An Early Pazyryk Kurgan at Khankarinsky Dol, Northwestern Altai: Chronology and Attribution of Artifacts

This article introduces a Pazyryk kurgan, unearthed at Khankarinsky Dol, in the northwestern Altai. On the basis of the funerary rite, burial goods, and radiocarbon analysis, the kurgan dates to the late 6th or early 5th centuries BC and is one of the earliest Pazyryk kurgans in this area known to date. A detailed description of artifacts is provided, including a bimetallic dagger, bronze hairpins, a quiver hook, a mirror, a belt buckle, a slotted clip, a knife, and a torc lined with foil. Special attention is paid to the details of a horse harness, which include bronze bits, two bone plaques, cheek-pieces, four strap distributors, a shackle, two clasps, and a bone girth buckle. The analysis of zoomorphic images on cheek-pieces suggests that the images of a wolf and a short-snouted feline carnivore are interchangeable in Scythian-Saka art. Evidently, the distinction between them mattered less for the nomads than did the fact that the animal was a carnivore. The reconstruction of the early Pazyryk horse harness is proposed. The burial rite and the burial goods indicate a high social status of those buried.

Keywords: Pazyryk culture, Altai, funerary rite, artifacts, radiocarbon analysis, horse equipment.

Introduction

The cemetery of Khankarinsky Dol is a part of the Chineta archaeological microdistrict near the village of Chineta, Krasnoshechekovsky District, Altai Territory (Fig. 1) (Dashkovskiy, 2016). The site is located in the eastern part of the second floodplain terrace on the left bank of the Inya River (a left tributary of the Charysh River), 1.0–1.4 km south-southeast of the village of Chineta. Since 2001, the Krasnoshechekovsky Archaeological Expedition of Altai State University, headed by the author of this article, has carried out excavations at the cemetery. Kurgans belonging to the Afanasievo, Pazyryk, and Srostki cultures have been explored. Currently, twenty-eight kurgans of the Scythian-Saka period have been excavated. This article describes the results of research into kurgan 25 belonging to the Pazyryk culture.
Description of the funerary rite

Kurgan 25 was discovered in the northern part of the Khankarinsky Dol cemetery, near the edge of the second floodplain terrace (Fig. 2). The diameter of the mound made of small and medium-sized stones piled in three or four layers, was 9.50 (W-E) to 9.75 (N-S) m. The height of the stone structure reached 0.6 m (0.8 m together with the layer of soil). A depression measuring 2.25 m along north–south and 1.5 m along west–east was discovered in the central part of the mound. A ring-shaped stone crepidoma of larger stones was made along the circumference of the mound base. Under the mound, a grave spot of subrectangular shape, oriented with its long axis along the NW-SE line, was discovered. The grave pit measured 3.1 × 2.8 × 2.7 m at the level of the ancient horizon. Unlike other excavated kurgans at Khankarinsky Dol, this grave was filled only with soil without stones. The filling was highly compressed and visually resembled the sterile layer. A double burial of a man and a woman was on the bottom of the grave, at a depth of 2.50–2.56 m along the southern wall (Fig. 3). The deceased were placed in a flexed position on their right side, and were oriented with their heads to the southeast.

The male skeleton lay along the southern wall. A bimetallic combat dagger in a wooden scabbard (Fig. 4) was found near the left tibia, and a bronze quiver hook (Fig. 5, 7), a buckle-fastener (Fig. 5, 1), and a belt clip (Fig. 5, 2) were discovered in the waist area. The buried person had no upper vertebra, possibly because his head had been severed. The second skeleton belonged to a female. Two bronze hairpins were found under the skull (Fig. 5, 3, 4); a bronze torc decorated with gold foil (Fig. 6, 2) was discovered in the neck area, and a bronze mirror was found near the left tibia in the pelvis area (see Fig. 5, 6). A fragmented ceramic vessel was located 15 cm north of the left hand bones of the second skeleton, at a depth of 2.55 m, and the remains of ritual food (lamb bones) and bronze knife (see Fig. 5, 5) were discovered 25 cm to the east of the vessel. The burial was probably covered by wood slabs, which were laid on ledges along the western and eastern walls of the grave. Remains of four wood slabs up to 20 cm long and 10 cm wide long were found along the eastern wall, at a depth of 1.9 m.

An accompanying burial of a horse was unearthed on clay ledge along the northern wall of the grave pit, at a depth of 1.35–1.68 m; the horse was placed on its stomach, and was oriented with its head to the southeast (see Fig. 3). The hind legs of the animal were tucked in, and the front legs were half-bent, as a result of which it seemed that the horse was rising from the ground. Two bone plaques were on the frontal bone of horse’s skull (Fig. 7, 2, 3); bronze bits (see Fig. 6, 1) with bone cheek-pieces decorated with zoomorphic images (Fig. 8) were found in the teeth. In the area of horse’s skull, bone strap distributors were discovered: three round (Fig. 9, 5–7) and one in the form of animal fang (see Fig. 7, 1). A bone shackle was near the first cervical vertebra (see Fig. 9, 2), and a bone girth buckle (see Fig. 9, 1) was in the area of the ribs.

Fig. 2. Kurgan 25 at Khankarinsky Dol after removing the mound.
Attribution and dating of grave goods

Grave goods included items in a variety of categories. Weaponry was represented by a bimetallic dagger in a poorly preserved wooden scabbard (see Fig. 4). The total length of the dagger was 28.5 cm; the length of the bronze hilt was 11 cm. The iron part of the dagger included a blade 17.5 cm long and a tang, which was well secured in the slot of the bronze hilt. The width of the blade (rhombic in cross-section) at the crossbar was 3.5 cm; the thickness at its widest point was 5.5 mm. The length of the tang was about 7 cm; from the upper part of the crossbar, it was inserted into its through hole and pushed into the slot of the hilt. The width of the hilt was 4–5 mm smaller than the width of the tang, since the edges of the tang entered into small longitudinal grooves on the inner sides of the slot; its width in the visible part was 0.7 cm, and 1.65 cm taking into account the grooves. The tang inserted into the slot was attached by four iron rivets set in pre-made holes. The pommel of the dagger was mushroom-shaped, and the crossbar was heart-shaped.

Bimetallic daggers occur quite rarely at the sites of the Pazyryk culture in the Altai, and also generally in the kurgans of the Scythian period in Central Asia. In particular, a weapon similar in some morphological features (like the presence of a bronze hilt with the heart-shaped crossbar, an iron blade with the tang, etc.) was found in kurgan 5 at the Ala-Gail-3 cemetery (Kubarev, Shulga, 2007: 5, fig. 27, 3). Another full-featured bimetallic dagger with a bronze hilt decorated with an image of a griffin and a butterfly-shaped crossbar was found in kurgan 2 at the Tavadushka cemetery (Ibid.: 75).

In addition, daggers that have either the crossbar or hilt made of bronze are known from the Pazyryk kurgans in the Altai. These include the finds from Kosh-Tal (kurgan 9) (Surazakov, 1993: 32, fig. 29, f), Kyzyl-Dzhar I (kurgan 8) (Mogilnikov, 1983a), and Buraty IV (kurgan 11) (Kubarev, Kocheev, 1983). According to some scholars, daggers with only one element (crossbar or pommel) made of bronze should not be considered
bimetallic in a full sense of the word (Kubarev, Shulga, 2007: 75).

Bimetallic daggers are also known from the kurgans of the Sagly culture in Tuva. For instance, a dagger with an iron blade and a slotted bronze hilt was discovered in kurgan 13 at Sagly-Bazhi II (Grach, 1980: 33, fig. 30, 1), although scholars have rightly drawn attention to the fact that there is a photo placed in the monograph by A.D. Grach on which the dagger cannot be entirely identified as bimetallic (Kubarev, Shulga, 2007: 76). Notably, this fact does not exclude the presence of a bimetallic dagger at the site altogether. An important problem is dating of
such items. The position of V.D. Kubarev and P.I. Shulga, who analyzed them together with all of items of the material complex, seems to be the most reasonable. Thus, they suggested that taking into account specific features of horse harness and other artifacts, the full-featured bimetallic dagger from kurgan 5 at Ala-Gail-3 can be dated to the middle to the latter half of the 6th century BC. The authors dated the dagger from kurgan 13 at Sagly-Bazhi II to a somewhat later time, but did not specify what exactly (Ibid.). They dated the bimetallic dagger from kurgan 2 at Tavdushka to late 6th to first half of the 5th century BC (Ibid.: 77). It is noteworthy that similar finds from the Saka sites in Central Asia also belong to a rather early period—7th–6th or rather 6th century BC (Litvinsky, 1972: 113–114). Thus, taking into account other items of the material complex, including the elements of a horse harness, the bimetallic dagger from kurgan 25 at Khankarinsky Dol should be dated to the second half of the 6th to early 5th century BC.

The accompanying goods included a bronze quiver hook (see Fig. 5, 7), although scholars pointed out that items of this type could also have been used for hanging the scabbards, pickaxes, and mirrors, or as belt fasteners (Surazakov, 1988: 59; Kiryushin, Stepanova, 2004: 66–67; Kiselev, 1951: 294). However, given the presence in the grave of a bronze belt fastener, this item was likely to serve as a quiver hook. Its length was 5.7 cm; the maximum width at the top was 1.5 cm. Scholars are currently aware of the existence of over fifty quiver hooks, including four made of iron, two made of wood, and the rest made of bronze (Kiryushin, Stepanova, 2004: 68). The hook from kurgan 25 at Khankarinsky Dol is most similar to the hooks with rounded or oval loop on the rod. Its upper part, in which an oval hole was made, has the shape of inverted trapezoid. According to a number of morphological features, this item is similar to the hook from kurgan 7 at Kok-Edigan (Ibid.: Fig. 29, 5). Bronze quiver hooks, including those of the type described, have been found mainly at the sites of the late 6th–4th century BC in Tuva, Ob region, Kazakhstan, and Mongolia (Surazakov, 1988: 59–60; Kiryushin, Stepanova, 2004: 67–70; Mannai-Ool, 1970: 52; Smirnov, 1961: 35; and others).

Two bronze items belonged to belt fittings: a buckle with quadrangular base and a forward protruding prong (see Fig. 5, 1), and a slotted clip with the image of two swans on the front side (see Fig. 5, 2). Bronze belt fasteners with protruding or curved prongs, which resemble girth buckles made of bronze, are only rarely discovered in the Pazyryk kurgans. For example, they have been found in the graves at Ulandryk I (kurgan 1), Ulandryk IV (kurgan 3) (Kubarev, 1987: 83, fig. 29, 3, 4, pl. IV, 2; LXXXVIII, 16), and Yustyd I (kurgan 4) and XXII (kurgan 1) (Kubarev, 1991: 92, fig. 19, 5, 6, pl. IX, 4; LXIV, 3). A bronze belt buckle with a protruding prong has been found in kurgan 1 at the Yubileiniy II cemetery of the Bystryanka culture (Surazakov, 1988: 71, fig. 46, 2). Another belt buckle has been found in kurgan 1 at Duzherlig-Khovuau I in Tuva (Grach, 1980: 205, fig. 67). Bronze belt buckles similar in shape to girth buckles made of the same material have been discovered from the late 6th century BC (Surazakov, 1988: 2–3). Some of them were found in kurgans dated to the 4th–3rd centuries BC, for example, in kurgan 1 at Yustyd XXII (Kubarev, 1991: 134).

There was a bronze belt clip with a nearly quadratic shape (3.4 × 3.3 cm). A rounded hole for hanging items, primarily weaponry, was found at its bottom (see Fig. 5, 2). Some bronze slotted belt clips appeared at the end of

The items of female toiletry included two bronze nail-shaped hairpins (see Fig. 5, 3, 4). The length of one hairpin was 13 cm; the length of the other hairpin was 7.5 cm; the diameters of caps were 1.9 and 1.1 cm respectively. Metal, especially bronze, hairpins have been rarely found in the Pazyryk kurgans (Kiryushin, Stepanova, 2004: 86–89). Wooden hairpins were probably more widespread, but they have rarely been preserved (Kubarev, 1991: 111; 1992: 93–95; and others). Bronze nail-shaped hairpins are not typical of the Pazyryk culture of the Altai. They occur, albeit in limited numbers, among the evidence of the early Scythian period (Ak-Alakha II) (Polosmak, 1993: 26, fig. 3). Iron hairpins of the nail-like type appear at the sites of the Pazyryk period. They have been found in kurgan 18 at Kok-Su I (Sorokin, 1974: 69), kurgan 14 at Tytkesken VI (Kiryushin, Stepanova, Tishkin, 2004: 183, fig. 15, 6), and kurgan 25 at Maltalu IV (Kubarev, 1992: 218, pl. LXX, 15). It should be emphasized that the first two kurgans belonged to the early stage of the Pazyryk culture and were dated to the mid 6th–5th century BC, while the last kurgan was dated to the 4th–3rd centuries BC. Keeping this in mind, bronze nail-shaped hairpins from kurgan 25 of Khankarinsky Dol can be dated to the mid 6th–early 5th century BC.

According to the classification proposed by Y.F. Kiryushin and N.F. Stepanova, a bronze mirror from the kurgan under consideration (see Fig. 5, 6) belongs to a single-part type, in which the length of the handle is less than the radius of the disk, and the handle has the shape of an oval or rounded loop (section 1, subsection 2, group 1, type 1, version 2) (2004: 78). Its parallels include the mirrors from kurgans 18 and 25 at Kok-Su I, kurgan 14 at Tytkesken VI, and kurgans 18, 23, 26, and 27 at Yustyd XII (Sorokin, 1974; Kiryushin, Stepanova, Tishkin, 2003: 183, fig. 15, 7; Kubarev, 1991: Pl. XLIII, LII, LVI, LIX), etc. Mirrors of this type have also been found in kurgans that belong to the early stage of the Pazyryk culture—the second half of the 6th–5th centuries BC (for example, kurgan 18 at Kok-Su I, kurgan 14 at Tytkesken VI).

The finds from kurgan 25 at Khankarinsky Dol included an item of special social importance. It is a bronze torc in one and a half turns, lined with gold foil. Eight torcs have been found in the burials of Khankarinsky Dol, and about sixty torcs, including twenty made of metal, are currently known from the kurgans of the Scythian period (Stepanova, 2001: 90; Kubarev, 2005). Considering that over 600 burials of the Pazyryk period have been excavated in the Altai Mountains, burials with torcs constitute less than 10 %, and with metal torcs less than 3 % of all burials. At the same time, there were 28 % of such burials at Khankarinsky Dol. Torcs have been found both in male and female burials. This feature, together with other indicators of the funerary rite (like the topographic and planigraphic location of the cemetery within the Chineta microdistrict; a high percentage of the accompanying horse burials; the presence of headdresses, etc.) indicates that the nomads buried at the Khankarinsky Dol cemetery, including kurgan 25, had a high social position as compared to the rest of the population of the Inya River basin.

A bronze knife from the kurgan under consideration can be described as straight and laminar, with straight back and without the pommel (see Fig. 5, 5). The length of the blade is 11.3 cm. Knives of this type were quite widespread throughout the entire period of the Pazyryk culture (Kiryushin, Stepanova, 2004: 70–71; Kubarev, 1987: 52–54; 1991: 69–70; 1992: 53–54; Surazakov, 1988: 16–23; and others).

**Radiocarbon dating**

The dating of kurgan 25 at Khankarinsky Dol on the basis of an inventory analysis has been supplemented by the results of radiocarbon dating, which was carried out in the Analytical Center for Isotope Research at the Institute of Monitoring of Climatic and Ecological Systems of the SB RAS (IMCES SB RAS, Tomsk). Using a sample of horse bone, the 14C date of 2447 ± 102 BP was obtained (IMCES-1151). G.V. Simonova, Senior Researcher of IMCES SB RAS, established the intervals of the calibrated calendar age, using the software designed at the Oxford University: 760–400 BC according to 1σ (68 %) and 850–350 BC according to 2σ (95 %) (Fig. 10). The results of the radiocarbon dating, like the analysis of the artifacts, indicate that the kurgan under study belongs to the early stage of the Pazyryk culture of the Altai. This complements the previously obtained data for the Khankarinsky Dol and Chineta II cemeteries of the Chineta archaeological microdistrict (Tishkin, Dashkovskiy, 2007; Dashkovskiy, Tishkin, 2015; Dashkovskiy, 2018). In general, taking into account all the results of comprehensive dating, kurgan 25 at the Khankarinsky Dol cemetery can be dated to the second half (or possibly late) 6th to early 5th century BC.
Three distributors made of horn had a low-cylindrical shape and intersecting openings (see Fig. 9, 5–7). The parallels have been observed in the materials of the Chemal-Karyer site (Ibid.: Fig. 17, 6) and kurgan 2 at Kyzyl-Dzhar II (Mogilnikov, 1983b; Shulga, 2015: Fig. 14, 20). The fourth distributor was made of horn in the form of a wild boar tusk (see Fig. 7, 1). Such distributors have been found only in kurgans belonging to the early stage of the Pazyryk culture and serve as reliable chronological indicators (second half of the 6th–early 5th century BC) (Shulga, 2015: 103). Moreover, they received very limited circulation among the nomads of the Altai Mountains. For example, such distributors have been discovered only in small Tuetka kurgans (Kiselev, 1951: 295), kurgan 1 at Kok-Su I (Sorokin, 1974), and kurgan 4 at Chernovaya (Shulga, 2015: Fig. 17, 8, 9).

A shackle made of horn was found on the left side of the horse’s skeleton. This once again confirms the conclusion that both in the early Scythian and Pazyryk periods, shackles were always fastened precisely on the left side (Ibid.: 106–110). According to the morphological features, it can be described as belonging to the simple type, which was typical of the Early Pazyryk period. Parallels have been found, for example, in kurgan 2 at the Kyzyl-Dzhar VIII cemetery (Mogilnikov, 1983a; Shulga, 2015: Fig. 14, 20). A fourth distributor was made of horn in the form of a wild boar tusk (see Fig. 7, 1). Such distributors have been found only in kurgans belonging to the early stage of the Pazyryk culture and serve as reliable chronological indicators (second half of the 6th–early 5th century BC) (Shulga, 2015: 103). Moreover, they received very limited circulation among the nomads of the Altai Mountains. For example, such distributors have been discovered only in small Tuetka kurgans (Kiselev, 1951: 295), kurgan 1 at Kok-Su I (Sorokin, 1974), and kurgan 4 at Chernovaya (Shulga, 2015: Fig. 17, 8, 9).

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item from the kurgan under study served as a fastener for the crownpiece (see Fig. 9, 4). According to P.I. Shulga, such use of fasteners has been reliably observed only in the Pazyryk I elite kurgan. Some of similar items might have been made of horn and served as buttons (Shulga, 2015: 111–112; Gryaznov, 1950: 55, fig. 20).

Two bone pendants had the same elongated shape with triangular ends (see Fig. 7, 2, 3). They expanded in the upper part where the fastening element was located on the reverse side, and narrowed down in the lower part. The pendants were fastened one below the other on the browband and noseband in their middle parts. Brow plates made of wood and bone are well known from the elite kurgans of the Pazyryk culture at the Pazyryk, Bashadar, Tuekta, and other burial grounds (Rudenko, 1953: 154–156; 1960: 125; Shulga, 2015: 54, fig. 27, 1; fig. 33, 1; and others). Particularly interesting is a round brow plate of gold foil, which was found on horse’s skull in kurgan 31 at Chineta II, located in the same valley as Khankarinsky Dol (Dashkovskiy, Meikshan, 2015). Initially, the disc made of gold foil could have been mounted on a base of leather (fabric) or wood. Small holes were visible along
its edges. Two thin straps attached brow plates. The same principle of fastening appeared in the majority of the elite kurgans of the Pazyryk culture (Shulga, 2015: 54, 64, fig. 33, 1).

A girth buckle made of horn was a large sub-rectangular plate-like item without a hole for the free end of the strap and with a hook-like peg perpendicular to the frame (see Fig. 9, 1). According to Shulga’s classification, it belongs to type 1, version 1. As Shulga indicated, out of 105 girth buckles known from the materials of kurgans of the Pazyryk culture, twenty-eight such well-preserved items of this type have been identified (Ibid.: 124–125). The buckles from kurgan 72 at Berel (Samashev, 2011: Fig. 423; Shulga, 2015: Fig. 47, 15), elite kurgans of Tuekta I, Bashadar II (Rudenko, 1960: Pl. LXV, 6; and others), Kastakhta (Stepanova, 1987: 168–183), etc. are the closest to the item from Khankarinsky Dol.

The bridle has been reconstructed based on the attribution of artifacts from kurgan 25 (Fig. 12), and the location of all elements of horse harness found in the burial has been established (Fig. 13). The data obtained supplement our knowledge about the features of the horse harness at an early stage of the Pazyryk culture and in general strongly confirm the conclusions of other scholars.

Fig. 13. Reconstruction of places for horse harness elements.
1 – cheek-pieces; 2 – plaque; 3 – shackle; 4, 7 – distributors; 5 – girth buckle; 6 – fastener of the headpiece.

Conclusions

This study has shown that kurgan 25 at the Khankarinsky Dol cemetery is one of the earliest among the explored kurgans of the Pazyryk culture, not only in the Chineta archaeological microdistrict, but also in the entire northwestern Altai. According to the results of analyzing archaeological evidence and radiocarbon dating, the kurgan belonged to the second half (possibly, the end) of the 6th–early 5th century BC. The presence of the accompanying burial of a horse, a complete set of its harness, as well as socially significant artifacts (a torc, a combat bimetallic dagger, etc.) indicate that the male and female who had a fairly high status in a nomadic society, were buried in this kurgan. A variety of elements of the horse harness discovered in the burial makes it possible to present a detailed reconstruction of the bridle from the early stage of the Pazyryk culture of the Altai.

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