Military Organisation and the Warfare of the Türk Qaghanate

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The Türk Qaghanate (552-744), widening its power and territory throughout the Asian steppes, became tough components of the great sedentary civilizations. Its power was based on military strength, creating a vast empire from China to Byzantine. In the Chinese and Turkic indigenous sources, there are no detailed descriptions about their warfare. Yet still we can find some clues in the Chinese sources, such as the travel books of the Buddhist pilgrims. For instance, during his travels, Xuang Zang met Türk Qaghan while he was hunting and he described his and his soldier's basic clothing and warfare. Kül Tegin's inscription as an indigenous source is very important for describing their weapons. The purpose of the research is to reveal the basic war tactics and weapons in the time of the Türk Qaghanate in the light of the written sources and partially archeological data.

During the Early Middle Ages, the Türks, a nomadic people of Central Asia, united all the Eurasian Steppe tribes in a great empire. The Türk Qaghanate, stretching from Manchuria in the East to the Crimea in the West, became a rival to the Chinese Tang, the Persian Sassanid, and the Byzantine empires in the second half of the 6th century A.D. The Türk Qaghanate dominated almost the whole of the Eurasian Steppe zone from the 6th to the middle of the 8th century A.D.[1] Only the Chingissid Empire could build a more spacious nomadic empire including China and the eastern part of the Middle East. The most im-

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1 On the Türk Empire: P. B. Golden, *An Introduction to the History of the Turkic Peoples*, Wiesbaden 1992; *The Cambridge History of Early Inner Asia*, Ed. Denis Sinor, Cambridge 2008; S. G. Kliashtornyj, *Istoriia Central'noi Azii i Pamiatniki Runnicheskogo Pis'ma*, Sankt-Petersburg 2003; Ahmet Taşağıl, *Gök-Türkler I-II-III*, Ankara 2014; M. Dobrovits, *Égi kagánok eltűnt birodalma. A türk nép és a türk birodalmak története* 439-745, [Withered Empire of Heavenly Qaghans. The history of the Türk people and the Türk Empires] Budapest 2004. Unpublished PhD dissertation; A new overview of the Western Türk Empire: *Zapadnii Tiurkskii Kaganat. Atlas*, ed. A. Dosymbaeva, M. Zholdasbekov, Astana 2013.

portant factor of building an empire is successful conquests in general and this is true for nomads.[2]

As for the Türks, their genuine sources, the Türk runic inscriptions from the first half of the 8th century, emphasised the importance of creating a new army to be successful in building a new empire. According to the famous and often quoted phrases of the Kül Tegin Inscription (732 A.D.), a new state/empire (*el*) is based on military power: "My father, the Qaghan, went off with seventeen men. Having heard the news that (İlteriš) was marching off, those who were in the towns went up to the mountains and those who were on the mountains came down (from there), thus they gathered and numbered to seventy men. Because Teŋri granted strength, the soldiers of my father, the Qaghan, were like wolves, and his enemies were like sheep. Having gone on campaigns forward and backward, they gathered together and he collected men; they all numbered seven hundred men. After they had numbered seven hundred men, (my father, the Qaghan,) organized and ordered the people who had lost their state and their Qaghan (Kül Tegin East-12, 13)."[3]

To study the military system of the Türk Qaghanate in the indigenous and foreign sources, the pictorial material and archaeological findings must be taken into consideration. The oldest written sources that give us some descriptions about the military features of the Türks are the Chinese sources, such as Zhou-shu, Sui-shu and Tang-shu, respectively.[4] According to Liu-Mau-Tsai's chart, the Türks fought against the Chinese 410 times between 542 and 764 A.D.,[5] although some of these attacks might have been smaller raids. The Chinese annals mentioned the Türks very often because of these frequent relations. On the other hand, the Greek source Strategikon – attributed to Emperor Maurice (582-602 A.D.), and written in the late 6th century A.D. – is another important early source that basically codified the military reforms of the Byzantine army.[6] The work of Jahiz, 'Exploits of the Türks', described the military merits

2 On nomadic empires and warfare, see P. B. Golden, "War and Warfare in the Pre-Cinggisid Western Steppes of Eurasia," In: *Studies on the People and Cultures of the Eurasian Steppes*, ed. P. B. Golden, Bucureşti-Braila 2011. Drompp formulated it as follows: "Nomads established and maintained their empires through the use and thread of violence." M. R. Drompp, "Strategies of Cohesion and Control in the Türk and Uyghur Empires," In: *Complexity of Interaction along the Eurasian Steppe Zone in the First Millennium CE*, ed. J. Bemmann, M. Schmuder, Bonn 2015, 437–453.

3 T. Tekin, *A Grammar of Orkhon Turkic*, Bloomington 1968, 265.

4 Liu Mau-Tsai, *Die Chinesischen Nachrichten Zur Geschichte Der Ost-Türken (T'u Küe) I-II.*, Wiesbaden 1958; E. Chavannes, *Documents Sur Les Tou-Kiue (Turcs) Occidentaux*, St. Pétersbourg 1903.

5 Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 433–439.

6 E. N. Luttwak, *The Grand Strategy of the Byzantine Empire*, Harward University Press 2009.

of the nomadic Türks in the second half of the 9th century.[7] The most important indigenous sources are the Türk runic inscriptions (early 8th century) including many campaigns against the other nomadic peoples and wars against the Chinese. On the basis of the runic sources, there are several relevant pieces of data concerning their warfare.[8] Besides the written sources, archaeological and pictorial sources can shed light on the warfare of the Türks. Chinese mortuary beds, Sogdian wall paintings, and petroglyphs from the Altai Mountains take the lead for visual sources.[9]

The army's structure and proportions

The army was basically called *sü*.[10] As Denis Sinor phrases it, there was not a specific word for a warrior in Turkic.[11] The Turkic language designated a 'warrior' with the term *er* 'human male, man' and hence 'fighting man, husband,' etc.[12] The Turkic inscriptions of the Orkhon and Yenisei make note of the *er at* 'warrior-name', i.e. a youth who has acquired maturity and completed a rite of initiation involving hunting or a military activity. Such customs were not unknown to later Turkic societies. The Mongol term, *čerig* 'warrior, soldier, army, military,' derives from the Turkic *čerig* 'troops drawn up in battle order' and then 'army, troops'. Other terms were used to express the concept of a soldier such as *alp* 'brave' (also 'tough, resistant, hard to overcome') *alpağut*, 'warrior' and *tonga* 'hero, outstanding warrior.'[13] The army consisted of two types of warriors: horseman (*atlığ*) including light archers and heavy lancers, and heavy armoured infantry (*kedimliğ yadağ*).[14] In the army system of the Türks, there was a group that we can call the 'guard force'. We have some evidence for the existence of such an elite force, perhaps a royal *comitatus,* like the *böri* of the Türks as the Chinese sources recorded: "They named their guardsmen as Fu-li

7 C. T. Harley Walker, "Jahiz of Basra Al-Fath Ibn Khaqan on the Exploits of the Türks and the Army of the Khalifate in General," *Journal of the Royal Asiatic Society*, 1915, 631–697.

8 H. N. Orkun, *Eski Türk Yazıtları*, Istanbul 1936; Tekin, *Orkhon Turkic*.

9 S. A. Yatsenko, "Early Turks: Male Costume in the Chinese Art", http://www.transoxiana.org/14/yatsenko_turk_costume_chinese_art.html (04.04.2017).; J. A. Lerner, "Aspects of Assimilation: The Funerary Practices and Furnishings of Central Asians in China," *Sino-Platonic Papers* 168 (2005).

10 Sir G. Clauson, *An Etymological Dictionary of Pre-Thirteenth Century Turkish*, (henceforth *E.D.*) Oxford 1972, 781.

11 D. Sinor, "The Inner Asian Warriors," *Journal of the American Oriental Society*, 101 (1981), 135.

12 Golden, *War and Warfare*, 90.

13 Clauson, *E.D.*, 127, 128, 515; Golden, *War and Warfare*, 91.

14 Clauson, *E.D.*, 55, 704.

(*böri*) which means 'wolf'. They come from the lineage of a she-wolf and they never want to forget their origin."[15]

The peoples of a nomadic empire were organised according to the decimal system, which was well known among them from the time of the Xiong-nu era. The *tümen* represented 10,000 men in the army.[16] The word *tümen* appears in the Türk inscriptions nine times.[17] It is quoted for the first time in the Türk inscriptions as the following: "They brought a man (from the enemy). His words (were) as follows: 'An army of *on tümen* (100.000) men has assembled on the Yarïš plain' he said (T II, W-1)."[18] In addition, the word *tümen* is recorded in the Kül Tegin Inscription: "The Chinese governor Ong Tutuq came with an army of fifty thousand (*beš tümen*) and we fought (KT E-31)."[19] The word on the Türk inscriptions refers to the quantity of the enemy's soldiers, mostly of the Chinese. Yet for their own army, they only use numeral amounts, which are less than a *tümen* (10,000). However, the existence of the word *tümen* in their language proves that, according to their sense, armies (either enemies or their own armies) are organised according to the decimal system.

When the troops were drawn up in battle order, the ratio was two-thirds horsemen to one-third infantry.[20] The Tonyukuk Inscription recorded this as follows: "Two-thirds of them were mounted, a (third) part was on foot".[21] This is corroborated by the Chinese data: between 563-564 A.D., Northern Zhou attacked Northern Qi with the help of the Türks and the number of the Türk warriors were 100,000 footmen and 200,000 riders.[22] Even though the given numbers are exaggerated here, the ratio (2/3) is similar.

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15 Zhou-shu (50,1a-3a), Zhou-shu (50, 1a-3a), Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 9.

16 The word *tümen* originally meant 'ten thousand', but was often used for an indefinitely large number (Clauson, *E.D.*, 507).

17 Tonyukuk ins. II, W-1; Kül Tegin ins. E-31, N-12; Bilge Qaghan ins. E-25, E-26, S-1, S-8, S-8, N-12.

18 Tonyukuk ins. II, W-1; Tekin, *Orkhon Turkic*, 288.

19 Kül Tegin ins. E-31; Tekin, *Orkhon Turkic, 268.*

20 Omeljan Pritsak, "The Distinctive Features of the Pax Nomadica," In: *Popoli Delle Steppe: Unni, Avari, Ungari*, Spoleto 1988, 769; It is widely known that nomad armies consisted mostly of cavalry. Yet as it can be understood from the inscription, Kül Tegin sometimes fought against his enemies on foot. Thus, we can deduce that some parts of the Türk army consisted of foot soldiers. See: L. Keller, "A türk harcos és fegyverei az írott források tükrében," [The Türk warrior and his weapons in the mirror of the written sources] In: *Fegyveres Nomádok, Nomád Fegyverek*, ed. L. Balogh, L. Keller, Budapest 2004, 45–52.

21 *Eki üligi atlığ erti bir üligi yadağ erti* (Tonyukuk ins. I, W-4); Tekin, *Orkhon Turkic*, 283.

22 Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 449.

The number of the warriors in the army

We cannot decide the exact number of soldiers in the Türk army because it varied according to the importance of the war or the expedition. As mentioned above, the Second Türk Qaghanate built their first army with 700 men, as is stated in the Kül Tegin Inscription.[23] These figures are obviously mythological, but it seems that an army of 700 men already represented a significant force to found an empire (*el*). Based on the Tonyukuk Inscription, the Türks fought against the Oguz with 2000 warriors: "The army (of the Oguz) reportedly consisted of three thousand men; we were two thousand. We fought. Heaven favored us. We put them to rout. They were poured into the river. Those who were put to rout were also killed on the way while they were trying to escape."[24] According to the Chinese sources, Ilteriš attacked the Nine Tribes with 5000 men and took the title of *qaghan* after his victory. Liu Mau-Tsai collected the figures for the size of the army given in the Chinese sources and summarised the data in tabular form.[25] In the Chinese source, the greatest Türk army consisted of 400,000 archers, who attacked the Chinese under the rule of Išbara Qaghan in 582.[26] This number might have been exaggerated by the Chinese in order to show their enemy was too powerful.

The chain of command

The Chinese sources explain the structure of the command of the Türks in the following way: "There were all together 5 commanders in Tu-jue army. The brothers always fought to have the control over the army."[27] The Qaghan was the commander in chief. Under his rule, there were four lower Qaghans who were his brothers or sons, and they were called *Šad* and *Yabgu*. There were right and left *Šad*s and right and left *Yabgu*s. Furthermore, they all had their own army, and each of them was controlling only their own terrirories. For example, during the realm of Mo-Chuo Qaghan, his son commanded 40,000 men and each of the two *Šads* commanded 20,000 men. In addition to *Šad* and *Yabgu*, there was another title, *A-po-ta-kan* (Apa-tarkan), which is supposed to be the minister of war.[28]

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23 Kül Tegin ins. E-13; Tekin, *Orkhon Turkic*, 265.

24 Tonyukuk ins. I, S-9; Tekin, *Orkhon Turkic*, 285.

25 I. Zimonyi, *Muslim Sources on the Magyars in the Second Half of the 9th Century*, Leiden 2016, 110.

26 Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 433.

27 Sui-shu (84, 1a-6b), Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 46–47.

28 Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 429–430.

The battle order and tactics of the Türks

The Türks had their distinctive battle organisations and tactics. The above-mentioned Byzantine source Strategikon mentions the military organisation and warfare skills of the Türks and Avars as follows: "...only the [nations] of the Türks and Avars concern themselves with military organization, and this makes them stronger than other Scythian nations when it comes to pitched battles.[29] The [nation] of the Türks is very numerous and independent. They are not versatile skilled in most human endeavours, nor have they trained themselves for anything else except to conduct themselves bravely against their enemies. "[30]

Shock Combat: The most widely used tactic of the nomads was shock combat. The Chinese source mentions the Türks' tactic as follows: "The barbarians' power lies behind their attacking on us as fast as an arrow and backing away like a tearing muscle fibre. Even if we run after them it is hard to catch them."[31]

Night Raids: One of the most effective tactics used by the nomads was night raids. They could catch the enemy unaware while they were defenceless at night and rapidly make the enemy ineffective. According to the Türk inscriptions, the Türks defeated some of their enemies with night raids. It is written on the Kül Tegin Inscription that, after crossing the river Irtiš, they launched a night attack against the Türgiš people and defeated them.[32] It is also stated on the Tonyukuk inscription how they defeated the Kirgiz people through a night attack.[33]

Divided Units: The Strategikon has a lengthy section on this tactic. It begins by noting that "Unlike the Byzantines and Persians who form three units, the Türks and Avars are divided into different groupings, compactly joining the divisions together in order to appear as one battle line. They also hold a force outside of the battle line, which they use for ambushes and to help those who are in difficulty."[34]

The same source mentions their cavalry battle formation as follows: "...just as the Avars and Türks line up today keeping themselves in that formation,

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29 'Scythian' is a general term employed by Byzantine writers to designate the nomadic tribes north of the Black Sea and through the Central Asia Steppes.

30 G. T. Dennis, *Maurice's Strategikon*, Philadelphia 1984, 23.

31 SS 56, (3bf), Biography of Yü-wen Pi, Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 122.

32 '... and crossing over the Irtish river. We fell upon the Türgiš people, while they were asleep.' (E-37); Tekin, Orkhon Turkic, 269.

33 'We arrived at the river Ani. We rode down along that river. In order to be fed we ordered (the soldiers) to dismount. We used to tie the horses to trees. We went on riding at gallop by day and by night. We fell upon the Kirgiz while they were asleep. We awakened them with the lances. Meanwhile their qaghan and army gathered together. We fought and defeated them. We killed their qaghan.' (N-3,4); Tekin, *Orkhon Turkic*, 286, 287.

34 Golden, *War and Warfare*, 94.

and so they can be quickly called to support any unit that may give way in battle. For they do not draw themselves up in one battle line only, as do the Romans and Persians, staking the fate of tens of thousands of horsemen on a single throw. But they form two, sometimes even three lines, distributing the units in depth, especially when their troops are numerous, and they can easily undertake any sort of action..."[35]

***Feigned Retreat**:* This is also known as 'Alan drill'. In this tactic, the feigned retreat and counter-attack was practiced. The nomads shooting arrows in retreat were as effective as when attacking. The feigned retreat, associated with the nomads for a millennium, nonetheless continued to fool their enemies. In the 629/630 Türk-Khazar campaign in Transcaucasia, the Khazars met the Sassanid troops and "immediately took flight, but only to appear later on both flanks to challenge" the Persians. They then surrounded and destroyed the Persian army.[36] It can be estimated that the Eastern Türks also applied this tactic many times as it was a typical nomadic war strategy. Later on, the nomads defeated their enemies with this deceptive tactic for many centuries.

The Defence of the Military Camp: As mentioned above, the Türks had a special guard force, which was called *böri* (Fu-li). It was mainly responsible for protecting the Qaghan and his family. Besides this, there was a force that served as camp guards. They defended the camps against the rapid raids of the enemies. Related to this, it is written in the Tonyukuk Inscription that: "From the Qaghan a who? came back: 'Stay there!' he said, 'Place the vanguard and patrols properly, and do not let the enemy to make a surprise attack on you!' So was the message Bögü Qaghan sent me (N-10)."[37]

The weapons of the Türks in the non-indigenous sources

The following passage can be quoted from Bei-shu in order to understand the combatant character of the Türks: "(The Türks) valued death in battle and were embarrassed to die by diseases."[38] The military might and fighting skills of the Türks were remarkable due to their considerable victories over numerous foes; they also constrained other peoples and tribes to adapt an addition to their decimal army system. Of course, these combatant features triggered the Türks to produce various weapons among themselves.

As for the basic and the most important weapons of the Türks, the Chinese sources give the first significant descriptions. The Chinese source Zhou-shu says: "Their weapons are bow and arrow, mace, armored vest, long cavalry spears and swords; they also carry daggers as a belt adornment."[39] The travel book of the Chinese pilgrim Xuan Zang (630 A.D.) adds new data about the

35 Dennis, *Strategikon*, 116.
36 Golden, *War and Warfare*, 95.
37 Tonyukuk ins. I, (N-10); Tekin, *Orkhon Turkic,* 287–288.
38 PS 99, 2b, Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 501.
39 Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 9.

weapons of the Türks. Xuan Zang encountered the Qaghan of the Türks, Ye-hu, in a hunting expedition: "The horses of these barbarous people are very fine. The Qaghan himself was covered with a robe of green satin and his hair was loose, only it was bound round with silken band some ten feet in length, which was twisted round his head and fell down behind. He was surrounded by about 200 officers who were all clothed in brocade stuff, with their braided hair. On the right and left he was attended by independent troops all clothed in furs and fine-spun hair garments. They carried lances and bows and were mounted on camels and horses. The eye could not estimate their numbers."[40]

The western source, the Strategikon, gives further descriptions about similar weapons, adding information about how nomads used them actively in the battle field: "(They) wear armor and have swords, bows and lances, most of them in battle make use of two sets of arms. They mount up the lances on their shoulders and hold the bows in their hands, using both as need requires. Not only do they wear armor, but the horses of their notable ones are also covered with iron and felt in the front areas. They train diligently, especially for mounted archery."[41]

The Arab ethnic stereotyping (Al-Jahiz) speaks highly of the Türks' weapons manufacturing as follows: "And so with saddles and the different stages of arrow-making and quivers and lances and all weapons, offensive or defensive. The Türk does these all himself from the beginning of the process to the end without needing any assistance or looking for help to advice of any friend."[42]

Weapons in an indigenous source

After some descriptions from foreign sources, now we should take a look at one of the most important and unique indigenous sources of the Türks: the Kül Tegin Inscription. What kind of clues does this runic inscription give us?

While fighting in the war of Ming-sha Mountain (706 A.D.), the Chinese army shot their arrows at Kül Tegin. His armour and kaftan were hit by many arrows but he escaped without injury.[43]

When Kül Tegin was 26 years old, he fought against the Kirgiz and used a bow and spear: "Kül Tegin mounted (the white stallion) Bayïrqu and attacked; he hit one man with an arrow (*oqun urti*) and stabbed (*sančdi*) two men (E-34-36)"[44]

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40 T. Watters, *On Yuan Chwang's Travels in India 629-645 A.D.*, London 1903, 74; L. Ligeti, *Bilinmeyen İç Asya*, Ankara 1986, 83.

41 Golden, *War and Warfare*, 110.

42 Walker, *Jahiz*, 685, 686.

43 "They hit (him) with more than one hundred arrows (*oq*) on his armor (*yarïq*) and caftan (*yalma*); (but he did not let the enemy hit him) even once on his face or head." (E-34) Tekin, *Orkhon Turkic*, 268, 269.

44 Kül Tegin ins. E-34-36; Tekin, *Orkhon Turkic*, 269.

Kül Tegin was 30 years old when the Qarluk revolt burst out and he used his lance once again: "He mounted (the white horse) Alp Šalči and attacked suddenly. He stabbed two men. (N-2)"[45]

After the Tokuz Oguz had rebelled, the Türks went on a campaign against them and Kül Tegin used a lance and saber: "He stabbed six men with a lance. In hand-to-hand fighting he cut down a seventh man with a sword (*qïlïčladi*). (N-5-7)"[46]

Essentially, he used a lance 22 times, a saber once and a bow once. It is also clearly understood that he was armored and he had also put on a helmet.

The weapons of the Türks

Bow The most important single piece of equipment was the compound bow.[47] The Türks had advanced compound bows that the Chinese described as follows: "The Tu-jue people have a bow which is compounded by glue which is produced from their legendary animal "Qi-lin" and the bow was reinforced by horns and they have arrows which has fletchings by vulture feather."[48] A bow and arrow were used by Kül Tegin several times to defeat his enemies according to his inscription.[49] The nomads were also famous for their prodigious skills in archery, the form of combat that was most closely associated with them. Al-Jahiz comments that "If 1000 Türk mounted archers drew their bows and shot at the same time 1000 of their foes would be fallen flat on their face."[50] Arrow-heads were made of iron or bone in a variety of shapes, including armour-piercing types.[51] Poisoned arrows were also known.

Visual sources help us to view the form of the bows of the Türks. A bone plate from Sutu-Bulak, Kirgizstan, depicts a very clear battle scene. Türks with their long hair fight against their enemies using their composite reflex bows (Figure 1). Various petroglyphs also involve the daily lives of the Türks at that time. On a petroglyph from the Altai region, a Türk warrior with long braided hair draws his typical reflex bow on his knee (Figure 2). Several other petroglyphs have different scenes. For instance, while some of them shoot on horseback backwards, others are foot soldiers and they draw their bows standing on their feet. Most of them are also described as having their quivers hanging on their belts (Figure 3).

The pictorial sources demonstrate detailed representations in the early medieval art of the Türks. The *sarcophagus of Yu Hong (died in 592 A.D.) was discovered in the northern city of Taiyuan.* This Sogdian official held the rank of *sabao*

45 Kül Tegin ins. N-2; Tekin, *Orkhon Turkic*, 270.
46 Kül Tegin ins. N-5-7; Tekin, *Orkhon Turkic*, 270, 271.
47 Sinor, *The Inner Asian Warriors*, 140.
48 Sü kao-seng-tschuan, Section 2, Liu Mau-Tsai, *Die Chinesischen Nachrichten*, 37.
49 'Kül Tegin mounted Bayïrqu's (white stallion) and attacked; he hit one man with an arrow...' E35-36; Tekin, *Orkhon Turkic*, 269.
50 Ramazan Şeşen, *El-Cahız ve Türklerin Faziletleri*, İstanbul 2002, 83.
51 Golden, *War and Warfare*, 110.

and he was also an ambassador of the Sui Dynasty. There is a Türk shown on one of the tablets. On the picture, he turns backwards and draws his composite bow against a predator that attacks them[52] (Figure 4).

A marble mortuary bed is located in Miho Museum, Japan. On the funerary couch, there are 11 panels and two gate panels. There are different stories and descriptions on all the panels. We can observe several nomadic people on the carvings with their typical hair style and costumes. One of the pictures shows a hunting scene of the Türks in the mountains with their composite bows. They also carry quivers that can be seen in the details (Figure 5).

Spear and lance Next in importance to the bow, spears and lances must be mentioned in the inventory of the traditional arsenal of Inner Asia.[53] Kül Tegin stabbed his enemies 22 times according to his memorial stone. It is the most widely-used weapon and it has more importance than any other weapon during his epic fights. Maybe the nomadic horsemen applied this weapon very often just after the bow.

They mostly preferred to use hollow and lighter spears on horseback. We can determine the features of the spears of the Türks, in contrast those of the Arabs: "Your horsemen use heavy lances, however, hollow spears are lighter and more effective... Long lances must be used by pedestrian warriors and short spears must be used by horsemen."[54] From this criticism, it can be easily understood that the Türks preferred light spears on horseback. In addition to the written sources, many horsemen's depictions on the Altai petroglyphs had spears (Figure 6).

Sword (sabre) and dagger Sometimes, an Inner Asian archer had to fight in close combat. His most widely used weapon, the sword, is attested in many shapes and sizes. It might be either straight and short like a dagger, as in the Scythian akinakes, or long, single or double edged. It might be pointed at the end, curved and sharpened on one side only, like a saber.[55] In the Kül Tegin Inscription, the use of the sword is mentioned only once: "In hand-to-hand fighting he cut down a seventh man with a sword (N-5)."[56]

The Afrasiab wall paintings refer to the 7th-century Sogdian murals, discovered in 1965 in the residential part of ancient Samarqand. They form the most famous cycle, which was found in the so-called "Hall of the Ambassadors." In these wall paintings, we can see some weaponry details of the Türks, especially regarding their sabers (Figure 7).[57] Several Turkic sculptures from the Altai Mountains carry daggers on their belt. The sculptures from Toto and Kypchyl are good examples where one can observe curved daggers on the front side of their belts (Figure 8). Between the 5th-8th centuries, it was very

52 Yatsenko, *Early Turks.*
53 Sinor, *The Inner Asian Warriors*, 141.
54 Şeşen, *Türklerin Faziletleri*, 120.
55 Sinor, *The Inner Asian Warriors*, 141.
56 Kül Tegin ins. N-5; Tekin, *Orkhon Turkic*, 270.
57 Yatsenko, *Early Turks.*

common to practice funerary arts, such as decorating mortuary beds with carvings and paintings. Most of these have multicultural presentment scenes including Central Asian nomads.[58] The granite mortuary bed of the Sogdian official An Qie and his wife shows a dagger carrying on his belt (Figure 9).

Armour Archaeological evidence indicates that at least some portion of the Türk army consisted of heavy cavalry alongside the light cavalry bowmen typical of the Eurasian steppe armies.[59] Based on information from Kül Tegin's Inscription, he was most probably guarded by his armour and his helmet. Although he was hit by many arrows, he did not obtain any injury during the war of Ming-sha Mountain (706 A.D.).[60]

Armour (*yarıq*) was widespread but metal armour appears to have been rather more limited to the elite. Some types of armour were made of both metallic and non-metallic substances.[61] According to Al-Jahiz, the Türks were proud of using light armour made with felt: "And we make armor of felt, and have stirrups and breastplates."[62]

Horse Armour Horses were also armoured, some of them lightly, others more heavily.[63] Only one passage in the Kül Tegin Inscription refers to horse armour. Visual sources, such as the Altai petroglyphs, prove that horses were mostly armoured with lamellar armour (Figure 6).

The invention of the hard-framed saddle and metal stirrups

The most significant technological inventions of the Türk Qaghanate era were the hard-framed saddle and the iron stirrups. Sitting on a strong saddle with a rigid frame and abutting feet in the stirrup, the riders received an extraordinary freedom of movement that could affect the combat tactics.[64]

Saddle The first of the soft type of saddles appeared; these were simple rugs, then two cushions connected to each other. The hard type had a wooden structure. It developed somewhere on the border of the settled and nomadic worlds, in the contact area of the pastoral and agricultural zones in northern China.[65] Saddles were known before the Türks, from Xiong-nu times. There

58 For detailed Chinese funerary traditions and mortuary beds please see: Judit A. Lerner, *The Funerary Practices*.
59 Golden, *War and Warfare*, 100.
60 Tekin, *Orkhon Turkic*, 269.
61 Golden, *War and Warfare*, 109.
62 Walker, *Jahiz*, 646.
63 Golden, *War and Warfare*, 110.
64 A. I. Solov'ev, "Drevnie Tiurki. Tiurkskii Kaganat. Sibirskoe vooruzhenie: ot kamennogo veka du srednevekov'ia," Novosibirsk 2003, http://history.novosibdom.ru/node/31, (04.04.2017).
65 Ibid.

were several saddles unearthed. In the third and fifth kurgans at Pazyryk and at Shibe in the High Altai, rather primitive saddles were found.[66]

Stirrups The iron stirrup gave stability to the horseman and immensely increased the warrior's ability to damage his enemy.[67] The first metal stirrups were found in China between the 4th and 5th centuries A.D. in excavations; they were depicted in reliefs, sculptures, paintings, and in textual descriptions.[68] On the other hand, several scholars claim that the Türks used the stirrups for the first time as war equipment. "As a horse armament it has been claimed that Türks invented the hard saddle with two stirrups so well suited for warfare".[69] *Róna-Tas, studying the linguistic background of the Turkic denomination of stirrup, came to the conclusion that "the metal stirrup appeared not earlier than the Türk Empire in the 6th century". On the other hand, it is reasonable to suppose that rope or leather stirrups preceded the metal ones by a few hundred years.*[70] *The beginning of the use of non-metallic stirrups is difficult to determine, partly because many of them were made from organic materials such as wood and leather, which tend to disintegrate when buried in the ground.*[71] The above-mentioned items are all evidenced through archaeologically. Among the findings of Kudırge, only one hard framed pommel with animal scenes on its surface was found (Figure 10).[72] A number of wooden and terracotta figures were excavated near Astana. The excavations correspond to the Eastern Jin and Sui-Tang Dynasties in China (4th-8th centuries A.D.). They are exhibited in Xinjiang Museum. Many figures of horsemen using stirrups were excavated in the Late Tang burials within the same cemetery near Astana (Figure 11).[73]

In the Altai Republic, at the border between Russia, Kazakhstan and Mongolia, stirrups with elongated suspension loops were found. Burial assem-

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66 T. Hayashi, "Development of Saddle and Stirrup" In: *The Silk Road and Sports. Record No. 3 on the Silk Roads – Nara International Symposium*. Nara 1995, 65-76; J. O. Maenchen-Helfen, *The World of the Huns (Studies in Their History and Culture)*, London 1973, 208.

67 L. White, Jr., *Medieval Technology and Social Change*, Los Angeles 1962, 2.

68 J. Needham, "Science and Civilisation in China", *Chemistry and Chemical Technology*, Vol. 5, Part 7, *Military Technology the Gunpowder Epic* (1), Cambridge 1986, 16.

69 Golden, *War and Warfare*, 110; D. G. Savinov, "K probleme proiskhozhdeniia metallicheskikh stremlian v Central'noi Azii i Iuzhnoi Sibiri," In: *Akual'nye problemy sibirskoi arkheologii.* Barnaul 1996, 16–20.

70 A. Róna-Tas, "Did the Proto Altaic People Know the Stirrup?", In: *Language and History Contributions to Comparative Altaistics (Studia Uralo-Altaica)*, Vol. 25, Szeged 1986, 52.

71 Sinor, *The Inner Asian Warriors*, 137.

72 Alibek K. U. "Malayev, She-Wolf-Montain" *Journal of Eurasian Studies*, II. (2010), 50.

73 S. A. Komissarov, A. I. Solov'ev, "Vsadniki Astany," *Vestnik Novosibirskogo gosudarstrennogo universiteta. Seriya: Istoriia, Filologiia.* 2015. T. 14, vyp. 10: Vostokovedeniye, 62–75.

blages from that region have been attributed to the Türk Qaghanate.[74] Several archaeological excavations from the Kochkor Valley, Kirgizstan, also revealed the remains of several stirrups. In one of the graves, a Turkic burial was found with a horse and stirrups at the same archaeological site (Figures 12 and 13). Finally, as a pictorial source, the Altai petroglyphs show several horsemen using stirrups while hunting (Figure 14).

Conclusion

Comparing the data from written, visual, and archaeological sources, it can be concluded that the Türks might have improved the effectiveness of their weapons and they made several innovations that had a basic effect on the building of their empire.

Even though it is a matter of debate regarding whether the iron stirrup and saddle were nomadic or Chinese inventions, or if they could be the result of close cooperation between the Chinese and the nomads, these inventions made possible the use of heavy armoured cavalry among the nomad warriors. The Türk army, which basically consisted of light and partly heavy cavalry, used its distinctive weapons such as lances and sabers in addition to their bows and arrows. This provided them with an excellent possibility to gain military superiority in establishing the Türk Qaghanate. The spread of stirrups to the East (Korea and Japan) and to the West Islamic world, Byzantine, and Europe is connected with the formation and the era of the Türk Qaghanate.

74 F. Curta, "The Earliest Avar-Age Stirrups or the "Stirrup Controversy" Revisited," In: *The Other Europe in the Middle Ages. Avars, Bulgars, Khazars, and Cumans*, Boston 2008, 309.

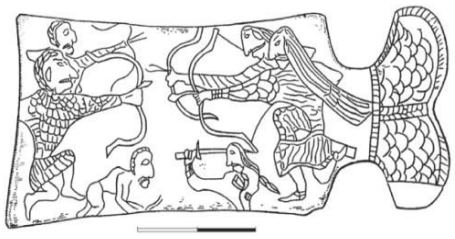

Figure 1. Battle scene on a bone plate from Sutu-Bulak, Kirgizstan (Atlas, 507).

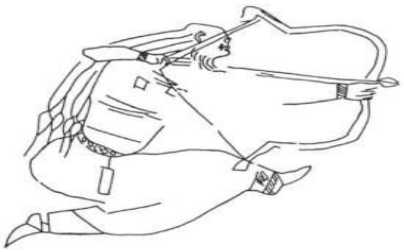

Figure 2. A warrior shooting a composite bow. Petroglyph of Valley Chaganki river, Altai (Atlas, 617).

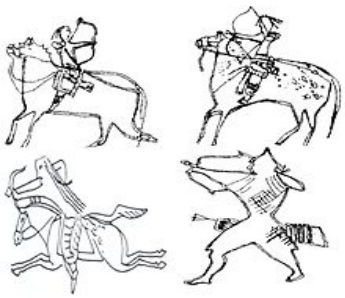

Figure 3. Petroglyphs from Sulek, Kudırge, Kem (Yaşar Çoruhlu, Erken Devir Türk Sanatı, Istanbul 2007, 183)

Figure 4. *Sarcophagus of Yu Hong:* a hunter with composite reflex bow (Yatsenko).

Figure 5. Miho Museum: in the lower tier, we see mounted Türks hunting in the mountains (http://www.miho.or.jp/booth/html/artcon/00000432e.htm)

Figure 6. Türk riders with their lances on different petroglyphs from Sulek, Kem, Char-chad (Çoruhlu, 178, 183).

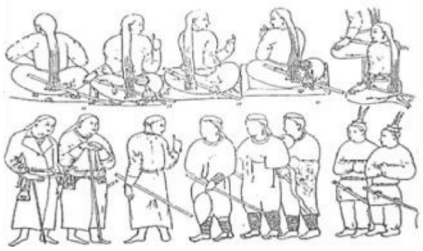

Figure 7: Türks with their long sabers from Afrasiyab wall paintings (Yatsenko).

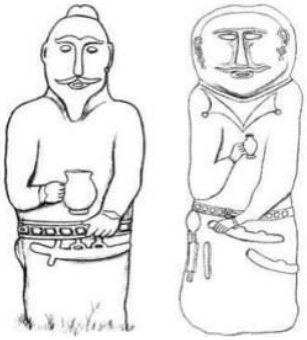

Figure 8. Türk sculptures with daggers, from Toto and Kypchyl of the Altai Mountains (A.I. Solov'ev).

Figure 9. An Qie, there is a dagger suspended to his black belt (on the right) (Yatsenko).

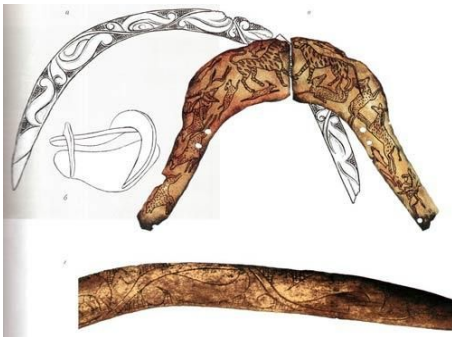

Figure 10. Altai Mountains, Kudırge pommel of hard framed saddle, VI-VII. centuries (A.I. Solov'ev).

Figure 11. Warriors of Astana: the riders are using saddle and stirrups (S. A. Komissarov, A. I. Solov'ev, 71).

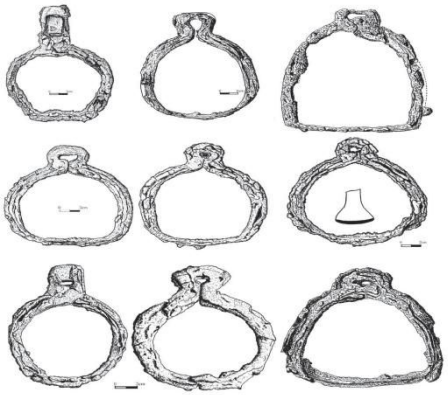

Figure 12. The stirrups of the Turkic monuments from Kochkor Valley, Kirgizstan (Atlas, 536).

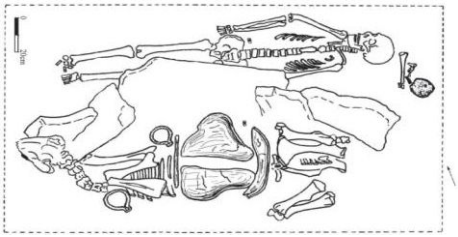

Figure 13. Türk grave with a horse and stirrups from Kochkor Valley, Kirgizstan (Atlas, 533).

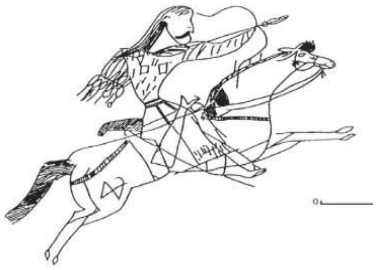

Figure 14. A bowman on horseback with stirrups. Petroglyphs of Valley Chaganki Rriver, Altai (Atlas, 618).