Materials and technologies in Siberian jewelry design archetype formation: from Paleolithic-Neolithic to post-modern

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Abstract. Jewelry materials and technologies used by the autochthonous tribes of East Siberia are described; regular growth in the number of the jewelry elements is examined in close connection to the new natural materials discovered and the process technology improving; the influence of the latter on the Siberian archetype formation in the modern jewelry design is illustrated by the cases of the Irkutsk artists at the turn of the 20th century.

1. Introduction
The multiple artifacts of the Paleolithic, Neolithic, Bronze and Iron ages indicate that Siberian jeweler’s art originates in the ancient times due to the presence of the natural raw materials sources such as mammoth tusks, semi-precious stones, nuggets, precious and nonferrous metals. During the time periods mentioned, new techniques of material processing as well as characteristic jewelry styles of different ethnical origins connected with the religious cults, philosophical and mythological conceptions, are blended together forming a stable and recognizable Siberian jewelry design archetype.

As the post-modern conceptions and trends rejecting the dominance of the West culture classic paradigms spread in the fine arts field, a turn to the ethnic becomes one of the characteristic features of the contemporary jewelry design, especially where it has been based on the centuries-old history of the ethnic cultural traditions. The collections of Irkutsk regional history museum (IRHM), Irkutsk regional fine arts museum (IRFAM) and Archeology department of Irkutsk State University (ISU) represent a vast material for a historical research of the stages in the jewelry stylistics formation and of the gradual changes and formation of the art style under the influence of the technological progress and geographic expansion of East Siberia mineral resources usage.

2. Research objects and techniques
A comparative analysis of the jewelry stones, bone, metals and technologies has been done, and characteristic archetype features have been distinguished based on a vast number of objects. First of all, it is the archeological findings by A.P. Okladnikov, M.M. Gerasimov, G.I. Medvedev, G.I Lipnina, V.I. Basalijsky, N.A. Saveljeva, P.P. Khoroshikh, V.M. Vetrov, N.E. Berdnikova, V.V. Altukhov, O.I. Gorjunova, and other researchers when excavating the Paleolithic-Neolithic sites in the settlements of Buret, Malta, Yarki, Zauta, Ust-Ida, Makrushino, and in Lokomotiv stadium, Irkutsk. The jewelry samples of the bronze and iron ages (8th – 1st centuries A.D.), Buryat, Evenk and Yakut
adornments including elements of the shaman costume decoration (19th – early 20th century) have been thoroughly examined by V.V. Stanevich, V.V. Svinin, A.V. Kharinsky, V.M. Vetrov, M.G. Turov and granted for the IRHM research. The photographs of the above artifacts that played a significant role in the comparative research have been granted by S.N. Murzin.

The contemporary jewelry samples following the Siberian archetype are represented by the sculptures and paintings of the Baikal region artists (Dashi Namdakov, Dmitry Budazhabe, Zhamsaran Erdinejev, Alexandr Alsatkin, Adolf Mukhamedshin, Elena Goncharova and Maria Dudkina), kindly granted by the authors for the research purpose.

3. Research results

Examination of the archeological artifacts dated by the late Paleolithic (22,000-20,000 B.C.) to the early Neolithic (7,000-5,000 B.C.) shows that the aesthetic foundations of the zoomorphic and anthropomorphic images traced back to that time are based on the steady symbolism reflecting the social and religious traditions of the Siberian tribes [1].

The pendants with partridge, swan and northern crane images dominate among the zoomorphic jewelry samples. Let us consider a bird figure discovered by A.P. Okladnikov in the settlement of Buret (Figure 1a) as an example. It served as a pendant and was made from a mammoth tusk, a traditional material of that time, using a stone and bone carving technique with a specific forming style based on a smooth curve. No other decoration elements are present, though in other bird images, décor is observed in the form of wavy strokes emphasizing the feathering.

The anthropomorphic objects are represented by female figurines of 3.7 to 13.6 cm high. Their stylization significantly differs from the known Paleolithic Venus figures discovered in the Western European areas and in the European part of Russia. The Siberian figurines do not have wide hips nor breasts, the faces are symbolic, and the forming style is based on a line with smooth curves similar to the zoomorphic images. These are mammoth tusk figurines found at the sites of Buret and Malta (Figure 1b).

Decoration (though quite moderate) is typical of the majority of the samples, the symbolically ornamented elements mostly emphasizing the hair or the hairstyle. The figurines are practically all over decorated with fine strokes imitating the fur cloths. One can clearly see an adornment in the form of a fern leaf on the right shoulder of a female figurine of 13.6 cm high wearing a fur parka.

The Malta site excavated by M.M. Gerasimov gives two more characteristic jewelry examples. They are ornamented mammoth bone plates, the most interesting one being a square plate with
rounded edges and a regular dot pattern [2] reminding that of Australian aboriginal churingas [3]. In the center of it, there is a small round hole, which allows us to suggest that it was used as a chest talisman. The second one is a rare finding: it is a bracelet central part found in the burial of a four-year-old boy. The plate has a stylized image of a flying bird and a very distinct dotted ornament with the dot punches separated by absolutely equal spaces [2].

Besides the bird images, many Neolithic artifacts appear with images of an elk head, writhing snake, fish varying in form and size (Figure 2a), as well as big animals (bear). They are made from low-hardness materials such as bone, mammoth tusks, jet, talc, clay shale, nacre. Big buttons, ritual bracelets and discs are cut from jade, a hard and tough material. The flat style becomes leading for all the zoomorphic images.

The anthropomorphic articles also get flat following the zoomorphic trend, which is important for the further analysis. Many have a coarse dotted surface as decoration, being now solely male figurines, sometimes full-size (Figure 2b), sometimes in the form of disguise masks (Figure 2c). The objects were most probably once sewn on the (shaman) cloths.

![Figure 2. Zoomorphic and anthropomorphic Neolithic images: a. Lure fish, 7,000-6,000 B.C., clay shale, length 10.7-9.7 cm, thickness 1.3-1.5 cm, Locomotive Stadium burial site, Irkutsk, excavation by ISU; b. bear image, disguise, 3,000 B.C., carbonaceous shale, height 8 cm, Sarma cape, Irkutsk region, excavation by O.I. Gorjunova, 1986, ISU collection; c. Anthropomorphic disguise masks, 5,000 B.C., sandstone, length 2.3 cm, width 1.1 cm, Ust-Ida burial site, Irkutsk region, excavation by ISU. Photo by S.N. Murzin.](image)

The Scythian jewelry art of VIII–V centuries B.C., along with the new style forming, continues to use the same symbolic elements: bird, elk, snake, flat images of a human being, though these are now mostly masks (Figure 3a). The jewelry toreutics techniques such as bronze casting, forging and caulking, are developed in the triad of weapons-harness-cult objects. For the first time, ritual bells appear, both in the animal style and round (Figure 3b). Stone gives way to metal: copper, bronze (later, silver), and to a lesser extent, gold. Accordingly, the jewelry techniques change significantly, casting as well as cold and hot forging reaching a high degree of perfection. Jade discs get transformed into bronze ritual mirrors with an intricate décor (Figure 3c).
Figure 3. Bronze cast jewelry elements of the Scythian triad: a. anthropomorphic disguise mask, 6th-5th centuries B.C.; b. decorated mirror with musicians, 8th-7th centuries B.C.; c. shaman staff head bells, round and animal types. IRHM collection. Photo by R.M. Lobatskaya.

The above jewelry elements stay in this or that form till the end of the 19th century, mainly in the shaman costumes of Buryats, Evenks, Yakuts and Monglos [4, 5]. The toli mirror becomes a common element for all of them, enriched by the individual symbolic elements from every Siberian tribe: round jingles and different-size disguises, flat stylized images of totem animals, fish and birds (Figure 4).

Figure 4. Jewelry elements in the shaman costume décor, middle 19th century: a. Buryat costume decorated with jingles, bells, keys and images of totem animals; b. Yakut costume decorated with the overlapping toli mirrors, c. Yakut costume with stylized image of a bird (loon) and a totem animal image. IRHM collection. Photo by S.N. Murzin [4].

In the 17th century, the Buddhist style elements integrate into the prevalent Siberian archetype connected with the shamanistic culture, and the jewelry décor gets the new features [6]. New techniques appear, caulkimg being most widely-used. As for the materials, bronze and silver are still prevailing, and in contrast to the shamanistic traditions, stones appear, both of a Siberian origin (jade, lapis lazuli, carnelian, chalcedony) and imported (corals and turquoise). The character of the jewelry articles changes under the Buddhist culture influence: ritual art objects such as different vessels and bronze figurines start prevailing.
4. Results review. Ethnical elements in the contemporary jewelry articles

The analysis shows that the line of the jewelry symbolic elements of the Baikal region tribes stays uninterrupted for thousands of years, every time acquiring new stylistic features corresponding to the time and getting enriched with new details in the forming and décor. This stable trend has led to the formation of a recognizable archetype of ethnic culture identity represented in the post-modern jewelry stylistics of the Irkutsk artists [7, 8, 9].

The post-modern jewelry articles do not directly imitate the ethnical stylistics. The archetype is represented in the general principles of forming and decorating, in referring to the aesthetic narrative of the ancient people, in the materials and techniques used. The main artistic principle of the post-modern style is synthesis of thought-through ethnical themes and traditional European techniques, designs and styles. The whole spectrum of the technologies acquired over the centuries is used. The materials are used without any limitations. Gold, silver, bronze, brass, white copper and other jewelry alloys are widely used. Jewels and precious stones become popular, primarily Siberian ones (diamonds, aquamarines, tourmalines, jade, lapis lazuli, charoite), as well as (though less commonly) imported stones (sapphires, rubies, emeralds). One can observe different combinations of stone, metal and techniques, the variety being limited only by the imagination and the aesthetic preferences of the author [10].

The flat design of the anthropomorphic and zoomorphic articles based on the toli mirror, cosmogony symbols and shamanistic philosophy narrative, is represented in the toreutics by A. Alsatkin (Figure 5a), A. Mukhamedshin, and M. Dudkina, the authors favoring bronze, brass, white copper processed by forging and soldering.

Zhamsaran Erdynejev creates a fantastic world of religious and epical Buddhist images with the use of bulk soldering [11]. Garudas, snakes and dragons typical of his works refer to the ancient symbols transformed in accordance with the 21st century’s challenge (Figure 5b).

Damshi Namdakov forms a completely different world in which Buddhist philosophy and European expressionism and surrealism traditions exist side by side (Fig. 5c). Using casting, he easily materializes both the aesthetic Scythian images and the art culture of the more recent nations, recreating the spirit of the Buryat epos heroes [12].

Figure 5. Jewelry works by the contemporary Siberian artists, post-modern ethnic stylistics: a. A. Alsatkin. Necklace “Gods’ Descent”, brass, bronze, cold forging, twisted wire, soldering, photo by the author; b. Zh. Erdinejev. Necklace “Garuda”, jade, chalcedony, carnelian, silver, bulk forging, photo by S.N. Murzin; c. D. Namdakov. Necklace “Eternity”, diamond, emerald, sapphire, ruby, aquamarine, gold, silver, casting, forging, caulking, soldering [12]
5. Conclusion
The list of examples can be significantly extended. Though the above brief analysis of the artifacts, shamanistic and Buddhist cult articles and the contemporary art works suggests steady trends in the formation of Siberian jewelry art in general. Each of the historical periods has made an invaluable contribution to the modern ethnical identity of the Baikal region nations expressed in the jewelry design and having kept its viability till now. Moreover, the jewelry traditions going back to most ancient levels of Siberian ethnic culture have been blended with the post-modern stylistics and have let the local artists to create real masterpieces not only in the field of design, but in the jewelry art in general.

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