The Origins of Horse riding and the Development of Ancient Central Asian Nomadic Riding Harnesses

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Abstract
The article is devoted to the origin of horse riding and the developmental stages of the riding harness used by the ancient nomads in Central Asia. Three stages stand out in the domestication of the horse as determined by archaeological materials. The Early Stage, (middle to the end of the second millennium BC) is the development of the chariot harness. The second, the Arzhan Stage (11th–7th centuries BC) is the Early Scythian period in which bridle bits and cheekpieces, manufactured in bronze became varied. During this time the funeral rite includes horse burials. During the third stage, the Pazyryk (7th–4th centuries BC), the saddle and harness become richer and more complex. Images carved in rock (petroglyphs) reflects the main stages of harness development.

Keywords
Early Nomads, origin, horse riding, riding harnesses, Central Asia

Introduction
The snowy steppes of Eastern Europe required that animals be kept in stalls and given fodder during the winter (Rudenko 1961). In contrast, the most favorable geographical conditions for the development of mobile forms of cattlebreeding (i.e., year-round pasturing) lay in the territory which stretched from the Ural Mountains eastward to Mongolia. Attempts by some scientists (Anthony 1986; Zaibert, et al. 1990, etc.) to interpret bone articles from Eneolithic sites in Eastern Europe and northern Kazakhstan (i.e., Derievka, Tjubek, Botai, etc.) as cheekpieces, and accordingly, to extrapolate the development of horseback riding from this information, is not absolutely convincing for a number of archaeological reasons (Bokovenko 1997). In addition, their theories have been developed in the absence of reliable osteological data (Kosintsev 1999; Levine 1999).

Analyses of the archaeological materials provides evidence for the creation of Central Asian nomadic riding bridles that further stimulated the development of various armaments and costumes. The armed horse rider was created from this system. Some stages of this process are illustrated in Figures 1 and 2 and listed below.

(1) The earliest stage of the development of horse riding equipment occurred during the Bronze Age (middle to the end of the second millennium BC). At first, the primitive horse bridle consisted of a plaque cheekpiece with prongs on one side; this was followed by the development of bar cheekpieces, carved from horn, with three holes and strap bits that were not firmly fixed. These types of bridles were not particularly reliable for controlling a horse, and probably were used only on draught animals. It is possible, however, that they may have been used
incidentally for riding purposes, for example, by shepherds. This bridle type was widespread in the Eurasian steppes from Hungary to Mongolia. Chariots burials and the formation of a nomadic aristocracy are known from this period.

(2) The initial stage of the Early Nomads (Scythian-type Culture) at Arzhan, 9th–7th centuries BC, is characterized by the mass manufacturing in bronze of the basic elements of the bridle. At this time there is a significant qualitative change. At first, bronze cheekpieces simulate the types that were made in horn, then metal allowed artisans to create essentially new forms. The greatest variation of bronze bits (seven types), and cheekpieces (eleven types) for all periods of nomadic life, may be observed during this time. The basic bridle bit form and the quantity of external terminals became modified (Fig. 2), and stirrup-shaped bits prevailed in Kazakhstan and the Sayan-Altai region (Akishev 1973; Vishnevskaya 1973; Gryaznov 1984; Bokovenko 1986; Itina and Yablonsky 1997; Kirushin and Tishkin 1997). Cheekpieces, generally with up to three holes, were of the most different and difficult types, and were designed to be fastened to the bits with special small straps.

In the Sayan-Altai, among the available materials from early Scythian sites that have been radiocarbon dated (Marsadolov 1997), no less than 37 bridle variants have been recorded; this finding testifies to the intensive quest by the nomads for the most reliable and convenient forms of horse equipment (Bokovenko 1986). The improvement of all the harnessing is combined with the localization of specific types of bits and cheekpieces, such as the types from the Minusinsk Basin, Tuva, and the Altai. The most favorable forms were replicated, while others become obsolete.

Phalera, breast ornamentation for horses, is found manufactured in primitive horn (as plaques) as well as being fashioned from bronze into magnificent plaques with beautiful bas relief of a coiled predator—the snow leopard—such as the example recovered from the Arzhan Kurgan (Figs. 3, 4). Due to the mobility of the nomads, and the dynamics of intercultural contacts, new types of horse harnesses were quickly distributed, while the most imperfect gradually “disappeared” or entered into a “struggle,” with traditional local forms.

(3) Beginning at the end of the 7th century BC, the new Pazyryk Style is identified with a wide distribution from Mongolia to Hungary. At this time an essentially new bridle design came to the fore, in which cheekpieces were no longer snugly fastened to bits with straps as had been the case in previous times; straps were now inserted into extended ring-shaped terminals. From this time onwards, cheekpieces varied little in form although there was an evolution in the style of terminal which saw an increased use of those with two holes. Cheekpieces with ring terminals obviously improved the manageability of the horse, and other types of bits and cheekpieces were essentially not used since this bridle design continued until the Middle Ages. Thus, an efficient bridle was developed, saddles were simple as illustrated at Pazyryk, and although metal stirrups had not yet been invented, stirrups were probably made from leather straps.

Iconography and semantics of horses in burials

At Pazyryk I, the remains of ten gold-colored horses were discovered. The highest quality of these, based on the judgement of Gryaznov (1950: 167), belonged to the Central Asian breed that was glorified in antiquity; today the descendants of these horses are the famous modern Turkmen horses (Gryaznov 1950: 167). The remaining horses represented crossbreeding of the Central Asian breed with local small, but strong and handy horses. It is interesting to note, that each horse at Pazyryk had a different mark on its ear that probably represented different ownership and, the horses most likely represented “gifts of grief” from subordinate patrimonial elders to the buried chieftain.

The horses found in all of the kurgans were buried with magnificent harnesses; their manes and even eyebrows had been carefully trimmed. Usually two horses were decorated with particularly rich finery, and it would seem probable that these animals had belonged specifically to the chieftain. The head of each horse was decorated with a mask representing a horned tiger, while the tail was dressed with a cover. One horse wore a tiger mask with huge stag horns made from heavy leather. The saddles were decorated with hanging images of fish (Fig. 5).

Semantically, the analyses of these magnificent horse harnesses are complex and are connected to the creation at this time of Indo-Iranian mythology and the introduction of shamanism. It is clear that the ancient shamans created harness compositions on the basis of definite mythologies, which are reflected in the position of the sacrificed horses within the burials of the military aristocracy. Images correspond to the Animal Style and also are represented in a wide range of colors. Herewith, we can conditionally track, using iconography, the three worlds of the nomads:

(1) The Upper World—head and neck of a horse (stag’s mask, birds).

(2) The Regular World—chest of a horse; pommel; and saddle pillow (where the person sat), covered with the struggle of non-predators being attacked by predators (ungulates and felines as a signature stamp).

(3) The Lower World—fish portrayed hanging down from a saddle and defeated animals.

The combat scenes are interpreted in different manners by some scholars: (a) tribal struggles (Gryaznov 1950); (b) forces of goods and evil, life and death (Artamonov 1973) and; (c) bright sky contrasted with darkness, earth, change of seasons, etc. As a whole, the images testify to the existence of elements within the local religious belief systems that subsequently rendered significant influences on the spiritual development of many Asian peoples.

Conclusions

The developments apparent among the horse equipment of Central Asia reveal a clear continuity of the bridle components of the Bronze Age through to the Early Scythian period. This is illustrated, for instance, in rock art (Fig. 6). The search for the
optimal solutions resulted in harnessing that became a canonical type of extreme significance to the nomads. Moreover, a specific type of horse harnessing, as noted in the royal mounds at Arzhan where horses were decorated with boar’s tusks, displayed solar symbols and snow leopards as predators, etc.

The main cultura-historical value may therefore be obtained when analyzing the morphological characteristics of Central Asian horse harnessing at the beginning of the first millennium BC. A local funeral tradition surfaced in which the appearance of a horse cult was brilliantly exhibited in the nomadic art of the Sayan-Altaic region. A dominant role was played by stag and sun images that generally correspond to written sources relating to the Saka and Massagetae. Therefore, it is apparent that this style originated in an area that was much further to the east than previously has been recognized.

Thanks to the horse, nomadic activity increased considerably and allowed comprehensive trade relations to come to develop. Cultural communications became diversified, interacting with the tribes of the taiga (forest) on the north; and in the south with the civilizations of Central Asia, India, and urban China. Nevertheless, cultural impulses and migrations to the west were in force in the late second-early first millennia BC (Jettmar 1964; Terenozhkin 1976; Ilinskaya and Terenozhkin 1983; Klochko and Murzin 1987; Kossak 1987; Bokovenko 1989a; 1989b). Typological analyses of the basic components of nomadic culture indicate that there were difficult processes and areas of progress in migrations as well as with concepts and artifacts. At first, the movements of the Scythians, the Saka, the Massagetae, and the Sarmatians, largely changed the ethnic and cultural situation in Asia and Europe. Later the Hsiung nu and the Huns became responsible for these changes. These movements also created the necessary preconditions for the development of trade routes between the various regions.

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Fig. 1. Developmental stages for Central Asian horse bridles: 1 - end of the Bronze Age; 2 - Arzhan Stage; 3 - Pazyryk Stage.
Fig. 2. Stages of development and bridle bit typology of 11th-7th centuries BC in Central Asia.

Fig. 3. Horse bridles with solar symbology: 1 - end of the Bronze Age; 2 - Arzhan Stage; 3 - Pazyryk Stage.
Fig. 4. Reconstruction of horse harnesses from Arzhan. (reconstruction by the author)

Fig. 5. Reconstruction of horse harnesses from Pazyryk I. (reconstruction by M. P. Gryaznov)

Fig. 6. The development of the horse bridle revealed in Central Asian petroglyphs: 1 - Neolithic (Obryv); 2 - Early Bronze Age (Lebjazhe); 3 - Early Scythian period (Ust'-Tuba); 4 - Scythian period (Kavkazskaja).
The use of horses as pack and riding animals made it possible to migrate and control large amounts of livestock. The invention of horse riding per se and its consequent technical improvements (such as the invention and development of a saddle with a firm wooden tree and stirrups) afforded new opportunities (first of all in a military context) and changed the tactics of warfare to a great extent. The role of horse meat, milk, hides and hair was also significant. The nomads of the Scythian epoch used the so-called “soft saddle” for riding, which consisted of two leather pads stuffed with hair and... In the ethnographic period the important role of the riding horse in traditional nomadic culture remained intact. Horseback riding was a transformative force in the ancient world, prompting radical shifts in human mobility, warfare, trade, and interaction. In China, domestic horses laid the foundation for trade, communication, and state infrastructure along the ancient Silk Road, while also stimulating key military, social, and political changes in Chinese society. The origins of horse husbandry on the Eurasian steppe in Late Prehistoric Exploitation of the Eurasian Steppe, M. Levine, Y. Rassamkin, A. Kislenko, N. Tatarintseva, Eds. (McDonald Institute for Archaeological Research, Cambridge, UK, 1999), pp. 5â€“58. An analysis of factors affecting the development of an equine cranial enthesopathy. Vet. Zootech. Nomadic horse peoples of the steppe dominated the area for millennia. Relations between the steppe nomads and the settled people in and around Central Asia were marked by conflict. The nomadic lifestyle was well suited to warfare, and the steppe horse riders became some of the most militarily potent people in the world, due to the devastating techniques and ability of their horse archers.\[1\] Periodically, tribal leaders or changing conditions would cause several tribes to organize themselves into a single military force, which would then often launch campaigns of conquest, especially. The first horseback riders and domesticated horses were originally believed to have come from Sredni Stog culture, a site in the steppe areas east of the Dnieper River and north of the Black Sea in what is now the Ukraine, dated between 4200 and 3500 B.C. Russian archeologists excavated Sredni Stog in the 1960s and found scraps of bone and horn that resembled the cheek pieces of bridles plus wear and tear on the teeth of an excavated horse that resembled the wear and tear caused by wearing a bit. Horses and the people who care for them tend to live in remote, dry or cold grassland regions, moving often and leaving only ephemeral marks in the archaeological record. These concern the origins and genetic composition of the local Asian populations encountered by the Yamnaya- and Afanasievo-related populations, including the groups associated with Botai, a site that offers the earliest evidence for horse husbandry (10). In contrast, the more western sites that have been supposed by some to reflect the use of horses in the Copper Age (4) lack direct evidence of domesticated horses. Genetic origins of local Inner Asian populations. The position of this cline suggests that the central steppe Bronze Age populations all form a continuation of the Ancient North Eurasian (ANE) population, previously known from the 24,000-year-old Mal’ta (MA1), the 17,000-year-old AG-2 (26), and the ~14,700-year-old AG-3 (27) individuals from Siberia.