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Metal Spearheads from the Bronze Age— New Finds in the Omsk Region

This study addresses the morphological features and chronology of the Seima-Turbino spearheads found by chance in the Omsk Region. Their chronology evidences both general and specific features of their distribution. Late specimens attest to a long period of their use in Western Siberia. Special attention is paid to rare spearheads with Janus-like anthropomorphic representations, whose style reveals parallels with both Okunev tradition and Bronze Age anthropomorphic toreutics of China. In the forest-steppe and southern taiga areas of the Middle Irtysh, Seima-Turbino spearheads co-occur with molds for their casting, testifying to local manufacture or replication. Consequently, even undocumented specimens can reveal the meridionally directed (south to north) trade routes. The abundance and diversity of Bronze Age spearheads from the Middle Irtysh provide yet another demonstration of this region's significance as one of the centers from which Seima-Turbino bronzes spread across southwestern Siberia.

Keywords: *Bronze Age, southwestern Siberia, Seima-Turbino transcultural phenomenon, spearheads, metal artifacts, trade routes, Middle Bronze Age, anthropomorphic representations.*

Introduction

Metal spearheads are more than just piercing parts of polearms, they are also multifunctional elements, which showed the status of their owner and had a signaling purpose. They can be divided into three groups by their size: large, small, and dart heads (Bochkarev, 2004: 391, 404). Recently, eight Bronze Age spearheads made of non-ferrous metal have been identified in the Omsk Region. These are surface finds, which are currently kept in the "Solyanoi Povorot Redoubt" Museum in the village of Solyanoye in the Cherlaksky District of the Omsk Region (finds from the Shcherbakulsky and Sedelnikovsky districts) and in the Omsk Museum of Education (the item from the vicinity of the village of Bogdanovka in the Gorkovsky District, and three spearheads with hooks from the village of Okunevo in the Muromtsevsky District).

These items will be described proceeding from the southwest (Shcherbakulsky District) to northeast (Gorkovsky and Sedelnikovsky districts) for a number of reasons. First, there is a trend for meridional location of traditional transport communications for southwestern Siberia, including the Middle Irtysh region (Matveev, 2017). Second, the distribution of some metal items from the Bronze Age (shaft-hole axes) in the direction from south to north is quite clear in that area (Borodovsky, 2022: 41). Third, the Omsk Region also extends in this direction. The morphological features of the discovered spearheads manifest obvious chronological differences, which makes it possible to discuss the problems of their

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distribution in different periods of the Bronze Age. This study significantly expands the corpus of sources, including surface finds (Chernykh, Kuzminykh, 1989: 31), and will make it possible to refine reconstructions of development of spearheads during the Bronze Age in southwestern Siberia (Bochkarev, 2004: 398; Tikhonov, 2022).

Materials

Until recently, twelve Bronze Age spearheads were known in the Omsk Region (Fig. 1). Most of these originated from the vicinity of the city of Omsk (6 items from the Rostovka cemetery, one item each from the Rostovka hoard, Okunevo XI site, the mouth of the Tara River, near the Khlebopriemny Punkt, and at Tatarsky Uval) (Matyushchenko, Sinitsina, 1988: 19, fig. 18, *2*, *5*; p. 36, fig. 43, *1*; p. 41, fig. 52, *4*; p. 58, fig. 72, *1*; Chernykh, Kuzminykh, 1989: 68, fig. 28, *3*; p. 69, fig. 29, *1*, *2*; Degtyareva, Neskorov, 2015; Tikhonov, 2022). Today, the number of such finds has increased by another eight items. One spearhead each was found in the Shcherbakulsky and Gorkovsky (village of Bogdanovka) districts and near Omsk; three spearheads were discovered in the Muromtsevsky District (village of Okunevo), and two in the Sedelnikovsky District. New finds require detailed description in the context of reconstructing the general picture of the distribution of piercing pole weaponry in southwestern Siberia.

Fig. 1. Sites with discoveries of Bronze Age spearheads in the Omsk Region.
1 – Shcherbakulsky District; *2* – Omsk and its vicinity; *3* – Gorkovsky District; *4* – Muromtsevsky District; *5* – Sedelnikovsky District.

A severely deformed spearhead made of non-ferrous metal (17.3 × 3.0 cm), with a looped eyelet on a massive socket, continuing to the end of the blade (Fig. 2, *1*), was found during agricultural works on arable land in the Shcherbakulsky District in the south of the Omsk Region. At the base of the socket, there are two bands in slight relief. A similar find of a split-tailed spearhead with a narrow laurel-shaped blade and a side eyelet with a defect of short pour was recently discovered near Omsk, on the left bank of the Irtysh River (Fig. 2, *2*). Another spearhead, measuring 14.3 × 3.0 cm, was found near the village of Bogdanovka, in the Gorkovsky District (Fig. 2, *3*), northeast of Omsk. The length of its blade is 8.5 cm; the width is 3 cm. Their ratio is 1 : 2.8. The blade is narrow and leaf-shaped. The socket is wide and robust. Its length is 5.8 cm; its diameter is 2.8 cm. The ratio of the length of the socket to the entire spearhead is 1 : 2.

Three split-tailed spearheads with hooks were discovered near the village of Okunevo, in the Muromtsevsky District (Fig. 2, *4*–*6*). They are classified as long spearheads (Chernykh, Kuzminykh, 1989: 65), have different sizes (38 × 7; 37.0 × 6.5; 35 × 6 cm), flame-shaped blades, and smooth side-eyelets. The flat surfaces of the hooks are decorated with three rows of bands; their number varies from three to four; two such rows intersect at the base of the hook near the socket. Notably, similar items from burials at the Rostovka cemetery have more robust short sockets and hooks with smooth surfaces (Ibid.: 70, fig. 30, *1*, *2*).

Two bronze split-tailed spearheads with masks on the sockets were discovered in the Sedelnikovsky District, in the north of the Omsk Region (Fig. 2, *7*, *8*). These have different sizes (47.4 × 5.0; 45.3 × 6.5 cm) and sockets broken at the bases of the blades. These items are unique to the Seima-Turbino metal complex.

Discussion

A number of features of the spearheads under consideration allow for their historical and cultural

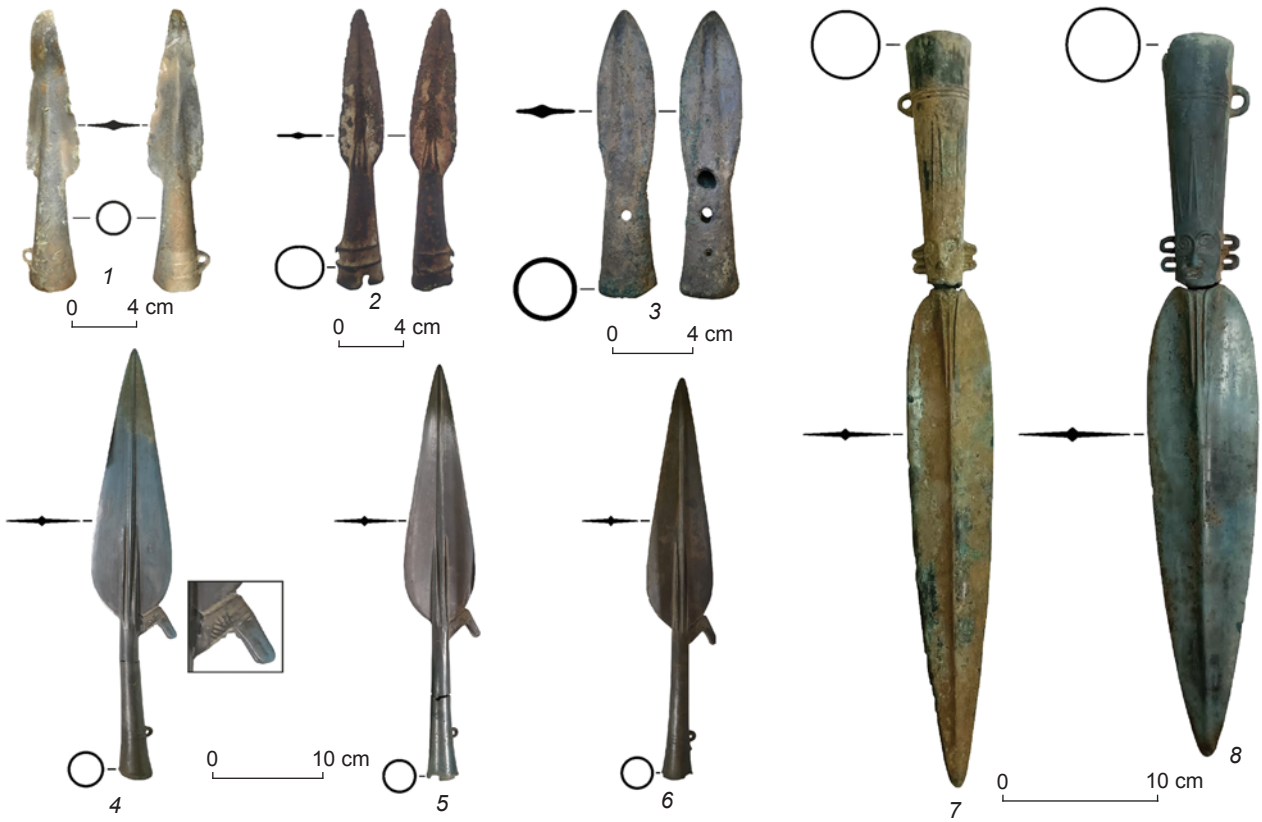

Fig. 2. Spearheads from the Omsk Region.
1 – from the Shcherbakulsky District; *2* – from the vicinity of Omsk; *3* – from the village of Bogdanovka in the Gorkovsky District; *4–6* – from the village of Okunevo in the Muromtsevsky District; *7*, *8* – from the Sedelnikovsky District.

attribution to various periods of the Bronze Age. For example, the presence of a blade shaft with rounded-rhombic cross-section in the item from the Shcherbakulsky District (Fig. 2, *1*) suggests its wide geographical distribution and a late period of existence (Chernykh, Kuzminykh, 1989: 63). However, this item still belongs to the Seima-Turbino spearheads, and even the absence of a split-tailed element does not contradict this attribution (Bochkarev, 2004: 396). Moreover, the presence of an eyelet on the socket indirectly shows that the time of its existence was far from the latest stage (Ibid.: 398). In terms of morphology, the item from the Shcherbakulsky District reveals a certain similarity with spearheads of the KD-46 type, which continued the line of development of the Seima-Turbino bronzes (Chernykh, Kuzminykh, 1989: 157, 158, fig. 81, *1–5*).

Obviously, the non-functional eyelet of the spearhead from the vicinity of Omsk (Fig. 2, *2*) indicates a purely decorative purpose. This feature is completely consistent with the fact that by the mid-2nd millennium BC, eyelets on the sockets became self-sufficient and independent elements of decoration on spears (Bochkarev, 2010: 138). Therefore, this item can be identified as a late spearhead of the Seima-Turbino type. The combination of eyelets and various relief bands on the sockets of spearheads (from the Shcherbakulsky District and vicinity of Omsk) gives grounds to attribute them to the period before the first half of the 2nd millennium BC. A certain robustness, and the presence of short split-tailed rods inclined towards the central axis of rigidity, make the item from the vicinity of Omsk look more similar to spearheads of the "Preobrazhensky" type (Grushin, 2019). Notably, the location of this item in the same spatial context as Rostovka spearheads may also reveal local development of such technological tradition rather than just the duration of existence of the Seima-Turbino bronzes in the Middle Irtysh region (Molodin, 2020: 50, 52; Grushin, 2019).

Geographically, the closest parallel to the spearhead from the village of Bogdanovka in the Gorkovsky District (Fig. 2, *3*) is the spearhead from the Rostovka hoard (Degtyareva, Neskorov, 2015: 32–34, fig. 2, *1*). However, they show some differences in the ratio of the blade and socket length, which was 1 : 1

and 1.5 : 1, respectively. The socket of the spearhead from Bogdanovka has four holes of various sizes. Three of them are located on the same side of the item. The larger and irregularly shaped holes clearly resulted from a short pour of metal during the manufacture of the item, while round holes of small diameter could have been used for fastening the metal spearhead to a wooden shaft with the pin. This method was widely used since the early stages of the Middle Bronze Age (Bochkarev, 2004: 387). A clay mold for casting spearheads of a similar type, with the same fastening system, was found on Lake Issyk-Kul in Kyrgyzstan (Bekhter, Torgoev, 2019: 85, fig. 1, *1*, *2*). The small size of the item from Bogdanovka is typical of the Late Bronze Age (Bochkarev, 2004: 391). Spearheads of this shape made of non-ferrous metal existed for a very long time until the Early Iron Age (Degtyareva, Neskorov, 2015: 32, 33).

According to their morphological features, split-tailed spearheads with hooks from the village of Okunevo in the Muromtsevsky District (Fig. 2, *4–6*) belong to the KD-10 type of the Seima-Turbino bronzes (Chernykh, Kuzminykh, 1989: 67, 69, fig. 29). They are distinguished by ornamentation of the hooks, which in other similar items were usually left undecorated. Ornamentation on several partially intersecting bands is quite rare. Sporadically, it appears on Seima-Turbino spearheads (KD-22 type), celts (K-20 type), and horn handles (Ibid.: Fig. 18, *3*, *4*; 19, *4*; 35, *2*; 110, *25*). Parallels to this kind of decoration on the items of various materials (metal and horn) reflect syncretism of the cultures of the Seima-Turbino phenomenon (Ibid.: 251). Ornamentation on the hooks of spearheads from Okunevo may also imitate braiding with a cord.

The hooks of spearheads from the Middle Irtysh region (Rostovka, Okunevo) have expressed angular outlines. Outside this region, similar spearheads from the Altai Territory (Charysh River) (Ibid.: 70, fig. 30, *3*) and Northern China (the Shenna settlement in Qinghai Province, Xiawangan settlement in Henan Province, city of Anyang in Henan Province) have more smoothly curved hooks (Grigoriev, 2021: Fig. 1, *2*, *3*, *7*, *8*). However, spearheads from China are distinguished mainly by wide blades, whereas the item from the Charysh River has a narrow blade. Thus, these features may be considered as arguments not only for local production (Ibid.: 8), but also for the territorial (eastern) peculiarity of spearheads of Seima-Turbino appearance.

Long and fairly narrow sockets are another interesting feature of finds from the village of Okunevo. Similar sockets are known from the split-tailed spearheads of KD-4 and KD-20 types (Chernykh, Kuzminykh, 1989: Fig. 26, *3*; 34, *1*). This feature may be associated with functions and chronology of these items. In the late 1990s, a split-tailed spearhead without a hook, with a long and narrow socket, was discovered at the Okunevo XI site (Tikhonov, 2022). Until recently, it was believed that such items from the outskirts of Okunevo marked the northern boundary of the distribution of the Seima-Turbino bronzes in the Middle Irtysh basin (Ibid.). However, this boundary has shifted even further north after the discovery of spearheads in the Sedelnikovsky District of the Omsk Region.

The narrow laurel-leaf blade gives a common ground to the finds from Okunevo and the spearhead with a hook found on the Charysh River, in the Altai Territory (Bochkarev, 2010: 125, fig. 1, *9*). Such blades are observed quite rarely in the Seima-Turbino split-tailed spearheads (KD-8, KD-12 types) (Chernykh, Kuzminykh, 1989: Fig. 28, *3*, *4*; 31, *1*). Also note the assumption that spears with narrow blades were in use somewhat earlier than those with wide blades (Lin Meicun, Xiang Liu, 2017: 4). This is hardly the case, since both varieties existed in both Western and Eastern Eurasia for a considerable period of time (Grigoriev, 2021: 9). For instance, spearheads with narrow blades were a part of the Lubny hoard (Ukraine), belonging to the turn of the Bronze and Iron Ages (Klochko, 2009: 155, fig. 6, *3*, *4*; 10, *1–4*).

Split-tailed spearheads of the Seima-Turbino appearance with narrow laurel-leaf blades also have some regional features. For example, the "Preobrazhensky" type of such items is distinguished in the Ob-Irtysh region (Grushin, 2019). Their blades look narrow and long; the teeth of the split tail are short and converge on the central reinforcement rib (Molodin, 2020: 51, fig. 1, *4*). This feature appears on the spearhead from the vicinity of Omsk (Fig. 2, *2*), while the short split tail at the base of the blade is only slightly tilted towards the central reinforcement rib on two items from the Sedelnikovsky District (Fig. 2, *7*, *8*). Both of these types of spearheads, as well as spearheads with wide blades and relatively long split-tailed teeth, which do not converge at the central reinforcement rib (items from Okunevo), have been discovered in the Middle Irtysh region. The latter are similar to split-tailed spearheads of the "Rostovka" type (Grushin, 2019). This fact outlines the boundaries of the local existence of various kinds of Seima-Turbino spearheads in southwestern Siberia.

Finds from the Sedelnikovsky District show a number of unique features. These include double looped protrusions on the sockets, which may have served as additional eyelets. Such an element is extremely rare in the Seima-Turbino spearheads. An example is a spearhead from Rostovka (Chernykh, Kuzminykh, 1989, fig. 31, *2*), as well as a casting mold discovered on the Irtysh River (Mikhailov, 2012). The most similar paired double eyelets appear on the item from Xian (Shaanxi Province, China) (Kiselev, 1960).

The Janus-like masks on the sockets deserve special attention (Fig. 3, 4). Such images usually occur in several varieties, including identical masks, faces expressing opposite emotional states, and masks of characters of various ages or genders (Tishkov, 2017: 157). Anthropomorphic images on the sockets of spearheads from the Sedelnikovsky District, which were represented on one item, are almost identical. The eyes of the masks are round on the long spearhead and ellipsoidal on the short spearhead. The images of "three-horned" headdresses are also distinctive. The ends of the rays are rounded on the long spearhead (Fig. 4, *1*, *3*) and pointed on the short spearhead (Fig. 4, *4*, *6*).

Geographically, the closest parallel to the Janus-like images under consideration is a stone staff from the Ir River, which was accidentally discovered in the Krutinksky District of the Omsk Region (Ibid.: Fig. 3). This item was dated to a wide period from the Bronze Age to the Early Iron Age. A Janus-like pommel made of non-ferrous metal from the Bronze Age is known from China (Junxian County, Henan Province, Xingdun, grave M 21) (Komissarov, 1988: 44). Taking into account other indirect parallels in Chinese Bronze Age evidence to anthropomorphic decoration on spearheads from the Sedelnikovsky District, their similarity with the pommel decoration of

Fig. 3. Janus-like masks on the sockets of long (*1*, *2*) and short (*3*, *4*) spearheads from the Sedelnikovsky District.

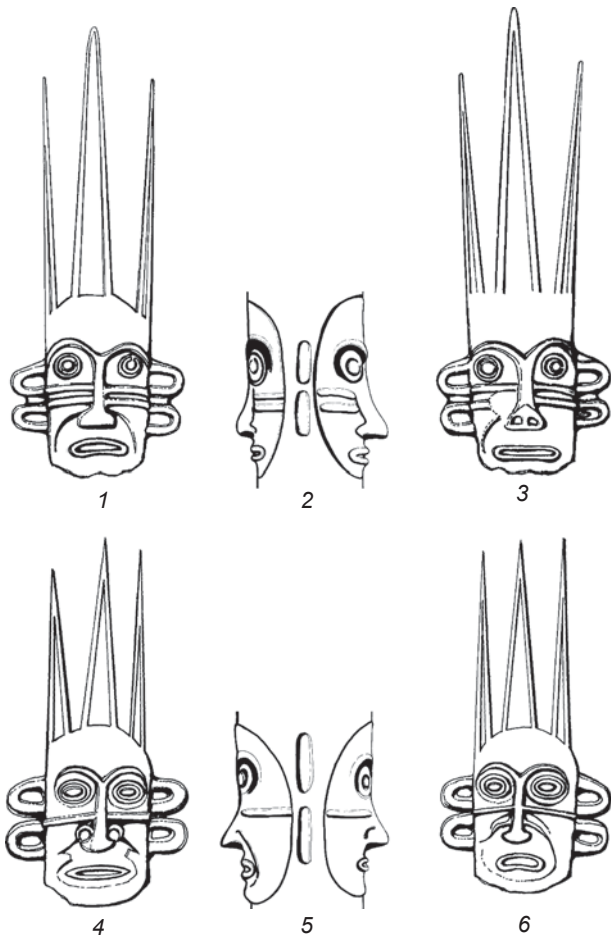

Fig. 4. Drawings of Janus-like masks on the sockets of long (*1–3*) and short (*4–6*) spearheads from the Sedelnikovsky District.

the Ir stone staff may well be regarded as an argument for the chronological contemporaneity of these items from the Omsk Region. An interesting hypothesis is that stone anthropomorphic staffs from the Middle Irtysh region and Xinzyang belonged to ritual attributes of the Seima-Turbino foundry workers (Solovyev, Cheremisin, Komissarov, 2022: 81).

Depiction of masks on high-status items could have been associated with the tradition of apotropaic objects. Notably, the best position for viewing anthropomorphic masks on the sockets of spearheads is the placement of spearheads with their points down. In this case, these items are more functional as *assegais*, i.e. short swords or massive daggers. Weapons of this type from the Bronze Age are known among the finds from Yakutia (Senele, Ukulaan) (Istoriya Sibiri, 2022: 506, fig. 262, *4*, *5*).

Anthropological features of masks on the sockets of spearheads from the Sedelnikovsky District, including significantly protruding noses, relatively large eyes and "ears", deserve special attention. These features show some similarity with anthropomorphic toreutics of China (Jinsha and Sanxingdui in Sichuan Province), dating back to the 12th–10th centuries BC (Deng Yiuke, 2007: 37; Stafutti, Romagnoli, 2015: 16, 36, 37). However, the anthropological features of these images are clearly of non-Chinese origin (Stafutti, Romagnoli, 2015: 37).

It is equally important that three-dimensional masks on the sockets of spearheads from the Sedelnikovsky District show clear parallels to anthropomorphic images on the pottery from the Samus-4 settlement in the Tomsk stretch of the Ob (Esin, 2009: 11, fig. 28, 29, 34, 39, 59, *8*; 62, *19*). Among their fairly rich varieties, the Samus mask with the triangular central "ray" and protrusions on the cheeks is especially close to the items under discussion (Ibid.: fig. 64, *20*; p. 400, pl. 1, 134). It should be emphasized that this image on the pottery from Samus-4 occurs only once, and can be correlated with the Okunev pictorial tradition (Esin, 2002: 54; 2009: 229). This is important, since the round eyes of masks on the sockets of spearheads from the Sedelnikovsky District show a clear resemblance to the Okunev iconography (Molodin, 2021: 276, fig. 1, 4, 14). This eye shape differs significantly from the almond-shaped eyes on golden masks and anthropomorphic toreutics of Bronze Age China (Deng Yiuke, 2007: 37; Stafutti, Romagnoli, 2015: 16, 36, 37). In addition to the pottery, images of the three-rayed headdress appear on stone sculptures (at the pass of the watershed of the Tyoya and Tashtyp Rivers, and on the bank of the Baza River) (Novozhenov, 2012: Fig. 87, *2*; Bogdanov, 2022: Fig. 8, *9*).

Currently, the three regions in southwestern Siberia (Yenisei region, Ob region, and Middle Irtysh region) where images with various headdresses have been found can be distinguished on the basis of the anthropomorphic imagery of the pre-Andronovo period of the Bronze Age (Molodin, 2021: 278, 279). In this form, masks on the sockets of spearheads from the Sedelnikovsky District appear as quite rare not only in Middle Irtysh region, but also in Upper Ob region. This fact significantly expands our understanding of specific aspects of the iconography in one of the westernmost areas of anthropomorphic artwork left by the cultures of the Early to Advanced Bronze Age in Western Siberia.

Another distinctive feature of Janus-like masks on the sockets of spearheads from the Sedelnikovsky District is the presence of one (Fig. 4, *4–6*) or two (Fig. 4, *1–3*) transverse bands in the center. These bands do not cross the line of the back of the nose, while on ritual wooden masks from Xiaohe (Northern China) and Okunev stone steles in Khakassia (Molodin, 2022: 135, fig. 1, *1*, *2*, *4*, *6*; Bogdanov, 2022: 52, fig. 6, 7) they pass through the entire face. Therefore, the Janus-like masks on the sockets of spearheads from the Sedelnikovsky District reveal some individuality in rendering this Okunev tradition, which may have been due to the geographical remoteness of the Middle Irtysh region and indirect contacts with that culture. In this regard, we should also mention the hypothesis as to the signs of migration of a small group of the Okunev population demonstrated by the ornamental ceramic tradition at Samus-4 in the Upper Ob region (Esin, 2002: 54).

Noteworthy are the expressed nasolabial folds in relief on the masks on the sockets of spearheads from the Sedelnikovsky District. In real life, these appear on human faces for a number of reasons, including age-related changes, active facial expressions, and exposure to hot climate. The nasolabial folds are also very explicit in the three-dimensional anthropomorphic imagery from Samus-4 (Molodin, 2021: 276, fig. 1, *14*).

Similarities in a number of details of the artistic imagery make it possible to correlate the masks on the sockets of spearheads from the Sedelnikovsky District, as well as their Samus and Okunev parallels, with a particular pictorial tradition (Marshak, 1971: 16, 17).

Conclusions

The proportions of the Seima-Turbino split-tailed spearheads, which were recently discovered in the Omsk Region, cannot always be a decisive argument in establishing their cultural affiliation. For example, if we consider the ratio of the blade's length and the socket's length (from the mouth to the base of the blade) in the Seima-Turbino split-tailed spearheads of 2 : 1 to be some standard value (Mikhailov, 2022: 554), then the above-mentioned items from the Omsk Region do not look standard at all. This parameter is 1.47 : 1 in the spearheads from the vicinity of Omsk, 1.6 : 1; 1.64 : 1, and 1.7 : 1 in the spearheads from Okunevo, and 2 : 1 and 1.9 : 1 in the spearheads from the Sedelnikovsky District. However, if we use indices (D2/D1 × 100, where D1 is the length of the spearhead and D2 is the length of the blade) as distinctive features of the Seima-Turbino items (Bochkarev, 2010: 130), the results will be completely different: 59, 62, 65, 67, 73, and 75, respectively. The Turbino spearheads have predominantly long blades (indices 65–70–75), while Seima spearheads have mostly medium-sized blades (indices 55–60–65). Moreover, no items with the lowest indices (51–55) have been found among the Turbino spearheads, and no items with extremely high indices (71–75) have been found among the Seima spearheads (Ibid.: 131, fig. 7). Judging by these parameters, the spearheads from the Omsk Region are similar to the Turbino spearheads. In addition, the reinforcement ribs in the split-tailed spearheads from the Shcherbakulsky, Muromtsevsky, and Sedelnikovsky districts do not extend beyond the blade shafts, which was also typical of the Turbino spearheads (Bochkarev, 2004: 394).

The absolute chronology of both Seima-Turbino bronzes and specific varieties of split-tailed spearheads (KD-10 type), even obtained by scientific methods (radiocarbon and dendrochronological dating), is still debatable (Grigoriev, 2021: 5). For example, burials 8 and 34, and the hoard near burial 24 at Rostovka, containing split-tailed spearheads with hooks (KD-10 type), were dated to the 22nd–20th and 22nd/21st–18th centuries BC on the basis of skeletal remains (Marchenko et al., 2017: 289, fig. 2). The general chronology of the entire necropolis was established in the range of 23rd–19th centuries BC, while the probable interval of the Seima-Turbino transcultural phenomenon was the 18th century to 1600/1550 BC (Grigoriev, 2021: 5). The split-tailed spearheads, recently discovered in the Omsk Region, obviously belong to different periods and show a number of unique features. The main feature is the presence of Janus-like anthropomorphic masks with ray-like headdresses on the sockets of the spearheads from the Sedelnikovsky District, since such images have never occurred in the decoration of the Seima-Turbino spearheads. The Sedelnikovsky spearheads may well be the westernmost manifestation of such an artistic phenomenon. The anthropomorphic images on the sockets of the spearheads from the Sedelnikovsky District obviously fit the trend of both cross-cultural interaction in the Bronze Age and adaptation to the local conditions (Molodin, 2020: 51). The presence of the Samus-Okunev "artistic" hybrid on these items clearly reflects the contemporaneity of the Okunev and Seima-Turbino metalworking traditions (Chernykh, Kuzminykh, 1989: 248).

The effect of the Seima-Turbino phenomenon on the production of spears can be observed until the Late Bronze Age. Among other features, this is manifested in the preservation of eyelets at the base of the spearhead socket both in Eastern Europe (Chernichenko, 2016: 113) and Western Siberia. This feature is present in the items from the south of the Omsk Region (Shcherbakulsky District). Southwestern Siberia belongs to the Eurasian regions, where the effect of the Seima-Turbino tradition persisted for quite a long time. This territory was among the centers of rapid distribution of items belonging to the Seima-Turbino bronze casting complex (Chernykh, Kuzminykh, 1989: 31, 247; Chernichenko, 2016: 117). Moreover, the Middle Irtysh region is distinguished not only by its saturation with Seima-Turbino bronzes (Chernykh, Kuzminykh, 1989: 31), but also by their adaptation to the local environment, including the emergence of special varieties of items (Kuzminykh, 2011; Molodin et al., 2018; Molodin, 2020: 50).

The density of the spatial distribution of such finds in the meridional direction makes it possible to trace the cultural and landscape boundaries in the Late Bronze Age, as well as main directions in the movement of ancient populations, which used natural corridors as routes of communication. The Irtysh and its tributaries played a crucial role in the distribution and adaptation of the Seima-Turbino bronzes in Western Siberia (Molodin et al., 2018: 56).

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