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THE SIGNIFICANCE AND USE OF ANIMAL SCAPULAS IN TALDYSAI SETTLEMENT

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Abstract. Animal scapulas hold significant cultural and practical importance in the everyday life and traditional beliefs of the Kazakh people. This article explores the animal scapulas discovered at the Taldysai settlement, located along the Zhezkazgan-Ulytau highway in Central Kazakhstan's Ulytau administrative region. The settlement was identified in the early 1990s by the Central Archaeological Expedition, with archaeological investigations commencing in 1994. Scapulas from both large mammals and small ruminants were unearthed at the site, revealing their dual role as functional tools and objects of spiritual significance.

Keywords: *scapula, Bronze Age, Taldysai, bone tools, use-wear analysis*.

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Introduction. The Kazakh people have a rich history of animal husbandry, which has intricately shaped their way of life and cultural knowledge. Evidence of this connection is found in the prevalence of livestock, particularly proven by the scapulas of animals, known as zhauryn (in Kazakh), a triangular, flat bone structure from the shoulder girdle of the forelimb skeleton. Scapulas play a vital role in various aspects of Kazakh life, serving both practical purposes and holding ideological significance. On Late Bronze Age sites, animal scapulas were commonly utilized for a variety of functions, including as raw material for everyday tools and items associated with religious practices. However, in Kazakh archaeology, these scapulas have often only been categorized typologically, with limited exploration in scholarly articles and reports.

Materials and methods. Central Kazakhstan was during the Bronze Age one of the leading metallurgical centers of Eurasia. It emerged as a prominent metallurgical hub, the Zhezkazgan-Ulytau mining and metallurgical center being one of the largest in the region. This center was fueled by the exploitation of the unique Zhezkazgan copper deposit, which has no equal among deposits of this type in the number of ore-bearing horizons and the multi-component nature of the ore composition.[1] The extensive use of local resources not only facilitated the development of metallurgy but also shaped the daily lives and cultural practices of the inhabitants.

In this article, we focus on the animal scapulas discovered at the Taldysai settlement, situated along the Zhezkazgan-Ulytau highway in Central Kazakhstan's Ulytau administrative region. The settlement was uncovered in the early 1990s by the Central Archaeological Expedition,[2] with archaeological investigations commencing in 1994. Since 2019–2020, a systematic study

[1] ABDULIN *et alii* 1996–1997, 48–52.
[2] ARTUHOVA *et alii* 2013, 148.

of bone tools and artifacts found at the site has begun.[3] In total, more than ten scapulas have been excavated from the Taldysai settlement. These artifacts were examined using a Stereo Discovery V8 microscope and meticulously photographed for further analysis.

Historical context of animal scapulas. The earliest references to animal scapulas can be traced back to the accounts of travelers who visited the Kazakh lands. Notably, the first written evidence concerning the use of scapulas for prediction—indicated by burn marks—appears in the works of Guillaume de Rubrouck, as well as in the observations of P.S. Pallas, A.I. Levshin, Sh. Ualikhanov, and V.V. Radlov.[4] These historical notes provide valuable context for understanding the cultural significance of scapulas.

Archaeological studies, such as those conducted by Alkei Margulan, also highlight the importance of scapulas in the Bronze Age.[5] Excavations in Northern Betpakdala from the II–I millennium BC reveal a significant number of tools made from animal bones, especially scapulas. Among the osteological materials unearthed, scapulas showing protective attributes, scrapers for skin processing, and scapulas with holes for crafting straps underscore the diverse applications of scapulas in daily life during this period.[6]

The results of the study. The study revealed the significant role of animal bones, particularly scapulas, among Bronze Age tools. In the Taldysai settlement, 30% of the identified scapulas belonged to large mammals (horses and cattle), while 70% were from small ruminants, such as sheep. Although scapulas from large mammals are less common, they exhibit clear signs of processing and wear.

One of the scapulas belongs to horse (Fig. 1) was found intact, while two others were fragmented. The scapula is well preserved. The upper part, the cartilage, is slightly straightened (Fig. 2, A). There are signs of wear on the dorsal aspect, and the spine of the metal tool is also well preserved. The acromion at the lower part of the scapula displays some signs of modification, and in the neck, there are corrections, abrasion marks, as well as some polished marks. In general, the use of the scapulas as tools can be evidenced by traces of wear preserved on the upper, lateral, and medial surfaces. On this scapula, too, overall, the traces of wear on the upper, lateral, and medial surfaces provide strong evidence of its use as a tool. There are traces and polishing marks on the infraspinous fossa (Fig. 2, A). Notably, there are numerous notched marks (Fig. 2, B) on both surface layers of the scapula, suggesting it may have functioned as a scoop. Such tools are commonly found at many Bronze Age settlements, with typological characteristics similar to those identified as scoops at the nearby Atasu settlement.

At the same time, the scapula is polished, both edges of the neck are abraded, and linear marks are preserved (Fig. 2, C). It is assumed that it could also have served as a scraper in the process of leather processing. Notched linear marks can also appear during skin treatment. Markings on the neck of the scapula may be traces of binding. The tool might have been attached to a designated spot on the neck during tanning or tied and hung when not in use. Similar scapulas discovered in the Toksanbay settlement in the Northeastern Caspian region[7] and the Zharkovo–3 settlement in the Altai region[8] were also utilized as scrapers in leather processing.

The second scapula is fragmentary, with the neck missing. The upper part shows slight cutting on the cartilage, and the edge is well-preserved. On the upper side, near the cartilage, linear traces are visible on the lateral surface. It is likely that this scapula originally served as a scoop; subsequently, it appears to have been repurposed into another tool through cutting. The neck and sides of the scapula were modified with a metal tool. The analysis revealed a processing sequence that included the following steps: 1) removal or adjustment of the upper part, 2) removal and modification of the lateral edges (caudal and cranial borders), 3) removal of the scapula's neck, 4) minor adjustments to the spine.

The third scapula is also fragmentary, with many parts missing, including the neck, spine, and cartilage. There are only a few linear traces on the lateral surface. This scapula likely served as a scoop, and, after it had become unusable, it was cut down and made into a billet for another piece. There are cut marks on the edges. In general, this sample can be considered as a blank or production residue. It is important to highlight that the robust scapular bones of large mammals were primarily utilized in leather production, often in conjunction with other leather processing tools found in Taldysai, thereby complementing one another.[9]

The length of scapulas of small ruminants is from 11 cm to 18.3 cm (Fig. 3). Their preservation is at an average level. One scapula is intact, but the neck is slightly cracked. The upper part of the scapula cartilage appears to have been slightly cut and machined. There are linear markings on the lateral surface, which means it could have been used as a tool, that is, a scoop. The upper parts of the three scapulas are broken, but the edges and necks are preserved. The necks are polished. There are a few linear marks on the surface, which may have resulted from having been used as a tool, such as a scoop, at some point, or as a protective object. In terms of typological and traceological features, the bones of the Taldysai settlement are similar to the bones from the Northern Betpakdala monuments[10] and Kent city.[11]

The cartilage of three other scapulas is cut or broken in a triangular shape, extending from one end to the other. The spines of these scapulas have been preserved, with some remaining unprocessed. Attempts to find traces of either processing of these scapulas, exposure to high temperatures or fire, which is typical for ritual actions, or the presence of working edges or surfaces, which inevitably appear on bone tools, have not yielded positive results. Such scapulas are found in the collections of the Golden Horde city of Bolgar.[12]

Most of the scapulas from the small ruminants displayed here belong to sheep. In Kazakh culture, the sheep symbolizes earthly life and friendship. During the Middle Ages, sheep scapulas were also utilized for various purposes; for

[3] PANKOWSKI/SARGIZOVA 2020, 165.
[4] BABAKUMAR 2012, 53.
[5] MARGULAN 1950, 16.
[6] KADYRBAYEV/KURMANKULOV 1992, 170.
[7] LOSHAKOVA/USACHUK 2023, 170.
[8] FEDORUK/VALKOV 2015, 229.
[9] SARGIZOVA 2023.
[10] KADYRBAYEV/KURMANKULOV 1992, 171.
[11] VARFOLOMEYEV/LOMAN/EVDOKIMOV 2017, 338.
[12] ANTIPINA/YAVORSKAYA 2017, 13.

instance, at the medieval Kultobe monument, a sheep scapula served as a tool for mixing paints.[13]

The scapula holds significant importance in the traditional ideological framework of the Kazakhs, embodying two distinct sacral functions[14] that have evolved through different historical periods and continue to this day. The first function involves making predictions by burning the scapula, a practice common among nomadic peoples, where the marks and scratches formed during the burning process are interpreted. The second function pertains to divination, where the scapula is examined for insights.

In Kazakh tradition, an individual who predicts through the interpretation of an animal's scapula is known as a zhauyrynshi. This method of divination involves observing the patterns of cracks and stripes that emerge when the scapula, a bone shaped by ancient practices, is exposed to fire. The zhauyrynshi holds the scapula by its neck, positions the articular groove upwards, and faces the side with the spine towards themselves, interpreting the formations on the bone. There is a specific etiquette for preparing the scapula used in this practice: a person intending to predict should clean the scapula with a knife blade, without touching the tooth, and the meat must be carefully removed from the bone. Kazakh shamans predicted significant world events, natural changes, and weather by burning the scapula.

Prediction based on the scapula involves interpreting the morphological structure of the bone itself. To examine the scapula, as mentioned above, special etiquettes and specialists are not required, only the bone structure is taken into account. For instance, it is believed that if the articular cavity of the scapula is deep, it signifies that the household will have an abundance of food, suggesting a fuller cauldron.[15]

In addition, the Kazakhs used the protective attributes of sheep scapulas for the following purposes: they would hide the scapula inside a horse's mane as a talisman, tie it to the mane of a stallion, or place it around the neck of a sick animal or child. The sacred nature of the scapula transformed it into a protective charm, often worn on the mane of horses to ensure safety and well-being.

CONCLUSIONS

During the Bronze Age, livestock farming emerged as one of the primary forms of economic activity. The scapulas of animals served not only practical functions but also reflected the cultural and social dimensions of ancient life.

Unfortunately, the number of burnt scapulas discovered is quite limited and often fragmentary. The scapulas of large mammals found in Taldysay were probably used as scoops for household tasks or as scrapers in the tanning industry. In contrast, the scapulas of small ruminants were utilized as household scoops and probably as protective amulets, highlighting their dual role, in daily life and spiritual practices. Scapulas, with no signs of processing or wear, were probably used for divination purposes or are kitchen waste. The multifunctionality of the scapulas highlights the deep connection between ancient humans and their livestock, showing how these bones were integrated into both the practical and mystical aspects of their existence. Ultimately, the use of scapulas provides valuable insight into the daily life and the beliefs of Bronze Age communities.

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[13] SARGIZOVA 2021, 138.
[14] BABAKUMAR 2012, 56.
[15] BABAKUMAR 2012, 56.

REFERENCES

ABDULIN *et alii* 1996–1997
Abdulin, A./Bespaev, H.A./Daukeev C.Zh./Miroshnichenko, L.A./Votsalevskiy, E.S. (eds.), *Copper deposits of Kazakhstan. Reference book* (Almaty: Ministry of Ecology and Natural Resources of the Republic of Kazakhstan) [in Russian].

ANTIPINA/YAVORSKAYA 2017
Antipina E.E./Yavorskaya L.V., Tracewear analysis and interpretation of worked sheep shoulder blades from Golden horde towns. *Brief communications of the Institute of Archaeology* 248, 12–19 [in Russian].

ARTUHOVA *et alii* 2013
Artuhova, O./Kurmankulov, Zh./Ermolayeva, A./Erzhanova, A., *Compleks pamyatnikov v urochishe Taldysai* (Almaty: Institut arkheologii im. A.Kh. Margulana) [in Russian].

BABAKUMAR 2012
Babakumar, Kh., Qoi zhauyrynynin kieli qasieti zhane onin dasturli madeniettegi orny. *Ulttyq tarbiye* 3/11, 50–57 [in Kazakh].

FEDORUK/VALKOV 2015
Fedoruk, A.S./Valkov, I.A., Orudiya kozhevennogo proizvodstva poseleniye Zharkovo–3. *Izvestiya Altayskogo gosudarstvennogo universiteta* 4/2 (88), 229–234 [in Russian].

KADYRBAYEV/KURMANKULOV 1992
Kadyrbayev, M.K./Kurmankulov, Zh.K., *Kultura drevnikh skotovodov i metallurgov Sary-Arki* (Alma-Ata: Nauka) [in Russian].

LOSHAKOVA/USACHUK 2023
Loshakova T.N./Usachuk A.N. Collection of bone artifacts of Toksanbai settlement (North-Eastern Caspian Region). *Kazakhstan Archeology* 2/20, 166–185 [in Russian]. https://doi.org/10.52967/akz2023.2.20.166.185

MARGULAN 1950
Margulan, A.Kh., Ochet o rabotah Senträlno-Kazakhstanskoi arheologicheskoi ekspedisii v 1947. *İzvestia AN Kaz SSR. Seria arheologicheskaia* 2, 3–36 [in Russian].

PANKOWSKI/SARGIZOVA 2020
Pankowski, V.B./Sargizova, G.B., Keıingi qola dáýirindegi Taldysaı qonysynyń súıek jáne múıiz ındýstrıasyn júıeleý. In: Bazarbayeva, G. (ed.), *Margulan readings – 2020: proceedings of the international scientific and practical conference "Great Steppe in the light of archaeological and interdisciplinary research", Almaty, September 17–18, 2020*, Vol. 1 (Almaty: A.Kh. Margulan Institute of Archaeology) [in Kazakh].

SARGIZOVA 2021
Sargizova, G.B., A use-wear analysis of bone and antler artifacts from Kultobe (preliminary data). *Kazakhstan Archeology* 3/13, 134–145 [in Kazakh].

SARGIZOVA 2023
Sargizova, G.B., The use of animal jaws in bronze age central Kazakhstan. *Journal of Ancient History and Archaeology* 10/2, 5–11.

VARFOLOMEYEV/LOMAN/EVDOKIMOV 2017
Varfolomeyev, V./Loman, V./Evdokimov, V., *Kent-gorod bronzovogo veka v Tsentre kazakhskikh stepey* (Astana: Kazakhskij nauchno-issledovatelskij institute kultury) [in Russian].

Fig. 1. Horse's scapula.

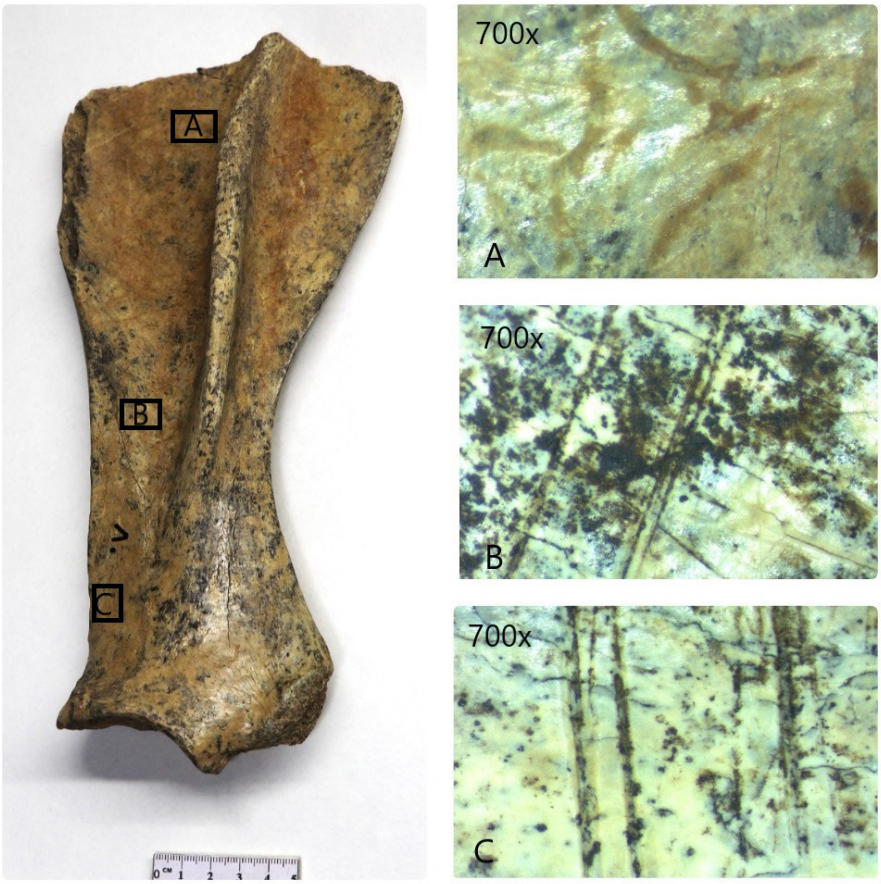

Fig. 2. Traces on the horse's scapula.

Fig. 3. Scapulas of small ruminants.