

"ALL FURNISH'D, ALL IN ARMS..."

YU. A. FILIPPOVICH

GLITTERING IN GOLDEN COATS..."

*My crown a helmet and my tree a spear.
Ferdowsi, Shahnameh (1st century AD)*

The author, Yury Filippovich, learned what armor is at the age of three, thanks to a gift from his great-grandfather—a set of postcards with images of Russian armor. By the age of ten, he had reconstructed in his home workshop his first helmet and suit of armor, all from metal, while his friends were still playing with wooden weapons. Yury created his first scholarly reconstruction—a lamellar medieval suit of armor—while studying at the university, as a visual aid for students. Since then, he has been pursuing the idea to explore the history of warfare by reconstructing the equipment of ancient warriors. Over the years, he has created dozens of unique scholarly historical reconstructions of armor and weapons used by nomadic peoples of Central Asia, South Siberia and the Far East, which we are happy to present to our readers



A composite costume of a medieval nomadic warrior.
Photo by S. Borisenko

The term *reconstruction* means recreating the original appearance of an object, phenomenon, or process from the parts that have survived. A promising area in the science of military history is historical reconstruction, i.e., recreating military equipment and the respective manufacturing techniques. Of course, any such reconstruction draws upon an in-depth study of written and graphic sources as well as archaeological finds, which does not exclude the inherent hypothetical nature of this method.

Historians use several types of reconstructions to study armaments: descriptive (texts), graphic (drawings), and physical (models). A life-sized model of a weapon or armor, made from genuine materials, represents the top point of reconstruction. By making such a model of a spear or a cuirass, its creators not only acquire certain technological skills but also reveal hidden features of the item; by experimenting with the model, they determine its functional characteristics and operational capabilities (Gorbunov, 2005). By studying reconstructed armaments, military historians can identify specific traits of warriors from different ethnic groups, trace the development of armaments, and look into the causes and nature of the evolution of offensive and defensive armaments.

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In the early 2000s, Novosibirsk State University launched systematic works to create scholarly historical reconstructions of weapons and outfits of Central Asian and Siberian warriors representing different historical epochs. A series of reconstructions made by the author drew upon materials on ancient nomads' defensive armaments from museums in Russia and abroad, which were reviewed and systematized by Dr. Leonid Bobrov (Khudyakov, Bobrov, and Filippovich, 2015).

For many centuries, from antiquity to the Middle Ages, nomads (Scythians, Sarmatians, Huns, and Mongols) played a crucial role in the military history of Eurasian peoples contiguous with the Great Steppe, a vast expanse of steppes stretching across the middle part of the continent from Eastern Europe almost to the Pacific coast. The great Attila, ruler of the Huns, and the world-conqueror Genghis Khan – these names instilled fear not only in the hearts of their contemporaries but many centuries later... However, the military successes of nomadic empires, as well as the empires themselves, proved to be fleeting, and after a couple of centuries, one nomadic horde gave way to another. This process continued until the mid-18th century, when the Great Steppe was divided up between the Russian and Manchurian empires (Khudyakov, 2006).

When in the 19th century, European and Russian scholars showed interest in analyzing the warfare experience of nomadic peoples, the only source at their disposal was chronicles left by sedentary peoples, who



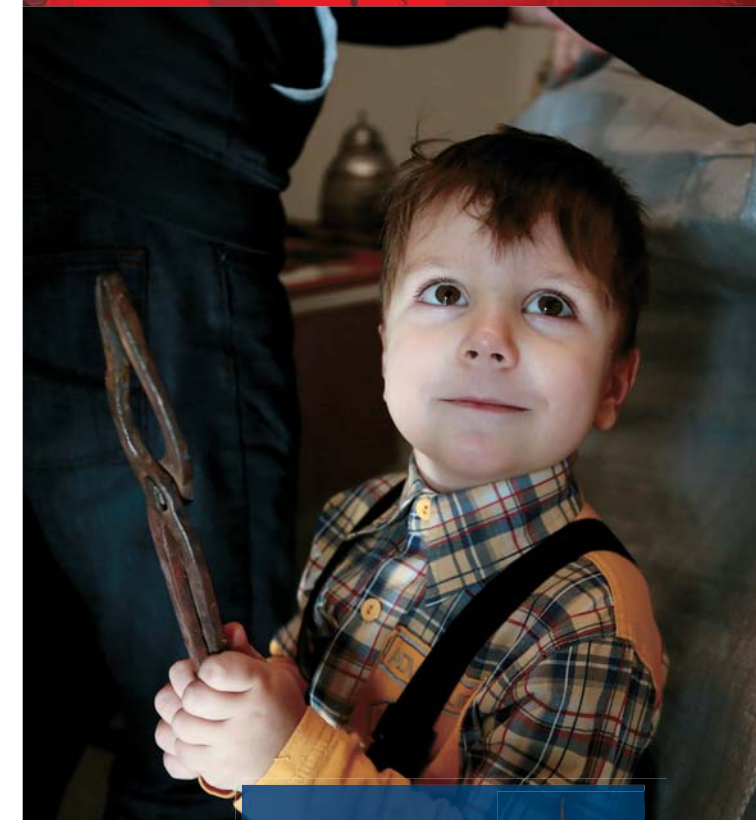
were historical opponents of nomads. At first, scholars derived from written sources, often not very reliable (e.g., medieval European miniatures depicted Genghis Khan wearing a turban and armed with a *yatagan*), but then they began to create reconstructions using objects obtained by excavating monuments of nomadic cultures. The most authentic scholarly artistic reconstructions of the armament complexes and appearance of nomadic warriors were created in the last decades of the 20th century by Russian experts. However, these works too were often flawed with discrepancies and errors. In this sense, the creation of life-sized replicas of cuirasses and helmets presents scholars with utterly new possibilities because, by testing the models, they can understand how nomads used their weapons in real-life conditions (Khudyakov, 2006).

Our today's "display of exhibits" focuses mainly on helmets, the most important element in the complex of individual metal protective gear of nomads who inhabited the Eurasian steppe belt. These helmets usually had an aventail, an armored detail made of metal, leather, or cloth, which was attached to the helmet through holes in the crown or rim. Most of ancient weapons and armor items could serve their purpose on a hunting field as well as battlefield, but metal helmets, like centuries later, were worn exclusively in combat conditions. The use of defensive headgear in long-range, close, and hand-to-hand combat substantially increased the chances of survival for warriors.

Since the production of defensive armaments from metal was a complex, time-consuming, and expensive process, metal armor often passed by succession to the warrior's heirs. This practice explains the relative scarcity of helmet finds at funerary monuments of various historical epochs, including the Middle Ages. Most of nomadic helmets from the Central Asian Historical and Cultural Region represent accidental finds, which became part of museum collections through the effort of local historians (Khudyakov and Bobrov, 2003; Zubov and Radyush, 2014).

Today, historical reconstructions help readers not only imagine but also see firsthand what nomadic helmets and other defensive armaments looked like in the various historical epochs, from the Xiongnu and Xianbei to the Kyrgyz people. An unexpected turn of this story comes from illustrations, which show photographs of women wearing armor and carrying weapons. These photographs caused reproaches of "glossiness and scholarly incorrectness." Therefore, along with descriptions of helmets and other military equipment of nomads, this article presents evidence of female participation in the warfare of some ancient and medieval ethnic groups in Central Asia and South Siberia, which apparently had given rise to the ancient legends about the beautiful militant Amazons (Khudyakov, 2017).

Over the past decades, interest in historical reconstructions has been expanding worldwide, and so has the number of roleplayers who make weapons and armor and organize demonstration battles. Unfortunately, their reconstructions often lack historical authenticity. Today, we present armaments that resemble the real ones as close as possible since our reconstructions are an outcome of comprehensive scholarly research of all available sources. Many of these truly unique items have already been exhibited at universities and as part of museum collections in Russia, Kazakhstan, Mongolia, and China.



Klim, the son of Yuri Filippovich, knows the ancient armor technology since childhood.
Photo by V. Klamm





IRON HATS OF XIONGNU

The Xiongnu were nomadic tribes who set up a powerful tribal alliance in the steppes of Central Asia. The alliance reached its height under the rule of the supreme leader Modu, who took over the reins in 209 BC. The Xiongnu gained control over a huge territory—from Hsingan to Tien Shan and from Lake Baikal to the Gobi Desert. Although cattle breeding continued to play a crucial role for these tribes, their way of life underwent changes to become more sedentary. Agriculture, metal processing, and handicrafts began to develop.

Warfare was a matter of great importance in the Xiongnu state. The equipment of a Xiongnu warrior included a sophisticated bow with bone overlays, whistling arrows, a spear, a sword, and a cuirass with a helmet. Iron helmets, which appeared in East Asia in the 3rd century BC, first had a lamellar structure. The reconstructed Xiongnu helmet has a flexible lamellar–cord design, highly advanced for its time, resembling a bomber hat with a neck flap. Such a structure is made by joining together scale-like steel plates with a hemp cord. The hemp textile liner, sewn from the inside, makes a single unit with the helmet and serves to soften the blows and provide a comfortable wear as well as strengthen the lamellar base of the dome. These structures were first used to armor the trunk of the body but later also to protect the limbs and especially the head. The ease of manufacture of steel elements and of the assembly itself contributed to the great popularity of this headgear



A scholarly historical reconstruction of the helmet and armor of a Xiongnu warrior of the 1st century BC to the 1st century AD, based on materials recovered from the Ershijiazuo settlement site near the city of Hohhot (Inner Mongolia, China)

The lamellar Xiongnu helmet resembles a bonnet of steel plates, fitted with a neck flap and earpieces.

Photo by S. Borisenko

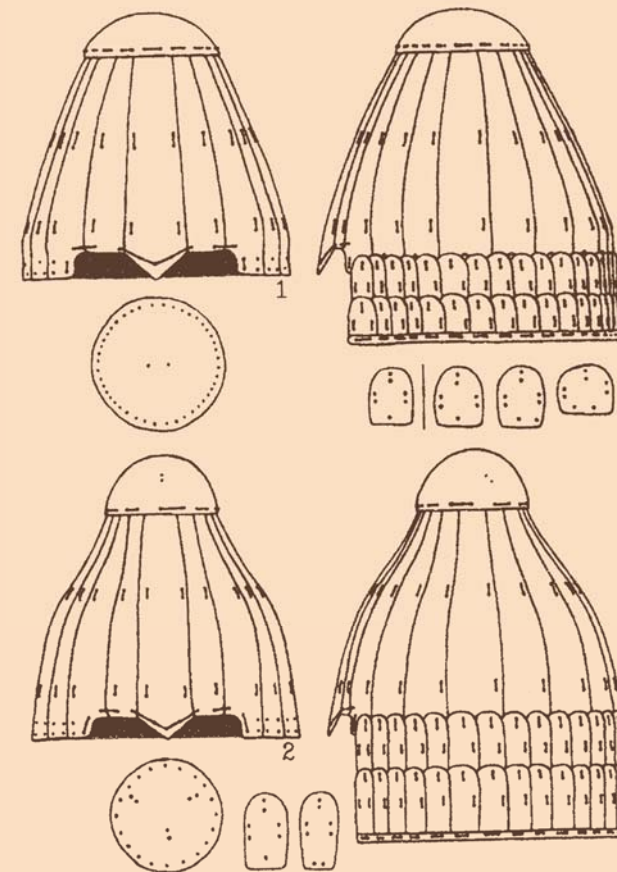




Scholarly historical reconstruction of a helmet that belonged to a 2nd–3rd century Xianbei warrior, based on materials recovered from the Laoheshen burial site (Jilin, China).
Photo by S. Borisenko



Arrowhead of the Xianbei period. The Tashtyk culture, Khakassia. NSU Museum.
Photo by the author



XIANBEI, SUCCESSORS OF XIONGNU

The continuous wars with Ancient China and incessant civil strife led in 57–55 BC to the splitting of the Xiongnu state into the Northern Xiongnu and the Southern Xiongnu. The latter fell completely under the influence of the Chinese Han Empire; a part of the Northern Xiongnu withdrew to the west; and the rest were soon assimilated by the Xianbei tribes of the east. After reigning in the Xiongnu, the Xianbei tribes formed their own state, which reached its peak under the rule of Tanshihuai (141–181 AD). The strength and power of the Xianbei challenged the Middle Kingdom of China, which had been at war for hundreds of years with its nomadic neighbors from the north. However, as early as in the mid-3rd century, the Xianbei broke up into several independent kingdoms, the largest being Toba Wei and Meyun in South Mongolia and North China.

Xianbei warriors protected their bodies with scaly cuirasses of iron plates, joined together with straps threaded through holes, and covered their heads with spherical helmets crowned by a dome of long narrow plates, with a top piece and a scaly aventail. It is unlikely that the Xianbei had themselves designed the new progressive type of narrow-plate helmets; however, this type of headgear spread widely from Korea to Eastern Europe precisely in the Xianbei epoch. The first such specimens, which appeared at the end of the 1st century AD, might have originated from the similar ones attributed to the Xiongnu.

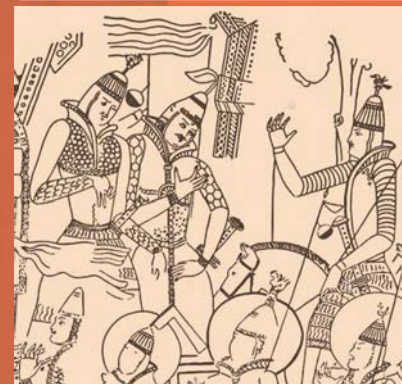


Photo by A. Gribakin

Helmet from the Laoheshen burial (China). Drawing by V. Gorbunov. Adapted from: (Gorbunov, 2005)



Our reconstruction is based on three helmets from the Laoheshen burials in China. Details of the helmets were pieced together with leather straps or linen ribbons. Judging by the textile imprints on the underside of the armor plates recovered from the burial, the armor had a lining made of soft materials. Subsequently, helmets of this type with a stable set of features—a spherical plate-decorated crown of vertical segments, eyebrow cuts, a disc-shaped or spherical top, and an aventail—became massively popular throughout Central and East Asia



Images of warriors in a fragment of a mural from Kyzyl (East Turkestan) dating back to the times of the Kenkol culture.

Adapted from: (Grünwedel, 1925)



A unique find—a steel plate from the cheek guard of a helmet similar to the Kenkol ones—was found near the Buguldeika River (Olkhon district, Irkutsk region, Russia).

NSU Museum. Photo by author

Plates of a scaly steel habergeon worn by a Kenkol warrior from Akchi-Karasu (Kyrgyzstan). State Historical Museum of the Kyrgyz Republic (Bishkek). Photo by author

Scholarly historical reconstruction of the helmet of a 3rd–5th century Kenkol warrior, based on the images of warriors in the frescoes of East Turkestan and the finds of helmet details with a similar structure in adjacent areas.

Photo by A. Bolzhurov

HELMET-HEADED KENKOL WARRIORS

Among the belligerent nomadic tribes that appeared on the historical arena at the time of the collapse of the Xiongnu state and the Great Migration of Peoples were those associated with the Kenkol culture. In the first half of the first millennium, they reigned over the mountains and valleys of the Tien Shan and the Seven Rivers. The Kenkol nomads were tall, strong, and brave warriors with Caucasoid features. The Xianbei practiced a custom of putting a ring around the skull of an infant, so that its head would acquire an elongated shape, like that of a conical helmet, and such a deformation did not go painlessly.

The Kenkol warriors were heavily armored riders equipped with most formidable offensive and defensive weapons: long-range bows with conventional and armor-piercing arrows, strike pikes, longswords, and broadswords. The warriors protected their bodies with cuirasses made of iron plates of different types: scaly plates, whose surface consisted of spherical protrusions capable of weakening a sword blow; horizontal plates; and mail plates. They defended themselves using round shields with metal edging and spherical conic helmets, which could differ in details, as is evident from the Kyzyl frescoes dating back to those times. The helmet dome was, as a rule, a lamellar structure with a spherical crest-shaped top and a plate-like aventail tightened on the chin.

When at the turn of the early Middle Ages, a new wave of nomads from the steppes of Central Asia, led by the ancient Turks, attacked the lands of the Kenkol nomads, they surrendered to the poorer armed yet better organized enemy, who believed themselves to be invincible (Kozhombierdiev and Khudyakov, 1987)



Photo by A. Bolzhurov

SISTERS IN ARMS

Ancient myths, written evidence of those and later times, and folklore graphic sources contain legends about ancient female warriors. These legends are thought to draw upon real evidence of warfare participation of young unmarried women from Sarmatian tribes, who inhabited the northeastern outskirts of the ancient world—the steppes of Eastern Europe and Kazakhstan.

This assumption is supported by analysis of historical evidence and archaeological materials related to ancient and medieval ethnic groups of Central Asia and Siberia, including the well-known female burial complexes with armaments, identified as female burial sites.

Speaking about historical evidence, this region is known for cases where women led large armies. For example, in Central Asia, during the formation of the Persian Empire in the mid-1st millennium BC, the Sac and Massaget tribes, led by the women rulers Zarina and Tomiris, won confident victories over the Persians. When fighting the Massagets, even the founder of the Persian Empire himself—the legendary King Cyrus from the Achaemenid dynasty—fell in a battle.

The medieval history of Central Asia also presents examples of successful female rule. Some of these rulers led military campaigns and won victories over their enemies. One such female ruler, distinguished for her military successes, was Mandukhai Khatun, who reigned in Mongolia in the late Middle Ages.

Also noteworthy is the story of Janyl Myrza, leader of the Noiguts, a Kyrgyz tribe. She became the heroine of an epic narrating about her archery skills, her hunts, and her battles with the Kalmyks and Dzungars. Taken prisoner and married by force, Janyl Myrza managed to escape and shoot her pursuers with arrows. After that, hiding from their enemies, the Noigut tribe moved from Xinjiang to Lake Lobnor. According to the well-known Kyrgyz ethnographer Abylabek Asankanov, this legend narrates about real historical events that took place in the second half of the 17th century.

Some ancient peoples even had a concept of female squads, called kyrkkyz ('forty maidens'). Indeed, there is evidence of a women-only unit on the guard of one Kushan king. Female squads appear in epic tales of the Turks, Azerbaijani, Bashkirs, Kazakhs, Oguz Turkmen, Karakalpaks, and Uzbeks, while the epic of other Turkic peoples tell us only about individual female warriors.

Evidence that women participated in battles as part of the troops comes from one of the early medieval Sogdian frescoes of Panjakent, which depicts a mass battle scene. According to Alexander Belenitsky, this image could be traced back to the historical acts of Sparatra, the wife of a Saka king, and the above mentioned Queen Tomiris, who led armies in battles against enemy.

The Turkic peoples had a popular motif of a warrior maiden competing with her fiancé in martial arts and of a maiden defending her fiancé. Evidence of such customs comes from the images found on a bent rim of a silver bucket with a handle, manufactured in Khazaria in the 8th–9th century. The images depict two fighters, one with and the other, without a mustache; the latter also wears braids. Nearby one can see their weapons—quivers, bow cases, and daggers—and their horses, bridled and saddled. According to V. P. Darkevich, these images illustrate episodes from an early version of the Oguz heroic epic about Alpamysh. The hero, Bamsi-Bairek, was challenged by his intended bride, Banu-Chechek, who offered him to compete in horse racing, archery, and wrestling.

Women warriors used diverse weapons. According to the ancient geographer Strabo, the Amazons were armed with "the bow, the axe, and a light buckler (a shield worn on the arm). They prepare helmets, clothing, and waist belts from animal skins." Sources related to the Turkic and Mongolian peoples mention swords, axes, spears, and arrows as part of women warriors' close combat weapons and, in later times, also guns. Altai legends mention a saber, a lance, a bow with an arrow, and a lead club as weapons belonging to the daughter of the evil spirit Erlik-Biy. The defense armaments included chain mail, helmets, and combat belts. Some researchers believe that Khazar and Kyrgyz maidens carried bladed weapons to protect their virtue.

* An example is the "change of sex" for the remains from the Pazyryk pair burial, discovered by Natalia Polosmak in 1990, at mound 1 of the Ak-Alakha 1 burial site, attributed to the Pazyryk culture. As a result of paleogenetic studies, the masculine maiden with a serious set of weapons transformed into a feminine young man (Pilipenko, Trapezov, and Polosmak, 2015)

Nevertheless, most female images in the monumental and visual arts of the ancient Turks show no belligerence, and weapons are relatively rare finds in the burials of women. Armaments and pieces of horse harness occur more often in Scythian, Savromat, and Sarmatian women burials in the steppes of Eastern Europe and the Cisurals. Based on calculations of archaeologists, in the Northern Black Sea region, at least 20% of the Savromat burials with weapons and horse harness are women burials. However, recent paleogenetic studies cast doubt on the traditional gender identification of anthropological remains from these burials.*

In any case, the existing historical evidence confirms the participation of women in the warfare of Iranian, Turkic, and Mongolian peoples of Central Asia and Siberia during a period that could have extended from the Middle Ages until the beginning of the New Age. However, analysis of these data does not suggest that the ancient authors' idea about a separate ancient nomadic ethnic group—the militant Amazons—is historically reliable. No matter how much we want them to be true, the legends about beautiful female warriors are most likely just a myth, despite all the exceptions.

Adapted from: (Khudyakov Yu. S., Women warriors in Siberia and Central Asia in ancient times and the Middle Ages // Vestnik Novosib. Gos. Univ.: Istor., Filolog., 2017. V. 16, N. 3; Arkheol., Etnogr., P. 80–88)

Reconstructed saber of the Mongolian time, 13th century. Photo by S. Borisenko



NORTHERN WEI: PROTECTING THE RIDER AND THE HORSE

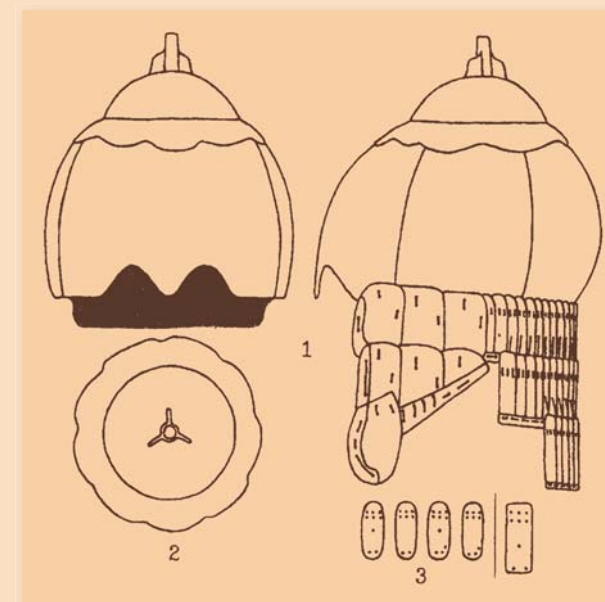
One of the states in the late Xianbei period was the Toba Wei Principality, or the Northern Wei Empire (386–535 AD), which formed after the collapse of the Xianbei tribal alliance. On the eve of conquering North China, Xianbei rulers had armies composed of squads and militia from Xianbei tribes as well as Xiongnu clans that joined them.

The Xianbei warriors of the Toba tribal alliance were considered in the 4th and 5th centuries the best fighters throughout North China and Central Asia. The core of their army was light and heavy cavalry, trained to fight in close combat. The Xianbei warriors of the 4th–6th century widely used ranged (bows and arrows) and close combat weapons (blades; long-, combined, and short-shafted spears and pikes) as well as protective armaments for warriors (cuirasses, helmets, and additional protective gear) and war horses (armored head and body covers) (Bobrov and Khudyakov, 2005). The entire history of the Xianbei armor can be divided into three periods. At an early stage (from the end of the 1st to the 3rd century AD), the Xianbei manufactured their protective armaments in line with the inherited Xiongnu military tradition, which manifested itself in plate sets, the style of the cuirasses, and the structure of the helmets. In the middle period (from the 4th to the beginning of the 5th century), dramatic changes occurred in the Xianbei armor technology: development of new systems, forms, and proportions of plates; an increase in the area of the armored surface and in the diversity of helmets; and, finally, development of full horse armor.

This process occurred by virtue of substantial enrichment of the Xianbei nobility through the seizure of lands in North China and the strengthening of the economic base for mass production of weapons. The Xianbei armor not only adopted many elements of the Chinese military tradition but also



Scholarly historical reconstruction of a helmet (and armor) worn by a Toba Wei warrior of the 6th century, based on a series of helmets recovered from the Lim Chan fortress in Hebei Province (China). These helmets, with a hemispherical top piece and a plume tube, were popular across the steppes of Eurasia throughout the Middle Ages. Photo by S. Borisenko



Helmet and aventail of the Toba Wei period from the Lim Chan fortress (Inner Mongolia, China). Adapted from (Gorbunov, 2005)

continued to evolve, giving rise to its own military tradition. The late period (from the 5th to the end of the 6th century), associated with the uniting of North China by the Toba dynasty, stands out for further improvement of cuirasses, development of new types of helmets and horse body and head covers. The Xianbei armor spread widely outside the state: Wei emperors gave away as gifts whole sets of protective armaments to their far-from-peaceful neighbors. When the power of the Xianbei in China came to an end, they continued, for some time, to influence the development of weapons throughout the East Asian region and especially in Central Asia, where the Xianbei were succeeded by the Turks (Bobrov and Khudyakov, 2005)

One can gain some understanding of the armament complex associated with the heavily armed Xianbei horsemen from a description of the gifts given by Emperor Mingdi to the Rouran prince Anahuan in 521 AD: "...one shiny suit of armor for a horseman and a horse; six steel suits of armor for a horseman and horses; two spears entwined with silk and with silver wire; ten spears under red varnish with white wool tassels; ten spears under black varnish with badges; two silk-studded bows with arrows; six bows under cinnabar varnish with arrows; six shields under red varnish with sabers; six shields under black varnish with sabers" (Bobrov and Khudyakov, 2005)



Photo by S. Borisenko
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AVAR TRACE: FROM MANCHURIA TO BAVARIA

The nomadic tribes of Avars (or Rourans) were first mentioned in written sources of the 4th century AD. Originally, they inhabited the lands south of the Gobi Desert, where they lived in dependence upon the Xianbei state of Toba Wei. After gaining independence, they formed their own state, which reached its zenith under Khan Shelun, who took on the title of khagan in 402. When the Rouran state was at its peak, it embraced the territories of Mongolia, Western Manchuria, and northwest China. In 552, the Rouran state suffered a defeat by the subordinate Altai Turks.

The Avars appeared on the world history arena in 555 as a nomadic nation from the steppes of Western Kazakhstan, beset by the ancient Turks (Klyashtorny and Savinov, 2005). After the downfall, a part of the Rouran horde moved to the west, having reached Eastern Europe in 558. At first, they addressed Byzantium, asking for lands to settle in Dobrudja, but were rejected. Later, they got involved in Central European affairs, participated in military action against the Ants (an alliance of tribes of different ethnic origin), and subdued the alliance of Slavic tribes on the Danube (Pilipchuk, 2017).

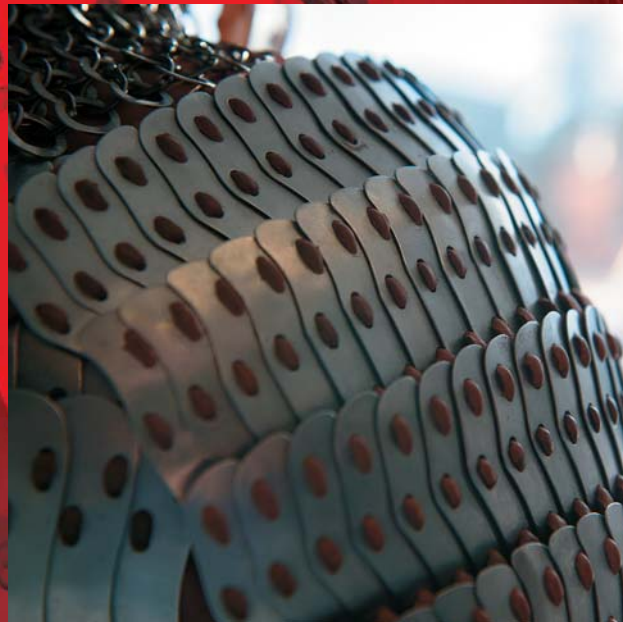


Photo by S. Borisenko

Scholarly historical reconstruction of the helmet and armor of an Avar (Rouran) warrior of the 6th to early 7th century, based on an accidental find of an intact helmet in the Khomutovka district (Kursk region, Russia).
Photo by S. Borisenko

Reconstruction of Mongolian-time clothing (around the 13th century), based on graphic historical sources. *Photo by S. Borisenko*



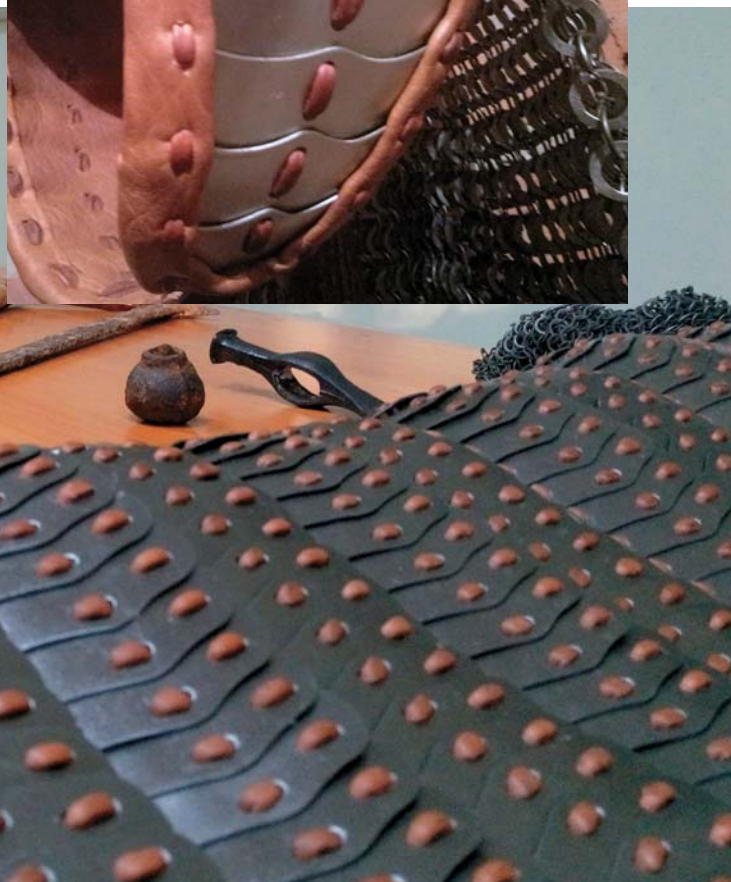


The reconstructed Avar helmet consists, like its real prototype found in the Kursk region, of several parts: a dome made of narrow steel plates, a head plate with a nasal, an all-metal top piece, laminar earpieces, and a chainmail aventail of a typical weaving style (four welded rings passed through one riveted ring). Exactly the same Avar-type helmets were found in the Crimea, Germany, Italy, and Bulgaria—they all got there during the Avar migration. Thus, this type of helmet, which appeared at the turn of the 2nd and 3rd century in the remote lands of Manchuria and Korea, ended its 500-year journey tens of thousands of miles from its homeland



When studying the Avar armor, researchers found inside of an aventail ring, in its lower part closer to the center, a small fragment of an iron tip with organic remains (possibly wood), presumably an arrowhead. The lamellar structure of the helmet was fastened with straps of organic materials, most likely leather, passed through holes, like in the modern reconstruction

Typical iron plates of the Avar lamellar cuirass, which served as a prototype for the armor reconstruction. An accidental find in the Samara region (Russia). NSU Museum. Photo by the author



DESCENDANTS OF TURKIC KHAGANATES

The ancient Turks were a tribal association that played a leading role in the military, political, and ethno-cultural history of Central Asia during the three centuries of the early Middle Ages, which are even called by some, the Ancient Turkic period. The ancient Turks descended from the Xiongnu ethnic environment, and in the 5th century AD, they fell into dependence on the Avars (Rourans). In the middle of the 1st millennium, the Rouran Khagan demanded the Turks to become military settlers in Altai, where they were to manufacture armaments from iron and deliver them to the Rourans. In Altai, the Turks took over the leadership of local nomadic tribes, who had experienced for several centuries a tangible influence of the Xiongnu culture.

In the middle of the 6th century, the nomadic peoples of the Eurasian steppe belt united under the rule of the First Turkic Khaganate. The ancient Turks took control over a significant portion of the Great Silk Road, from the borders of China to Iran, and over the trade routes leading to South and West Siberia.

Archaeological materials support the written and folklore evidence of women acting as warriors and military shamans in the ancient and medieval Central Asia and Siberia. For instance, the Tuura-Suu monument in Tien Shan shows an ancient Turkic stone figure wearing a man's attire, with a saber in a sheath suspended from the belt, yet without a mustache and beard, with a necklace around its neck. The figure is believed to represent an image of a woman warrior



This memorial stone from Tuura-Suu (Kyrgyzstan) presumably depicts a Turkic woman warrior. *State Historical Museum of the Kyrgyz Republic (Bishkek). Photo by the author*

Scholarly historical reconstruction of the helmet of a 9th–11th century Late Turkic (Kimak) warrior, based on an accidental find of a helmet dome at the Multa River (Altai Mountains), finds of parts of bimetallic chainmail aventails in Altai and Khakassia, and frescoes from Afrasiab (Uzbekistan) and Panjakent (Tajikistan). *Photo by S. Borisenko*



Battle-flail, a weapon in the form of a short stick, has a metal beater, suspended from the end of the strap. Reconstructed from a find in the Altai krai (Srostki culture). *Photo by S. Borisenko*



A great contribution to the development of crafts and trade in the First Turkic Khaganate came from Sogdian artisans and merchants, who served the Turkic military nobility. In the constant wars and expeditions, the Turks had seized enormous riches, and the spoils of war became the subject of trade and exchange for imported goods. Artisans in the cities of Central Asia, Iran, and East Turkestan began to manufacture precious festive dishes, jewelry, and ceremonial weapons for the Turkic nobility. The trade routes from Iran, Sogd, and East Turkestan brought to the nomads not only finished goods manufactured by urban artisans but also their production technology (Khudyakov, 2003).

The reconstruction of the helmet associated with the late Turkic period was based mostly on the remains of a helmet that presumably belonged to a Kimak warrior. The helmet was found at the Multa River in the Altai Mountains. The Kimaks are known as one of the most mysterious nations of Central Asia. In the ancient Turkic period, the Kimak–Kypchak tribal alliance with the center at the Irtysh River became the latest nomadic state in the north of Central Asia. However, although the Kimak state was well known to Muslim authors, the Kimak–Kypchak confederation contained no such ethnic unit (Savinov, 2005). The Multa helmet consists of a dome, a frame, a rim, and a top piece, all made of iron. The dome is assembled from convex sectors connected to the frame with rivets in the frontal, occipital, and temporal sections. The helmet base is formed by a two-part rim composed of frontal and occipital bands with holes for the aventail. The top piece of the helmet is shaped as a sleeve with a figured faucet in the lower part, with a partition plate inserted in its mouth (for fixing the plume)



Photo by A. Pronin

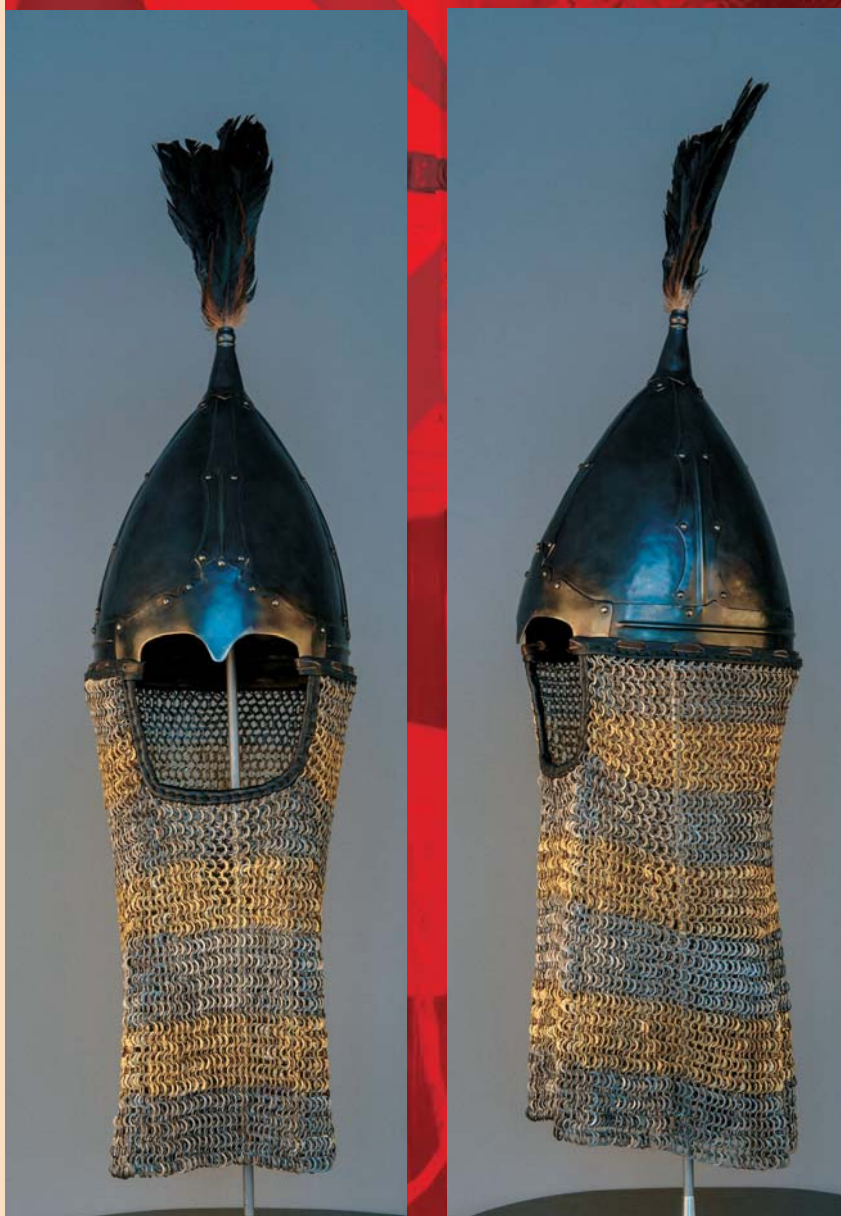
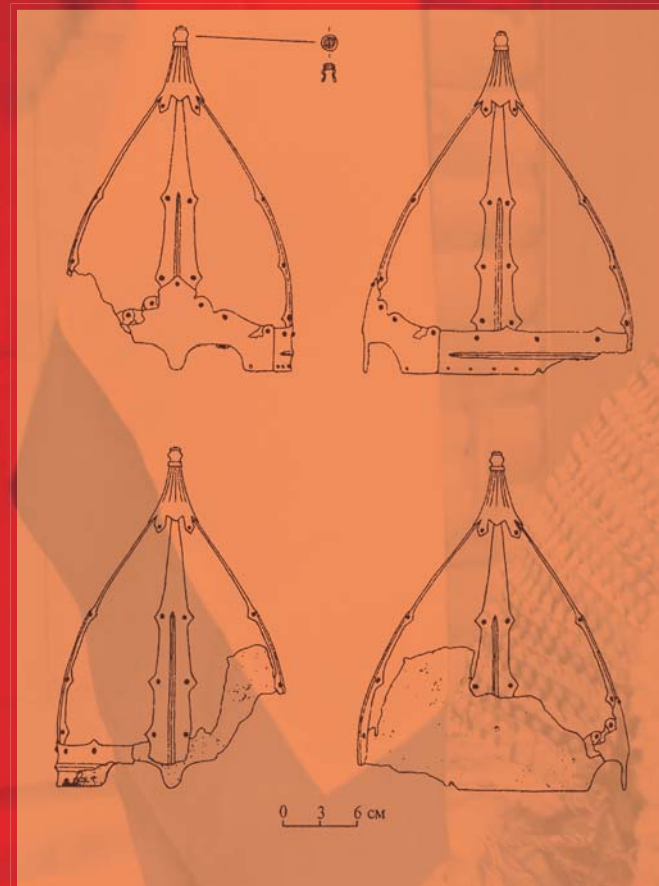


Photo by S. Borisenko



Iron helmet found at the Multa River, a tributary of the Upper Katun River (Altai Mountains). Adapted from: (Gorbunov, 2003)

Scholarly historical reconstruction of the helmet of a 9th–11th century Late Turkic (Kimak) warrior, based on an accidental find of a helmet dome at the Multa River (Altai Mountains), finds of parts of bimetallic chainmail aventails in Altai and Khakassia, and frescoes from Afrasiab (Uzbekistan) and Panjakent (Tajikistan). Photo by S. Borisenko



Photo by A. Gribakin

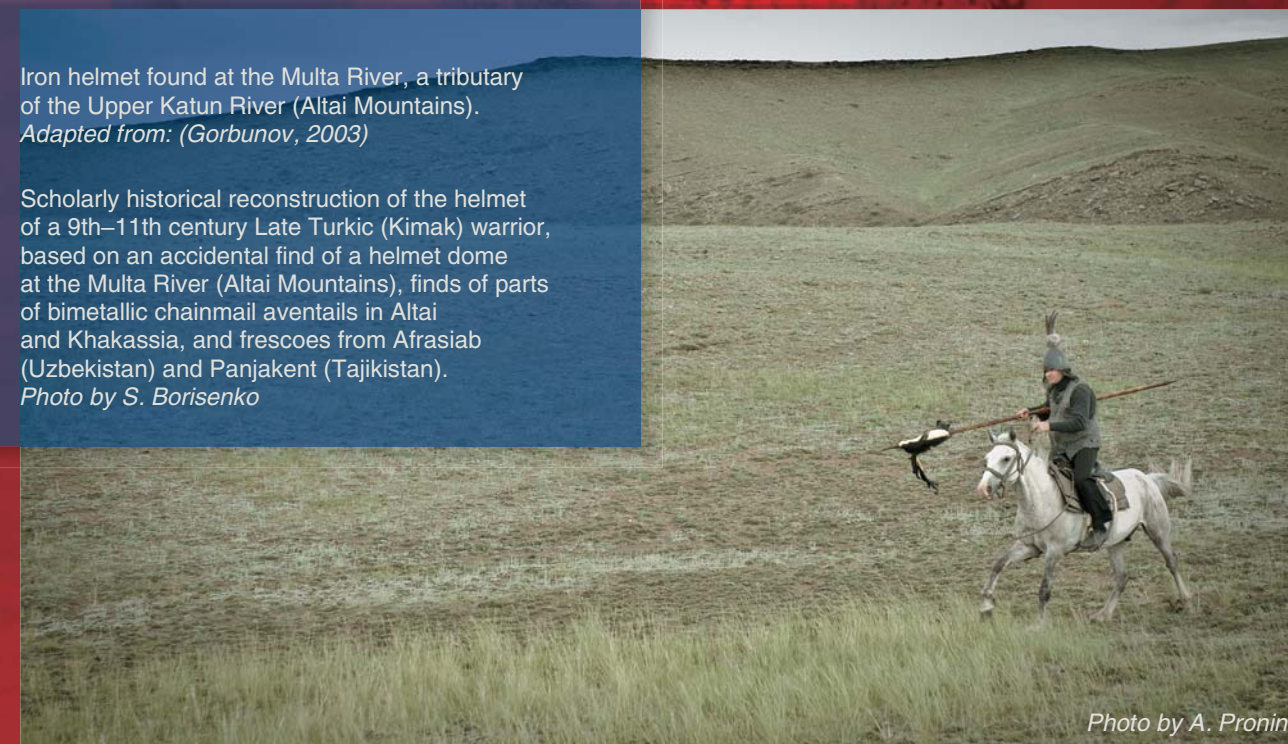


Photo by A. Pronin



YENISEI KYRGYZ: ARMOR-PIERCING FIRE

In the 11th and 12th century, when the Khitan people conquered the Central Asian steppes, the Kyrgyz nation split into two spatially separate groups. One group remained in East Turkestan; the other moved to the Sayan and Altai Mountains, where the Kyrgyz culture went through a new stage in its development, the so-called Suukter epoch, named after the main type of monuments, i. e., mounds with a ring-shaped embankment.

The military-administrative system that emerged in the Kyrgyz state at the time of its greatest power grew obsolete when the state broke up into separate principalities, although some elements of this system remained effective. For example, the Kyrgyz retained the decimal principle in forming their armies: the main force unit was a *tumen* of ten thousand men. The core of the army was warriors, well-armed and well-equipped.

Kyrgyz warriors of this period were armed with sophisticated bows and a large set of arrows. In close combat, they used spears with rhombic tips and palma knives with triangular tips, and in hand-to-hand fights, broadswords and sabers with a straight or slightly curved blade. As the nature of the armaments and the number of troops changed, so did the combat tactics. Arrow flight distances became shorter, and the rate of shooting increased. Close and hand-to-hand

Among belligerent female characters stands out the heroine of the Kyrgyz epic *Manas*. A Kalmyk maiden—the daring Saikal—challenges the main character of the epic, the Kyrgyz leader Manas. The epic describes in detail the weapons, armor, and warhorse of the maiden warrior. “Then the daring Saikal came out, just seventeen years old, a braid on her head; a sorrel roan horse she rides. ‘He whom I meet I shall fight!’ she thinks. Look at her! All adorned in her warrior attire. She put on her mail and armor sleeves; a maiden, but how formidable she looks! She has a shield, a helmet on her head, made of hammered bulat; all her attire is of pure steel. She holds a spear of nine fists at the ready and quickly goes to the Maidan.” Interestingly, although Saikal comes from a hostile tribe, the epic presents her as a real heroine (Khudyakov, 2017)

Photo by S. Borisenko

Scholarly historical reconstruction of the helmet of a 12th–14th century Yenisei Kyrgyz warrior, based on an accidental find of a helmet dome in the Minusinsk Basin, now kept at the Kyzlasov Khakass National Museum of Local History (Abakan, Russia), and a chainmail aventail found near the town of Sayanogorsk (now kept in Moscow, in a private collection).

Photo by A. Bolzhurov





Arrowheads typical of the Yenisei Kyrgyz culture: three-bladed, with a whistle, and armor-piercing. Finds from Khakassia. NSU Museum. Photo by the author

fightings became more important and also lasted longer. Warriors covered their bodies with kuyak cuirasses composed either of narrow plates fastened in a lamellar or scale-like manner or of wide plates riveted from the inside to a textile base. They also wore sphericonical helmets with a rim and a top piece to protect their heads (Butanaev and Khudyakov, 2000).

In the subsequent period, the Kyrgyz principalities lost their political independence, and in the 13th and 14th century, the Kyrgyz became part of the Mongol Empire. The loss of independence led to a stagnation in warfare.

The dome of the reconstructed helmet consists of six plates, joined with rivets. A narrow rim is riveted to the base. The top piece is a simple sleeve to fasten a plume. The mail aventail was reconstructed in two versions: open and closed. The closed-type aventail protects both the back and front parts of the warrior's neck; only the face remains unprotected

The arrows of the Yenisei Kyrgyz stood out, in their days, for the greatest variety of tips. The most popular tips for ordinary arrows were flat ones: this shape helped increase the rate of fire. Among the tips for armor-piercing arrows, the most popular were those with a blunt edge, which could pierce armor and mail. Arrows were kept, their tips up, in open-type quivers, which were fastened with straps, loops, and hooks to the belt



Decorated plate for horse harness, made of gilded bronze. State Historical Museum of the Kyrgyz Republic (Bishkek). Photo by the author



Buckle plate for a waist bag (top) and suspension for a rank belt (right). State Historical Museum of the Kyrgyz Republic (Bishkek)



Bronze plates for rank belts worn by commanding warriors served for the ancient Kyrgyz as an analogue of modern signs of military distinction. Photo by the author





Scholarly historical reconstruction of the helmet of a 12th–13th century Central Asian (Khwarazmian) warrior, based on an accidental find of a helmet dome in southwestern Kazakhstan and on images of helmets in Persian miniatures of that time. Photo by S. Borisenko



GREAT KHWARAZM: "...WITH GOLDEN HELMET, AND RAIMENT ALL OF WHITE"

The fullest representation of Khwarazmian armaments is given on the famous Anikov silver dish, found in 1909 in the Perm province and now kept in the State Hermitage Museum, St. Petersburg. The warriors depicted on the dish "wear suits of armor, strapped with a gold belt, the whole body clad in lamellar or scaly armor <...>, reaching down to the ankles. The horse of one of the riders has its entire body covered with lamellar armor. The riders wear roundish conical helmets crowned with tall column-shaped cones, rounded on top. The leader wears a helmet of a more complex shape, with three horns (or rather, with two hornlike projections on both sides of the cone). The frontlets of the helmets form a downward triangular protrusion in the middle of the forehead. The helmets have neck flaps, apparently made of chainmail" (Tolstov, 1948). The Khwarazmian helmet, which served as a model for reconstruction, had undergone severe corrosion. It had lost the top spire and a part of the forehead plate, but the good preservation of the remaining parts made it possible to identify all the main structural elements.

The base of the helmet crown is formed by a cross-like plate, shaped as a hemisphere. Four semioval plates are placed in the arch gaps between the "rays" of the main plate, which are put together by a dense row of rivets—the arc-like rows formed by their convex caps stand out in relief on the smooth surface of the crown. On top of the

forehead section of the rim, three rivets fasten another iron plate, the lower part of which is missing (apparently, there was a nose plate).

The X-ray image of the lower edge of the rim in the occipital and temporal portions shows a row of small holes, which likely served to fasten a chainmail aventail. The dome of the crown ends with a top piece, riveted to the dome; the top piece has a four-pointed base whose ends point along the "rays" of the crown's main plate. Apparently, this element was used to fasten a tube that passed through the center of a small hemisphere, also attached to the base of the top piece

One of the characters in *Shahnameh*, an outstanding monument of Iranian literature, is a young maiden Gordafarid, whose father is in charge of the Safed-diz fortress. She is known as a very bold woman, unrivaled in battle. Clad in rider's armor and a Riiman casque, hiding her braid under the mail, she challenges the hero Suhrab, the son of Rustam. The epic also presents another woman warrior—Gordiya, a sister of the famous Persian commander Bahram Chobin, who defeated the Turks in the great battle at Herat. Gordiya is clad in heavy armor and belted like a warrior. Alexander Belenitsky identified, in the Panjakent frescoes, images of militant young women depicting the epic characters of sword-carrying woman warriors, poetized in *Shahnameh* (Khudyakov, 2017)

Drawing of a medieval helmet found at the Merke Village (Dzhambul region, Kazakhstan). Adapted from: (Smagulov, 1989)



Photo by S. Borisenko



Scholarly historical reconstruction of the helmet of a 15th–16th century Tien-Shan Kyrgyz warrior, based on an accidental find of a helmet dome in Kyrgyzstan. Photo by A. Bolzhurov

Some evidence has survived of the participation of Kalmyk women in the victorious military campaign against the Crimean Tatars within the Crimean Peninsula, which took place after the resettlement of the Kalmyks into the northwestern regions of the Caspian steppes. In this campaign, the Kalmyks utterly smashed the Tatar army and captured many prisoners.

The Mongolian epic poems *Alamji Mergen* and *Ayduray Mergen* mention an Amazon maiden in a man's attire, who steps up for her brother in battle. A woman warrior is the main character in the Altai heroic epic *Altyn Tuudi*, and the legend of *Maadai-Kara* calls the hero's wife a woman *bogatyr*. Similar examples can be found in Khakass and Tyva legends as well as in Buryat and Yakut epics (Khudyakov, 2017)

KYRGYZ OF TIEN SHAN: AT THE CROSSROADS OF TWO TRADITIONS

The helmet, which served as a model for reconstruction, was found in a high-mountain pasture in the Ak-Kel area. Its low dome of solid iron resides on a broad detachable plate-like rim, with a pentagonal visor attached to the front part. Two strips go diagonally across the dome. Such strips on helmets of Central Asian nomads in the developed Middle Ages pulled together the plates of the dome, but those on the Ak-Kel helmet appear to play no functional role. The dome is crowned with a top piece in the form of an eight-petal rosette, with a little tube for a sultan or plume.

The Ak-Kel helmet combines two cultural traditions: its solid spherical dome relates to the Southwest Asian, or Persian, tradition; the strips, top piece, rim, and visor, to the Central Asian, or Kyrgyz and Khitan, tradition. The combination of these elements in one item may indicate its origin from the contact zone of the two historical and cultural regions, e. g., in the late Middle Ages, when the Kyrgyz of East Turkestan began to populate the western regions of Tien Shan.

In some countries of East and Central Asia, such as Ching China and Korea, the practice of using spheroidal helmets had persisted until the New Age (Khudyakov, Tabaldiev, and Soltobaev, 2004)



Helmet of a Kyrgyz warrior, found in the Ak-Kel area, near the village of Ichke-Suu (Kant district, Chui region, Kyrgyzstan). State Historical Museum of the Kyrgyz Republic (Bishkek). Photo by the author

Elements of a plate-riveted armor system from Khakassia (left) and the Tyumen region (right). These plates were attached, from the inside, to the upper part of the clothing, made of textile or leather, including to the aventail. NSU Museum. Photo by the author





THE LAST SAMURAI OF THE ALTAI-SAYAN LAND

In the 17th century, the core of Kyrgyz princes' troops was formed by retainers. Traditionally, the Kyrgyz nobility and its close circle fought as heavily armored cavalry, and commoners, as lightly armed cavalry archers. However, in the 17th century, the number of cuirass-clad warriors increased due to the spread of protective armor among Kyrgyz commoners and Kyshtym nobles.

The main type of protective armor of Kyrgyz warriors in the 16th–17th centuries was a sewn-on plated cuirass, but in the 17th century, cuirasses woven of rings also became very popular. In terms of composition and the fastening technique, these cuirasses were, in fact, coats of mail, with rings riveted with a nail reaching out on both sides of the ring. The riveted rings were used both separately and in combination with one-piece welded rings.

Mail cuirasses were very popular among the peoples who inhabited the northern outskirts of the Great Steppe. For instance, some texts give the following descriptions of the Yenisei Kyrgyz: "They are belligerent people, flat-faced, tall and strong... The Kyrgyz never go on a raid without a coat of mail and pikes, which they drag by the side of their horses, almost by the pikehead."

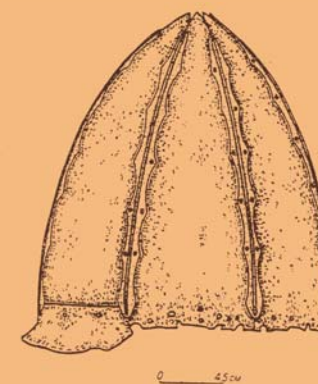
The princes and squad leaders of the Yenisei Kyrgyz wore high sphericoconical helmets, fitted with visors, tops with plumes of bird feathers and horsehair, aventails, and earpieces. A typical element of the Kyrgyz helmet design was strips of iron with a stiffener and a carved-in edge, which masked the joints between the plates (Khudyakov, 2014)

The late Middle Ages became the final period in the military history of nomads. During these times, the nomadic states were still an independent, formidable military force capable of withstanding the increased combat power of the non-nomadic states

Fragment of mail armor of the 17th–18th century, found in the Kosh-Agach district (Altai Mountains). Center: the so-called "master's ring," the trademark of the armorer or the mark of the owner. Novosibirsk State Museum of Local History. Photo by the author

Scholarly historical reconstruction of the helmet of a 17th–18th century Yenisei Kyrgyz warrior, based on an accidental find of a helmet dome and a fragment of mail weaving in Khakassia. Photo by A. Bolzhurov

Dome of a Yenisei Kyrgyz helmet found in the Minusinsk Basin (Khakassia). Drawing by Yu. Khudyakov. Martyanov Minusinsk Regional Museum of Local History, Russia



A rare example of a women's burial with a diverse set of offensive weapons is the Ortyzy-Oba burial site in the valley of the Tabat River in South Khakassia. Here, archaeologists found a double-bladed iron sword, a dagger with a broken double-edged blade, a spear, and other items typical of the Yenisei Kyrgyz' armaments in the late Middle Ages, as well as an iron ax and a folding knife of Russian manufacture, iron plates from a cuirass, etc. The reconstructed attire is a lamellar chest cuirass with shamanic attributes attached to the back, typical of the costume of Tyva shamans. Elements of protective armor have also been identified in the shaman clothes of other peoples of West and South Siberia. The find from Ortyzy-Oba gives evidence that in the late Middle Ages, female shamans in the Minusinsk Basin could have taken part in military action as part of the troops of the Yenisei Kyrgyz and their vassal Kyshtym tribes, inspiring the warriors



References

- Bobrov L. A. and Khudyakov Yu. S. *Warfare of the Xianbei states of North China in the 4th–6th centuries AD // Warfare of Central Asian Nomads in the Xianbei Period*. Novosibirsk: Novosib. Gos. Univ., 2005 [in Russian].
- Bobrov L. A. and Khudyakov Yu. S. *Weapons and Tactics of the Nomads of Central Asia and South Siberia in the Late Middle Ages and Modern Times (15th to the First Half of the 18th Century*. St. Petersburg: St. Petersburg Gos. Univ., 2008 [in Russian].
- Bobrov L. A., Khudyakov Yu. S., and Filippovich Yu. A. Experience in the experimental reconstruction and functional analysis of the protective arms of Central Asian warriors in the late Middle Ages // *Vestn. Novosib. Gos. Univ. Ser. Istor. Filolog.* 2005. V. 4. N. 5: Arkheol. Etnogr. P. 95–103 [in Russian].
- Gorbunov V. V. *Art of War of the Altai Population in the 3rd–14th Centuries. Part 1. Protective Armaments (Armor)*. Barnaul: Altai Gos. Univ., 2003 [in Russian].
- Gorbunov V. V. *Xianbei armor // Warfare of Central Asian Nomads in the Xianbei Period*. Novosibirsk: Novosib. Gos. Univ., 2005, P. 220–223 [in Russian].
- Gorbunov V. V. *Ancient armament reconstruction technique // Equipment of Eurasian Nomads*, ed. by A. A. Tishkin. Barnaul: Altai Gos. Univ., 2005 [in Russian].
- Klyashtorny S. G. and Savinov D. G. *Steppe Empires of Ancient Eurasia*. St. Petersburg: St. Petersburg Gos. Univ., 2005 [in Russian].
- Kozhombardiev I. K. and Khudyakov Yu. S. *Armament complex of the Kenkol warrior // Warfare of the Ancient Population of North Asia*. Novosibirsk: Nauka, 1987 [in Russian].
- Nikonorov V. P. and Khudyakov Yu. S. *Maodun's Whistling Arrows and Attila's Sword of Mars: Warfare of the Asian Xiongnu and European Huns*. St. Petersburg: Peterburg. Vostokoved., 2004; Moscow: Filometis, 2004 [in Russian].
- Rets K. I. and Yui Su-Hua. Revisiting the issue of protective armaments of Xiongnu and Xianbei // *Eurasia: Cultural Heritage of Ancient Civilizations*. Eurasian Horizons. Novosibirsk: Novosib. Gos. Univ., 1999, N. 2, P. 42–55 [in Russian].
- Khudyakov Yu. S. *Bagyr's Saber: Armaments and Art of War of the Medieval Kyrgyz*. St. Petersburg: Peterburg. Vostokoved.; Moscow: Filometis, 2003 [in Russian].
- Khudyakov Yu. S. and Bobrov L. A. *Helmets of Central Asian nomads in the late Middle Ages // Historical Experience of Economic and Cultural Development of West Siberia*, ed. by Yu. F. Kiryushin and A. A. Tishkin. Barnaul: Altai Gos. Univ., 2003. Book 1, P. 227–236 [in Russian].
- Khudyakov Yu. S., Bobrov L. A., and Filippovich Yu. A. Prospects of the armor reconstruction technique for analyzing the functional properties of protective armaments of Central Asian nomads // *Problems of Archaeology, Ethnography, and Anthropology of Siberia and Adjacent Territories*. Novosibirsk: Inst. Arkheol. Etnogr. Sib. Otd. Ross. Akad. Nauk, 2004. Part 2, P. 246–251 [in Russian].
- Khudyakov Yu. S. *Women warriors in Siberia and Central Asia in antiquity and Middle Ages // Vestn. Novosib. Gos. Univ., Ser. Istor., Filolog.*, 2017, V. 16, N. 3: Arkheol., Etnogr., P. 80–88 [in Russian].