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A Distinct Form of Socio-Political and Economic Organization in the Pazyryk Culture

Karen S. Rubinson [1,*] and Katheryn M. Linduff [2,3]

[1] Institute for the Study of the Ancient World, New York University, New York, NY 10028, USA
[2] Department of Art History, University of Pittsburgh, Pittsburgh, PA 15260, USA
[3] Department of Anthropology, University of Pittsburgh, Pittsburgh, PA 15260, USA
* Correspondence: kr987@nyu.edu

Abstract: The Pazyryk Culture, situated in the Altai Mountains of Russia, Kazakhstan, Mongolia, and China, flourished for a relatively short period: 5th–3rd centuries BCE. A series of burial grounds from the later phase, 4th–mid-3rd centuries BCE, to be studied here reveal the remains of three groups of individuals of high, mid, and lower status. Within the limiting topographical and environmental confines of the local region, in contrast to the vast grasslands of the steppe and the deserts and oases of Central Asia, it is possible via the analysis of material culture and with reference to ethnographic studies to see nuances of interaction among these three groups and the regions immediately adjacent during this short period. Aided by modern scientific techniques, including DNA and isotopic analysis, together with analysis of excavated and often frozen remains, it is also possible to map out a heterarchical set of relationships within the hierarchical framework. The model developed in this unique landscape might be tested elsewhere in Eurasia as it extends the application of the notion of nonuniform socio-political organization among pastoralists noted for Bronze Age societies in the Eurasian steppe to the late Iron Age.

Keywords: Pazyryk Culture; heterarchy; horse herding; landscape adaptation; Altai; climate; trade; societal complexity

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1. Introduction: What Constitutes Pazyryk Culture?

As proposed by Ochir-Goryaeva (2020),[1] the remains from tombs discovered in the mountainous region of central Siberia in the Altai Mountains of Russia, Kazakhstan, and later dated ones in western Mongolia and northwestern China, exhibit consistent burial patterns and/or deposits distinctive for the region. She argued that mobile pastoralists who occupied the open steppe landscape practiced differing burial practices due to their more regular interaction with groups beyond their territory and suggested that because the Pazyryk peoples had limited access to groups outside of their confined mountainous area, their burials and their contents remained consistent throughout their occupation of the Chuya Valley region. We extend this argument to suggest that although their burials share features of a broader steppe culture, including mound building and "animal-style" artifacts, the Pazyryk Culture represents a self-contained regional community that lasted only from the 5th to the 3rd centuries BCE due to environmental and historical circumstances. The materials left in these burials will be read here as evidence of a society organized primarily and uniquely for the region around the rearing and trading of horses that depended on both a hierarchical and heterarchical system of leadership that allowed for the sharing of duties and goods as needed.

For example, the objects, imagery, and treatment of the body in burial point to an attempt to capture, display, and maintain that which was most important for the livelihood of the community—family and group relationships, respect for the wild animal kingdom, their domesticated herds (especially horses), the protection and bodily health of the deceased, and the status of the individual and the local group.[2] Importantly, the cultural

value placed on those notions must have guided the selection of images in order to maintain, validate, and project their common bond. Preparation of the necessary accouterments for funerary and burial rituals to meet the ritual schedule, in addition to everyday activities, required many at several levels of responsibility and authority to work together in order to maintain an ordered society.

Although access to some exotic and precious goods was restricted for the elites, the preparation of ritual materials for burial, as well as the use of certain motifs and burial patterns, were shared by persons of all social groups. Such common rituals and displays would also have confirmed the bond among them but also laid out and reminded the community of the social role and position of each observer to the group as a whole. Such shared values displayed in these burials and above-ground monuments provide evidence that ritual organized the groups around common principles that could overcome local, individual ambitions as was argued by Barfield for living mobile pastoral groups (Barfield 1993, p. 86), or as Wright suggested for Mongolian nomadic pastoralists where such displays, he suggested, were leveling mechanisms that yielded evidence of community solidarity, not necessarily social hierarchies as had been argued in the past (Wright 2015).

This study of the Pazyrykian society will offer an alternative model to those recently reviewed by Spengler et al. (2021, p. 251) and Hermes et al. (2019) for mobile pastoral groups and will instead look at social order within the Pazyryk Culture and attribute that to its self-contained topographic configuration, environmental and climatic conditions in addition to historical contingencies. What we have found is that the Pazyryk Culture was a regional horse herding economy seemingly organized as a local, regional network of interdependent communities that gave rise to a largely self-sufficient society supported by unequal relationships and interregional interaction as described for some other mobile pastoral groups (Frachetti 2012; Simpson and Pankova 2017, p. 162), but not yet understood for the Pazyryk region. Stability in such groupings demanded a complex network of partners that created an overlapping exchange system based on trade and exclusive gifting of very special exotic goods. That system survived only 50 years in and around the site of Pazyryk itself, although the beginnings of that pattern apparently developed and operated in the immediate region at least 150 years earlier. Individuals and groups at a variety of social levels and at multiple scales participated and probably shifted from task to task and responsibility to responsibility. For instance, the vertical relations in the Pazyryk communities allowed for local management of herds and, in the case of horses, the specialists who handled and trained them, whereas horizontal, unequal, or differentiated relations may have existed with neighboring or even local groups such as between horse traders and, probably, fabricators of metal weapons or fur trappers.

Moreover, within the dispersed complex of Pazyrykian communities, some individuals must have carried out several tasks that presumed situational leadership in order for the Culture to function as a whole. This case study of the horse-based economy established by the mid-4th century BCE at Pazyryk proposes a model of organization that considers the location of the culture and the consequent specialized adaptation developed to manage it. Such sensitivity to setting and the unique adjustment to it does also refute a uniform definition of "nomadic" lifeways[3] and underscore the emergence of diverse yet "strategically independent" small-scale socio-political societies as suggested for the Eastern Eurasian Steppe in the Bronze Age by Frachetti (2008, 2012, p. 2).

2. Background

Sites now known collectively as constituting the Pazyryk Culture have been located and excavated in and near the Altai Mountains of Russia, Kazakhstan, Mongolia, and China (Figure 1). Taken together, they can be dated from a relatively short period, from the 5th–3rd centuries BCE. Widely known in the early 20th century after the excavation of the burial site preserved in permafrost at Pazyryk, the region was often included in discussions about Eurasian trade and exchange networks of goods and ideas originating in the sedentary states of China, Persia, or Greece.

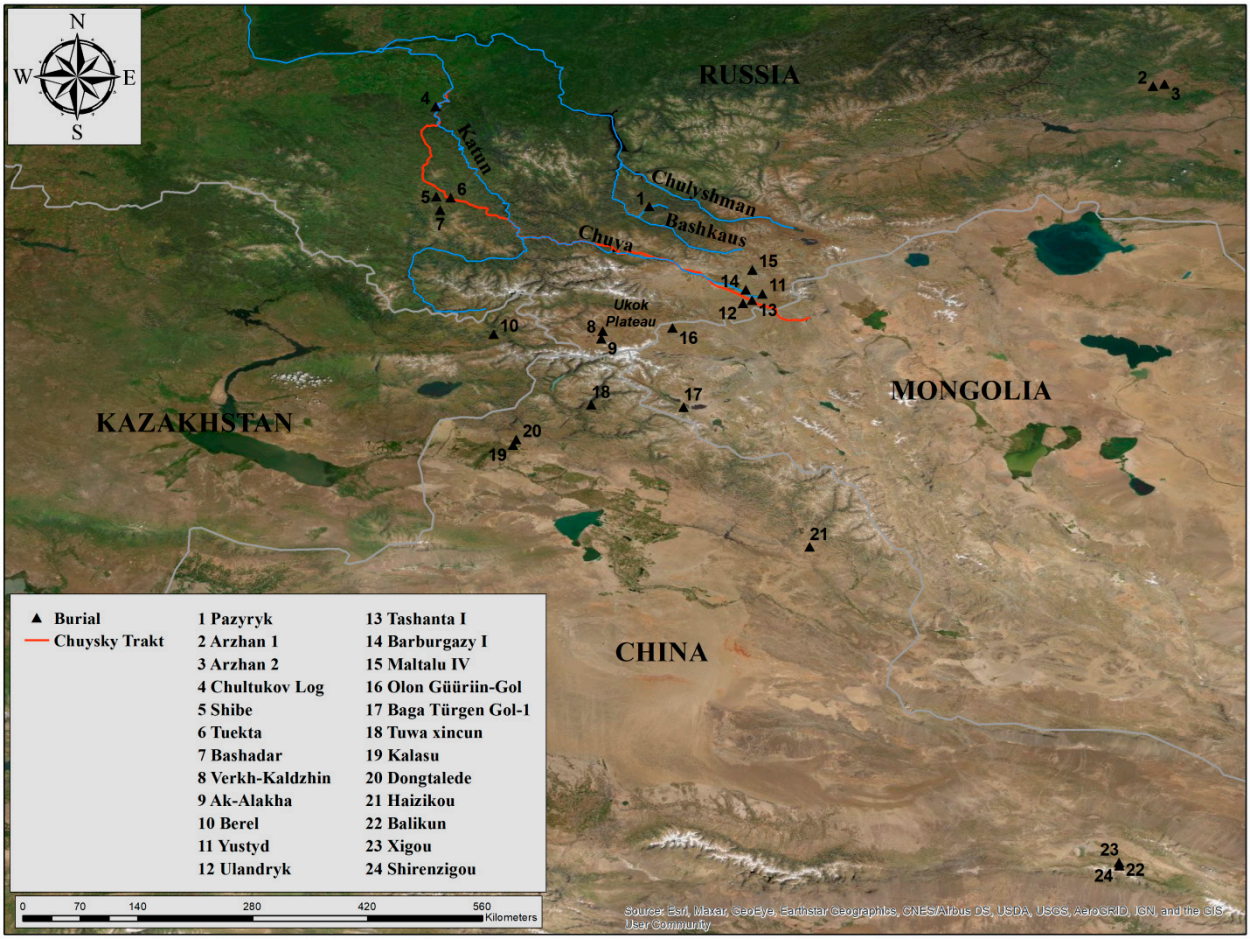

Figure 1. Map of Pazyryk Culture sites. Map by Evan Matthew Mann. (Many other sites are collected in Mongolia and plotted by Jacobson 2009).

The Pazyryk Culture designation includes a subset of sites often subsumed under the all-encompassing label "Scythian". From the exacting work of González-Ruiz et al. (2012) and others (Voevoda et al. 2000; Molodin 2000), we know that the underlying population across the Steppe was genetically connected, but the dynamics that may have driven a cultural diffusion are still poorly understood. The populations of the Pazyryk region, for instance, were a mix of several regional eastern and northern Eurasian gene pools, suggesting the movement of peoples in and out of that small region for many centuries before and during the first millennium BCE (González-Ruiz et al. 2012, pp. 9–10), but the specifics of those movements still await investigation. How the Pazyrykian peoples might have been connected to the larger world called by some of the Scythian culture, which they surely did not know first-hand, is still an open question. They developed a delimited culture that was internally coherent and short-lived and that allows for a focused discussion of the group locally as well as regionally constituted and maintained.

The Pazyryk Culture derives from the name of the find spot of the best-known group of mounded kurgans located in the valley of the Ulagan River, where Russian archaeologists M. P. Griaznov (in 1929) and S. I. Rudenko (in 1947–1949) explored barrows preserved in permafrost, the five largest of which are thought to be the burials of the upper elite leadership of the region at that time (Figure 2). More recently, mounded tombs nearby on the Ukok Plateau in the eastern Altai at Ak-Alakha (Polosmak and Molodin 2000; Polosmak 2001) and in northern Kazakhstan at Berel yielded other richly outfitted Pazyryk Culture funerary remains dating from the same period (Francfort et al. 2006; Samashev 2006, 2011, 2012). Unlike the large barrows at Pazyryk, these are mostly tombs of lower-level elites, although Berel 1, excavated in the 19th century, appears to be more similar to the Pazyryk

examples (Zakharov 1925, 1928). The lower slopes rising from the Chuya Valley are also marked by the burial complexes to the west of Pazyryk at Bashadar, Tuekta (Rudenko 1960), and Katanda (Zakharov 1925). In addition, small burials of non-elites were excavated in the 1980s at sites such as Yustyd, Ulandryk, and the Sailugem valley (Kubarev 1987, 1991, 1992).[4]

Figure 2. View of Pazyryk kurgans. Константин, Ганжа. "Pazyryk Kurgans". *World History Encyclopedia*. Last modified 18 June 2021. https://www.worldhistory.org/image/14265/pazyryk-kurgans/. Use under creative commons license, accessed on 4 July 2023.

Since then, Pazyryk-style cemeteries in western Mongolia, such as at Olon-Kürin-Gol excavated in 1993 by a Russian-German-Mongolian team (Molodin et al. 2012; Törbat and Tseveendorj 2016) have been reported. Other sites in the same region, the Baian-Ölgii aimag, were explored by V. I. Molodin, H. Parzinger, and Tseveendorj (Molodin 2008; Molodin et al. 2007, 2016) as well as by a Mongolian-French team (Törbat et al. 2009). These sites yielded burial patterns and materials comparable to those known at Pazyryk itself and on the Ukok Plateau (Polosmak and Molodin 2000; Polosmak 2001). Others were reported in northwestern Mongolia from a slightly later period (MASKD II 2020). Additional related sites that include Pazyryk features, although less directly modeled on Pazyrykian tomb types than those at Olon-Kürin-Gol, for example, were located and excavated in Dzungaria between the Altai and the Tianshan Mountains in Xinjiang Province in western China (Yu and Hu 2015; Ma 2014; Shul'ga and Shul'ga 2017). These findings show that knowledge of the Pazyryk culture extended far beyond eastern Kazakhstan and the Siberian Altai to its east and southeast.[5]

Interestingly, both the Mongolian sites and those in northern Xinjiang are accessible today from the north via a passageway where a highway and gas pipeline are being developed in order to provide contact into and out from the Pazyryk valleys as they would have been in the 6th to 3rd c. BCE (Nyíri and Breidenbach 2008). The terrain prohibits other routes and allows natural gas, rare animal pelts, and minerals to flow out from the region.

Likewise, the only route from the west into the Chuya River Valley and the Pazyryk culture sites runs through Berel in northeastern Kazakhstan. Routes along the Ob River from north to south must have provided for contact, as did tributaries of the Yenisei River that led to the forested area of Tuva and their mineral and fur resources. Via these passageways, the Pazyryk peoples were linked along routes that we shall see provided an economic lifeline based on trade and exchange, and along these routes were found peoples who shared some related traits with the Pazyryk Culture, such as a group known as the Chandman-Sagil or Sagly-Bazhy Culture (Novgorodova et al. 1982; Jeong et al. 2020, pp. e10–e11).[6]

The Altaian community was not the first horse-riding, pastoralist group in the broader region of Siberia. It was preceded by other groups who buried their elites under mounds together with horses and many riches. The important site Arzhan has yielded the earliest of these and is located in the Sayan Mountains in Tuva to the north and east of Pazyryk. A series of burials, of which two have been excavated, belong to two different phases.[7] The earliest burial known so far was excavated by Mikhail Griaznov and M. Kh. Mannaî-ool in the 1970s (Grjaznov 1984; Griaznov 1980). Termed Arzhan I, it dates to the end of the ninth/beginning of the eighth century BCE (Zaitseva et al. 2005, pp. 66–68; 2007), and although it had been looted in the past, what remained, Hanks argues, gives a window onto the rise of a mounted military and apparently a regional confederacy (Hanks 2012). The contents of their burials, including materials from outside the region, were expressions of their economy, elite status, and role in the local society. Arzhan 1 has a distinctive plan under a platform that was about 120 m in diameter and 4 meters high that concealed several burials. At the center was the burial of a male and a female, surrounded by eight additional burials (males mostly over age 40, although one was 18–20 years old) and six horse burials. Radiating out from the center were a series of wooden chambers constructed of larch logs, some of which contained horse burials alone and two of which contained both horses and human beings; chamber 13 contained bones of a male older than 60, and chamber 31 contained two elderly males. Chamber 9 contained a young child with no accompanying horse. Altogether, there were 160 horses buried within the central mound and about 300 additional horses around it. The gold found within the mound was fragmentary and was associated both with the central burial and the male in burial 13, as well as with horses in burials 13 and 31, in the form of foil strips decorating the horses' tails (Grjaznov 1984, p. 32). The burials contained weapons and horse equipment, a few with animal imagery, including a bronze horse phalera in the shape of a curled feline, an image which continues to be associated with many later horse-riding mobile military groups across the steppe and associated with the broader Scythian culture (Cunliffe 2019). The variety of bit types, together with variations in weaponry, as laid out in the burial, indicate connections with eastern Kazakhstan, the Altai and the Minusinsk basin in the northern sector, and from the materials in the south, contacts with Tuva and Mongolia (Bokovenko and Samashev 2012, p. 25). Mobility was clearly a way of life that included trade and exchange at this early date.

A second burial in Tuva, Arzhan 2, excavated by a Russian-German team between 2000 and 2004, in contrast to Arzhan 1, was undisturbed. A burial chamber of an elite male and female couple was not centrally located under the mound, but the wealth of their furnishings, including more than 5600 objects of gold, made clear that they were the individuals for whom the large mound was constructed and some of the additional deceased had served. The mound is much smaller than Arzhan 1, 80 m in diameter and 2 m high, and dates to the middle to the end of the 7th century BCE (Zaitseva et al. 2005, pp. 84–88; Zaitseva et al. 2007). Horses accompanied the burials, although in this case, they were buried outside the space defined by the burial mound itself. The remarkable gold work, which has been studied extensively, is now on display in the Hermitage Museum in St. Petersburg (Menghin et al. 2007, pp. 60–99; Čugunov et al. 2010; Čhugunov et al. 2017).

As in the case of Arzhan I, there is evidence of a broad reach outside of the region, reflecting the spheres of interaction and control. Genetic analysis of the horses from Arzhan 2 demonstrates that they originated in perhaps ten different herds, and one of the horses

hailed from the Altai region, according to isotopic study of horse bone (Ellanskaya 2013, p. 34). Also, based on the isotopic study, but of human bone, the female in the main burial is also from outside, having a north Altaic origin (Ellanskaya 2013, p. 36).

Although there is passing reference in the literature to regional surveys locating what might be remains of habitation sites of this group (Plets et al. 2012, pp. 891–92; Ochir-Goryaeva 2017, p. 335; Gheyle 2009; Kiryushin et al. 2003, pp. 15–26; Glebova and Sergeev 2018, p. 185), and the strongest evidence for wintering in place comes both from log cabin structures found in the largest burials (Figure 3) and modern ethnographic parallels (Polosmak 2001, p. 20), the funerary remains are our main source of information. Evidence found in burials from the later phase of the Pazyryk Culture, 4th–mid-3rd centuries BCE, of particular interest here, importantly include graves of social and political elite, and others located in the adjacent vales and slopes of the Chuya Valley and Ukok Plateau of the Altai Mountains who come from lower and mid-level status communities, respectively (Linduff and Rubinson 2022, pp. 82–86). Considering the broad range of locally procured and manufactured material remains brought forth from these cemeteries across the region, interaction among these three local groups and the regions immediately adjacent can be discerned. When reviewed within the limiting and unique topographical and environmental confines of this local region, a new understanding of the functioning of their subsistence strategies, sociopolitical and economic organization, and ritual practices across the Pazyryk Culture can be realized. This distinct local trajectory followed regional networks of interaction known as early as the fourth and third millennia BCE (Frachetti 2012).

Figure 3. Burial chamber, Pazyryk kurgan 5. State Hermitage Museum 1689/283. Modified by authors from Simpson and Pankova (2017, p. 263, fig. 150).

3. Climate and Topography

Glebova and Sergeev proposed that the physical environment of the Altai Republic, overall, an area much larger than that occupied by the Pazyryk Culture, fundamentally determined settlement and habitation patterns and the chronology of their use. This region of Siberia includes steppe and forest-steppe lands, high river terraces, flood plain meadows, and intermountain depressions suitable for habitation at various altitudes. These areas provided both pastures for animals and small-scale cropping (Glebova and Sergeev 2018; Tishkin and Dashkovskii 2003, p. 144; Hiebert 1992). Rivers and their tributaries flow to and through the region; mountain lakes contain enormous freshwater reserves. In a natural setting that was so varied and unyielding in terms of climate, topography, and habitat, the environment was fundamental to determining a lifestyle and economy that depended on the interaction among local groups, as no single sub-area was entirely self-sufficient. The major ecosystems in the region—alpine, taiga, mountain-forest, forest-steppe, steppe, and freshwater/wetlands—played a significant part in the regional economy. The unique diversity of animals and plants made the area desirable for many distinctive practices, and

yet all movement was constricted by the mountainous terrain and varied ecologies. The Pazyryk Culture likely provided and received goods for and from neighboring people inside and outside of this confined area, as well as supported shared regional seasonal ceremonies and burial rituals.

This sort of interchange both at as well as beyond Pazyryk increased over the period under study (late 4th to 3rd c. BCE). Dalia Pokutta and her team, for instance, reported on sites dating from the 5th c. BCE in the Manzherok territory in the Russian Altai in the Katun Valley north and west of Pazyryk where the Manzherok settlement with the adjacent Chultukov Log 1 cemetery was found. Evidence there shows signs of agriculture and mobility of members of the community between there and the Pazyryk region somewhat earlier than the elite Pazyryk burials themselves, including the interment of women with the distinctive burial treatment of shaved heads and charcoal-blackened wigs, known in all tiers of the Pazyryk Culture. A similar phenomenon can be seen in the Barangol cemeteries, where in Barangol-2, at least one woman buried with wig and ball-topped hairpins was found. Combined dating evidence and strontium isotopic values from Chultukov Log 1 indicate that after the 5th century BCE, residential mobility among Altaic peoples was rising, especially long-distance female movement, even leading to the acquisition of new contacts with adjacent territories of Central Asia (Pokutta et al. 2019; Oleszczak et al. 2018; Borodovsky and Tur 2015).

Confirmation of cultivation in this northern Katun valley follows the findings of recent paleoethnobotanical studies in Central Asia that show crop diffusion and spread. Although still fragmentary since the archaeobotanical finds are piecemeal and often fortuitous (from burials, for instance), the picture of the economic landscape of the Altai is complex, diverse (Spengler et al. 2016, p. 2), and interactive. In Siberia, Spengler posted evidence of wheat, barley, and broomcorn millet from as early as the early first millennium BCE at sites at Milovanovo-3 (on the Ob River where millet and wheat impressions were found on ceramics) and Serebryakovsky (on the Yenisei where barley and millet seeds were found) (Spengler et al. 2016, pp. 1531–32, Table I; Vainshtein 1980, p. 51). Such evidence offers a preliminary explanation for Pokutta's claim that there had been a movement of food products such as grains from sites in the northern Chuya Valley south to Pazyryk over a period of the second half of the first millennium BCE (Pokutta et al. 2019).

In addition, the Altai was and is a region of vastly divergent temperatures and terrains that supported local networks of largely self-sufficient food-producing units that provided goods for local consumption and probably for exchange. For example, chamois, squirrel, ermine, and sable were used to make special caftans found in the elite grave Kurgan 2 at Pazyryk (Rudenko 1970, p. 85). These non-local materials from wild animals were supplemented by artisan-fashioned local felt (sheep fleece), leather (horse hide), horn (from yak and argali), and gold and other materials that expanded and embellished the wardrobe of elites and their horses (Rudenko 1970, p. 86; Borodovskii 2000).

The effect of climate on the Altai populations, using information from dendrochronology to provide control within decades of the changing climate (Panyushkina 2012; Panyushkina et al. 2007), suggests that climate change may have affected the occupation locales and distribution of the burial sites of the Pazyryk culture (Rubinson and Linduff 2021). As Jiri Chlachula says, "[r]ich seasonal (late spring–early summer) grasslands are presumed to have been the primary impetus for this occupation of rather remote and difficult-to-access places, such as Plateau Ukok" (Chlachula 2018, p. 17) where tombs of mid-level elites have been found. Those locales had become excellent pasturelands that regenerated quickly due to the changing climate and where winter snow was thinner than at lower levels (Chlachula 2018, pp. 14–15). However, between 370 BCE and 250 BCE, there was "a turbulent cold climate with amplified decadal variability", creating unpredictability and instability (Panyushkina 2012, p. 149). The latter date is the time when Pazyryk's occupation appears to end.

Because of the local, rugged topography, routes of exchange across the region were possible only along east/west river valleys (Plets et al. 2011; Nyíri and Breidenbach 2008)

that must have accommodated local exchange of goods, but also the introduction of foreign goods. In addition, the recently proposed earlier route to the north may have supplied other products, such as furs or metal ores (Pokutta et al. 2019). In addition, besides the movements of goods and people, these could also be conduits for ideas and cultural practices, as they had been in the Bronze Age (Frachetti 2012, p. 17).

Known key routes across the valleys presumably provided the paths over which various kinds of affiliations, including kinship, cultural, and ritual, occurred, but they also formed tracks for economic supply chains. What precisely the role of horses was in the economic relationship cannot be completely known at present, but horse herding was certainly the primary occupation in the Chuya Valley, and horse sacrifice played a central role in ritual. Horses were also a commodity that demonstrably drove movement east to Mongolia and trade connections to the south to China (Linduff and Rubinson 2022, pp. 102–27). A cooperative population with a variety of essential skills and the ability to multi-task must have been requirements for society to endure but would have been threatened if any part of the system, such as climate, broke down.

4. A Multi-Tiered Socio-Political Organization

Taken together, the three classes of late Pazyryk Culture burials can be documented to reveal a *hierarchical* social order, while at the same time, a *heterarchical* order appears to have maintained other parts of the pastoral lifestyle (Crumley 1995; Linduff and Rubinson 2022, pp. 82–86).[8] The hierarchical organization has been delineated via the study of the quantity and quality of grave goods and the size and location of burial structures.[9] Personal merit and position were displayed at all levels of society via the embellishment of adult fashion with leather applique enhanced with gold or other metal foil, fur elements, gold appliqué, and very occasionally beading. When found on children's clothing, it must have reinforced/confirmed the standing of a particular lineage. Even though men wore caftans and pants and women wore skirts, pointing out gender distinctions, access to fancy attire for the elite appears to be gender-blind, although accorded only to certain families who would have been advantaged by its exotic and lavish properties.

The five largest tombs of the high elite at the site of Pazyryk were constructed over about 50 years, based on dendrochronological dating. Three of the burials were each of a man and a woman, and two were of single males.[10] A smaller burial at the end of the sequence contained a woman and child. From 7 to 14 horses were sacrificed at the time of large burials. Both the humans and the horses were elaborately decked out, and the grave goods demonstrated both visual reflections of more westerly areas and materials imported from many directions, including furs from the north, textiles originally from the Achaemenid world, and textiles and lacquer from China. These goods constitute further evidence of the socio-political elite since they were found almost exclusively in these tombs.

The Ukok plateau, to the south of the region, hosted slightly smaller mounded graves that were burials of individuals who are considered to be socio-economically mid-level members of society. Their tombs generally contained fewer horses, from 4 to 10, and little in the way of imported materials. With two exceptions, they were individual males. One exception was a female popularly known as the Ice Princess, the other a double burial of two individuals, one male and the other with disputed gender (Linduff and Rubinson 2022, pp. 86–88).

A unique feature of the data set for the Pazyryk Culture overall is the unusually large number of burials of common folks interred and now excavated in the cemeteries of the Chuya Valley. These cemeteries included burials of men, women, and children, often interred together in diverse combinations. In most of the cemeteries, between one-third and one-half of the graves contained horses, but in small numbers, generally corresponding to the number of buried individuals. These much smaller graves also contained timber structures, but they were constructed as simple boxes and not the elaborate cabins at Pazyryk.

There is evidence of a shared lifestyle among all groups. In addition, there are shared symbols of personal identity, perhaps indicating family or clan affiliation, which were documented at Pazyryk (high elite), Berel, and Ak-Alakha (regional mid-level elite). The burials of common folk show, moreover, that they were among themselves internally hierarchically ordered as evidenced by the amount of gold and decoration on garments or other trappings such as bags, for instance, at Ulandryk (Kubarev 1992, Fig. 30, p. 85; Fig. 32, p. 89) or gold earrings at Yustyd XII, Kurgan 4 (Kubarev 1991, Fig. 34, p. 131).

Despite differing scales, the burials under mounds, sacrificed horses, wooden burial structures, shared items such as wooden trays with legs, single ceramic jars, and carved wooden components of horse tack featuring shared animal imagery demonstrate that they were members of a multi-tiered, conjoined society. Additional features, such as identical tattoos found on a male and a female on the Ukok Plateau and the male leader from Pazyryk Kurgan 5 (Polosmak 2000), show direct connections between individuals. The headgear on males found on the Ukok Plateau and among the commoner burials, for instance, features small images of animals, including horses, and demonstrates strong cultural ties among the groups (Figure 4), as do hairpins topped with deer, found among women in all three groups (Rubinson and Linduff 2023). The commoner groups likely were herders and when needed, were fighters, as well as provisioners of at least some of the craft products. Among the mid-elite group, the Ice Princess is understood to be a ritual leader, a role that was likely shared among members of the most elite group. Thus, the society was multi-tiered with shared cultural features and economic interests.

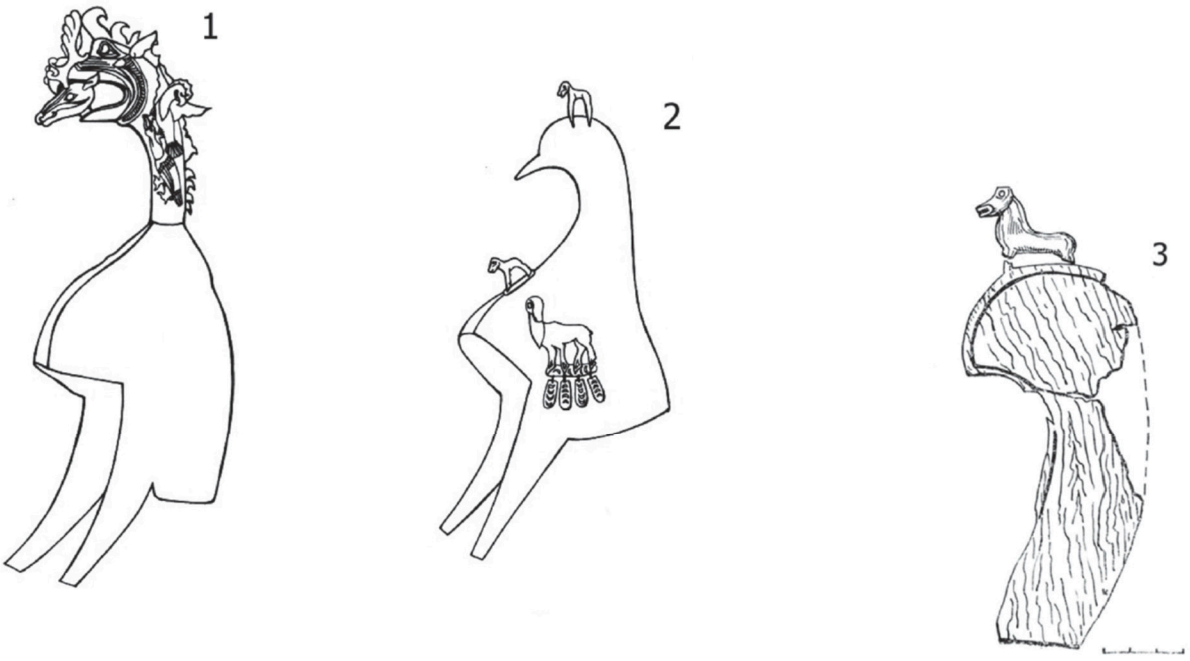

Figure 4. Reconstructed felt hats with wooden attachments: (1) Pazyryk kurgan 2 (elite); (2) Verkh Kaldzhin-2, kurgan 3 (mid-level); (3) Wooden hat frame with attached animal: Ulandryk II, kurgan 8 (commoner). Adapted from Ochir-Goryaeva (2017, Figure 6).

5. A Multi-Occupational Society with Seasonal Leadership Demands

Certain tasks required and allowed individuals to rise to leadership positions when the occasion arose. The most conspicuous would be the military, but those who led the herding activities at distinct times of the year would form another group requiring coordination and leadership: shearing, refining the fleece, felting including dyeing, and construction of clothing, for instance. The production of products used corporately by the community, such as ritual items or leather-trimmed horse gear might require the coordi-

nation of efforts of experts with various skills, as would trading in order to connect this isolated and somewhat fragile area with the world outside of its topographic confines.

Our reconstruction of the yearly round of activities in this southern Altai region incorporates robust livestock-related tasks, including the management, milking, trading, and ritualization of horses and a parallel sheep herding tradition used for food and preparation of felted clothing and animal and household equipment; subsistence hunting and fishing; and a sophisticated craftworking tradition in wood, bone, horn, and leather (Figure 5). Such pursuits were essential to the economy and took place at different times of the year and occupied some, but not all, of the collective community all the time. Additionally, these endeavors were accompanied by the importation and use of metal items for horse harnessing and weapons; of fur for clothing and of lacquer ornaments for decoration of horse tack; of cotton and silk fabrics for clothing, horse gear, and containers, as well as finished woolen carpets and hangings (Figure 6), and seeds such as coriander and the hallucinogen hemp for ritual use (Linduff and Rubinson 2022). Although there may have been some cultivation or gathering of winter fodder for the sheep (Hermes et al. 2019), domesticated grain crops were not preserved in the burials and appear to have been a limited element, if at all, of the daily human diet, similar to historically recorded mobile pastoralists (Rudenko 1970, pp. 60–61; Borodovsky and Tur 2015, p. 139; Hermes et al. 2019).

Figure 5. Saddle cover. Felt, leather, hair. Pazyryk Kurgan 1. Adapted from Rudenko (1953, Pl. 77).

(**a**) (**b**)

Figure 6. (**a**) Pile carpet from Pazyryk Kurgan 5. https://en.wikipedia.org/wiki/Pazyryk_culture#/media/File:Pazyryk_carpet.jpg (public domain), accessed on 4 July 2023. (**b**) Color detail of pile carpet from Pazyryk Kurgan 5. https://commons.wikimedia.org/wiki/File:Scythiancarpet.jpg (public domain), accessed on 4 July 2023.

Occupational diversity (differentiated by gender and age) and the yearly calendar required on-demand, specialized skills and varied manners of organization.[11] Those would include the following:

1. Herding (seasonal: round up and winter foddering necessary);
2. Craftworking (winter, seasonal);
3. Trading (probably year-round);
4. Hunting (year-round);
5. Felting (spring);
6. Food prep (daily year-round; summer—limited cultivation, including gathering);
7. Food storage (summer—drying, smoking);
8. Child care (year-round; daily varied according to availability of parents, older adults, or older children);
9. Military (as needed).

Overall, everyday life, including ritual, experienced in these communities took considerable amounts of effort from all members, including children who undertook concentrated, often seasonal work during the yearly round to prepare and support the well-being of the society. The results of that work can be recognized in the items preserved in the tombs, but it is not the work itself that is highlighted in the choice of grave goods. Rather, it is the goal of those finished goods, including tomb size and shape, to embellish the social position of the deceased. They display status, group, and perhaps family affiliation, not especially the individual or the skills of the tomb occupants except in limited cases, such as some ritual tasks.

The preparation of the grand tombs at Pazyryk, for instance, could only be carried out at certain times of the year when the ground could be dug. Needless to say, advance prepa-

ration and construction of such spaces was an enormously time-consuming task. Each cavity was to be filled with a prefabricated log chamber in which the deceased and most of the grave goods, save the horses and their gear, were to be placed. Given the harsh winter climate, the work was seasonal, so most of the preparation of funerary goods must have taken place during winter months.

Many artisanal skills were available as is confirmed in the bulk of goods preserved in these tombs that were locally procured, although some materials such as lacquer or gold may have been brought in to embellish certain objects. Skilled workers were dependent on the seasons and climate to prepare and repair all sorts of items, including garments for humans and gear for horses, wall and bed coverings as well as preserved foods for winter months. Woodworking occupied many artisans, and skill levels among woodworkers and other artisans varied, suggesting multiple workshops, perhaps even household workspaces, but with the highest skill levels evident in the most lavishly outfitted tombs.

Construction and decoration of artifacts made of materials such as leather, bone, or horn required special skills in executing shared designs as well as abilities in handling malleable metals, including gold, silver, and tin. Other talents were required to prepare and apply furs, including squirrel, sable, and horsehair, to clothing, containers such as mirrors, and horse gear. Fibers taken from sheep, for instance, were spun or pounded into felt locally after they were dyed with natural mineral colors such as cinnabar known from nearby outcrops 30–40 km south of Pazyryk (Rudenko 1970, p. 206). Other textiles locally made were dyed with possibly imported vegetal dyes (Polosmak et al. 2006). Cochineal insects have also been identified as a dye source for woolen goods (Polosmak et al. 2006; Simpson and Pankova 2017, p. 173). Clothing was made from a variety of textiles, some of which were imported from Central Asia or further west (Polosmak et al. 2006, p. 199). Other fabrics were made locally from sheep's wool (Kubarev 1992, pp. 108–9; Simpson and Pankova 2017, p. 119; Rudenko 1970, pp. 202–3; Polosmak and Barkova 2005, pp. 32–41). Lacquered leather ornaments attached to horse gear, including bridles, saddles, and headgear, have been shown to have been imported from China (Stepanova 2014, 2016) (Figure 7). The nature of these elaborated items required specialized skills from workers who understood the harnessing as well and were dedicated to their production but likely as part-time pursuits.

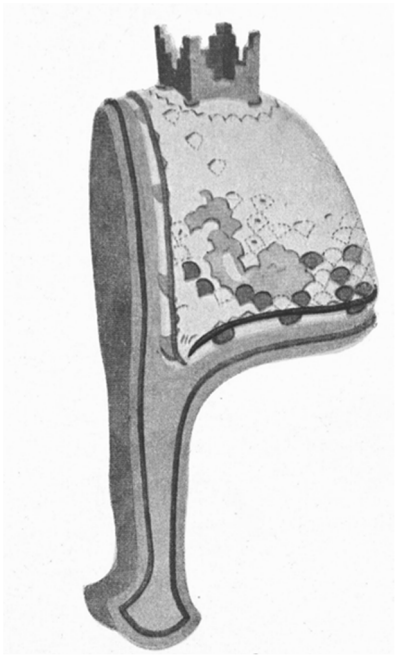

Figure 7. Felt hood with crenelated crown, lacquered attachments. Pazyryk Kurgan 3. Adapted from Rudenko (1953, Pl. 96).

Earthenware vessels, wooden vessels and cups (Figure 8), little low wooden tables, stools, and pillows stuffed with deer hair found at Pazyryk tell of home life and food preparation, including milking of animals for preparations such as cheese, as well as the milking of horses, for making koumiss for ritual use. These items may have been used for daily occasions but also for special functions during rituals and are consistent in form, size, and decoration, suggesting that these were shapes and uses maintained and agreed upon by the group. In the absence of habitation debris, we can only assume that activities were undertaken on demand. The coordination of those activities, especially the sharing of essential tasks and wares among non-adjacent sites, probably required local leadership that only arose when needed for the movement of goods, humans, and animals. Without evidence of specialized production sites, we cannot be certain if particular goods were made in specific locales, but the daily processes of movement of materials, including animals, likely took place via heterarchical arrangements (Crumley 1995). For instance, as Wright reported, "Overall, the household is both a collection of regularly arranged activities and objects and a center point for a large array of movements divided and structured by age, gender, and species." Such flexible organization for daily tasks described by Wright in living pastoral communities in Mongolia (2012) and for the sharing of responsibilities in a mixed, largely homogeneous yet status-ordered, society is documented in archaeological Baga Gazaryn Chuluu in Mongolia in above-ground monuments, including mounded tombs and satellite burials as well as campsites in the Middle Gobi and Khangai regions of Mongolia (2015). At the very local, household level, multi-tasking and shared responsibility within the group as a whole leads to shared leadership, as evidenced in these central Mongolian communities. Ethnohistorical heterarchical ordering of larger clusters of communities has been studied by Kradin (2011) where he found and reconstructed from written Chinese sources that among the Wuhuan (五环 2nd–1st c. BCE) groupings of communities were independent but joined into confederations. The Wuhuan *dazhen* (大镇 leaders) were heterarchical chieftains as their statuses were not passed, and they had no dependent groups… "From the chieftain down, each man had his own flocks and herds and managed his own property: no man served another" (HHS 90.1b) but depended on the cooperation and management (leadership) of each to cooperate and coordinate with the whole.

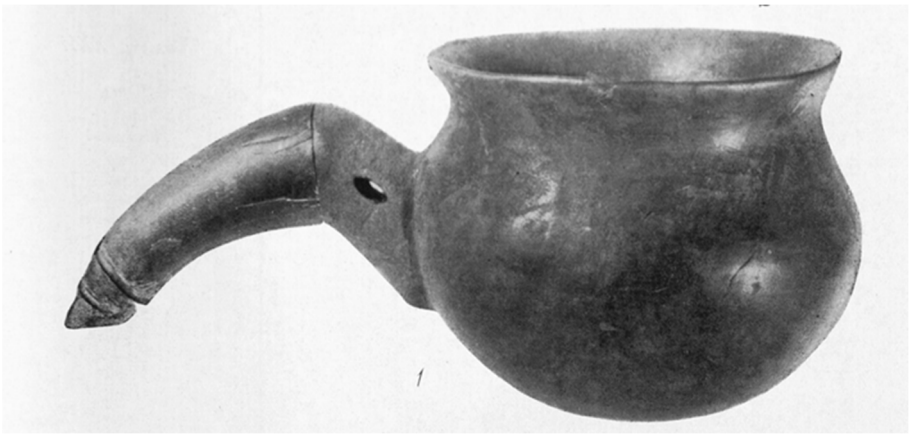

Figure 8. Wooden cup with horn handle. Pazyryk Kurgan 2 (Adapted from Rudenko 1953, Pl. 21).

At the community level, clearly, those buried in the elite and mid-elite tombs at Pazyryk, Berel, and Ak-Alakha were not herding horses, carving wooden ornaments, or milking and butchering the animals. Whether they were among those who had the required skills to transport and exchange goods necessary to maintain the elite, but also knew the languages needed for barter cannot be determined, although their burials were placed on important access routes. We have no concrete idea what language the Pazyrykians spoke, but as with pastoral communities today, the separation of groups by long distances, difficult terrain, and long periods of time allowed for the maintenance of local dialects and,

in some extreme cases, probably entire languages (Rudenko 1970, p. 226). Nevertheless, imports of extra-local goods and artifacts can be found throughout the Pazyryk Culture burials, speaking to their ability to operate in a complex exchange network.[12]

That network not only provided avenues for the trade of goods or animals but also of prestige materials that marked and were consumed by the Pazyryk Culture's upper elite, as evidenced quite clearly when gifts and goods such as silk fabrics and lacquered products were given and traded for horses with the Chinese, for instance (Linduff and Rubinson 2022, pp. 113–26; Linduff et al., forthcoming). Certainly, the quality and diversity of foreign goods in the last of the large Pazyryk kurgans, Kurgan 5, were exceptional in the remains of the Pazyryk Culture, including goods from West and Central Asia as well as China, and suggest increasing contact with and interest in the world outside of the Chuya Valley. The site of Pazyryk itself is the most eastern of the elite burials of the Pazyryk Culture, and it is on the Ukok plateau accessible to the Kanas Pass between the Altai and China, where there is a group of Pazyryk Culture mid-elites. This suggests that the new markets and opportunities provided by the growing use of cavalry by the states on the northern borders of Warring States China (481–221 BCE) motivated the move of the elites to control the newly rich pastures where the common groups had previously begun to herd the horses and bury themselves Pazyryk style (Linduff and Rubinson 2022, pp. 59–62).

The Pazyryk culture is a society based primarily on horse pastoralism, together with sheep, which depended on the trade of horses as the source of some of the prestige goods that helped support the internal socio-political order. Other goods and necessities came from the trade and exchange with regions to their north and northeast. This network of contacts and connections sustained via family and community relationships as part of a niche pastoral economy and socio-political organization that is distinctive to Pazyryk as far as we know but may be typical of other pastoral societies if such evidence were sought.

Social systems such as kinship, group identity, social ordering, job diversity, differentiated status, as well as knowledge of the outside world, a common lifestyle and treatment of gender and age, an awareness of group historical cohesion, and perhaps other features were on display in tombs and clearly guided the selection of items to inter with the deceased and how to set them out in the graves. The other force, that of rituals, marked the existence of a common spirit world and provided an overarching bond for what was a complex socio-economic operation.

6. Discussion and Conclusions

The archaeological remains of the Pazyryk Culture provide unique data for understanding the economic aspects and social organization of the society. Not only have burials been excavated that determine three distinctive social groups but also the frozen nature of many of them has preserved organic materials, including mummified bodies, which are not often available for analysis. The interconnectedness of the three levels of the Pazyryk culture social hierarchy demonstrates that the network supported the brief florescence of the group while the inner order and workings of the local communities provided occasional guidance and leadership, which appeared seasonally and/or only when needed. What sustained this distinctive form of socio-political organization, one which called upon cross-cultural interaction and allowed for the generation of objects and maintenance of non-human animals in daily and long-term relations across the seasons, lasted a short time. Maintained in the particular climatic and ecological zone, the south-eastern Altai, the short-lived Pazyryk Culture was not workable once climatic change and historical circumstances threatened their economic stability. By the mid-3rd century BCE, their occupation of this region disappeared as the climate changed and aggressive groups encroached on their territory.

The archaeological evidence collected has shown that local communities, authorities, and probably individuals created networks with other communities, which have now been excavated to form a local and regional interactive sphere. Their movement through the immediate river valleys and uplands of the southern Altai was apparently regulated by the

production and movement of products produced within the region and barter or exchange of them nearby and at the edges of their sphere of influence. Pazyrykian society was not a monolithic, nomadic group ever in motion and ever marauding as had been consistently argued in ancient as well as secondary texts (for instance, see Herodotus 1987, A, bk. iv, 73–75). Rather, the Pazyryk Culture can be characterized by burial patterns and exchange of goods as a complex of pastoral communities where high elite leadership existed within an overarching, status-ordered hierarchical system, but where there is also evidence of ritual guidance among the mid-elites and roles also among status-ordered commoners who possessed skills that allowed for craft production and language skills necessary for trade and to maintain the seasonal needs of the subsistence system to arise according to a task that allowed for a heterarchical leadership structure to emerge when needed within the hierarchical system.

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Notes

[1] We acknowledge the helpful comments made by three anonymous reviewers who asked provocative questions that aided us in the revision of our essay. One of them shared this reference.

[2] Both Esther Jacobson (1993) and Petya Andreeva (2021) have addressed the ritualistic aspects of imagery.

[3] See Frachetti (forthcoming) for an expansive look at this issue. Variation in mobile pastoral lifeways and their dependence on climate, ecology, and historical circumstances has been documented previously among living groups (Barfield 1993).

[4] As of 2010, twelve large Pazyryk burials had been excavated, as well as what has been reported to be 800 medium to small burials in more than 100 cemeteries (Argent 2011, p. 39).

[5] Tishkin and Dashkovskiy discuss the process of and argue for state formation among the "Pazyryks" of Gorny Altai as one of the early forms of that political entity among pastoral peoples (Tishkin and Dashkovskiy 2019). Particularly valuable is their listing of publications on this material published in journals not always available outside of Russia. The excavations in western, northwestern Mongolia and northwestern China are interesting and important to a discussion of the "afterlife" of the Pazyryk Culture but are not essential to the discussion of the Culture's social order in the Chuya Valley.

[6] The pattern of interconnections is not new in this period. It reflects portions of the Inner Asian Mountain Corridor (IAMC) as described by Michael Frachetti for the Bronze Age (2012).

[7] Currently, Arzhan 0 (Tunnug 1) is being excavated by Gino Caspari et al. (2018) and Sadykov et al. (2020).

[8] As a system of organization, participants are unranked, possess the potential to be ranked, and have the power of decision-making following the needs of the system. As opposed to the assignment of more power and privilege to members of society "high" in the hierarchy (Crumley 1995). The two structures are not mutually exclusive.

[9] Rudenko (1970, pp. 211–27) argues that the social structure of the inhabitants of the high Altai consisted of a hierarchical, patriarchal order with hereditary passage of leadership—but says that there is no direct evidence of this at Pazyryk. However, he cites ancient Chinese and Greek authors and many ethnographic parallels, such as in Kazakh and Kirgiz, which suggest that the same was true at Pazyryk (Rudenko 1970, p. 217).

[10] There were no human bones found in tomb 1, so it cannot be proven on the archaeological evidence that the deceased was male (Rudenko 1970, pp. 311–14).

[11] Among the groups studied by Barfield (1993), he found that the tasks were divided between males herding and females carrying out most other tasks. Wright (Wright 2012) states that all tasks are networked within the campsites and are flexible, divided between males and females, with males herding and females carrying out most other tasks.

[12] In an impressive and massive essay, Ursula Brosseder studied and analyzed trade all across Eurasia, especially in the periods following those of interest here, and documented multiple active networks of exchange (Brosseder 2015).

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