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Chinese Lacquer Cup from the “Golden Man” Tomb at Bugry, Northern Altai*

In 2013, the South Siberian Archaeological Expedition headed by K.V. Chugunov excavated tomb 3 of mound 1 at the Bugry burial ground in the Altai. On the floor of the burial chamber, numerous fragments of a Chinese lacquer cup of the er bei type were found. Exact parallels to its decoration are known among the artifacts from tombs in the central Hubei Province, dating to the Qin–early Western Han Dynasty based on epigraphic data and suggesting that tomb 3 dates to the late 3rd century BC. Similarly decorated artifacts were found in other tombs in the Altai. The physicochemical analysis of the lacquer layers makes it possible to identify their compounds and to reconstruct the technique of the manufacture of er bei cups.

Keywords: *Er bei cup, Bugry burial ground, Chinese lacquerware, Qin Dynasty, Western Han Dynasty.*

Introduction

In the summer of 2013, the South Siberian Archaeological Expedition of the State Hermitage Museum headed by K.V. Chugunov, which worked in the Rubtsovsky District of the Altai Territory, continued its excavation of mound 1 at the Bugry burial ground (Fig. 1). The main object of the study was tomb 3 in the southern part of the burial mound, which was oriented in the latitudinal direction. The bottom of the small-sized grave pit (measuring 3.5×4.8 m) was paved with stones, on which the builders made a log construction with three layers. The ceiling was made of longitudinal and transverse beams and has survived only in a small section in the eastern part of the grave. An adult male was buried there at a depth of a little over 4 m. Despite the fact that burial was looted several times, it still contained some



Fig. 1. Location of the Bugry burial ground.

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objects which once accompanied the deceased person. Over 1500 plaques and rectangular plates of gold foil and embossed gold leaf decorated the clothing and the headgear of the deceased; his shoes were decorated with an embroidered rhombic pattern of argillite tubular beads. The person was buried with his weapons. These materials suggest that a “golden man” was buried in tomb 3 (Chugunov, 2014).

Other finds include the remains of an object of special interest. It is a lacquer vessel which was badly damaged because of the length of time it was located in the ground, and because of the looting of the grave, yet it has not lost its beauty. The object is represented by a large number of fragments. Their location suggests that originally the vessel stood on a wooden tray in the north-western part of the log construction, behind the back of the buried man. Small lacquer flakes of red and black color were found here; some of them preserve fragments of ornamental decoration (Fig. 2, *d*). The largest fragment was found in the filling in the opposite part of the wooden chamber, at the feet of the buried man. Most likely the fragment ended up there as a result of looters’ activities. The shape and decoration of the fragment suggests that an *er bei* cup (耳杯) was placed into the burial.

Description of the finds

The remains of lacquer coating were extracted from the bottom of the grave pit. The wooden base of the

cup was almost entirely destroyed, and thus it is not possible to establish the original thickness of the vessel walls. Most of the fragments are lacquer flakes no more than 2 cm in length. Their reverse side preserves the remains of primer coating and the wooden base. The largest fragment of the cup with a surviving rim (10.3 × 4.3 cm in size) is a part of the lacquer coating of the inner and outer surfaces, tightly connected to each other (ca 3 mm thick) (Fig. 3). The remains of wooden core were visible only in the places where the lacquer cracked or was torn apart. This fragment of the cup made it possible to carefully study its ornamental decoration. The decoration of the inner surface includes a deep black color for the background and bright red color for the pattern, which was traditional for Chinese lacquerware. A band of ornamental decoration runs along the rim. At its upper part, the band is bordered by two thin red lines; altogether, the band is not wider than 3 cm. The black background of the decorated rim and the body of the cup, which was painted a single red color, have a clear color boundary. The set of elements that fill the ornamental band are very unusual. Thick stripes in the shape of a Y-shaped element and curved lines ending with rounded protuberances (Chinese “motif of a bird’s head”) form a “triangle”. A dot in its lower part separates it from the next element. A circle (or rather a “sub-square”), which is coarsely drawn with a thick line, is connected by a barely visible thin line to two vertical stripes. Another thin line expands to the right from the lower edge of the vertical stripes and connects with the next short vertical stripe (Chinese “B-shaped motif”). Two red dots are

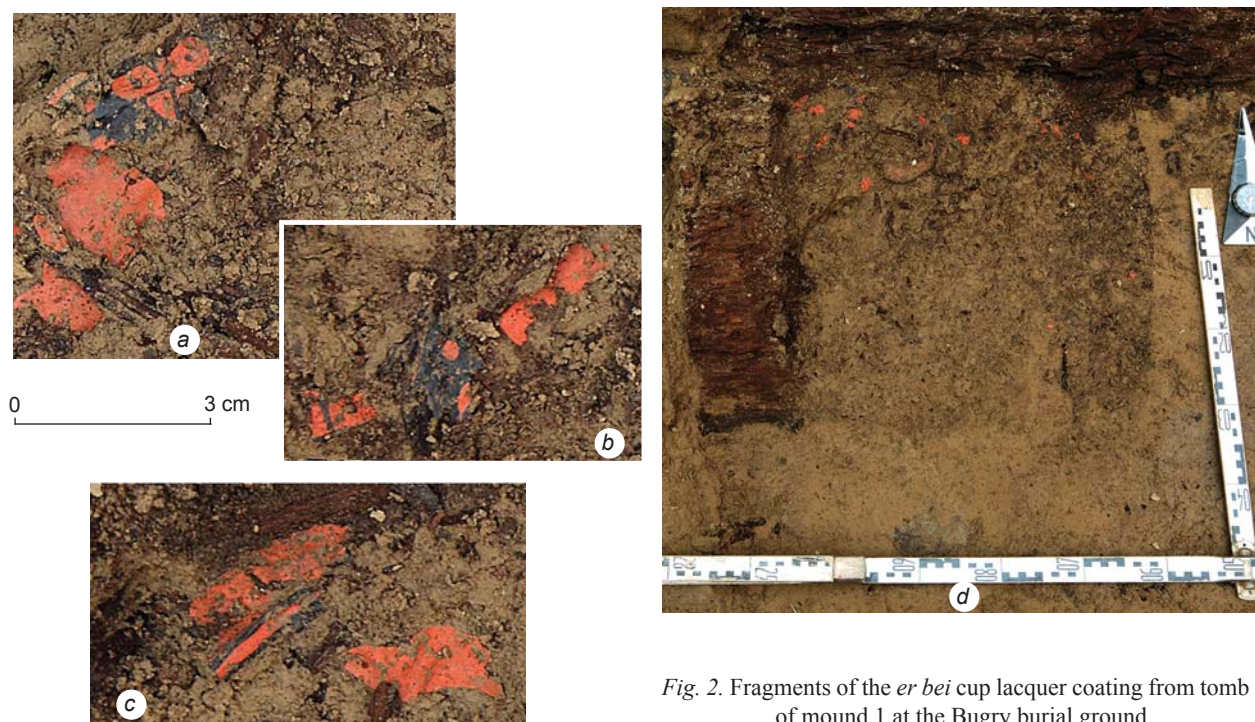


Fig. 2. Fragments of the *er bei* cup lacquer coating from tomb 3 of mound 1 at the Bugry burial ground.

shown on both sides of the connecting line, and another red dot is at the top. The following two circles marked with thick lines, are connected with each other by a vertical barely visible line. Short thick “tails” diverge from each of the circles in the horizontal direction, forming a mirror representation with a shift relative to each other. A small dot is followed by the edge of another “triangle” that probably had the same termination as the leftmost element of our fragment. Two red dots divide this “triangle” and the similar “triangle” located across a diagonal. We may assume that this fragment of the cup, which survived at the bottom of the burial chamber, was decorated with a set of elements in the form of a pattern repeating itself along the rim. Three colors were used for decorating the outer surface of the fragment: black for the background, and red and brown for the pattern. An ornamental band about 2.5 cm wide was also located along the rim of the cup, but at the bottom it was bordered only by one thick red line. In contrast to the inner surface, on the outer surface both the rim and the body of the vessel have a black background. The ornamental decoration on the outside of the fragment is simpler; it consists of fewer elements and is made in a more sweeping manner. Short thick stripes of red and brown lacquer form a kind of a large stretched zigzag. The gaps between the strokes are marked with one or two dots. The pattern employs another element—two dot-“pearls” separated by a vertical line. A similar element (two small circles with triangular dots above) can be found on one of the small lacquer fragments (see Fig. 2, *a*). Some ornamental details (lines, dots) have also been preserved on other lacquer flakes (see Fig. 2, *b*, *c*).

Scientific analysis of the object

In the last decade, the study of the composition and technological features of ancient lacquer has been conducted in the Department of Scientific and Technical Expertise of the State Hermitage Museum. A comprehensive study of the chemical composition and structure of lacquer coatings of the find from tomb 3 of mound 1 at the Bugry burial ground was carried out by various physical and chemical methods, including



Fig. 3. Inner (*a*) and outer (*b*) surfaces of the lacquer cup.

microscopy, infrared spectroscopy, Fourier transform infrared spectroscopy, and X-ray analysis*.

The outer sides of the samples have lacquer coating (pattern and background) with black, bright red, and brown colors; remains of soil and the wooden base have survived on the reverse side (Fig. 4). Stratigraphy of this complex coating showed its composite multilayered structure.

The thickness of the lacquer flakes ranges from 20 to 36.5 μm (depending on the amount of layers that retained adhesion between each other); the length of the samples reaches approximately 20 mm.

*All infrared spectra were taken at the St. Petersburg State University of Industrial Technologies and Design using a Shimadzu FTIR-8400S Fourier transform infrared spectrometer with high sensitivity temperature-stabilized DLATGS detector with KBr windows in the spectral range of 7800–350 cm^{-1} . The X-ray fluorescence analysis was performed by the Deputy Head of the Department of Scientific and Technical Expertise of the State Hermitage Museum, S.V. Khavrin, to whom the authors express their sincere gratefulness.

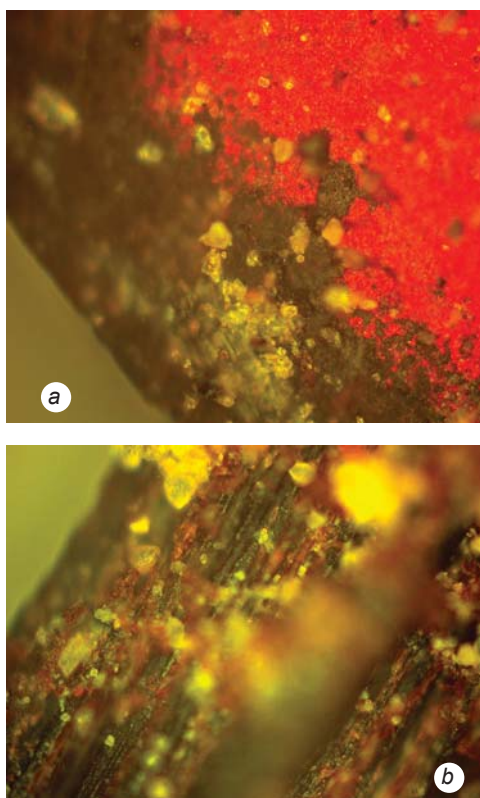


Fig. 4. Layers of paint in the background and ornamental decoration on the outer surface of the fragment (a), and the remains of wood on the reverse side of the lacquer coating (b) of the cup. Macro-photography made in the Department of Scientific and Technical Expertise of the State Hermitage Museum using a Leica DM2500 P microscope (X 150).

All infrared spectra of the samples (taken at different points of the background and painting) correspond to the IR-spectra of traditional Chinese lacquers. The spectra of lacquer which has been analyzed show spectral bands typical of urushiol aromatic compounds: three sharp bands at 1450–1650 cm^{-1} . Bands in the zones of 1630, 1560, and 1440 (1410) cm^{-1} were established for our object. They correspond to an absorption band of about 1000–1200 cm^{-1} (in our case, 1080 cm^{-1}) and typical out-of-plane deformation vibrations of $-\text{CH}$ groups and also vibration groups of $-\text{CH}$ -bonds of the aromatic ring in the zone of 670–900 cm^{-1} (in our case, 692, 795, 875, and 920 cm^{-1}). The absorption bands of $-\text{CH}$, $-\text{OH}$, $-\text{C}=\text{O}$ groups, specific to urushiol polymers, and also the $-\text{CO}$ group typical of polysaccharides of plants and wood, were present. The red lacquer layer contained trace amounts of tung oil (the band at 712 cm^{-1} was absent).

Microscopy examination revealed that the lacquer samples of our fragments consisted of several layers. All layers of lacquer consisted of a natural filming agent—a biopolymer based on urushiol pyrocatechols

with a high degree of cross-linking. The biopolymer was obtained from the sap of the Chinese lacquer tree (Lat. *Rhus verniciflua*). The layer of red paint (pigmented red layer of flakes) consists of the paint *tong qi* (彤漆), a mixture of *qi*-lacquer with cinnabar. The paint shows a high degree of fineness and pigment content. Despite the fact that Chinese lacquer also was a filming agent for the red paint, high content of pigment in the red paint and, consequently, the lack of a binding media, led to chalking of cinnabar on its surface (in the thick strokes) (i.e. when the pigment is rubbed with a brush or other tools, pigment particles may come off the surface). Impurities, typical of native cinnabar (HgS), antimonite (Sb_2S_3), and lead sulfide (PbS), were not found. A specific feature of the red paint in our case was the presence of not only cinnabar as a typical pigment of Chinese lacquers, but also of iron oxide (pigment / filling agent). Another feature of the lacquer coating on our fragments was the composition of the black background, which was produced on the basis of a mixture of *qi*-lacquer and finely graded pigment (soot). The paint is well-saturated with pigment, and the background does not have any luster and traces of polishing. The use of brown color in the painting on the outer surface of the fragment seems to be unusual. The paint was made on the basis of brown *qi*-lacquer (which does not contain iron). All the red color compounds indicate the presence of trace amounts of tung oil. In the Chinese tradition of lacquer painting, the stage of grinding cinnabar with tung oil is essential, since otherwise it is technologically impossible to produce red paint in *qi*-lacquer. In this case, tung oil protects the pigment and modifies its surface. Apparently, during the production of paint, cinnabar was ground or milled with oil, and then lacquer tree sap was added to the mixture. Tung oil was not used as a modifier in the binding lacquer coating of the samples.

Thus, we can conclude that after producing the wooden base of the cup, the wood was treated with brownish-black lacquer (sized), and then the primer was applied to the base. The base was made of a mixture of *qi*-lacquer with animal glue and filler, based on aluminum silicates and kaolin clay. The primer contains micro-inclusions of quartz. An irregular fiber structure is visible between the layers of primer and black lacquer. These are the remains of thin fabric (apparently, made of vegetable fibers of hemp or ramie), soaked in black lacquer. Two layers of black lacquer paint were applied to the fiber for creating the background: the first (lower) black layer and the transparent *qi*-lacquer layer (sap of the lacquer tree, containing iron ions). Each layer of the composite lacquer and paint structure was dried in special temperature and humidity conditions. After drying, the background was decorated with thick, dense, and opaque red paint. At the end, the surface was coated with a protective layer of transparent animal glue.

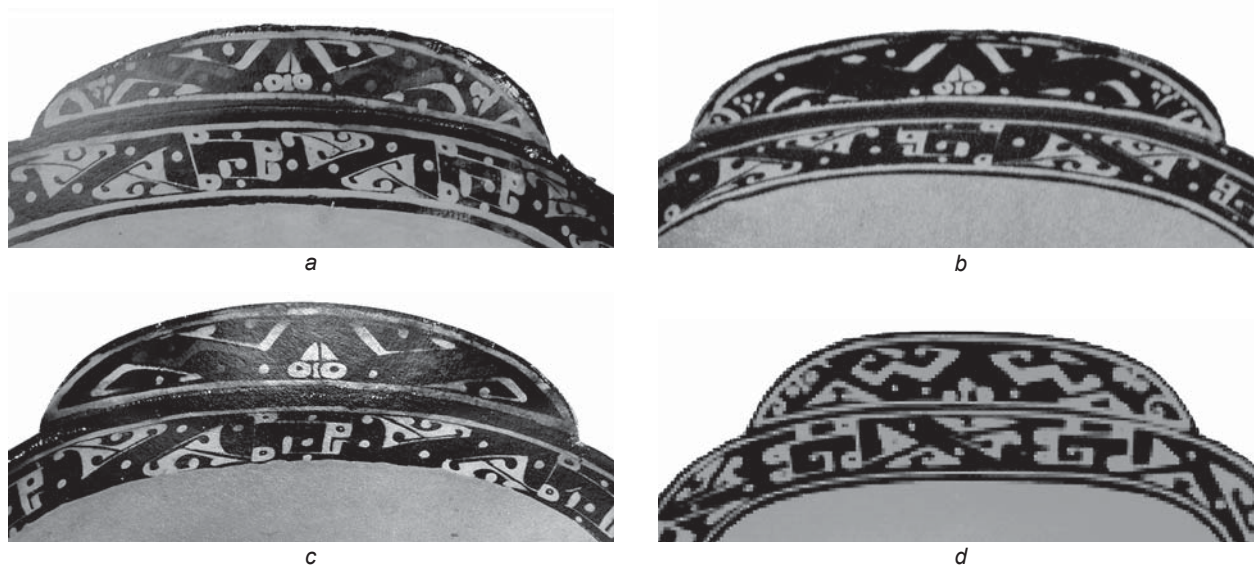


Fig. 5. Lacquer *er bei* cups from Chinese burials.

a – Shuihudi, tomb M9; *b* – Shuihudi, tomb M11; *c* – Shuihudi, tomb M47; *d* – Dafentou, tomb M1.
a, c – (Chu Qin Han qiqi..., 1996: 189, fig. 136; p. 233, fig. 191, 3); *b* – (Yunmeng Shuihudi..., 1981: Tabl. 22, fig. 1);
d – (Lu Yao, 2012: 22, fig. 16).

Despite the fact that the samples were extremely brittle, the adhesive bond between the layers of lacquer coating has a medium-to-high degree of preservation. Optical microanalysis showed cracks on the paint surface, resulting from the impact of soil pressure or influence of temperature and humidity on the object. In some places, the cracks go through the entire thickness of paint, but do not cause interlayer separation. The destruction of the paint conglomerate mainly occurred in the weakest layer, the primer. The red paint had such a good adhesion to the background, that it could not be removed even in an alkaline solution. However, some places show physical losses (chipping) in the layer of red paint through which the underlying black layer is visible. General preservation of the layers of painting, taking into consideration scratches, chipping, and other minor damages, suggests that the object had been used for a relatively long time before it was placed into the grave.

Date and place of production

The comparison of the fragments of our cup with the objects found in China makes it possible to draw some conclusions as to the time and place of its production. Objects similar in shape and decoration to the cup from Bugry in the forest-steppe of the Altai were found in the central part of the Hubei Province at the sites of the Qin and Western Han periods, including the tombs of the Shuihudi cemetery (M9, M11, M47) and the Dafentou cemetery (M1) (Yunmeng County) (Chu Qin Han qiqi..., 1996: 189, 232–233, 301, 314; Yunmeng Shuihudi...,

1981: 34–37, fig. XXII; Chen Zhenyu, 1981: Fig. 21, 2) (see Fig. 5). The similarities in the set of decorative elements, their arrangement along the rim and on the handle, as well as the style of execution, suggest that the Bugry cup from Western Siberia and the cups from Yunmeng County were made following the same models. This is also supported by the direction of the ornamental band: while strictly adhering to the set of elements and the sequence of their placement, the pattern could be made both in a direct and mirror image (cups from the tombs M9 and the M11 of the Shuihudi cemetery) (Fig. 5, *a, b*). It should be noted that earlier O. Mänchen-Helfen and E.I. Lubo-Lesnichenko suggested the possibility of using stencils and templates in decorating the surfaces of lacquerware from Changsha and a cup from the burial mound 6 in the Noin-Ula Mountains (Lubo-Lesnichenko, 1969: 268).

Some Chinese burials, which contained cups similar in shape and ornamental decoration, were dated by epigraphic data. An assemblage of administrative, economic, and legal documents written on bamboo planks (over 1150 planks) and going back to the Warring States–Qin period was discovered in tomb M11 of the Shuihudi cemetery. The documents tell us that the judicial official Xi (喜) from Anlu County (安陆) in the Nanjun Prefecture (南郡)*, who died not later than 219–217 BC, was buried

*The territory of the present-day Yunmeng County of the Hubei Province, where the Shuihudi cemetery is located, formerly belonged to the Chu State which was conquered by the Qin army in 278 BC. After the conquest, the Nanjun Prefecture (南郡) was organized there.

in this grave. This date is indicated by the contents of the *Chronicle* (编 年纪) section in the private chronicles of judicial official Xi (Yunmeng Shuihudi..., 1981: 14–15, 68–69). A detailed analysis of the epigraphic evidence from Shuihudi was performed by M.S. Tseluiko, who showed that the records of the *Chronicle* could have been made from 244 to 217 BC (2011). Thus, 219–217 BC is the date for the earliest known grave where an *er bei* cup, similar to the discovery from the Bugry burial ground, was found.

According to the similarities in the burial rite, as well as similar forms of pottery and bronze vessels, the series of tombs from the Shuihudi cemetery was dated to the period of the Qin Dynasty (Hubei Xiaogan diqu..., 1976: 58–59; Cha Xianqi, Zhang Zedong, Liu Yutang, 1981: 43–46; Yunmeng Shuihudi..., 1981: 68–69). Particularly notable is tomb M9 where another cup decorated with the same pattern as our cup, was found (Chu Qin Han qiqi..., 1996: 189, 301). The latest of the known tombs containing a cup with a similar design is M1 of the Dafentou cemetery. In spite of the general similarity of the ornamental decoration in terms of the elements, this cup is clearly distinguished by the manner of pattern execution: the lines are coarser; the elements become less clear as if flowing from one into another; and new small details emerge (Fig. 5, *d*). That tomb is dated to the early Western Han period. Using the method of comparative analysis involving certain categories of grave goods (bronze objects, pottery), it was established that the burial was made in the period between 217 and 167 BC. An indirect confirmation was a wooden plaque found at the burial site, which contained the list of things placed into the grave. According to the Chinese scholars, the text was written using several writing styles. Most of text was written using *han li* (汉隶)—the business writing style of the Han period, but some parts were written using *qin zhuan* (秦篆)—the writing style of an earlier period (Chen Zhenyu, 1981). Tomb M47 of the Shuihudi cemetery, where another cup with a similar decoration (Fig. 5, *c*) was discovered, is dated to the time of the Western Han Dynasty. Unfortunately, the Chinese authors do not provide substantiated evidence for this dating (Chen Zhenyu, 1986: 517–518, 521).

Chinese parallels may also give an answer to the question of where our cup was produced. Already in the first publications of materials from the Shuihudi cemetery, the authors drew attention to specific features of tombs where lacquer objects were found. According to the authors, most of the tombs reflected the cultural influence of the Qin State, but some tombs showed the continuity with the traditions of the Chu State (Hubei Xiaogan diqu..., 1976: 60). Further studies of the Shuihudi cemetery confirmed that assumption (Chen Zhenyu, 1986: 518). Later, Chen Zhenyu noted that the lacquer objects from the burials of the Qin State, which date back to the time of the late Warring States, show

marked differences from the lacquerware produced in the Chu State (Chu Qin Han qiqi..., 1996: 253–254). At that time, inscriptions were discovered on the outer and inner surfaces of the lacquer objects, including engravings, stamps, and characters written in lacquer (Hubei Xiaogan diqu..., 1976: 54–56, 60). A stamp with the characters “咸 亭 甲” was made on the reverse side of the cup handle from tomb M47 of the Shuihudi burial ground (Chu Qin Han qiqi..., 1996: 232, 314). Engraving in the form of a vertical line, and a stamp that contained the characters “咸” and “上,” are represented on the cup from the tomb M11 of the same burial ground (Yunmeng Shuihudi..., 1981: 127). The authors of the publications interpreted the first character as an abbreviation of the name of Xianyang (咸阳, 咸 市)*. According to their suggestion, production of lacquerware was well developed in this city at the time, and lacquerware might have been exported to other regions, for example, Anlu County in the Nanjun Prefecture (the present-day Yunmeng County) (Ibid.: 60–61). Having analyzed these materials, Hun Shi noted that many lacquer objects of the late Warring States period and the Qin period with the stamp “咸” or “咸 亭” have been found. The majority of them came from the Shuihudi cemetery. Certain templates were used for manufacturing lacquerware with such stamps in the center of their production. Unfortunately, Hong Shi did not specify where exactly such a center might have existed (2006: 201–202). Most of the objects with similar ornamental pattern, found in the burials in the Hubei Province, could have been manufactured in various regions of China. Individual elements of typical ornamentation were used for decorating the surface of not only the above-mentioned *er bei* cups, but also other types of lacquerware, found at the burial sites in the same region: *chang he* (长 盒) boxes, *yuan lian* (圆 奁) caskets, *pan* (盘) plates, etc. The B-shaped pattern and its versions occur quite often; a significant number of vessels with such a pattern originated from the central provinces of China (K voprosu..., 2012: 487–489). The most common pattern has the form of two dots with a dividing line or third dot above them. A variety of modifications of this pattern were used, for example, for decorating the vessels from the burials of the Mawangdui, Changsha (Hunan Province) (Changsha Mawangdui..., 1976: Fig. 74, 189; Changsha chu mu, 2000: 350–351, fig. 280, 2, 281, 1).

The materials collected to date suggest that Chinese lacquerware did not occur in the burials of the nomads as rarely as it had earlier seemed. Until recently, the most striking finds were believed to have originated from Xiongnu burial mounds, from both elite and ordinary tombs (Rudenko, 1962; Konovalov, 1976; Miniaev, Elikhina, 2009; Polosmak, Bogdanov, Tseveendorj, 2011).

*The present-day city of Xianyang in the Shaanxi Province was the capital of China during the reign of the Qin Dynasty.

The emergence and wide proliferation of Chinese-made items in the monuments of the Xiongnu was the result of the policy pursued by the government of the Chanyu ruler and the Chinese Emperor (Materialy..., 1968, 1973).

Field studies made known a large number of burials belonging to the nomads of the last centuries of the first millennium BC, where Chinese lacquerware objects were found. The sites are located over a wide area, including the Altai Mountains (the Pazyryk and Bulan-Koba cultures) and the Altai foothills, as well as the forest-steppe of the Trans-Urals and Western Siberia (the Sargat culture). Lacquerware vessels with black-and-red decoration, and also weaponry and lacquer-coated belts were discovered in the tombs of the Isakovskiy I, Sidorovskiy I, and Abatskiy III burial grounds (Pogodin, 1997). The Ust-Alma burial ground in the Crimea is the westernmost place where Chinese lacquerware has been discovered (Die Krim..., 2013).

The most interesting objects for the purpose of this study are those which have been found at the sites of the Altai and its foothills. At the Bugry burial ground, the cup was found in tomb 3, and the remains of lacquer coating were revealed in tomb 2 of mound 1 and in several tombs of mound 4. The discovered fragments are very small in size and many are undecorated. However, locations of discovery of lacquer flakes suggest their association with weaponry decoration (Tishkin, 2012: 507). Painted objects from different mounds of this burial ground turned out to be close to each other in terms of the sequence of layers of lacquer and paint coating and the composition of the filming agent. The paint on the objects from different tombs of the Bugry burial ground was made on the basis of *qi*-lacquer (IR-bands of all lacquer coating samples were similar: 1630, 1417–1413, 1270, 1080, 1031 cm^{-1}). In addition, all samples of lacquer coating from Bugry are rich in protein (bands 1547–1561 cm^{-1} , typical of the amino groups).

The finds from the Altai Mountains, including the fragments of lacquer coating of a cup from the Shibe burial mound of the Pazyryk culture, and a comb made from the handle of a cup from mound 57 of the Yaloman II

burial ground of the Bulan-Koba culture (Fig. 6), are of particular interest in the context of our study. These objects preserve red ornamental decoration in the form of a broken zigzag line and two circles with a dividing band, on a black background (Barkova, 1978: 42, fig. 5; Tishkin, 2007: 178, fig. 2). The decoration of these two finds is similar to the pattern presumably painted on the handle of the cup from tomb 3 of mound 1 at the Bugry burial ground. We may assume that the vessels, the fragments of which were found in the burials of the Altai Mountains (Shibe, Yaloman II) and in the Altai foothills (Bugry) came from the same area of lacquerware production, possibly from the territory of the present-day Hubei Province.

An important observation was made in the Department of Scientific and Technical Expertise of the State Hermitage Museum: regardless of great similarity in ornamental patterns, the objects from the sites of the Altai Mountains may represent different traditions (or versions) of lacquerware production. Scholars proposed that the fragments of the lacquerware object from the Shibe mound are comparable with similar objects from the burial ground in the Noin-Ula Mountains, while a find from mound 57 at the Yaloman II burial ground can be associated with the southern tradition of lacquerware production (Novikova, Stepanova, Khavrin, 2013: 122). The black lacquer layer of the object from Yaloman II contains significant amounts of copper and nickel (copper-nickel vessels could have been used in the process of its manufacturing). On the find from the Shibe mound and on our fragment from the Bugry burial ground, the black lacquer layer was produced using substances containing ions of iron and calcium. Comparison of the red paint from various monuments also revealed differences in its pigment composition. Paint on the objects from the Shibe mound 57, from the Yaloman II burial ground, and from tomb 3 of mound 1 in Bugry was apparently made of pure cinnabar: it does not contain micro-impurities and supposedly was produced artificially. However, iron oxide was added to cinnabar in the lacquer coating of the Bugry cup and of the Yaloman II object.

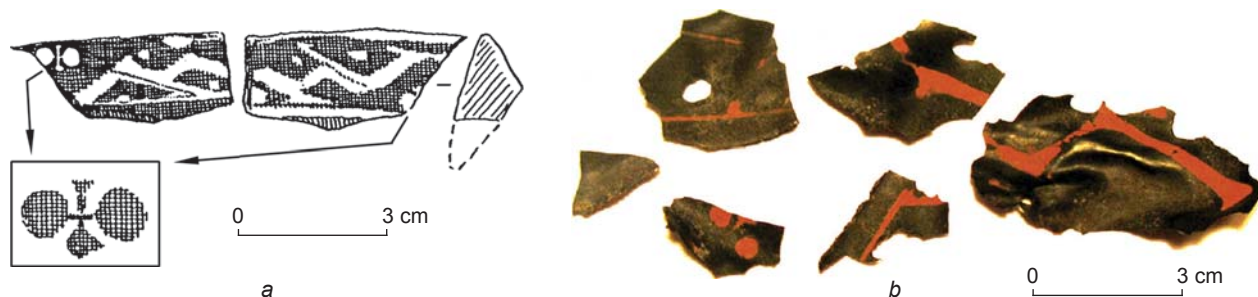


Fig. 6. Lacquer objects from the burials of the Altai Mountains.
a – mound 57 at the burial ground of Yaloman II; b – Shibe burial mound.
a – (Tishkin, 2007); b – (Novikova, Stepanova, Khavrin, 2013).

The study of lacquerware makes it possible to identify the directions in which traditions were transmitted: from the central provinces of present-day China, Chinese lacquerware found its way to the burial mounds of the nomads who inhabited the Altai Mountains and the Altai foothills in the last centuries of the first millennium BC. Why do some of the objects show similarities to the Noin-Ula lacquerware, and others do not? What caused the emergence of such differences: regional features of production technology or chronological changes? A special study will be devoted to the comparison of lacquerware from those sites. The increased number of Chinese objects found during archaeological excavations in the graves of nomads from the pre-Xiongnu time brings to mind the arguments of Lubo-Lesnichenko concerning the routes which linked the ancient Chinese states and Central Asia (1994: 211–234).

Conclusions

The study has revealed that a Chinese *er bei* lacquer cup was placed as a part of grave goods into one of the tombs of mound 1 at the Bugry burial ground. The shape of the cup can be established not only by the surviving fragments, but by parallels with the objects from the central counties of the Hubei Province. The patterns on the surfaces of the cups from the tombs of the Shuihudi and Dafentou cemeteries (Yunmeng County) almost coincide with the patterns on the find from the Bugry burial ground. The earliest of the currently known burials which contain lacquer cups with a similar pattern, dates back to 217 BC; the latest burial with a lacquer cup belongs to the beginning of the Western Han period. This suggests that tomb 3 of mound 1 at the Bugry burial ground was made not earlier than the late 3rd century BC.

The decoration on the Bugry cup shows some similarities to that of two finds from the sites of the Altai Mountains. Common roots of such ornamental decoration may go back to the ancient history of lacquerware production in the central regions of present-day China. The objects might have also reached the Altai from there. According to the analysis performed by the methods of natural science, the lacquerware cup from the “golden man” tomb was manufactured according to the traditional technology and rules of painting on a wood base, covered with paint made of *qi*-lacquer and cinnabar. Special features of the Bugry object include the presence of proteins in the lacquer coating (which is a common feature of the lacquer under study and the Pazyryk lacquers) and the absence of a modifier, tung oil, in the binding agent (the same feature was found in the more complex coating of objects from the Noin-Ula burials). These observations suggest that at some point of its history, the population of the Altai maintained active contacts with the inhabitants of the central areas

of present-day China. The grave goods in the series of tombs at the Bugry burial ground also demonstrate close connections with the traditions of the southeastern part of present-day Kazakhstan. Thus, research into individual objects reveals extremely sophisticated interaction between the populations of the region, as reflected in the burial rites of nomads living in the Altai foothills in the last centuries of the first millennium BC.

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