord imprints – as a sign of one’s membership to a community (ibid., 243).

Contrariwise, common features between Corded and Late Comb Ware traditions can be considered as an evidence of contacts between two different groups of people – the newcomers and the locals. In this case the Rosson River microregion is of special interest. In the early stage of Corded Ware penetration into the region those groups could have camp sites if not settlements next to each other, and probably even partly use the same natural resources (Gerasimov et al. 2013). But for now no evidence of Corded Ware traits adoption by the Comb Ware pottery-making tradition were defined for the studied materials.

It is also important to mention that the Comb Ware traits of the Corded Ware vessels from the Rosson microregion exclusively relate to the fast and easy changing and adapting components of pottery-making tradition – use of ornamentation elements or temper. All the mentioned ‘hybrid’ pots could still be clearly identified as Corded Ware according to technology, special elements of ornamentation and morphology. It probably means that a group of newcomers who left those vessels was preserving and manifesting its identity and unity during an intensification of cultural contacts.

Even with some adopted local traits the Corded Ware tradition is clearly separate from the other pottery traditions in the region of that time. There are many different types of pottery spread in the eastern part of the Gulf of Finland in the 3rd millennium BC. Largely used general names for those types as a whole are ‘Porous Ware’, ‘Pottery with organic matter’ or ‘Late Comb Ware’ (Äyräpää 1930; Gurina 1961; 1967; Kriiska 1995; Gerasimov et al. 2003; Nordqvist et al. 2008; Kholkina 2014). Vessels of the majority of those groups (Uskela Ware in Finland and on the Karelian isthmus, Late Comb Ware I and II in Estonia, etc.) were decorated with pits and comb stamp imprints, mainly had strait walls and rims with inside cut edges as well. They thus resemble the vessels of the Typical Comb Ware tradition that existed in the region earlier in the 4th millennium BC.
The existence of these groups, which have much in common among each other but are still rather diversified across a large region, serve as an evidence of intensification of contacts, which is approved also by some other categories of artefacts — such as amber pendants, stone polished axes, etc. (Utkin & Kostyleva 2006; Gerasimov et al. 2010).

There are also several vessels from Rosson 9 site, which clearly differ from the other Corded Ware vessels of the Rosson microregion. They have no chamotte and organics temper but sand or crushed stone, not very thin but thick walls, sometimes decorated by bulges. One of them (Fig. 4: 1) can be attributed as one of the so-called wide-mouthed or beaker-like pots. Such vessels are widely spread in the eastern Baltic region (Zal'tsman 2010, 259; Rimantienė 1980, 60; 1989, 130; Vankina 1980, 53), in Belorussia (Kryvaltsevich & Kalechyts 2000, 170; Lakiza 2008, 393), in Germany, Poland and Danemark (Larsson 2009, 145, fig. 5.12); similar forms are found in Finland (Edgren 1970, 74, 76, 89; Buchvaldek 1986, 145). Vessels of this type are mainly large, with thick walls and poorly treated surface. They appear only in materials from settlements. This is probably the only type of household pots for cooking, which is found mostly on the earlier settlements of Corded Ware culture (Larsson 2009, 143).

Several fragments of Corded Ware vessels with very thin walls and fine sand temper were found at Rosson 9 site as well (Fig. 4: 2–6). One of those fragments is ornamented by drawn zigzag lines (Fig. 4: 6). Some of those shards can be parts of so-called beakers, a separate category of Corded Ware vessels with mineral temper, thin walls and well-smoothed surface that rarely can be found in Eastern Baltic (Nordqvist & Häkälä 2014, 7; Krijska et al. 2015, 197).

Confident conclusions on chronology of the Corded Ware from Rosson sites cannot yet be made due to insufficient dating data. One date was obtained from Rosson 1 site: 2284–2041 cal. BC (3725 ± 40 BP, Hela-2744, burnt bone). There are some more dates for the Corded Ware contexts obtained from the other parts of the Narva–Luga region, they cover a period from 2800 to 2000 cal BC (Krijska et al. 2015, 197). Those dates correspond to the dates for the Corded Ware contexts from Finland and Estonia, and to the main part of Corded Ware dates from the other parts of Europe (Nordqvist & Häkälä 2014, 22). In this case we can only note that there were two different groups of the Corded Ware on Rosson sites, one of them shows the influence of contacts with the local populations. But the temporal frame is still weak in general and we can only conclude that these contacts took place – but not mark the actual time point for this.

**Conclusion**

It is possible to define two different kinds of Corded Ware pottery from the Rosson microregion, even on the basis of archaeological materials obtained from rather limited excavated area and by systematic stray finds collecting. The first and the most widely spread one could be characterized as ‘hybrid pottery’.
It seems that during contacts between the new settlers and the local population the Corded Ware pottery in the microlregion preserved the most conservative elements that probably were of special importance for cultural self-identity. But the other elements – such as pit ornamentation and presumably vessel shape – were transformed by influence of the Late Comb Ware tradition. This can be considered as an indirect evidence of coexistence of two different groups of people at least for some period of time, in a close proximity and in the same landscape. Chronology and duration of this period still remain uncertain because of lack of absolute dates.

At the same time, fragments of vessels of traditional common European types were found, with a lot of parallels in a large region. Those vessels are made with standard technology, shape and ornamentation, and one possible explanation is that they were simultaneously delivered ready-made. In this particular case both groups of vessels were found on the same archaeological sites, but this fact however does not prove their simultaneity. Further detailed study of pottery technology, for example, of the question whether the vessels were made from the local clay, in the aggregate with the new data on absolute chronology could help to solve the problem.

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Margarita Kholkina

ROSSONI JÕE PHIRKONNA (NARVA-LUUGA KLINDILAHE) NÕÖRKERAAMIKA MÕNINGAID ASPEKTE

Resümee


Tegu on lamedapõhjaliste ja ülaosas avarduvate nõudega, mille pisut profileeritud võrik lõpeb vahel sisepoole kaldu servaga; nõörivajutiste ja lohkudega kaunis- mõõduga põhja ning seda, et nõörivajutised paiknevad üksnes nõude ülaosas. Erinevuseks on silinderjad lohud, nõrk profileerimine, ja nõörivajutised serval. Viimased meenutavad Baltikumi kammkeraamikast hästi tuntud servapealseid kammivajutusi. Sellistel “hüüridsetel” nõörkeraamilistel nõudel lohureaga serva all on vasteid ka mujal Baltikumis.
