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THE METAL AGES AND MEDIEVAL PERIOD

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ALLOY COMPOSITION IN THE PRESTIGIOUS SILVER WARE OF THE OLD TURKIC PERIOD OF SOUTHERN SIBERIA*

A series of silver artifacts (ornaments, belt sets, horse equipment, and utensils) belonging to the most dynamically developing categories of the material culture of the Old Turkic period were examined using X-ray spectral analysis. The study of silver alloy compositions of various prestigious objects from representative archaeological complexes of southern Siberia (Kudyrge, Tuekta, Katanda, Bertek-34, Yustyd, and Ur-Bedary) made it possible to single out their main territorial groups: Altai, Kuznetsk, and Middle Yenisei. Four main kinds of silver alloys were identified: Ag-Cu, Ag-Cu-Su, Ag-Cu-Pb-Su, Ag-Cu-Zn. The highest silver content was found in the Old Turkic vessels of the first group. The belt decoration items and horse equipment parts demonstrate a variable alloy composition, mirroring cultural contacts between southwestern Siberian groups and those living in the adjacent regions in the second half of the 1st millennium AD.

Keywords: *Southern Siberia, Old Turkic period, silver, prestigious objects, ornaments, belt set, horse tack, silver vessels.*

Introduction

Silver was widely used in the manufacture of various prestigious items during the Old Turkic period. The most common were ornaments, belt sets, utensils, and horse tack. It should be stressed that almost all of them (excluding horse tack) are depicted on Old Turkic sculptures (Fig. 1) that mirror social priorities in the medieval "world of things." Some burial assemblages of that period demonstrate a similar trend although also comprise horse equipment (bridle, harness and saddle).

From the constructive point of view, the objects under consideration represent isolated artifacts (vessels and ornaments) and sets of objects (belt decorations and horse tack). These artifacts also represent the most dynamically developing categories in the material culture of the Old Turkic period. Therefore, the qualitative analysis of the alloy composition, specifically that of silver ware, makes it possible to assess certain features of their manufacture, construction, distribution, and meaning. Studies of the composition of alloys used in Old Turkic artifacts were carried out both within the collections of certain archaeological sites (Roslyakova,

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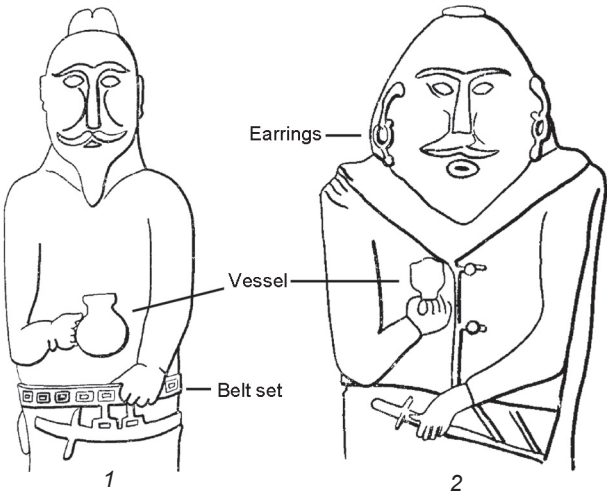

Fig. 1. Prestigious metal artifacts depicted on Old Turkic stone sculptures.
1 – stone sculpture from Toto (Kurai Steppe, Gorny Altai); *2* – sculpture from Kyzyl-Tei (Tuva).

Scherbakov, 2005) and within assemblages from vast areas of southern Western Siberia (Borodovsky, Obolensky, 2002; Borodovsky et al., 2005).

Materials and methods

In order to provide representativeness of the sample, Old Turkic silver artifacts were selected from the key archaeological sites (Ur-Bedari, Tuekta, Katanda, Bertek-34, Yustyd, Yustyd-12, Kudyrge, Talduair-1, and others) of southern Siberia including the Kusnetsk Basin, Gorny Altai, and northern steppe areas on the left bank of the Middle Yenisei. Some of these artifacts (silver vessels) represent typical attributes of the Kurai culture (8th–10th centuries AD) (Savinov, 1984: 165, Pl. IV, *24*).

L.N. Pospelova from the Institute of Geology, Geophysics and Mineralogy SB RAS (Novosibirsk) examined 50 silver artifacts of the Old Turkic period using X-ray spectral analysis with a Camebax-Micro microprobe (Borodovsky et al., 2005: 21). In a later study, V.V. Babich, associated with the same Institute, used the structure of similarity analysis to evaluate the principal groups of silver alloys (Borodovsky et al.: 27, 33, 34, fig. 10). This approach to alloy composition is basically the same as that used for revealing types of artifacts.

Based on the compositions of the alloys, silver artifacts of the Old Turkic period (the second half – end of the 1st millennium AD) can be classified into four main groups: Ag-Cu, Ag-Cu-Su, Ag-Cu-Pb-Su, Ag-Cu-Zn (Fig. 2). However, in terms of their function (ornaments, belt sets, utensils, and horse equipment and trappings) the artifacts differ considerably. Turkic vessels from the Sayan-Altai region are characterized by the highest content of silver and similarity in alloy composition (Fig. 3). These can be subdivided into four groups. The artifacts from Bertek-34, Ur-Bedari (a foot and a belly of the vessel from an area surrounded by an enclosure) and Yustyd show a close similarity in alloy composition. Anther group comprises specimens from Katanda and Tuekta. Minor variations in alloy composition have been noted in the vessel from Talduair-1 and the body of the vessel from the enclosed area at Yustyd. The bowl with Simurgh from Degtyarevka (Kuznetsk Basin) included into the sample as a morphologically different

Fig. 2. Map showing the distribution of principal groups of silver alloys in southern Western Siberia.
a – Ag-Cu; *b* – Ag-Cu-Su; *c* – Ag-Cu-Pb-Su; *d* – Ag-Cu-Zn.

Fig. 3. Map showing the distribution of the examined silver vessels in southern Western Siberia.

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