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Y.N. Esin
Khakass Research Institute of Language, Literature, and History,
Shchetinkina 23, Abakan, 655017, Russia
E-mail: esin2006@yandex.ru

An Eastern Tibetan Tool for Managing Draught Cattle

This study, based on a trip to the Yushu Tibetan Autonomous Region of Qinghai Province, China in August 2018, focuses on the tradition of using wooden nose-rings for managing draught yaks and yak-cow hybrids, still practiced in Tibet. The materials and technology for manufacturing this tool are described, and measurements are provided. I describe variants of the traditional yoke and plow (ard) system used in conjunction with a nose-ring and identify several variants of nose-ring, distinguished by the style of terminus. I investigate seasonality of use, method of piercing, age of animals at piercing, techniques for managing single animals and draught teams, as well as nose-ring durability and advantages of wooden vs. rope forms. Based on a comprehensive comparative historical analysis of materials from Yushu, I suggest that Tibetan ancestors, who had moved there from the northeast in the second half of the 1st millennium BC, introduced wooden nose-ring technology.

Keywords: *Wooden nose-rings, yoke, ard, yak, ox, Tibet, Kham.*

Introduction

According to the archaeological record of southern Siberia, the oldest type of tool for managing cattle in the east of the Eurasian steppe belt was a wooden loop or nose-ring, with a rope inserted into the animal's nose. This technology was first recorded in the rock art of the Okunev culture of the middle 3rd to early 2nd millennium BC in the Minusinsk Basin, and subsequently spread further east and south. At present, the use of this technology continues only on the periphery of its former distribution, including areas of the Korean Peninsula and the Tibetan Plateau (Esin, 2018). This tradition is most widespread and best preserved in Tibet, where it is still part of a traditional culture. Ethnographic study of this tradition makes it possible to find out a number of aspects of the manufacture and use of this tool that are not available for research through archaeological materials. In Tibet, a wooden nose-ring is used to manage both domestic yak (*Bos grunniens*), as well as a yak-cow hybrid (*Bos taurus taurus*), known as *dzo* in the local language. The normal function of the loop is to control the animal while riding, transporting goods in packs, and cultivating fields. Owing to the peculiarities of the topography, wheeled transport in Tibet never become widespread, although there is ethnographic evidence of the use of two-wheeled carts (Tsybikov, 1918: 173). Unfortunately, there is very little available information about the use of nose-rings for managing cattle, which played a crucial role in the history of harnessed transport in Eurasia. Only isolated references to the use of such wooden loops can be found in the ethnographic literature (Przhevalsky, 1883: 256; Kaznakov, 1907: 65; Furer-Haimendorf, 1983: 78; Himalayan Buddhist Villages…, 1994: 108).

The purpose of this research is to perform a detailed study of the fabrication and use of wooden nose-loops in the east of the Tibetan Plateau. Results presented here are derived from an expedition to the Yushu-Tibetan Autonomous Region, located in the south of the

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Qinghai province of China, in August 2018. Data were collected in two areas in the northeast and southwest of this region: in the valleys of the Drichu River འབྲི་ཆུ (Chinese 'Tongtian River' 通天河, headwaters of the Yangtze River; Chindu County 称多), and the valley of Dzachu River རྫ་ཆུ (Chinese 'Lancang River' 澜沧江, headwaters of the Mekong River; Zadoi County 杂多). In the traditional geography of Tibet, these areas belong to the Kham region of the eastern Tibetan Plateau. Their indigenous population speaks the Kham Tibetan language. A comprehensive description of this part of Tibet was carried out by an expedition of the Russian Geographical Society, under the leadership of P.K. Kozlov (1906), which took place in the second half of 1900 and early 1901 (Fig. 1).

Ethnographic study of tools for managing draught cattle and harnesses was accompanied by a detailed study of rock art in the region. This included meetings with individual informants and families in Tibetan villages, as well as short interviews with participants in the yak festival near Chindu and the horse festival in the Saikang Monastery area, which expanded territorial coverage and scope of the study. In addition to collecting oral accounts about the use of nose-rings and traditional methods of harnessing of cattle, I conducted photography, did sketches, took measurements of relevant objects, and collected descriptions in Tibetan language.

Analysis of the collected material included the study of the use of wooden nose-rings; the method and seasonality of their manufacture; the advantages and disadvantages of a wooden loop as compared to a rope loop; the process of nose-ring implementation and the duration of its use; the design of a yoke for a draught team and *ard* (traditional plow)—both used in conjunction with a nose-loop; methods for managing animals with a nose-loop, and other uses. Finally, I consider explanations for the origins of this tradition in Tibet.

Manufacture and efficiency of nose-rings

The main tool for managing cattle among the Tibetans of the Yushu region consists of two elements: a wooden loop – Kham, *níkhi*; a rope – Kham, *nadó* (Fig. 2). Comparative analysis of all nose-loops seen during the expedition (about 30 pcs.) allows us to note the shape of their ends as an essential feature and, depending on the latter, divide them into three variants: 1) both

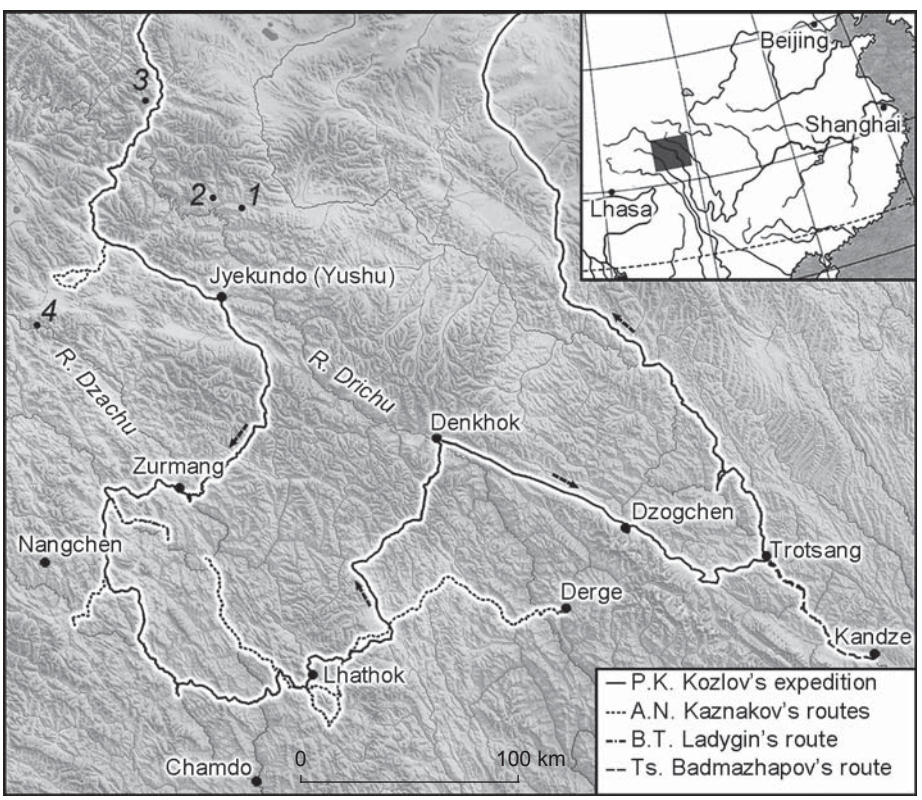

Fig. 1. Places of collection of materials in Eastern Tibet in 2018 concerning the route of the expedition of P.K. Kozlov in 1900–1901 (the map of the study area was prepared on the basis of cartographic materials http://kham.cnrs.fr).

1 – Chindu town 称多; *2* – Bailong village 白龙; *3* – surroundings of the Saikang monastery 赛康寺; *4* – neighborhoods of Angsai 昂赛乡.

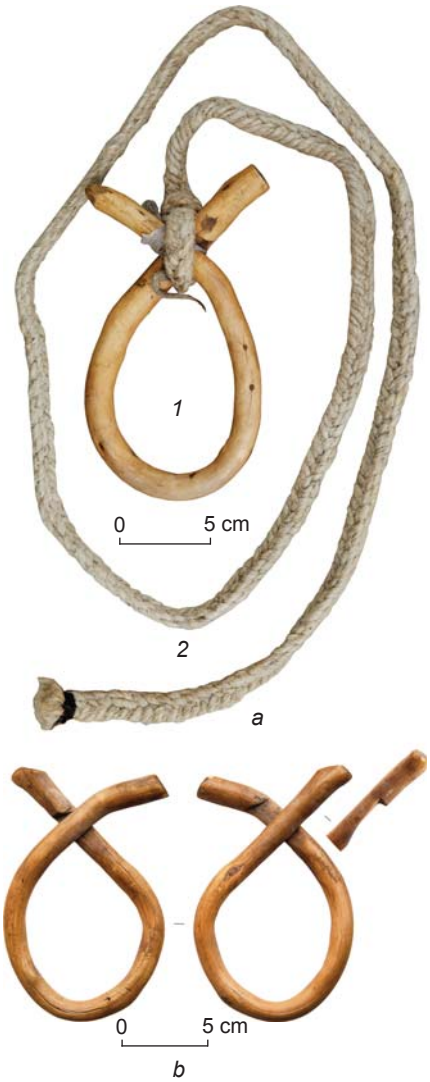

Fig. 2. Wooden nose-ring for managing draught animals, with (*a*) and without (*b*) equipment.
1 – wooden loop (Kham, *níkhi*), *2* – rope (Kham, *nadó*). Property of the Konge (*a*) and Lati (*b*) families, Bailong.

Fig. 3. Variants of tools for controlling yaks/hybrids by nose at the yak festival near Chindu, August 2018.

ends are blunt (Fig. 2, *b*); 2) one is pointed (Fig. 2, *a*); 3) both are pointed (Fig. 3, *1*). The pointed end makes it easier to insert the loop into the animal's nose. The variant with two pointed ends is rare, while the other two in the Drichu River valley are distributed more or less equally and are noted simultaneously in the same families. In the south of the Yushu region, according to Matei from the Dzachu River valley, it is generally not customary to sharpen the ends of the loop. For a more reliable connection of the ends (regardless of their shape), the vast majority of loops have grooves (see Fig. 2, *b*), although their presence is not mandatory and does not affect the functionality of the tool. The size of the loop depends on the size of the yak. On average, it is 9–10 cm wide and 15–20 cm high.

According to all the informants, a wooden loop for managing the animal by nose is made only from the branches of a locally grown cypress tree. Its wood is flexible, dense, and resinous, which prevents cracking, as well as shows certain antibacterial properties. It is usually the men who manufacture these loops. Several pieces are made at a time. In particular, in two or three days, approximately twenty loops can be made. The traditional time for this activity is from February to April. At the preparatory stage, a flat branch with a thickness of about 1.5 cm, or slightly more, and about 1 m long, with a minimal number of side shoots, which are removed, is used. The middle part of the semimanufactured piece is heated over a fire for about five minutes (the fire is traditionally made on dry yak manure, which yields

a higher temperature than wood) and is then usually bent around a stone or post. Matei from the Dzachu River valley, demonstrating this process, used another technique: he bent the item by the ends with his hands and repeatedly stepped on the middle part with his foot, stretching it to the right and left as he pressed it to the ground. After an even curve is obtained, the loop is tied with a string or a narrow strip of fabric at the intersection of the ends (often, such a rope continues to be tied at the end of a completely finished loop during use). At the same stage or later, grooves can be cut with a knife, providing a tighter and more reliable connection. Then the ends of the piece are cut off, and the bark is removed. One or both ends may be sharpened. The loop is left for a day or more to cool and fix its shape. Then its surface is finally leveled (cutting off any cones or knots) and fashioned into the required shape. As an important feature of making the loop, Matei noted the need to bend the right part of the item on top of the left, explaining this by the fact that if you do the opposite, the animal will get sick. At the same time, many loops examined in the Drichu River valley do not comply with this rule.

The rope that is tied to a wooden loop is made of yak wool for durability and flexibility in all weather conditions. It is ordinarily woven either from white and dark strands, or from only white ones. Some informants mentioned that the dark color was unacceptable. The rope is fastened as follows: one end of it, on which a small loop is made, is pulled through a wooden loop, and the second is passed through a rope loop, and tightened at the intersection of the ends of the wooden loop, which provides their additional connection. The rope is usually long enough to be tied around the horns when the loop is in the animal's nose (see Fig. 2, *a*).

The Tibetans themselves consider the manufacture of the nose-loop to be very simple, which opinion is reflected in their folklore. In particular, in one Tibetan legend, a wife constantly reproaches her lazy husband for not even being able to make a yak's nose-loop (Haiwang Yuan, Awang Kunga, Bo Li, 2014: 99).

At the Yak Festival in August 2018 near the city of Chindu, along with a wooden loop, the use of an all-rope tool was recorded to control an animal while riding. It can consist of a separate rope loop inserted into the nose, and a long rope tied to it (see Fig. 3, *2*), or just a rope. In the latter case, there are two options for use: 1) one end of the rope is pulled through the nose and tied in a loop (see Fig. 3, *3*); 2) the rope is pulled through the nose to the middle of its length, and is held in the rider's hand by both ends (see Fig. 3, *4*).

Wooden and rope implements have their own advantages and disadvantages. The Tibetans themselves explain the advantage of the first by the fact that it does not cause irritation and inflammation of the nose, even with prolonged use. However, as compared to a wooden loop, the rope is more painful for the animal, so it is easier to control it with the latter. This is probably the reason for the large number of rope nose-loops on the yaks that participated in the races at the 2018 festival. In addition, when explaining the reason for using a rope without a wooden loop, some informants spoke of the difficulty of obtaining cypress branches for making loops, since in the Drichu River valley, this tree does not currently grow everywhere (during the years of the Cultural Revolution and the struggle against religion, cypresses, which are sacred to Buddhists, were cut down in some places). However, for fieldwork, requiring prolonged use of the implement in the nose, a wooden loop is preferable.

Implementation and use

According to available literature, a wooden loop is traditionally inserted into the animal's nasal septum at the age of about one year (The Yak, 2006: 217). However, our informants reported later dates for this process as well. For example, the owner of a yak who won the race at a yak festival in August 2018, near Chindu, said that the nasal septum of this animal was pierced at the age of 4 years. According to residents of Bailong village, they usually perform this operation at the age of 5–6 years. After the piercing, a wooden loop is immediately inserted into the hole and left for a period of two months to one year, so that the animal can get acclimated to it. After piercing, the nose-ring can then be removed and inserted as needed.

All informants interviewed in the Drichu River valley reported that the nasal cartilage was traditionally pierced with the horn of a Tibetan gazelle (*Procapra picticaudata*). In one published photograph (Fig. 4), this instrument has a leather strap at its base for hanging on the wall during storage. However, in most cases, the horn was not specially curated. According to some informants, when the need for such a tool arises, they will acquire the material through hunting.

In the Dzachu River valley, where the natural environment is somewhat different, in order to pierce the nasal cartilage of cattle or yak, a pointed rod made of sea buckthorn (Kham, *téva*) is used, a very hard material. According to my informant, animals are pierced in this region at the age of 4–5. They do this in April or May (the timing depends on the climate/weather of a particular area—if the weather is cold, the piercing will be done later). After piercing, fabric tape is inserted into the hole for six to seven days, and then the wooden loop is inserted for a period of three months to a year.

Draught animals are castrated as a means of making them more docile. Informants from the Drichu River valley said that this measure was taken before nose piercing was done. For example, the yak that won the race at the festival in August 2018 had been castrated at the

age of three, and his nasal septum had been punctured at four. However, according to the informant from Dzachu, the local residents of his area castrate an animal seven to eight days *after* piercing the nose.

Notably, animals with nose-loops are always kept near the village, and when they are released into the pastures, their rings must be removed (to dissuade easy theft). A similar precaution also mentioned by the members of the expedition of P.K. Kozlov (Kaznakov, 1907: 65).

All informants reported that a wooden nose-loop for horned draught cattle serves approximately for 30–40 years. If a loop is cracked and unusable, it is to be discarded. No prohibitions or instructions regarding the further use of these objects were mentioned by informants interviewed for this study.

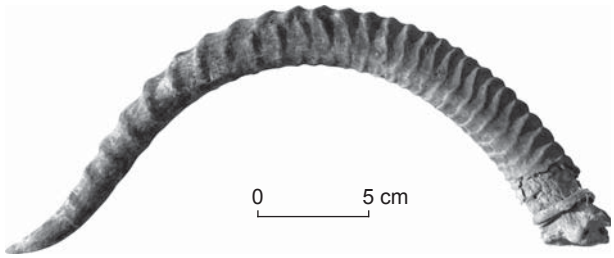

Fig. 4. A tool for piercing the nasal septum of an animal from Chindu County.

The yoke and the ard for a pair harness

In many parts of Tibet, the population has a mixed economy, which combines animal husbandry with agriculture. The main grain crop grown in the region is barley. Small fields are terraced on mountain slopes near the villages. To cultivate the land, an *ard* (plow) and a pair of yaks are harnessed to a yoke. The style of harness used, which is designed for nose-ring control, may be archaic and therefore particularly deserving of scholarly attention. This harness configuration (which includes reins and a yoke) is a relatively autonomous module that can be used to pull various objects. Currently, in Tibet, these uses include the ard and the harrow (a toothed implement used to break up plowed earth). However, a harness configuration of this type in ancient times could have also been used to move carts.

Four yokes of the same type were examined in the Drichu River valley. Measurements show that the yoke (Kham, *nyákhi*) has a length of ca 1.63–1.68 m, and a diameter of ca 8 cm (Fig. 5). A wooden plate (given no unique name) 33–54 cm long is securely tied the middle of the yoke with leather straps (Kham, *dzhomb*). The function of the plate is to reduce the load and protect this part of the yoke from wear, as it also boasts a hole for fastening the ard.

All the holes on the yoke are known as *káku*. These are rectangular in shape. The central hole is the largest, about 5.5 × 2.0 to 2.5 cm, while the dimensions of the others are 4.0 to 4.5 × 2.0 cm. The ard is attached to the yoke with a strap using a loop and a wooden pin (Kham, *nyokhó*) about 15 cm long (in one case, bone was used for this purpose). This pin is often secured to a yoke near the center hole, so that it does not get lost between uses.

The yoke is attached to the necks of the animals with two ropes. Each rope has a loop at one end (Kham, *chadó*), and a stick (Kham, *char*) tied near its base. The ropes are pulled from top to bottom through the holes nearest to the center of the yoke bar. Each rope runs around the neck of one animal from below. The rope is passed up through another hole near the end of the yoke, pulled through a loop at its other end, and pulled, pressing the yoke to the neck of the animal. The ends of both ropes are tied together. To reduce the pressure on the animal's neck, each rope is supplemented with a wide ribbon made of felt and fabric (Kham, *nyató*) (the width of the ribbon in Fig. 5, *d* is 8 cm, length 52 cm), as well as special covers made of the same material (Kham, *nyáti*). These are affixed to the yoke (the width of the cover in Fig. 5, *a* is 52 cm, the length corresponds to the circumference of the yoke). The covers have two holes in the middle, which are aligned with the holes at the bottom of the bar. The corners of each cover are sewn on top of the bar. During storage, the cover is additionally secured via a rope. The length of one such rope was measured at 2.3 m. Before harnessing, this rope is removed and serves as a long rein that connects to a wooden loop in the nose. For storage, this rope is pulled through the same holes as that which fastens the yoke to the animal's neck (Fig. 5, *b*, *c*). Here, it should be noted that when harnessing, an animal's individual collar (see Fig. 3, *2*), which serves for tying up at night, it is not removed.

An ard, used in tandem with the aforementioned yoke, uses a straight draught pole (Kham, *khya*) 2.63–2.84 m long (Fig. 6). Its width at the rear is about 8 cm. On the front portion of the ard, 8 cm from the edge, there is a hole 1.0 to 1.5 × 4.0 to 6.0 cm in size, used for attaching a belt with a loop at the end (Kham, *khyoró*; the total length of this belt is 58 cm, and the loops are 30 cm). With the help of these features, the draught pole is attached to the yoke. The length of the ard's body (Kham, *tongó*) shown in Fig. 6, is roughly 0.9 m. An iron tip (Kham, *tcho*) is placed on the ard's lower end. A little higher, on the sides of the block, small planks (Kham, *dzhonbó*) 20.5 cm long are fixed, making the ard wider; the total width of the implement at this point is 27.5 cm. A handle (Kham, *chunzú*) 11 cm long is inserted at the top. The draught pole is fixed in the ard's body via wedges (Kham, *yunzý*), as well as a spacer (Kham, *kunzú*).

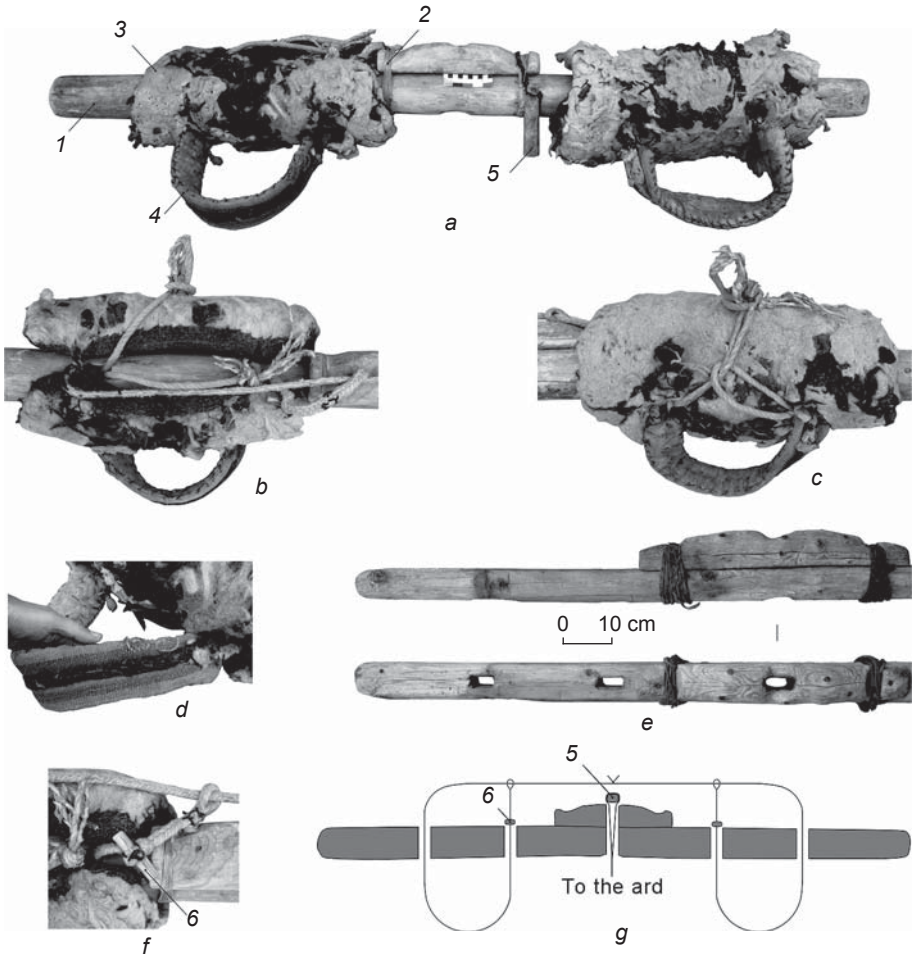

Fig. 5. Construction of a yoke for a team harness.
a – general view of an equipped yoke; *b–d*, *f* – its components; *e* – yoke without equipment; *g* – diagram showing method of affixing the yoke onto the necks of draught animals. Property of the Konge (*a*) and Lati (*e*) families, Bailong.
1 – nyákhi; *2 – dzhomb*; *3 – nyáti*; *4 – nyató*; *5 – nyokhó*; *6 – char*.

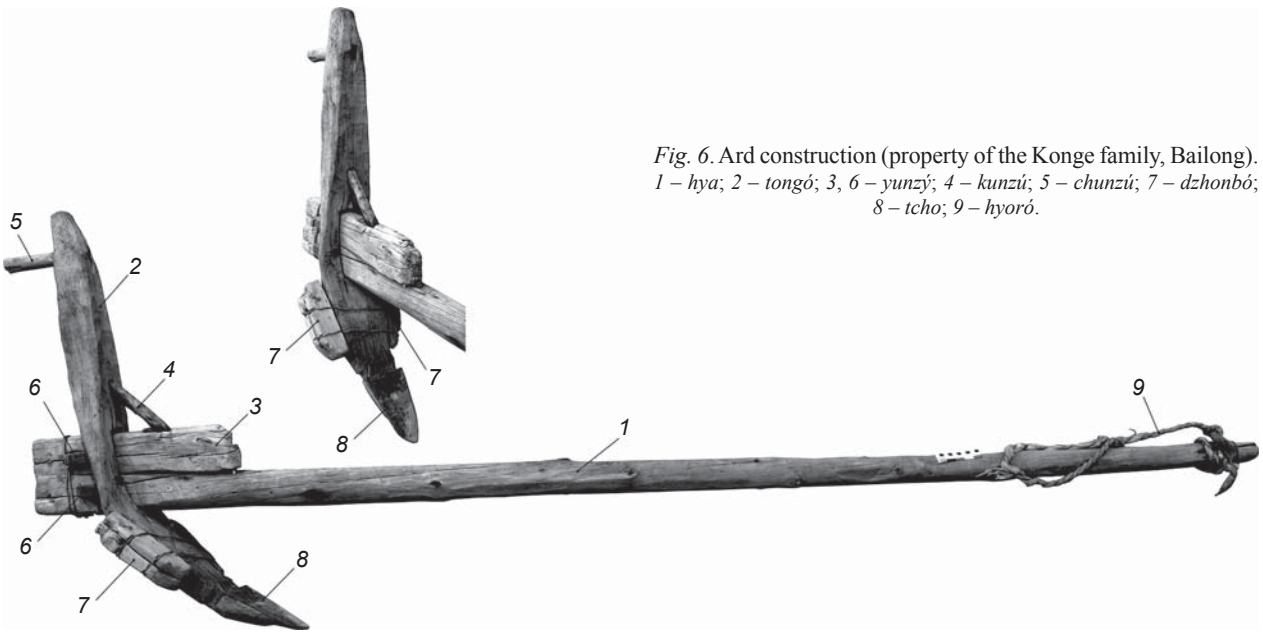

Fig. 6. Ard construction (property of the Konge family, Bailong).
1 – hya; *2 – tongó*; *3*, *6 – yunzý*; *4 – kunzú*; *5 – chunzú*; *7 – dzhonbó*; *8 – tcho*; *9 – hyoró*.

Managing animals with a nose-ring

A nose-ring/loop with a lead rein is used to control both single and team-harnessed animals. When alone, animals are usually used for riding and for transporting packs on their backs. When riding, the rope is passed between the horns and is held in the hand of the rider, who controls the movement of the animal, pulling it in one direction or another. To manage a load-bearing animal, the driver walks ahead with leading rope in hand. When the animal is not being used for work, this rope is usually simply tied around the horns or tied to a pole or stake.

There are several methods used for managing a draught team, which can be divided into two categories based on where the driver is situated relative to the animals: in front, or behind. With the in-front system, two people are required to control the team: one manages the ard (usually a man), while the other controls the animals (often a woman). The animal-manager walks in front of the team and guides it in the desired direction via the rope tied to the loops in the animals' noses. We recorded this approach in the vicinity of the Saikang monastery, on the Drichu River, and it appears to be quite widespread in Tibet.

With the second method, common among residents of Bailong village, one man simultaneously controls both the ard and the animals (The Yak, 2006: Fig. 8, *10*). To achieve this end, an additional long rope is tied to each nose-ring. Each rope has a length of approximately 2.3 m, as described above. These are pulled by the driver, and the ends are tied behind the ard, near the handle. By pulling this rein to the right or left, the driver turns the moving team. Additionally, a leather lash with a wooden handle (Kham, *chyattsé*), or a rod is used to drive the animals.

The rear-driving apporach can also be subdivided into a number of different strategies, depending on how the reins are passed, how they are connected to the rings, and what role the nose-ring itself plays. In the Yushu region, it is typical to pass the reins between the ear and the horns of the animal under the collar, on the outer side of the team for each animal. However, in Tibet, there are also cases in which the reins is passed along the inside or between the horns. Another difference has to do with how the long rein is secured to the animal—to the side of the nose-ring itself, or to a secondary rope attached to the ring. If attached directly to the nose-ring, which is most typical, a short loop-rope is also tied around the horns, which keeps the nose-ring taut. For better control of the team, as well as for synchronization of the movement of both animals on turns, their wooden nose-rings can also be tied together or passed through a single rope.

In Matei's family in Zadoi County, the wooden nose-ring was not inserted at all into the noses of the animals of the team, but was instead used as a pulley for tightening a simple rope halter on the muzzle. Using the resulting halter with long reins, a man walking near the ard managed the team. According to Matei, this alternative is possible when the animals are obedient. The halter approach is more accessible for wealthy families (on the Dzachu River, families with 300–400 yaks are considered such), who have a large selection of animals (and are thus able to select the most obedient). These families are also able to choose hornless individuals for harnessing, which are potentially less dangerous to humans. Poor families have less of a choice, so they must use horned and less docile animals (where nose-ring control is essential). In restless and less tame animals, the nose-ring must always be kept in taut position to ensure control.

Beyond the original and basic function of the wooden nose-ring (controlling an animal), it has developed other functions in traditional Tibetan culture. In particular, during the expedition, the use of a loop as a pulley for stretching the ropes of a Tibetan tent (made of yak wool) was recorded (Fig. 7, *1*, *2*). According to the owner of the tents examined near the Saikang monastery, the same wooden loops used for yak-driving can be used for this purpose. However, more often, tent loops are specially-made. In terms of manufacturing approach and terminology, these are no different from animal loops, although thicker cypress branches (around 2 cm in diameter) are chosen for this purpose. A standard tent requires twelve such loops: two at each corner (pulled with two ropes), and one for each rope in the middle of each side of the tent. In recent years, wooden loops for tents have been increasingly replaced with iron loops or rings (Fig. 7, *3*).

According to information received from the Dzachu valley, sometimes a wooden ring with a rope is used to tie up cattle at night in the stall. In this scenario, the rope end is attached to the animal's collar, while the wooden loop is attached to the fence. Finally, the same style of loop is sometimes used for tying the Tibetan Mastiff. At the end of the dog's rein, a wooden ring is attached, which is looped over a wooden post.

Classification and origin of the Tibetan harness system

Owing to the considerable size of the Tibetan Plateau, the difficulty of travel and communication between different parts of the country, and the ethnolinguistic variety of the population, the harness configurations used across Tibet are understandably heterogeneous. The most significant differences identified across the region concern the yoke. The yoke we studied in the Yushu region is secured to the animal's neck. However, during the expedition of P.K. Kozlov (1906: 282), in the Kham area (probably in

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2

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Fig. 7. Loops on the ropes of a traditional Tibetan tent in the vicinity of the Saikang monastery.

the southern portion of the expedition's route), a different type was documented, which is also widespread in the Tibetan Autonomous Region (Esin, 2018: Fig. 5, *3*). This is a head yoke, affixed to the back of the horns of draught animals. Historically, this type of yoke is the most ancient in Eurasia.

Along with these two "pure" types of harness in Tibet, there are also more complex ones, which combine certain elements of each. For example, in one such version, a yoke is tied to the horns of animals from behind, as when harnessing a head yoke. However, the bar of the yoke in this system is thinner in diameter, and the agricultural implement is attached not it, but instead to a second neck yoke. In this case, the head "yoke" retains only a part of its former functioning: it serves to align the animals in team, and provides greater control. In another version of the Tibetan harness system, a yoke is simultaneously attached to both the necks and the horns. Vertical wooden rods are also sometimes used to secure the neck yoke.

As for the wooden nose-ring/loop, there are no major differences among the regions of Tibet. However, the rope tied around the horns used to hold the nose-ring in a taut position is replaced in some areas by a ribbon of dense material with images of sacred symbols.

The origin of the nose-loop tradition in Tibet can only be understood in the larger context of the history of Eurasian draught animals and harness technology. To the south, beyond the Himalayas, people use a rope pulled through the nose, the ends of which are pulled along the sides of the muzzle and tied behind the head of the animal. In the southern system, a control rein is attached to this rope. Figurative materials from India clearly record the use of this device from the late 1st millennium BC (Deloche, 2014: Fig. IX, *g*). This harness system appears closely connected to management of the cattle breeds indigenous to South and Southeast Asia: the zebu and the buffalo, and its emergence and spread may trace back to the domestication of these animal taxa.

Judging by the geography of the available archaeological and ethnographic evidence of the use of a wooden nose-ring across Eurasia (Esin, 2018), this technology must have entered Tibet from the area of cattle-breeding cultures of more northern territories. The use of cypress for nose-loop production, in contrast, should be seen as an adaptation of this tradition to local conditions. The arrangement of the yoke in the Tibetan system also speaks in favor of a northern orientation for cultural ties. Particular noteworthy is the similarity between the way the ard draught pole is attached, and the ancient north Eurasian method of attaching the draught pole to the neck yoke of an ox-cart. This system was first recorded in the Pazyryk culture in the Russian Altai (6th–3rd centuries BC), and combines a vertical hole in the middle of the yoke with a leather strap, and a wooden pin (Gryaznov, 1950: 58, 59). According to the classification of the Eurasian ards, developed by Y.A. Krasnov, the Tibetan system belongs to the straight-draught pole, single-arm type. Distribution area of this type of ard (Krasnov, 1975: Fig. 27) does not contradict the conclusion about the northern origin of the harness configuration in Tibet.

Characterizing the timing of the appearance on the Tibetan Plateau of the nose-ring system for managing

yaks, and understanding the way in which this tradition arose, is a more problematic task. Rock art in the Drichu valley provides some clues, showing clear cultural influence from the northern pastoral territories with specific animal style in the 1st millennium BC. Judging by these images, the people who produced them appear to have been new groups in the region. The stylistic features of these Early Iron Age petroglyphs correlate well with information from Chinese written sources, which attest that several groups of ancestors of modern Tibetans relocated into the region from the northeast, in the 4th century BC, and later (Zhuravlev, 1961: 87, 88).

Consequently, from a historical perspective, the appearance of a wooden nose-loop for managing draught animals in the Tibetan Plateau is likely connected to the arrival of new groups from more northerly regions in the second half of the 1st millennium BC. It can be assumed that the ancestors of the Tibetans mastered the nose-ring draught system, as well as other aspects of the harness system and some techniques of the steppe animal style, through contact with pastoralists of the eastern part of the Eurasian steppe belt.

Conclusions

Studying the use of the nose-ring draught system is important for understanding both Tibetan culture and the development of the harness configuration in Eurasia. Among the various features of loops, the shape of their ends is the most significant feature for the purposes of classification. On the basis of end shape, three variations of this tool can be distinguished. Here, I have described the techniques and timing of nose-ring manufacture and insertion, and identified two types of tools for piercing the nasal septum (a hardwood rod and a sharp horn of a wild ungulate). Geographic patterning in the use of these tools reflects the adaptation of the economy to the environment and resources of different parts of Eastern Tibet. This research suggests that a wooden nose-ring may have an extraordinary service life, of up to 40 years. In comparison to a wooden loop, a rope ring is easier to manufacture, but wears out more quickly. Interviews suggest that ropes are more painful for the animal, and provide better control, though they can cause inflammation of the nose. Therefore, in terms of the duration of continuous use and safety, rope is inferior to wood. The methods of control chosen depend on the type of activity, whether a single animal or a team will be harnessed, and the docility of the animal(s) to be used. For maximum control over the animal, the loop or ring should always be in a taut position in the nose, which is usually achieved by tying a halter rope around the horns. Other uses of the wooden rings, unrelated to the management of draught animals, were also discovered—pulling tent ropes, and tethering animals. A comprehensive comparative historical analysis of materials from Yushu suggests that the emergence of a tradition of using this tool to manage draught cattle on the Tibetan Plateau may be a result of the resettlement of the ancestors of the Tibetans here from the northeast in the 1st millennium BC.

At present, in the Yushu region, the traditional method for field cultivation is going out of practice, as motorized ploughs and tractors replace animal draught teams. Most informants have reported that, while they retain equipment for harnessing animals to ards, in recent years they have preferred to hire machines for working their fields, as this approach is faster and easier. This fact requires the urgent intensification of research on the traditional Tibetan harness and characterization of its use and significance for Eurasian prehistory.

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