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Paint on Deer Stones of Mongolia

This study focuses on traces of paint on stone stelae (“deer stones”) of Mongolia, dating from the late second to the mid-first millennia BC. The painting was made in various shades of red. In all cases, remains of paint were found on facets which had been protected from weathering because the stelae had collapsed or been reused. Additional protection might have been provided by a calcite crust formed where the stelae were in contact with the ground. On the basis of the role of painting in visual imagery, two groups of paintings are described: supportive (filling in the engraved figures) and independent. The first group is the largest. In terms of composition, stelae fall into two types: 1) those whose front is on the narrow vertical facet, carrying images of deer in the Mongolian-Transbaikalian style; 2) and those whose front is on the wide vertical facet, where the upper tier is emphasized, and neither deer nor belts with weapons are represented. The relative chronology of the two types is established by the fact that in certain instances, stelae of the first type were reshaped into those of the second type. The first type is related to funerary and memorial sites of the Khereksur and Deer Stone culture of Central Mongolia; the second, to burials of the Slab Grave culture. The tradition of decorating engraved figures with red mineral paint originated among eastern Eurasian steppe pastoralists in the Early Bronze Age.

Keywords: Mongolia, Trans-Baikal, Bronze Age, Early Iron Age, khereksurs, Slab Grave culture, deer stones, stelae.

Introduction

The tradition of making stone stelae was an important element of the culture of pastoralists who lived in the eastern part of the Eurasian steppe belt in the late second–mid-first millennia BC. Currently, the popular name of “deer stones” (from the Mongolian *bagan hushuu* – ‘deer stela’, or *bagan chuluu* – ‘deer stone’) has become widely used in the literature, since deer are often depicted on them. Usually, three types of stelae are distinguished according

to the presence or absence of such representations and the style of the imagery. These types are named after the main areas where they occur: the Mongolian-Transbaikalian, the Sayan-Altai, and the Pan-Eurasian type (Volkov, 2002: 19). The archaeological context points to the use of these stone monuments in burial and memorial rituals. Belts, necklaces, weapons, and earrings, reproduced on the stone, as well as their location, indicate that the stelae are stylized representations of a human figure; it is also possible to identify the individual parts of the stone and

the images on the stone with parts and objects of space. A significant number of publications have focused on these stone monuments, but some basic technological aspects have still remained unexplored. One of them is the use of paint for decorating the stelae, and the reconstruction of their original appearance. It is important to note that no major work on deer stones has mentioned the use of paint and analyzed this aspect, although the possibility of painting was sometimes suggested. For example, it was assumed that carefully polished areas of stone in the upper tier of the front surface in some stelae might have been intended for representing a human face using painting rather than pecking (Fitzhugh, 2009: 3). It was also suggested that paint might have been used for creating a sketch on the stone, after which pecking was performed (Gryaznov, 1984: 78).

Only recently, research in Central (Gantulga et al., 2013) and Western (Tishkin, 2013a: 81, 88) Mongolia has revealed information on the presence of red pigment on some deer stones. In addition, there is some information on the traces of red paint on individual stelae of the Pan-Eurasian type from the western edge of the Eurasian steppe belt (Olkhovsky, 2005: 53). This article presents newly discovered facts of the presence of paint, as well as classification and comparative historical analysis of such painting.

Review of the studied materials

This article is primarily based on materials from Central Mongolia, where the joint archaeological expedition of the Museum of Prehistoric Anthropology of Monaco and the Institute of History and Archaeology of the Mongolian Academy of Sciences have been conducting research for a number of years. Currently, over a hundred deer stones have been found in the area of archaeological works on the Khoid Tamir River. Traces of paint have been found on five of these stones. In addition, during the survey trips to the sites in the neighboring areas, paint was found on deer stones in the valleys of the Khunui and Khanui Rivers, near Lake Khubsugul (Khövsgöl), and in other locations (Fig. 1). In all cases, the paint was detected visually; analysis using natural scientific methods has not yet been carried out. Nevertheless, our previous experience of studying the painting on the stelae of the Early Bronze Age from Southern Siberia, including analysis based on laboratory tests (Esin et al., 2014), leaves no doubts as to the presence of the remains of painting on deer stones.

Here is brief information on some of the objects.

1. Stele No. 11 in the location of Tsatsyn-ereg, the valley of the Khoid Tamir River; pinkish granite, $201 \times 41 \times 60$ cm. The stele was used as a wall of a slab grave excavated by V.V. Volkov (2002: 36, pl. 8, 2), and was

set up vertically in 2007. Documentation of the stele was performed in 2013 (Fig. 2)*. The front surface of the stele is higher than the back surface. The images were made by pecking and subsequent polishing. Traces of red paint, partially covered with a thin layer of calcite deposits, were found inside the outlines of the representations of deer, an earring, and a dagger on the right broad facet. Apparently, this facet was hidden by earth and stones, when the stele was a part of the burial structure.

2. Stele No. 24 in the location of Tsatsyn-ereg, the valley of the Khoid Tamir River; grey granite, $253 \times 27 \times 80$ cm. The stele was previously studied by Volkov (Ibid.: 34, pl. 7, 1), and was set up vertically in 2008. Documentation was performed in 2013 (Fig. 3). The front surface of the stele is higher than the back surface. The images were made by pecking and subsequent polishing. On the right side of the stele, traces of red paint, partially covered with a thin layer of calcite deposits, were found inside the outlines of the representations of deer, a necklace, and a belt. The necklace and deer were simply painted, and slanting lines forming large triangles were probably painted on the belt (Fig. 3, 3).

3. Stele No. 68 in the gorge of Shivertiyn-am, the valley of the Khoid Tamir River; light gray granite, $340 \times 41.5 \times 92$ cm. This stele was set up 10 m east of the large slab grave No. 3 excavated in 1978 (Ibid.: 29, No. 19), and was studied in 2012–2013 (Fig. 4). The representations were made by pecking with subsequent polishing. Additions to the composition and its alteration have been detected. Originally it was a classic deer stone of the Mongolian-Transbaikalian type with the front surface on a narrow facet (Fig. 4, 2); its height might have reached 4.5 m. The upper part of the stele, associated with the head of the anthropomorphic figure, was emphasized by the representation of a necklace of beads with a pendant made of a claw or fang. Paired large and small rings, which can be interpreted as earrings, were pecked on the sides of this “head”. A wide belt with a weapon suspended from it is represented at the bottom of the stele. On the reverse side (on the “back”), a pentagonal shield with a sophisticated decoration and a round onlay in the center is depicted. The space between the belt and the necklace is filled with images of deer in the Mongolian-Transbaikalian style. A round mirror is shown in the same place between the figures of the animals. Two additional circles pecked in the upper part of the right wide side of the stele stand out from the above composition, which indicates that it was changed several times. After some time, the lower part of the stele was broken along the belt; images of rings,

*All photographs and drawings of the deer stones were made by Y.N. Esin. For making the painting more visible, the saturation of red color was slightly increased in the photographs published here using Adobe Photoshop software.



Fig. 1. Location of the studied monuments with painting.
 a – archaeological sites with the stelae of the Late Bronze–Early Iron Age; b – site of rock art.



Fig. 2. Deer stone No. 11 in the valley of the Khoid Tamir River.



Fig. 3. Deer stone No. 24 in the valley of the Khoid Tamir River and a possible reconstruction of its original coloring.

necklaces, and antlers of the upper deer on one side were broken off, and a new necklace represented by an arched line with an amulet in the form of a claw or fang, was depicted instead. As a result, this wide facet became the front surface, which is emphasized by earrings in the form of rings with pendants, pecked symmetrically on both narrow facets. The reworked deer stone was dug into the ground almost halfway (information of Volkov) and became significantly tilted. Traces of red paint were found in the lower part of the obverse side 2. They are noticeable on the pecked representations of some deer and the mirror, partially covered with calcite deposits. In addition, narrow slanting lines made with red paint, survived on the belt. They might have once formed a slanting grid.

4. Stele No. 6 in the valley of Khushuun-tal, the left bank of the Khunui River; light gray granite, 270 × 70 × 36 cm. The stele was first studied by Volkov (Ibid.: 43, pl. 23, 1); later it was examined several times by other scholars, and was documented in 2013 (Fig. 5). The front surface of the stele is higher than the back surface. In the middle of the right side of the stele, traces of red paint partially covered with a thin layer of calcite deposits were found inside the pecked and polished outlines of the belt, weaponry, and deer figures (Fig. 5, 2). This was clearly the bottom side of the fallen stone, since the images on the left facet, as opposed to the right facet, were badly affected by the external environment. This indicates that the stele lay horizontally for a long time and only recently was set up vertically.



Fig. 4. Deer stone No. 68 in the valley of the Khoid Tamir River.



Fig. 5. Deer stone No. 6 in the valley of the Khunui River and a reconstruction of its original coloring.

5. Stele No. 1-9 in the locality of Jargalant, the upper reaches of the Khanui River; light gray granite, $253 \times 69 \times 33$ cm. The stele was previously studied by Volkov (Ibid.: 48, pl. 29, 2), as well as Mongolian and Korean archaeologists (Tseveendorj, Jang Seogho, Tsengel, 2009: 423; Turbat et al., 2011: 76). It was set up vertically in 2009. We studied this stele in 2011 (Fig. 6). A wide slanting line was painted in red on the upper part of the front surface. Traces of red paint were also found inside the pecked and polished outlines of the upper deer figures on the same facet.

6. Stele No. 1 in the locality of Ulan-Tolgoi to the south of Lake Khubsugul (Khövsgöl). Over the past decade, this monument was studied by Mongolian, Korean, and American archaeologists. A most exact copy was made by Korean scholars (Khyn Sun et al., 2008: 188, 189). In 2015, we photographed the stele. Traces of orange color were found inside the pecked and polished contours of the images in the middle part of the front and right facets of the stele (Fig. 7, 1). This was clearly the bottom side of the fallen stone, since the images on the upper half of the left facet and the back facet were badly damaged by the environment.

7. Stele from the Onon River near the village of Suduntui in the Trans-Baikal region; light gray granite. The stele was located at the burial ground Ulba I of the Slab Grave culture, at a distance of about 10 m to the east of one of the fences (Okladnikov, Zaporozhskaya, 1970: 61, pl. 85, 2). The stele was studied in 2014 (photographed) in the Open Air Historical and Architectural Museum of the Institute of Archaeology and Ethnography of SB RAS (Fig. 8). The upper edge of the front surface is rounded. The images are depicted only on that side. A wide band of red paint is preserved along the entire upper edge of the stele. The slanting line in the upper tier of the front surface (partially inside the pecked and polished groove) was made with similar paint. The stele was restored from two parts. Perhaps earlier, when the upper part was broken off, it fell face down, which allowed the paint to survive.

In general, the study of the above monuments indicates that the preservation of paint is determined by the conditions in which the deer stone existed. In all cases, the traces of paint were found on the fallen stelae (or their fragments), on those facets and parts that were maximally protected from the adverse effects of the environment (water, wind). Sometimes, the preservation of paint was



Fig. 6. Deer stone No. 1-9 from the locality of Jargalant.



Fig. 7. Paint on deer stones No. 1 from Ulan-Tolgoi (1) and No. 1-10 from Jargalant (2).

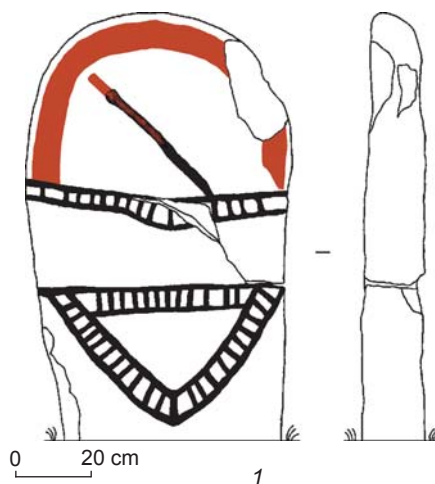


Fig. 8. Stele from the Onon River, the burial ground of Ulba I.

further enhanced by a crust of calcite deposits formed at the place where the stone touched the ground. In this case, the preserved paint in most cases has lost its brightness, and under regular conditions some experience is needed for recognizing its traces on the surface of the stone. Possibly, the paint was not noticed for a long time for exactly that reason. The case was similar when identifying the paint on the stelae of the Early Bronze Age in the Minusinsk Basin (Esin et al., 2014: 79).

Not very many deer stones with traces of paint were found: only 5 % of the total number surveyed by us in the valley of the Khoid Tamir River, and 20 % at the site of Jargalant. However, such a situation, apparently, is merely the result of the strong vulnerability of the painting to various external natural factors as opposed to pecked

representations. Probably, in the Late Bronze and Early Iron Age, paint could have been applied to the majority of deer stones, but has not survived until this day.

Classification of the stelae according to composition and their dating

In terms of composition, the stelae described above can be divided into two types.

1. Classical deer stones of the Mongolian-Transbaikalian type with the front surface on the narrow vertical facet and division into tiers using representations of a belt and necklace (A) (see Fig. 3, 5, 6) or without the necklace (B) (see Fig. 2). Stelae of type 1A can be further

subdivided depending on the location of the weapon below the belt (a) or above the belt (b). On the stelae of type 1B, the images of the weapon are located among the figures of deer at different heights.

2. Stelae with the facial side on a wide facet, emphasis on the upper tier (correlated with the human head), but without the images of deer, belt, or weapons (see Fig. 8).

The palimpsest on the stele No. 68 in the gorge of the Shivertiyn-am (Fig. 4) shows the chronological sequence of the compositions of the types 1A and 2 on the territory of Central Mongolia. In addition, they are associated with different archaeological contexts and could have had a different cultural background. The stelae with compositions 1A and 1B were originally set up at ritual sites near the *kherekurs*, and could be reused in the construction of slab graves as building material. The radiocarbon analysis of animal bones from the altars associated with deer stones of type 1 in the Tsatsyn-ereg locality makes it possible to date these structures and stelae to 1210–760 BC, and the altars

near the deer stones of type 1A are earlier than the altars near the stelae of type 1B. This fact may indicate the transformation of the composition on deer stones of the Mongolian-Transbaikalian type from more realistic with the representation of a belt and weaponry to more stylized and decorative compositions. The advent of a new stage in the culture of the local population is demonstrated by reusing the broken stelae of type 1B as building material in the construction of slab grave 92 (Khoïd Tamiryn..., 2011: 27). The human bones from this burial gave the radiocarbon date (2σ) of 730–690 or 540–390 BC (Beta-290942).

Unlike the deer stones of type 1, both stelae of type 2 described above are associated only with slab graves; they were set up 10 m east of the burials. Stone monuments with similar composition were found near the slab graves in the Dundgovi aimag (Fig. 9, 2) (Volkov, 2002: 102; Amartuvshin, Jargalan, 2010: 15-r zurag). A whole series of similar stelae is known from the Trans-Baikal region. In the absence of images of deer on them,

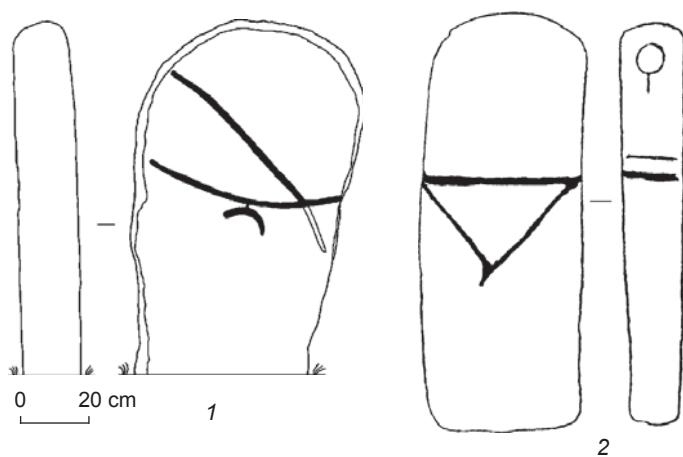
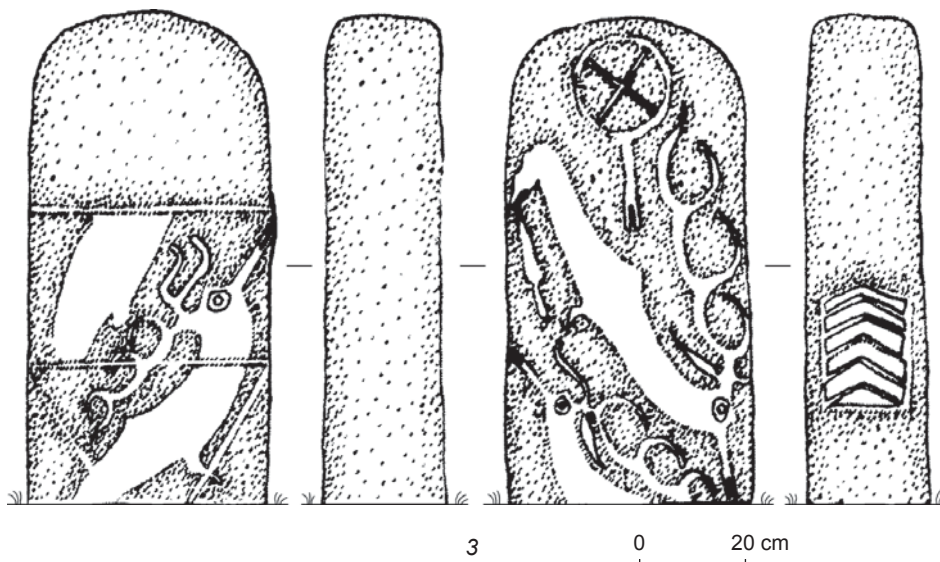


Fig. 9. Stelae associated with the Slab Grave culture.

1 – stele from the Onon River from the collection of the Open Air Historical and Architectural Museum of the Institute of Archaeology and Ethnography of SB RAS; 2 – stele from the Dundgovi aimag (Volkov, 2002: Pl. 125); 3 – stele from Yamaaldai-uulyn, Uvurkhangai aimag (after: (Enkhbat, Davaatseren, Purevlkham, 2011: 81, No. 12), with adjustments).



it became customary to refer to them in the Russian literature as “guarding stones”, or “hitching stones” (Fig. 9, 1) (Okladnikov, Zaporozhskaya, 1970: 58, 61; Dashilkhamaev, 2012: 66), whereas in Mongolia such stelae were considered in connection with deer stones. We should also note that the palimpsest on the stele from Yamaaldai-uulyn in the Uvurkhangai aimag (Fig. 9, 3) is almost the same as the palimpsest on the deer stone No. 68, but contains a final composition like that on the stele from the Ulba I burial ground. Thus, the composition of type 2 is contemporaneous with the slab graves and was made on the stones by the bearers of that culture. According to the dates obtained from the human bones from slab graves 92 and 94 in the area of Tsatsyn-ereg (2σ), structurally similar to the slab grave next to which stele No. 68 was set up, they belong to 760–390 BC.

Classification of the painted objects and their comparative historical analysis

To this day, only the color of red with various shades has been found on deer stones. Sometimes, different shades appear on the same stele and apparently depend only on the amount of pigment that has been preserved on the surface of the stone (see Fig. 7, 2). The composition of the paint has not been analyzed. This is a separate issue coupled with the problem of obtaining the samples for laboratory analysis, since the paint is embedded into the surface of the stone, usually hard granite. So far, based on the experience of studying rock paintings in the culture of pastoralists living in the eastern part of the Eurasian steppe belt during an earlier period (Esin et al., 2014), we may assume the use of hematite or ochre. We should note here that there is a significant outcrop of hematite at a distance of about 1.5 km from deer stones No. 11 and 24 in the valley of the Khoid Tamir River, which we examined in the summer of 2015. It might have been the source of raw materials for the paint.

For the classification of painting on the deer stones under consideration, it is important to take into account their interrelation with other techniques of stelae decoration: pecking of relief representations, as well as smoothing and polishing of specific areas of the stone surface. The key criterion for classification in this approach is the independent or supportive role of painting in creating a visual image. From this point of view, two main varieties can be distinguished among the materials known to us.

1. Paint was applied to a previously pecked and polished image. Thus, from the technological point of view, paint plays the role of an additional means of strengthening the expressiveness of the already created representation. This variant was most common on the deer stones that we studied. The same applies to the painting that was recently found on the stelae of the Mongolian-

Transbaikalian and Eurasian types in Western Mongolia. Thus, red paint was found inside pecked slanting lines in the upper tier of the stele, inside the contour of the dagger and on the animal figures on deer stones from the archaeological complexes of Bayanzürkh, Bayan-Bulag I (*kherek-sur* No. 3, deer stones No. 1 and 2) and from the locality of Elsen-Tolgoi near the city of Khovd (Tishkin, 2013a: 81, 88, fig. 8, 9; 2013b: 226). Red paint was well preserved inside the pecked images (three slanting lines on the place of the face and necklace) on the front side of a stele of the Eurasian type from the mouth of the Egegest River in Tuva (the stele was re-used in the construction of burial mound 4 of the Sagly culture at the cemetery of Krasnaya Gorka-3), which we examined in August, 2015*. The same version of painting appears on two examples from the most western stelae of the Pan-Eurasian type: the representation of an earring on one facet, a diadem, and belt were painted on a stele from the mound of a barrow in the vicinity of the village of Novoaleksandrovka (Rostov Region), and a representation of earrings were painted on the Olbia-Chersonesus stele (Olkhovsky, 2005: 44, 53). Currently, paint has been preserved only in certain areas, but initially all the relief images must have been painted (see Fig. 5, 3). Close parallels to this method of decorating stone monuments were found on the stelae of the Okunev culture of the Early Bronze Age in the Minusinsk Basin, where it also commonly occurred (Esin et al., 2014: 81; Essin et al., 2014).

2. Paint was applied to a prepared (smoothened, polished) stone surface, but unlike the previous version, painting played an independent role in the creation of the individual elements of the composition. Thus, two instances of painting slanting lines with red color in the place of the face have been observed (see Fig. 6, 2; 8). It seems that decoration was painted on the polished image of a wide belt on two more stelae. In all cases known today, the independent use of painting was combined with coloring other elements, which had been executed in the technique of pecking and polishing. In addition, it can be noted that there remained unpainted areas, which were lighter than the untreated surface of the stone slab when geometrical ornamental décor was painted on the polished representation of the belt (see Fig. 3, 3). In practical terms, this gave one more color, obtained without the use of paint. In the earlier period, this method played an important role in creating polychrome images of the Karakol culture of the Russian Altai (Esin et al., 2014: Fig 6b).

The fact that paint was used independently for creating individual elements of composition on the stelae show

*We would like to thank M.E. Kilunovskaya for the opportunity to consult the materials of the excavations by the Tuva Archaeological Expedition of the Institute for the History of Material Culture of RAS.



Fig. 10. Painting on the upper part of the vertical stone block at the Nistafarovka site.

that the role of painting was not less important than the role of pecking, and it cannot be considered merely a secondary technique for decorating stone monuments. The stelae were intended for being placed in the open air in harsh external conditions, thus painting inside the pecked areas made it possible to achieve greater durability of coloring and the greatest expressiveness of the composition. In addition, while assessing the role of paint in the decoration of stelae, it should be kept in mind that painting might have had its independent ritual and magical significance. The ritual function of red paint, for example, is testified to by instances of its discovery in the burials of the Late Bronze Age (burial mound 126, 1500–1480 / 1460–1400 BC (2 σ), excavations of 2011) and in slab graves (burial mound A94, 760–480 / 460–420 BC (2 σ), excavations of 2011) at Tsatsyn-ereg.

Representations typical of deer stones could also be painted on rocks. Thus at the site of rock art Nistafarovka on the right bank of the Us River in the Ermakovsky District of the Krasnoyarsk Territory, triple slanting lines

painted by red paint, typically appearing on the upper part of the Sayan–Altaian stelae, have been found (Fig. 10).

Another issue, which requires attention, is the case of reusing the stelae. Thus, the composition of deer stone No. 68 from the gorge of Shivertiyn-am was changed several times during the Late Bronze–Early Iron Age. This might have been caused by the large size and good quality of stone among all other stelae of the same site. Examples of such practices can be found throughout the entire area where deer stones occur (Chlenova, 1984: Fig. 1–4; Volkov, 2002: Pl. 113, 3). In the earlier period, reusing of stelae was typical of the Karakol, Okunev, and Chemurchek cultures of the Sayan–Altai (Esin, 2010: 141). Apparently, there was a close relationship between the performance of a ritual and creation of the image. The representation did not just have to follow the accepted iconography, but also had to be associated with a specific ritual. Among other things, it could ensure the personification of the stylized representation using non-pictorial means and successful performance of an act of communication with the image. Consequently, it was impossible to reuse the stele: either a new stele had to be created, or the old stele had to be altered or supplemented with new representations to become included into a new ritualistic context. Therefore, the facts of addition (the appearance of “extra” images of weaponry, necklaces, or earrings) or changing the composition of deer stones can be viewed as a reflection of rituals performed near the stele. Such manipulations could have been accompanied by the addition and renovation of paintings. Thus, paintings on the stelae that show the signs of reusing require more careful study for their dating. In the situation with deer stone No. 68, it can be suggested that the discovered painting was created before the stone was broken off and dug near the slab grave. This is testified to by the lines painted on the pecked image of the belt, which could have been made only while the stele was intact, although one cannot exclude that some painted elements on the upper part of this stele were renewed at the very last stage of its use. Painting with red paint was typical of many monuments of rock art in the Trans-Baikal region and North-Eastern Mongolia, which are associated with the Slab Grave culture, and was also found on the stele from the burial ground of Ulba I of the same culture.

Conclusions

This study significantly expands our knowledge concerning the use of paint in the art of pastoralists who lived in the eastern part of the Eurasian steppe belt in the Late Bronze and Early Iron Age. The original appearance of stelae of that time was reconstructed for the first time. A classification of paintings, based on the technological

role (independent or supportive) of paint in creating the composition, was proposed.

Taking into account iconographic and stylistic features, as well as the archaeological and geographical contexts, the instances of using paint on the stelae of the early nomads of the Eurasian steppes indicate that this tradition appeared in various territorial and chronological groups of the materials under consideration. Painting is present among the images associated with different iconographic types of deer stones, and appears on stelae used in different contexts (special ritual grounds with altars near the *kherekurs* in Central Mongolia, stone structures of the *kherekurs* in Western Mongolia, mounds of barrows of different constructions in Eastern Europe, or ritual places near the slab graves in Central Mongolia and the Trans-Baikal region). Thus, we can conclude that the use of red paint is one of the aspects of the phenomenon of deer stones in general. Taking into account parallels among the materials of the Okunev art, we can add that this tradition has a prehistory in the culture of pastoralists living in the Asian steppes in the Early Bronze Age.

The coloring of the stelae of the Late Bronze–Early Iron Age and in particular the pigment composition undoubtedly require further study. At the same time, a certain threat to the preservation of paint in the future is the tradition that has recently become widely spread in Mongolia, to re-erect vertically in the steppe the stelae that for a long time lay in the ground. This can lead to gradual destruction of the traces of paint preserved under the ground as a result of the resumed impact of the natural conditions. This aspect should be taken into account by specialists while making such decisions.

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