

THE WOLF'S ARMOR

L.A. BOBROV, YU.S. KHUDYAKOV, AND YU.A. FILIPPOVICH

The history of war and of the art of war of ancient and medieval nomads of the Eurasian steppes attracted the attention of ancient and medieval chroniclers from the very time they appeared on the stage of world history; it has also attracted the attention of modern military historians. In recent years, thanks to enthusiasts engaged in the reconstruction of weapons and armor, it has become possible to study military equipment "in practice" and to understand the characteristics of the art of war of ancient nomads

This work is dedicated to the memory of M. V. Gorelik (who died prematurely), a specialist in armor studies and reconstructor of weapons and armor of Eurasian nomads

War and weapons had a special place in the life of ancient and medieval nomads of the Great Steppes. On the one hand, the advanced art of war defended the nomadic society from outer aggression; on the other hand, it provided conditions for expanding onto the lands of settled agricultural civilizations. Victorious invasions of the Huns, ancient Turks and Mongolians horrified German kings, Iranian Shah-in-Shahs and Chinese emperors. Atilla, the ferocious chief of the Huns, ever since has remained in the historical memory of many peoples under the names of the *Scourge of God* and the *Hammer of the Universe*.

Even more impressive were the medieval conquests of Mongolians headed by Genghis Khan, the mighty Conqueror of the World. Memories about these conquests are found in the written historical traditions, epic legends and folk tales of many nations. The military power of nomads produced a great impression on their settled neighbors, who carefully studied and adopted nomadic warfare, their tactics and military organization.



Key words: experimental reconstruction, weapons, ancient and medieval nomads of the Eurasian steppes

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Leonid A. BOBROV, Doctor of History, Associate Professor at the Department of Archaeology and Ethnography, and Senior Researcher at the Laboratory of Humanities, Novosibirsk State University. Author and coauthor of over 140 research papers



Yuly S. KHUDYAKOV, Doctor of History, Chief Researcher at the Department of Paleometal Archaeology, Institute of Archaeology and Ethnography, Siberian Branch, Russian Academy of Sciences (Novosibirsk); Professor of Archaeology and Ethnography, Novosibirsk State University. Author and coauthor of over 1300 research papers



Yury A. FILIPPOVICH, Engineer at the Laboratory of Humanities, Novosibirsk State University; Head of the Center of Historical Reconstruction. Author and coauthor of 8 research papers



HOW TO BECOME A RECONSTRUCTOR

I first got to know military history at the age of three when my great grandfather gave me a *Russian Armor* set of postcards as a gift.

As a schoolboy, I used to sculpt Russian warriors, Mongolian-Tatar batyrs and knights of the Teutonic Order, using modeling clay. While my friends played with ready-made or self-made wooden weapons, I made my first helmet and coat of armor of steel and aluminum when I was nine or ten. My mother taught history at school, so we had many books in our home library, including books on military history. My father, a mechanical engineer, taught shop; my grandfather was a professional carpenter and wood worker. So, the workshop and the library, the most necessary things for a novice reconstructor, were in my possession. I was deeply impressed by the series of popular articles published in *Soviet Warrior* magazine, with illustrations by M. V. Gorelik, a legendary person among fans of weapon history.



Then there were university years (Novosibirsk State University), archaeological expeditions, and courses by Yu. S. Khudyakov, our key specialist in the field of archaeological history of weapons. Leonid Bobrov, one year older than me, was already actively involved in historical reconstructions. It was he who asked me to make a lamellar coat of armor as a visual aid for studying medieval armor construction. I spent the summer of 2002 cutting out plates and lacing the coat of armor. Then the idea of learning military art by reconstructing warrior equipment captured my mind and has held me to this day.

In the last 13 years, I have made about 30 sets of armor, namely helmets, weapons, clothes and footwear. All the work is carried out in a private workshop in the village of Berezovo (Maslyaninsky district of the Novosibirsk oblast), where we have all the facilities for metalwork, blacksmith's, carpenter's, saddler's, tailor's and other necessary work. At present, I am doing my own project, *Iron Centaurs of Sayan-Altai*, aiming to reconstruct the line of weaponry of the Middle Yenisei Area and of the adjacent areas from the 3rd to the 18th centuries.

Yury Filippovich

Filippovich is reconstructing a Xiongnu-Xianbei coat of armor (2nd to 3rd century). The replica is based on the find from the Laoheshan burial (Manchuria, China). Tyva, 2011. Photo by A. Pronin



Parts of the coat of armor (5th to 6th century) found near the village of Filimonovo, Krasnoyarsk krai, allowed us to understand the subject matter of Tepsei plates and to improve the techniques of reconstructing the Tepsei knights' armor. Novosibirsk State University Photo by Yu. Filippovich

TEPSEI KNIGHTS

Among the most mysterious finds in the early medieval archaeology of southern Siberia are the so called *tepsei planks*, i.e., carved miniatures that were found on Mount Tepsei in Khakassia in the 1970s (Gryaznov, 1971, 1979). There is a hypothesis that the planks depict armed conflicts between the Tashtyks and the Turks of the First Khaganate. There is also evidence that the Kyrgyz-Qigu, who inhabited the area between the Afu and Gyan rivers, were conquered by the late-Han tribes from the Turfan Oasis and then forced to migrate to southern Siberia. It is these bearers of western traditions that could be identified as Ashina - a small ruling group of Turks who may have been an Iranian-speaking tribe which later assimilated with other peoples. The material culture of the "early Turks"-Ashina of the 5th and 6th centuries is practically unknown. However, the Tashtyk pictures can help imagine a probable set of their weapons (Azbelev, 2008).

A warrior depicted on a bone plate found at the foot of Mount Tepsei (4th to 6th century, Khakassia). Drawing by Yu. Khudyakov

Experimental historical reconstruction of the "early" Turkic warrior of the 5th to 6th century. Photo by I. Petrov



European authors remained interested in warriors of the Great Steppes even after the epoch of Nomadic Empires had become a thing of the past. It turned out that a great number of elements of the nomadic art of war could be effectively applied in the conditions of the "Powder Revolution." No wonder that when military history was being formed in Russia, specialists repeatedly focused their attention on the special features of the ancient and medieval nomads' art of war.

Artistic reconstruction in Russian armor studies

Interest in war history and in nomadic art of war produced interest in their material culture (Ivanin, 1846; Markov, 2007). Starting from the 19th century, war historians began to illustrate their works with pictures of Scythian, Han, Mongolian, and

Central Asian warriors. Such pictures were generally based on the drawings and descriptions by ancient and medieval authors. These illustrations could be considered the first attempts at historical reconstruction of the appearance of ancient and medieval nomads.

However, the golden age of Russian historical reconstruction would come later, when researchers began to use not only pictures and written materials but also material sources such as weapons of ancient nomads from archaeological finds.

From the 1960s to the 1990s, the researchers studied archaeological materials and reconstructions of Scythian and Sarmatian weaponry, which is still valid today (Chernenko, 1981; Hazanov, 1971). An important role in the development of historical



Experimental historical reconstruction of the armor of an ancient Turkic noble warrior of the mid-6th century.
By Yu. Filippovich

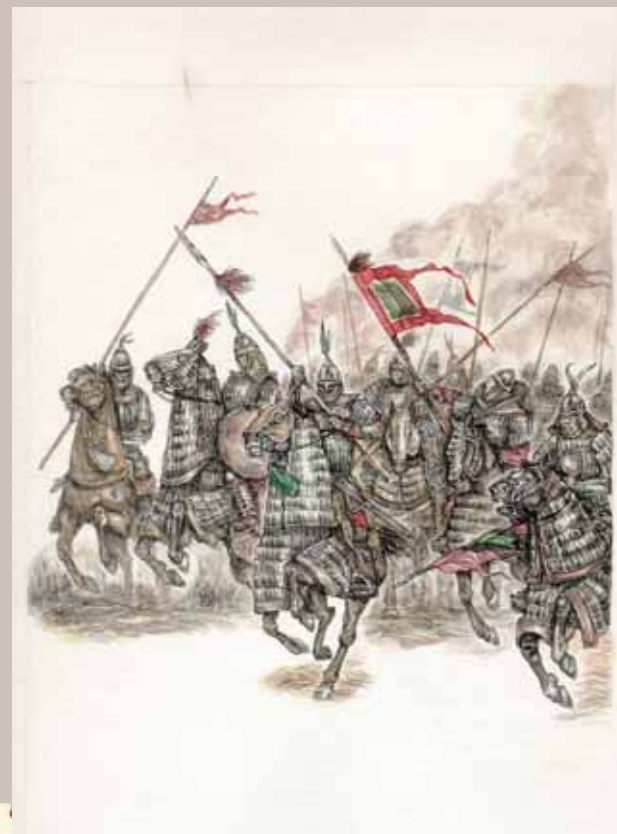
reconstruction in this country belongs to the famous specialist in the field of armor studies V. Gorelik, an orientalist from Moscow. During four decades, he created several hundred artistic reconstructions of warriors of various historical periods.

Since the 1970s, the study of ancient and medieval weapons began in several research centers of Siberia. These studies allowed researchers to analyze the weaponry of the Tagarian culture of the early Iron Age as well as the weapons of the Yenisei Kyrgyz that lived in the Minusinsk Basin in the early and advanced medieval period (Khudyakov, 1980).

In the years to follow, Siberian researchers continued studying the characteristics of nomadic art of war of Xiongnu-Xianbei, of ancient Turkic and Mongolian periods in Central Asia. As a result, there appeared reconstructions of weaponry and graphic reconstructions of ancient and medieval nomadic warriors of South Siberia and Central Asia (Khudyakov, 1986). In the late 1990s and early 2000s, L. A. Bobrov created a great number of artistic (colored and graphic) reconstructions of Xianbei, ancient Turkic, Kyrgyz, Uyghur, Mongolian, Oyrat, Uzbek, Kazakh and Qin warriors (Bobrov and Khudyakov, 2002, 2003, 2005, 2008; Bobrov, Borisenko, and Khudyakov, 2010). At the same time V. V. Gorbunov, a historian from Altai State University (Barnaul), and D. V. Pozdnyakov from the Institute of Archaeology and Ethnography, Siberian Branch, Russian Academy of Sciences (Novosibirsk) created graphic reconstructions of individual metal protective gear of ancient and medieval nomads of Highland and Steppe Altai (Gorbunov, 2003).

Of metal, wood, and leather

Along with artistic historical reconstruction, experimental reconstruction was developing as an important and promising area of modern archaeological research. It is based on a detailed analysis of material culture objects found at archaeological sites, which allows researchers to make exact replicas of authentic materials (iron, bronze, leather, etc.). This kind of reconstruction becomes the object of specific experiments in which researchers restore



A Turkic heavy cavalry attack.
A Xianbei heavy cavalry attack (5th century).
Artistic historical reconstruction by L. Bobrov





Famous Turkic plate belts were used not only to attach a case for a bow and blade weapons, and to fix the coat of armor and robe; they also showed the social status of a warrior. The photo shows silver belt parts from the Turkic Balyk-Sook-I burial (7th to 8th century, Gorny Altai). *Museum of the Institute of Archaeology and Ethnography, Siberian Branch, Russian Academy of Sciences (Novosibirsk).* Photo by Yu. Filippovich



Experimental historical reconstruction of the armor of an ancient Turkic noble warrior of the mid- 6th century. *Reconstruction by Yu. Filippovich*

ancient and medieval production technologies and define more precisely the application of certain material culture objects.

One of the main areas of experimental historical reconstruction is to study the weaponry and the art of war in the past epochs. Today, there are new opportunities for reconstructing offensive weapons and individual metal armor because of the modern mathematical simulation techniques and ways of determining the effectiveness of penetrating and defensive facilities. In recent years, the possibilities for experimental reconstruction have greatly expanded. Specialists in aerodynamics, ballistics, and mathematical simulation of collision and destruction processes for metal strike weapons and defensive cover are invited to investigate the functional characteristics of the reconstructed offensive and defensive weapons (Vedernikov, 1995).

The methods and practices of experimental modeling of weapons are very popular and are advancing in armor studies both in this country and worldwide. For a long time, in Russia and in the CIS countries, it was members of amateur war history clubs who made and tested, in simulations, modern replicas of weapons and clothing of people who lived in the Middle Ages and in Modern Times. Over time, however, professional historians have also become interested in experimental reconstruction.

In the 1980s, a group of specialists from the Mosfilm Studio, headed by I. Ya. Abramzon and M. V. Gorelik, made a successful attempt at creating modern replicas of weapons and armor that were used by ancient Russian and Tatar warriors for the museum exposition to mark the Kulikovo Battle anniversary. Besides, Gorelik and his group made replicas of helmets, coats of armor, shields, and the various weapons used for shooting historical movies.

Later, the reconstruction fans who were members of the war history club Mergen (Abakan), headed by A. L. Petrenko, made a replica of the medieval Kyrgyz plate-sewn inner coat of armor *kuyak*. They made it using Yu. S. Khudyakov's graphic reconstruction of the coat of armor that was found near Abaza in Khakassia (Petrenko and Petrenko, 2004).

Armor from Novosibirsk State University

In the early 2000s, Novosibirsk State University began to make experimental historical reconstructions of the warrior weapons and clothing used in Central Asia and in Siberia in various historical periods. The series of reconstructions made by Yu. A. Filippovich was based on the defensive weapons of Oyrat and Mongolian warriors, which had been collected and systematized by L. A. Bobrov and are now stored in museum collections of Russia, the CIS countries, and overseas.

The first samples were a spherocylindrical helmet and lamellar coat of armor that were parts of Oyrat and Tibetan defensive weapons. Their prototypes were the weapons stored in the Kremlin Armory and in the Peter the Great Museum of Anthropology and Ethnography (Kunstkamera) RAS (Moscow). The very beginning of production and the first experimental tests showed quite interesting results.

Namely, the main types and ways of binding plates that made up a lamellar coat of armor were determined; specific features of the cut, fastening system, design of armor segments, as well as the construction of the helmet and of the aventail attached to its lower side were ascertained. The tests revealed that a lamellar coat of armor of the

robe cut (with a continuous axial slit) was comfortable enough not to hinder one's movements while riding and fencing. A warrior was able to put on a coat of armor by himself; he would only need someone's help to fix lamellar scapulars. Lamellar coats of armor with a long skirt were used mainly by horsemen. When a warrior rode a horse, the weight of the lamellar coat of armor was partly spread onto the back and rump of the horse; as a result, shoulder belts were less burdened (Khudyakov *et al.*, 2005).

Experiments have shown that a lamellar coat of armor securely protects the horseman's body from blows with blade weapons. This kind of armor protection is less effective against piercing blows with a lance in a cavalry attack. When the tests were over, the helmet and coat of armor were exhibited for several years in the archaeology room of Novosibirsk State University; they were used as visual aids during lectures on the archaeology of Siberia and Central Asia.



Successful reconstruction of the coat of armor and of the helmet became a basis for other experimental historical reconstructions of armor and weapons found at archaeological sites of Central Asia, southern Siberia and the Far East. From 2003 to 2014, the Archaeology and Ethnography Department and the Laboratory of Humanities Research at Novosibirsk State University created over 20 experimental historical reconstructions, including the weaponry and clothing of Xiongnu and Xianbei warriors of the 2nd and 3rd centuries, ancient Turkic warriors of the 6th and 7th centuries, Jurchen warriors of the 12th and 13th centuries, and Mongolian warriors of the 13th and 14th centuries. All the reconstructions were made of authentic materials (iron, bronze, wood, leather, fur, etc.) using the appropriate production technologies. Later, this experience allowed researchers to reconstruct ancient weapons on a more advanced level.



WOLVES ARE ATTACKING

Ancient Turks (Tyu-Kyu, Tyurkyuts) were the first in the history of humankind who created a continental empire of nomads that ranged from the Volga to the Great Chinese Wall. The rulers of Byzantium, Iran and China had to reckon with the military force of the First (Great) Turkic Khaganate (545—603 A.D.). The center of the First Khaganate were “The Golden Mountains” (Altai). The second, Kok-Turkic, Khaganate (682—745 A.D.) occupied a smaller territory, though it also influenced the military and political situation in South Siberia, Central and Eastern Asia.

The main attacking force of the Turkic *khagan* army were heavy cavalry troops. The warriors of these troops were called *buri*, or wolves. These “Asian knights” wore heavy iron coats of armor and helmets; their most common weapons were long striking lances, sabres and broadswords. The idea of heavy cavalry was borrowed by southern Siberian nomads from Xianbei people; however, the Turks creatively changed the invention of their eastern neighbors and perfectly adapted it for military actions in the Steppes. It is believed that it was ancient Turks who brought to Eastern Europe and western Asia iron stirrups, sabres, peculiar wooden saddles with high pommels, and new types of helmet and armor both for men and for horses



A *buri* lamellar coat of armor was reconstructed on the basis of plates found in the Balyk-Sook-I burial. The coat of armor was cut as a “cataphract” with scapulars, long hip defenses and a side slit, and was made of iron plates connected with the help of leather straps. The breast was reinforced with plates having half-spherical “umbons” that not only decorated the armor but also increased the rigidity of the plate and absorbed the blows.

7th to 8th century, Gorny Altai Museum of the Institute of Archaeology and Ethnography, Siberian Branch, Russian Academy of Sciences (Novosibirsk). Photo by Yu. Filippovich



Long strike spears and lances were the main weapons of Turkic heavy cavalry. The spearhead on a long massive bush was put on the staff with a leather lanyard. Its narrow cut tip was able to penetrate lamellar armor.

The photo shows the spearhead from the Balyk-Sook-I burial. 7th to 8th century, Gorny Altai Museum of the Institute of Archaeology and Ethnography, Siberian Branch, Russian Academy of Sciences (Novosibirsk). Photo by Yu. Filippovich

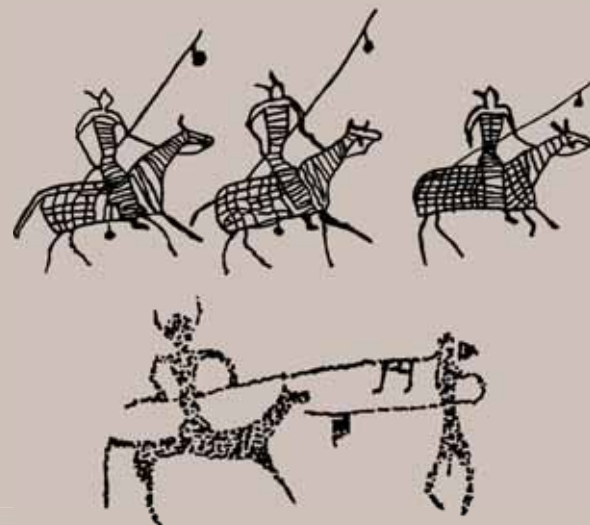


Turkic warriors attached a flag with two “tongues” under the spearhead. Its shape was reconstructed on the basis of petroglyphs (6th to 8th century) from Kazakhstan and Yakutia (below). The color and the picture are based on the Chinese and Sogdian iconography. (Sovetova and Mukhareva, 2005)



This armor of an ancient Turkic warrior *buri* (7th to 8th century), made with the help of the NSU Humanities Research Laboratory and the SB RAS Institute of Archaeology and Ethnography (Novosibirsk), was given as a gift to President Vladimir Putin, and will be on display at the Armory Chamber of the Moscow Kremlin. Reconstruction by Yu. Filippovich

The last decades saw an increased interest in historical reconstructions in Russia, Asia, and Europe. War history clubs sprang up in many cities; their members make medieval armor and weapons, warrior clothing, and organize demonstration fights during role-playing games, which are often timed to historical events and anniversaries. Local administrations frequently invite role-players to take



Battle of Turkic heavy cavalry against Chinese infantry (late 7th to early 8th century).
Artistic historical reconstruction by L. Bobrov

The feather plume in temple bushings of a buri-warrior helmet was reconstructed on the basis of petroglyphs found on Mount Har-Had, which depicted heavily armed ancient Turkic horsemen (*bottom left*). 6th to 7th century, Mongolian Altai. (Adapted from : Sovetova and Mukhareva, 2005)



XIONGNU: EVERY FIFTH ONE IS AN ARMOR-CLAD WARRIOR

Archaeological finds and analysis of written sources give a very clear idea of the defensive equipment of Xiongnu warriors. Ancient Chinese chronicles repeatedly mention Xiongnu armor and armor-clad warriors. For example, Qya Yi, the Han poet and politician of the 2nd century AD, wrote in his book *Sin Shu*: "According to my calculations, the Xiongnu people have nearly 60,000 horsemen who can draw a bow. Since every fifth person is an armor-clad warrior, their total population is 300,000." His opinion is echoed by Sima Qian, a hereditary historiographer of the Han dynasty, in his *Historical Notes (Shi-Ji)*: "All those who are able to draw a bow, join the armor-clad cavalry."

As for archaeological evidence, it includes fragments of the coat of armor made up of twenty square scale-shaped plates found at the Ivolginsk ancient settlement (2nd to 1st centuries B.C.) in the Trans-Baikal area (Davydova, 1985).

In the same area, a large accumulation of rusted iron was found in the center of the tomb in the burial ground Chermukhovaya Pad (11th to 1st centuries B.C.). According to B.P. Konovalov (1976), the thin lamellar shards might testify to the fact that the iron was the remains of ancient armor. Among the shards, there were fragments of plates without rust, but with blue iron glitter and marks of rivets. Some fragments had pieces of leather on them, and one shard was covered with red lacquer. It is known that Chinese armor of the Han era used to be covered with black or red lacquer, which protected armor plates from moisture and served as decorations (Gorelik, 1995).

In 1960, a well preserved Xiongnu coat of armor was found near the town of Hohhot (Inner Mongolia, PRC) at the archaeological site of the ancient settlement Ershijiazuo, which, during the Western Han era, was a Chinese town that bordered on Xiongnu lands (2nd century B.C. to 1st century A.D.) (Gorelik, 1987, 1995; Rets and Su-Hua, 1999).

The coat of armor is a complex article of clothing that consists of plates of three different types. Rectangular vertically positioned plates are typical of Chinese plate coats of armor of the Han era. Scale-shaped plates of scapulars and of the skirt also echo archaeological finds from the central areas of China. Therefore, the coat of armor from Ershijiazuo could be attributed to Chinese armorers.

The plates were connected with a tow-rope spliced from harsh hemp threads running through a number of holes in a lamellar way. First, the plates were laced in horizontal rows; then these rows made up the main parts of the coat of armor: a torso, two scapulars and a skirt. The collar was one horizontal row of plates. The torso had two openings for arms and a continuous vertical slit at the front, with remains of three clasps. The horizontal rows of plates were connected in such a way that the upper rows overlapped the lower ones. The scapulars consisted of six horizontal rows of scale-shaped plates, the lower rows overlapping the upper ones. The skirt with a slit was made in the similar way



Experimental historical reconstruction of a Xiongnu warrior armor (1st century B.C. to 2nd century A. D.)
Reconstruction and photo by Yu. Filippovich



Samples of the dozens of defensive armor items reconstructed at Novosibirsk State University over the last decade: a Kazakh *batyr's* helmet (17th to 18th century), a *kula-hud* Uzbek helmet, and a mask (16th to 17th century).
Reconstruction by Yu. Filippovich



part in re-enactments and historical shows organized to honor certain historical events, which attract many people, including schoolchildren, students, and tourists. Unfortunately, the clubs members seldom consult specialists in the history of weapons; as a result, the historical authenticity of re-enactments is not always perfect.

The archaeologists and specialists in the history of weapons at Novosibirsk State University consider historical reconstructions as a most promising direction of research. The reconstructions of armor and weapons created here were exhibited at universities and museums of Russia, Kazakhstan, Mongolia and China.

The project *Siberian Warrior through the Ages* turned out to be an important event (it was supported by the Novosibirsk regional and city administrations). Novosibirsk researchers visited dozens of settlements in the Novosibirsk oblast, giving lectures and organizing exhibitions of Siberian warriors' weapons and clothing of various periods. Today close attention is focused on the study of medieval technologies of producing defensive and offensive weapons, and on experimental testing of metal and organic coats of armor that have different plate structures. The authors of the project are sure that they will make many discoveries in this area.

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Kazakh warriors began to use firearms from the second half of the 16th century. In the 17th to 18th century, Kazakh military forces numbered hundreds of warriors with firearms; sometimes they were united to form shock troops. These weapons were often captured by Cossacks, who also began to use A-shaped double stands with a horizontal bar. Before firing, the stand straightened out and stuck into the ground, providing the stability of the barrel and increasing the accuracy of fire.

On the left: experimental historical reconstruction of the weapons of an Eastern Kazakhstan batyr (18th to 19th century). Reconstruction and photo by Yu. Filippovich

