



SADAQSHILIQ – THE ART OF MAKING AND SHOOTING THE KAZAKH HORSEBOW

MPHTI 18.71.91

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The article is written after the book of the same name by the same author. This work has been supported by the Kazakh National Academy of Arts, particularly the Art History Department.

Abstract

The art of archery existed from the prehistoric times in Kazakhstan, when the first areas of Andronov culture started appearing at the territory of the republic. Since then the tides of horsebow nomadic nations passed here: the Sakis, Skythians, Huns, Ancient Turks, Kipshaks, Mongols, and finally the Kazakh tribes that fought the Dzhungars with their horsebows.

This article consists of a review of the contemporary horse archery movement in the world, describes the history of the Kazakh horsebow origin, distinguishes two main types of horsebows, analyses the literature, and tells about anatomy and construction of the Kazakh horsebow, as well as its performances and usage methods.

Keywords: Kazakh art, traditions, sports, crafts, weaponry, martial arts, archery, horsebow, mounted archers.

I. Introduction

The name of the art is The Sadaqshiliq. It is an ancient art of shooting the horsebow by the Kazakh nomads (sadaq – bow, sadaqshiliq – archery). Unfortunately, today it is practically lost. Even though Sadaqshiliq was especially important in Kazakhstan's region, where the horsebow archery was just as important art for

nomads, as was riding a horse.

In many other countries the situation with archery is very different. Traditional archery plays a significant role in various international events: there are archery festivals, with leagues, organizational committees, boards, federations, championships, honoring ceremonies, and such. Among the modern countries that



Image 1. The Kazakh Archeress. Painting by author
celebrate historical archery are Western European nations and the USA, Canada, Japan, South Korea, China, Turkey, Iran, Hungary, and Turkey.

In some of these nations, the tradition of horseback archery and bowmaking never interrupted and survived in its initial form, passed by generations. Unfortunately, Kazakhstan has not yet fully joined this global movement. Nevertheless, there aren't any objective reasons that could prevent the resurrection of the Sadaqshiliq art in Kazakhstan.

II. Methods

The main two methods used in this research were the working with literature and other sources and the historical reconstruction (or experimental reconstruction). The former consisted of meticulously studying the Kazakhstani and foreign literature, documentary films, websites, and magazines devoted to the horseback archery. The later required the author to learn some handyman skills, including building the replicas of the Kazakh bows, arrows, and special horse archery thumbings and testing them.

Foreign literature. In general, there is a clear picture about the construction of the composite horsebows and the art of their use among the world's specialists. There are enough books, articles, and even

films produced on how to make such bows.

Adam Karpowicz's, articles and his book named *The Ottoman Turkish Bow* [1]. The author has a great experience in building the replicas of Turkish bows, perfect understanding of the physical principles of their work.

Thomas Duvernay's book called *The Korean Traditional Archery* [2], and also he made a DVD film, and runs a website, devoted to the Korean art of Gungdo. The uniqueness of Duvernay's work is that he works directly with traditional Gungdo bowmakers and archers, the true carriers of this Korean tradition..

Stephen Shelby, the book called *The Archery Traditions of Asia* [3]. It is a brief review of history and prevalence, production technologies, usage, and comparative analysis of various Asiatic horsebows. He also made a film about basics of horsebow archery.

Kay Koppedraye wrote the *Kay's Thumbring Book* [4]. The book is about the thumbings, special rings that were used by all Asiatic nations that had horsebows.

Kazakhstani literature. In Soviet times there weren't enough researches made in the area of the historical Kazakh weaponry and traditional Kazakh martial arts. Fortunately, lately there are some new works on the subject in Kazakhstan.

Kushkumbayev A.K., the book called *The Warcraft of Kazakhs in 17-18th centuries* [5]. Brief and very useful review of the military of the nomads in Central Asia and Kazakhstan. Specifically, the author writes about the history of birth of the nomadic warcraft from hunting. For example, the common to all nomadic nations of Central Asia division of the army to the center, and the left and right wings is the direct reflection of the ancient function of the collective hunters: elite hunters (Steppe aristocracy), the chasers, and the

ambushers.

Kaliollah Akhmedzhan Samatuly's Zharaghan Temir Kigender (1996) [6] and The Ethnography of the Kazakh Weaponry (2007) [7]. This author's research is probably the most important work to date on traditional Kazakh weaponry. His work should be considered the first in history attempt to fundamentally describe, classify, and understand the Kazakh historical weapons. In his work, the author for first time studies all aspects of the Kazakh defensive and offensive weaponry, including the bows. Especially valuable in Mr. Akhmedzhanov's work is the fact that he is himself makes the weapon replicas, including some armory.

Historical Reconstruction. The true understanding of any subject, especially if it is a craft or an art, cannot be reached by simply studying the sources. One has to get his or her hands dirty in order to truly understand the nature of it. Hence the sub-discipline of the historical research called the historical reconstruction. By building the replicas of the studied objects using the authentic materials, methods, and tools, one can re-live the experience and gain much deeper understanding.

In the case with the Kazakh horsebow, the author took effort in building the working replicas of the bows and arrows and special thumbings, and shot countless amounts of shots in order to understand the intricate design and the mechanics of the horsebow. Thanks to this hands-on approach, the research received the amount of depth and understanding that otherwise would not be achievable.

III. Research results

Large and lesser horsebows. There were two major types of the horsebow known in Kazakhstan: large and lesser horsebows. The difference between

these two types is in size, as well as their construction. At this, both types operate on very similar principles and are two versions of the same horsebow design.

Type of bow	Bow size, cm
Lesser horsebow	70-120
Large horsebow	140-165
Batyr's horsebow	165-185

Image 2. Table of Kazakh horsebow sizes per type¹

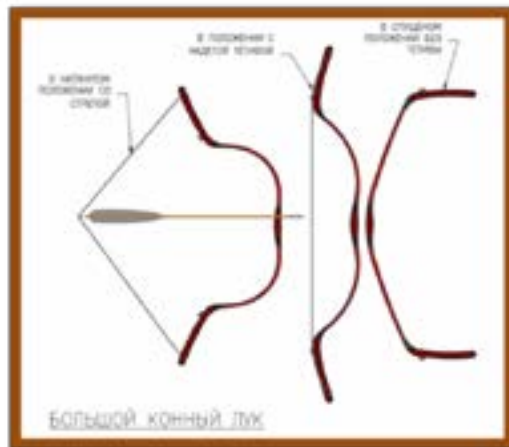


Image 3. The large horsebow: drawn, strung, unstrung (author's drawing)



Image 4. Large Kazakh horsebow (Batyr's bow) in the Central State Museum of the Republic of Kazakhstan, Almaty. Drawing by author

Large Kazakh horsebow. The classical large horsebow was common in the “nomadic zone” of the horsebow areal, and also in China². . This type of bow was

¹ Kaliollah Akhmetzhan, Aibolat Kushkumbayev.

² Stephen Shelby. Archery Traditions of Asia. Hong Kong Museum of Coastal Defense, 2003.

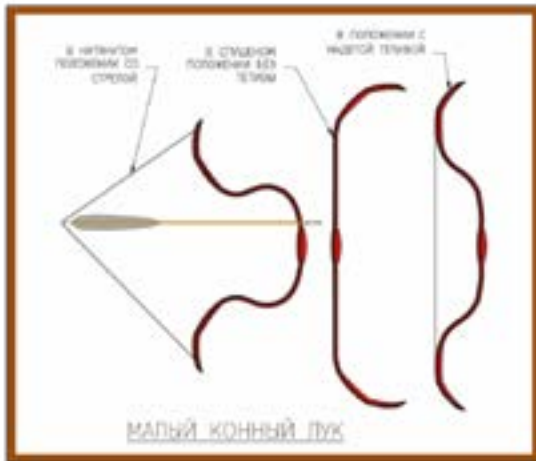


Image 5. Lesser horsebow. Drawing by author



Image 6. Lesser Kazakh horsebow in the Central State Museum of the Republic of Kazakhstan, Almaty. Drawing by author

employed by Huns, Mongols, Manchu, Dzhungars, and Kazakhs.

The large horsebow is characterized by pronounced large shoulders, and their lack of the second curvature, which distinguishes them from the lesser horsebows that have two curvatures on each limb. Most likely, they were more common in Steppe areals and employed by the nomadic tribes.

Lesser Kazakh horsebow. This is a smaller and more sophisticated version of a horsebow. They differ from large horsebows by deeper recurving, shorter bow body, shorter siyahs, as well as the shape of the shoulders that has two curvatures per limb instead of one. When drawing such a bow, its body bends back and stretches intensively, thus creating

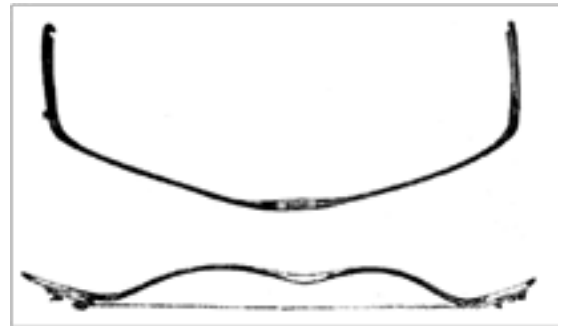


Image 7. Kazakh asymmetric horsebow

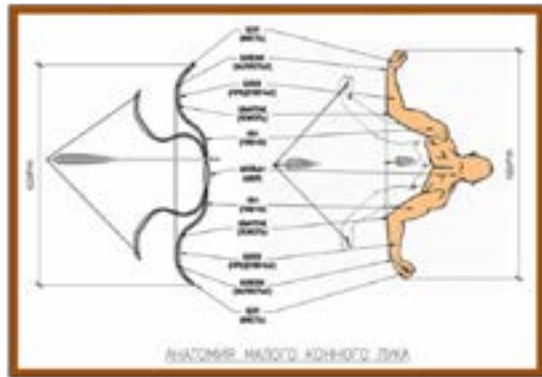
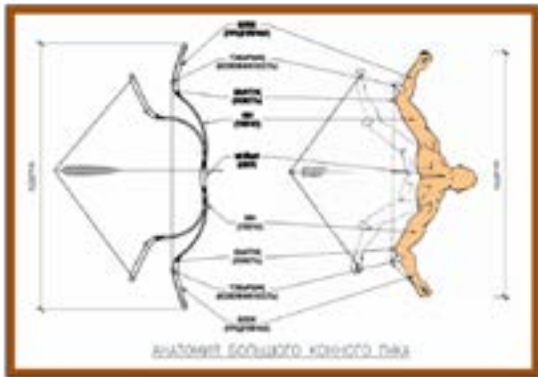
powerful resistance accumulating immense energy storage.

Asymmetrical horsebows. One of the subtypes of the Kazakh large horsebow was the asymmetrical bow. In literature it's often mentioned that this type of bow design was first introduced by the Huns, therefore it is known as the Hun bow design. Construction-wise, the asymmetrical horse is a typical representative of its family, except for one detail: its upper limb is longer than its lower limb.

The Kazakh large asymmetric horsebows are closer to the Hun bow type. As we can see, the Hun bow design outlived millennia, and became one of the Kazakh bow types.

The physics of the Kazakh horsebow. Just like a human body, a bow has the central core part (handle), to which the other bow parts are connected. It kind of plays the role of the human spinebone, hence sometimes used the name “neck”. Just like a human, a bow has limbs that do all the work. These limbs are not simply straight, like in self-bows, but have curvatures. And these curvatures match the curves of human hand: an elbow and a wrist, and they play the same role.

In self-bow (i.e. English longbow), the work is done as if with straightened “arms” [8], while in composite horsebows the “arms” are bent in elbows and wrists (only the lesser horsebows). These horsebows’ bends allows for storing more energy,



Images 9,10. Human-bow in the shape of large and lesser horsebows (author's drawing)

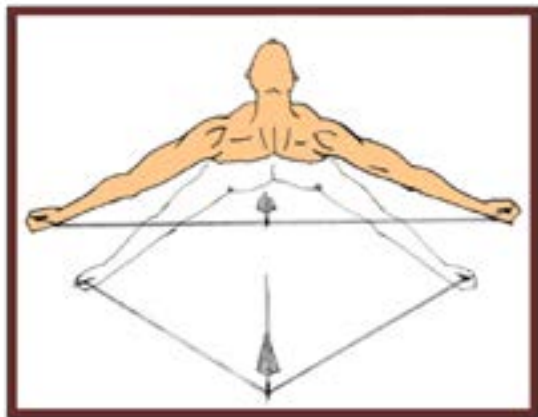


Image 8. Human-bow in the shape of the English longbow (author's drawing)



Image 11. Horsebow in exploded view

hence allowing for smaller overall size of the bow, without compromising the strength and the speed of the bows.

The Asiatic composite horsebow anatomy. The significant feature of the horsebow is its distinctive anatomy. As it's stated in its name, this type of bow is composite, i.e. made of a few parts from different materials. The main materials of Kazakh horsebows were wood, horns, glue, and sinew [7]. The main goal of the horsebow maker is to build a strong and light bow body. The composite bow's body was made of four layers, which I will write about in detail below [1].

First layer – wooden base. A base (spine, backbone) of the Kazakh horsebow is made of wood. The handle and siyahs are made entirely from wood; wood also is part of shoulders' construction. The handle's purpose is not only to be held by

an archer, but also as a connector bridge between two limbs, and also as an arrow shelf. It's made of hard woods and is a stiff fixed part of the bow.

Second layer - the horn muscle of the bow. Shoulders are the most important parts of the bow, and have two hard layers in structure. The horn plate is attached to the wooden part from the archer's side (facing the archer). This feature is the most important element of the composite horsebow, because it gives the maximum ability to the horn plate to resist the bending forces.

Third layer – horsebow's sinew. The sinew bands are attached over the wooden part on the side opposite to the archer. Their function is to pull the bow in its initial recurved position every time the archer pulls the string, thus giving the arrow a strong impulse at a shot. At this, there is an

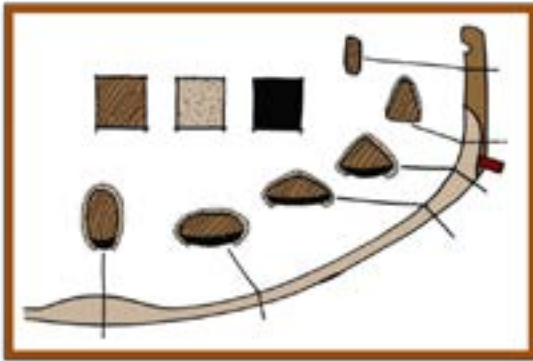


Image 12. The anatomy of large horsebow's limb

ingenious use of the sinew's natural ability to stretch and contract (similar to rubber).

Therefore, both elements, horn plates and sinew layer, serve the purpose of holding the bow in a position opposite to the draw direction, thus increasing its draw power. The wooden parts form a base, the horn plates work in compression, while the sinew bands work in tension. Altogether, these elements give the composite bow its unique shooting qualities.

Forth layer – glue -The glue used in the horsebow not only as an adhesive for other details, but also as a separate element of its construction (forth layer). The jellied glue has self-consistent qualities, such as flexibility and durability, which makes the bow structure safer during the shooting. The main glues in history were the animal and fish glues. The first one was made from various animals parts (sinew, hides), the latter one from fish bladder.

Tobyrshaqs - the notable feature of most of the Kazakh horsebows is the two tobyrshaqs (string bridges) at the elbow bends of the bow limbs [7]. The stiff and protruding tobyrshaqs serve as string limiters, not allowing it to slip out of the elbow bend between the siyah and the shoulder. This danger always haunts the recurved bow shooters; because the string in this design is intentionally put in an awkward position and is always trying to slip away. It is exactly the tobyrshaq's job

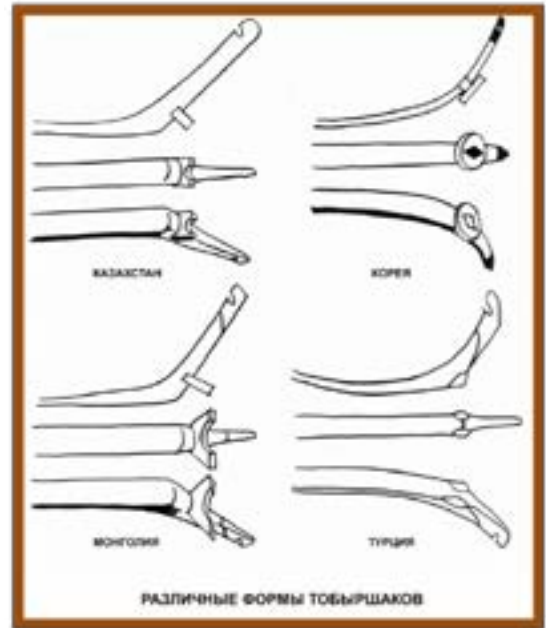


Image 13. Various shapes of tobyrshaqs: Kazakh, Korean, Mongol, and Turkish (author's drawings)

to prevent such a hazardous behavior.

Decoration of horsebows. The wrapping of the bow with birch bark or leather jacket, and covering it with lacquer was necessary not only to protect the bow from the moist, but also to protect it from mechanical damages [7]. This is the final touch, after which the bow is considered finished. Besides the radial wrapping with birch bark, there were other options of gluing the bark bands along the bow body on the side opposite from the archer (similar to gluing the sinew). The last finish is protective lacquer layer, which is applied over the birch bark wrapping or the leather jacket. This layer is also purposed to protect the bow from moist and mechanical damages [1].

Kazakh arrows. The Kazakh arrows were made of wooden shaft; metal, horn, bone, or wooden arrowhead; as well as two-three of four fin fletching. The arrowheads usually had stem connectors. For stability of the arrow's flight it was given the bulging in the middle, which made it more rigid. All details were put together with a glue, and the most critical points

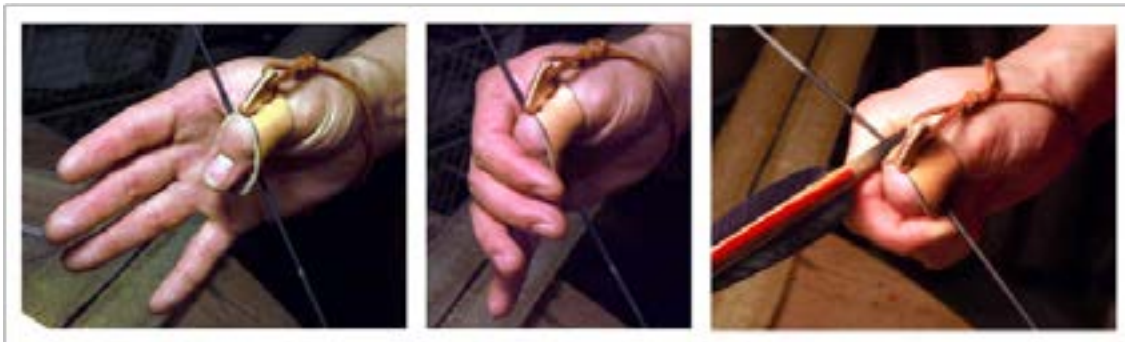


Image 16. Holding string using leather thumb ring (photograph by author)

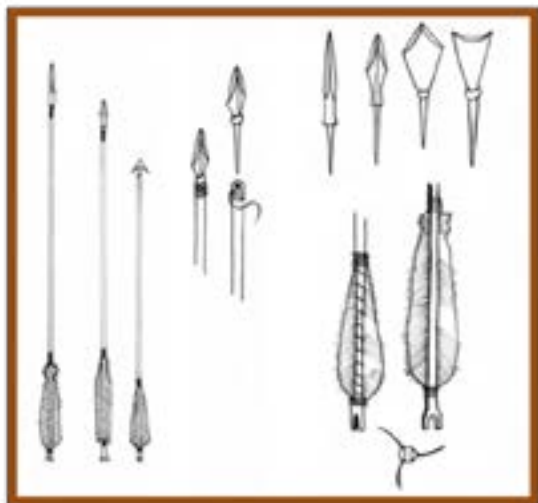


Image 14. Kazakh arrows. Drawing by author

were wrapped with sinew or leather bands. The arrow shaft sometimes was saturated with fat or covered with treebark for moist protection. The arrow knock was cut out in the hill of the arrow [7].

Thumbings. Thumb ring is a trademark of the Asiatic archers, one without which they are impossible to imagine. Thumb ring serves not only aesthetic and social purposes distinguishing the noble archers; it also carries a practical role. The thumb ring is protecting the thumb from the string cutting its flesh. Also, the thumb ring provides for the smooth slip of the string from the ring, without touching the thumb skin [4].

The main idea of using a thumb ring is that the draw of the horsebow string is done by a thumb finger; therefore, when using powerful warbows, there is a need to protect it against possible injuries. To compare, in traditional European



Image 15. Horn thumb ring (photograph by author)

draw two or three fingers are used. The Asiatic thumb rings were made of various materials; most common are metal, bone, and jade stone. There are also mentionings of leather thumb rings in literature.

The Kazakh Draw. An important feature of the Kazakh horsebow arrows (and all horsebow arrows) is their increased length: from 30" (76.2cm) to 36" (91.5cm), and in certain rare cases perhaps even 39" (99cm). The string in Asiatic method is drawn to the archer's ear or shoulder. The arrow rests on top of a thumb of the bow-holding hand, and on the right of the bow (for a right-hander shooter).

This method of shooting (arrow on the right of the bow body for right-hander) is ideal for horse archery. Usually the quiver is being hung on the same side as the string-pulling hand (right-handed person would have it on the right), therefore the hand with arrow has to perform the minimal movements in order to put the

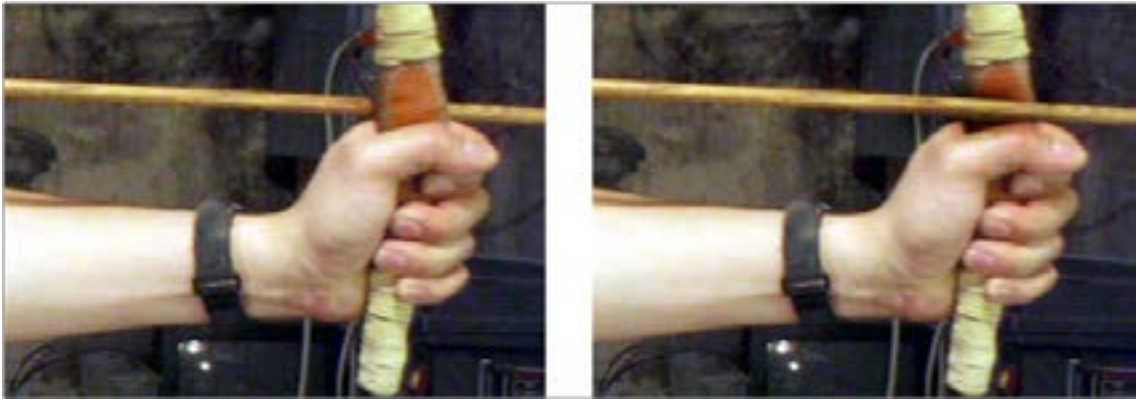


Image 17. On the left: European method (arrow to the left of the bow). On the right: Asiatic method (arrow to the right of the bow).

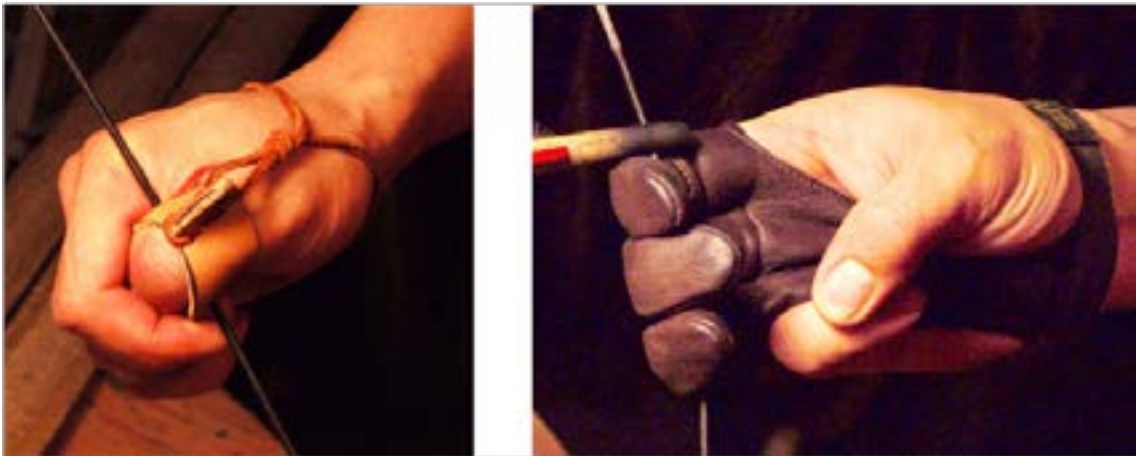


Image 18. On the left: the Kazakh Draw using a thumb On the right: European method “three under”

arrow into the shooting-ready position on the grip.

Another quality of Asiatic school is the method of drawing the string with the thumb (to compare, all other methods use different combinations of index, middle and ring finger). In Asiatic method, the thumb grabs the string under the arrow nock, and the index or middle finger squeezes the thumb, thus effectively fixing it in place, from which it cannot slip. This method is known as the Mongol Draw, but we refer to it as the Kazakh Draw, since the Kazakhs also used it.

The major advantage of the Kazakh Draw is that it utilizes the stronger finger of the hand, the thumb. In addition, during the “long” draw (to the ear or shoulder) the holding of the string with thumb is the most natural position for a wrist, because the archer doesn’t have to bend it

awkwardly.

Shooting from a horseback. The combination of the archer+bow+warhorse is what made the nomads such dangerous and effective warriors. The units of these highly-trained and well-equipped mounted archers could carry on many missions; therefore, the horseback archer was a universal combat complex, which could replace many other types of army forces, if used correctly.

As it’s well known, the nomads didn’t have the distinctive full-time warrior class (except for the Batyrs (Kazakh - hero, warlord)). Most of nomads were all-times shepherds-hunters-warriors, and became the horseback archer armies, when they went on raids or conquests [5]

The mounted archer must be able to shoot in almost any direction, while staying in a saddle. Mr. Kassai names 19

basic positions that each horse archer must master [9]. The right-handed horse archer's "blind spot" is only the front-right and back-right (approximately 1-4 hours), because a person can't turn his torso more than that due to the human's anatomy.

It's no wonder that the nations that used this type of forces (Turkey, Korea, China, Japan, Iran, India, and the nomads of Central Asia and Eastern Europe) were famous for their masterful horseback archers.

Action in formations. Besides the individual training, the horse archers must have been able to act in formations. After all, only the massive use of archers could bring the results and help gaining the victory on the battlefield. Therefore, the archers must have been trained to act in coordination within their units. The achievement of necessary level of coordination required countless hours of training.

Kazakh shot (a.k.a Mongol or Parthian shot). Another trademark feature of the mounted archery is the famous and legendary "Parthian shot". In reality it was used by all the nomads of Central Asia from the times of Scythians (or even earlier), as well as many settled nations (Mogols (Mughals), Turks, and Iranians). This kind of shot could've been called Scythian, Mongol, Tartar, Kalmyk, Kazakh shot, and etc. In this article we will refer to it as the Kazakh shot.

What is the Kazakh shot? It's a shot from a horsebow, made by a mounted archer in a direction that is opposite to that of the horse's movement, i.e. rearwards. Practically all sources mention that the nomads used this tactics during the false retreat, when the tricked enemies followed them in a chase.

It is said that while chasing, the enemies would break their formation and

open up (the shield shifts sideways while charging), which allowed the retreating horse archers to shoot their pursuers with the Parthian shots.

IV. Conclusion

The horsebow and arrows played a leading role in Kazakh war equipment, as a distance combat weaponry complex. In this light, the understanding of the art of making and shooting the Kazakh horsebow is becoming a very important subject for the cultural identification of Kazakhstan.

Unfortunately, per objective and subjective historical circumstances, the knowledge of this once widespread Kazakh tradition is practically lost. Fortunately, today there are no objective reasons preventing the resurrection of this art, and this article was written to support this cause. We can summarize the essence of Sadaqshiliq in the following statements:

Most Kazakh horsebows known to us belong to two types: lesser and large horsebows, with later one also having asymmetrical variation. Both types are



Image 19. Kazakh warrior makes a Parthian shot. (Author's drawing)

composite recurved horsebows.

Just like all other composite bows, the Kazakh horsebows were made of wooden base, enforced with sinew, working in tension, on the side opposite to the

shooter; and the horn plates on the side facing the shooter, working in compression.

The shooting from Kazakh horsebows was done using so-called Kazakh Draw (Mongol Draw). With this draw the string is held and drawn by a right hand's thumb, and the arrow is placed on the bow grip from the right side.

For protection of thumb the Kazakh archers wore special rings - thumbings. This allowed the warriors to draw the powerful warbows many times, without injuring their thumbs.

As it follows from the name, the Kazakh bows were horsebows, i.e. they were designed and made specifically for shooting from a horseback.

The use of horsebows in horseback formations required highest level of training and coordination of the warriors, which was noted by all coeval sources.

The origin of this nomadic martial art was in the collective hunting, the true school of martial arts and army cooperation, which all the men were introduced to from the early age.

Just like all other Central Asian nomads, the Kazakhs used the Kazakh Shot (known as Parthian Shot). This is when the mounted archer shoots rearwards on the move, with the twist of his torso. This technique existed from the times of Scythians and Saka people (hence the name "Parthian") and was used by all nomadic armies of Central Asia in all ages.

The Kazakhs had a highly developed art of making and shooting horsebows and arrows.

Not a single nation could exist separately from her past and her historical culture. When the Kazakhstan celebrates the 550-years of the birth of the Kazakh Khandom on its territory (among many other earlier nomadic states), the author wishes that the millennia-old traditions of our ancestors will continue in the future. And that the art of making and shooting the Kazakh horsebow will take its deserved place among them.

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САДАҚШЫЛЫҚ – ҚАЗАҚ АТ САДАҚТАРЫН АТУ ЖӘНЕ ДАЙЫНДАУ ӨНЕРІ

Аңдатпа

Қазақстанда садақ ату дәстүрі көне заманнан, Андронов өркениетінің алғашқы ошақтары республикамызда пайда болғаннан бері қолданылып келеді. Сол уақыттан бері қазақ даласында бірталай ат садақшы көшпенділер толқындары: сақа-скифтер, хундар, көне түркілер, қыпшақтар, монғолдар, және ақырында жонғарлармен соғысатын қазақ тайпалары жүріп өтті.

Бұл зерттеу жұмысында әлемдегі заманауи ат садақшыларына, қазақ садағының шығу тарихына, екі негізгі садақ түрлеріне сипаттама, ғылыми әдебиетке анализ, сондай-ақ, құрылымы мен ат садақтарының қолдану әдістеріне шолу жасалады.

Трек сөздер: қазақ өнері, дәстүр, спорт, сәндік-қолданбалы өнер, қару-жарақ, жауынгерлік өнер, садақпен ату, ат садақтар, ат садақшылар.

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САДАҚШЫЛЫҚ – ИСКУССТВО ИЗГОТОВЛЕНИЯ И СРЕЛЬБЫ ИЗ КАЗАХСКОГО КОННОГО ЛУКА

Аннотация

В Казахстане традиция стрельбы из лука существовала с древнейших времен, когда первые очаги андроновской цивилизации возникли на территории нашей республики. С тех пор через казахстанские степи прошли целые пласты конно-лучных кочевых народов: скифы-саки, хунну, древние тюрки, кыпшаки, монголы, и, наконец, казахские племена, воевавшие с луками против джунгаров.

В данном исследовании представлены: обзор современного движения конных лучников в мире, история происхождения казахского лука, описание двух основных типов луков, анализ научной литературы, справка о строении и анатомии, а также о работе и методах использования казахского конного лука.

Ключевые слова: казахское искусство, традиции, спорт, декоративно-прикладное искусство, вооружение, боевые искусства, стрельба из лука, конные луки, конные лучники.

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