

Weapons, Fortification and Military Art of the Volga Bulgaria in the 10th – the First Third of the 13th Centuries

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Abstract

The relevance of the research is determined by the significant role of wars in the history of medieval societies of Eurasia. Wars accelerated or retarded the development of the countries and influenced their historical destiny. Medieval army has always been closely connected with the social development of society and depended on the level of economic, social, political and cultural development of different countries. Troops, military structure and weapons are the most important indicator of the development of the medieval society. The aim of the article is to study weapons and military art of the Volga Bulgaria which was one of the largest countries in the Eastern Europe in the 10th – 13th centuries. The main method of the research is the integrated approach based on the study of archaeological and narrative sources. The study revealed and systematized weapons from archaeological sites and leading museums of Kazan, Moscow, St. Petersburg, Helsinki, etc. We also identified the chronology and the dynamics of the development of these weapons. The analysis of the weapons and protective clothing allowed to reconstruct the weapon system and to prove that the knight weapons played the main role. The comparison of the dynamics of the weapon evolution with the data of narrative sources revealed the structure of the military organization of Bulgaria, the military terminology and the number of troops. We analyzed the battlefield tactics and the defense tactics, as well as the unique system of the national defense and the military and political history of Bulgaria, especially the Russian-Bulgar and the Mongol-Bulgar wars. The materials of the article may be useful for preparation of generalizing monographs on the history of weapons and wars both of the Eastern Europe and Eurasia. The materials can be used by the university teachers at the lectures and workshops, at special courses in military and political history of the Eastern Europe, the history of war and the military art.

Keywords: the Volga Bulgaria, weapon, military art, strategy and tactics, military and political history of the Eastern Europe

1. Introduction

The study of the history of medieval weapons, fortifications and military and political history is one of the most important tasks of the modern historical science. Medieval armies were closely associated with the social structure of society and depended on the level of economic, social, political and cultural development. That is why it is important to study weapons, the dynamics of their development in conditions when other sources are fragmentary and unsystematic, to reconstruct not only the military structure, but also the social structure of the country (Kirpichnikov, 1971; Khudyakov, 1986; Khudyakov, 1991). In this regard, the study of weapons and military structure of the Volga Bulgaria, one of the largest countries in the Eastern Europe which played an important role for the Volga-Ural region, is of considerable interest (Fahrutdinov, 1980; Fahrutdinov, 1984; Khalikov, 1986, Khalikov, 1989). The study of the dynamics of the weapons evolution, military structure, structure of the military-service class, battlefield tactics and defense tactics is the essential part of the study of the military history of the whole of Eurasia, general tendencies and local peculiarities.

In the context of a multi-ethnic region, such as the Middle Volga and Cisurals, the analysis of the state and level of development of weapons and the structure of Bulgar troops is of a significant importance (Fahrutdinov, 1984; Izmailov, 2008).

Firstly, due to the high level of military and political organization of Bulgaria, the advanced for its time military art of this country had a significant impact on the surrounding nations. Therefore, no generalization of military history of the Volga-Ural region is possible without preliminary study of weapons and troops of the Bulgars. This study gives an opportunity to reveal the dynamics of the development of weapons in the region and local peculiarities that reflect these tendencies (Izmailov, 1997).

Secondly, many issues of military history of the medieval Bulgaria have remained, until recently, relatively little studied despite the large amount of material. Meanwhile, the analysis of weapons and munitions gives important information on military affairs of the region, as well as the socio-economic development of Bulgaria (Gubaidullin, 2002; Izmailov, 2008).

2. Methodological Framework

2.1 The Objectives of the Research

The research had the following objectives:

1. To systematize means of close and remote combat and protective clothing, to determine the chronology of weapons and to identify the main tendencies of their development.
2. To reconstruct the weapon system and to compare it with similar sets of weapons used by peoples in medieval Eurasia and to define the ways of use of different kinds and types of weapons and armors.
3. To analyze the structure of the military organization, the basic principles of the field and defensive combat, as well as the main episodes in the military history.

2.2 The Theoretical and Methodological Basis of the Research

The methodological basis of the research is the integrated approach based on the study of archaeological and narrative sources. In the research we used the method of source analysis for systematization of sources, the methods of systematic and typological analysis, the method of chronology. These methods allowed to recreate not only the generalizing, but also the dynamic picture of the history of weapons and military art of the medieval society.

2.3 The Basis of the Research

The basis of the study were archaeological items of weapons found during excavations, including weapons found by the author, and museum collections of the Volga region cities (Kazan, Bolgar, Penza, Samara, etc.), Moscow, St. Petersburg, Helsinki. We studied over 1,900 items, including over 300 close combat weapons, about 50 protective arms, and about 1250 missile weapons and their parts. We also studied more than 300 items of cavalry equipment.

Narrative sources are of great importance for the study. First of all, it is information from the Arab-Persian historical and geographical works, the Russian chronicles and the chronicles and notes of the Western (Latin) authors. The additional sources were the Turkic-Tatar literature and folklore (Kul Gali "Kyssai Yusuf", "Kisekbash kitaby", etc.), as well as the terminology from epitaph monuments of the 13th – 14th centuries which keep information on the pre-Mongol times. Other sources were visual materials depicting medieval Bulgar warriors.

3. Results

3.1 Armament of the Volga Bulgars

Bulgar weapons passed a long way of development from the Early Bulgar semi-sedentary, close to the nomadic, to various medieval weapons having typological similarity with the Old Russian weapons. Studies have shown that the basis of the evolution of weapons was the changing of the traditional items of military munitions such as swords, spears, battleaxes and flails which were constantly renovated with new or borrowed details to meet the conditions of combat practice. As a rule, all the innovations were not accidental. They were connected with the emergence and development of the feudal knight weapons (swords, lances, ornamented axes and maces). The set of combat means of Bulgars in the 10th – 13th centuries included weapons typical for a light-armed rider (spears, flails, axes), foot-soldier (spears, axes), as well as for an equestrian *druzhinnik* (sabers, swords, lances, maces, daggers).

Of particular note is the presence of swords of the Carolingian type in the arsenal of the Volga Bulgars. Their appearance is connected with the Scandinavians who played a key role in the spread of these weapons, especially in the initial period of the history of the Central and Eastern Europe – Russia, Hungary, Poland, Prussia and several other regions. belongs The establishment of the Volga-Baltic, or the Great Volga, Route and close trade

relations of Bulgaria with the countries of the Circum-Baltic region played an important role in the appearance of swords, as well as the whole weapon system of the Baltic type in the Volga region. Most likely, the bearers of these weapons were warriors and merchants of different origin (apparently of Swedish origin) whose life was full of Scandinavian cultural elements. The Arab people called them “the Rus”. The presence of this layer was fixed in the notes of Ibn Fadlan, who pointed out an entire colony of the Rus people near the headquarters of the Bulgar ruler, and described the funeral of one of their leaders (Kovalevskiy, 1956). It is possible that over time some of these Rus were included in the Bulgar army as hired soldiers (Izmailov, 1991; Izmailov, 1997; Izmailov, 2003).

Among other weapons the most expressive modernization was the change of spears in the 12th –13th centuries, when the number and qualitative diversity of special-purpose spearheads was increasing. Many types of spears in this period had been renovated, which made them a more effective weapon in cavalry combat. The general tendency of this period – the predominance of narrow elongated blades, reinforced neck and thickened sleeve. Judging by the number of findings, the most popular weapons of this kind were spiry tetrahedral spearheads (blade length up to 21 cm) and narrow-bladed elongated triangular spears. Apparently such spearheads were used for powerful ramming with spear and they appeared due to the reinforcement of the armature and the use of cavalry as the major force at the battlefield. The same reasons demanded improvement of infantry spears. Having transformed and rejected archaic types of spears, Bulgars settled on three types of spears: a wide elongated-triangular, an elongated-leaf and a laurel-leaf boar spears (Izmailov, 1989; Izmailov, 1997).

Analysis of the defensive armament items proves that all these changes were the result of the influence of combat practice realia and mostly influenced men at arms. Especially noticeable were the changes in the defensive armament of Bulgars in the pre-Mongol period, when the plate armour made of round plates, the scaly armour, the almond-shaped shield, the spheroconical helmet with visor and the mail-armour from flat rings appeared. According to historical data, the elite of the army was notable for massive use of defensive equipment, including metal armour.

In other words, among the close combat weapons of the medieval Bulgaria stood out the arsenal of the retinue (*druzina*) equipment. In the 10th – 11th centuries it consisted of sabres, swords, spears, *chekans* and maces. During this period there was a tendency of improving the retinue equipment, which included, besides traditional weapons, a number of new elements of the Western origin. In the 12th – 13th centuries the set of weapons of the noble warriors included spears, sabres, maces and flails. Such set of knight equipment could emerge only in combat practice when the outcome of the battle was decided in a clash of men at arms who used ram attack with spears.

For many peoples of early medieval Eurasia missile weapons were not only one of the most important elements of the armament, they also determined the nature of the military culture of the society. Bows and arrows were one of the oldest and perhaps the most common type of weapons which allowed to strike the enemy at a considerable distance. At the same time, it was often an “implement of war” which was simple to make and use and was also used for hunting. The key element in the development of missile weapons was the improvement of the bows, as the increase of their deadly force, shooting range and speed were the basis for the change of the whole archery equipment.

In the 10th – the first half of the 12th centuries the set of arrowheads continued the traditions of the previous period. Sporadically the warriors used the socketed arrowheads and three-bladed arrowheads of various forms, which were apparently archaic. Significantly widespread were the tapered elongated-rhombic arrowheads of different size and shape, as well as the narrow sector-shaped and fork arrowheads. There were also small faceted arrowheads. This shooting equipment shows that among the opponents of the Bulgars there were no enemies with full set of armour. The Bulgars mainly used arrowheads that successfully hit the light-armed enemy, and, most likely, the Bulgar archers shot at a long distance and with large intensity. Moreover, many arrowheads were also used in the household.

Radical changes of the shooting set occurred in the second half of the 12th – the first third of the 13th centuries, when the Volga Bulgars stopped using socketed and three-bladed arrowheads, but still used elongated-rhombic and tapered types of arrowhead with some changes. There was a sharp increase in the varieties of the faceted arrowheads which became bigger and obtained a pyramidal shape. Chisel-shaped, awl-shaped and cylindrical types of arrowheads appeared. At the same time, there was both quantitative and qualitative increase in sector-shaped, fork and sesame-leaf (shear) forms of arrowheads, many of which have similar sets of arrows of the Central Asia peoples. It should be noted that among arrowheads there were massive heavy pyramidal arrowheads which, judging by historical analogies, were shells for large mounted crossbows. These changes

show the important role of weapons which were used to defeat enemy protected by armour. Obviously, the various types and forms of armour-piercing arrowheads were used against different types of armour. Wide flat arrowheads were used against light-armed infantry.

Assessing the weapon system of the Bulgar troops in the pre-Mongol period, it should be emphasized that there was the fundamental difference between almost all types of weapons from the arsenals of neighboring Finno-Ugrian peoples. There was also a significant difference between the Bulgar and the nomadic military equipment, primarily in the retinue weapons (swords, lances, spears, maces, armature) and cavalry equipment (spurs, trapezoidal stirrups). The closest to the Bulgar weapon system was the ancient Russian system, both in separate elements and tendencies of development, which implies the general tendencies in the social and political development of these regions. Thus, almost identical were sabres and their crosslines, swords, lances, elongated-triangular spears, maces, flails, iron armour and a part of the equipment of the riding horse. The differences were in various types of elements: the Rus' warriors preferred spurs, and the Bulgars – whips. The Romanesque swords dominated in Rus', while Bulgars preferred sabres. But both these regions, unlike other Eastern European armies, regularly used spears and plate armour, and in battle armored cavalry used ram attack with spears (Izmailov, 1997; Izmailov, 2008).

The Bulgar *druzhinniks* were probably armed a little lighter than the ancient Russian, because the Bulgars did not use the horse armour, the chain mail with long sleeves, chainmail stockings and gloves, bracers, greaves, etc. However, “the use or non-use of certain military-technical equipment often finds justification in the specific historical situation and do not imply the poor development” (Kirpichnikov, 1971). Relatively light arms of the Volga Bulgars, were probably due to the necessity to fight with the nomadic cavalry and foot troops of the Finno-Ugrian tribes. The similarities between the Bulgar and Russian arsenal was particularly noticeable at the end of the 12th – the first half of the 13th centuries, which was reflected in the use of the Romanesque swords, maces of various shape, flattened flails, scaly armour, helmets with visor-masks and spurs with a toothed wheel. All this clearly shows that the similarity of weapon systems in these two regions was not accidental. It was a consequence of a comparable level of sociopolitical, economic and military-technical development.

Thus, it should be noted that the Bulgar weapon system was a developing system that constantly assimilated achievements from the West and the East changing them in the light of their traditions and needs, following the general development of the medieval military equipment.

3.2 Fortification

Archaeological research over the past fifty years has given an important material which allows to explore the ancient fortifications of the Volga Bulgaria, as well as to reconstruct the main stages of their development. Over 170 settlements were found and studied, and nearly a third of them were studied during excavations to identify remains of fortifications. These studies showed that almost all of them were the remains of earth-timber fortifications. The most widespread type of fortifications in Bulgaria was the system of one moat and a rampart (43%), as well as the system of two rows of ramparts and moats (19%), which implies a certain versatility of these fortification systems (Gubaidullin, 2002). Only several sites had the systems of three or four ramparts and moats. The stone detailing of rampart and moats indicates that they were the system for active shooting defense. The system of multi-row fortifications points directly to the practice of using missile artillery (Izmailov, 2008).

On the top of the ramparts there were various wooden fortifications that can be reconstructed using the preserved remains of these constructions. Most often it was a stockade (Gubaidullin, 1998), but in some cases the Bulgars used more complex systems in the form of butt-joint log constructions – *gorodnya* (Izmailov, Gubaidullin, 1992; Gubaidullin, 2002).

Among other fortifications the most distinguished are the fortifications of the medieval Kazan in the form of the white-stone wall which are similar to the fortifications of the Khazars and the north-west Russia – Ladoga and other fortresses (Khuzin, Sitdikov, 2000; Sitdikov, 2008; Sitdikov, 2010). The appearance of this type of fortification suggests that the Bulgars were familiar with these defense systems and had the ability to use the achievements of their neighbours to defend their towns located in the key areas of the country – trade routes, crossroads of caravan routes, etc.

According to the comparative studies, the formation and development of the Bulgar fortifications was highly influenced by the peoples of the Don region at the time of Khazar Khanate, as well as the traditional fortifications of the earth-timber type of the peoples of the Eastern Europe forest zone (Gubaidullin, 1997).

On the basis of these archaeological studies we can make a conclusion that the Bulgars had highly developed fortification systems, as well as the complex defense system consisting of large well-fortified cities and small

border fortresses which were constructed to hold the enemies and to make them delay. While the enemies were besieging the fortress, the Bulgars had enough time to gather the troops to hold off the attack. This defense system worked very well for almost 150 years defending the country from the raids of the Kipchaks, the onslaught of the Russian princes and the Mongol invasions.

3.3 The Weapon System and the Structure of the Military Organization

Among the Bulgar weapons there were arms which can be linked to socio-prestigious and special purpose armament typical for the military elite of the medieval societies. In the 10th – 11th centuries it consisted of sabres, spears, *chekans*, maces, chain mails and plate armour. Apart from the traditional Eastern European nomadic polities of that time (Khazaria, Hungary), appears the weapon system of the Baltic origin (Carolingian swords, tips of the sword scabbards, daggers, etc.) whose origin is associated with the movement of the Scandinavians (the Rus, the Varangians) to the east along the trade routes. The Scandinavians played the role of the military retinue in different countries of the Central and Eastern Europe (Hungary, Russia, Byzantium, Khazaria). In the 12th – the first third of the 13th centuries the system of special purpose weapons changed and included sabres, lances, maces, scaly armour, helmets with visor-mask, etc. Such set could be formed only under the domination of plate armour cavalry on the battlefield. There is no doubt that such cavalry was the core of the Bulgar army, and it consisted of the special layer of soldiers – the military service class.

Analysis of the written sources leads to the conclusion that the military organization of the Bulgars in the 10th – 11th centuries had a mixed character. Along with the developing military hierarchical system – the retinue of the ruler, the hired guards – the old tribe system still remained. At the same time the basis of the Bulgar army was the retinue of the ruler and of the tribal leaders.

Radical changes which took place in the socio-economic life of the Bulgar society in the second half of the 12th – early 13th centuries had a significant effect on the military organization of the Bulgars. The lack of written sources makes it impossible to trace in detail the development of the social structure. However, the preserved epigraphic monuments of the 13th – 14th centuries with their complex titulary system (*Emir, yori/churi* etc.) dating back to the middle of the 12th century suggest that the Bulgar nobility had a ramified feudal hierarchical system of vassalage. And this military service Bulgar nobility connected by the system of vassalage and kinship served as the backbone of the military organization of the Volga Bulgaria in the 12th – 13th centuries. All this confirms that in the 12th – 13th centuries the supreme head of the military organization of the Bulgars was the ruler, Emir, whose functions included the command of the joint army, the organization of its campaigns and the troops gathering (Izmailov, 2008).

It is evident that throughout the history the number of the Bulgar troops changed. The difficulty of the solution of this problem is not only in the small number of sources, but also in the approximate nature of the data. A number of sources of the 10th – 11th centuries report that in the country of the Bulgars there were two cities that have 10 thousand warriors each. It means that the size of the army of the Bulgars in the 10th – 11th centuries, obviously, could reach 20 thousand horsemen. The retinue (*druzhina*) of the Bulgar ruler probably consisted of 500 people. The same number of warriors was in the retinue of the Kievan princes at that time.

In the 12th – 13th centuries the population of the Volga Bulgaria must have been dramatically increased, but the number of troops was unlikely to increase. Unfortunately, the lack of reliable sources makes it impossible to determine the number of inhabitants of Bulgaria and its army, but it can be concluded that the overall extreme mobilization capacity of the country was unlikely to exceed 45-55 thousand warriors. Under normal conditions the number of people in the army (one soldier from 5 families) was likely to be about 15-25 thousand soldiers. The number of the military service class (*yori*), assuming the average figures in the medieval Eurasia, was apparently 15-20 thousand people. Summing up all these data, it can be concluded that in the pre-Mongol period the number of soldiers in the separate troops decreased (from 10-20 thousand people in the 10th century to 3-4 thousand soldiers in the 12th – 13th centuries), the number of retinues and the fractionality of troops increased. There was also an overall reduction in the armed population. The considerable number of warriors was involved only in the large campaigns and in holding off the attacks of the strong enemies (Izmailov, 1997; Izmailov, 2008).

3.4 The Military Art

The main sources for characterization of the military strategy and tactical skills of the Volga Bulgars are the data of the Russian chronicles, the Arab-Persian historical and geographical essays and the notes of the Western travellers. All of them cover this topic quite fragmentarily and incompletely, and the Russian chronicles only praise successful actions of their army and conceal or blur over their failures. However, using a critical approach to the sources we can identify some elements of the strategy and operational tactics used by the Bulgars on the

battlefields (Izmailov, 1997).

The ideological justification for war and preservation of existing social relations and institutions of power, including the military organization, was the religion. In the Volga Bulgaria the system of religious views actualized through official historical tradition and legends and tales dating back to it. They emphasized the fact that the true history of the Bulgar state began after the adoption of Islam and would continue as long as they defend the true faith and contribute to its spread. Especially famous were the myths connected with the activities of the Companions of the Prophet Mohammad, the Caliph Ali and Iskandar Zu al-Qarnayn (Alexander the Great), and pointing to the border position of Bulgaria at the turn of the civilized ecumene near the "Sea of Darkness" (Izmailov, 2008).

The study of wars and military campaigns of the Bulgars and their main ideological and political doctrines leads to the conclusion that the basis of the strategy of the Bulgars were: during the offensive campaign – concentration of forces to capture the enemy's territory, which was especially typical for the wars in the 10th century, or sudden attack of the enemy's important strategic point in the 11th – 13th centuries (Murom, 1088; Suzdal, 1107; Yaroslavl, 1152; Ustyug, 1218), followed by a rapid retreat; and for the defense campaign – the reliance on the fortified centre of the defence (Bryakhimov, 1164; Bilyar, 1183; Oshel, 1220) and the mobilization of the military forces to resist the enemy. This strategy contributed to the fact that the military operations were conducted, as a rule, in the summer (the only exception was the campaign of the Russian troops in winter 1172-1973) and were rather short. The strategy of the "direct attack" originated from the nature of the military organization of the Bulgars whose troops consisted of the retinues of the hierarchically subordinate military service elite. Therefore, the ruler of the country could not fight a long and bloody war and tried to get the political benefits of the attacks on important administrative, commercial and economic centres of the Northeast Russia. During the defensive wars the Bulgars used the fortresses and maneuverable attacks on enemy's communications, forcing them to piecemeal forces and depriving them of their strategic initiative at the same time organizing a decisive attack on the enemy's main forces (campaigns of 1172, 1183, 1223).

The benefits of the well-organized defense system of the Bulgars were demonstrated during the Bulgar-Mongol wars. The sources, unfortunately, provide very little data about the course of these battles to reproduce all the details. It can be noted that the Bulgars successfully held off the Mongolian attacks in 1223, 1229 and 1232. There is no doubt that these operations were aimed at the unsinewing the enemy by the actions of the manoeuvre cavalry troops on the outskirts of the country relying on the border fortresses (Izmailov, 2004; Izmailov, 2006).

According to the results of the weapons and written sources analysis, the field battle underwent some important changes in the 10th – 13th centuries. In the 10th – 13th centuries the combat formation of the Bulgarian troops had apparently a threefold structure consisting of the vanguard, center (sometimes there were flanks) and sometimes reserve. The vanguard consisted of a light cavalry followed by the main force in the center of which there was the ruler's retinue (*druzhdina*). With some variations, such combat formation was typical for almost all peoples of the early Middle Ages (Khudyakov, 1980, 1991). This combat formation required the different density of lines of troops that usually operated in compact groups. Obviously, it was quite difficult to run such battle. For better control of the activities of the various divisions and for more successful command, the banners and standards of regiments, platoons and retinues were used as benchmarks. The battle of that time was, apparently, the sequential committing the light and heavy cavalry to action to break through the enemy's front (Khudyakov, 1980). The use of weapons in such battle had its logical sequence. At the first stage the main role was played by missile weapons, and its successful use directly depended on the quality of bows and the variety of arrowheads. The culmination of the battle was the second stage when the outcome was decided by close combat with melee weapons.

In the middle of the 12th – the first third of the 13th centuries the complete formation of hierarchical military system in the Volga Bulgaria resulted in reformation in the troops manning and their internal division which led to changes in the battlefield tactics. At this time there were dramatical changes in the nature of armed struggle which became shorter and more intense; the power and the variety of weapons increased, as well as the number of feudal retinues whose structure became more complex. All this led to some reduction in the number of military units and increase in their tactical independence during the manoeuvres and field battles. It was proved during the Russian-Bulgar campaigns with a small number of warriors, 3-6 thousand people (1164, 1172, 1183 and 1220). The increase in independent actions of individual units contributed to a gradual increase in the number of units in combat formations.

In accordance with such combat formation, the phases of the battle were determined by the sequence of committing the troops to action. The battle began with the attack of the mounted riflemen. Galloping past the standing lines of the enemy, they repeatedly bombarded them with arrows. The main role in the battle was

played by the missile weapons, the reinforcement of which in the pre-Mongol period by new types of arrowheads and more advanced types of bows allowed to increase the power of shooting and the effectiveness of light armed cavalry actions. In the 12th – 13th centuries they not only started the battle, but also harassed the enemy on the march, carried out turning movements and raids behind enemy lines and, finally, they first attacked the enemy on the battlefield.

The major changes involved the new methods of conducting the battle and the use of weapons at the stage of the battle when there was the clash of the main forces – heavily armed mounted knights. They attacked each other in close groups galloping with spears at the trail for powerful attack. Such method of combat, according to the analysis of weapon system, was typical both for the Bulgars and for some peoples of the Eastern Europe and the Middle East. After the first collision the battle was divided into separate fights which were fast moving, fierce and the combat situation changed quickly. The increase in the intensity of the battle was due to the flexibility of the combat formation and the fractionality of the troops, which allowed to commit more and more units to action. At this decisive stage of the battle various melee weapons were used: sabers, swords, maces, flails and battle axes. According to the written sources, the Bulgars used not only the front, but also the flank and the enveloping attacks (Izmailov, 2004; Izmailov, 2006).

4. Discussions

The study of weapons and military art of the Volga Bulgaria began more than a century ago. For a long time the scientists got the data on military art of the Bulgars mainly from the Russian chronicles. Most often they turned to this subject only in connection with the Russian-Bulgar and the Bulgar-Mongol wars. Describing these events the scientists put forward interesting ideas about the tactics of battle and defense of the Bulgars (Shcherbatov, 1901).

In the second half of the 19th century there appeared historical works which somehow touched upon the war issues of the Volga Bulgaria with its neighbours, primarily with the Russian principalities. S. Shpilevsky published the most complete summary of all known at the time written sources and made his comments on them (Shpilevsky, 1877). Especially interesting were the author's comments on the Russian-Bulgar wars and descriptions of ancient settlements in which he mentions the weapons found there.

One of the first scientists who began to the study of the Bulgar weapons was a famous Kazan archaeologist, numismatist and collector A.F. Likhachev. In 1876 he made a report in which he used the found items (bronze maces, axes, arrows and flyers) to characterize the Bulgar weapons (Likhachev, 1876). The author paid the special attention to the ornamented ax which, according to him, belonged to the army official. He also concluded that chain mails were widely used by the Bulgars (Likhachev, 1876). In another, unfortunately unpublished, work “The History of the Great Bulgaria” he made the conclusion that the found arrows, swords and chain mails give reason to believe that “all these weapons were made by the Bulgars” (Likhachev). Relying on the written sources, he also made an interesting supposition that the Bulgars “ran the war with the help of the vassal princes who demanded compensation for their military expenses ... from the spoils of war” (Likhachev, 1876).

There were scientists who mentioned Bulgar weapons but they did not analyze them and, especially, the Bulgar military art. More than any other weapons, the Bulgar ornamented axes attracted the attention of researchers (Spitsyn, 1899). Unfortunately, none of these studies raised the question of the Bulgar origin of these axes and their role in the Bulgar weapon system.

Another group of the Russian historians characterizing the military art of the Bulgars relied mainly on the written sources. They noted the archaic and nomadic nature of the military organization of the Bulgars (Golitsyn, 1876).

In general, this period of the study of the Volga Bulgaria military art can be characterized as the time of accumulation of material. It was during this period when large archaeological collections were collected, the main written sources were published, the experience of study of the military and political history of Bulgaria was gained.

In the 1920-30s there were changes in the study of the Volga Bulgaria as the Marxist ideas were introduced in the historical studies and they were focused on the economic and social problems.

The introduction of the wide archaeological researches on the monuments of the Volga Bulgaria made a significant contribution to the study of this problem. The first summary of the new material was made by A.P. Smirnov who gave description of the certain weapons and made the conclusion that they had the local origin. He also pointed out that Bulgaria was a typical feudal country and had a military organization (Smirnov, 1940). In the future the author developed his ideas on the basis of the significant archaeological material. Relying on his own analysis of the written sources he believed that the main force of the Bulgars was the heavy cavalry,

whereas the infantry was of the secondary importance. According to A.P. Smirnov, the Bulgar military tactics resembled the combat techniques which were typical for nomadic Sarmatians and were aimed at the sudden cavalry attack. However, the Bulgar defense system and fortresses met all the requirements of the time although the Bulgars could not conduct the siege (Smirnov, 1951). This detailed description of the military art of the Bulgars had a great influence on all subsequent works on the subject. But it should be emphasized that these views had a certain inconsistency. On the one hand, A.P. Smirnov believed that the Bulgars had an advanced weapon system, military engineering and a strong cavalry. On the other hand, he concluded that the Bulgars had ineffective battlefield and defense tactics. This paradoxical point of view can be explained by the lack of comprehensive and systematic analysis of archaeological and narrative sources.

These conclusions were supported and developed in the works of some historians (Mukhamedyarov, 1973) and a number of works pointed out the archaic political system and military organization of the Volga Bulgaria (Kakhovkiy, 1965; Dimitriev 1984).

Many important issues of the history of the military art were touched in the works of A.Kh. Khalikov based on the results of the research of the Bulgar monuments which he studied for many years. A.Kh. Khalikov supported the idea that Bulgaria was the feudal country (Khalikov, 1989). He also made a number of conclusions about the Russian-Bulgar political, economic and trade contacts (Khalikov, 1986), as well as the Mongol conquest of Bulgaria (Khalikov, 1984). The works of archaeologists who analyzed the materials of the Bulgar monuments prove that the Volga Bulgars had the developed crafts and the advanced types of weapons (Khuzin 1985; Khuzin, 1995; Savchenkova, 1996).

The Kazan historians also studied the problems of the military art of the Bulgars. They mainly supported the idea of the feudal character of the Bulgar Society (Fakhrutdinov, 1984) and the idea that “the Bulgar combat tactics was on the rather high level of that time” and “the fully armed army was combat-capable, could act against foreign conquerors and make successful campaigns” (Fakhrutdinov, 1980). Unfortunately, the author's arguments were not supported by the analysis of Bulgar weapons and military organization. He only enumerated the items of weapons and gave a brief overview of the fortifications. Actually, the author only outlined the problem.

Later the Kazan archaeologists and historians made the comprehensive analysis of weapons and military art (Izmailov, 1989; Izmailov, 1997; Izmailov, 2004; Izmailov, 2006; Izmailov, 2008), as well as the history of the fortification of the Volga Bulgaria in the 10th – 13th centuries (Gubaidullin, 1998; Gubaidullin, 2002; Sitdikov, 2008; Sitdikov, 2010; Khuzin, Sitdikov, 2000). In these works the comprehensive archaeological material was gathered, typologized, dated and studied in the broader context of development of weapons and military architecture of the whole Eurasia.

Foreign researchers were also interested in the military art of the Volga Bulgars. In his article the Polish historian E. Triarski studied the weapons and the military art of the Bulgars. As for the troops, E. Triarski believes that “the core of the army was the cavalry, and it can be assumed that the local tribes also supplied the infantry with military equipment” (Tryjarski, 1975). However, we cannot agree with the conclusion of the author that the Bulgars had a “peaceful nature” based on the hypothesis that they mainly focused on “more peaceful and profitable activities such as agriculture and trade” (Tryjarski, 1975).

The review works of the English military historian D. Nicolle arouse certain interest. On the basis of the materials collected and studied by the Kazan scientists he made a brilliant presentation at the popular science project “Men-at-arms” (Nicolle, 1990; Shpakovsky & Nicolle, 2013). However, it should be mentioned that the authors made some significant mistakes when they did not keep to the text of the archaeologists whose works they used as the basis for their essays and distorted the information (Shpakovsky & Nicolle, 2013).

Summing up the analysis of the literature, we should mention that the history of arms and military art of the Bulgars arouses a sustained interest. The scientists have a number of problems to solve. Years of work of several generations of scientists have created a firm foundation for further scientific research in this area. Historiographical survey also shows that to develop this theme successfully is necessary to attract all sources, primarily the archaeological ones.

5. Conclusion

The Bulgar weapons and military art passed a long way of development. Especially noticeable and profound changes in the military art took place in the 12th century. They were caused by the changes in the weapon system (the appearance of the special-purpose knight weapons and versatility of the “mass” weapons) which led to the splitting of the internal structure of combat formation. During this period the Bulgars widely used manoeuvres, ambushes, false retreats and sudden attacks which were supported by the strong defense and intense attacks in

the showdown fight. All this helped the Bulgars win in the fights against different enemies. The advantage of the Bulgar military art was the development of their own tactics of active defense, the use of which met the requirements of their military practice and demonstrated a high level of the combat skills.

The history of the Bulgar weapons proves that the most dynamically developing kinds of weapons are the weapons of the privileged layers of the army – the heavily armed cavalry. Judging by its equipment we can determine the level of the military equipment of the time and the tendencies of its development. Universal types and forms of “weapons of war” can say a lot about the military-technical equipment of the bulk of ordinary soldiers. Like in Russia, the main forms of the knight weapons in the Volga Bulgaria were sabers, swords, battle axes-*checkans* (including ornamented axes), faceted lances and narrow-bladed spears, gilded bronze maces, flails, daggers, metal armour and helmets. The rest of the troops mainly used broad elongated-triangular and leaf spears, axes of the universal forms, bows and arrows, iron and bronze flails, leather armour and shields. In the development of the Bulgar weapons and equipment at the end of the 12th – the beginning of the 13th centuries there was a tendency of its gradual weighting, which in this period was typical for many European nations (including Russia), the Middle East and the Central Asia. At that time a number of countries started to use helmets with a mask and a camail, steel scaly armour, long sabres, narrow-bladed lances, massive boar spears, mace-hammers and flanged maces. The reinforcement of the protective arms put forward, almost simultaneously in many counties of Eurasia (particularly in Russia and the Volga Bulgaria), the ram attack with spears. This required to change the traditional Bulgar cavalry equipment (along with whips, spurs, new types of stirrups and bar bits appeared) and to create the new types of weapons with greater penetrating power (lances, armour-piercing arrows), as well as means of stunning the armoured enemy (clubs, flails) and means of local breach of armour (mace-hammers, flanged maces). However, the Bulgar retinue were armed and equipped, probably, a little lighter than the Western European and ancient Russian *druzhinniks*.

The history of the Bulgar weapons and military art with all its peculiarities and specificity was largely determined by the fact that Bulgaria, on the one hand, struggled with the nomads, on the other hand – with Russia. That is why its weapons and equipment were influenced by both opponents, though remaining typical “Bulgar”: heavier than the steppe weapons and lighter than the ancient Russian ones. Moreover, while on the territory of the ancient Russia there were noticeable regional differences in the weapon system of the North and the South, such differences were not revealed in Bulgaria. This can be attributed to the compactness of territory and a relatively small population and the intensity of trade relations within the country. Probably, only in the western part of Bulgaria populated by Burtases the weapons acquired certain originality due to the contacts with the Finno-Ugrian tribes.

Analysis of the weapons shows that the Bulgar craftsmen met the needs of the country in weapons. The iron workshops produced weapons. The variety and quality of weapons attest the skills and abilities of the Bulgar craftsmen. The high level of metal craft of the Bulgars allowed to export weapons to neighboring countries.

In general, the significant similarity of the Bulgar and Russian military equipment and organization cannot be explained only by the constant borrowing and importing of weapons. In fact, before adopting any modern weapons it is important to be able to use them and have the opportunity to apply them. Only being on the comparable levels of social development Russia and Bulgaria could share and borrow new items of weapons and tactics. The study of historical and archaeological data led to the conclusion that the military art of Bulgaria was a developing system. The Bulgars constantly assimilated military-technical achievements from both the West and the East and changed them in the light of their traditions and needs. Continuously enriching the arsenal of weapons of war, mainly by their own weapons, the Bulgars followed the way of general development of the medieval military equipment. It should be emphasized that the weapon system of the Bulgars was not a set of random borrowings. The weapon system developed gradually as the result of a focused and continuous accumulation of the variety of weapons of war. Apparently, the assimilation of the experience of other nations was of a great importance for the Bulgars along with the acquisition of certain types of weapons. Relying on this experience they created new samples of sabres, spears, axes, flails, maces and arrows which most appropriately met the requirements of the local combat practice.

Therefore, all the data prove that the Bulgar military art characterized by the advanced technology and complex military and social structure reached the significant level of progress. All this determined the nature of international relations and diplomatic activity of the Bulgar diplomats. The internal unity, the heavily armed army and skillful diplomats allowed this relatively small state to exist and develop for several centuries. The high level of development of the military art of Bulgaria is proved by facts of the military history. The Volga Bulgaria not only struggled with the ancient Russian principalities for a long time, but for almost 13 years beat off the attacks of the Mongol troops.

6. Recommendations

The practical significance of the study is that its results and conclusions can be used in the preparation of generalizing monographs on archeology and history of the Volga-Ural region, by the university teachers at the lectures and workshops, at special courses in military history of the Volga region and the history of the international relations in the Eastern Europe.

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