

Re-examining Two Military Reforms in the Chunqiu Zhanguo Period:

The Wei Shu Phalanx and *Hufu Qishe*

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Abstract

Some scholars believe that two important military reforms occurred in the Chunqiu Zhanguo period: the Wei Shu 魏舒 phalanx developed by Jin 晉 and the *hufu qishe* 胡服騎射 reform implemented by Zhao 趙. They claim that the two reforms greatly promoted military development in ancient China by replacing the chariots with infantry and cavalry respectively. However, this article argues that the so-called Wei Shu phalanx did not exist and *hufu qishe* was not a military reform. The former was a *quanbian* 權變 (temporarily adopting extraordinary means to adapt to special circumstances) applied in a particular battle and it was not a phalanx at all. The latter was about recruiting Hu mercenaries to fight for Zhao in the war against Zhongshan 中山 rather than performing a military reform inside the Zhao army.

Keywords: Military reforms – Wei Shu phalanx – *Hufu qishe* – Chunqiu – Zhanguo

Introduction

Some scholars believe that two military reforms occurred in the Eastern Zhou period (770-221 BCE) which significantly promoted the military development of ancient China. One is the invention of the Wei Shu 魏舒 phalanx in the first year of Lu Zhao Gong 魯昭公 (541 BCE).¹ Wei Shu, also known as Wei Xianzi 魏獻子 (?-509 BCE),² was a minister (*qing* 卿)

¹ Under the Zhou 周 feudal system, the nobles were divided into four ranks (from high to low): *wang* 王, *gong* 公, *dafu* 大夫, and *shi* 士. *Wang* was a title used exclusively by the Zhou Tianzi 周天子. (*Tianzi* means “the son of Tian.” Tian is usually translated as “Heaven,” which is inappropriate. Tian is the highest existence in ancient Chinese culture, like God and Allah in other cultures.) The *Tianzi* was the master of *tianxia* 天下, literally all under the sky, which refers to the human world, thus putting the *Tianzi* on top of all people (though the human world understood by ancient Chinese only refers to the circle of ancient Chinese civilization and its surrounding areas). However, with the decline of Zhou, more and more monarchs titled themselves *wang*. In middle Zhanguo, the monarchs of all major states claimed this title. After Qin had unified *tianxia*, since the title *wang* had already been abused, a new title, *huangdi* 皇帝, was created as the exclusive title used by the *tianzi*. The direct vassals of the *Tianzi* were called *zhuhou* 諸侯, divided into five ranks (from high to low): *gong* 公, *hou* 侯, *bo* 伯, *zi* 子, and *nan* 男. All five ranks can be collectively referred to as *gong*. Lu Zhao Gong’s official title was Lu *hou* 魯侯. *Dafu* were divided into two ranks (from high to low): *qing* 卿 and *dafu*. The two ranks can be collectively referred to as *dafu*. The traditional translations simply match them to the medieval European noble ranks of duke, marquis, count, viscount, and baron respectively. In addition, *huangdi* is matched with emperor, *wang* is matched with king, and *shi* can be matched with knight. It seems that the Zhou ranking system can be perfectly matched with the medieval European one. However, the above matches completely ignore a noble rank between *zhuhou* and *shi*, *dafu* 大夫. If we have to compare the Zhou ranks with the medieval European ones, it is more appropriate to compare *dafu* with duke, marquis, count, viscount, and baron and compare *zhuhou* with emperor and king. As for the Zhou *wang*, Europe does not have such a rank: its emperors and kings are the rulers of a certain area and a certain group of people. However, as mentioned in the *Shijing* 詩經, the Zhou Wang is the ruler of the whole world and all people. The *Shijing* says, “All the lands under the sky are the Wang’s lands. All the people from the lands and shores are the Wang’s subjects” (溥天之下，莫非王土，率土之濱，莫非王臣). See *Mao shi zhengyi* 13.931. It is therefore questionable to translate Zhou Wang as “the king of Zhou.” Zhou is the name of a dynasty rather than a state. Zhou Wang designates the ruler of the whole world rather than a state called Zhou.

Due to the difference between the ancient Chinese and Western calendars, the first year of Lu Zhao Gong does not precisely match the year of 541 BCE, although it does overlap substantially with that year. The dates that follow later in this article also have the same problem.

of the state of Jin 晉. Lan Yongwei 藍永蔚 claims that at the battle of Taiyuan 大原 (in today's southwest Taiyuan, Shanxi 山西 province) against the northern barbarians, Wei Xianzi ordered the Jin charioteers to fight on foot and developed the first independent phalanx in China. Lan names it the Wei Shu phalanx and believes that it marks an epoch-making switch from chariot battle to foot battle in China.³ Another much more famous change is the *hufu qishe* reform introduced by Zhao Wuling Wang 趙武靈王 (r. 325–295 BCE)⁴ in the nineteenth year of his reign (307 BCE).⁵ Many scholars highly praise its significance. For instance, Yang Hong 楊泓 holds that Zhao Wuling Wang formed the first independent cavalry in China.⁶ H. G. Creel says that the reform “was very successful in defending the state and even extending its border” by “forming a corps of mounted archers.”⁷ Chen Zhiping 陳致平 opines that the reform was a major turning point from chariot battle to cavalry battle in Chinese history.⁸ Chen and some other researchers also believe that the

² His clan name (*xing* 姓) is Ji 姫, lineage name is Wei, given name is Shu, and posthumous title is Xian. *Zi* is a respectful form of address that could be applied to anyone except for the *tianzi* and *zhuhou*.

³ Lan 1979, 180–83. Some other scholars also hold the same view. For instance, see Mao 1988, 26; He 1992, 103; Chen 1995, 86; and Wang Lei 2013, 11.

⁴ In ancient China, a monarch's reign was usually calculated from the year after the death of his predecessor (year $d+1$), even if his predecessor had died (and he had succeeded) at the beginning of the preceding year (d).

⁵ *Hufu* means the clothing of the Hu 胡 (an ancient Chinese appellation for the northern nomads). *Qishe* has two explanations. One is mounted archery, by extension referring to the cavalry tactics used by the Hu cavalrymen. The second is the cavalrymen mastering mounted archery. As for which one is appropriate in this case, I will discuss later.

⁶ Yang 1985, 94. He Pingli has the same opinion. See He 1992, 105.

⁷ Creel 1965, 651.

⁸ Chen 2003, 407.

reform significantly improved Zhao's military strength.⁹ Uradyn E. Bulag thinks the reform "transformed Zhao from a weak state to a significant force."¹⁰ I will argue, however, that the Wei Shu phalanx exists in imagination only and *hufu qishe* was not a military reform.

Re-examining the Wei Shu phalanx

For the Wei Shu phalanx, I have three arguments. First, independent phalanxes or phalanx-like formations had appeared before Western Zhou 周 in ancient China. According to the "Mushi" 牧誓 chapter of *Shangshu* 尚書, before the battle of Muye 牧野 (in today's southern Qixian 漯縣, Henan 河南 province) a decisive battle between Zhou and Shang 商,¹¹ Zhou Wu Wang 周武王 told his warriors:

In today's battle, [when approaching the enemy], [you should] stop and line up after marching every twelve to fourteen steps. Bestir yourselves, Fuzi!¹² [You should] stop and line up after **striking and thrusting four to seven times** [when engaging with the enemy].

今日之事，不愆于六步、七步，乃止齊焉。勵哉夫子！不愆於四伐、五伐、六伐、七伐，乃止齊焉。¹³

⁹ See Chen 2003, 407; Chao 2011, 280; and Han 2013, 80.

¹⁰ Bulag 2010, 75. Xiang Wang holds the same view; see Wang Xiang 2013, 103.

¹¹ The year of this battle is still a matter of debate. Different versions are from 1130 to 1018 BCE. After defeating the Shang army at this battle, Zhou Wu Wang terminated the rule of the Shang dynasty and established the Zhou dynasty.

¹² Fuzi 夫子 is a respectful form of address for men (except for *tianzi* and *zhuhou*).

¹³ *Shangshu zhengyi*, 11.339. Gu Jiegang 顧頽剛 and Liu Qiyu 劉起釤 interpreted the character *shi* 事 as a military dance (Gu and Liu 2005, 1103), which is weird. In the Chinese classics, *shi* could mean sacrifice, war/battle, coup, or uprising. I

The above tactics are typical phalanx tactics. Although Lan admits that phalanxes appeared in Western Zhou, he argues that they accompanied the chariots rather than fighting independently.¹⁴ I disagree with his opinion because it lacks military common sense. As Zhou Wu Wang told his warriors, a phalanx has to move slowly to maintain its formation. How can it keep up with the chariots on the battlefield? If the chariots slow down so that the phalanx can follow, they will lose their mobility and impact force, which are their key values on the battlefield. Hence, the chariots and infantry must be deployed as separate units. Moreover, the historical literature has records on Chinese infantry fighting independently in early Chunqiu (770–5th century BCE).¹⁵ For example, in the fourth year of Lu Yin Gong 魯隱公

have never seen any example in which it means a military dance. Gu and Liu also did not give any examples of such a usage (they probably could not find one). Their interpretation is based on two reasons. One is that they could not understand how the Zhou army could win the battle if its warriors stopped after marching just twelve to fourteen steps. Obviously, Gu and Liu lacked military knowledge. The passage means that after every advance of twelve to fourteen steps the Zhou warriors temporarily stopped to restore their line before they moved forward again, not that they completely stopped fighting. The purpose was to maintain the formation. If two phalanxes fight with each other, the one whose ranks have broken first will be crushed. Their second reason is that some records show that the Zhou soldiers danced before the battle (Gu and Liu 2005, 1108-9). Gu and Liu cited a passage from *Shangshu dazhuan* 尚書大傳 saying that “The [Zhou] soldiers all sang and danced happily waiting for the dawn” 士卒皆歡樂歌舞以待旦 (Gu and Liu 2005, 1108). Obviously, the Zhou soldiers were singing and dancing in their camp before the dawn, but Zhou Wu Wang’s speech to his warriors occurred “at dawn” 昧爽 (*Shangshu zhengyi*, 11.334). It is much more reasonable that the Zhou fighters sang and danced in their camp rather than on the battlefield facing their enemy. Gu and Liu also cited some sources saying the Zhou soldiers were “singing and dancing before and after [the battle]” 前歌後舞 (Gu and Liu 2005, 1108-9). However, this just means that the Zhou soldiers had high morale before the battle and celebrated their victory after the battle; it cannot prove that *shi* means dance. According to the context of the “Mushi” chapter, Zhou Wu Wang’s speech obviously is talking about how to fight in the upcoming battle but has nothing to do with a dance. For example, Zhou Wu Wang asked his warriors to “not fight and kill [the Shang soldiers who] come to surrender” 弗迓克奔 (*Shangshu zhengyi*, 11.339).

¹⁴ Lan 1979, 181.

¹⁵ The ending year of Chunqiu is still a matter of debate. Three popular versions are 476, 453, and 403 BCE.

(719 BCE) and in the first year of Lu Xiang Gong 魯襄公 (572 BCE), the state of Zheng 鄭 used infantry to fight with enemy armies whose main forces were chariots.¹⁶ Besides, before the tenth year of Lu Xi Gong 魯僖公 (650 BCE), the state of Jin already had independent infantry units, the left *hang* 行 and the right *hang*.¹⁷

My second argument is that the appearance of the so-called Wei Shu phalanx did not change the positions and roles of the chariots and infantry in ancient China. Lan claims that the appearance of the Wei Shu phalanx marks an epoch-making switch from chariot battle to foot battle in China, which indicates that infantry have advantages over chariots. However, the Zheng infantry lost both battles mentioned above. There is no evidence to support Lan's opinion. Even after the appearance of cavalry, the chariots still played key roles on the battlefield. *Liutao* 六韜 (also known as *Taigong liutao* 太公六韜), a military treatise completed in Zhanguo,¹⁸ says “chariots are the wings of the army. [They] are used to break strong formations,¹⁹ intercept powerful enemies, and cut off the defeated [enemy's escape]” (車者，軍之羽翼也，所以陷堅陳，要強敵，遮走北也).²⁰ *Liutao* also says: “The chariots and cavalry are the crack troops of the army. Ten chariots can defeat a thousand infantrymen. A hundred chariots can defeat ten thousand infantrymen...These are the rough estimates” (夫車騎者，軍之武兵也，十乘敗千人，百乘敗萬人...此其大數也).²¹ Obviously, even in

¹⁶ *Chunqiu Zuo zhuan zhengyi* (hereafter *Zuo zhuan*), 3.100 and 29.935.

¹⁷ *Zuo zhuan*, 13.418.

¹⁸ *Liutao* is a classical Chinese military treatise completed in Zhanguo 戰國 (5th century–221 BCE).

¹⁹ The “strong formations” should refer to the phalanxes.

²⁰ *Taigong liutao jinzhujinyi* 太公六韜今注今譯 (hereafter *Liutao*), 6.204.

²¹ *Liutao*, 6.204.

Zhanguo, the chariots were still powerful mobile forces that had overwhelming fighting capability compared to the infantry.

Moreover, the numbers of chariots used in the battles before and after the appearance of the so-called Wei Shu phalanx also show no sign of a switch from chariot battle to infantry battle. In the 28th year of Lu Xi Gong 魯僖公 (632 BCE), in the battle of Chengpu 城濮 (in today's southeast Juancheng 鄄城, Shandong 山東 province), a decisive battle between Jin and Chu 楚, the two strongest powers at that time, seven hundred Jin chariots joined the combat.²² In the second year of Lu Cheng Gong 魯成公 (589 BCE), in the battle of An 壴 (in today's Licheng 曆城 district, Jinan 濟南, Shandong province) between Jin and Qi 齊, Jin mobilized eight hundred chariots.²³ In the ninth year of Lu Ding Gong 魯定公 (501 BCE), in a war against the alliance of Qi 齊 and Wei 衛, Jin mobilized at least a thousand chariots.²⁴ In the eleventh year of Lu Ai Gong 魯哀公 (484 BCE), in the battle of Ailing 艾陵 (in today's Gangcheng 鋼城 district, Jinan, Shandong province) between Qi and Wu 吳, Wu captured eight hundred Qi chariots.²⁵ The total number of Qi chariots attending the battle should be over a thousand. Clearly, the number of chariots engaging in a battle had increased rather than decreased after the battle of Taiyuan.

Besides, after the battle of Taiyuan, the military power of a state was still measured by the number of chariots possessed by that state, not the size of its infantry. For example, in the

²² *Zuo zhuan*, 16.514.

²³ *Zuo zhuan*, 25.795.

²⁴ *Zuo zhuan*, 55.1823.

²⁵ *Zuo zhuan*, 58.1910.

twelfth year of Lu Zhao Gong (530 BCE), Chu Ling Wang 楚靈王 (r. 540-529 BCE) said to right *yin* 右尹 Zige 子革²⁶:

In the past, *zhuhou* kept their distance from us and feared Jin. Now we greatly fortify the cities of Chen, Cai, and the two Bugeng.²⁷ Each of [the four cities] has a thousand four-horse chariots forces. You sir deserve credit. Do the *zhuhou* fear us?

昔諸侯遠我而畏晉，今我大城陳、蔡、不羹，賦皆千乘，子與有勞焉。諸侯其畏我乎？²⁹

In the 29th day of the seventh month of the thirteenth year of Lu Zhao Gong (529 BCE), in order to show off its great power, “[Jin] paraded its troops in southern Zhu.³⁰ Four thousand leather-covered four-horse chariots [participated].” (治兵于邾南，甲車四千乘).³¹ Shuxiang 叔向,³² a Jin *dafu* threatened the state of Lu: “Our monarch who lacks virtue³³ has four

²⁶ Zige was a member of the Zheng royal family who later turned to Chu. His clan name is Ji, lineage name is Ran 然, given name is Dan 丹, courtesy name is Zige. The right *yin* ranked third among the Chu officials, just below *lingyin* 令尹 and *sima* 司馬.

²⁷ Chen and Cai were two major states in the Chunqiu period, but they had already been annexed by Chu before 530 BCE. Here, Chen and Cai specifically refer to their capitals. Chen’s capital was Wanqiu 宛丘 (in today’s Huaiyang 淮陽 district, Zhoukou 周口, Henan province). Cai’s capital was Shangcai 上蔡 (in today’s Shangcai, Henan province). The “two Bugeng” refer to western Bugeng (in today’s southeast Xiangcheng 襄城, Henan province) and eastern Bugeng (in today’s northern Wuyang 舞陽, Henan province).

²⁹ *Zuo zhuan*, 45.1503.

³⁰ Zhu was a state whose territory was around today’s Zoucheng 鄭城 and Tengzhou 滕州, Shandong province.

³¹ *Zuo zhuan*, 46.1522.

³² His clan name is Ji, lineage name is Yangshe 羊舌 or Yang 楊, given name is Xi 脙, courtesy name is Shuxiang.

thousand leather covered four-horse chariots. Even if [he] acts tyrannically, [he] must be feared. [Not to mention now] he follows the correct path. Who can match him?” (寡君有甲車四千乘在，雖以無道行之，必可畏也。其率道，其何敵之有？)³⁴

My third argument is that the so-called Wei Shu phalanx was not a phalanx or any phalanx-like formation at all. Let us look at the details of the battle of Taiyuan:

Zhonghang Muzi 中行穆子 of Jin³⁵ defeated Wuzhong 無終 and the Di 狄 tribes³⁶ at Taiyuan because of valuing infantry. When [the Jin army] was about to fight, Wei Shu said: “They are infantrymen, [while] we are chariot troops. And we meet them in narrow terrain. [If] ten infantrymen surround a chariot, [the infantrymen] certainly will win, not to mention that [they are] surrounding [a chariot] in narrow terrain. Let us all be infantrymen, starting with me.” Hence, [the Jin army] gave up the chariots and formed into infantry lines. [The charioteers on] every five chariots formed into three *wu* 伍.³⁷ A favorite of Xun Wu refused to join the infantrymen. [Wei Shu] beheaded [him] and showed [his head] around

³³ This is a humble form of address used by a subject to refer to his monarch in front of foreigners.

³⁴ *Zuo zhuan*, 46.1528.

³⁵ Zhonghang Muzi’s clan name of is Ji 姪, lineage name is Xu 荀, sub-lineage name is Zhonghang, given name is Wu 吳, and posthumous title is Mu. He can also be called Xun Wu or Zhonghang Wu. The Jin field forces consisted of three armies (*jun* 軍) at that time: the central army (*zhong jun* 中軍), the upper army (*shang jun* 上軍), and the lower army (*xia jun* 下軍). Each army was subdivided into two units, with one of those units led by a *jiang* 將 and another by a *zuo* 佐. The position of the *jiang* was higher than the *zuo*. Zhonghang Muzi and Wei Xianzi were the upper army’s *jiang* and *zuo*, respectively. Only the upper army participated in this battle.

³⁶ Ancient Chinese at that time usually called the northern barbarians Di, but some barbarians tribes in the north were also called Rong 戎. Wuzhong was a relatively large Di state to the northeast of Jin.

³⁷ Each chariot carried three warriors. *Wu* was the smallest unit of an ancient Chinese army, consisting of five soldiers.

the army.³⁸ [The Jin army] set up five formations to echo with each other: *liang* 兩 in the front; *wu* 伍 in the rear;³⁹ *zhuan* 專 in the front right corner; *can* 参 in the left front corner; and *pian* 偏 in the van to deceive the [Di army].⁴⁰ The Di people laughed at the Jin army.⁴¹ [The Jin army] approached [the Di troops] before [they] formed in order, and inflicted on them a crushing defeat.

晉中行穆子敗無終及群狄於大原，崇卒也。將戰，魏舒曰：「彼徒我車，所遇又阨，以什共車必克。困諸阨，又克。請皆卒，自我始。」乃毀車以為行，五乘為三伍。荀吳之嬖人，不肯即卒，斬以徇。為五陳以相離，兩於前，伍於後，專為右角，參為左角，偏為前拒，以誘之。翟人笑之，未陳而薄之，大敗之。⁴²

³⁸ In Chunqiu, being charioteers was an exclusive privilege of nobles. For detailed discussions, see Sawyer 2011, 343 and 349, and Wu 2013, 45–48. Obviously, some Jin charioteers were reluctant to give up their chariots, which represented their noble identity. Hence, Wei Xianzi set an example by giving up his chariot first and beheading a person who openly disobeyed his order to maintain discipline.

³⁹ Here, *wu* refers to a kind of formation rather than an army unit.

⁴⁰ *Liang*, *wu*, *zhuan*, *can*, and *pian* are names of formations. It is hard to know the details of these formations. But the basic arrangement is probably as follows:

pian

can *liang* *zhuan*

wu

⁴¹ Jin's *pian* formation was used to deceive the enemy. Jin made it seem to be weak on purpose. Hence, the Di soldiers laughed at the Jin army and let their guard down.

⁴² *Zuo zhuan*, 41.1330–1331.

Although the chariots were very powerful on the plains, in difficult and narrow terrain, they would lose their mobility and became very hard to turn around. Hence, they would become vulnerable, especially if infantry attacked them from the rear. For instance, in the ninth year of Lu Yin Gong (714 BCE), in a battle between Zheng and the Rong 戎 people, Zheng Zhuang Gong 鄭莊公 (r. 743–701 BCE) said: “They are infantrymen, and we are chariot troops. [I am] afraid that they will assault us from the rear.” (彼徒我車，懼其侵軼我也).⁴³ Hence, Wei Xianzi decided to give up the chariots and asked all the charioteers to fight on foot. The phalanx is also unsuited to fight in difficult and narrow terrain where it is too hard to deploy and maintain the formation. According to *Zuo zhuan*, the Jin army re-grouped its troops into squads consisting of fifteen warriors. These squads could fight independently and coordinate with each other to adapt to the narrow terrain. Obviously, Wei Xianzi adopted a kind of flexibly loose formation rather than a phalanx.

The *Sunzi* says:

Water forms its courses in accordance with the terrain. Forces [are used] to achieve victories in accordance with the enemy’s [situations]. Since there are no fixed situations in warfare [just as] there are no fixed courses of the water, one who can adapt in accordance with the enemy’s [situations] demonstrates [military] talent.

水因地而制流，兵因敵而制勝。故兵無常勢，水無常形，能因敵變化而取勝者，謂之神。⁴⁴

⁴³ *Zuo zhuan*, 4.134.

⁴⁴ *Sunzi*, 2.81.

Wei Xianzi's decision to give up chariots and fight on foot is a kind of *quanbian* 權變 (temporarily adopting extraordinary means to adapt to special circumstances), which has nothing to do with a military reform.

Finally, I do not deny the fact that the proportion of infantry in the armies had been increasing during the Chunqiu Zhanguo period and hence played a more important role in the wars. However, the reason is that before middle Chunqiu, the combatants were mostly nobles. The common people and slaves only served as support staff. But later more and more common people were recruited into the armies and served as combatants because of the increasing scale of wars. In the second year of Lu Ai Gong (493 BCE), Zhao Jianzi 趙簡子, a *qing* of the state of Jin, motivated his fighters by saying:

For those who kill enemies,⁴⁵ [if he is] a *shang dafu*, [he] will be rewarded a *xian* 縣 as his fief. [If he is] a *xia dafu*, [he] will be rewarded a *jun* 郡 as his fief.⁴⁶ [If he is] a *shi*, [he] will be rewarded one hundred thousand farmlands.⁴⁷ [If he is] a commoner, handcraftsman,

⁴⁵ The character *ke* 克 should mean “kill” rather than “defeat” or “overcome” here. First, it is common knowledge that in ancient China, military exploits were recognized by enemy heads or ears. Second, it does not make any sense that a person would receive such high rewards if he just contributed to defeating the enemy: if Zhao Jianzi’s army won the battle, then everyone in his army would have contributed to it.

⁴⁶ In Chunqiu, a *xian* was an administrative area above *jun*. According to the annotations of Du Yu 杜預 (222-285 CE) of Western Jin 西晉 and Kong Yingda 孔穎達 (574-648 CE) of Tang 唐, a *xian* included four *jun*. The area of a *xian* was 100,000 square *li* (one *li* is 358.38 metres) and the area of a *jun* was 2,500 square *li*. However, it was not possible that all the *xian* and *jun* had exactly the same areas. The above figures should be average values.

⁴⁷ In the original texts, the unit of one hundred thousand farmlands is not given. Du Yu and Kong Yingda said that the unit should be *mu* 亩. One square *li* equals 900 *mu*. Hence, one hundred thousand *mu* is approximately equal to 111 square *li*.

or merchant, [he] will be promoted to an officer.⁴⁸ [If he is] a slave, [he] will be freed from slavery.

克敵者，上大夫受縣，下大夫受郡，士田十萬，庶人工商遂，人臣隸圉免。⁴⁹

It can be seen that in late Chunqiu, in addition to nobles, commoners and slaves were also recruited as combatants, although some of them would still have served as supporting staff. Otherwise, they would not have had the opportunity to kill enemies. Certainly, these people could only be infantrymen, not charioteers. This is because the chariot was an expensive technical weapon, requiring long-term professional training to be used effectively. Hence, only the nobles could be charioteers, but the supply of such people was limited. Therefore, the proportion of infantry in the armies had been increasing. Some secondary studies also show the same trend.⁵⁰ But it had nothing to do with the imaginary “Wei Shu phalanx” reform.

Re-examining the *Hufu Qishe* Reform

Many researchers think that *hufu qishe* was a great military reform intended to form cavalry troops. For instance, Nicola Di Cosmo says that Zhao Wuling Wang’s “main aim was to turn his own Chinese people into mounted warriors.”⁵¹ And as mentioned above, many researchers claim that this reform was a turning point from chariot battle to cavalry battle.

⁴⁸ In the past, only the nobles could be appointed as officers.

⁴⁹ *Zuo zhuan*, 57.1863-64.

⁵⁰ For example, see Yang 1965, 150, and Du 1988, 50.

⁵¹ See Di Cosmo 2002, 134. Obviously, the scholars that I have mentioned in Notes 6–10 hold the same opinion.

Obviously, they interpret *qishe* in the phrase *hufu qishe* as “[learning] mounted archery”. However, their opinion seems to be questionable. First, the heartland states already had cavalry troops before the *hufu qishe* reform. In the era of Zhao Xiangzi 趙襄子 (?–425 BCE), the clan of Zhao already had cavalry.⁵² In the reign of Zhao Su Hou 趙肅侯 (r. 349–326 BCE), Zhao Wuling Wang’s father, Zhao had 1,000 four-horse chariots and 10,000 cavalrymen.⁵³ In the same period, Yan 燕 had 600–700 four-horse chariots and 6,000 cavalrymen;⁵⁴ Wei had 600 four-horse chariots and 5000 cavalrymen;⁵⁵ and Chu 楚 had 1,000 four-horse chariots and 10,000 cavalrymen.⁵⁶ In the fifteenth year of Zhao Wuling Wang (311 BCE), Qin 秦 had 1,000 four-horse chariots and 10,000 cavalrymen.⁵⁷

⁵² See *Zhanguo ce jianzheng* (hereafter *Zhanguo ce*), 18.936. At that time, Jin had not yet been divided into the three states of Wei 魏, Han 韓, and Zhao.

⁵³ See *Zhanguo ce*, 19.1017 and *Shi ji*, 69.2247.

⁵⁴ The number of chariots recorded in *Zhanguo ce* is 700 (*Zhanguo ce*, 29.1643) while in *Shi ji* it is 600 (*Shi ji*, 69.2243).

⁵⁵ *Zhanguo ce*, 22.1263, and *Shi ji*, 69.2255.

⁵⁶ *Zhanguo ce*, 14.787, and *Shi ji*, 69.2259.

⁵⁷ *Zhanguo ce*, 14.793 and 26.1491; *Shi ji*, 70.2289 and 70.2293. Miu Wenyuan 繆文遠 questions the reliability of the *Zhanguo ce* chapters cited in Notes 53 to 57. For example, he believes that the chapter of “Su Qin cong Yan zhi Zhao shi hecong” 蘇秦從燕之趙始合從 (cited in Note 53) was made up by later generations, listing the following reasons. First, Su Qin 蘇秦 (?-284 BCE) called Zhao Su Hou “the great Wang” (*dawang* 大王) but Zhao Su Hou did not style himself Wang. Second, Zhao was a relatively weak state at that time, but Su Qin said, “Among the **Shandong** (In the *Zhanguo* period, Shandong refers to the area to the east of the Xiaoshan 嵊山 Mountains) states, there is no one stronger than Zhao” (山東之建國，莫如趙強). Third, given the inter-state status of Zhao Su Hou, it was impossible for Su Qin to ask him to be the leader of the **Shandong** states alliance (Miu 1984, 177). *Zhanguo ce* is not an “official history book” (*zhengshi* 正史) but mainly a collection of the words and activities of *zongheng jia* 縱橫家 (political activists who persuaded the states to form and/or break away from alliances). Many of its contents are exaggerative or even false. However, even if the chapter is made

Interestingly, all these heartland states had similar chariot to cavalryman ratios around 1 to 10, which indicates that it was the optimal proportion based on the chariot and cavalry tactics used by them at that time. It was clear that the heartland states already had sizeable cavalry troops before the *hufu qishe* reform. It also should be noticed that cavalry troops had already been replacing chariots before the reform. As I have already pointed out, in late Chunqiu great powers like Jin and Chu had over four thousand four-horse chariots. However, in middle Zhanguo, the great powers had no more than a thousand chariots. And the size of the cavalry unit had exceeded the chariot unit.⁵⁸ But after the *hufu qishe* reform, the trend in

up and Su Qin never came to meet Zhao Su Hou, we cannot conclude that the descriptions of Zhao's military power in this chapter are false. There is no cause-and-effect relationship between the two. Besides, Miu's arguments are not strong enough. Su Qin was a *zongheng jia*. It stands to reason that his speeches must contain exaggerated and flattering words. For example, he said to Qi Xuan Wang 齊宣王 (r. 320-301 BCE): "With you, the great Wang's wisdom and Qi's great strength, there is no state of the *tianxia* that could withstand [Qi]" 夫以大王之賢，與齊之強，天下不能當 (*Zhanguo ce*, 8.539). He said to Chu Wei Wang 楚威王 (r. 340-329 BCE): "With Chu's great strength and you, the great Wang's wisdom, there is no state of the *tianxia* that could withstand [Chu]" 夫以楚之強與大王之賢，天下莫能當也 (*Zhanguo ce*, 14.787). He said to Wei Hui Wang 魏惠王 (r. 369-319 BCE): "Besides, Wei is a great power of the *tianxia*; you, the great Wang is a wise monarch of the *tianxia*" 且魏，天下之強國也；大王，天下之賢主也 (*Zhanguo ce*, 22.1263). He said to Han Zhao Hou 韓昭侯 (r. 362-333 BCE): "The powerful bows and crossbows are all produced by Han.....with the Han soldiers' courage and power...it is nothing difficult for a [Han soldier] to be a match for a hundred [soldiers of other states]. With Han's great strength and you, the great Wang's wisdom....." 天下之強弓勁弩，皆自韓出.....以韓卒之勇.....一人當百，不足言也。夫以韓之勁，與大王之賢..... (*Zhanguo ce*, 26.1479-80). The above exaggerated and flattering words completely fit with his position as a *zongheng jia*. Miu's listed evidence can prove the reliability of these records in *Zhanguo ce* rather than disprove them. On the contrary, if Su Qin only spoke the truth, then the reliability of the above records should be questioned. Although Su Qin's words were full of exaggerated and flattering components, his statements on the states' powers should be reliable because it does not make sense that Su Qin would lie about something the Shandong monarchs knew well.

⁵⁸ As I have discussed earlier, the chariot to cavalrymen ratio was about 1 to 10 for the Chinese powers. Each chariot had three charioteers: one driver, one man on the left responsible for long-range shooting, and one on the right responsible for close combat. Hence the charioteers to cavalrymen ratio was about 3 to 10.

substitution of cavalry for chariots did not accelerate. About fifty years after the reform, the Zhao northern frontier army mobilized around 1,300 four-horse chariots and 13,000 cavalrymen in a war against Xiongnu 匈奴, a powerful nomadic tribal confederation whose warriors mastered mounted archery.⁵⁹ The Zhao northern frontier army responsible for defending the nomads was supposed to have the highest proportion of cavalry. However, its chariots to cavalrymen ratio was still 1 to 10, which indicates that there were no major changes in the ways of using chariots and cavalry. Besides, in the fifteenth year of Zhao Xiaocheng Wang 趙孝成王 (251 BCE), Yan, the northernmost Chinese power sharing long borders with the Hu tribes, mobilized an unprecedented number of 2,000 chariots to attack Zhao.⁶⁰ There is no sign that the cavalry had become more important after the *hufu qishe* reform.

Before the era of Zhao Wuling Wang, cavalry tactics had already been systematically discussed by Sun Bin 孫臏.⁶¹ Moreover, the historical literature also shows that cavalry had

⁵⁹ *Shiji*, 81.2450. Although the year of this war is not recorded, we can do a rough estimation. The chief commander of the Zhao northern frontier army was Li Mu 李牧 (?–229 BCE). He was the chief commander of the Zhao army in the seventh year of Zhao Wang Qian 趙王遷 (229 BCE), in a war against Qin. We assume that in the campaign against the Xiongnu, Li Mu was in his early thirties. He had been appointed to the chief commander of the Zhao northern frontier army at least quite a few years earlier, which means that he took up the post in his late twenties, a young age for such an important position. In the seventh year of Zhao Wang Qian, we assume that he was in his sixties, which was a very old age at that time. Then we can derive that the war between Zhao and the Xiongnu happened no earlier than 260 BCE or so. Giving that this is a conservative estimate, the year of the war is probably later.

⁶⁰ *Shiji*, 34.1559.

⁶¹ See *Sun Bin bingfa jiaoli* (hereafter *Sun Bin bingfa*), 65 and 146; and *Tong dian*, 149.3810. Sun Bin's years of birth and death are unknown, but since he was the principal military counsellor of the Qi army at the battle of Guiling 桂陵 in the 22nd year of Zhao Cheng Hou 趙成侯 (353 BCE.), Zhao Wuling Wang's grandfather, his must have lived before the era of

already been used on the battlefield before the *hufu qishe* reform. At the battle of Maling 馬陵 between Qi and Wei in the ninth year of Zhao Su Hou 趙肅侯 (341 BCE), Pang Juan 龐涓 (?–341 BCE), the chief commander of the Wei army, “left his infantry behind and marched day and night with his *qing rui* to chase [the Qi army]” (棄其步軍，與其輕銳倍日並行逐之).⁶² The phrase *qing rui* should refer to the chariots and cavalry, the mobile forces at that time. This can be proved by another record. After defeating the Wei army at the battle of Maling, Sun Bin suggested that Tian Ji 田忌, the chief commander of the Qi army, stage a coup by “using light chariots and crack cavalry to assault the Yong gate (the west city gate of Qi’s capital)” (使輕車銳騎沖雍門).⁶³ Here, *qing rui* should be a short form of *qingche ruiqi* (light chariots and crack cavalry). Besides, the heartland cavalrymen knew mounted archery. *Liutao* says that a selection criterion for cavalrymen is “being able to draw a bow to the full and shoot arrows on the running horse” (能馳騎彀射).⁶⁴

Zhao Wuling Wang. Although *Sun Bin bingfa* or part of it might have been written by Sun Bin’s students rather than himself, the contents should be based on his military thoughts.

⁶² *Shi ji*, 65.2164.

⁶³ *Zhanguo ce*, 8.514.

⁶⁴ *Liutao*, 229. Although the completion year of *Liutao* is unknown, according to the annotations of *Han shu* 漢書, three possible periods are in the reigns of Zhou Hui Wang 周惠王 (676–652 BCE) and Zhou Xiang Wang 周襄王 (651–619 BCE), in the era of Kongzi 孔子 (551 or 550–479 BCE), and in the reign of Zhou Xian Wang 周顯王 (368–321 BCE). See *Han Shu*, 30.1725 and 30.1728. The last one is most reliable because there are no records about cavalry in the Chunqiu period. Even Zhou Xian Wang’s era is still earlier than the *hufu qishe* reform. Ancient Chinese armies probably did not have separate missile branches, like missile infantry and missile cavalry. In ancient China, archery usually was a required skill of elite warriors including charioteers, cavalrymen, and crack infantrymen like Wei’s *wuzu* 武卒 (valiant infantrymen). See *Liutao*, 229, and *Xunzi jijie*, 10.272. In other words, a soldier mastering archery means that he was an elite. This is because mastering archery requires lengthy training. Besides, drawing strong bows and crossbows used in actual combats requires

However, a question is whether the Hu cavalrymen had better skills and tactics so that the heartland states needed to learn from them. We cannot find any Zhanguo resources that compare the Chinese and Hu cavalry troops but Chao Cuo 晁錯 (200–154 BCE) of Western Han, who lived relatively close to the Zhanguo period, once compared the military advantages and disadvantages between the Xiongnu, a branch of Hu who had unified the northern nomadic tribes, and the heartland by saying:

Nowadays, the terrains of the Xiongnu are different from those of the heartland. The [combat] skills of Xiongnu [soldiers] are different from those of the heartland. In terms of going up and down hillsides, entering and exiting mountain streams, the heartland horses cannot match [the Xiongnu's]. [In terms of marching in] difficult terrain such as rugged and narrow places, and shooting while galloping, the heartland cavalrymen cannot match [the Xiongnu's]. In terms of enduring windy and rainy weather, fatigue, hunger, and thirst, the heartland men cannot match [the Xiongnu]. These are Xiongnu's advantages. [However], on the plains, [when the heartland army attack with] light chariots and shock cavalry, the [formation of] Xiongnu troops will easily be disrupted. [Under the cover of] halberds, the firing range and radius of the strong crossbows [of the heartland army] are beyond the Xiongnu bows' reach.⁶⁵ [Equipped with] strong armor and sharp weapons and [supported by] mobile crossbowmen, [when the] integrated long handled and short melee

great strength. For example, *Zuo zhuan* records that in the sixteenth year of Lu Cheng Gong 魯成公 (575 BCE), before the battle of Yanling 鄖陵 (in today's northwest Yanling, Henan province), two Chu *difu*, “Pan Wang’s [son Pang] Dang and Yang Youji put leather **armor** on the ground and shot at **it**, penetrating seven layers” (潘枉之黨與養由基蹲甲而射之，徹七箇焉). See *Zuo zhuan*, 28.896. At that time, heavy armor had seven leather layers.

⁶⁵ In ancient times, compared to the bows and crossbows with which the charioteers and infantrymen were equipped, the bows used by cavalrymen were smaller in size. Hence, the range and damage of the cavalry bows could not match those used by the charioteers and infantrymen.

[heartland] units line up and advance, the Xiongnu soldiers cannot resist. [When] the crack [heartland] infantrymen fire a volley towards the same target, the Xiongnu [soldiers'] leather armors and wood shields cannot withstand [it]. If [the soldiers of both sides] dismount and fight on foot with swords and halberds, the Xiongnu soldiers cannot maintain their lines when moving back and forth. These are the heartland's advantages.

今匈奴地形、技藝與中國異。上下山阪，出入溪澗，中國之馬弗與也；險道傾仄，且馳且射，中國之騎弗與也；風雨罷勞，饑渴不困，中國之人弗與也：此匈奴之長技也。若夫平原易地，輕車突騎，則匈奴之眾易撓亂也；勁弩長戟，射疏及遠，則匈奴之弓弗能格也；堅甲利刃，長短相雜，遊弩往來，什伍俱前，則匈奴之兵弗能當也；材官驟發，矢道同的，則匈奴之革笥木薦弗能支也；下馬地鬥，劍戟相接，去就相薄，則匈奴之足弗能給也：⁶⁶此中國之長技也。⁶⁷

From Chao Cuo's comparisons, we can see that the Xiongnu cavalrymen did have better mounted archery skills. They also were better at maneuvering in difficult terrain and more familiar with hit-and-run tactics.⁶⁸ However, their advantages mostly came from individual skills and personal character, which were closely related to their living environment and could hardly be improved through a military reform. On the other side, although the heartland cavalrymen knew mounted archery, they were better at fighting on the plains using shock

⁶⁶ There is a misprint here. The punctuation after 則匈奴之足弗能給也 should be ; rather than :

⁶⁷ *Han shu*, 49.2281. Although the Hu people of the Zhanquo period might not be exactly the same as the Xiongnu people of the Han dynasty, they were very similar. Ancient Chinese called the northern barbarians Hu in the pre-Qin era, and the Xiongnu was one of the Hu tribes. In Western Han, the Xiongnu united the northern barbarians. Hence, Han called the northern barbarians Xiongnu.

⁶⁸ “Shooting while galloping” (且馳且射) is a typical hit-and-run tactic.

tactics.⁶⁹ Their advantages came from technology and organizational discipline, which could be significantly improved by a military reform. Hence, it does not make sense that the heartland states needed to perform a military reform to learn cavalry skills and tactics from the Hu tribes.

However, there is one more question to be answered. If *hufu qishe* was not a military reform, then how to explain Zhao's rising power after it? Since the reign of Zhao Jing Hou 趙敬侯 (r. 386–375), Zhao Wuling Wang's patrilineal great-grandfather, Zhao and its neighbor Zhongshan 中山⁷⁰ had been in war but Zhao had never gained the upper hand.⁷¹ However, just two years after the reform, in the 21st year of Zhao Wuling Wang (305 BCE), Zhao's offensive against Zhongshan suddenly became irresistible and finally annexed Zhongshan in the fourth year of Zhao Huiwen Wang 趙惠文王 (295 BCE).⁷² Wasn't it because the *hufu*

⁶⁹ The term shock cavalry (突騎) clearly indicates that. Besides, *Liutao* says that qualified mounted warriors should be able to “charge towards powerful enemies” (馳強敵). See *Liutao*, 229. When discussing the usage of the cavalry, *Liutao* mentions “assaulting the enemy's spearhead cavalry” (陷其前騎), “assaulting the enemy with chariots and cavalry” (車騎陷之), and “assaulting the enemy with cavalry” (以騎陷敵). See *Liutao*, 211-12. Moreover, Sun Bin once advised Tian Ji to “use light chariots and crack cavalry to assault the Yong gate” (使輕車銳騎沖雍門). See *Zhanguo ce*, 8.514. The above evidence clearly indicates that the Zhanguo heartland focused on shock tactics.

⁷⁰ Zhongshan was a medium power to the east of Zhao. Qin, Qi, Chu, Zhao, Wei, Han, and Yan are known as “the seven great powers of Zhanguo” (Zhanguo *qi xiong* 戰國七雄). Zhongshan and Song 宋 were two medium powers ranking just below the seven great powers. Zhongshan occupied the northwestern corner of the North China Plain, a major agricultural region.

⁷¹ *Shi ji* records two battles between Zhao and Zhongshan but not the results of them. Usually, the lack of result indicates the battle ended in a draw or the attacking side did not succeed (*Shi ji*, 43.1798–99). According to *Zhanguo ce*, Zhongshan had defeated Zhao in both defensive and offensive operations (*Zhanguo ce*, 12.674 and 19.1048).

⁷² *Shi ji*, 43.1811–13. The “Zhao shijia” 趙世家 chapter of *Shi ji* says that Zhao exterminated Zhongshan in the third year of Zhao Huiwen Wang (296 BCE, *Shi ji* 43.1813). However, according to the “Liu guo nianbiao” 六國年表 and “Qi shijia” 齊

qishe reform greatly increased Zhao's military power? I think that it was not. It was unlikely that a military reform could take effect within just two years. It was also unlikely to form sizeable and effective cavalry corps from the ground up within just two years. But if not, what caused Zhao's success? I think that the main reason for Zhao's victory over Zhongshan was political/diplomatic factors rather than military factors.

In the Zhanguo period, the action of annexing a major state usually prompted intervention by others because it would break the balance of power. For example, in the 21st year of Zhao Cheng Hou 趙成侯 (354 BCE), Wei besieged Zhao's capital Handan 邯鄲, then Chu and Qi sent troops to rescue Zhao.⁷³ In the ninth year of Zhao Su Hou (341 BCE), Wei launched a massive offensive to attack Han, then Qi sent troops to rescue Han.⁷⁴ In the twelfth year of Zhao Wuling Wang (314 BCE), Qi occupied Yan by taking advantage of its civil unrest.⁷⁵ Zhao, Chu, and Wei arranged to save Yan by attacking Qi.⁷⁶ During the reign of Qi Min Wang 齊湣王 (300–284 BCE), Qi planned to annex Song and Qin tried to stop it.⁷⁷

世家 chapters of *Shi ji*, as well as *Zizhi tongjian*, it happened in the fourth year of Zhao Huiwen Wang (295 BCE, see *Shi ji*, 15.738 and 46.1898; and *Zizhi tongjian*, 4.117). In the first year of Zhao Huiwen Wang (298 BCE), Zhao Wuling Wang passed his position of Zhao wang to his younger son Zhao Huiwen Wang and called himself *zhufu* 主父 (the monarch's father). However, he remained in charge of Zhao until the fourth year of Zhao Huiwen Wang (295 BCE), when he died in the coup of Shaqiu 沙丘.

⁷³ *Zizhi tongjian*, 2.51.

⁷⁴ *Zizhi tongjian*, 2.58–59.

⁷⁵ *Zizhi tongjian*, 3.88–99.

⁷⁶ *Zhanguo ce*, 20.1095 and 22.1294–95.

⁷⁷ *Zhanguo ce*, 21.1171, 1182, and 23.1323.

However, during the war between Zhao and Zhongshan from the 20th year of Zhao Wuling Wang (306 BCE) to the third year of Zhao Huiwen Wang (296 BCE), the other six great powers all could not interfere. Not long before, Yan, the weakest among the seven powers, was almost exterminated by Qi. It was still recovering at that time. And the other five were engaged in wars with each other. In the eighteenth year of Zhao Wuling Wang (308 BCE), Qin attacked Han and the war lasted until the next year.⁷⁸ In the twentieth year of Zhao Wuling Wang (306 BCE), Qin attacked Wei.⁷⁹ In the 23rd year of Zhao Wuling Wang (303 BCE), the alliance of Qin and Chu fought against the alliance of Qi, Wei, and Han.⁸⁰ The Qin-Chu alliance broke up in the next year. In the 25th year of Zhao Wuling Wang (301 BCE), Qin, Qi, Wei, and Han allied to attack Chu.⁸¹ In the following three years, Qin continued to attack Chu. In the first year of Zhao Huiwen Wang (298 BCE), the allied forces of Qi, Wei, and Han attacked Qin, and the war lasted until the year after.⁸² Two years later, Zhao and Song also joined the anti-Qin alliance.⁸³ Zhao took full advantage of this period to carry out its plan of annexing Zhongshan. In the twentieth year of Zhao Wuling Wang (306 BCE), a year before Zhao started to attack Zhongshan, Zhao sent envoys to Qin, Han, Chu, Wei, and Qi to improve relationships with them. In the following ten years, Zhao did not involve itself in any dispute among the other great powers.⁸⁴ In short, Zhao suddenly obtained

⁷⁸ *Zizhi tongjian*, 3.103.

⁷⁹ *Zizhi tongjian*, 3.105.

⁸⁰ *Zizhi tongjian*, 3.109.

⁸¹ *Zizhi tongjian*, 3.110 and 4.116.

⁸² *Shi ji*, 15.737.

⁸³ *Zizhi tongjian*, 4.116.

⁸⁴ Zhao only joined the anti-Qin alliance after it had basically solved the problem of Zhongshan.

an overwhelming advantage over Zhongshan two years after the *hufu qishe* reform because it could concentrate its full strength on attacking Zhongshan, not because its military power had rapidly increased in the space of just two years.⁸⁵ Fully taking advantage of the interstate situation is the main reason for Zhao's success.

Those scholars interpreting *qishe* in the phrase *hufu qishe* as “learning mounted archery” probably make their conclusion according to the record of the “Xiongnu liezhuan” 匈奴列傳 in the *Shi ji*, which says: “Zhao Wuling Wang also changed the custom [of his state to wear] *hufu* and learned mounted archery” (趙武靈王亦變俗胡服，習騎射).⁸⁶ However, I think this interpretation is incorrect. Except for the reasons I have already discussed, there is no record in the historical resources showing that Zhao trained new cavalry troops during the reform.⁸⁷ Besides, the training time for cavalry is relatively long. But only two years after the

⁸⁵ In the past, Zhao had to deploy a substantial part of its forces to defend other powers. However, this time Zhao mobilized 200,000 troops to attack Zhongshan (*Zhanguo ce*, 20.1086). Considering that Zhao had a couple of hundred thousand troops in total (*Zhanguo ce*, 19.1017), it must have mobilized most of its strength in this massive operation.

⁸⁶ *Shi ji*, 110.2885.

⁸⁷ Wu Shidao 吳師道 of Yuan 元 (1283-1344) interpreted 破卒散兵, 以奉騎射 in the “Wang po Yuanyang yiwei qiyi” 王破原陽以為騎邑 chapter of *Zhanguo ce* as 破卒散兵以为騎 (cited in Fan Xiangyong 范祥雍's annotations on *Zhanguo ce*. See *Zhanguo ce*, 19.1079), which indicates “transferring the infantrymen into cavalrymen.” According to his interpretation, this record is supporting evidence that Zhao did train new *qishe* troops. However, Wu's interpretation is questionable. Even if Zhao Wuling Wang wanted to train new *qishe* troops, he should have trained the existing Zhao cavalrymen and charioteers to be *qishe* troops rather than turning the infantry into cavalry. The reason is obvious because it would have been much easier to train cavalrymen and charioteers to be *qishe* troops. Besides, if Zhao Wuling Wang wanted to train *qishe* troops, he should have selected suitable candidates from the whole state rather than just one city. My understanding of 破卒散兵, 以奉騎射 is as follows: The character *feng* 奉 means “support.” *Qiyi* 騎邑 means a city that pays taxes to support the cavalry. During his argument with Zhao Wuling Wang, Niu Zan 牛贊 (also known as Niu Jian 牛翦), a Zhao noble, mentioned that Zhao Wuling Wang's action included *bian ji* 变籍 (changing [the object supported by] taxes. See *Zhanguo ce*, 19.1078). The meaning of 破卒散兵, 以奉騎射 is “disbanding the infantry and charioteers to support the *qishe* troops.” Yuanyang used to

hufu qishe reform, Zhao launched a general offensive on Zhongshan. It is unlikely that Zhao could train a sizeable cavalry force with actual combat abilities within just two years.⁸⁸ In its offensive against Zhongshan, Zhao mobilized 200,000 troops. Such a large-scale military operation required lots of time, energy, and resources to plan and prepare in advance. Moreover, during the preparation period, Zhao Wuling Wang went in person to investigate

be a city that paid taxes to support Zhao's infantry and chariot troops, and Zhao Wuling Wang decided to reallocate the taxes paid by it to support the *qishe* troops. Because the taxes paid by Yuanyang were used to support the *qishe* troops, the sizes of the infantry and perhaps also the chariot troops had to be reduced accordingly, which would cause dissatisfaction among the commanders and soldiers of the infantry and chariot units. Hence, Niu Zan protested to Zhao Wuling Wang on their behalf. Besides, after the debate with Niu Zan, “[Zhao Wuling] Wang then wore *hufu* and led the cavalry to enter the Hu territory...[and] expanded [Zhao's] territories by a thousand *li* 里 (a unit of length equal to about 415.8 meters in the *Zhanguo* period)” 王遂胡服，率騎入胡...辟地千里 (*Zhanguo ce*, 19.1079). The character *sui* 遂 means “then” or “soon afterward.” Zhao Wuling Wang conducted military operations soon after the debate. If he needed to turn infantrymen into cavalry troops, it would have taken years. Hence, this record cannot be used to prove that Zhao Wuling Wang trained new *qishe* troops.

The “Wuling Wang pingzhou xianju” 武靈王平晝閒居 chapter of *Zhanguo ce* says 今吾將胡服騎射，以教百姓 (*Zhanguo ce*, 19.1046). Yang Ziyan 杨子彦 interprets it as “Now I (Zhao Wuling Wang) want to educate the people to wear *hufu* and learn *qishe*” (Yang 2008, 304). According to his interpretation, this record is supporting evidence that Zhao did train new *qishe* troops. However, Yang's understanding is questionable. According to his interpretation, the original text should be 今吾將教百姓以胡服騎射. Besides, the rest of this chapter records the debates between Zhao Wuling Wang and the Zhao royals/nobles (Gongzi Cheng 公子成, Zhao Wen 趙文, and Zhao Zao 趙造). Their debates all focused only on whether it was suitable to wear *hufu*. Learning *qishe* was not within the scope of their debates at all. As I have already made clear, this is because the Zhao cavalrymen already knew *qishe* skills. It was unnecessary and meaningless to argue for something that already existed and had been accepted. I think the meaning of the sentence should be “Now I (Zhao Wuling Wang) am going to *hufu qishe* and educate the people.” The phrase “educate the people” 教百姓 means to educate the people to accept *hufu* and maybe some other Hu customs.

⁸⁸ It takes years to train good archers. Shooting from a running horse undoubtedly is even more difficult. Although there might have been some talented people who could master the skills quickly, to train sizeable troops within two years would be almost unthinkable.

the terrain of Zhongshan.⁸⁹ He would have had no spare time and energy to implement a momentous military reform.

If we study the historical resources carefully, we can find another explanation of the meaning of *qishe* in the phrase *hufu qishe*. Both the “Zhao shijia” 趙世家 chapter of the *Shi ji* and the *Zizhi tongjian* interpret *qishe* as “recruiting mounted archers” (*zhao qishe* 招騎射) rather than “learning mounted archery” (*xi qishe* 習騎射).⁹⁰ I think this is the correct interpretation, which can be supported by the following record in the *Shi ji*. In the 20th year of his reign (306 BCE), Zhao Wuling Wang appointed “Zhao Gu, the prime minister of Dai (Zhao’s northernmost territory) to be in charge of the Hu affairs and to recruit their soldiers” (代相趙固主胡，致其兵).⁹¹ The Hu soldiers should refer to the Hu cavalrymen. What was the reason for Zhao Wuling Wang to recruit the Hu cavalrymen? During the debate with his *shufu* 叔父,⁹² Gongzi Cheng 公子成,⁹³ Zhao Wuling Wang said: “By having mounted archers now, in the short term we can make the terrain of Shangdang advantageous [to us] and in the long term [we can] take revenge on Zhongshan” (今騎射之備，近可以便上黨之形，而遠

⁸⁹ *Shi ji*, 43.1811.

⁹⁰ See *Shi ji*, 43.1811, and *Zizhi tongjian*, 3.105.

⁹¹ *Shi ji*, 13.1811. A modern scholar, Zhang Jin, also argues that the most important task of the *hufu qishe* reform was to recruit Hu cavalrymen (Zhang 2019, 119).

⁹² *Shufu* is one’s father’s younger brother.

⁹³ Among all the sons of a *zhuhou*, the heir was called *Taizi* 太子 (the greatest son) and the others were called *Gongzi* (the son of *gong*).

可以報中山之怨).⁹⁴ However, the above explanation does not reflect Zhao Wuling Wang's real thoughts. Shangdang 上黨 (today's southeast part of Shanxi 山西 province) was a strategically mountainous highland (part of the Taihang 太行 mountains area) shared by Zhao, Han, and Wei. At that time, Han and Wei had been under growing military pressure from Qin. Hence, they were unable to threaten Zhao, which means the defense of Shangdang was not urgent. To Zhao Wuling Wang, the most urgent task was to annex Zhongshan when the other powers were busy fighting with each other. Hence, in **the year after the reform**, Zhao Wuling Wang went to investigate the terrain of Zhongshan in person and then launched a general offensive on Zhongshan **the year after that**.⁹⁵ Zhao launched a converging attack towards Zhongshan's capital, Lingshou 靈壽 (in today's northeast Pingshan 平山, Hebei

⁹⁴ *Shi ji*, 43.1809. Chang Yu 常彧 says that the purpose of the *hufu qishe* reform was to deal with **the northern** nomads (Chang 2015, 115). However, this opinion is not supported by the historical literature and is illogical. The major enemies of Zhao were the other heartland powers rather than the northern nomads. Except for Li Mu's campaign against the Xiongnu, there are no records of any other massive battles between Zhao and the northern nomads. At that time, the threat of the northern nomads to the heartland powers was usually limited to plundering the border regions. It is unlikely that the purpose of such an important military reform (as believed by some researchers) was to deal with some minor enemies. Besides, like Zhao, Qin and Yan also shared long borders with the northern nomads. If the *qishe* troops were so important to oppose the northern nomads, why did those other two states not perform military reforms to establish Hu-style cavalries? The fact is that the threat from the northern nomads to the heartland powers was not very serious at that time. On the contrary, even Yan, a relative weakling among the seven powers, could take vast territories from the Hu tribes (*Shi ji*, 110.2885-86).

⁹⁵ Gongzi Cheng was the leader of the Zhao nobles opposing Zhao Wuling Wang's reform. Obviously, Zhao Wuling Wang distrusted Gongzi Cheng, so he did not reveal his plan to Gongzi Cheng in advance and excluded him from the military operations against Zhongshan. Gongzi Cheng had been the prime minister of Zhao since the reign of Zhao Su Hou. However, in the first year of Zhao Huiwen Wang (298 BCE), Zhao Wuling Wang appointed his favorite, Feiyi 肥義, the prime minister of Zhao, which certainly lead to a further worsening of relations between him and Gongzi Cheng. In the fourth year of Zhao Huiwen Wang (295 BCE), Gongzi Cheng starved Zhao Wuling Wang to death in the coup of Shaqiu 沙丘 and then became the prime minister again.

province) from two directions — the southern and the northern sides. A group led by Zhao Wuling Wang in person attacked Zhongshan from the southern side, took Zhongshan's Hao 郜 (in today's northern Baixiang 柏鄉, Hebei province), Shiyi 石邑 (in today's southwest Shijiazhuang 石家莊, Hebei province), Fenglong 封龍 (in today's northwest Yuanshi 元氏, Hebei province), and Dongyuan 東垣 (in today's Zhengding 正定, Hebei province) successively. This group was marching on the North China Plain, where Zhao's chariots and shock cavalry could fully display their strengths. However, Zhao's other group, led by Zhao Xi 趙希 and attacking from the northern side, had to cross the massive Taihang Mountains, a natural barrier separating the Shanxi plateau and the North China Plain. As I have pointed out above, Zhao's chariots and cavalry troops were unsuitable for fighting in this mountainous region. Zhao Wuling Wang himself also said that “[Warriors equipped with] heavy armor and polearms cannot pass difficult terrain” (重甲修兵，不可以踰險).⁹⁶ The *Shi ji* says that “Niu Jian commanded the chariots and cavalry and Zhao Xi commanded the Hu and Dai [troops]” (牛翦將車騎，趙希並將胡、代).⁹⁷ Here, the cavalry led by Niu Jian should refer to the Zhao cavalry belonging to the southern group advancing on the North China plain, where they could cooperate with the chariots to make the most of the advantage of shock tactics. At the same time, the recruited Hu cavalrymen belonging to the northern group led by Zhao Xi crossed the Taihang Mountains to attack Zhongshan from the north because they were good at fighting in mountainous areas. Figure 1 shows the marching routes of the Zhao armies.

⁹⁶ *Zhanguo ce*, 19.1079. Here, the “[Warriors equipped with] heavy armor and pole weapons” should refer to the chariotteers and the Zhao cavalrymen. It indicates that the Zhao cavalry focused on shock tactics.

⁹⁷ *Shi ji*, 43.1811.



Figure 1. The Zhao armies' marching routes

It can be seen that the Zhao and Hu cavalrymen were put into different groups and fought separately using their own tactics. From the above analysis, it is clear that the most important

reason for Zhao Wuling Wang to recruit the Hu cavalrymen was to use them to open the routes across the Taihang mountains by taking Zhongshan's strongholds blocking the way: Huayang 華陽 (in today's southern Laiyuan 涼源, Hebei province), the fortress of Chi 鴟之塞 (in today's northwest Tangxian 唐縣, Hebei province), and Danqiu 丹丘 (in today's northwest Quyang, Hebei province). Compared to training new cavalry troops, simply employing the Hu mercenaries was obviously a more effective and efficient way. Zhang Jin holds that another purpose of Zhao Wuling Wang was to strengthen his power in the name of reform.⁹⁸ Zhang's argument makes sense to me. Another reason for Zhao Wuling Wang to recruit the Hu cavalrymen would be to suppress the Zhao nobles like Gongzi Cheng and strengthen the monarchical power by establishing a mercenary army only taking orders from himself.

The next problem is the connection between *hufu* and *qishe*. Some scholars, interpreting *qishe* in the phrase *hufu qishe* as “learning mounted archery,” believe that *hufu* made *qishe* possible or at least easier. For example, Gu Yanwu 顧炎武 (1613–1682) opined that “[the reason for] *hufu* is to make *qishe* convenient” (胡服所以便騎射也).⁹⁹ Creel argues that riding “required the wearing of a short jacket rather than the long gown.”¹⁰⁰ They indicate that before the *hufu qishe* reform, the heartland soldiers were wearing long gowns to fight, which is obviously contrary to common sense. The long gown is unsuitable for foot combat, too. It was a “court dress” (*chaofu* 朝服) rather than an “army uniform” (*rongfu* 戎服). In ancient China, as in other times and places, “the uniforms [worn] on the battlefield and at the

⁹⁸ Zhang 2019, 116–21.

⁹⁹ *Rizhilu jishi*, 29.1618.

¹⁰⁰ Creel 1965, 651.

court were different” (戎、朝異服也).¹⁰¹ Moreover, as I have made clear above, the heartland states already had sizeable cavalry troops before the *hufu qishe* reform. They must have had suitable uniforms for fighting. Besides, during the reform, Zhao Wuling Wang’s new policy was challenged by many Zhao nobles, but they were only against wearing *hufu*, not practicing *qishe*,¹⁰² because the Zhao cavalrymen had already known mounted archery (although their skills were not as good as the Hu cavalrymen). Hence, there was no need to oppose something already being accepted and used. When Zhao Wuling Wang was arguing with the nobles who were against wearing *hufu*, he also said nothing about *hufu* being a precondition of *qishe*.¹⁰³ Wei Jianzhen 魏建震 argues that the *hufu* introduced by Zhao Wuling Wang was decorative clothing rather than combat uniforms. The purpose of wearing

¹⁰¹ See Du Yu 杜預 (222–285 CE) and Kong Yingda’s 孔穎達 (574–648 CE) annotations of *Zuo zhuan* (*Zuo zhuan*, 26.823).

¹⁰² For the detailed debates between Zhao Wuling Wang and his nobles. See *Shi ji*, 43.1806–11, and *Zhanguo ce*, 19.1047–50 and 1076–77. Besides, *Zhushu jinian* 竹書紀年 also only records Zhao’s *hufu* reform but nothing about *qishe* (*Guben zhushu jinian jizheng* 古本竹書紀年輯正, 154). Chang Yu argues that *hufu* was closely related to the establishment of the new *qishe* troops because according to *Zhushu jinian*, four groups of people, “generals, *dafu*, [their] *dizi* (the sons of *qi* 妻: in ancient China, a man could have multiple wives and the one with the highest position was called *qi*), junior and middle ranking officers” (將軍、大夫、適子，戍吏) were ordered to wear *hufu*, and they were military officers at all levels (Chang 2015, 111–12). However, at that time, there were no clear boundaries between military officers and civil officials. One often took on both administrative work and operational command. For example, Lin Xiangru 蘭相如 used to do diplomatic work but then he led the Zhao army to attack Qi (*Shi ji*, 81.2139–44). Zhao She 趙奢 became famous for defeating the Qin army in the battle of Yanyu 闕與, but his previous job was managing taxes (*Shi ji*, 81.2144–45). Lian Po was a famous Zhao general, but he was appointed as the acting prime minister of Zhao afterwards (*Shi ji*, 81.2148). Hence, Zhao’s ordering the above four groups of people to wear *hufu* is not necessarily related to a military reform. It just means that Zhao started to popularize *hufu* from the people with higher ranks and positions.

¹⁰³ For the detailed debates between Zhao Wuling Wang and his nobles, see *Shi ji*, 43.1806–11, and *Zhanguo ce*, 19.1047–50 and 1076–77.

hufu was to assimilate the Hu people by accepting their customs, which could make it easier to recruit them.¹⁰⁴ Wei's opinion is persuasive to me. Wearing *hufu* did make *qishe* easier. However, the correct interpretation is that “wearing *hufu* made it easier to recruit the Hu cavalrymen” rather than “wearing *hufu* made it easier to shoot arrows on running horses.”

In short, Zhao did not implement a military reform inside its army but simply recruited Hu mercenaries to fight for it. The appropriate explanation of *hufu qishe* should be “changing the clothing to Hu style and recruiting the Hu cavalrymen” (*yi hufu, zhao huqi* 易胡服，招胡騎).

Conclusion

To sum up, the Wu Shu phalanx did not exist in history at all. At the battle of Taiyuan, Wei Xianzi just temporarily divided the Jin chariots into flexibly small units to adapt to the mountainous terrain. As for the *hufu qishe* reform, it was a clothing reform rather than a military reform. The purpose was to make it easier to recruit the Hu cavalrymen. Although it is true that the importance of four-horse chariots had been decreasing during the Chunqiu Zhanguo period, it was a gradual and slow process lasting several hundred years. There were no significant turning points as believed by some scholars.

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¹⁰⁴ For his detailed discussion, see Wei 1996, 101.

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