The Pottery of the Late Bronze – Early Iron Epoch of the Site Red Jar II
(Northwestern Coast of Lake Baikal)

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This article is devoted to the analysis of the pottery corded ware and the waffle ceramics of the site Red Jar II. Taking into account the stratigraphy peculiarities of these cultural remains and the typological similarities of the materials of next regions, author delineates the genesis of pottery traditions of the Northwestern coast of Lake Baikal in the period of the Late Bronze – Early Iron epoch.

Keywords: Lake Baikal; Late Bronze Age; Early Iron Age; Senogdinskaya pottery; pottery corded ware; waffle ceramics; vessel; rim; raised borders; ornamentation; composition

Introduction

A pottery material because of its indications – technology of manufacture and shape of vessels, methods and devices of ornamentation, peculiarities of baking process – is often as a time indicator of division into archaeological periods. In combination with other artifact types the pottery complexes are used for making a cultural-chronological model of a region. As a rule quality of the models depend on the archaeological site that possess the clear deposit structure of cultural remains.

On the coast Baikal there are similar sites in Priolkhon’e (Ulan-Khada, Sagan-Zaba, Tyshkine I and III, Berloga) and Chivyrkuy bay (Katun’ I and Okunyevaja IV). The cultural stratum separating the sand interlayer are exposed on these archaeological objects (Gorjunova, 1983; Gorjunova and Lyhin, 1985; Grjaznov and Komarova, 1992; Gorjunova et al., 1996; Gorjunova et al., 2008).

There are not sites like it on the Northwestern coast of Lake Baikal. But some sites are known which the archaeological material is deposited in consecutive order. This circumstance gives to archaeologists the possibility of using the cultural remains for making the cultural-chronological reconstruction of this region.

The aim of this article is introduction of the pottery complexes of the Late Bronze – Early Iron epoch from the site Red Jar II (the excavation trench № 1) and interpretation these materials according to the cultural-chronological models of near regions. The stratum peculiarities of the site – in the absence of the sand interlayer – allow not dividing the cultural remains into chronological groups. And so the archaeological material is dated
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according to its deposit layer and typological indications.

Research history

The site Red Jar II is in 3 km to the Northeast from the village Baikal’skoe (the North Baikal area, Republic Buryatiya) and is located in northern part of the Ludarsky lip, in 200 m to the Southwest from the cape with the same name (Fig. 1).

The site has been opened in 1999 by A.V.Harinsky as a result of the researches spent in vicinities of the village Baikal’skoe. In 2006 the first excavation at the site has been made by I.S.Karnyshev. The excavation trench № 1 has been put above the place of concentration of an archaeological material in coastal exposures. The opened area has made 20 m² in the depth 0,32-0,52 m. As it turned out the archaeological material in number of 2124 finds (from them the ceramic potsherds – 910, the subjects of the stone industry – 340 and the bone fragments – 874) lies in the first three stratums – the turf, the light-grey sandy loam and the light-brown sandy loam – and practically it is not divided. With some share of convention it is possible to allocate two cultural layers characterized by concentration typologically homogeneous finds witch are attributed to a concrete stratum.

So, I cultural layer is attributed to the sole of the turf stratum and the light-grey sandy loam stratum. Though some potsherds with rhombic and ribbed surfaces are fixed in the upper stratum. The archaeological material is presented by 280 potsherds of ceramics, 235 subjects of the stone industry and 459 bone fragments. The potteries of the layer are corded ware (94), with rhombic impressions (85) and ribbed impressions (40), smooth-walled (39) and with net negatives (2). The first is fixed mainly in the roof of the stratum. Besides, in the layer it is noted 20 fragments of ceramics which are not giving to diagnostics because of to their deformation. Among stone products in the layer fragments of flint bushes, a fragment of an edge of a quartzitic arrow head, a fragment of a triangular arrow head with direct base, an end-scraper at big amorphous flake, a cutting tool issued by a retouch at big flake and a fragment of a grinded crescent knife are noted. Also in the layer it is fixed 108 stone flakes. Among bone products two spherical beads and the tool with a superficial longitudinal groove are noted. The faunistic rests are presented by bones of a red deer, a roe, a small cattle (?) and a seal.

In I cultural layer two bonfires are fixed also. The first of them measuring 0,40 x 0,40 m is put in the sole of the second stratum. The second bonfire measuring 0,28 x 0,45 m is put at the contact of the second and the third stratums. On both bonfires the radiocarbon dates have received – 1895±75 years BP (SOAN-6581) and 1940±70 years BP (SOAN-6582) which taking into account calibration correspond to the end of I millennium BC – the beginning of I millennium AD (Karnyshev and Kichigin, 2008).

II cultural layer is attributed to the light-brown sandy loam stratum. Though some potsherds with rhombic and ribbed surfaces are fixed in the upper stratum. The archaeological material is presented by 280 potsherds of ceramics, 235 subjects of the stone industry and 459 bone fragments. The potteries of the layer are corded ware (94), with rhombic impressions (85) and ribbed impressions (40), smooth-walled (39) and with net negatives (2). The first is fixed mainly in the roof of the stratum. Besides, in the layer it is noted 20 fragments of ceramics which are not giving to diagnostics because of to their deformation. Stone products are presented by two knife-shaped plates, an oval-triangular arrow head, a fragment of a triangular arrow head with direct base, a triangular extended arrow head with concave base, two massive arrows of darts.
Fig. 1. The situational map of the site Red Jar II
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(?) a scraper of the trapezoid form and a hammer-stamper. Also in the layer it is noted 215 stone flakes. Among the faunistic rests it is fixed bones of a red deer and a seal.

In 2008-2009 the excavation at the site has been continued by D.E.Kichigin. The total area of the opened excavation trenches has made 29 m². The received archaeological material essentially has not changed representations about cultural-chronological interpretation of a monument. Therefore within the limits of the present article it remains outside of our attention.

Research materials

In the article the ceramic materials corresponding typologically to the Late Bronze – Early Iron epoch of the Western coast of Lake Baikal are offered to consideration. On set of the most diagnosing characteristics (vessel form, technical decor and ornamentation) two ceramic complexes are allocated – the corded ware pottery and the waffle pottery.

The ceramics description in the further narration is given according to the fixed level of fragments in ground thickness of the excavation trench № 1 in process of deepening from top to down. After the description of each vessel the site of the potsherds in the stratum is specified.

I cultural layer. The pottery corded ware

A vessel of the closed form (207 potsherds) with an open throat and expressed neck, on the round base. The rim of the direct form is slightly unbent outside. The external surface of the vessel, except for the round base, is covered by vertical impressions of a twisted cord. The same impressions, but already various, are observed on the top cut of the rim. The vessel throat is decorated by two horizontal raised borders in the width 0,7 cm everyone. There is a line of the round holes-apertures in diameter 0,3 cm between them. The raised borders are deformed finger impressions. The vessel from the lower horizontal raised border and to its bottom is decorated by the thin raised borders in the width 0,3-0,5 cm. The diameter of the vessel on a rim makes up 23 cm. The lower diameter of the round base is 13 cm, the height – 2,5 cm. The lower external edge of the round base is decorated by nail impressions. The most part of the potsherds has fixed in the light-grey sandy loam stratum. Other fragments have met in the roof and the average part of the light-brown sandy loam stratum (Fig. 2 – 1).

A vessel of the closed form (145 potsherds) with an open throat and expressed neck. The rim of the oval form is slightly unbent outside. The external surface of the vessel is covered by various impressions of a twisted cord. The vessel throat is decorated by horizontal raised border in the width 0,6-0,8 cm which is deformed finger impressions. Under the raised border a line of the round holes-apertures in diameter 0,2-0,3 settles down it. The vessel from the horizontal raised border and probably to its bottom is decorated by the thin raised borders in the width 0,2-0,3 cm which have the wavy form because of finger compressions. The diameter of the vessel on a rim makes up 23 cm. The stratigraphical situation of the ceramics fragments is similar above described (Fig. 2 – 2).

I-II Cultural layer. The waffle pottery

A round bottom vessel of the closed form (57 potsherds) with badly expressed neck. A rim is of the internally asymmetric fungus-shaped form. The top cut of the rim is decorated by the inclined incisions. The external surface of the vessel is covered by rhombic (waffle) impressions. The rhombus party makes up 0,4-0,5 cm. The rhombus impressions are not observed on some fragments of a vessel bottom. A throat, a neck and shoulders of the vessel are decorated by five horizontal lines of the tooth-comb stamp impressions put vertically
First three lines of the tooth-comb stamp impressions are continuous; the distance between impressions makes up 0.2-0.5 cm. The fourth and the fifth lines are characterized by faltering groups (festoons). Besides, there is a line of the round holes-apertures in diameter 0.4-0.5 cm possibly drilled. The thickness of the vessel walls to a bottom increases. The diameter of the vessel on a rim makes up 15-16 cm. The most part of the ceramic fragments is fixed in the roof and the average part of the light-brown sandy loam stratum. And individual potsherds are in the sole of the light-grey sandy loam stratum (Fig. 3 – 1).

II Cultural layer. The waffle pottery

The potsherds of a throat and a body (7) from a vessel of the simple closed form. A rim is of the fungus-shaped form. The external surface of the vessel is covered by rhombic (waffle) impressions. The rhombus party makes up 0.4-0.5 cm. The vessel throat is decorated by two horizontal lines of the tooth-comb stamp impressions put vertically. The distance between impressions makes up 0.1-0.3 cm. Lower the line of the same impressions is, but put in cline to each other forming a horizontal zigzag. The top cut of the rim is decorated by an average part of the tooth-comb ornament tool. The potsherds
are fixed in the top third part of the light-brown sandy loam stratum (Fig. 3 – 2).

The potsherds of the top part of a vessel (43) with rhombic (waffle) impressions. The ornamentation is in the form of three horizontal lines of the inclined stamp impressions representing small smooth lines. First two lines of the smooth impressions are continuous. The distance between them makes up 0,2-0,3 cm. The third line is characterized by faltering groups (festoons). The stratigraphical situation of the ceramics fragments is similar previous (Fig. 3 – 3).

**Discussion of the materials**

At Lake Baikal coast the corded ware pottery decorated raised borders with a round base is known as Senogdinsky pottery (Tyshkineisky type– by O.I. Goryunova). Its fragments are found by the excavations of the Plate Graves and the multilayered sites in the Ol’khon region and also sites of other regions of Lake Baikal coast. Appearance of Senogdinsky pottery at the end of II – the beginning of I millennia BC firstly in the Ol’khon region and later on all Baikal coast is accounted by some researchers for spreading the culture of the Plate Graves of Transbaikalia. At the end of I millennium BC the corded ware pottery has got out of use. The smooth-walled and the waffle potteries replace it. But the raised borders ornamentation remains and continues to exist to the middle of I millennium AD (Kharinsky and Karnyshev, 2003; Kharinsky, 2005; Kichigin, 2009).

During the long time (the end of II – the end of I millennia BC) Senogdinsky pottery underwent some changes expressed by the form and the rim of vessels, a quality of the cord impressions.
and the ornamentation. So, for example, early Senogdinsky earthenware is characterized by the closed form of vessel consisting of two basic constructive elements – a throat and a body. At the later period vessels with an open throat and expressed neck prevail (Kharinsky, 2005; Kichigin, 2009).

However as the most dating indication in our opinion the ornament is. At early stages the ornamentation of Senogdinsky vessels looks simply enough: the composition consists from 1-2 horizontal cut raised borders and a line of round holes-apertures (a standard composition). Probably such combination of the elements of an ornament in the upper piece of a vessel had the more practical value caused by aspiration of an ancient master to strengthen a vessel's throat at the moment of drying (raised borders) and baking (holes-apertures). At the later period besides the standard composition on the corded ware vessels the additional ornamentation has been (a subsidiary composition). It is expressed in addition to horizontal wide raised borders of thin raised borders which are notable for its forms and an arrangement on a vessel's surface. They can be straight or cramp-formed, horizontal or inclined (vertical), but decorate as a rule a vessel body and have more aesthetic value rather than the practical. The thin raised borders decorated the corded ware pottery are found at Baikal region everywhere. However more often they are found at Northwest coast of Lake Baikal where Senogdinsky pottery abounds with variants of additional ornamentation (Svinin, 1966; Karnyshev, 2006; Kichigin, 2009).

Thus, the corded ware vessels decorate raised borders found in the excavation trench № 1 of the site Red Jar II concern to the late variant of Senogdinsky pottery – the second half of I millennium BC. It is possible, the radiocarbon date 1940±70 years BP (SOAN-6582) received by the second bonfire remains is some rejuvenated. It should be dated the bonfire to the end of I millennium BC.

In our opinion, the coexistence of Senogdinsky pottery with other ceramic traditions at Northwest coast of Lake Baikal in the second half of I millennium BC is quite admissible. The results of excavation of the burial-funeral complex Baikal'skoe VII is not contradicted to such point of view also. At this monument the smooth-walled (Elginsky type) and the waffle (Borisovsky type) potteries of the Early Iron Age are found together with the potsherds of the corded ware pottery decorated raised borders – Senogdinsky type.

The pottery with rhombic impressions found by the excavation of the site Red Jar II (Fig. 3) is noted at Northwest coast of Lake Baikal in the several locations else – Kurla IV and Boguchansky XI. These potsherds are united in one ceramic complex with the ornament which consists of the horizontal lines of tooth-comb stamp impressions (in one case smooth stamp) put in cline or vertically. The similar pottery at excavation of burial and site complexes of other coast of Lake Baikal is not found. It essentially differs from Borisovsky waffle pottery which occurred at Baikal region at the end of I millennium BC – the beginning of I millennium AD Distinctions are notable not only in the form of vessels and ornamentation, but also in the most technical decor. The external surface of Borisovsky vessels is covered by the large rhombuses with the party more than 0,6 cm. There are also impressions rhombuses entered each other too the large. The waffle pottery decorated the horizontal lines of tooth-comb stamp of Northwest coast of Lake Baikal is covered the small rhombuses with the party of 0,4-0,6 cm (Abdulov and Tuzhik, 1995; Kharinsky, 2005).

The distinctive feature of the waffle pottery interesting us is an ornament. The tooth-comb stamp impressions making horizontal lines are built in a certain order. Therefore it’s possible
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To allocate two variants of an ornamentation composition accepted by us as rule a certain indicator. The first variant represents 2-3 horizontal continuous lines of the tooth-comb stamp impressions put in cline or vertically. Under them passes 1-2 lines of the same impressions, but consists in groups (festoons). The second variant of a composition looks approximately also. Difference consists that the tooth-comb stamp impressions are built in the form of a zigzag in finishing lower line.

The nearest analogies of these ornamentation compositions of the waffle pottery are found at Ust'-Karengsky sites of the Top Vitim. On the cultural layers containing the waffle pottery decorated the horizontal lines of the tooth-comb stamp impressions two radiocarbon dates have received – 3670±40 years BP (LE-2650) and 3250±40 years BP (LE-2649) which taking into account calibration correspond to XVIII – XIII centuries BC (Vetrov and Samuilova, 1990).

The waffle pottery finds the analogies in Ymyykhtakh Culture of the Late Neolithic Age of Yakutia which is dated II – the beginning of I millennia BC. However the similar element of an ornament – the impression of the tooth-comb stamp – at Ymyykhtakh vessels is not met (Fedoseeva, 1980). It’s necessary to notice that at the site Ulahan Segellenjah (Olekma) in VII cultural layer the potsherds of vessels with rhombic impressions on the external surface decorated various ways including the tooth-comb stamp impressions are noted. Two radiocarbon dates have received on this cultural layer – 3570±140 years BP (IM-1011) and 3120±120 years BP (IM-1009). In author opinion, the layer is dated the Bronze Age (Ust'-mil' Culture) which is defined him the middle of II – middle of I millennia BC (Alekseev, 1996: 69-70).

The ornamentation of vessels by the horizontal lines of the tooth-comb stamp impressions put in cline or vertically finds the wide analogies both to the East and to the West from Baikal.

At Eastern Transbaikalia the tooth-comb ornament is noted in vessel decoration since Medial Neolithic Age (7 – 6 thousands years BP) to the Bronze and Early Iron Ages. It's confirmed the results of excavation of burial and site complexes of the Darasunsky location. The tooth-comb element of an ornament in according to a waffle decor is distinctly traced on specific earthenware of the culture of the Plate Graves – tripod-vessels. The potsherds of tripod-vessels with the waffle surface and the tooth-comb stamp impressions were found by the excavation of the plate graves of the monument Zhigurzhinka. These burial complexes are dated VI – III centuries BC (Kirillov et al., 2000).

In the plate graves of Buryatiya the potsherds of tripod-vessels find extremely seldom. The waffle pottery decorated the horizontal lines of the tooth-comb stamp in these burials is not met absolutely (Tsybiktarov, 1998).

It’s necessary to notice that at excavation of the plate graves of Western coast of Lake Baikal any potsherd of tripod-vessel is not revealed. Moreover, in these burials it’s not met also potsherds with waffle surface (Turkin, 2003).

The compositions of an ornament met on waffle pottery of the site Red Jar II also find the analogies to the West from Baikal. At settlement Ust'-Ilim (Angara) similar ornamentation is noted on the smooth-walled potsherds lying in one layer with the waffle pottery. At the same time, in cultural layers besides these potsherds there are potsherds of other polytypic earthenware. This circumstance calls in question the dating of the cultural layers by the certain period – the Neolithic Age or the Early Iron Age. Besides, the Bronze epoch on this monument is not absolutely allocated (Berezin, 1990).

This problem is resolved with the materials of multilayered objects of Average Yenisei. At
Fig. 4. The genesis of the pottery corded ware and the waffle ceramics at the Northwest coast of Lake Baikal.
settlement Shilka-9 in the fifth cultural layer the potsherds are divided by technology of manufacture and ornament on two groups. The first group (Shepilevsky type – XI-VIII centuries BC) includes the vessels with ribbed or waffle impressions on external surface; the ornament in the form of the horizontal lines of finger nips, the raised borders and the drawn lines. The second group (Bobrovsky type – XVIII-XII centuries BC) includes the potsherds of smooth-walled vessels decorated the horizontal lines of the tooth-comb the smooth stamp. Anyhow, the combination of a waffle decor and a tooth-comb ornament on the Yenisei pottery is not met (Mandryka, 2005; Abdulina and Mandryka, 2007).

At the moment the dating of existence of the waffle pottery decorated the horizontal lines of the tooth-comb stamp impressions at Northwest coast of Lake Baikal is defined difficult enough. Probably, its appearance at this area is caused by Northeast contacts through river valleys of the Top Angara and Muja with the areas of the Top and Average Vitim. After all the similar compositions of an ornament have been met at the Ust’-Karengsky sites. Thus, the potsherds of the waffle pottery decorated the horizontal lines of the tooth-comb stamp impressions found at the site Red Jar II are preliminary dated to the last third of II – to the first half of I millennia BC.

**Conclusion**

Absence accurate stratigraphy of archaeological layers of the site Red Jar II for today has no to the characteristic of this object as a basic monument of Northwest coast of Lake Baikal. Though the ceramic complexes according to their stratum levels, following one after another in process of deepening in the excavation trench, do not contradict to the cultural-historical datings based on the comparative-typological method of research.

Probably, Northwest coast of Lake Baikal during the Late Bronze – Early Iron epoch was cultural periphery where those or other traditions got from the different areas that is distinctly traced by a ceramic material (Fig. 4).

So, at the end of the Bronze Age (the last third of II millennium BC) from the Northeast the tradition to produce circle bottom vessels in the beating way of a carved waffle beetle and to decorate their horizontal lines of tooth-comb or smooth tool impressions gets at this area. At the beginning of I millennium BC from the south and the southeast the Culture of the Plate Graves of Transbaikalia at Northwest coast of Lake Baikal gets. Since this time at all Baikal coast the corded ware pottery decorated raised borders has begun to prevail (Senogdinsky type). May be, both ceramic traditions– the waffle and corded ware potteries – co-existed some time at Northwest coast of Lake Baikal. At the second half of I millennium BC the ornamentation of Senogdinsky vessels becomes complicated. In addition to horizontal raised borders a vessel’s body is decorated by thin raised borders. In the boundary of eras the waffle pottery (Borisovsky type) again extends at the Baikal coast, but already with the standard compositions of Senogdinsky ornament.

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Керамика позднего бронзового – раннего железного веков стоянки Красный Яр II (северо-западное побережье озера Байкал)

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Настоящая статья посвящена анализу «шнуровой» и «вафельной» керамики стоянки Красный Яр II. Исходя из стратиграфических особенностей залегания этих культурных остатков и типологических сходств с материалами соседних регионов, автор раскрывает генезис керамических традиций северо-западного побережья озера Байкал в период позднего бронзового – раннего железного веков.

Ключевые слова: озеро Байкал, поздний бронзовый век, ранний железный век, Сеногдинская керамика, «шнуровая» керамика, «вафельная» керамика, сосуд, венчик, налепные валики, орнаментация, композиция.