

1 Introduction

At the far western edge of Mongolia are three remote valleys. They will here be referred to by the name of the locale or the river for which they are known: the hill of Aral Tolgoi and the rivers Tsagaan Gol¹ and Baga Oigor Gol. These are also the names of the extraordinary rock art complexes within the valleys.² Individually and together the complexes reveal the cultural and environmental anatomy of deep time at the boundary between Central and North Asia³ over a period of several thousand years.

At present and throughout most of the year, the valleys are essentially uninhabited, too cold and windblown to tempt humans to settle into the few protected niches alongside slopes and draws. A few exceptions occur. At the western end of the valley of Aral Tolgoi are crouched the wooden structures of Border Guard Station #1, Mongolia's version of a fortified border at the edge of China and Russia. In the long valley of Tsagaan Gol, the only residents in winter include a few Uriankhai and Kazakh herder families huddled into snug wooden huts at the base of the valley's unstable slopes. And in the broad valley of Baga Oigor, even some of the hardy residents who earlier maintained petrol supplies at the tiny settlement of Kök Erik descend to lower elevations to escape the cold blasts coming down from the high mountain ridge. Otherwise, a few wooden huts nestled into protective folds along the valley are the only indications of a human presence through the long, cold months.

Except for the wind, these valleys are silent. Even now, few figures are seen in the valleys: a rider, perhaps, or a herder driving his animals to higher pastures. An occasional car or truck may make its way along the miserable tracks that serve as roads. The dark bodies of yaks and horses may be spied on the upper slopes, slowly making their way to the ridges. Other than those signs of life, the land seems empty. That immense emptiness and the absence of any sound but the wind would suggest to many that this part of Mongolia has long been off any beaten track, too far from centers of civilization to attract attention. A closer look, however, challenges that assumption. Scattered through the valleys are

¹ Throughout the following pages, certain Mongolian terms will be used rather than their English translations. These include *gol* (river), *sala* (branch, stream), *uul* (mountain), and *nuuru* (mountain ridge).

² These three complexes, or properties, together were entered into UNESCO World Heritage status in 2010 as Petroglyphic Complexes of the Mongolian Altai.

³ Throughout this discussion, North Asia will refer to the Eurasian landmass north of the borders of agricultural China and bordered on the west by the Altai Mountains. In this region, rivers flow to the east or to the north. Central Asia refers to the landmass bordered by the Altai Mountains to the east, the Tibetan Plateau to the south, the Caspian Sea and Khirghiz Steppe to the west, and the Siberian taiga to the north. Within this region, rivers flow inland or, in the case of the Irtysh, to the north.

complexes of carefully arranged stones: stone mounds, sometimes highly elaborated, stone altars, standing stones, and stone images – all attesting to the creative presence of humans at some time in the deep past. Even more persuasive of this ancient layer of life are the dense concentrations of rock art covering the slopes along the valleys. This material, petroglyphic in character,⁴ lies over the surfaces of bedrock and boulders like pictorial brocade, tracing out the lives of ancient hunters, foragers, and herders over a period of at least 12,000 years.

The physical environment of the three valleys in winter helps to explain their somewhat desolate aspect. The valley of Baga Oigor is broad and utterly treeless, defined in winter by its stony, dry steppe. That of the lower Tsagaan Gol is even more forbidding, although in the upper valley fragmentary larch stands can be found on north-facing slopes. The winter valley of Aral Tolgoi would seem to be the most propitious, since larch forests cover the mountain slopes dividing Mongolia from northwestern China. But, at this edge of Mongolia, the snow piles up and cold wind is funneled down from the narrow river valleys to the west, making winter habitation virtually untenable, except at the border guard station. In contrast to the other two valleys, here there is little winter pasture to sustain large animals such as horses and yaks.

In the short warmer months, between June and September, when snow and cold wind alternate with sun-filled days, the three valleys assume a different aspect. The steppe landscape of Baga Oigor and the upper Tsagaan Gol become covered with rough pasture extending up to rich grassland on the surrounding ridges. Good pasture appears in a few areas of the Aral Tolgoi valley but these are too limited and too close to forests and high ridges to support a significant animal economy. It is really the valleys of Baga Oigor and Tsagaan Gol that reveal the importance of mountain steppe in the emergence of a pastoral life at the heart of Asia. In late spring and early fall, these two valleys become the main routes for herders driving their flocks to high grassland and tundra.

A map of the region (Fig. 1) indicates that the three valleys exist within the same northwestern edge of Mongolia and at approximately the same latitude (49° 0' 0" N). They all offer direct routes up to the knot of glaciated mountains called Tavan Bogd – the Five Masters – marking the boundaries between Mongolia and Russia and Mongolia and China. In many ways they share a similar topography, one that is, for the most part, cold, arid, rocky, and mountainous. All were shaped by glaciers flowing down from the mountainous ridge on the west over thousands of years. Despite that common origin,

⁴ Petroglyphs are images or signs that have been pecked or engraved in the rock surface. Pictographs are marks and images that have been painted. Because of the nature of the climate in this part of North Asia, there are no surviving pictographs in the open air.

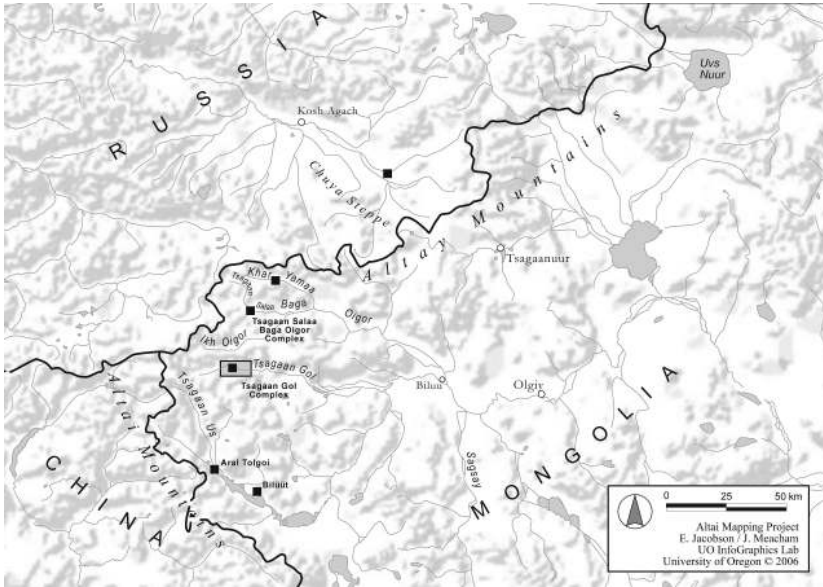


Figure 1 Map showing the location of the three complexes – Aral Tolgoi, Tsagaan Gol, and Baga Oigor – on the far western edge of Mongolia. (In this map, the Baga Oigor complex is referred to by its previously used name, Tsagaan Salaa–Baga Oigor).

Map: Altai Mapping Project.

however, and their geographical proximity, the valleys in question demonstrate that one geological rule does not apply to all: that the way in which ancient glaciers shaped one of the valleys was quite different from the others. As a result, the cultural legacy found in the three locations varied in ways that should inform our study of any open-air cultural traditions. In each valley the intertwining of human culture and environment has developed in different ways; and those differences over the millennia refer back to the complex and varied interconnections of geology, climate, and human culture.

Perhaps no single tradition more persuasively reflects the inextricable embrace of human culture by the paleoenvironment than the rock art in these valleys. It is not only that the pictorial subjects reflect layers in the evolution of human activities intersecting with changes in climate, vegetation, and animal life; no less vividly, each decorated panel reflects layers in geological time. Take, for example, a panel with the partial figure of an aurochs from Aral Tolgoi (Fig. 8). The animal was never completed: all we see are its powerful head and horn and its fore body, yet that summary image is enough to conjure up the live animal, its weight and power. The marks with which it was pecked recreate the

deliberate gesture of the artist as he pounded the stone surface with direct blows. Deep and uneven, and originally white from the crushing of the stone, those pecked marks have returned to the coloration of the stone surface. This is a process of re-patination that requires thousands of years. The lichens beginning to fill the bull's contours also attest to a process that requires many years and the existence of climatic conditions that would encourage that growth.

The making of the aurochs' image is about process in time; but the most vivid sense of deep time is the stone surface itself. Its seemingly grooved character is an illusion: the stone is actually relatively flat. Those apparent contours are fossilized memories of a period when this material was part of a lake bed, washed and shaped into now frozen contours. Much later, perhaps millions of years later, and in the aftermath of enormous seismic changes, the lake bed was pushed up with the rest of Aral Tolgoi, ending at the very top of the hill. That was not the end of the geological process that underlies the aurochs' image. At some time in the late Pleistocene, glaciers came down from the high mountains to the west and covered the hill, polishing, grinding, and in some cases crushing its stone surfaces. This outcrop with the aurochs was never crushed but it was polished, scraped, and grooved. Thousands of years later, perhaps it was its unusual beauty that inspired some unknown hunter to begin his aurochs; but, however it came about, that creative process was aborted, and over the succeeding millennia the surface became covered with ground-hugging juniper totally hiding the aurochs until we found it in the course of our documentation of the hill.

The processes unveiled in an examination of the aurochs from Aral Tolgoi are not unique. They can be sought out with rock art in general and certainly with that of the Mongolian Altai. Their recognition challenges prevailing approaches to prehistoric rock art: the tendency to wrench imagery from the stone on which it is executed and from the climate and vegetation that shaped that ancient world. In considering the rock art of the Altai, it is essential to understand the rhythmic appearance of prehistoric imagery as a direct reflection of a fluid geology and climate; it is essential to return the rock art to its geological source – the stone itself and its ambient landscape.

In the following pages we will consider the coming of humans into each of the valleys with more specific detail. Here it suffices to indicate the general outline of that process as far as it is now understood. During the late Ice Age, hunters and foragers appear to have followed rivers and streams up into the high Altai from lower elevations, most certainly in search of large game and fish. Their numbers were certainly very few, but stone tool scatter and rock-pecked imagery indicate that they made temporary encampments along the largest river of this region, Khovd Gol. Following the traces they left in the form of worked

stones and the images of large animals, we can imagine that they traveled upstream along the Khovd into the Oigor valley, possibly into the Tsagaan Gol valley, and certainly into the upper basin of the two lakes, Khoton and Khurgan Nuur. Scattered indicators of a human presence continued into what we call the Pleistocene–Holocene transition; that is the period between the end of the Ice Age and the beginning of our geological epoch (approximately 10,000–9,000 years ago). After that period, within the ensuing millennia of the middle Holocene (approximately 9,000–6,000 years ago), we lose sight of a human presence: not that people were not in that high region but that the signs of their presence have not been clearly identified.

That apparent absence changed, however, with the environmental transformations that began approximately 4,500 years ago, inaugurating our era, the late Holocene. The forests that had covered much of the mountainous region gradually disappeared, replaced by the expansion of mountain steppe vegetation into the highest valleys. With this transition, first hunters and then, slowly, herders reappeared in the valleys, seeking seasonal pasture and still abundant elk and ibex for game. By 4,000 years BP, these changes had catalyzed the gradual appearance of Bronze Age cultures in the high valleys. That process became fully manifested in the early second millennium BCE and lasted for more than 1,000 years into the early first millennium BCE. By that time – about 3,000 years BP – the physical environment of northwestern Bayan Ölgii had settled into the dry, cold region with which we are familiar today and the Iron Age, characterized by a horse-dependent, nomadic pastoralism, had taken hold across the Altai and the Mongolian steppe.

In the present, the sheer emptiness of this world and its lack of any but a few minimal signs of human settlement do not alert the casual wayfarer to the ubiquitous indications of a rich cultural life in the distant past. Indeed, most modern travelers would not even notice these traces: they would move along the sides of the valleys heading (most likely) to the passes leading over the glaciated ridges of Tavan Bogd and into the high plateau and steppe beyond, their minds on anything but the darkened images that mark thousands of stone surfaces in these valleys. Were they to notice, they would surely be puzzled: where did these images come from, when were they pecked and engraved on the stones, what do they signify? And what was the significance of the elaborate stone altars, the rows of stone mounds, the great stele, and the occasional stone images of male warriors? In fact, this vast storehouse of imagery and surface monuments, this veritable art museum in the heart of Asia, reveals an anatomy of deep time, layers of human culture shaped by a radically changing environment over a period of more than 12,000 years. The physical environment of these valleys may be understood as the macrocosm of geological time, as

process unfolding over millennia. The imagery pecked into the stone is a microcosm of change, the slow process of its creation and disintegration measuring the time of human generations. Between the two layers – that of the physical world and that of rock art – may be found intersecting patterns of location and elevation that reveal the rhythm and character of human habitation in the valleys.

The Study of North Asian Rock Art

Within scholarship on European prehistory, there is a well-developed consideration of the significance of location, view shed, and the human experience. A similar concern has characterized much of the modern study of the great rock art complexes of the Americas, Europe, Australia, and South Africa. Within Europe, much of that discussion relates to megalithic monuments but there are a few that consider rock art in terms of location, proximity, and patterns of human habitation.⁵ By contrast, there are almost no studies of North Asian rock art that have considered view shed and elevation as legitimate aspects of the rock art's significance.⁶ As a result, one confronts the paradox of a cultural expression embedded in landscape and part of the stone itself but divorced from any consideration of its encompassing, natural context.

In contrast to the state of theoretical scholarship focused on prehistoric rock art of Europe, that relating to North Asian rock art earlier than the Iron Age is rare. What does exist relates primarily to the earliest images within the basins of Siberian rivers such as the Yenisei, Angara, and Lena. This is at least partly the result of the very different character of archaeological remains in that cold and often desolate part of the world. The Neolithic as it existed in Europe did not occur in Asia north of present-day China: whether steppe or taiga or tundra, the land did not support agriculture except in very circumscribed regions, nor did it encourage the development of concentrated human settlements with all the social organization that implies. Within the mountain steppe regions of the Altai and Sayan ranges, the wind strips ephemeral materials and loose earth from the surface of the ground. This makes for a deflated cultural layer such that any cultural materials on the surface of the soil simply disappear or are displaced from their original strata. Perhaps the most significant impediment to the study of prehistory in North Asia is the fact that the only theoretical approaches were embedded in Soviet Marxist-Leninist constructions of the evolution of culture. One might say that the result was

⁵ See, e.g., Jones et al. 2011, Helskog 2014.

⁶ The most immediate exception may be found in Jacobson-Tepfer, Meacham, and Tepfer 2010.

a scientific tradition constrained by very narrow interests and approaches. On the other hand, now that the Soviet juggernaut has been released, the opportunity to explore the prehistory of North Asia is extraordinarily enticing.

In a somewhat similar manner, rock art within North Asia has been extensively studied but the vast majority of that material has been published in Russian or Mongolian and is thus difficult for Westerners to access. Much of that scholarly material, also, suffers from outdated approaches. The most extensive presentation of Altai rock art is associated with the Russian archaeologist, A. P. Okladnikov.⁷ Recording thousands of panels and images along the rivers of North Asia, he and his colleagues established a tradition of reducing images to image types or typologies rendered in black and white silhouettes; alternatively he would reduce a panel, however complex, to black silhouettes on a plain white ground, thus effectively destroying the larger physical context. This method is somewhat parallel to the tradition seen in the study of southwest American rock art, where particular patterns in largely nonrepresentational materials are gathered into specific styles, for example, Carved Abstract Style or Palavayu Anthropomorphic Style, and presented removed from their immediate and larger contexts. In the case of the North Asian material, most typologies were simply generic (e.g., a single hunter) or they were never clearly associated with a style identifiable with more than the location of the site where the image was first identified. Thus, the “Angara” style of representation of moose and elk became rooted in the now destroyed imagery of that river, even though when analogous images appear elsewhere they might encompass very different stylistic characteristics.

Unfortunately, in the manner in which they cleaned and recorded rock art sites, Okladnikov and his colleagues essentially made further work on them very difficult. Furthermore, the approach Okladnikov established was wholly inadequate for anything but a study of typologies. Images were taken out of their compositional and physical contexts and rendered in black silhouettes that could theoretically be mixed and matched to establish typological data. As a result, for example, the magnificent rock art of the Yelangash River in the Russian Altai was reduced to page after page of black imagery without any pictorial context.⁸ More troubling is the fact that in order to make an image more visually evident or even to make something out of what may have been very little, images were scraped clean of lichen, chalked or repainted, or otherwise

⁷ For an extensive review of relevant materials published in Russian and Mongolian, see Jacobson 1993 and Jacobson-Tepfer 2015.

⁸ Examples include all of Okladnikov’s publications on rock art of the Yelangash Valley (1980, 1981, 1982) and his publication of the important petroglyphs of the Chuluut Gol in Mongolia (1981).

defaced.⁹ Fortunately, in the last few decades, younger scholars have offered much more sensitive rock art studies, where the site is more carefully recorded and embedded in its natural environment. Nonetheless, many of the old methods of reproducing rock art imagery still pertain; and the general tendency to transform unique images and compositions into typologies is still dominant.

The problems inherent in such a typological approach can be quickly revealed. A large percentage of rock art imagery from the Baga Oigor and Tsagaan Gol complexes are embedded in compositions involving anywhere from 1 to 150 other images. While some of these panels may be simple conglomerations of images, most have what should be called a narrative significance: that is, the individual images are displayed across the rock surface and are postured so that they create a real sense of action and reaction or of change occurring in time, which is itself represented by the extension of space. A good example of how this works is offered by a hunting scene from Tsagaan Gol (Fig. 24), in which hunters on the right create a stampede of wild animals to the left across a space that we may imagine as a mountainous slope. A more complex narrative is found in another hunting scene, this from Baga Oigor (Fig. 44). In this composition, several hunters holding a variety of weapons encircle a bear; the posture of each hunter and the intrusion from the right and left of yet other running hunters conjure up the intensity of a scene from life. However, if these images were wrenched from their compositional contexts and reduced to image types, separately and together they would lose their narrative value. Similarly, if any of these images are presented as black and white drawings, they become divorced from critical signs of their geological context in space and time: the stone's texture and coloration become invisible, as do the scraped and abraded signs of a glacial past. In this situation, the rock art is removed from its given place; or perhaps it would be more correct to say that significant features of physical space and the indicators of a specific paleoenvironment are simply ignored.

Rock Art and Archaeology

Within the valleys that will be considered here, the cultural materials with the longest and deepest prehistory belong not to the great stone mounds and standing stones, but to the imagery pecked into the surfaces of boulders and bedrock. For better or worse, this material is often referred to as rock art, even

⁹ These comments apply, in particular, to Okladnikov's recording of the great Lena River site of Shishkin (1959) and the cave of Khoit Tsenkir (1972). At many sites, e.g., Kalbak-Tash on the Chuya River in the Russian Altai, early researchers scrubbed lichen from the surfaces in order to trace the imagery. As a result, the stone surface was damaged and, of course, the lichen ultimately grew back.

though many specialists refuse to consider it as having any discernible significance other than as a kind of pictorial commentary on the deep past. Since rock art in the Altai Mountains is either pecked or engraved into the surfaces of boulders and outcrops, it is petroglyphic in character. If there were ever pictographs (i.e., painted images) in the open air within this part of the world – and they may well have once existed – they have totally disappeared.¹⁰

Although rock art is usually included as a subfield within archaeology, its position there is not comfortable: unlike surface monuments and burials, petroglyphic rock art can be neither excavated nor directly dated.¹¹ Perhaps for that reason, or perhaps because most observers are not certain how to “read” the imagery, rock art rarely if ever enters into the investigations of archaeologists working in this area.¹² Even within scholarly studies of rock art itself, a critical consideration of dating is rarely engaged. As a result, the vast majority of studies of North Asian rock art have focused on imagery rendered as black and white drawings and in terms of typologies of subjects and styles. These are represented either as individual elements or within larger compositions; in either case, the imagery is divorced from the physical rock surfaces on which it is found and from the immediate spatial context of those surfaces. As a result, imagery becomes yet another archaeological data set, but one resistant to dating unless excavation archaeology reveals analogous realia. Images of wild fauna or domesticated animals can sometimes help to constrain dating, but, unless animal bones are preserved within burial sites or refuse pits, the imagery has no analogy within an archaeological context. Rock art of the Altai Mountains includes thousands of images of people wearing particular hats or clothing, but that material is ephemeral: one would rarely expect to find anything in burials or dwelling sites that might offer datable analogies. Within the Mongolian Altai, this silence is absolutely the rule with regard to sites or images earlier than the late Bronze Age (late second–early first millennia BCE). Exceptions to this cultural silence would be bronze or stone weapons or tools or even wooden weapons; but, while images of such objects do appear in Bronze Age rock art,

¹⁰ The only surviving pictographs are found in caves; and, within the Mongolian Altai, the only major example of this cultural tradition is found in the cave of Khoit Tsenkir, in Khovd aimag (Okladnikov 1972).

¹¹ There have been a number of attempts to date petroglyphs scientifically, using a variety of techniques. None of them have thus far proved reliable. For one point of view, see Bednarik 2001; and see Roberts 2017 and Gibbon 2017.

¹² A recent study of several archaeological sites in northwestern China and western Mongolia includes one site with remarkable images of spirit figures. The archaeologists who investigated this site, however, ignored several critical questions that would bear on the dating and meaning of these images: whether there was an integral relationship between the excavated site and the covering stones with images; where those stones might have come from; and the possible relationship of these images to others found at distant sites. See Kovalev 2015.

actual examples in stone and metal are rarely found within a datable excavated context and examples of wooden weapons are nonexistent. This situation is fairly consistent across the Russian and Mongolian Altai and up into the Sayan Mountains in Khakassia.

The Petrology of Rock Art

Within the high Altai Mountains, cobbles, boulders, and bedrock will be either igneous or sedimentary in origin. In general, igneous granite appears in the form of freestanding stones ranging in size from boulders to gravel. Because this material emerged at the site of volcanic eruptions high in the mountains, one may refer to the large boulders as erratics (i.e., transported from their origin site, usually by glacial action). Granite is coarse grained, and in the Altai the coloration of the matrix is usually a mixture of gray, white, and black. Over the millennia, the weathered rind or skin of the boulder may frequently have acquired a dark brown coloration. When images are pecked into the granitic surface, they show up as white and stay that way for a very long period of time. Because of the damage to the outer layer of the stone, however, it is weakened and may subsequently peel or chip off, particularly as a result of freezing and thawing.¹³

Bedrock, by contrast, is primarily hard sandstone (greywacke), the result of ancient sedimentation in a watery environment followed by eons of compression and subsequent upthrust caused by seismic activity. Depending on the mineral content of the stone matrix, the surface coloration varies from dull brown to black, or from bluish green to a rosy-gold hue. Copper within the stone brings to the patina a bluish-green cast, black may indicate manganese, and red indicates a high ferrous content. Within the high valleys, which interest us here, that sandstone is frequently richly textured: with the scrape and gouging of ancient glacial action or with the suggestion of ripples created in the sedimentation of primordial sand. In certain areas, mudstone exposed for millennia acquires a satin-like coloration and texture. While in most cases it is probable that ancient rock artists pecked or engraved their images on any good stone at hand, careful consideration of the rock art in our three valleys indicates that in many instances, coloration and texturing may have persuaded an artist to use one particular surface rather than another. That is, the selection of surface may indicate something about individual discrimination in relationship to a larger physical context. Noting this is to become aware of a single person's taste cutting through the anonymity of deep time. At the same time, the rock itself reveals eons of a geological past.

The execution of petroglyphic rock art reflects an individual's intention and vision, that is, his particular stylistic understanding of the object or

¹³ For an example of this process, see MAIC: PETR_00013_TG.