Mongolian horses past and present: what do we know and where do we go?

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Abstract

The introduction of domestic horses and riding during the 2nd millennium BC triggered profound changes in prehistoric Mongolian societies. The connection between horses and humans was instrumental for the creation of past nomadic states. Until today, horses remain beloved animals which play a major role in subsistence, ritual as well as national narratives. Horses, with their special economic and symbolic place in both Mongolia's ancient past and its present, have been largely studied from *either* an archaeological *or* an anthropological point of view. This paper simply asks: what do we know about Mongolian horses, past and present, and where do we go from here? It provides an overview of recent archaeological and anthropological debates concerning horses in Mongolia with a focus on the Bronze Age and present, respectively, and explores the potential for future interdisciplinary studies. Amongst the variety of subjects discussed here are Mongolia's *khirigsuur* burial mound complexes; recent genetic advances regarding horse domestication; and contemporary multi-species herding practices, material culture, and concepts. Based on this extensive review of horse-related literature and the author's own archaeological and ethnographic research in Mongolia, established scientific dichotomies such as wild vs. domesticated and human vs. non-human will be re-evaluated in favour of more relational approaches.

Keywords: Archaeology & Anthropology, Horses, Mongolia, Relationality, Interdisciplinarity

1. Introduction

Although other animals such as cattle, sheep, and goat were herded in Mongolia as early as 3000 BCE, it is the introduction of domestic horses around 2000 BCE that had a major impact on ancient Mongolian societies (Wilkin et al. 2020). The introduction of riding in ca. 1500 BCE (Ventresca Miller et al. 2022) enabled horseback herding as well as warfare, later leading to the formation of nomadic states such as the Xiongnu [209 BCE – 91 CE] and the Mongol Empire [1206 – 1368 CE] (Atwood 2004). From 1200 BCE onwards, burial complexes known as *khirigsuurs* appear, whose satellite mounds contain horse heads and hooves (Allard & Erdenebaatar 2005). Now, genetics are also providing new and more precise insights in the historic use of animals such as horses, including the details of the domestication process and the spread of horse populations across the steppe (Librado et al. 2021). This strong connection between humans and horses is still present in contemporary Mongolian society. Following the disintegration of the Soviet Union, to which Mongolia was a satellite state, and the foundation of democratic Mongolia in 1992, a brief surge in nomadic pastoralism was observed (Altangerel 2019). Although the rural-urban divide is growing in Mongolia, with about two thirds of the population living in cities, the pastoral way of life

remains culturally important (Altangerel 2020). Amongst the five main herd animals, horses especially are appreciated for multiple reasons: from the fermented mare's milk known as *airag* and the warming properties of horse meat in winter (Fijn 2011) to horses' fortune-bringing qualities (Humphrey & Hürelbaatar 2012) and the large-scale horse races organised during the national celebration *Naadam*.

The horse holds a special economic and symbolic place in both Mongolia's past and its present. Simultaneously, horses in Mongolia, and Inner Asia more broadly, have been given considerable archaeological and anthropological attention – albeit not usually in an interdisciplinary, joint perspective. This paper asks the simple question: what do we know about Mongolian horses in the Bronze Age and in the present, and where do we go from here? Firstly, debates regarding ancient horses in Eurasia will be surveyed, followed by varied evidence for the introduction of domestic horses to Mongolia and the inception of riding. Secondly, contemporary pastoralism in Mongolia will be discussed in regard to herd-herder relationships, everyday objects and concepts, as well as the level of state discourses. Thirdly, the author will propose how to think about horses between archaeology and anthropology, re-evaluating established dichotomies. This synthetic overview is based on extensive literature research as well as the author's archaeological and ethnographic fieldwork. It is aimed at readers interested in the role of horses in Mongolia, who are perhaps more familiar with either archaeology *or* anthropological perspectives on the subject, as well as animal-human relationships and interdisciplinary approaches more broadly. As the topic of horses in Mongolia throughout various historical periods is an exceedingly large one, while acknowledging the potential continuities – and differences – in roles played by horses in Mongolia through time, this paper will focus on the Bronze Age *and* the present respectively.

2. Horses in the Past

This first part is concerned with the role of horses in Mongolia's past. After a general introduction to the major debates regarding horses and humans in the Eurasian steppe, recent advances in horse genomics and genetics will be discussed. Then, proteomic, archaeological and zooarchaeological evidence for the introduction of domestic horses to Mongolia will be reviewed, followed by a discussion of historical sources and material culture relating to riding.

2.1. Setting the scene: horses and humans in the steppe

The history of the Eurasian steppes is intrinsically linked to the horse, often suggesting the image of the horse-riding warrior-nomad (Hanks 2002:183) – but the military use of the horse is only one of many. The horse is something of a Holy Grail in steppe archaeology (Levine 1999:5), with much archaeological research of the last three decades revolving around the initial domestication of horses, the use of horse-drawn vehicles and the inception of horseback-riding. Horses have been researched from a historical perspective, relying on Greek and Chinese literary sources, written from a sedentary perspective (Honeychurch 2015); from an environmental point of view, corelating the rise and fall of horse-based societies with grassland expansion (Khazanov 1981); and linguistically, through the presumed expansion of Indo-European languages via horse-riding populations (Anthony 2007). Much of the archaeological evidence is sourced from funerary contexts, as (mobile) settlements sites remain are rare and understudied (Wilkin et al. 2020:3, Gardner and Burentogtokh 2018).

Human and animal genomics have provided further information on the expansion of pastoral groups across Eurasia. Recent studies suggest that Yamnaya or "Pit Grave Culture" groups from the Pontic-Caspian steppe migrated to Inner Asia starting 3300 BCE, establishing

themselves in the Altai-Sayan region as the group known archaeologically as Afanasievo. The two groups have very similar material culture and are genetically indistinguishable, indicating either a direct migration or shared origin (Allentoft et al. 2015, de Barros Damgaard et al. 2015, Jeong et al. 2019). The Afanasievo are regarded as the first Inner Asian herders (Honeychurch et al. 2021), who subsisted on domesticated goat, sheep and cattle (Hermes et al. 2020). The introduction of pastoral lifestyles to western Mongolia around 3000 BCE, via the Altai Mountains, is attributed to Afanasievo groups (Ventresca Miller et al. 2022). The details around the introduction of domestic horses to Mongolia, probably in the early second millennium BCE, need to be further investigated.[1]

Thus, the question "where were horses first domesticated?" has trodden in the heads of archaeologists for decades. Typically, morphological markers such as reduced limb, teeth and skull size indicate an animal might be domesticated, alongside the use of secondary animal resources, especially milk. For horses, the morphological difference between wild and domesticated is not as pronounced as in other species (Zeder 2012:246). Furthermore, butchery patterns, especially animal sex ratio and seasonality, help to differentiate between the consumption of wild or domesticated horses, while the presence of corrals and manure can indicate the keeping of animals (Olsen 2006). Typically, three major types of evidence are used as indicators for the use of domesticated horses for riding and transport: bones and teeth (pathological markers such as abrasion of the teeth); horse gear (bridles and bits); and chariots (Taylor et al. 2021). In the Eurasian steppe, two settlement sites were long seen as candidates for the first domestic horses: Dereivka in Ukraine, ca. 4200-3700 BC, and Botai in northern Kazakhstan, ca. 3500 BC (Brown & Anthony 1998:343). While Dereivka has since exited the race for the first horse domestication site, due to the horse specimen being a later intrusion (Anthony & Brown 2000), the debate around the nature of Botai horses is being revived with the advent of genetics (see section 2.2 below).

2.2. Ancient DNA and paleogenomics of horses

Ancient DNA is now helping to provide a clearer picture of the domestication history of non-human animals. Although ancient DNA extraction from existing specimen collections can prove difficult due to conservation, increasingly, aDNA is being extracted in a more targeted way from newly excavated specimens, in particular *petrous* ear bones (Orlando 2020:1). While genetics help determine the characteristics of a particular gene – e.g., responsible for white coat colour – and their inheritance, the more recent field of genomics is concerned with the entirety of an organism's genes, called the genome, and their interactions with the environment (McHugo et. al. 2019; MacHugh et al. 2017). With 273 genomes sequenced to date, after humans, horses are the animals whose genome has been most intensively studied through time (Librado et al. 2021:634). By comparing the genome sequences of ancient horse lineages and modern domestic horses, the evolution of the species can be mapped both in time and space (Orlando 2020:1-2, Schubert et al. 2014).

The ancestor of the domestic horses we know today is to be found in the Pontic-Caspian region (western steppe) in the form of a lineage named "DOM2". During the 3rd millennium BCE, a domestication bottleneck can be observed, due to the human selection and breeding of one specific horse lineage leading to a loss in genetic diversity. DOM2 rapidly spread into Europe and Asia around 2000 BCE leading to the replacement of all previously existing lineages (Librado et al. 2021:636). By the Late Bronze Age, starting 1500 BCE, the DOM2

[1] Looking at domestication from a more social rather than purely biological point of view, it would be worthwhile investigating how human domestication knowledge was potentially transferred from one species to another.

lineage is established in Mongolia (Librado et al. 2021:638). Paleogenomics have yielded surprising results in regard to the Botai and Przewalski horses: while people at Botai were clearly "doing things with horses" (L. Orlando, personal communication, 19.11.2024), it is still unclear whether humans were managing wild horses or "truly" domesticating them by interfering with their reproductive processes. Their lineage does not survive in modern domestic horses, but it is present in Przewalski horses, which were long assumed to be the only extant wild horse population, found in Mongolia (Orlando 2020:2). Based on shortened horse generation times[2] and the interpretation of some Botai features as corrals, Librado et al. (2024) have suggested that Botai represents a regional, "failed" attempt at domestication, which would make Przewalski horses feral, not wild (Orlando 2020:6). Other scholars, re-evaluating evidence for horse transport at Botai based on tooth damage, contend that the Botai horses, and thus Przewalski horses, are indeed wild (Taylor and Barrón-Ortiz 2021; further implications for the latter's preservation status will be discussed in section 4.2).

2.3. Horses enter Mongolia: proteomic, archaeological and zooarchaeological evidence

Combining these genetic and genomic studies with paleoproteomic, archaeological and zooarchaeological evidence has shed light on the transition to pastoral lifeways in Mongolia (Ventresca Miller et al. 2022:10). Proteomic analysis[3] of human dental calculus has provided the earliest known evidence for dairy consumption in the eastern steppe in Western and Central Mongolia between 3000-2500 BCE. Multi-dairy pastoralism is prevalent across Mongolia by the late 2nd millennium BCE, with ruminant milking preceding equine milking (Wilkin et al. 2020:5-6). The earliest evidence for horse milking dates to 1350 BCE, found amongst the Middle Bronze Age group commonly named Sagsai [1500-980 BCE] (Ventresca Miller et al. 2022:12). This culture is the first to have built stone mounds with enclosure and standing stones in Mongolia, as well as planned cemeteries (Gantulga 2020). The Sagsai culture appears slightly earlier but is also contemporaneous with the so-called *khirigsuur* complexes and deer stone monuments of the Late Bronze Age (Ventresca Miller et al. 2022:12). Nonetheless, it has to be noted that the monumental traditions of Mongolia are in need of more secure chronologies and typologies (Taylor et al. 2017, Bemmann et al. 2024:610).

Khirigsuurs complexes, dated to 1200-700 BCE, consist of a main burial mound enclosed by a circular or rectangular fence, surrounded by satellite mounds with horse heads and hooves, and ring features with burnt ruminant remains (Allard & Erdenebaatar 2005:548; figures 1 & 2). These enigmatic monuments appear all across western and central Mongolia. Measuring between 5-20m in diameter (Burentogtokh 2017:30), some of the largest *khirigsuurs* number horse burials in the thousands (Zazzo et al. 2019:81-2). It must be noted that when *khirigsuurs* first appear in the Altai Mountains before spreading eastwards, there are no head and hoof burials to be found in them – potentially creating too strong a focus on the horse element (Ventresca Miller et al. 2022:12). The function of *khirigsuurs* has been heavily debated, some scholars arguing for a purely ritual, non-funerary function. Consensus has been reached that the lack of human remains in some central mounds is due to poor preservation as well as looting (Littleton et al. 2012). Furthermore, the excavation of *khirigsuurs* is very time-consuming, expensive, and offers little further incentive due to the absence of well-preserved human remains or grave goods (U. Brosseder, personal communication, 21.07.2023). If *khirigsuur*-building was long understood exclusively as a manifestation of élite activity, it is now being interpreted as a way for early herder communities to orient themselves spatially and temporally (Burentogtokh 2017) as well as cosmologically (Allard & Erdenebaatar 2005).

[2] One generation is considered the time between birth and birth of the offspring on an organism.

[3] The study of proteomes, i.e. an organism's entire set of proteins. Paleoproteomics study ancient proteomes.

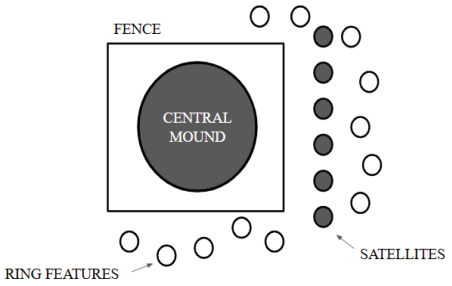

Figure 1 (left). Schematic representation of a *khirigsuur* complex (Conte 2025)
Figure 2 (right). Horse skull with "hooves", i.e., distal & middle phalanges
(Conte 2023, Arkhangai Province)

A zooarchaeological[4] study of dental eruption patterns and cranial pathologies of 25 horse skulls buried at *khirigsuur* and deer stone complexes across Mongolia showed patterns consistent with contemporary horse herding, i.e. a large proportion of juvenile animals, indicating culling, and one older mare. However, around a third of the sample represented male animals of prime adult age, which were buried in important locations associated with ritual (Taylor 2017:270, 277). Surgical modification evident in one young horse suggests veterinary care (Taylor & Tuvshinjargal 2018). Pathologies of the nasal bone and the second premolars are indicators for bridling and bit wear, showing that the horses were used in transport (Taylor, Bayarsaikhan & Tuvshinjargal 2015). More detailed analysis of tooth wear and potentially resulting rein angle indicates either fast, high-risk riding, or chariotry (Taylor et al. 2021). Unfortunately, skeletal elements which are most likely to show pathologies associated with either form of transport – the vertebrae – are rarely found in *khirigsuur* complexes (Taylor et al. 2021:1482). Rock carvings on deer stones as well as petroglyphs depict 2 or 4 horses harnessed to wheeled vehicles, with or without driver (Jacobson-Tepfer 2008). While these petroglyphs have been dated to the Bronze Age – stylistically, by chronological comparison with known examples of wheeled vehicles – the physical evidence comes from archaeological contexts much further away in the western steppes. There is currently no consensus regarding the appearance of wheeled vehicles in Mongolia (Esin et al. 2021). While some scholars, based on the analysis of tooth damage, have suggested that horse chariotry preceded horseback riding (Taylor et al. 2021:1479), others propose that chariots and horses spread simultaneously from the western to the eastern steppe (Librado et al. 2021:634).

2.4. Material culture and historical sources

The first bridles and chariot remains appear in burials from the Sintashta culture in the Pontic-Caspian region around 2000 BCE (Librado et al. 2021). Historical, iconographic and archaeological evidence from the western steppe also shows that bareback riding was prevalent during the 1st millennium BCE (Bayarsaikhan et al. 2024:104) – indicating the

[4] Zooarchaeology is the study of ancient animal remains such as bones and teeth, in order to understand the interactions between animals and humans in the past.

possibility of similar practices in the eastern steppe. With the beginning of the 1st millennium, there is also an increase of horse iconography across the steppe (Honeychurch 2015:163). Definite evidence for material culture associated with riding, such as trousers or saddles, first appears in the Pazyryk burial mounds of southern Siberia during the mid-1st millennium BCE (Rudenko 1970). The first saddle evidence in Mongolia dates to the Xiongnu period [209 BCE – 91 CE] from the elite cemetery of Noyon Uul (Bayarsaikhan et al. 2024:105). While horse-riding itself, or extra-human transportation, can be considered a state-fostering, innovative technology in itself (Munkh-Erdene 2023:404-6), saddles and bridles contributed to making horseback riding safer and faster. Additional technologies such as the short bow and arrow then further contributed to the formation of early nomadic states.

Much of the earlier archaeological scholarship on so-called nomadic societies has been influenced by historical sources. West of the steppe, Herodotus in his *Histories* (440 BCE) describes mare milking, kurgan burial mounds, war and raiding stratagems of the savage Scythian warrior tribes (Khazanov 1981:141). East of the steppe, Sima Qian, in his *Records of the Grand Historian* (ca. 100 BC), mentions the 'Xiongnu' – a group of mobile pastoralists threatening the settled Chinese (Honeychurch 2015:1-2). While these sources have provided useful historical and quasi-ethnographic information regarding Iron Age steppe societies, due to their etic perspective, they also overplay the antagonistic nature of nomadic groups. In some regions which are said to have suffered Scythian invasions, archaeological evidence for battle has been re-evaluated and contradicts the invasion narrative (Mehnert 2005:355). Furthermore, recent studies using isotope analysis have determined that some groups within the Scythian world were considerably less mobile than assumed and subsisted on agro-pastoral diets (Ventresca Miller et al. 2019). Many centuries later, is a range of medieval accounts written by Christian missionaries and merchants, such as William of Rubruck (1253) and Marco Polo (ca. 1271-1275) describe steppe societies. Fortunately, there is also an emic source available for Mongolia, most likely compiled in the year 1252 – *The Secret History of the Mongols.* This insider account reports on the life of Chinggis Khan and his family's genealogy, as well as the institutions and societal workings of the Mongol Empire, such as taxation and the postal system (Rachewiltz 2015). *The Secret History* attests to the crucial role of horses, not only for transport and warfare, but also for food in the form of milk and blood (Rossabi 1994). Symbolically, the horse in the Mongol Empire was associated not only with stately power but also with shamanism (Atwood 2004).

3. Horses in the Present

As was discussed in the previous part, the domestication of horses had a major impact on ancient Eurasian societies, changing how people moved across the steppe, related to each other ("social complexity") and other animals (horseback herding). In Mongolia, the association between horses and humans can be observed within specific monumental forms, e.g., *khirigsuurs*, and gave rise to notable states such as the Xiongnu and the Mongol Empire. In this part, the role of the horse in Mongolia's present will be introduced, focusing on forms of pastoralism and their relationship to the Mongolian landscape, before turning to horse-related practices and material culture. Finally, the horse as a symbol of the Mongolian nation-state will be discussed.

3.1. Mongolian pastoralism in recent socio-historical context

For the past five decades, so-called specialists have debated on the exact definition of full nomadism, mobile pastoralism, and agropastoralism – definitions which also depend on the

scholarly tradition (Dyson-Hudson 1972:8). Due to research long being conducted from a settled perspective, the study of steppe pastoralist societies in the present has suffered from similar stereotypes as past societies – war and raiding, economic instability, and an absolute reliance on horses. Now, consensus lies with stating which characteristics are attributed to a certain term in a given spatiotemporal context, rather than assigning "one size fits all definition". Furthermore, different subsistence strategies such as hunting, gathering, animal husbandry and agriculture should be seen as complementary, rather than mutually exclusive and tied to an evolutionary ladder (Spengler et al. 2021). Today, Mongolia is often referred to as one of the last truly nomadic countries and largely associated with horses. This generalising statement deserves a closer look at the political-economic transformations Mongolia underwent within the last century. Before the foundation of the socialist Mongolian People's Republic in 1924, 90% of the Mongolian population was nomadic and subsisted on herding, including the aristocratic elite and the Buddhist clergy. The basic economic unit was the household (Finke 2012:159). Families and/or neighbours organised themselves in a *khot ail* by sharing a camp space, pastures and herding tasks (Bold 1996:69). As outlined in the *Secret History* and consistent with contemporary practices, a family needs at least twenty sheep and goat, and one to two horses to subsist (Atwood 2004:14).

Unlike neighbouring Soviet countries, collectivisation was driven by the Mongolian state itself, and did not aim for sedentarisation per se. After a forceful and failed attempt to introduce collectivisation in the 1930s, herding in collective enterprises, named *negdel,* became obligatory from the 1950s onwards (Linden 2022). As such, property of the herds was transferred to the state and Soviet-influenced innovations, such as hybrid animal breeds and mono-species herds, were introduced (Stépanoff et al. 2017:69). *Negdel* were established in *sum* (district) centres, alongside schools and veterinary centres, gradually sedentarising at least parts of families and establishing specialised roles (Fijn 2011). Local pastoral economies were thus integrated on the national level and beyond, with Mongolia becoming a meat and milk provider for the Soviet Union (Honeychurch 2010:415). Following the disintegration of the Soviet Union, Mongolia started undergoing a dual transition towards democracy and a liberal market economy – the so-called post-socialist transition[5] – in 1990 (Buyandelger 2013). The infrastructures established during socialist times collapsed, and a return to mobile pastoralism was observed, with more people leaving the cities and returning to *khot ail* herding (Altangerel 2019). During this period, numbers of livestock dramatically increased, to adapt to the new market conditions and compensate potential losses due to *dzud*, "when livestock die", climate catastrophes. These catastrophic events affect the so-called "New Nomads" in particular, who did not have pre-existing herding knowledge and networks (Janzen & Bazargur 2003). Now, the rural-urban divide is growing again, with about two thirds of the Mongolian population living in cities, but will be discussed below, the pastoral way of life remains culturally important (Altangerel 2020).

[5] Amongst scholars of Central and Inner Asia the terms "post-Soviet" and "post-socialist" are debated, as they install Soviet-socialist times as a main referent for present times, in the entire region. Similarly, the term "transition" can create the impression that since the collapse of the Soviet Union, more than 30 years ago, people are living in some sort of liminal state. Here, for lack of a better term, I use "post-socialist transition" to refer to the processual change of social structures in Mongolia after 1990, while acknowledging that individual people shape their own lives and realities, and that this transition does not follow a linear path.

3.2. Multi-species herding & the role of landscape

The relationship between herders (*malchin*)[6] and herds can be described as one of co-existence within the domestic sphere of the *khot ail* or herding encampment, and mutual engagement (Fijn 2011:19). The five main Mongolian herd animals, *tavan mal*, include sheep, goat, horse, cattle (including yak), and camel. Other notable animals are reindeer, which are the main herd animal of the Dukha ethnic minority in Northern Mongolia, also called *Tsaatan* (Küçüküstel 2021), as well as dogs, who protect the herding encampment (Fijn 2011:213). The importance of each animal is, to some degree, dependent on the regional environment and culture – while horses play an important role in grassy areas such as central Mongolia, in northern forested part of Mongolia it is the reindeer and in southern arid Mongolia is it the camel. The five traditional herd animals are classified into small animals, *bog mal,* which refers to sheep and goat, and big animals, *bod mal*, which refers to horse, cattle and camel. *Bog mal* are herded together and need more surveillance, notably because of wolf attacks, while *bod mal* can be left unattended for several days (Marchina 2015:109-10). Further categories designate hot-muzzled animals, *khaluun khoshuutai* (horses and sheep) and cold-muzzled, *khuiten khoshuutai* (goat, cattle, camel).[7] This categorisation as hot and cold also extends to the type of pasture the animals graze in and the foods that are produced from them. The meat of hot-muzzled animals such as horses is preferentially eaten in winter, as it is said to have warming properties.[8] An ideal multi-species herding area provides good quality pasture, sufficient for making hay, with nearby forested area providing wood for fuel and enclosure (Fijn 2011:10-11).

Within discussions of animal-human relationships, Mongolian pastoralism is often cited as a counterexample to typical domestication-as-domination narratives or even qualified as symbiosis (Bumochir et al. 2020:184). This statement deserves some nuancing: while herd animals in Mongolia have a certain degree of autonomy and herd-herder relations are based on trust, animals are not entirely free and depend on human leadership (Fijn 2011:44). Bumochir, Ichinkhorloo and Ahearn (2020) propose to replace the notion of animal autonomy with herd agency, a collective attribute which aggregates three concepts used by Mongolian herders: "the herd's intuition (*malyn zön*), serenity (*taa* or *taatai baidal*), and fortune (*buyan, khishig* and *zaya*)" (2020:184). The aforementioned authors, as does Fijn, emphasise that herd-herder relations are variable and co-exist with broader belief systems such as shamanism and Buddhism, as well as economic systems such as communism and capitalism (Bumochir, Ichinkhorloo & Ahearn 2020:184; Fijn 2011:31-2).

[6] A short note on gender: typically, horses are herded by men, and cattle by women. In regions where fermented horse milk is produced, women also engage with horses (Conte, field notes 2024 & 2025). Here the word "herder", *malchin* in Mongolian, is not gendered (following Fijn 2011:29).

[7] This categorisation may vary depending on the interlocutor (Conte, field notes 2025, Uvs, Zavkhan and Arkhangai Provinces), especially regarding cattle (Marchina et al. 2017:175).

[8] According to several of the author's interview partners based in Uvs, Zavkhan and Arkhangai Provinces, June – July 2025.

Figure 3. Horse herd grazing near river (Conte 2024, Arkhangai Province)

The social structure of domestic horse herds is similar to wild ones. It can be characterised as "multi-level societies", divided into family units – a stallion, several mares (harem), and their foals – or herds of young, male bachelors (Maeda et al. 2021:2). Horses are non-territorial, allowing individuals of different families to pasture together (Fijn 2011:65-67) and can also recognise each other as individuals. This behaviour, throughout the domestication process, was extended to humans and enabled the creation of strong inter-species, or more specifically inter-mammal, bonds (Knight 2005:11; Argent 2010:161). Horses are often referred to as loyal to their rider, particularly smart and intuitive, and able to read human bodily cues or even, as we will discuss later, more-than-human presences (Fijn 2011:68, 119; Delaplace 2023). Amongst the *tavan mal*, horses occupy a special position. Mongolian horses are particularly adapted to harsh environments and know how to dig through the snow or break ice, allowing smaller animals to feed or drink (Marchina 2015:118). Horses assist herders in their tasks, helping them to round up other animals, although this role is increasingly being replaced by motorcycles or cars (Conte, field notes 2024 & 2025, Arkhangai Province). They are generally considered superior to other animals (*deed mal*) and particular horses, such as race horses, are referred to as beloved (*khairtai*) (Marchina et al. 2017:174).

Nutag denotes the birthplace or the homeland, it can be both local – one's habitual herding area – or regional, even national, referring to all of Mongolia (Bumochir 2023). Horses, as well as camels, just like humans, have a *nutag*. A horse's *nutag* is the place they are born in, socialised in, and habituated to. If a horse is removed from their *nutag* – because it is sold or its owner changed grazing grounds – it will try to break free and return. These runaway horses are referred to as *guideg mori* (Bumochir, Ichinkhorloo & Ahearn 2020:188-9).[9] It can be said that "it is the herds that form the landscape as it is they who traverse the land" (Empson 2011:27), as animals form the tracks which traverse the steppe and drop dung which will be used by humans as fuel. Beyond herders and herds, the landscape is animated by spirits (*ezed,* pl.), who inhabit places such as mountains and water bodies (Pedersen 2009). The spirits can also be considered herding agents (Bumochir, Ichinkhorloo & Ahearn 2020:186), as it is

[9] Some herders even consider that a foal who is born in a different region than its mother will try to return to its mother's *nutag*. Others believe a foal's *nutag* is determined by its father (interviews 2025, Uvs, Zavkhan & Arkhangai Provinces).

they who are the givers of animals. Consequentially, humans are indebted to the landscape spirits. Disrespectful behaviour, knowingly or not, might lead to misfortune for the herders themselves or their herd (Delaplace 2023). One way to acknowledge or appease the spirits is to choose a *seter* animal. Often, but not always, this animal is a horse,[10] which is consecrated and marked by a ceremonial silk band, itself called *seter* (Empson 2011:78; Stépanoff et al. 2017:67). The *seter* animal is not ridden, sold or slaughtered by humans – it is offered to the spirits, in the hope that they will protect the herd (Fijn 2011:232). Often, this ceremony is performed if a herder is experiencing health problems (Stépanoff et al. 2017:67), which shows how the fortunes of humans and animals are intrinsically linked, and tied to the will of the spirits (Bumochir, Ichinkhorloo & Ahearn 2020:194).

Figure 4. Mountain pass *ovoo* at Ulaan Davaa, Uvs Province (Conte 2025)

The deep relationship between herders, horses, and landscape spirits is materialised, amongst other, through the placement of horse skulls at *ovoo* stone cairns (Marchina et al. 2017). *Ovoo* used to probably function as territorial markers (Atwood 2004: 414). Today, larger and smaller *ovoo* can still be found on mountain passes, where a mixture of Buddhist and shamanist rites are performed, including circumambulation and the offering of white foods (*tsagaan idee)* (Conte, field notes, 2025). While bigger *ovoo* tend to function in institutionalised, Buddhist ceremonies (Marchina et al. 2017:180), horse skulls are often deposited at smaller *ovoo*.[11] Marchina et al., in their study in Arkhangai Province, advance that the deposition of horse heads often honours the relationship of a herder with a particular horse and is also "expressing an attachment to a territory and to the entities which inhabit(ed) it" (2017:181). In the interviews the author conducted in 2025, many interview partners expressed that a beloved horse's head should be placed in the horse's *nutag* or favourite

[10] Specifically, a male castrated horse. Alternatively, to the horse, cattle, sheep, goat, camel or reindeer can be chosen, sometimes with a preference for animals with white coat (Stépanoff et al. 2017:67).

[11] On occasion, horse skulls and offerings are also deposited on *khirigsuur*, indicating possible parallels between these two forms of stone heaps (Marchina et al. 2017:178; Conte, field notes 2025, Arkhangai Province).

pasture, so it may stay in the company of other herd members or be reborn into this herd (Conte, field notes 2025).

3.3. Pastoralist material culture & associated concepts

There are important objects and cultural concepts linking the lives of humans and horses in Mongolia. The *tamga*, which denotes both the branding iron and the mark itself, is given to horses when they reach one year of age – a celebratory occasion (fieldwork observation 2024, Arkhangai Province).[12] Figure 6 below shows an example of a typical triangular *tamga* iron, tucked into the *ger* walls.[13] Each family has their own *tamga*, often a geometric or Buddhist symbol, which is traditionally inherited through the father's line.[14] The oldest brother, who gets his own portion of the family herd when he marries and moves away (Finke 2012:170), adopts the family *tamga* with a slight variation; the younger brother, who is expected to stay with his parents in their *ger* and inherit the last portion of the herd, takes on the father's *tamga* without changes (Fijn 2011:29, 91, 93). The *tamga*, on the most pragmatic level, helps herders recognise which animals belong to whom. Traditionally, it also reflects the herd inheritance rules within each household and a person's standing in society (Humphrey 1974). Since the Soviet period, the role of *tamga* has become less prominent and may now more accurately reflect the biography of a single horse rather than the whole herd (Fijn 2011:95).


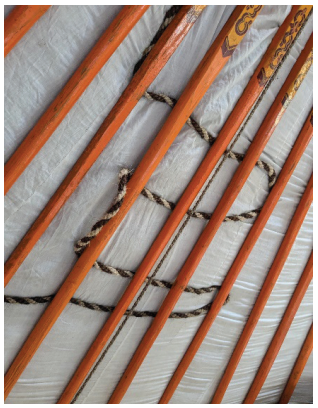


Figure 5 (left): *Tamga* branding iron and other horse gear (Conte 2024, Arkhangai Province)
Figure 6 (middle): Rope made of horse mane forming (Conte 2024, Arkhangai Province)
Figure 7 (right): Bowl of *airag* by a *ger* door (Conte 2024, Arkhangai Province)

A major aspect of pastoralist cultures is that most or all parts pertaining to the living or dead animal are used – from milk and dung to meat, blood, hides, and bones.[15] Mongolia is no exception amongst other Inner or North Asian pastoralist and hunting cultures, where when humans slaughter wild or domestic animals for subsistence, the animals deserve respect for giving up their life (Stépanoff et al. 2017:59). One of such marks of respect is the placing of

[12] While horses and occasionally camels receive a *tamga*; sheep, goat and cattle are marked on their ears, which is referred to as *im* (Fijn 2011:91; Humphrey 1974:478), or, sometimes, in the case of sheep-goat also through colour marks on their wool (Conte, field notes 2025, Arkhangai Province).

[13] A *ger* is a mobile, circular felt dwelling of Mongolian people, referred to as *yurt* in Turkic languages.

[14] Although instances of matrilineal clans, with their own *tamga*, are documented in 19th century Gobi (Atwood 2004:344).

[15] For a discussion of horse meat consumption in a context close to Mongolia, see Peemot 2017.

horse skulls on *ovoo* stone cairns, mentioned in the above section. Fermented mare's milk, called *airag*, and rope made from horse mane are only two examples of the many uses of horse-based products. The milk of mares is turned into *airag* through fermentation.[16] In summer, *airag* is a major source of nourishment for herders as well as a source of income (Fijn 2011). It is sprinkled into the air as an offering for spirits, and onto young children to strengthen their immune system. Drinking *airag* with friends and family, accompanied by games and songs, is an occasion for social gatherings (Conte, field notes 2024, Arkhangai Province). Traditionally, the ropes used to fixate parts of the *ger* are made of horse mane. As shown in figure 7, here the rope is tucked behind the wooden bars building the *ger* roof and the felt covering, arranged in an S-shape with three loops a Buddhist sign of luck.

Individual animals and herds have multiple positive connotations such as luck (*az*), fortune or blessing (*khishig*), wealth (*bailag*) and capital (*xöröng*).[17] One way to ensure the fortune of the herd and the family, by consecrating a *seter* animal, was briefly discussed above (3.3). Following this principle of "a part of the whole" – one animal to protect the herd and by extension the family – a piece (*kheseg*) of horse tail hair can act as a container for the individual animal's fortune, which is kept, e.g., when an animal is sold or dies (Empson 2011). In their ethnographic study of horse consumption in the Khanuy Valley of Arkhangai Province, Allard et al. report that on occasion, the atlas of a slaughtered horse is kept in the *ger* "as a way to ensure plentiful food for the family and/or its animals" (2007:159). Arguably, the horse heads deposited on *ovoo* (3.2) or the heads and hooves buried in *khirigsuur* satellites (2.3) also represent the whole animal through its parts.

In Mongolia, horses are strongly associated with luck. This association is reflected in idioms such as *moritoi javna*, "to go with horse", e.g., to arrive at someone's house while food is served and thus offered to the guest and other cultural specificities, such as the hour of the horse[18] from 11:40 to 13:40, which is considered particularly auspicious (T. Tseegii, personal communication, 16.07.2025). *Khiimori,* which contains the words *khii* (wind, air) and *mori* (horse) translates as "luck-fortune" (Empson 2011:244), is stronger than *az* (luck) and different from *khishig* (blessing). It is generally understood as a male attribute, which can fluctuate – over the course of one's life, one might experience high and low *khiimori* (Humphrey & Hürelbaatar 2012:155). There are ways through which one can augment *khiimori,* notably through wrestling – one of the Mongolian manly games – or horse races. In racing competitions and in everyday life, it is the horse itself who is with *khiimori* and transmits it to its owner (Humphrey & Hürelbaatar 2012:160). *Khiimori* also designates the motif – literary and material – of a winged horse, which will be discussed below.

3.4. The horse as a symbol of wealth, status and the state

In pastoralist societies, wealth is based in the herds and herders' access to pastures (Humphrey 1974:477; Finke 2012:159). A large herd enables the creation of surplus wealth in the form of milk or meat, which can be sold and re-invested. Until the carrying capacity of the pastures is reached, or social limits imposed, a large herd can grow and in turn grow more pastoralist products – a self-multiplying, portable form of wealth. Horses enable people to herd more animals at greater distances (Anthony, Telegin & Brown 1991:98), creating the possibility for bigger herds and more extensive pasture areas, and, in the long term, the accumulation

[16] Readers who are familiar with Kazakhstan might know fermented mare's milk as *koumis.*

[17] For an in-depth discussion of concepts related to fortune, such as *khishig*, *buyan* and *zaya,* notably in relation to animals, see Empson 2011; Bumochir, Ichinkhorloo & Ahearn 2020.

[18] Altangerel notes that important political and cultural events, such as Naadam, start at 10:00, the time of the horse (2020:251), indicating this notion might slightly vary.

of wealth and, potentially, growing social inequality.[19] As was discussed above in section 3.3, these economic factors are not separated from cosmological ones, rather, they are self-perpetuating – having many animals means one is favoured by the spirits; in order to be favoured by the spirits, it is good to have animals to offer them.

A practice introduced during the socialist period is the official recognition of herders through various awards such as "district great herder", "champion herder of the province" or "herder with a thousand animals" (Conte, field notes 2025; figure 8). While having thousand or more horses is a great source of pride, *asking* someone how many horses they have, was, in this author's experience, generally not well received (fieldwork 2024, Arkhangai Province).[20] Fast race horses constitute a great source of pride for herders and are counted amongst beloved, *khairtai*, horses (Peemot 2017:142). The practice of horse racing, which had been practiced at least since the Mongol Empire, was institutionalised during the socialist period. Now, as with herders' awards, winning race horses rewarded with medals by the district, province or state (figure 9). During the national *Naadam* celebrations, which take place in July, large-scale horse races are one of the three typical events of the festivities, alongside archery and wrestling. For one or two months before the race(s) take place, young herder boys and girls dedicate themselves to the training of geldings for racing (Atwood 2004:221-2). The horse is considered the winner of the race, and its owner – not the jockey – collects the prize.

Figure 8 (left). Herding awards (Conte 2025, Arkhangai Province)
Figure 9 (right). Horse racing medals (Conte 2024, Arkhangai Province)

Horses have been a central element of Mongolian state-building throughout various time periods, starting with the Xiongnu [209 BCE – 91 CE] and capitalised further by the Mongol Empire [1206 – 1368 CE]. According to Bumochir, "the horse is a historically and culturally established national icon in modern Mongolia" (Bumochir 2023:132).[21] Starting

[19] Here literature on Indigenous societies in North America from the 16th century onwards provides a useful insight to the societal changes initiated by the introduction of domestic horses through colonial settlers.

[20] The author wonders whether this is a matter of discretion, to avoid bad luck, asking/expressing by oneself or an issue with numbers below or above 1000 – explanations are very welcome.

[21] Mongolia is no exception – in Turkmenistan, Kyrgyzstan and Azerbaijan, the horse is also a national symbol; in Kazakhstan and other Turko-Mongol cultures across Eurasia, the horse is of great cultural value.

in the 1990ies, during its "transition" from socialist to democratic state, Mongolia has been redefining itself. This nation-building process, which can be observed in different variants across the region formerly occupied or influenced by the Soviet Union,[22] draws on material heritage and traditions to (re)build a national past and present (Shnirelman 2012). A brief look at Mongolia's state emblem through time allows to trace the evolution of various symbolisms. The emblems of the Bogd Khanate [1911-1924] and the early Mongolian People's Republic [1924-1992] display Buddhist symbolisms with the *soyombo*[23] at its core. Starting in 1940, the Mongolian People's Republic's emblem (figure 10) shows a man riding a horse surrounded by the four other main herd animals, and, above him, the socialist red star (there are three successive versions with various alterations). The emblem adopted by Mongolia in 1992 returns to predominantly Buddhist symbolism, with, amongst others, the *soyombo* and the winged horse, *khiimori,* at its centre (figure 11). The same year, the traditional horse-head fiddle, *möriin khuur*, was elevated to state symbol (*töriin süld*), accompanied by the creation of a state *möriin khuur* ensemble (Bumochir 2023:133).

Figure 10 (left). Emblem of the Mongolian People's Republic [1940-1949]
(Author: Ericmetro. Public domain. Source: Wikimedia Commons)
Figure 11 (right). Emblem of Mongolia [since 1992], by Tseveendorjiin Oidov
(Public domain. Source: Wikimedia Commons)

The relation between horses and humans is certainly being utilised as part of a broader national identity discourse. Even though the majority of Mongolians do not actively practice pastoralism anymore, many have family who are herders, own animals themselves, and spend part of their summer in the countryside (Honeychurch 2010: 407-8). There is a discrepancy between the actual lived experience of herding, often very strenuous, and an idealised Mongol pastoral past promoted by the government (Marin 2008). This is reflected within state discourses of pastoralist societies being "backwards" yet enabling the foundation of the modern Mongolian nation (Honeychurch 2010). In his article "The Animalification of

[22] Central and Eastern Europe, the Caucasus, Central Asia, as well as the Russian Federation and Mongolia.

[23] The *soyombo,* as sign from the eponymous alphabet, was created in 1686 by the Buddhist spiritual authority Zanabazar and combines geometric motifs with the yin and yang symbol as well as fire, sun and moon (Atwood 2004:272-3). The sun and moon symbolism possibly derive from pre-existing symbols used by the Xiongnu.

Nationalist Sentiments", Bumochir (2023) argues that the sentiment of humans and horses being innately attached to their homeland, the *nutag*, has been employed both to fight against mining enterprises and to fuel nationalism, e.g., through analogies of "pure" Mongol horses and humans (Bumochir 2023:132). As discussed in section 3.2, *nutag* itself can refer to a specific rural place where one is born, where one nomadizes, an entire *sum* or even *aimag*, or all of Mongolia (Bumochir 2023:134-5). Looking beyond national borders, Mongolia has begun to promote its nomadic heritage to the world. Since 2025, the United Nations have adopted July 11th as "World Horse Day", which coincides with the beginning of *Naadam* (United Nations, 2025).

4. Thinking about horses, writing across disciplines

As was discussed in the previous part, people living in the grassland-steppe regions of Mongolia today hold multi-species herds within which horses help herd other animals. Crucial terms such as the animal-human herding encampment (*khot ail*) and the homeland of horses and humans were introduced, as well as the involvement of landscape spirits (*gazrin ezed*) in the herd-herder relationship. Horses retain a practical as well as spiritual role and can generally be regarded as a symbol of the Mongolian nation and state. Based on the evidence and practices regarding horses in Mongolia past and present, this author will now endeavour to think across the disciplinary boundaries of archaeology and anthropology by presenting two archaeological-ethnographic case studies, before turning to the dichotomies of wild vs. domesticated and human vs. non-human in the Mongolian context.

4.1. Archaeology : Anthropology

Let us briefly turn to the relationship between archaeology and anthropology. Archaeology often makes use of ethnographic analogies to interpret ancient remains. This ethnoarchaeological method has been criticised by many, as it risks essentialising contemporary groups, usually non-Western and often non-sedentary (MacGranaghan 2017). Rather than an indiscriminate copy-pasting of the present onto the past, "the most important role of ethnographic analogy lies […] in troubling and disrupting what we think we already know" (Thomas 2004:241), opening our interpretational window. Conversely, what about the material element within anthropology (Gosden 2010)? Only in recent years, anthropology has undergone a material turn – somewhat of a return to its roots which were closer to archaeology – and rediscovered materials as a source of and medium for ethnographic knowledge (Ireland & Lydon 2016). In the following section, two case studies will be presented: the first one which the author categorises as "ethnographically-oriented archaeology", and the second one as "materially-oriented ethnography". The next step will be to think about horses *between* the two disciplines.

In her analyses (2010 & 2013) of the horse-human burial assemblages of the Iron Age Pazyryk culture in southern Siberia, Gala Argent draws on recent theoretical development in regard to non-human animals, and her own experience of being a horse rider. In the first paper, Argent re-classifies the dress of the ten horses buried in Kurgan I (350-250 BCE), varying from more simple saddles to elaborate costumes with appliquéed saddles and headdresses (2010:164). She suggests that their costumes indicate their individual status, age, role and relationship to the rider, arguing that horses were, *in themselves,* key actors of Pazyryk society (Argent 2010:170). In the second paper, she analyses the tattoos of human individuals buried in the Pazyryk kurgans, which feature horses with elements of bird, deer and felines in the iconic "Animal Art" style found across Inner Asia during the Iron Age (Rudenko 1970). Drawing on contemporary theories of human-animal interaction, as well as the animist and shamanist beliefs prevalent in the region, she advances that the tattoos represent a transgression between

the categories of "human" and "animal" and their respective abilities as well as the passage between life and death (Argent 2013:190). Overall, Argent argues for a true consideration of horses as agents, beyond symbolism or subsistence, in Inner Asian interspecies societies.

Returning to the (ethnographic) present, let us turn to Marchina et al.'s anthropological and osteological analysis of the deposition of contemporary horse skulls at *ovoo* stone cairns erected on higher mountains in Mongolia (2017). The study confirmed that skull deposition practices are restricted to a certain category of horses – typically, beloved race stallions – although the way in which the animals were killed differs. In northern and western Mongolia, regions which are not inhabited by the Khalkha ethnic majority, skulls are deposited near a river or in a tree – places which, similar to mountains, are typically inhabited by spirits. Furthermore, the number of skulls deposited varies, as well as their orientation. The authors argue that placing certain horse skulls at specific *ovoos* is a way of paying respect both to an individual beloved horse and to the spirit masters of the land (2017:181) and represent the materialisation of the "triadic relation between humans, animals and territory" (Marchina et al. 2017:182). Marchina et al. point out that further research into horse skull repositories could also help understand ancient depositional practices such as the horse head and hoof burials at *khirigsuurs*.

4.2. Wild : Domesticated

Domestication is a subject to which much archaeological research is dedicated to, often based on the assumption that there is a clear separation between wild and domesticated animals. As discussed in section 2.1, the question of the location and time of horse domestication especially has plagued archaeologists for decades. Currently, the relationship between the Botai site in Kazakhstan as a possible first locale, and Przewalski horses as only existing wild horses today, is being debated. The archaeogeneticist Ludovic Orlando summarises the Botai-Przewalski dilemma as follows: "Botai horses indeed did not show close genetic affinities to modern domestic breeds. They clustered instead together with the Przewalski's horse, a horse discovered in the late 1870s roaming wild in Mongolia and considered since as the only truly wild horse living on the planet. In short, the earliest domestic horses known in the archaeological record appeared to be the direct ancestors of the only modern horse that was supposed to have never been domesticated" (2020:2).

The Przewalski horse is named after a colonel, geographer and explorer who worked for the Russian Empire.[24] In Mongolia, this so-called wild horse is known as *takhi* (Fijn 2015:283). Hunted down by Europeans to fill their zoos, it was long considered extinct in the wild. Natasha Fijn points out that although the last *takhi* was officially sighted by a Mongolian scientist in 1969, it is likely that herders would have spotted animals near Takhiin Shar Nuruu (Yellow Wild Horse Mountain Range) after that date (2015:279). Since the 1970s, these same European zoos who contributed to the animal's extinction as well as natural reserves have participated in *takhi* re-wilding projects, "returning" *takhis* born abroad to their "original home" in China, Mongolia, and most recently, Kazakhstan (Zoologischer Garten Berlin, no date). Reconsidering the definition of wild and domestic in relation to Mongolian horses, Fijn argues that these categories do not correspond to the regular interbreeding of domestic horses and *takhis* favoured by Mongolian herders. Furthermore, she points out that "according to the

[24] Giving one's own name to an existing animal – or plant, or mountain, or territory – is part of the deeply colonial European logic of "discovery". Furthermore, the role of local collaborators – the people who showed said animal to the "explorer" is often obscured in scientific narratives. Fijn remarks that Przewalski was in fact given a *takhi* by a hunter (2015:283).

dualistic categorisation of domestic and wild, the way the 'domestic' Mongolian horse exists does not fit the criteria of a domesticated animal, whereas the 'wild' Mongolian horse living within a captive zoo fits the accepted definition of a domestic animal well" (2015:285).

The Botai-Przewalski/*takhi* dilemma poses many questions. If the "only true wild horses" are not wild, what does it mean for archaeologists looking for the first domestic horse? What does it mean to "re-wild" horses which might be feral and have always interacted with domestic horses? Conversely, if they are not truly wild – does that make them unworthy of conservation within the system that almost brought them to extinction? Taylor and Barrón-Ortiz maintain that the Botai horses are wild and point out that changing the Przewalski/*takhi*'s status to feral puts this severely endangered animal population at risk (2021:9). On an even broader scale, should be we using categories such as wild : domesticated which neither apply to the distant past nor the present in Mongolia? The author of this paper has argued elsewhere that the obsession with wild : domesticated, notably in the interpretation of Mongolian rock art, is unjustified on several levels: 1) the majority of petroglyphs are often not detailed enough to determine the species; 2) people in the distant past were likely not using the same categories as we do, in the present; 3) the dichotomy obscures the actual relationships, closer or more distant, humans and animals entertain with each other (Conte 2019).

4.3. Human : Non-Human

Here we will reflect on the binaries of human vs. non-human, working towards different forms of relationality. The category non-human includes animals, spirits, and objects. As outlined in section 3.2, Mongolian pastoralism today can be described as "herders and herd animal liv[ing] with each other in a shared landscape, inhabiting a co-domestic, ecosocial sphere: the herding encampment" (Fijn 2011:19). This landscape is regimented by more-than-human entities – different kinds of spirits and ghosts – which humans should respect to ensure their fortune, tied to the wellbeing of their animals (Empson 2011). The triad of human-animal-spirit relationships is materialised in certain places such as *ovoo* mountain cairns (Marchina et al. 2017). As discussed in section 3.3 in regard to *tamga* branding irons, a family's history, kinship network, and even status is entangled with those of animals – some speak of interlinked genealogies and biographies in pastoral societies (Orton 2010:194). The herd has agency in itself (Bumochir et al. 2020), but it is still property, which can be collective and individual at the same time (Finke 2017:174-5). Here it should be stressed that in Mongolia navigating spiritual landscapes and capitalism is not mutually exclusive, as is considering an animal as an individual and as property (Fijn 2011:31-2; Orton 2010).

In archaeological discussions around the introduction of horseback riding and horse-pulled vehicles, the bridle as well as bit pieces are key (Taylor et al. 2021). On a more symbolic level, Argent's interpretation of the Arzhan horses, whose status is reflected by their saddle complexity, has been discussed (Argent 2010:164). Delaplace, who refers to the joining of rider and horse as an assemblage, also discusses the role of the saddle – namely that an unspecified horse (*aduu*) only accesses the status of mounted horse (*mori*) when it is saddled (Delaplace 2023:140). Therefore, this author refers to objects as mediators of past and present human-animal relationships. Given the knowledge of contemporary pastoral perception of animals and spirited landscapes, how can we better interpret archaeological remains? In turn, we should consider archaeological remains as part of present landscape practices and networks. While archaeology draws primarily on material objects to produce knowledge about the past, anthropology sometimes neglects the material side of life. This author argues that, in the Mongolian context, it is crucial to learn from material objects to better understand the relationship between humans, animals, and spirits.

5. Conclusion

In this paper, archaeological and anthropological studies of horses in Mongolia were equally reviewed, within an approach that is both diachronic and interdisciplinary. In 'Horses in the Past', the introduction of horses in the Late Bronze Age based on combined genomic, zooarchaeological and monumental evidence was discussed. For later periods, historical evidence and material culture were briefly reviewed, stressing the multiple roles of horses played in that society. 'Horses in the Present' began with an overview of socio-political changes Mongolia underwent in the course of the last century and their effect of pastoralism. Then, the relationship between humans, animals – horses especially – and spirits within the landscape was discussed, as well as specific material manifestation of that relationship and spiritual concepts that are associated with it. As part of this, at first, linear overview, common misconceptions which have influenced research on nomadic societies – such as the perception of nomadism as an unchanging and unstable way of life – were reflected upon. Instead, this author would like to stress the resilience of pastoralism through time, while also acknowledging deep-seated changes such as the ones witnessed during the short 20th century in Mongolia. So-called traditional herding and spiritual practices are not mutually exclusive with living within a society generally oriented towards capitalism.

'Thinking *about* horses, writing *across* disciplines?', crucially, tried to move away from "either or" approaches – whether this applies to the disciplinary boundaries of archaeology and anthropology, or established dichotomies such as wild : domesticated and human : non-human. Drawing for past and present examples, this is a call to move beyond these boundaries towards an approach which is deeply relational. Thinking *across* archaeology and anthropology through a reflexive lens – moving back and forth between the disciplines – allows us to question misguided preconceptions and interpretations. Although the problem of large timespans remains and we can effectively not ask past humans what their actions were about, it is established that ethnography can enrich archaeological interpretations. Thomas describes this process as "disruption and troubling what we think we already know" (2004:241). It is less widely acknowledged that archaeology's material orientation can also support ethnographic investigations – Marchina et al.'s study of horse skull deposition practices and *ovoos* succinctly shows this. Similarly, this author's own "first ethnographic steps" were greatly supported by people showing horse-related objects and their uses (section 3.3). A last note on the why – why all of this? To quote Honeychurch, "[t]he role of archaeologist, in my opinion, is not to argue for or against the preservation of mobile herding per se, but to raise questions about why it is we hold the beliefs we do about this lifeway and whether or not those beliefs are indeed valid, especially when they configure major social and economic programs for international change" (2010: 410). This author strongly believes that by focusing on horses – the Holy Grail of Eurasian archaeology and the pillar of Mongolian state-formation past and present – there are productive interdisciplinary paths to be explored, notably regarding the role of archaeology in contemporary Mongolian society.

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