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## **THE PALEOMETAL ERA OF ZERAVSHAN: THE INTERACTION OF TWO POLAR SYSTEMS**

*The publication is dedicated to Zeravshan antiquities of the Paleo-metal era, marking the territory of distribution of East European artifacts in the Central Asian interfluve. The considered microdistrict occupies a key position in the Zeravshan basin. Here traces of the interaction of various cultural groups are most fully reflected. This habitable part of the valley at the turn of the 4th-3rd millenniums BC e. was a natural haven for both early farmers (Sarazm) and for herders (Zhukov). It must be pointed out that the differences in the occupied ecological niches affected the models of the economy, which was complex. The aforesaid is confirmed by: - the Sarazm cultural complex, which developed on the basis of agricultural and cattle-breeding economy in combination with metallurgy; - early cattle pastoral economy of the Yamno-Afanasyev type (sacred complex Zhukov and others); - Monuments of the Zeravshan cultural province, such as the Bactrian-Margian civilization (Sazagan Old Speech, etc.); - Shepherd-Andronovo-type shepherd communities specializing in mining and metallurgical production aimed at the development and processing of local raw materials (Karnab, Tugay, etc.). The analyzed complexes indicate the use of the mineral resource potential in trade and exchange operations. These sources model a diversified economic system with production specialization, taking into account the domestic market and trans-regional trade relations. The region is the territory of the largest historical and cultural region of the Central Asian interfluve. The land is at the junction of the contacts of the world of the Eurasian steppes with the settled agricultural centers of the south of Central Asia, which led to active ethnocultural processes. The constantly growing source-study base makes the key position of the cultural indicators of this multicultural region in the evaluation of Eurasian antiquities more and more obvious. Expressive parallels are traced with the pit, Poltava, Potapov-Sintashta and carcass monuments of the Volga-Ural region, reflecting the general laws of development. Active ties were facilitated by the geographical position of the Zeravshan Valley (center of Eurasia) and mineral resources - the development of turquoise lazurite and copper-tin deposits of the region.*

**Key words:** Zeravshan Valley, the era of the paleometal, early farmers, pastoral tribes.

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**Z**eravshan is one of the largest historical and cultural regions of the Central Asian interfluve. The region is located at the junction of the world of the Eurasian steppes with the settled agricultural centers of southern Central Asia, which led to active ethnocultural processes. The landscape and climatic features of the economic niches converged to form differences in the basic sector of the economy. The determining factor in the territory's development was the wealth of the earth's interior. Reserves of non-ferrous and rare metals (gold, silver, tin, lead, zinc, tungsten); nonmetalliferous and building materials (feldspar, graphite, kaolin clay, marble, granite); ornamental stones – turquoise, chalcedony, lapis lazuli, onyx (Shcherbakov 1968) are in abundance. The development of local ore deposits was one of the most

important economic and cultural fields of Zeravshan's people.

The sources of the paleometal era – which numbers more than 50 archaeological sites— reveals the key multicultural significance of the region in assessing the Eurasian antiquities. Such sites as Sarazm, Zhukov, the old Sazagan river basin, Tugai, etc., are concentrated in the Zeravshan historical and geographical zone and most clearly explain the relationship between these two worlds. A wide multinational migration mainly determined the current situation, forming a number of varied cultures, sometimes demonstrating very unexpected connections between the people of Zeravshan and the cultures of Northern Eurasia and Eastern Europe. Such an active synthesis of two cultural systems can be traced almost through-

out the entire paleometal era. There should have been major reasons for the mass migration of the pastoral population of northwest Eurasia to the Zeravshan basin. Both purely demographic and natural factors (climate change, natural resources, technological characteristics of the region) could serve as the driving factors for population movement. The horizons of the two worlds were significantly expanded by the invention of the wheeled mode of transportation. The regions were linked by a network of multi-ethnic and multicultural trade and exchange contacts. Depending on the circumstances, the nature of ties could be direct or indirect, periodic or accidental, peaceful or expansionary. However, these factors contributed to the penetration of innovations into the region and the synthesis of traditions, often becoming a catalyst for cultural progress.

The mapping of the sites of the region shows that most of them are located on the left bank of the river system and are attributed to the plain-steppe and mountain-valley zones. Considering this particular subject and in order to understand the complex historical and cultural phenomena, these provide representative analysis of the most significant complexes within the scope of this interregional relationship.

Noticeable changes in the region took place in the mid-4th millennium BC, when the settled agricultural tribes of the Geoksyur oasis penetrate into the environment of the local Sazagan-Kelteminar people (Isakov 1991a). The practical absence of saline and waterlogged soils, which, moreover, are well-drained by the underlying pebbly layer (Baratov 1977, p. 86), allowed the first farmers even then to develop the territory of the Middle Zeravshan. The northernmost ancient agricultural settlement in Central Asia is Sarazm, which is 45 km from Samarkand. Its culture demonstrates the initial stage in the formation of a manufacturing economy. This process (mid-4th – early 2nd millennium BC), running in close interaction with the local population, caused the objective capacity for integrative cooperation. The multicultural character affected the formation of the material complex. The economy of the Sarazmians was diversified and integrated, where metallurgy and metalworking played an important role (Isakov 1991a, p. 133).

The population of Sarazm pioneered the development of the Zeravshan copper-ore base, and from the end of the 4th millennium BC the settlement became one of the centers of ancient metal production in Central Asia (Isakov 1991b, pp. 21-24). At this time, local metallurgists manufactured a large number of

products, the technology of which is characteristic of the traditions of early farmers and breeders. The discovery of copper, bronze, lead, silver and gold items, as well as traces of foundries containing lead and bronze finished ingots of various weights (from 200 g to 10 kg) indicate the presence of native metalworking and the probable exportation of metal. Cultural material allows us to speak of Sarazm as an industrial, exchange and trade center, the economy of which mainly relied on this local resource base. It should be noted that the subsoil resources of the Zeravshan region are still rich in copper, tin, gold, and lead (Razzokov 2013). Innovations in the economy strengthened intertribal ties and indirectly served to change the social structure of society. Perhaps this process also affected the inhabitants of the steppe world as the result of the cultural ties and borrowings or the penetration of certain groups of the pastoral population of the Southern Ural (Yamnaya) into the local environment.

In Sarazm, there are examples of steppe artifacts from the ancient Yamnaya type (Avanesova 2012b; Avanesova 2014). These are leaf-shaped and sub-triangular copper knives containing a straight, marked handle and a lens-shaped section of a wedge; a stone lug hammer-pick, or a beak-shaped rod, which are known in the ancient Yamnaya sites of the Volga and Ural regions (Isakov 1991a, Fig. 10 - 5, 7, 9; Fig. 29 - 2, 3; Fig. 76-77; Fig. 81 - 1, 2). The metallurgy of the Sarazmians is comparable with the western centers of the Cucuteni-Trypillia cultures because of the adze-axes. In this case, it is possible to trace the presence of the ancient Yamnaya community of the Volga-Ural region, where metal processing was associated with the western Balkan-Carpathian areas (Degtyareva 2010, p. 58). Another evidence of the contacts of the Zeravshans with the Yamnaya population of the Volga-Ural interfluvium is copper products, as stated by E.N. Chernykh, the nature of their alloys corresponds to the Volga-Ural group (Chernykh 1970). Another specialist in this area, V.D. Ruzanov, also links the emergence of the VU group with north-western imports (Isakov, Ruzanov 2008).

These impulses came from the steppe zone of Eurasia and were not a one-time phenomenon. We believe that these contacts were commercial.

Another site illustrating the connection between the two regions is the Zhukov sanctuary (Avanesova 2012b, pp. 8-27), located 16 km east of Samarkand, which has features of the Yamnaya Volga region. The peculiarity of the site lies in the nature of cultural layers, atypical for a settlement or burial. The investi-

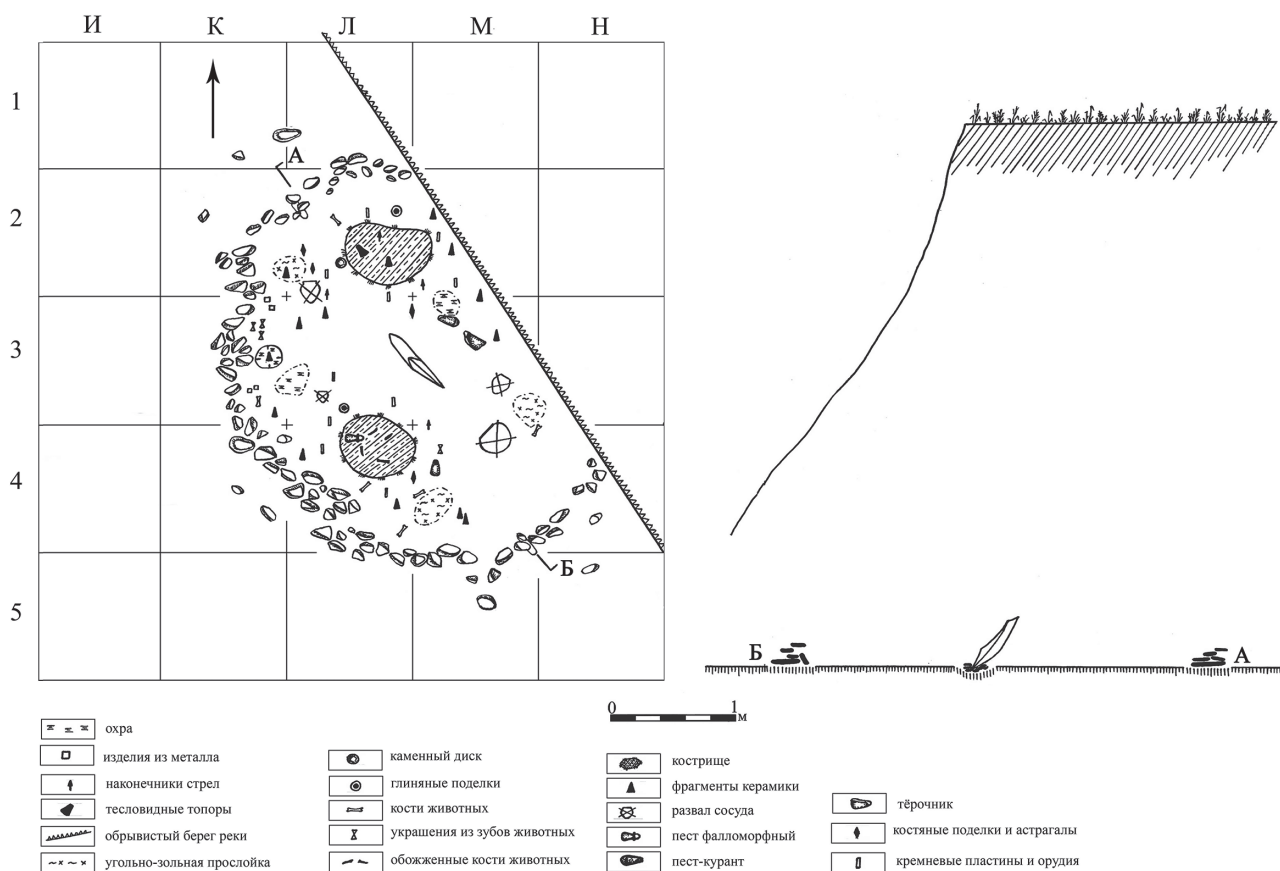


Fig. 1. Sanctuary of Zhukov. Plan and section of the surviving part.

gated complex (Fig. 1) is a circular stone fence with a diameter of 3.6 m. At its center, there is a vertically placed boulder-stele with a height of about half a meter, which defines the center of the sanctuary. The indicators of the religious nature of the site are the significant areas of burning along with the boulder-sized stele, which apparently performed an intermediating function or the “connecting of worlds” (Golan 1993, p. 41). The maximum concentration of finds was recorded around the fire sites which contained pestle-like objects, a grater, flint tools, arrowheads, bony and clay handicrafts, a large fragment of a censer bowl, and fragments of vessels deliberately broken during funerary feasting. This was an open-air temple for worship where ritual acts were seasonal. The main form of worship involved the collective sacrifice of domestic animals (sheep, cow) and wild animals (koulan, deer, boar). This fauna allows a better understanding not only of the species of animals, but also the season they were sacrificed.

The cultural identity of the site is determined by the ceramic typology which was produced in the Kelt-eminar, Sarazm, Afanasyev and Yamnaya traditions,

as well as by the construction of the wall itself and a number of the artifacts found here. In addition, the typological expressiveness of the pottery of the Yamnaya type does not exclude the possible connection between the stele installed on the site in conjunction with stone sculptures of the Yamnaya cultural community. According to its typological and technological characteristics, the pottery can be compared with the materials of the late Yamnaya sites of the Lower Volga region (Sinitsyn 1959, p. 71, Fig. 17-5; Smirnov 1959: 211, Fig. 3-13; Vasilyev, Kuznetsov, Semyonova 1995, p. 17, Fig. 7-26.). There is also significant similarity revealed when comparing the artifacts that survived here (Fig. 2). An important part of the collection included beads made of ornamental stones, analogous to the finds from the necropolis of Sarazm (Isakov 1994, Fig. 5).

The materials of the circular sanctuary demonstrate either the influx of a new population into the region, or the process of a transition of the pastoral population to a settled life. This discovery delineates the southern boundary of the early pastoralist world of Eurasia and specifies one of the ways of its

development. In our opinion, the Zhukov sanctuary can be closely associated with the problem of the settlement of the Yamnaya tribes here, as well as with the genesis of the Afanasyev culture. The arrival of the Yamnaya-Afanasyev population to the region is also confirmed by the materials of the scattered sites of Siab-2, Lyavlyakan, Ayakagitma (Avanesova 2001, pp. 57-68; 59, Fig. 2-13, 64-65), as well as the Zamanbaba necropolis, where the traditions of the Yamnaya cultural community predominate. There is reason to believe that the Zhukov sanctuary was interpreted by its creators as a model of the Universe, which is evidenced by the organized spatial structure and finds containing astral symbolism (Ill. 2: 7). The range of possible associations of such sanctuaries is quite wide (Potemkina 2014).

In light of the considered issues, intercultural contacts between the two polar traditions in the Central Asian interfluvium are also noted in the material culture of burials from the old Sazagan river basin (Avanesova 2010a), which were discovered 26 km southwest of Samarkand. This examination of archaeological finds reveals similar features of the cultural synthesis of the urban south (Sapalli culture) and the northern steppe bronze age culture of Eurasia (Poltava-Sintashta). Excavations in two excavated burials unearthed a relatively small, but rather expressive set of ceramics, weapons, psaila and other items (Fig. 3). The bronze ingot, ore, ceramic spout, as well as coarse pieces of turquoise and lapis lazuli from the second burial found in the grave are of particular importance. These findings undoubtedly indicate the status of the deceased and have close analogies with the southern Ural and Volga regions.

The peculiarity of the Sazagan burials is clearly seen in the ceramic collection. It includes 15 vessels, differing in function and manufacturing technology (13 vessels were made on a potter's wheel, the other two were hand-molded with ornamentation). The dishes are mainly household common ware (Askarov, Abdullayev 1983, p. 340, Fig. 1), and include vases and cups on legs; a teapot with a tubular spout; bowls with spouts, conical bowls; a jug, and a narrow-necked decanter. All the Sazagan ceramics in their technological and typological forms are characteristic of the ancient agricultural tribes of southern Uzbekistan (Askarov, Abdullayev 1983; Rakhmonov 1987).

The collection also includes hand-molded, pottery-shaped vessels found in the same complex with the common ware. They are notable for their originality of forms and methods of ornamentation – typical

for the sites of the paleometal era of the Lower Volga region (Kachalova 1962: 37-39; 1983: 4-17 ; 2001: 6-38, 51-52, Fig. 1, 4, 7; Salugina 1994). In comparison of these vessels with the Poltavka ceramics, the most striking feature is the articulated outer edge (Ill. 3: 13-14). These ceramics have a number of features both in technique and decorative choices, such as the frequency of fretwork, decorative themes, and the nature of the impressions (deep indentations of a shell-stamp provide the surface with ribbing, a combed “fir-tree” design, and zigzags cover most of the vessel). However, it should be noted that this does not imply complete identity with the Poltavka ceramic tradition, but only similarities with a number of features. Such similarities involve the proportions of the vessel's thickness, the characteristic design of the neck, and the flattened rim. In terms of these details, the pottery from the burials of the old Sazagan river basin region show similarities to the pottery of the Potapov-Sintashta and Petrov circle of sites (Vasilyev, Kuznetsov, Semyonova 1994: Fig. 21-1, 3, 5; Gening, Zdanovich, Gening 1992: Fig. 55-4, 63 - 2, 4; 95 - 16, 17; 121 - 1, 2; Epimakhov 2005: fig. 22-1; 34-3; 96-6; Zdanovich 2002: Fig. 28-7; 19, Fig. 8- 6; 27-7; 90-2; Zdanovich, Zdanovich 1980: Fig. 2 - 7, 10; 3 - 1, 3, 7, 10; Malyutina, Zdanovich 2003: Fig. 6-3; 47, Fig. 75 - 1, 4, 9, 11). These characteristics speak first, of partial synchronicity, and second, it may indicate the possibility of certain cultural connections.

Among the other objects from the material culture were two stone arrowheads, which also testify to a possible relationship with representatives of the Poltavka culture (Ill. 3: 11-12). These arrowheads are most comparable with the arrowheads from the Poltavka culture, found in the Berezhkov II burial ground in the Lower Volga region (Sinitsyn 1959: 119, Fig. 38-5; Kachalova 2001: 43, Fig. 4-42), and with some samples of the sites of the catacomb community (Bratchenko 1976: 55, Fig. 25 - 22, 23; 99, Fig. 55-7; 50, Fig. 11-12; Subbotin 2000, p. 374, Fig. 11 - 24, 25).

An interesting category of finds include horn psaila (horse tackle), which complement the picture of the Zeravshan's ties with the pastoral tribes of the Southern Urals. During this period, the region was not familiar with horse breeding certainly not with horse harness. Our collection contains one pair of similar items in various states of preservation. They were most likely made according to the standards of the Volga-Ural traditions, as evidenced by the high degree of similarity with psaila of the Potapov-Sintashta cultural type (Vasilyev, Kuznetsov, Semyonova 1994,

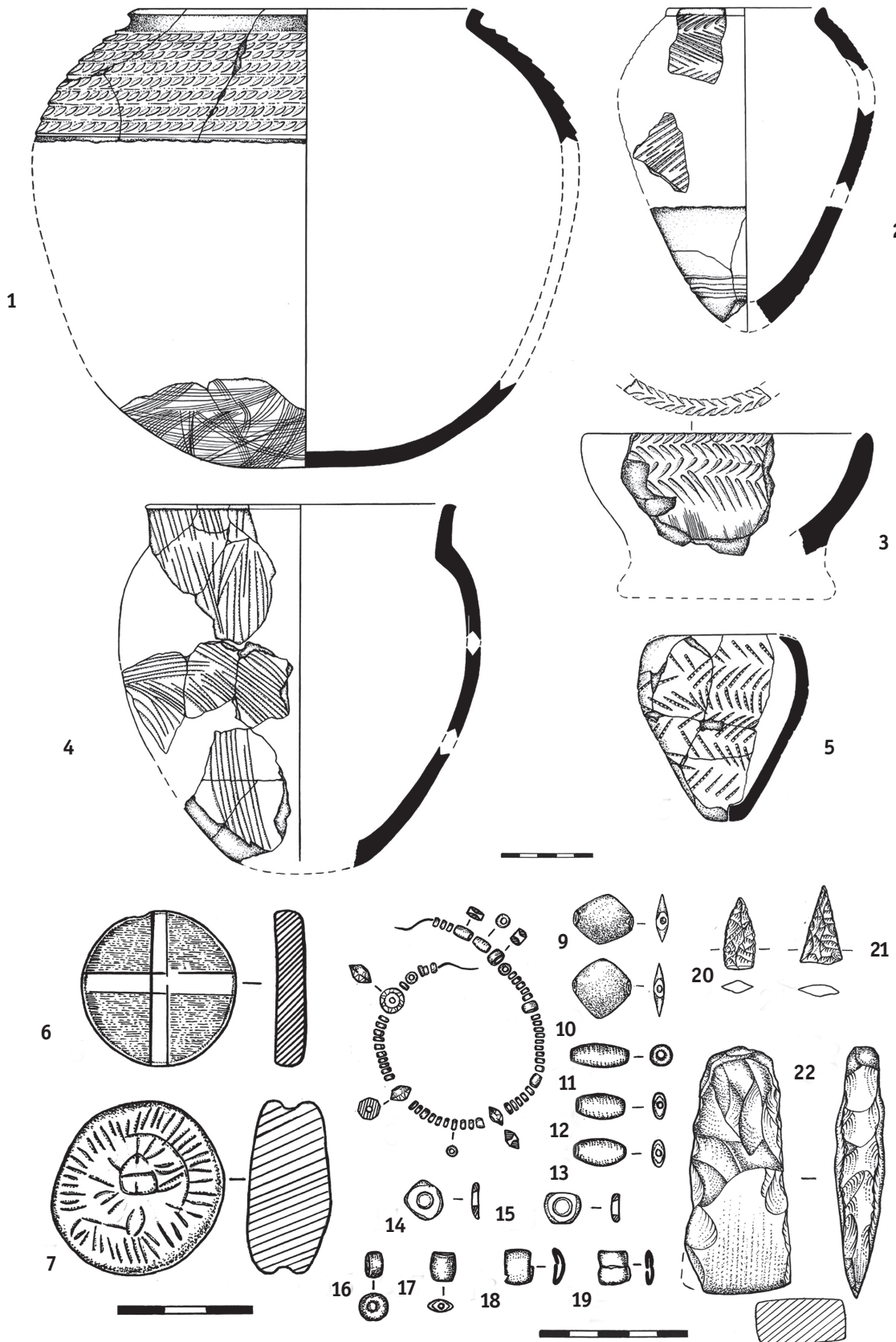


Fig. 2. Sanctuary of Zhukov: Inventory. 1-3 - Afanasiev's ceramics; 4-5 - ancient pit ceramics; 6-7 - clay crafts; 8-13, 16-17 - beads of lapis lazuli, carnelian, agate, turquoise; 14-15 - shell beads; 18-19 - copper thread-clips; 20-21 - arrowheads; 22 - adze ax.

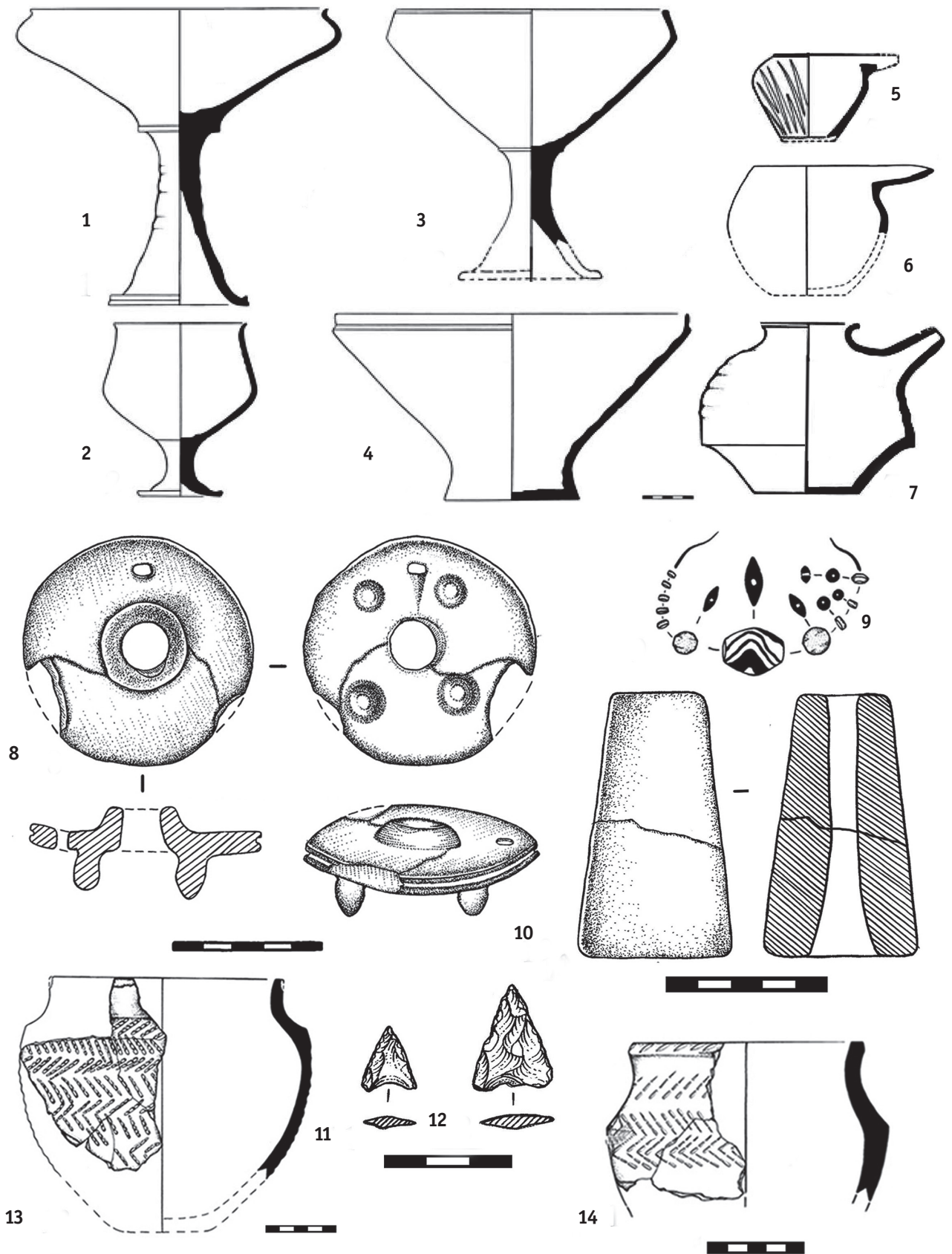


Fig. 3. Sazagansai. Burial inventory. 1-7 – Sapalli ceramics; 8 – horny cheekpiece; 9 – beads of lapis lazuli, carnelian, agate, turquoise and chalcedony; 10 – clay nozzle; 11-12 – arrowheads; 13-14 – Poltavkino ceramics.

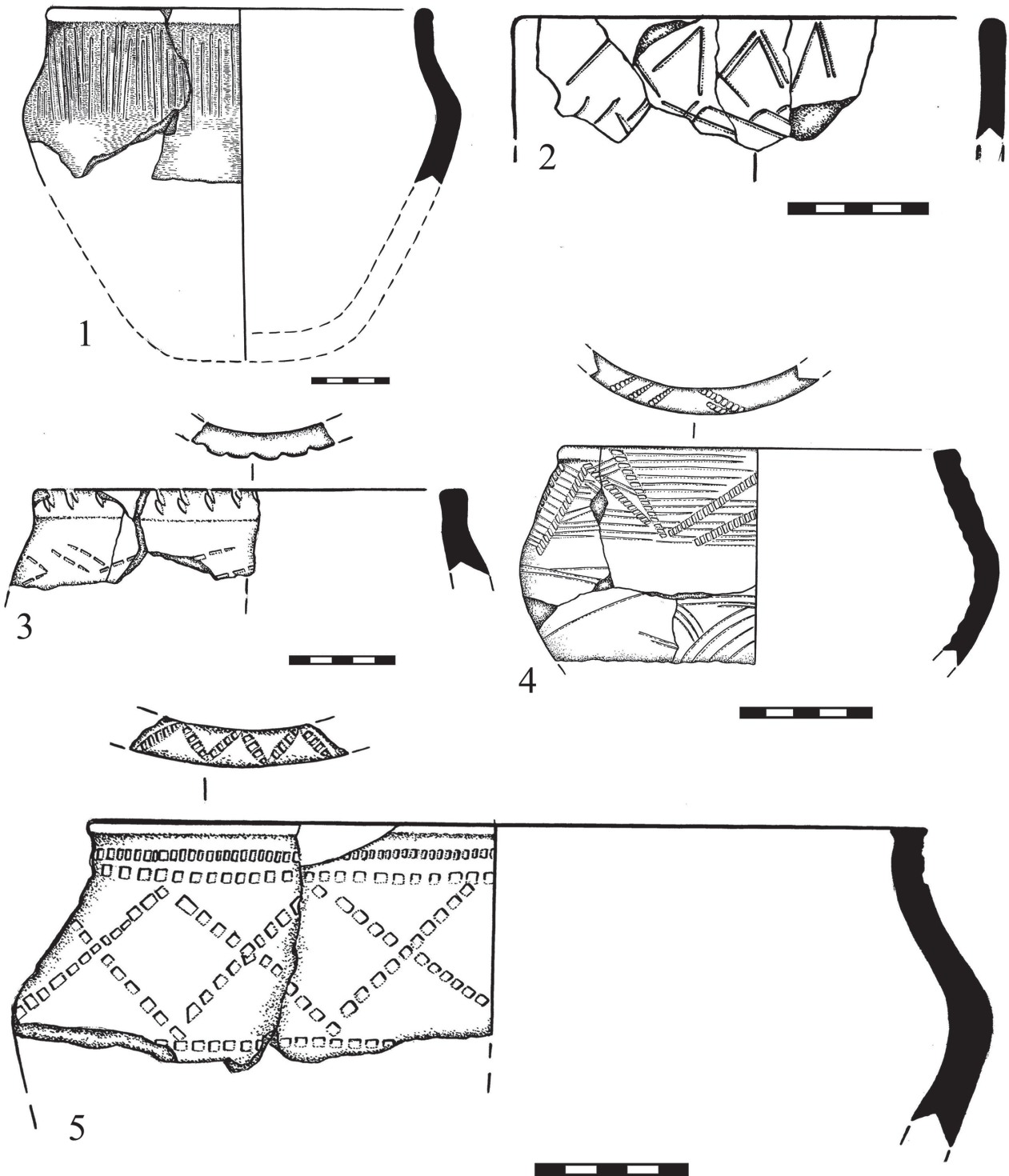


Fig. 4. Log ceramics from mine workings. Karnab: 1 – By D.N. Lev, 2 – fees of geologists; Lapace: 3-4 – fees of geologists, 5 - mine No 9 according by G.G. Polishchuk

Fig. 28-15; 33-1; Gening, Zdanovich, Gening 1992, Fig. 57-8).

The similarity of the material culture originating from these remote regions vastly separated from each other can be viewed only as kindred cultures and

testify to the existence of trans-Eurasian routes. Zeravshan psaila (which are also found in another site of the Zeravshan Valley – Zardcha-Khalifa) indicate the arrival of Indo-Aryans in the Central Asian region. We believe that at the beginning of the 2nd mil-

lennium BC the Potapov-Sintashta chariot from the Volga-Ural steppes appeared in the Zeravshan Valley and went deep into urbanized Bactria, as confirmed by Jarkutan's psaila (Avanesova 2010b, 355, Fig. 4).

The site under consideration also involves the discovery of a ceramic nozzle, which is a conical tube with a longitudinal hollow channel and was an integral part of a copper-smelting furnace (Ill. 3: 10). We find a close correlation in the synchronous Poltavka sites (Shilov 1959, p. 15, Fig. 2-4, 5; 17, Fig. 5, 6-9; Kachalova 1977, p. 9, Tables 3-41, 42, 47-48, 53 -54), as well as in the Sintashta-Petrov complexes: burials of Sontse II (Yepimakhov 1996, p. 38, Fig. 11 - 11, 12), Sintashta III (Gening, Zdanovich, Gening 1992, p. 336, Fig. 195 - 6, 7).

Thus, this complex should be considered as material traces indicating activity of wandering professional artisans from the beginning of the 2nd millennium BC located in the Volga-Ural region, who appeared in the region in search of metal.

Systematic contacts and interaction of the population between steppe and agricultural civilizations played an important role in the development of social processes in prehistoric Sogdia.

The motivation for the connection between the two worlds, caused by economic need, is confirmed by metal-bearing deposits located in the mountain systems of the Zeravshan region, which were basically exploited by representatives of the tribes of the Srubnaya-Andronovo circle of the Volga-Ural region. The level of participation of the latter appears quite clearly in the ceramic typology (Avanesova 2012a, pp. 3-35).

Long-term work by geologists and archaeologists have resulted in identifying, mapping, documenting, and studying several hundred prospecting sites. Mining for the extraction of metal ore is identified by large open pits, trenches, surface pits, shafts, and catacombs of the most varied and bizarre forms. These activities were conducted in tectonic, disrupted, hydrothermally processed, and oxidized mineralized zones, where tin mineralization is now of only mineralogical interest. These mines were laid exclusively along the sources of ore. These sources were covered either fully or partially, depending on the concentration of the ore and how expedient it was for the further development of the location. One site of interest is the very early metallurgical site of Karnab-Lapass located in the Zirabulak-Ziaetdin district of the Samarkand region. The multi-cultural ceramics and production sites here indicate that the greatest rise in ancient mining activities occurred during the period of the Srubnaya-Andronovo pastoral communities.

Dishware of the Srubnaya culture differs from the others in a number of characteristic features. The collection (Fig. 4) includes biconical pots with a smoothed edge, an articulated neck, and a slightly bent rim; jars without a distinct neck; and a single example of a pot-jar vessel with a wide spout. The decor is located on the top-half of the vessel. The entire collection consists of a limited number of simple etchings, representing horizontal belts, notches, zig-zags, and rhombuses. They are incised quite roughly and carelessly, and in some cases there is a noticeable lack of pattern or symmetry. Such vessels are part of the ceramic complexes of the sites of the Volga-Ural interfluvium (Galkin, Dryomov et al. 1993, Ttables 16-6; 25-1; 36-15, 17; 48-16; 52-2). These given similarities fit into the chronological framework of the Srubnaya-Andronovo tribes and date back to the 17th-15th centuries BC.

Thus, this demonstrates the need for strategically important raw materials and it is probable that population growth served as the main motivation for the emergence of pastoral communities in agricultural oases.

In conclusion, we would note that the Central Asian interfluvium and, in particular, the Zeravshan basin was one of the possible vectors for the repeated migration of the pastoral tribes of the Eurasian steppe to southern Central Asia. Our research has convincingly shown that the initial layer of ethnocultural ties between the two worlds goes back to ancient times. The intensive development of unexplored, but mineral-rich territories was accompanied by the assimilation of the local population and cultural integration, which served as a powerful incentive for the emergence of original syncretic cultural formations in Uzbekistan during the paleometal era. In our opinion, the driving force in the migration processes of pastoral tribes to the region was, first, the abundance of natural resources and, second, the similarity of the geographical environment between the regions. The Zeravshan metallurgical center served as a source material, production and technical base for the historically formed kindred cultures of pastoral and agricultural tribes.

This question is of considerable importance for understanding and reconstructing the historical processes that occurred in the region. This is in close connection with the cultural and historical changes that took place in the steppe world of Eurasia and the agricultural centers of Central Asia in the era of paleometal. Geographic space is mastered not only practically, but also spiritually.



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