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# The "Kalgutinsky" Style in the Rock Art of Central Asia

*On the basis of petroglyphic sites Kalgutinsky Rudnik (Kalgutinsky mine) on the Ukok Plateau, Baga-Oygur, and Tsagaan-Salaa in northwestern Mongolia, a distinct "Kalgutinsky" style of rock art of the Russian and Mongolian Altai is described. The distance between these sites is about 20 km. This group is marked by very specific stylistic features, common technological properties, a narrowly defined subject featuring only animals, and a very intense desert varnish. All these features, together with the proximity of the sites, suggest that they should be regarded as a special group, which we term the "Kalgutinsky" style, and date to the Upper Paleolithic on the basis of several criteria. Images of mammoths at Baga-Oygur and Tsagaan-Salaa are similar to those known in the classic Upper Paleolithic cave art of Western Europe. An entire set of stylistic features typical of the "Kalgutinsky" canon is seen also in the representations of mammoths, and this manner is consonant with that of European Upper Paleolithic rock art. Our findings suggest that a peculiar "Kalgutinsky" style existed, and moreover, that it represented a separate Central Asian locus of Upper Paleolithic rock art.*

Keywords: *Rock art, petroglyphs, style, iconography, technology, Mongolian Altai, Russian Altai, Ukok Plateau, Kalgutinsky Rudnik.*

## Introduction

In the 1990s, large-scale archaeological studies were conducted on the Ukok Plateau, in the southern part of the Russian Altai Mountains (Molodin, 1995). These resulted in a series of brilliant discoveries, one of which was identification of the earliest pictorial stratum known in the region and vividly represented at the site of Kalgutinsky Rudnik (Molodin, Cheremisin, 1999: 83–86). The authors of the monographic study analyzing the site provided some arguments for dating the petroglyphs found there to the Final Pleistocene, primarily on the basis of stylistic features of the main part of the representations.

Discoveries made at the turn of the 20th and 21st centuries by the Russian-Mongolian-American

expedition in a huge petroglyphic array at the Tsagaan-Salaa and Baga-Oygur sites, located near the Ukok Plateau, made it possible to identify the earliest layer of representations. Although different chronological interpretations were given*, scholars considered this layer to be archaic and different from the rock art of the Bronze Age, Early Iron Age, and the Middle Ages (Jacobson, Kubarev, Tseveendorj, 2001a: 63). Notably, in addition to the stylistic features, these petroglyphs represented images of the animals that lived in this area only in the Pleistocene, such as mammoths (Ibid.). The series of petroglyphs at the Ishgen-Tolgoi site was also attributed by the Mongolian scholars to the earliest stratum, on the basis of its stylistic features (Tseveendorj, 1982; 1999: 95–100, tab. 132). Already, at the beginning of the 21st century, stylistically similar images had been discovered in the areas of Mongolia further to the south (Jacobson, Kubarev, Tseveendorj, 2001a, b), and in the areas of the Russian Altai Mountains further to the north, than the area under consideration (Miklashevich, 2000).

The sites of the Kalgutinsky Rudnik, Baga-Oygur, and Tsagaan-Salaa are located very close to each other, at a distance of about 20 km (Fig. 1). This situation required a focused approach to dating the petroglyphs from the earliest layer. This task was undertaken by the Russian-French expedition of the International Associated Laboratory ARTEMIR (LIA ARTEMIR), which included the authors of this article. Multidisciplinary studies conducted at the site of Kalgutinsky Rudnik on the Ukok Plateau (Fig. 2) have resulted in the discovery of new images, which in terms of their iconographical canons showed undoubted similarities to the representations found there earlier (Molodin et al., 2016). A specialized expedition to the sites of Tsagaan-Salaa and Baga-Oygur in northwestern Mongolia continued this work. Mongolian colleagues led by Academician D. Tseveendorj joined the team of the expedition. In 2017, over 20 images from the early chronological stratum were found; the already described representations were revisited, and a large number of previously unknown archaic petroglyphs were discovered (Cheremisin et al., 2018).

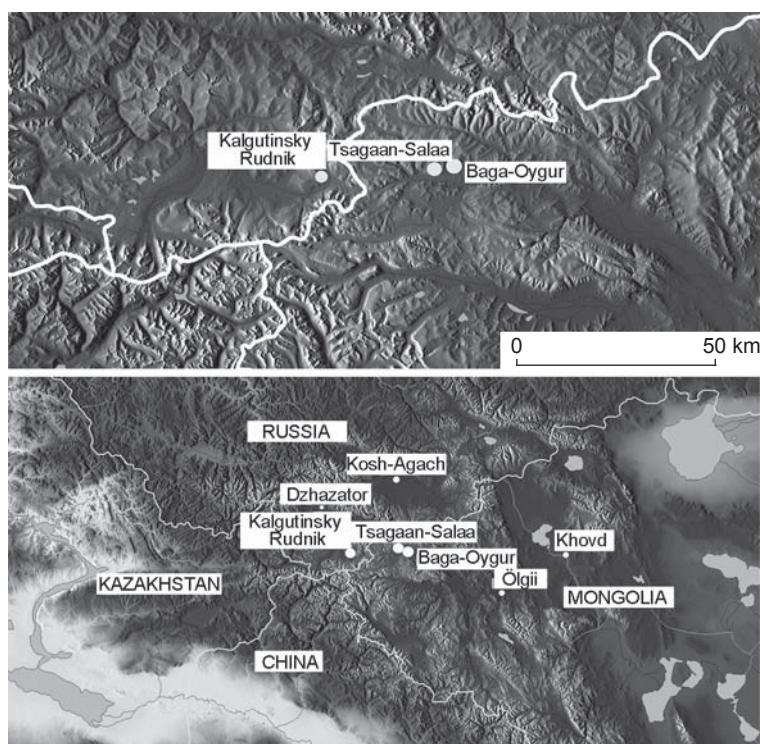Thus, over 50 images made in a stylistically similar manner have been found at only three sites (Kalgutinsky

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*D. Tseveendorj dated it to the Paleolithic; E. Jacobson suggested the Mesolithic, while V.D. Kubarev attributed the images to the Early Holocene (Jacobson, Kubarev, Tseveendorj, 2001a: 63)



*Fig. 1.* Location of the sites of Kalgutinsky Rudnik (Russia), Baga-Oygur and Tsagaan-Salaa (Mongolia).

Rudnik, Tsagaan-Salaa, and Baga-Oygur). From our point of view, this makes it possible to raise the issue of identifying a specific style, at least in this particular region of Asia, which may be called "Kalgutinsky" style. This study focuses on establishing the validity of this style and defining its main canons.

## The notion of style in prehistoric art

It has long become clear to researchers of prehistoric art that rock art, which most often does not have a direct connection with the cultural layer, cannot be linked to stratigraphy and thereby reliably dated. Therefore, such methods as correlation of the petroglyphs with the remains of the material culture, including mobile art, are used for studying rock art. Fortunately, the pigments can sometimes be dated directly, which makes it possible to determine the absolute chronology of the rock art.

Quite early, chronological attribution became a priority for researchers of Paleolithic art. For this purpose, the methods of indirect dating were applied, such as analysis of palimpsests, use of parallels from the mobile art, and study of the development of figurative manner and stylistic features. Abbot A. Breuil and later A. Leroi-Gourhan proposed two chronological models.

Breuil elaborated a concept (1952) based on various criteria, including formal stylistic features manifested in the methods of rendering representations, as well as

*Fig. 2.* General view of some planes of the Kalgutinsky Rudnik site.

the presence of artistic perspective in the depiction of animals and their parts. Following this model, Breuil identified two large cycles in the development of the art, independent of each other: the Aurignaco-Perigordian and then the Solutreo-Magdalenian cycles. Currently, his system has almost fallen out of use.

Leroi-Gourhan (1965b) adopted the concept of Breuil, relying on the sources that were dated by the stratigraphic method. He identified various ways of depicting animal figures in perspective and, using statistical data, established successive styles, which characterize specific chronological periods. Leroi-Gourhan traced the evolution of the manner of representation of animals on the basis of its chronological stages, which were associated with four styles that were themselves preceded by the "prefigurative" style. He identified the four successive stages in the imagery's development: pure geometric, figurative geometric, synthetic, and analytical. The chronological classification of Leroi-Gourhan, created with some caution, was marked by its practical validity. The chronological sequence of styles, which he distinguished on the basis of the formal analysis of images, did not always coincide with phases in the development of material culture. In addition to these problems, the system of Leroi-Gourhan contained several controversial points, which were repeatedly challenged by other scholars (see, e.g., (The Use of Style…, 1990; Lorblanchet, Bahn, 1993)) and later underwent a well-

known conceptual adjustment. This was related to his concept of a single line of development of the figurative tradition in the Paleolithic, to the opposition of features of the mobile and cave art, and to the idea of stable cultural unity throughout the development of Paleolithic art in Europe.

At present, the problem of style as a "manner of representation" has been revised, and the stylistic approach to the analysis of sources has been reasonably rehabilitated (Otte, Remacle, 2000). Style is now regarded as a kind of cultural code. For example, if we take a specific period of rock art, the reliably dated images from Foz Côa in Portugal (Aubry, Sampaio, 2008) have made it possible to identify similar figurative features at sites belonging to widely different periods and territories (Guy, 2010). Recently, the rock art assemblages of the Early Upper Paleolithic in the Franco-Cantabrian region were reliably attributed thanks to their comparison with the directly dated art of Chauvet-Pont-d'Arc (Petrognani, 2013), which shows a certain stylistic freedom—especially noticeable in contrast with the later tradition of the Magdalenian, where conventions of style were much more explicit.

In the light of recent research, it is important to recall how the data on the figurative manner (which is called style) can be used in the European archaeology of the Paleolithic; but first of all we should mention another purpose for studying this phenomenon, in addition to

chronological attribution, as did our famous predecessors Breuil and Leroi-Gourhan. The concept of culture in prehistory is mainly based on the study and interpretation of its economic aspects. The items of everyday life first attracted the attention of scholars, because they were the products of material culture. Given that this is a distant prehistoric time, many findings in this area were unexpected, because they indicated functions of tools and human capacities which scholars had not expected to discover.

This vision of issue in the spirit of materialism has become the basis for shifting research towards cave art and expanding opportunities in this field. In addition, the very phenomenon of prehistoric rock art was not limited by the framework of stratigraphy of archaeological layers, which would isolate the material culture within the chronological "envelopes". The general concept of the developments in the field of prehistory from the very moment of its emergence has borrowed many tools from natural sciences. In this context, the lack of information inherent in the study of cave art has led scholars to use style as the main tool for establishing the chronological sequence.

Artifacts, which form material culture, allow us to establish their purpose, but not the values and ideas that united the carriers of the same culture (Testart, 2012). Meanwhile, the method of representing animals in the caves of Chauvet, Lascaux, or Altamira gives grounds to pose the question: what was the style of these different sites of cave art of the Upper Paleolithic from the social point of view? As Leroi-Gourhan and other scholars of his school have clearly shown, images of animals in the caves testify to the existence of common concepts that were shared by the population of vast territories for thousands of years. These concepts may have constituted a certain mythologized and structured worldview (Leroi-Gourhan, 1965a, b; 1992).

Innovative approaches closer to our time fostered the development of a hypothesis that in Paleolithic art one may find distinctive traces of symbolic use of animal imagery for ritual purposes to achieve a certain result (economic or political), as it happened in other chronological periods and in other historical and ethnographic contexts. The absolute predominance of animal imagery, the selectiveness of the subject matter, the lack of context and narrative, the exact reproduction of the typical features, which allows the species to be clearly identified, and the repetition of motif and formal features in rendering images from one site to another, indicate a high degree of image standardization (Guy, 2017: 170–177). The outlines of the figures underwent the process of geometrization at a fairly early stage. This facilitated standardization and made it possible to achieve unmistakable and instant recognition, which ensured the continuity and transmission of such forms.

The most recent studies based on comparison of data on the stability of formal features (criteria of style) in time and space suggest the existence of various artistic "schools", which many archaeologists mentioned earlier on the basis of other features relating to the principles described above. The transmission of the figurative manner was intended to convey certain collective cultural codes, which perpetuated the values. Undoubtedly, representations in caves, with their monumental sizes, topographic location, and abundance of figurative and non-figurative symbols, were designed to impress the viewer and establish some power over him with the help of visual effect, which is typical of prestige strategies (Ibid.: 187). The high degree of standardization in the art of the Late Paleolithic, achieved by means of a special style, indicates the adaptability of cave artworks to the transmission of information. Perhaps, for the first time in history, the great flourishing of culture can be observed throughout the entirety of Eurasia.

In Soviet and Russian archaeology, as in art history, the notion of style was used to describe the phenomena of artistic culture of the past; and stylistic analysis served as a productive tool for archaeological research. Even now, after the introduction of innovations used by the specialists for studying rock art, it remains the most important method for determining the unity of visual canons adopted in a specific community.

Notably, A.P. Okladnikov attributed the emergence of pictorial activity to the Mousterian period and the Neanderthal culture. This is confirmed by the results of studying Paleolithic complexes in the Altai Mountains (Derevianko, Shunkov, Volkov, 2008; Shunkov, Fedorchenko, Kozlikin, 2017a, b; Derevianko et al., 2018; Shunkov, Fedorchenko, Kozlikin, 2018). Okladnikov associated a number of sites in western Mongolia with the Upper Paleolithic, and formulated a concept of a specific Central Asian center of prehistoric art (1967: 120, 126). He dated the painted representations of the Hoyt Tsenker Agui cave and petroglyphs of the Arshan Khad site to this period (1972: 76), relying on a number of animal figures as images of the Pleistocene fauna, as well as the thematic and stylistic originality of other animal representations. Okladnikov understood style as a stable set of expressive means used by an ancient artist, or as a pictorial canon typical of a specific group of images (1980: 88).

Following up on this point, it is appropriate to cite the definition of artistic style proposed by E.E. Kuzmina: "A sustainable… set of pictorial techniques, elements of interpreting a certain range of images in a specific territory and in a specific chronological period" (1983: 95). V.A. Korenyako defined style as a structural unity of the image-based system and methods of artistic expression, which make it possible to differentiate between the styles and use the style for establishing the chronological period (1998: 69–77). According to E.F. Korolkova, these are

the stylistic parameters, which provide a cultural and chronological attribution (1996).

The concept of style in the context of studying the "language" of prehistoric art, using the petroglyphs of Central and Middle Asia, was analyzed in detail in the works by Y.A. Sher, who proposed a method of formalizing elusive stylistic details—the theory of "pictorial invariants" as formal expressive elements of artistic features of early representations, serving as a tool for establishing their originality. Sher identified such elements in the course of "dissecting", deconstructing images into their constituent parts, and determining their structural components (1980: 28–32). A stable combination of stylistic invariants or sets of such invariants determines the originality of style.

Later, when Sher was developing the idea of origin of arts, he demonstrated the possibility of applying the concept of style to the study of the earliest Paleolithic art (Pervobytnoye iskusstvo…, 1998: 63–84; Sher, 2004). In his opinion, "style as a totality of expressive means creating the originality of the artistic manner appeared along with pictorial activity. Already at the dawn of art in the Upper Paleolithic, the expressive features of planar, relief, and three-dimensional images emerged, inherent only in this period and not repeated anywhere else" (Pervobytnoye iskusstvo…, 1998: 74). Prominent researchers of the rock art of Asia H.-P. Francfort and E. Jacobson defined style as "a set of distinctive features for artistic expression of ideas inherent in individuals, groups of people, schools of craftsmen, or chronological periods" (2004: 62).

The idea of the pictorial canon that comprises stylistic features of images was behind the interpretation of style proposed by D.G. Savinov (2009). He introduced the important concept of "pictorial stratum", implying "the spatial and temporal distribution of images made in a single figurative tradition, which corresponds to a certain state of spiritual culture" (Savinov, 2008: 73). Typical style is a kind of core for each pictorial stratum. Probably for the first time, Savinov synchronized the styles in the rock art of Central and Northern Asia in the Holocene. He attributed the Minusinsk and Angara styles to the Neolithic; the Okunev, Seima-Turbino, and Karasuk styles to the Bronze Age; the Arzhan-Mayemir style to the Early Scythian period; and the Pazyryk style to the period of the early nomads of the Altai Mountains. He regarded the "labyrinths" as ideograms of the Xiongnu period, and attributed the realistic style of the multifigured compositions to the Early Middle Ages (Ibid.).

There are various classifications of the concept of style. The following categories can be mentioned: in accordance with chronology ("earliest", "early", "archaic", "late") (Okladnikov, 1968: 26–27; Cheremisin, 2006; Molodin, Cheremisin, 2007); degree of realism ("realistic", "dynamic-realistic", "abstract stylized")

(Leontiev, 1976; Podolsky, 1973; Okladnikov, Martynov, 1972: 176–187); area of distribution ("Minusinsk", "Angara"); pictorial features ("linear", "geometric", "bitriangular") (Okladnikov, 1976: 44–50; Rogozhinsky, 2008); or cultural and regional aspect ("Scytho-Siberian animal style") (Savinov, 1995). This list can be continued.

At the end of this section, it would be appropriate to cite the point of view of M.A. Devlet and E.G. Devlet, who stated that the chronological scale of European cave art (as essentially the earliest art), which was developed on the basis of stylistic analysis and study of palimpsests, has been supported today by the results of direct radiocarbon dating (2001: 130). Thus, we may conclude that stylistic analysis is a basic method, which makes it possible to evaluate the cultural and chronological unity of rock art creators. Stylistic aspects without context cannot be considered as an independent tool for chronological attribution of petroglyphs. However, the correlation of stylistic features of rock art with other data (subject matter, technological component, etc.) allows a conclusion to be drawn about the place of a particular style in the cultural and chronological pattern of the region.

## The "Kalgutinsky" style

After the first studies at the site of Kalgutinsky Rudnik, a hypothesis was proposed about the earliest age of a series of petroglyphs of archaic appearance (Molodin, Cheremisin, 1993; 1999: 83–86). This hypothesis was based on several arguments: a very intense desert varnish on pecked surfaces, the absence of images of unambiguously Holocene representatives of fauna, an archaic manner of rendering images, an almost complete lack of parallels in the adjacent territories, and, in contrast, stylistic similarity to the Western European cave and rock art of the Paleolithic. Results of experimental traceological analysis of petroglyphs from the site, which was carried out later, served as additional indirect argument in favor of the early age of the images. Without dwelling on the details, we can state that all studied images, which were supposedly associated with the earliest layer, were made with stone tools from local raw materials or even in some cases with unprocessed pebbles. However, it should be mentioned that even in the later periods, stone remained the only effective material for processing rhyolite—hard type of rock intensely polished during the movement of the glacier and extremely resistant to any impacts—on the outcrops of which the petroglyphs were made.

In recent years, new petroglyphs, stylistically related to the earliest layer, have been found at Kalgutinsky Rudnik. However, these still do not include subjects that could be interpreted as exclusively late (for example, Holocene fauna, anthropomorphic representations,

horsemen, etc.). Images such as horses, bulls, goats, and (less frequently) deer remain typical here.

During numerous studies it has been found that many of the images at Kalgutinsky Rudnik often are not even completely visible (Fig. 3, *2*). This was caused by extremely intense desert varnish of this group of petroglyphs, as well as the specific technique of execution of some of them. The most common techniques were surface pecking and rubbing. Experiments have shown that these methods make it quite easy to break the integrity of the rock crust and create a contrast effect with light areas of the damaged surface, which sometimes acted as independent areas and sometimes as preparatory ones before deeper processing. Such extremely superficial traces obviously become dark much faster than deep traces.

Another important aspect is weathering of the damaged areas on the rocky crust. After deep pecking (Fig. 3, *1*, *3*, *4*), rock loses its natural strong layer polished by the glacier, and the granules that it consists of begin to crumble rapidly. Therefore, even despite long-term exposure to the sun, the surface treated with deep pecking looks lighter. The difference in the intensity of desert varnish between the petroglyphs made in the technique of deep pecking, reliably dated to the Iron Age (Fig. 3, *3*), and presumably the earliest images is obvious (Fig. 3, *1*). The early representations look as dark as the untreated surface of the rock. Noteworthy is the technique of fine engraving, which also appears among the Kalgutinsky petroglyphs of the early layer. This is a small image of horse, completely invisible on the surface of the rock, because it was made with very thin, highly varnished lines (Fig. 4, *7*). Stylistically and compositionally, this petroglyph is associated with a large image of horse, made with the rubbing technique (Fig. 4, *6*).

These distinctive representations at the rock art sites of the neighboring regions of Russia and Mongolia are united into one group because of their similar manner of rendering images. First of all, it is realistic (Fig. 4, *5*). Sometimes, partial images occur, and this is not due
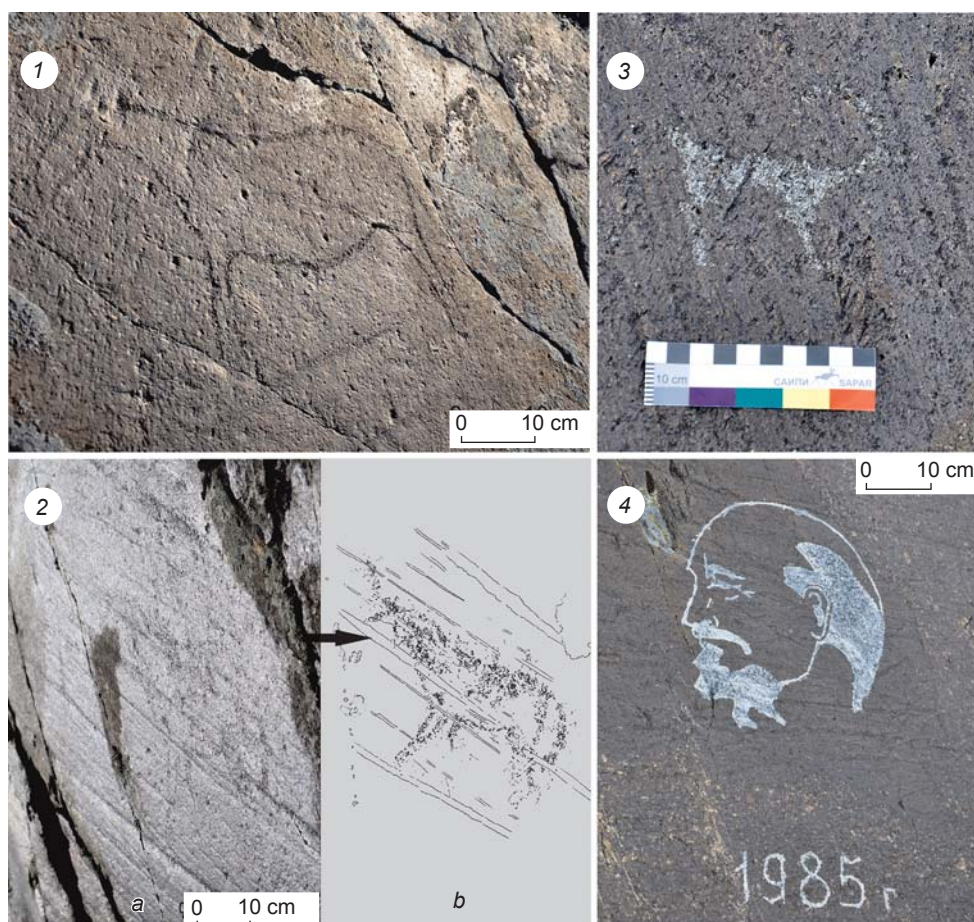


*Fig. 3.* Comparison of the intensity of desert varnish of the petroglyphs at Kalgutinsky Rudnik.
*1* – image of horse, made by deep pecking; tentatively attributed to the earliest layer; *2* – image-"phantom" of horse with a bent leg (*a*), and its tracing (*b*); *3* – image made by deep pecking, dated to the Iron Age; *4* – modern image of Vladimir Lenin, made with a metal tool in the technique of deep pecking.
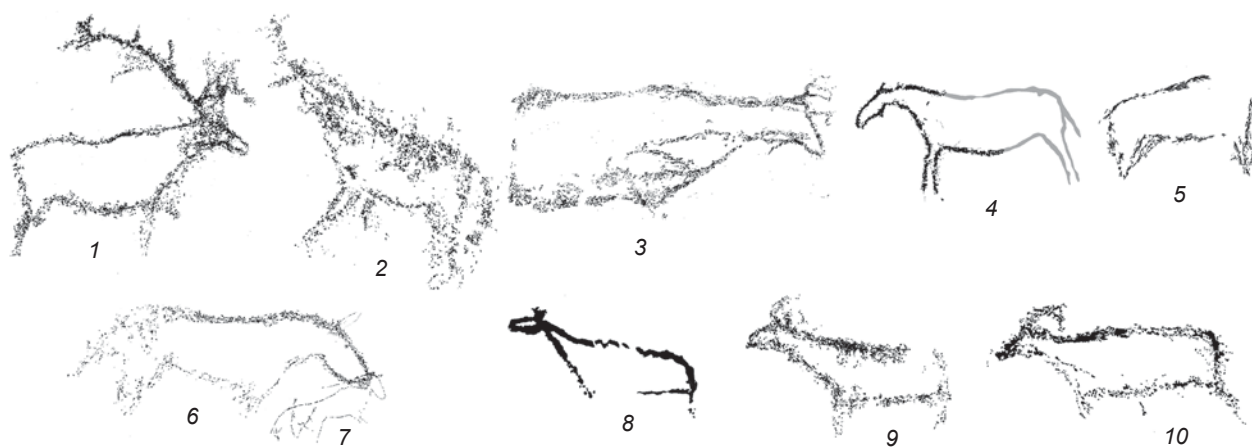
*Fig. 4.* Petroglyphs of the "Kalgutinsky" style at Kalgutinsky Rudnik (Ukok Plateau, Russian Altai).
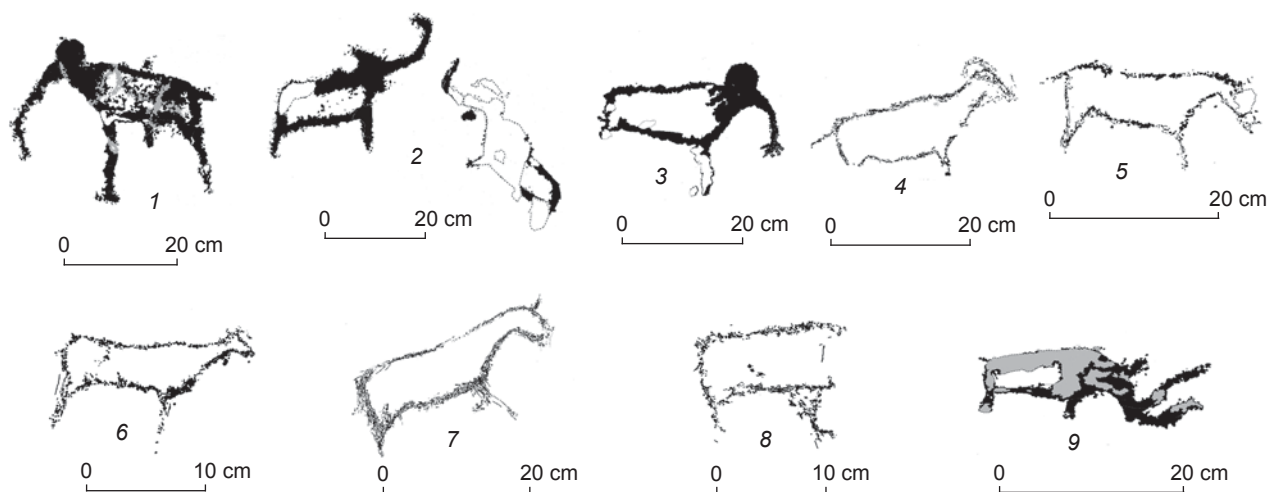


*Fig. 5.* Petroglyphs of the "Kalgutinsky" style at Baga-Oygur and Tsagaan-Salaa (Mongolian Altai).
*1–2*, *9* – Baga-Oygur II; *3* – Tsagaan-Salaa; *4–8* – Baga-Oygur III.

to poor preservation; they were intentionally left incomplete (see, for example, Fig. 4, *3*, *6*, *8*, *10*). Static posture and lack of perspective (with rare exceptions) can also be called the common features. Distinctive methods for rendering some image details have been identified.

The artistic manner of representing the animal's head is the most important feature of this series of petroglyphs. There were two ways doing this. In the first case, it was drawn as a triangle, without details; an angle of 90 degrees can be clearly seen between the lines of the head and neck (the latter continues into the outline of the back) (Fig. 6, *1–9*). Other elements, such as antlers or horns, correspond to this manner of representation of the head. This technique is associated with the obvious interruption in the pecking process: after portrayal of the upper part of the head, which could be continued into the horn or antler, the direction and position of the artist's

hand and tools changed, and a new line for the back began. This way of organizing visual space was common in classic Paleolithic art (Fig. 6, *15*, *16*). The second technique was fundamentally different: the upper line of the head smoothly continued into the outline of the back (Fig. 6, *10–14*). Such a manner has been quite often found in prehistoric art, including the classic Western European examples (Fig. 6, *17*). In both cases, the lower line of pecking, which constitutes the outline of the muzzle, seems separate; that is, the outline of the animal's head was formed, not by one continuous line, but by at least two lines connected in the area of the mouth.

Another important feature is related to the depiction of the hind leg. The first manner of execution was based on simple connection of two almost straight lines— the abdomen and outer contour of the leg (sometimes it is the continuing line of the back). In such cases, a distinctive angle (straight, less often close to acute) was
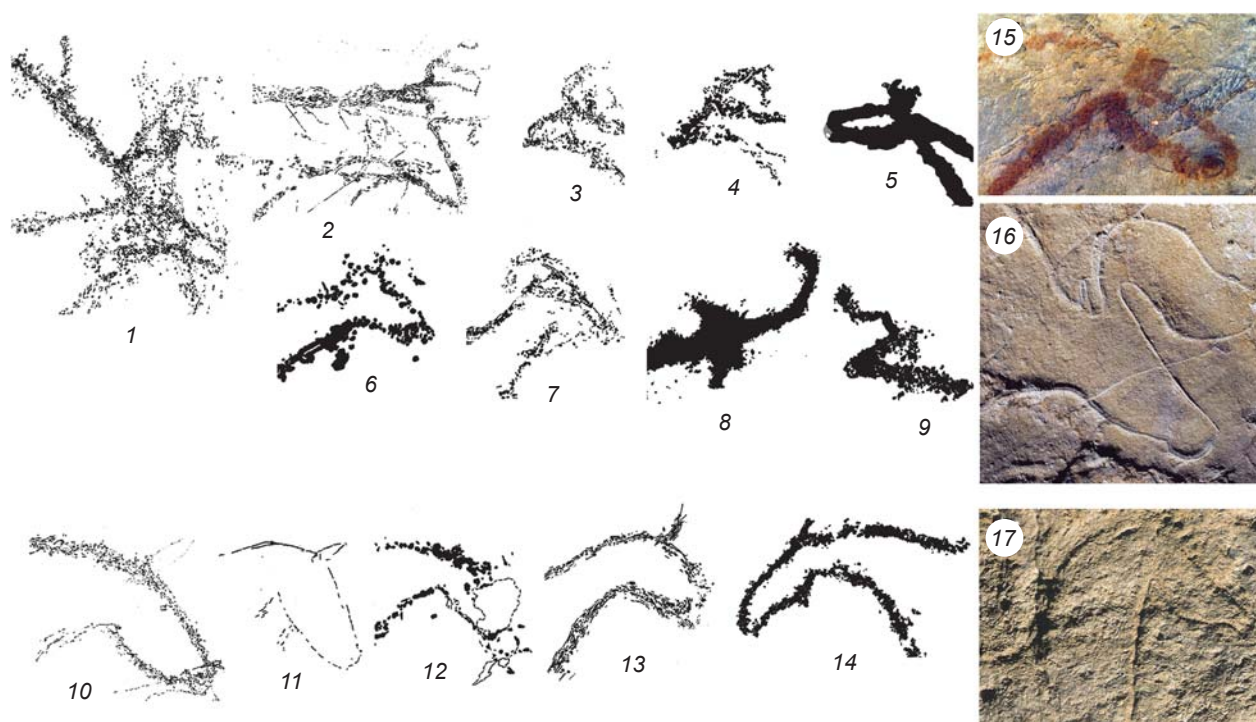
*Fig. 6.* Two methods of representing the head in zoomorphic images.
*1–5*, *10*, *11*, *14* – Kalgutinsky Rudnik, Russian Altai (tracing by the authors); *6–9*, *12*, *13* – Baga-Oygur, Mongolian Altai (tracing by the authors); *15* – La Pasiega, Spain (after (Groenen, 2016)); *16* – Cosquer, France (after (Clottes, Courtin, Vanrell, 2005)); *17* – Pair-non-Pair, France (after (Clottes, 2008)).
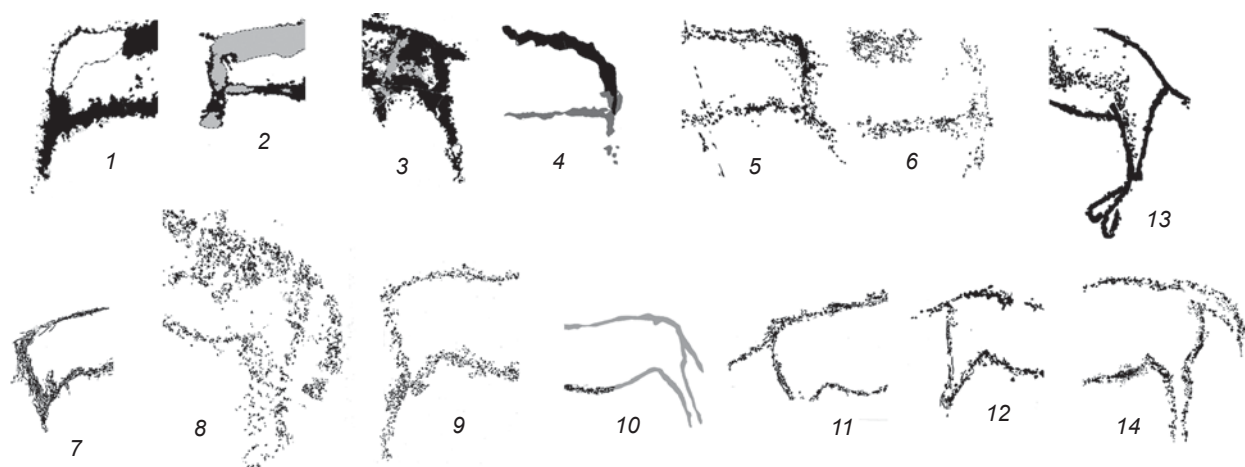


*Fig. 7.* Two methods of representing the hind leg in zoomorphic images.
*1–3*, *7*, *11*, *12* – Baga-Oygur, Mongolian Altai (tracing by the authors); *4–6*, *8–10* – Kalgutinsky Rudnik, Russian Altai (tracing by the authors); *13* – Rego de Vide, Portugal (after (Baptista, 2009)); *14* – Marcenac, France (after (Lorblanchet, 2010)).

formed between two lines inside the outline of the figure (Fig. 7, *1–7*). This method of simple connection of two lines implies the absence of hip-details. This manner was quite common. Another, no less frequently encountered method, in contrast, made it possible to depict the leg in a more realistic way. The leg was shown with two lines, one of which was connected with the outline of the abdomen.

Outside the outline, they formed an angle close to obtuse. This technique made it possible to emphasize a convex, sometimes even deliberately heavy belly (Fig. 7, *8–12*). Both of these methods were typical of prehistoric rock art of Western Europe (Fig. 7, *13–14*).

Another important detail is representation of the tail. In the cases where the tail is present, it is a continuation
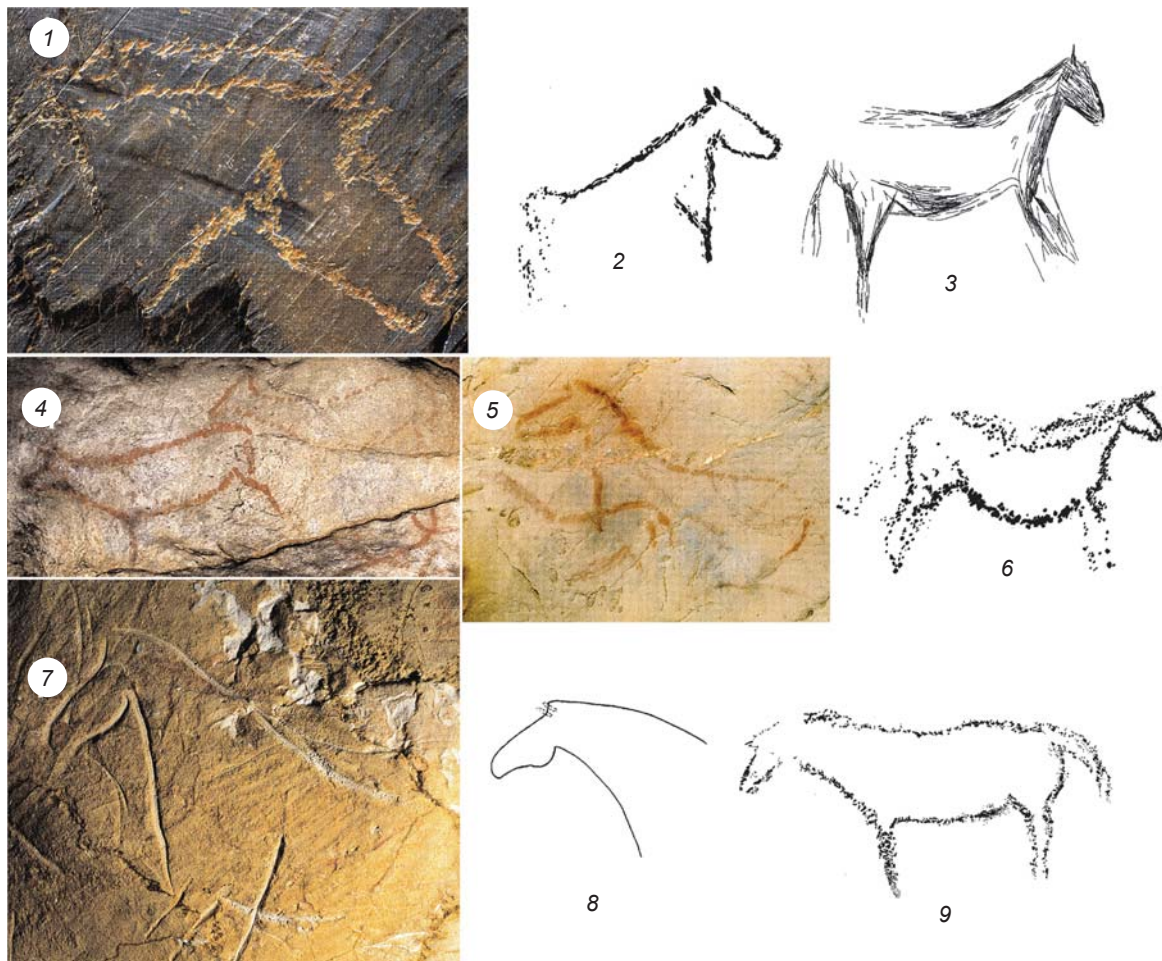
*Fig. 8*. Parallels to petroglyphs of the "Kalgutinsky" style in the cave and rock art of Western Europe.
*1* – Siega Verde, Spain (after (Groenen, 2016)); *2, 3* – Canada do Inferno, Portugal (after (Baptista, 1999)); *4* – Covalanas, Spain (after (Clottes, 2008)); *5* – La Pasiega, Spain (after (Groenen, 2016)); *6* – Costalta, Portugal (after (Baptista, 2009)); *7* – Cosquer, France (after (Clottes, Courtin, Vanrell, 2005)); *8* – Roucadour, France (after (Lorblanchet, 2010)); *9* – Marcenac, France (after (Clottes, Courtin, Vanrell, 2005)).

of the line of the back (Fig. 7, *7*, *8*, *10–12*). Most often, the tail is shown in animal figures with emphasized bellies and hips. Notably, with rare exceptions, the legs of animals are always depicted without hooves, and are often left unfinished (see Fig. 4, 5).

The modeling of the back should be given special attention. Usually it was the longest line, which was drawn first, acting as a "load-bearing" line for the entire image of the animal: the rest of the details seem to have been mounted on it. It should be noted that in many figures the back was often made with a concave curve parallel to the stomach (see Fig. 4, *2–4*), although a double bent line when depicting a hump, for example in goats, deer, or bulls, also occurs (see Fig. 4, *1*, *3*; 5, *4*, *6*).

All the above features can only be viewed as archaic and specific to Paleolithic art (Fig. 8). The triangular head of the figure or single line of the head and horn/antler, separated from the back, simple connection of

two lines at the right angle for representing the hind leg (without details of the hip) clearly indicate a certain stylistic specificity of the Kalgutinsky petroglyphs. Moreover, various techniques are often combined in one image. Thus, the Kalgutinsky petroglyphs not only look similar to the classic examples of archaic art, but show the influence of a certain, possibly regional, component, which adds originality to the Kalgutinsky rock representations.

Similar, and in some cases identical stylistic techniques occur both in the Kalgutinsky petroglyphs and in archaic images from the sites of Baga-Oygur and Tsagaan-Salaa in the Mongolian Altai (see Fig. 1, 4, 5), which makes it possible to speak about a single cultural space for the carriers of this style. Vivid manifestations of this distinctive style have also been observed at more distant sites of Mongolia, such as Hoyt-Tsenker Agui (Okladnikov, 1972), Aral Tolgoi (Tseveendorj, Kubarev,
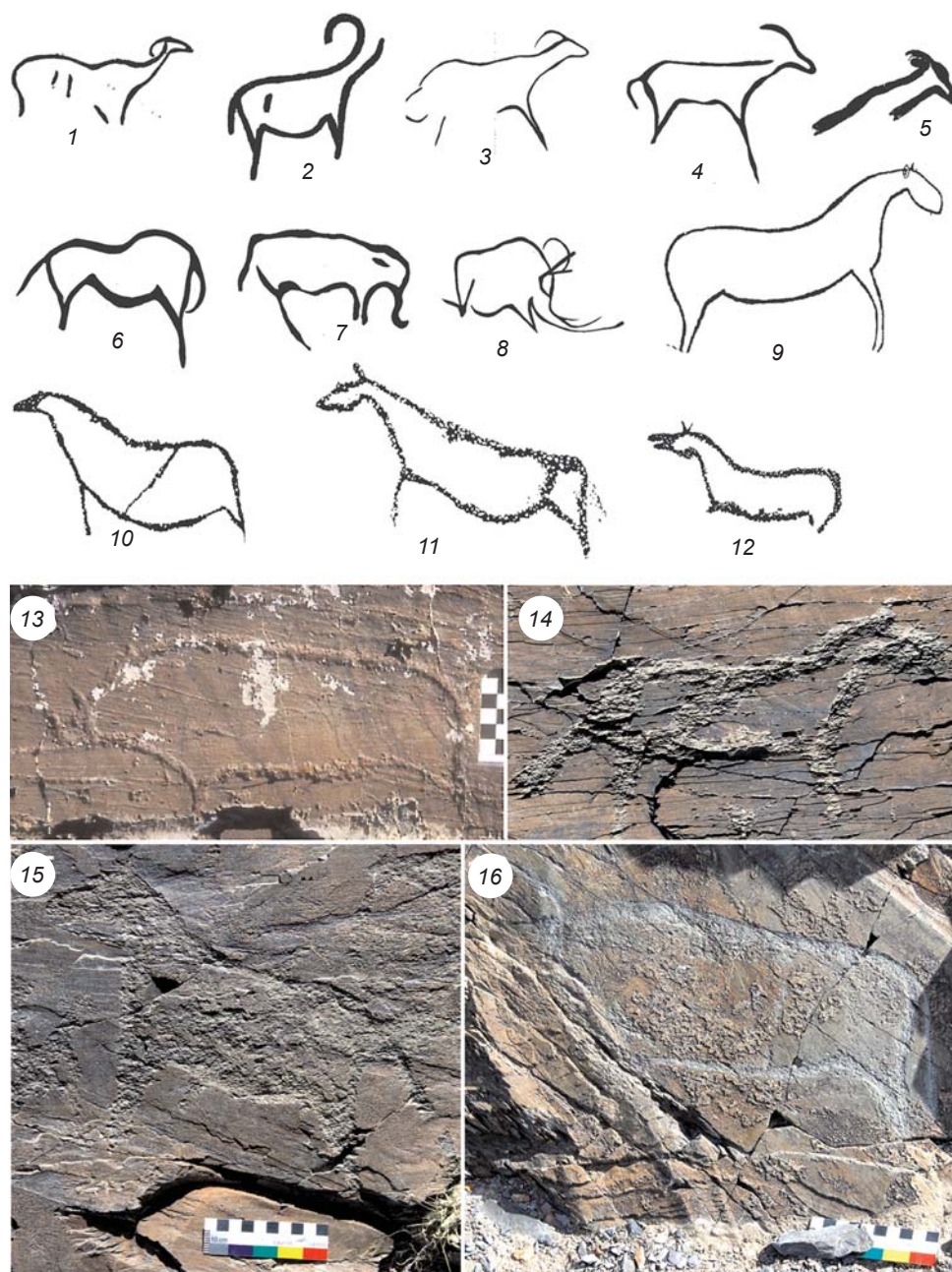
*Fig. 9.* Parallels to petroglyphs of the "Kalgutinsky" style in the rock art of Mongolia.
*1–8* – Hoyt-Tsenker Agui (after (Okladnikov, 1972)); *9–13* – Aral Tolgoi (after (Tseveendorj, Kubarev, Jacobson, 2005; Jacobson-Tepfer, 2013)); *14–16* – Ishgen Tolgoi (photo by E.A. Miklashevich).

Jacobson, 2005; Kubarev, 2007), and Ishgen Tolgoi (Tseveendorj, 1982) (Fig. 9).

**Discussion and parallels**

The stylistic unity of these sites is ensured by their similar technological features. Unfortunately, owing to a sometimes extremely poor state of preservation, it was impossible to establish the tools used for depicting all petroglyphs at the sites of the Mongolian Altai. However, a whole series of images (see Fig. 5, *4–8*) appear to have been made using identical techniques, such as surface pecking and rubbing with stone tools. The Kalgutinsky petroglyphs were created exclusively by such tools. Given that the Baga-Oygur and Tsagaan-Salaa sites are located on the outcrops of chert, which is much softer and more pliable rock than solid rhyolite polished by the glacier, the

use of the same methods for treating the rock surface as at Kalgutinsky Rudnik was not technologically necessary: chert permits using almost any method for creating petroglyphs. Nevertheless, a whole series of archaic representations stylistically close to the Kalgutinsky images was made in a technique that was not common for the sites of Baga-Oygur and Tsagaan-Salaa. It can be assumed that the technological methods of creating petroglyphs developed by the end of the Stone Age were fairly stable, and continued to be used even in the absence of objective necessity.

Thus, the groups of archaic rock images made in the technique of deep and surface pecking and rubbing, and in a specific artistic manner, distinguished by a high degree of desert varnish, represent a single style that we propose to call "Kalgutinsky" style. An additional argument in favor of our hypothesis is the territorial proximity of the sites with such petroglyphs (see Fig. 1).

Notably, some scholars interpreted the petroglyphs made in the stylistic manner described above at the sites of Baga-Oygur and Tsagaan-Salaa as images of mammoths (see Fig. 5, *1–3*). Similar features can also be observed in the image of a supposed rhinoceros at the site of Baga-Oygur I (see Fig. 5, *9*). The stylistic similarity between the petroglyphs from Kalgutinsky Rudnik and mammoth images from Baga-Oygur and Tsagaan-Salaa suggests that they belong to a single local figurative tradition.

However, there is an opinion that these were not images of mammoths. Counter-arguments usually boil down to the claiming that they do not entirely look like these animals (Kubarev, 2003, 2004). For instance, the mammoth's body was usually depicted as bulky, owing to its long wool. However, among the classic examples of Western European cave art and Siberian mobile art, there are many images of the so-called thin mammoths (Fig. 10). As far as the lack of the typical hump is concerned, which was indicated by V.D. Kubarev, the cave art of France sometimes also omits this detail (Fig. 10, *2–8*). Moreover, in the composition of two mammoths from Baga-Oygur II, one animal is shown with pronounced hump (see Fig. 5, *2*). If we consider that the archaic images of Baga-Oygur, Tsagaan-Salaa, and Kalgutinsky Rudnik belong to the same distinctive style, this seemingly strange way of conveying the images of mammoths ceases to be something unusual, but turns out to be subjected to a certain, in this case the "Kalgutinsky", canon.

We should point to the similarity of some images from Baga-Oygur and Baume-Latrone, Tsagaan-Salaa and Rouffignac, even Baga-Oygur and Chauvet (see Fig. 5; 10, *4*, *5*, *7*). In Mongolia and Altai, mammoths, not to mention rhinoceroses, lived until the Early Holocene (Tseitlin, 1973), which gives some grounds to attribute the petroglyphs of the "Kalgutinsky" style to the Final Paleolithic.

There are many parallels to the petroglyphs made in the "Kalgutinsky" style among the reliably dated Paleolithic examples of European cave and rock art; for example, those from sites in the valleys of the Côa and Zêzere Rivers in Portugal (Fariseu, Canada do Inferno, Rego de Vide, Costalta, etc.), in France (Pair-non-Pair, Cosquer, Roucadour, Marcenac), and Spain (La Pasiega, Siega Verde, Covalanas, etc.) (see Fig. 8). Stylistically similar petroglyphs also occur in the less-distant sites of Hoyt-Tsenker Agui, Aral Tolgoi, and Ishgen Tolgoi (see Fig. 9).

Another important argument in favor of Upper Paleolithic attribution for the stratum of rock art under consideration on the border of the Mongolian and Russian Altai is the concept of reserved execution of an image with its simultaneous unmistakable recognizability, which fully complies with the canons of classic prehistoric art (Guy, 2010, 2017: 170–177). This principle is associated with the fundamental aspects of styles in the Paleolithic: minimum detail, high degree of standardization, and partial rendering of images.

### Conclusions

The above analysis allows the following conclusions to be drawn. A series of images, which represent a stylistic unity, have been found on the border of the Mongolian and Russian Altai (at the sites of Kalgutinsky Rudnik, Tsagaan-Salaa, and Baga-Oygur). The following features have been identified as criteria for such a conclusion:

– the subject matter is always highly specialized; only animals were represented (mainly horses, deer, bulls, goats; and also rhinoceros and mammoths in Mongolia);

– these petroglyphs are never accompanied by anthropomorphic figures, and generally (with rare exceptions) do not constitute parts of compositions;

– the main details of the images are the head and back of the animal; these were treated with special care;

– partial representation is typical; legs are often not shown or treated less carefully (sometimes these are disproportionately short);

– only two legs are depicted (often but not always);

– the belly is often markedly rounded;

– the back is shown with a concave curve;

– anatomical details (ears, tail, etc.) are extremely poorly represented; there are almost no representations of eyes; at the same time, images are realistic and recognizable;

– generally static posture;

– prevailing techniques are surface pecking and rubbing, less often deep pecking.

In addition to the common features that unite these petroglyphs, we can distinguish two specific methods of rendering details, such as the head and back (in the form
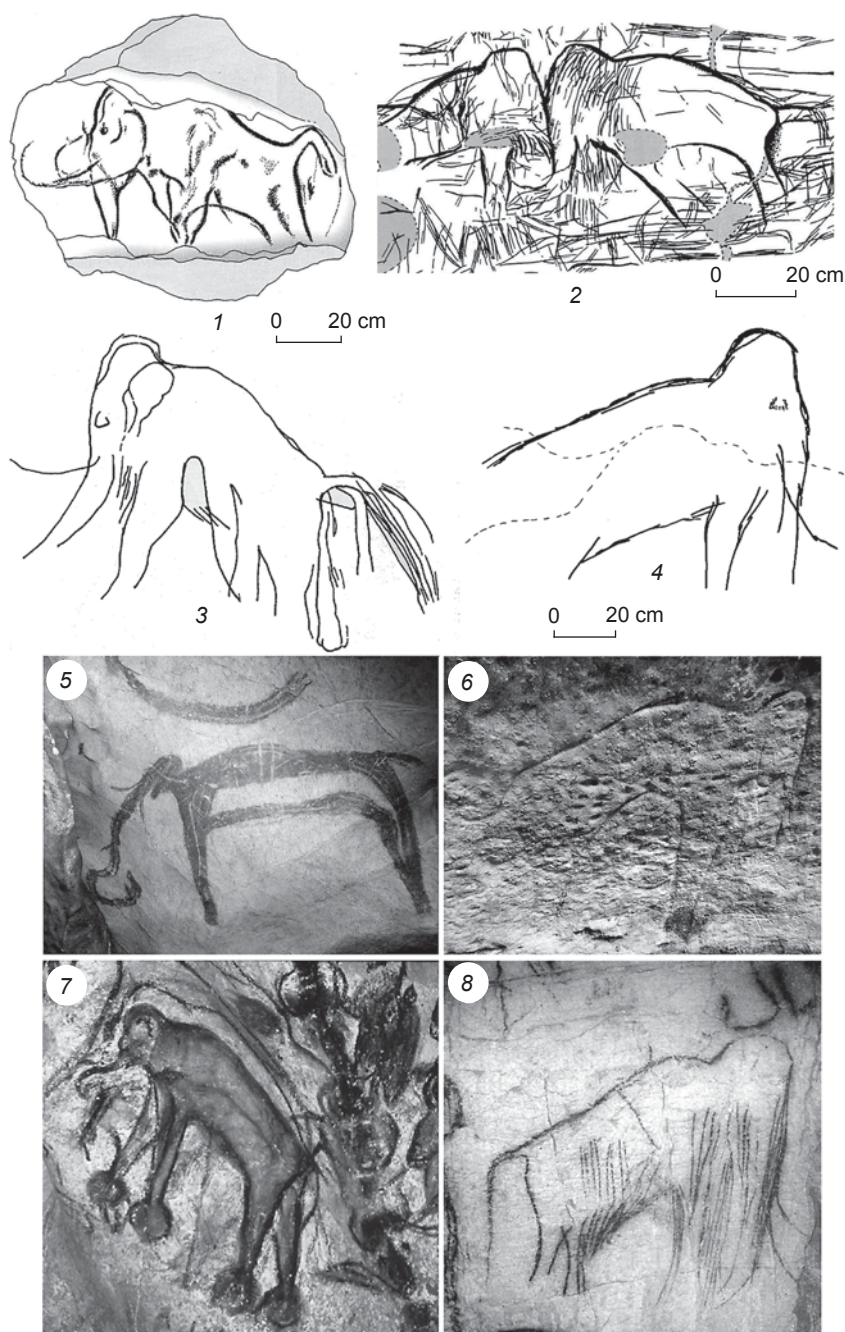
*Fig. 10*. Parallels to mammoth representations of the "Kalgutinsky" style in the prehistoric art of France.

*1* – Jean-Blanc, fragment of limestone (after (Paillet, 2018)); *2* – Laugerie-Haute, fragment of a reindeer antler (after (Ibid.)); *3* – Combarelles (after (Barrière, 1997)); *4* – Rouffignac (after (Barrière, 1982)); *5* – Baume-Latrone (after (Plassard, 2018)); *6* – Jovelle (after (Ibid.)); *7* – Chauvet-Pont-d'Arc (after (Baffier, 2018)); *8* – Pech Merle (after (Plassard, 2018)).

of a triangle with interrupted lines, or continuous a line from the top of the head to the end of the back), as well as two ways of depicting the hind leg (simple connection of lines of the back and abdomen, or with additionally marked hip). It is important to note that both methods of depicting the head occur in combination with both ways of representing the hind leg. This means that these are not two different invariants of style, but rather several different artistic methods within a single pictorial canon.

We attribute the petroglyphs to the Final Upper Paleolithic because the examples with typical features of this style depict the Pleistocene fauna (mammoths,

rhinoceros). Indirect arguments in favor of the early age of these petroglyphs include the use of exclusively stone tools for and presence of intense desert varnish. These stylistic features find their parallels among the typical examples of the Upper Paleolithic rock art of Europe.

Thus, we may conclude that the petroglyphs of the early stratum at the sites of Kalgutinsky Rudnik, Baga-Oygur, and Tsagaan-Salaa belong to the "Kalgutinsky" style of the Final Paleolithic. Perhaps over time, the distribution area of this figurative tradition will be expanded, but today we may observe the uniqueness and originality of the "Kalgutinsky" petroglyphs in a very localized area. If we distance ourselves from the twists and turns of historiography and numerous discussions of past years, it becomes clear that we are dealing with an example of Upper Paleolithic petroglyphs that are rare for this region. So today we may speak not only about the Western European, but also about the Asian center of prehistoric rock art.

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