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On a Distinctive Feature of the Andronovo (Fedorovka) Funerary Rites in the Baraba Forest-Steppe

This article summarizes the findings relating to a spatially localized group of graves at the Andronovo (Fedorovka) cemetery Tartas-1 in the Baraba forest-steppe. Several rows of graves combine with ash pits suggestive of ritual activity. In the infill of graves, there were ash lenses with mammal and fish bones, and potsherds with traces showing the signs of applied heat. Ash had been taken from nearby ash pits with similar infill and artifacts. Faunal remains from graves and ash pits (limb bones of cattle, sheep/goat, and horse) indicate sacrificial offerings. In the ash layer of grave No. 282, there was an incomplete human burial, also believed to be a sacrifice. Features such as the orientation of the graves, their alignment, the position of human remains, and the grave goods in that area are similar to the Andronovo (Fedorovka) burial practice and do not differ from those in other parts of the cemetery. No complete parallels to this rite have been revealed. Some similarities, such as the use of ash, and the presence of animal bones, sacrificial pits, etc. at other sites are listed. A reconstruction of the funerary sequence and possible interpretations are considered. It is concluded that those graves were left by a group of Andronovo migrants who maintained close ties with the native population. Unusual features of the burial rite, therefore, can reflect an attempt to consolidate the immigrant groups on the basis of traditional ritual practices, where the major role was played by fire and its symbols.

Keywords: Baraba forest-steppe, Andronovo (Fedorovka) culture, burial and funerary practice, ash layer, sacrifice.

Introduction

At present, a significant number of burial complexes of the Andronovo (Fedorovka) culture have been discovered and investigated on the forest-steppe territory located on the right bank of the Irtysh River. These include a series of burial grounds in the central part of the Baraba forest-steppe (see (Molodin, 1985)), monographically investigated burial complexes in the western part: Stary Tartas-4 (Molodin, Novikov, Zhemerikin, 2002), Stary Sad (Molodin et al., 2016), Sopka-2/5 (Molodin, Grishin, 2019), as well as the most grandiose necropolis

under study—Tartas-1 (Fig. 1). The materials obtained in the course of the study of these objects significantly enrich our conceptions about the funerary practice of the Andronovo (Fedorovka) people.

Evidence of burial rituals using fire was found during excavations of many Andronovo cemeteries throughout the territory where this culture was spread. Alakul sites are characterized by altars—pits with vessels, ash, and animal bones, which were made over burials under a mound (see, e.g., (Usmanova, 2005: 130; Sotnikova, 2014: 268; Stefanov, Korochkova, 2006: 77)); backfilling/covering of the dead with the remains

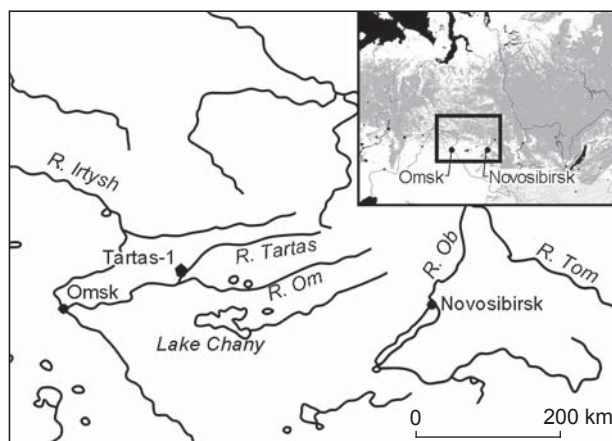


Fig. 1. Location of the Tartas-1 site.

of a funeral pyre; and traces of fire in the infill of the burial chamber (Khabarova, 1994: 10) and the burning of the burial chamber (*domovina*) (Matveev, 1997). In the Fedorovka burial grounds, there occur traces of the cremation rite, of the lighting of fires in the upper part (burnt ceiling) or at the bottom of the burial chamber, and also (but less often) the remains of funeral feasts in the form of burnt animal bones under the mound (Khabarova, 1994: 17). According to E.E. Kuzmina, these are all the manifestations of the same cult of fire, though they are completely different ritual actions performed at different times and on different occasions (1986: 88).

Studies at the Tartas-1 cemetery, located in the Baraba forest-steppe (Vengerovsky District of the Novosibirsk Region), made it possible to identify another variation for the ritual use of fire in the funerary practice of the Andronovo (Fedorovka) culture—flat graves were covered with a layer of ash containing burnt animal bones and ceramic fragments. The purpose of this work is to conduct a comprehensive analysis of this group of graves, to identify the features of ritual manifestations, and to attempt to interpret them.

Characteristics of the complex objects

At present, approximately 800 graves at Tartas-1 are investigated, more than 50 % of which belong to the Andronovo (Fedorovka) culture. The research methodology for this complex presupposes the continuous opening of sediments over the entire area of the site, taking into account the data of geophysical monitoring, while all of the excavation is done only by hand (Molodin et al., 2003). This approach makes it possible to accurately determine the boundaries of the site, and to carry out an in-depth analysis of spatial distribution of the graves and the grave goods, as well as

to determine their chronological affiliation, and to reveal the specifics of ritual activity. Earlier, the authors noted that materials from different parts of the cemetery could reflect different periods of the appearance in the Baraba forest-steppe of the Andronovo (Fedorovka) people and related populations, as well as the stages of their interaction with the indigenous population—the Late Krotovo (Cherno-Ozerye) people (see, e.g., (Molodin, 2011; Molodin, Durakov, Kobeleva, 2018)).

Graves with an ash filling are compactly localized in the southwestern part of the necropolis (Fig. 2). Unfortunately, this part of the site has undergone significant destruction: there was a quarry and a dirt road here. Thus, it is not possible to establish the number of such graves that were in this place initially. Indisputable traces of rituals using ash, burnt bones, and potsherds were recorded in 23 graves (Tables 1, 2). The graves form several rows, aligned along the N-S line, with insignificant deviations. In some graves, no traces of ash were found in the infill. This can be explained by the destruction of the upper part of the cultural layer (No. 188–190, 240): the difference in benchmarks at the level of fixation of spots and at the bottom of the selected quarry is up to 1 m. The presence of ash in the graves under consideration is possibly a differentiating feature. For example, the absence of such a filling in shallow children's burials (No. 184, 186, 191, 232, 236, 327, 308, 309, 417, 415) can be considered a feature of the funerary rite.

The sub-rectangular grave pits are of the same size. They differ from other Andronovo (Fedorovka) graves of the cemetery only in their specific infill. In the lower part, there is a layer of grayish-yellow sandy loam, in the middle (main) part, dark-gray dense sandy loam. In the upper part, a cup-shaped lens of ashy sandy loam is registered, the thickness of which in different burials ranges from 0.05 to 0.4 m (Fig. 3). An oval lens occupies the central part of the grave pit. The color of this layer varies from light gray to ashy-orange. In some spots, stratification is observed. In the lower part of the lens, insignificant brown areas can be seen. The specificity of this flat-grave burial ground lies in the fact that the upper layer is plowed up almost to the level of virgin soil; therefore, the contours of the graves are most often recorded in the form of dark gray spots while cleaning the yellow native loam. However, in researching this section of the necropolis, it was possible to trace the ashy layer 0.1–0.2 m higher than the level of the ancient buried soil (graves No. 287, 288, 310) (Fig. 3, 3). Grave No. 311 was located in two trenches; therefore, its cross-section was laid from the level of the modern daylight surface. This section clearly shows that the sandy loam layer rises above the level of the buried soil in the form of a small compact mound (Fig. 3, 4). In the section of grave No. 312, several interlayers of calcined and gray-ashy sandy loam were noted (Fig. 3, 5). The lens, judging

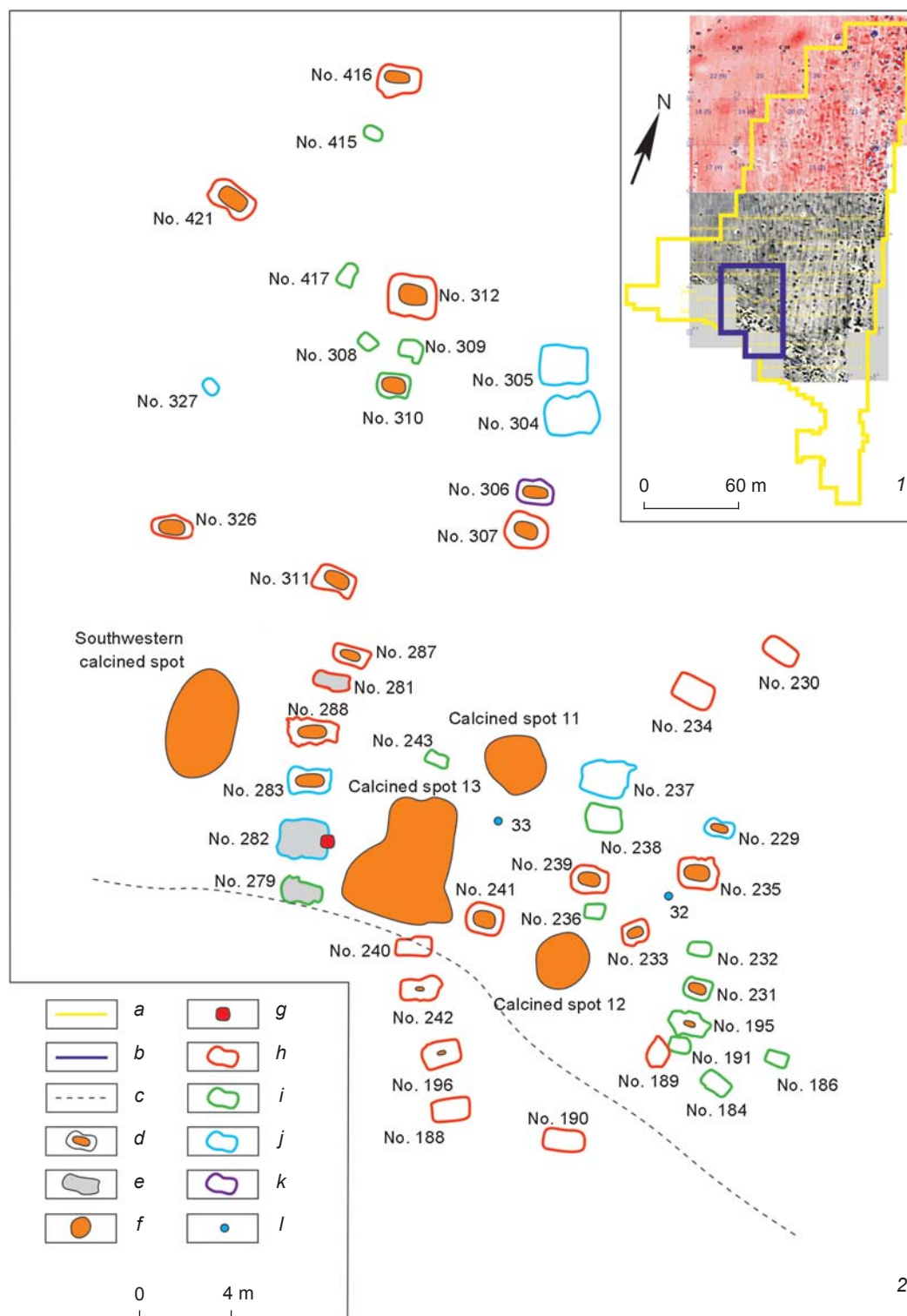


Fig. 2. Magnetogram of the Tartas-1 site (1), and the scheme of graves with ash filling on it (2).
 a – boundary of the investigated area of the burial ground; b – boundary of the analyzed area; c – conditional boundary of the quarry; d – grave with ash filling; e – grave with ash content in the infill; f – calcined spot; g – partial burial in the upper part of the grave pit; h – burial according to the rite of inhumation (adult); i – burial according to the rite of inhumation (child); j – burial according to the rite of cremation; k – biritual burial; l – an object of a ritual nature (a cluster of talus bones (32) and a horse bone (33)).

Table 1. Graves with ash filling at Tartas-1

| Grave No. | Dimensions of grave pit, m | Features of the burial rite | Grave goods |
|-----------|----------------------------|--|--|
| 195 | 1.75 × 1.1 × 0.54 | Child in a flexed position on the left side | Vessel, cow's talus bone, bronze earring |
| 196 | 1.6 × 1.12 × 0.5 | Adult in a flexed position on the left side | Vessel |
| 229 | 1.3 × 0.8 × 0.4 | Cremation (2 persons?) | " |
| 231 | 1.2 × 0.9 × 0.7 | Two children in a flexed position on the left side | Vessel, two talus bones of a sheep |
| 233 | 1.15 × 0.9 × 0.5 | Adult, secondary burial | Ditto, bone spoon, bone distributor |
| 235 | 1.8 × 0.95 × 0.59 | Adult, secondary burial (only skull) | Vessel, dish made of horn |
| 239 | 1.7 × 0.9 × 0.6 | Adult in a flexed position on the right side | Vessel |
| 241 | 1.65 × 1.35 × 0.78 | Adult in a flexed position on the left side | Vessel, two bronze temple rings |
| 242 | 1.65 × 1.06 × 0.65 | " | Vessel, two silver rings |
| 279 | 0.9 × 0.45 × 0.53 | Child in a flexed position on the right side | Vessel |
| 281 | 1.58 × 0.7 × 0.25 | Adult in a flexed position on the left side | Vessel, animal's tooth |
| 282 | 2.22 × 1.66 × 1.0 | Cremation | Vessel |
| 283 | 1.96 × 1.0 × 0.54 | " | Sheep's lower jaw (?) |
| 287 | 1.62 × 0.77 × 0.43 | Adult in a flexed position on the left side | Four talus bones, a long bone item |
| 288 | 2.1 × 1.06 × 0.69 | " | Vessel, horn spoon, animal's tooth |
| 306 | 1.47 × 0.97 × 0.82 | Cremation and a child in a flexed position on the left side | Vessel |
| 307 | 1.94 × 1.45 × 1.03 | Adult in a flexed position on the left side | Vessel, bones of a large bird (?) |
| 310 | 1.47 × 0.99 × 0.63 | Child in a flexed position on the left side | Vessel |
| 311 | 1.74 × 1.1 × 0.44 | Adult in a flexed position on the left side | " |
| 312 | 2.07 × 1.79 × 1.22 | " | Vessel, accumulation of fish scale, bronze awl, two flared bronze earrings, bronze bead, five talus bones, two bronze earrings, fragments of a complex bronze decoration, bronze plaques, bracelets made of bronze beads |
| 326 | 1.8 × 0.88 × 0.59 | Adult, secondary burial (some bones are in articulation) | Vessel, fragment of a casting mold |
| 416 | 1.9 × 1.5 × 0.7 | Two persons: adult in a flexed position on the left side; adult, secondary burial, clearly localized accumulation of bones | Two vessels, bronze needle, bronze bracelets made of beads, temple ring, fish bones and complete skeletons |
| 421 | 2.12 × 1.25 × 0.65 | Secondary burial (several bones) | — |

Table 2. Finds from the objects with ash filling at Tartas-1

| Place of discovery | Potsherds | Number of animal's bones/incl. identifiable, spec. | Fish scale and/or bones | Other finds |
|--------------------|-----------|--|-------------------------|---------------------------|
| Grave No.: | | | | |
| 195 | 1 | 13/1 | – | – |
| 196 | + | – | + | – |
| 229 | – | 2/1 | – | – |
| 231 | – | 1/1 | – | – |
| 233 | – | 30/1 | – | – |
| 235 | 3 | 80/25 | – | – |
| 239 | 7 | 31/4 | – | – |
| 241 | 27 | 207/22 | + | – |
| 242 | 1 | 6/1 | + | – |
| 282 | – | – | + | – |
| 283 | – | 21/3 | + | – |
| 287 | + | 17/2 | – | – |
| 288 | – | 30/1 | + | – |
| 306 | + | 25/9 | – | – |
| 307 | + | 162/24 | – | – |
| 310 | + | 44/3 | – | – |
| 311 | + | 93/6 | – | – |
| 312 | + | 1/1 | + | – |
| 326 | + | 350/15 | – | – |
| 416 | – | – | – | Bone point, bronze plaque |
| 421 | + | – | – | – |
| Calcined spot: | | | | |
| 11 | 26 | 56/13 | – | – |
| 12 | 56 | 156/26 | – | – |
| 13 | 50 | 477/46 | – | – |
| Southwestern part | – | 245/27 | – | – |

by its clear lower boundary, was formed after filling the main volume of the grave pit, and not as a result of soil subsidence. An ash pit was specially built in the central part of the burial chamber.

In 21 objects (91 %), in a layer of ashy sandy loam, in pits dug in the upper part of the filling of the burial chambers, animal bones with charring, fish bones and scales, and potsherds were recorded, some with traces of secondary firing (Table 2). In grave No. 416, in this layer, a bone point and a bronze plaque were found. The bones and scales of fish occur in the infill of seven burials (30.4 %). In two graves, it was possible to identify the scales and pharyngeal bones of a crucian carp (Molodin et al., 2015: 78). Potsherds were found in the ash filling of 10 graves (43.4 %).

The bones of animals are presented in the form of chopped and chipped fragments of various sizes. Their number ranges from 1 to 350 units. The color of the bones ranges from light brown to black. There are isolated light gray and white fragments relating to the initial stages of the calcination process (Cain, 2005: 875). The surface of the bones is smooth; the traces of cracking are wavy. These characteristics suggest the short-term presence of bones in a fire of a temperature of no more than 300 °C (Shipman, Foster, Schoeninger, 1984), which corresponds to the conditions of an open fire.

The specific identification of bones is difficult owing to their fragmentation. Most of the collection consists of fragments of diaphysis, fragments of tubular bones, metapodia, phalanges, and a lesser part consists



Fig. 3. Features of infill of the graves with ash backfill at Tartas-1.
1 – No. 306; 2 – No. 310; 3 – No. 287; 4 – No. 311; 5 – No. 312.

of teeth, ribs, vertebrae, and talus bones. On average, approximately 8–10 % of bone fragments can be identified as species* (Table 3). Fragments of cow bones (118 spec.) make up 55.8 %, while those of sheep/goats (33 spec.) comprise 27.5 %. The bones of horse, elk, roe deer, bear, fox, and birds are rare. Among the bovine remains, various limb bones prevail (80 %). There are fragments of jaws, teeth, ribs, and pelvis, as well as one lumbar vertebra. The sheep/goat bone fragments are represented mainly by the limb bones (78.5 %). There are few fragments of jaw and teeth, and two vertebrae (thoracic and lumbar). Wild animals are represented by

phalanges, astragals, and heel bones. Most of the bones of birds are fragments of the diaphysis of long bones. The osteological spectrum definitely reflects the character of herd of the Andronovo (Fedorovka) population, which was dominated by cattle. The discovered fragments of bones, judging by their morphology, may be evidence of a funeral feast or some other special actions associated with burial practices.

The burial rite, which is represented by the graves of the analyzed area, is typical of the Andronovo (Fedorovka) part of the Tartas-1 necropolis: the graves correspond to the rites of inhumation, more rarely of cremation (see Table 2). The deceased was usually buried in a flexed position on the left side, with his head predominantly in the direction of NE, with slight deviations. The burials are mostly individual, with the

*Osteological identifications are carried out by S.K. Vasiliev.

Table 3. Species composition of osteological remains from the objects with ash filling at Tartas-1, spec.

| Place of discovery | Cow | Sheep/ goat | Horse | Elk | Roe deer | Bear | Fox | Bird |
|--------------------|-----|----------------|-------|-----|----------|------|-----|------|
| Grave No.: | | | | | | | | |
| 195 | 1 | – | – | – | – | – | – | – |
| 229 | 1 | – | – | – | – | – | – | – |
| 231 | – | 1 | – | – | – | – | – | – |
| 233 | 1 | – | – | – | – | – | – | – |
| 235 | 20 | 4 | – | – | – | – | – | 1 |
| 239 | 2 | 2 | – | – | – | – | – | – |
| 241 | 12 | 8 | – | 1 | – | – | – | 1 |
| 242 | 1 | – | – | – | – | – | – | – |
| 283 | 1 | – | – | – | – | – | 2 | – |
| 287 | – | 2 | – | – | – | – | – | – |
| 288 | 1 | – | – | – | – | – | – | – |
| 306 | 6 | 3 | – | – | – | – | – | – |
| 307 | 9 | 7 | 3 | 2 | – | – | – | 3 |
| 310 | 2 | 1 | – | – | – | – | – | – |
| 311 | 5 | 1 | – | – | – | – | – | – |
| 312 | 1 | – | – | – | – | – | – | – |
| 326 | 4 | 4 | 1 | 1 | 2 | 2 | – | 1 |
| Calcined spot: | | | | | | | | |
| 11 | 12 | – | 1 | – | – | – | – | – |
| 12 | 13 | 1 | 12 | – | – | – | – | – |
| 13 | 20 | 8 | 16 | – | – | 1 | – | 1 |
| Southwestern part | 6 | – | 11 | – | – | – | – | – |

exception of graves No. 231 (two children), No. 306 (biritual)*, and No. 416 (inhumation on the left side in combination with a secondary burial). Noteworthy are also graves No. 233, 326, and 421, which are secondary, without traces of penetration. The grave goods include ceramic vessels, bronze ornaments and awls, the astragals of cow and sheep/goat, and horn products (a spoon and a dish). Burial dishwear found in this part of the burial ground (Fig. 4) are generally typical of the Andronovo (Fedorovka) ceramics of the region (see, e.g., (Molodin, Mylnikova, Ivanova, 2014)).

It is necessary to focus on the characteristics of grave No. 282, the materials of which were partially introduced into scientific use (Molodin et al., 2008: 205). Above its northeastern wall, at the level of the buried soil, an oval spot of gray ash was revealed in which the lower part of

a human skeleton was located, including several lumbar vertebrae, sacrum, bones of pelvis and lower extremities in articulation and in the correct anatomical position (Fig. 5, 1), which implies the preservation of soft tissues at the time of burial. Partial burial (the remains were laid in a flexed position on the left side), oriented along the NE-SW line, in accordance with the canons of the classical burial practice of the Andronovo (Fedorovka) people. Grave goods are absent. The main grave pit measuring 2.22×1.66 m was located at the level of virgin soil. It had a regular subrectangular shape and a depth of 1 m from the roof. At the bottom of the grave pit, in the center, traces of cremation were found—a dense oval accumulation of fragments of calcified bones, aligned along the NE-SW line (Fig. 5, 2). At the northeastern wall of the chamber, there was an Andronovo (Fedorovka) vessel (Fig. 5, 3). The location of the upper burial in a layer of ash filling, its partial character, the absence of a pit and grave goods testify to its sacrificial and accessory qualities.

*The term “biritual burial” means a combination of inhumation and cremation in one grave pit.

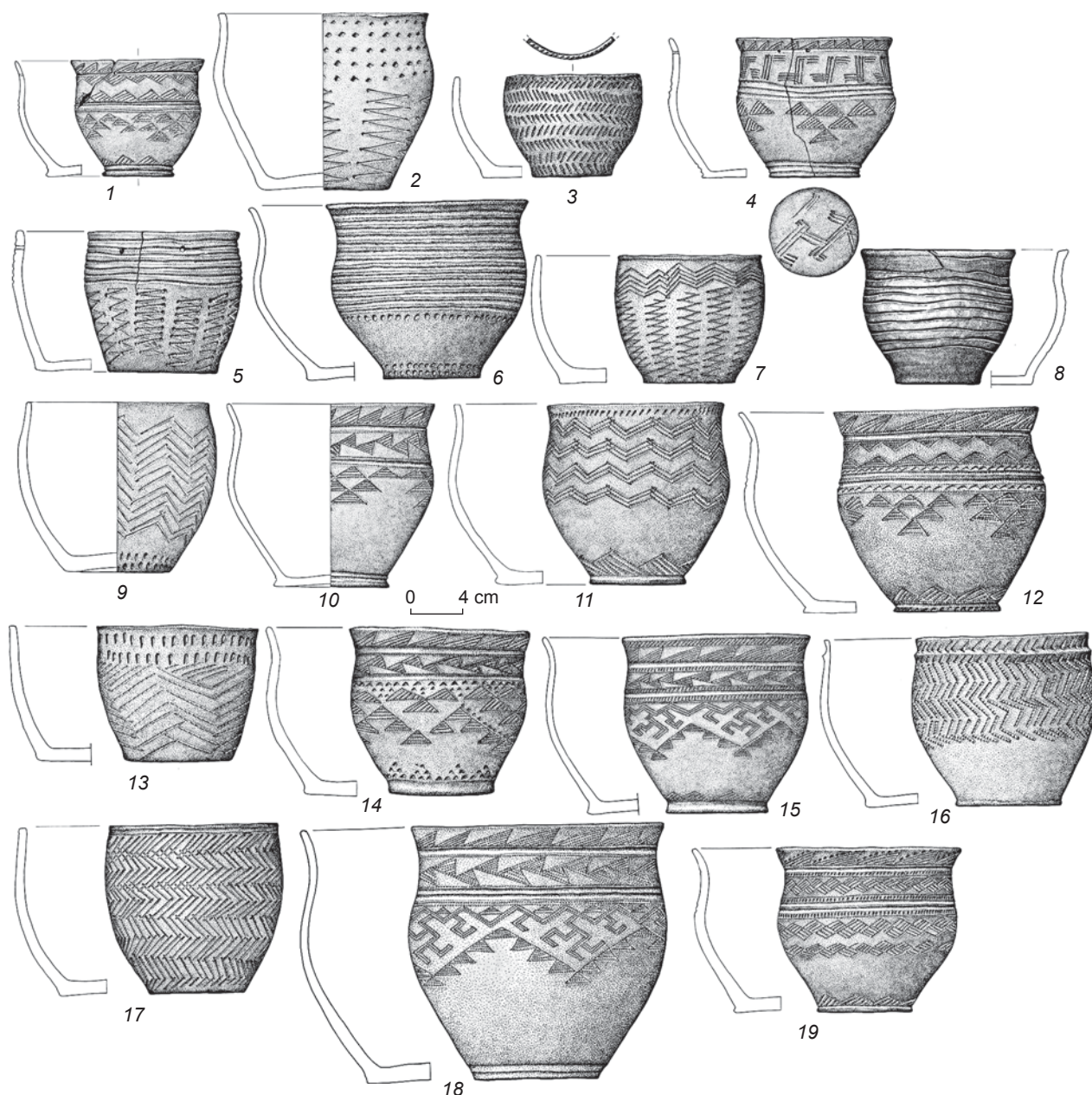


Fig. 4. Ceramic vessels from graves with ash filling at Tartas-1.

1 – No. 195; 2 – No. 196; 3 – No. 229; 4 – No. 231; 5 – No. 233; 6 – No. 235; 7 – No. 239; 8 – No. 288; 9 – No. 241; 10 – No. 242; 11 – No. 281; 12 – No. 282; 13 – No. 306; 14 – No. 307; 15 – No. 310; 16, 19 – No. 416; 17 – No. 311; 18 – No. 312.

Between two rows of graves, several zones of calcined soil with a high content of ash and burnt bones were recorded (see Fig. 2). The spots of burnt soil are located in the bed of the dug up quarry, so it is impossible to establish the exact boundaries of the site where the fire was made in ancient times.

Calcined spot 11 is an amorphous spot 2.75×2.6 m in size, composed of dark gray, ashy sandy loam with brown and black interlayers, up to 0.1 m thick. Calcined spot 12 is recorded as a rounded spot 2.1×1.95 m made from gray, ashy sandy loam, up to 0.1 m thick. Calcined

spot 13 occupies the largest area. It is an amorphous spot 5.5×5.0 m in size, up to 0.15 m thick, made of light gray, gray, and brown ashy sandy loam. This layer was uneven, filling small depressions in the underlying layer marking the level of the ancient buried soil. An infill of a similar composition was recorded southwest of the last row of Andronovo (Fedorovka) graves No. 279, 282, 283, 288, 281, 287, 311 in this part of the necropolis.

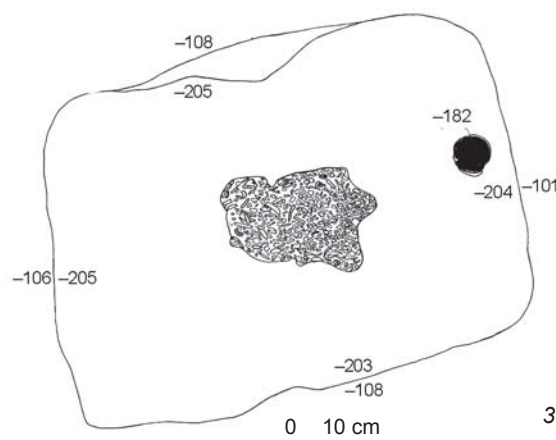
Fragments of ceramics (more than 130 spec.) and fragments of burnt bones (more than 900 spec.) were found in the infill of all objects. The ceramic complex



Fig. 5. Grave No. 282 at Tartas-1.
1, 2 – upper layer; 3 – lower layer.

consists of fragments of jar vessels with an Andronovo (Fedorovka) appearance, some with traces of secondary firing (Fig. 6). The collection of osteological finds is similar in size and color to the remains from the ash lenses of the burials described above. Only 10 % of the fragments are subject to species identification (see Table 3). Almost half of the collection (45.6 %) is cow bones, while horse bones comprise 43.4 %, and sheep/goat bones make up 10 %. The comparison revealed an almost complete coincidence of the species composition of bones from calcined spots and burials, with the exception of the ratio of sheep/goat and horse bones. However, it should be kept in mind that twelve bones of a horse from the calcined spot 12 belong to one individual and represent fragments of the lower jaw that had fallen apart under the influence of fire. It is curious that in the infill of the rest of the calcined spots there are fragments of the horse's lower jaw. As for cow and sheep/goat bones, 80 % of the identifiable fragments are from the lower extremities.

Thus, the identical composition of the infill of the calcined spots and ash lenses in the burials suggests that it was these objects that were the source of material for filling the grave pits; here the food was burned, mainly pieces of meat from domestic animals. It is not entirely clear what caused the presence of fragmented Andronovo (Fedorovka) household pottery in these objects. In combination with meat leftovers, it was probably associated with food consumption; a piece of pottery served as a symbol of a whole vessel in which food was prepared and served.



At the investigated site of the burial ground, two objects of a ritual nature were discovered. Object 32, located between graves No. 232, 233, and 235, was an accumulation of no less than 30 poorly preserved sheep/goat astragals, two of which had holes. Among the astragals, there was a cow's incisor tooth. It needs to be reminded that astragals, including the ones with holes, are typical for the burials of the Andronovo (Fedorovka) culture. They are also presented at Tartas-1. Object 33, located between the calcined segments near grave No. 241, is a fragment of a horse's tibia, set vertically into the ground.

Interpretation of the burial and funerary rite

The nature of the infill of the grave pits with ash lenses suggests that these are the traces of a post-burial ritual associated with fire and sacrifices. In our opinion, the actions took place here in the following sequence. After the completion of the burial ceremony, which took

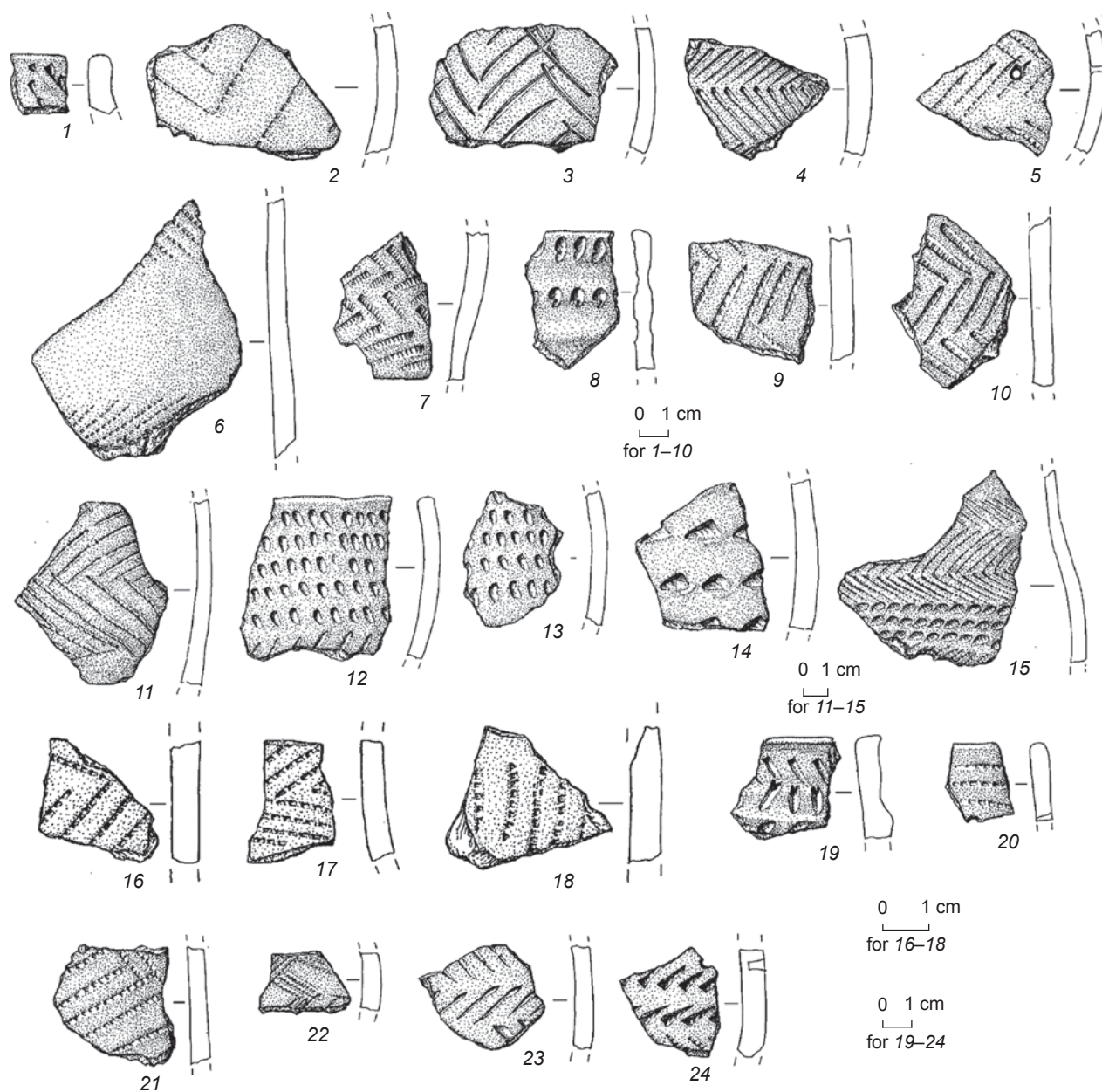


Fig. 6. Potsherds from graves in the ash filling of the Tartas-1 burial ground.

1 – No. 195; 2–4 – No. 235; 5–10 – No. 241; 11 – No. 196; 12–15 – No. 310; 16 – No. 287; 17 – No. 311; 18 – No. 312; 19–24 – No. 326.

place in accordance with the funerary tradition of the Andronovo (Fedorovka) culture, the grave pit was filled up to the level of the daylight surface. After some time, an oval depression was made in it, into which ash with bones and potsherds was poured. The absence of calcination in the bottom layer of the ash lens is a sign that the fire was not built directly in the prepared pit. However, the brown color indicates a high temperature of the ash being filled in. Its source was probably one of the ash pits located between the rows of burials in this section of the cemetery. From this backfill, a small elevation (mound) was formed above the grave pit. Taking into account the presence

of several interlayers of ash in some graves, it can be assumed that such actions were performed repeatedly.

The main layer of the ash pit was formed as a result of burning a large amount of wood (possibly grass and brush) on an open fire, the temperature of which was at least 300 °C. The combustion product of this particular fuel is fine light gray ash (Braadbaart, Poole, Huisman, 2012). Animal bones and potsherds, judging by their color and texture, were on fire for a short time.

Ash pits were created also for carrying out other acts, which are difficult to reconstruct conclusively. Accumulations of bones, in particular talus, are associated

with these actions. Researchers have noted the use of talus bones in burial practice (see, e.g., (Usachuk, Panasyuk, 2014)), as well as in ritual practice at sanctuaries (Molodin, Efremova, 1998); for example, talus bones were found in a Bronze Age layer at the grotto sanctuary Kuylyu (the Altai Mountains) (Molodin, Efremova, 2010). Bones of animals and humans deliberately installed in an upright position are extremely rare at archaeological sites. Such a burial was reliably recorded at the medieval burial ground Abramovo-10 in the Baraba forest-steppe. It contained three upright femurs of adult humans, two of which faced upward with their proximal ends, and one with its distal end. Nearby, there were also vertically standing human femurs; two were oriented upward with their distal ends, one with its proximal end (Molodin, Sobolev, Solovyev, 1990: 153, fig. 104, 105). These objects are presumed to be human sacrifices (Ibid.: 165). According to ethnographic data, among Siberian aborigines, such actions as “sticking” (installing vertically) or “burying” objects in the ground were considered a reliable way of “transporting” them to the lower world (Kosarev, 2000: 45–48).

Thus, the entire cycle of activity can be interpreted as a funeral sacrifice. In this case, fire acted as a means of “transporting” the sacrifice (Usmanova, 2013: 288). The composition of the remains of the sacrificial complex by species and morphology is quite stable—these are the bones of limbs, fragments of jaws, and single bones of other parts of skeleton of a cow, sheep, horse, or in rare cases, wild animals (elk, roe deer, bear, fox), birds, and bones and scales of fish. It can be assumed that only certain parts of the animal carcasses were sacrificed. According to the classification by D.G. Zdanovich, such sacrificial complexes belong to the category of “partial” (2005).

The context of the discovery of human bones in an ash spot above grave No. 282 allows us to consider these remains as evidence of a sacrificial ritual in which partial human remains served as the sacrificial victim. It is interesting that their placement in the upper part of the burial chamber corresponds to the canons of the Andronovo (Fedorovka) burial practice in terms of orientation and the posture of the deceased.

Sacrifice, in this case a ritual action of burning and burial in the ground, can be interpreted as the voluntary transfer of some property to supernatural beings or entities (gift) (Bergman, 1987: 32), as a form of commemoration or veneration of the dead (Zdanovich, 2005). However, it should not be forgotten that the proposed interpretations are based on fragmentary archaeological materials, as well as on our subjective assessments. One should also take into account the variety of methods, purposes, places of sacrifice and those to whom it could be intended (see, e.g., (Dmitrieva, 2000; Shilov, 2000; Khrshanovsky, 2000; Burkert, 2000)).

Despite the fact that a huge number of Fedorovka and Alakul burial grounds have been studied in the territory from the Urals to the Minusinsk Basin, we were unable, from the materials of these studies, to identify complete analogs to the rite described above. However, certain similar elements have been found.

Undoubtedly, the typologically close elements appear to be altars located near the grave pits in the burial mounds of the Alakul and Fedorovka cemeteries (Usmanova, 2005; Sotnikova, 2014; Stefanov, Korochkova, 2006; Zdanovich, 2005; and others). The similarity is manifested in the partial character of sacrifices, in the use of fire and ash, and in the composition of the sacrificial “herd” (large and small horned cattle, horses). Notably, in the composition of the sacrificial complexes at Tartas-1, the amount of bones of large and small cattle exceeds the amount of horse bones.

Human sacrifices are very rare at Andronovo sites. Only a few cases are mentioned in the literature. In grave 7 of the Ermak IV cemetery (left bank Irtysh region), a layered burial was discovered (Sotnikova, 2008). In its upper part, a 6–7-year-old child was buried in a crouched position on his left side. Behind his ribcage, there were two skulls (without the lower jaws) and the scattered bones of the legs of a cow. Under the central part of the skeleton, there was the lower jaw of a horse. Below, under the skeleton, the skull, upper ribs, and vertebrae of a newborn calf were found. The infill contained scattered limb bones of at least three horse specimens. In the central part of the grave pit, at a depth of 0.5 m from the virgin soil level, a part of the sheep carcass with an embryo was buried, cut off along the line of the lower ribs of the chest. Under its remains, traces of the covering of the burial chamber were recorded. The lower grave was made at the bottom of a grave pit in a wooden frame, partially burnt (Ibid.). The author of the study interprets this complex as traces of a ritual in which “the sacrificial victim goes through the stages of death and rebirth”, but the main thing is the opposition of “old”/adult and “new”/child (Ibid.: 41). Another cult and memorial complex associated with human sacrifice was found in kurgan 3 of the Korbolikha I burial ground (forest-steppe Altai). The oval pit in the center was filled with bones from the dismembered carcasses of a cow, sheep/goat, and horse, arranged in eight layers. In the fourth layer near the western wall, along with the bones of animals, a part of the skeleton of a teenager was found—vertebrae, ribs, sternum, and several tubular bones of the extremities. Some of the ribs and vertebrae were in anatomical order (Mogilnikov, 1998). The traces of the human sacrifices show similarities in age of the interred, the location of the bones not at the bottom of the grave pit, and the combination of human and animal bones. Several more human sacrifices are known from the materials of the settlement of Nizhnie

Kairakty (Western Kazakhstan), in which three ritual complexes with human skulls were recorded (Dmitriev, 2016). It can be stated that human sacrifices were part of the ritual system of the Andronovo population, but they were extremely rare.

Curious analogies come to light when analyzing traces of ash and ash pits of contemporaneous burial grounds of the Alakul and Fedorovka cultures. The materials of the Lisakovsk burial ground (Northern Kazakhstan) indicate that over some burials, peculiar “domes” (“nuclei”) were built, consisting of the discharge from a grave pit mixed with specially imported ash. These graves were then covered by a common burial mound (Usmanova, 2005: 76). The ash lenses in the graves at Tartas-1 can also be interpreted as individual mounds marking the graves. Taking into account the location of such graves and altars at the Lisakovsk burial ground, E.R. Usmanova interprets traces of the use of fire and ash as the distinctive signs of a social group (Ibid.: 130). This explanation is also applicable to the group of graves at Tartas-1.

Ash pits have not yet been found on the territory of the Andronovo cemeteries. This can be explained by the imperfection of the excavation technique; cases of opening of deposits throughout the entire area of the site are extremely rare. However, ash pits are often found in settlements. They are recorded in pits near dwellings, in large ditches, or in the form of a mound on the surface. The tradition of creating ash pits became wide-spread in Andronovo-type cultures of the Late Bronze Age. Here, ash pits acquire not only a household, but also a ritual character; they contain traces of human sacrifices (Korochkova, 2009).

It is relevant to mention a complex previously studied at the Early Timber Grave Smelovka burial ground (in the Volga forest-steppe region), which is semantically close to the one under consideration. Several compact ash pits were recorded on the territory of that necropolis, the infill of which was used to fill the grave pits, as well as to mark the space around the burials (Lopatin, 2010). In this case, we observe the result of the convergent development of ideas about the role of fire in the burial practice of the population of the steppes and forest-steppes of Eurasia.

Conclusions

At the Tartas-1 burial ground, a compact section of the Andronovo (Fedorovka) necropolis was recorded, which differs from the surrounding massif of burials by the peculiarities of the funerary and burial rite. There are several rows of grave pits and an ash pit on the site. A special feature of the infill of the graves is the presence of an ash lens, which was a small elevation (mound) above the level of the ancient buried soil. The formation of this

layer took place after the burial and filling of the main volume of the grave pit with soil, which makes it possible to attribute these lenses to the traces of the post-burial funerary practice. The source of ash were the ash pits located nearby. The infill of ash lenses and ash pit contains burnt fragments of animal bones, potsherds, fish bones and scales. The species and morphological composition of the osteological finds is constant and dominated by bones of the limbs of cow and sheep/goat, with fewer bones of horses, birds, and wild species. This allows us to consider these bones as traces of sacrifices—certain ritual actions associated with the veneration of the dead or spirits, or the remains of a sacrificial funeral feast. The partial burial of a teenager recorded in this layer above the grave is interpreted as a human sacrifice. It should be noted that in such features as the orientation of graves, their placement on the grave field in rows, the position of the buried person, and the grave goods, the burial rite on the section of the necropolis under consideration corresponds to the canons of the Andronovo (Fedorovka) population, and does not differ from those on other sections of the burial ground.

What is the reason for the “specialization” of this part of the necropolis and the features of the burial and funerary practice presented on it? As was noted, the materials from different parts of the burial field can serve as markers of the periods of penetration of the Andronovo (Fedorovka) people into the territory of the Baraba forest-steppe and their interaction with the indigenous Late Krotovo populations (Molodin, 2011). On this site, traces of such interaction are clearly recorded: fish appears in the funerary rite (Molodin et al., 2015), the sacrificial rites include not only domestic, but also wild animals, and the tradition of secondary burials expands. Perhaps, the graves in question were left by one of these groups of migrants who actively contacted with the local population. In this case, the transformation of the rite may be the result of the adaptation of the alien population to local conditions, or an attempt to consolidate it by strengthening the role of traditional ritual practices, in which fire and its symbols occupied one of the main places. In order to confirm or refute this assumption, as well as to identify other reasons for the allocation of the section of the burial ground, it is necessary to conduct isotopic, anthropological, and paleogenetic studies; these will help to establish the radiocarbon age of the complexes, to reconstruct the genetic history of the population, and to identify the presence or absence of kinship of the buried.

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