

p.433, 22:15b) Pyöngch'a

With regard to military vehicles, we ought to investigate the situation and consider the best way to make them for ~~xxxxx~~ military use. (note: Generally speaking, as far as troops (soldiers) are concerned, cavalry is the best, and infantry is second, and in using cavalry and infantry, the best method is to combine them ~~xxxxx~~ with the use of vehicles. In China they have vehicles for use places everywhere, but in our country where many places are blocked off by mountains and streams, or easy to use they are not as convenient/as they are in China. But if you want to check the Nüchen/invaders (from the north), ~~xxxxxxxxxxxxxxxx~~, you can't do it unless you use carts. If you investigate the situation, then you find that we should establish storage yards for carts in suitable frontier garrisons and other places such as Pyongyang, Anju, Üiju, Hamhüng, Kyöngsöng, Hoeryöng (note: Chungsoöng or Kyöngwön) and other places in order to prepare for an emergency situation (invasion). (subnote: If you do it like this, not only will you have set up a policy to deal with times of emergency, but even in peacetime you can set up regulations for combining cavalry and infantry in accordance with training bivouac/regulations (chinböp 陣法), and during training, you can mobilize the war carts also. They can also be used for transporting shields, weapons etc.)(end subnote)

In defending against the Japanese to the south, ~~the~~ nothing is better than a naval fleet, but in the north against the Nüchen (Pukp'o 北虜), nothing is as good as vehicles. Those who plan for the defense of the state must give deep x thought and study to this.)(end note)

Indented section: In the Koryö period in the reign of Hyönjong (顯宗 :1009-1031), the chief of the Khitan himself led a force of 400,000 infantry and x cavalry across the frozen Yalu River. The Tot'ongsa (都統使), Kang Cho (康兆) left from T'ongju (通州 :present Söngch'ö 宣川)

p.433, 22:15b) to defend against them. He divided his army into three parts and he drew up a line of battle with sword (bearing soldiers) and carts. When the Khitan soldiers joined battle, they were wiped out.

22:16a) In the reign of Sŏnjong (1083-1094), the Pyŏngmasa of the Northwest region, Yu Hong (柳洪) requested that military carts be made and stored in ~~Kuju~~ Kuju (龜州) for defense against emergencies. The king approved.

Recently during the pyŏngja (1636) invasion when the Manchus came right down to the capital, all our commanders along the western route went into the mountain fortresses, and the Manchus cavalry just took a sideways glance at them as they passed them by, for they did not dare to come down from the forts and engage the Manchus in battle. If we had had carts, then they could have blocked the roads and formed a line of battle. If we had wanted to join battle, we could have done so; or if we had wanted merely to defend the area, we could have done so; in either case, whether defense ~~or~~ or attack, both strategies would have been up to us. How then would the Manchus ~~have~~ (陽人 :uses same word as for Mŭchen, P'oin) ) to have passed directly by. From this one can see that if you want to draw up a defensive line in a threatened area (precipitous area), keep watch over a strategic place or even launch a surprise attack, the best thing to have are vehicles. How much more so when after ~~we~~ our country has fully regained her strength and wants to raise an army to depart from the frontier and trample on the gardens (land) of the Mŭchen (Manchus) and hold their chief responsible for his crime, if you don't have carts (vehicles) to use in the operation, ~~you cannot succeed~~. you cannot succeed. (note: A man of ancient times once said that carts are the armor of the army, the equivalent of a walled fort with ~~four~~ legs. This statement was based on true experience.)(end note)

Indented section: I note that the utility of carts is great (broad), but they are particularly useful to an army. This is the first reason why we should adopt them. They can be used to block an attack; this is

p.433, 22:16a) the second reason. They can be used to load food and weapons; this is the third reason. They can be used to block arrows and stones; 22:16b) this is the fourth reason. They can be used in a frontal advance against the enemy; this is the fifth reason. They can be used to carry cavalry and to carry out reconnaissance; this is the sixth reason. They can be used to transport the sick and give them shelter from the rain and snow, Furthermore, when you are on the move, they can be used in camp (to form a camp); and when you have stopped, then can be used as headquarters. There is nothing more useful to a mobile (moving) army than carts. This is why when in ancient times they sent out the troops, they always loaded them on carts, and why they spoke (of armies of) 1,000 or 10,000 chariots. According to the Tso-chuan, the army of the state of Cheng would line up (25) chariots out front and place 5 soldiers for each behind them. The state of Ch'u (楚) would place (15) <sup>2 kwang?</sup> chariots to the left and right. These are both examples of this system.

From the Ch'in dynasty on down, even though the system of chariots was abolished and no longer used, nevertheless during the Han dynasty when Wei Ch'ing (衛青) crossed the border to attack the Hsiung-nü (出塞擊匈奴), he placed the wu-kang-ch'a (mugangō 武剛車) chariots in a circle and used it as his ~~headquarters~~ camp, and ~~blocked the~~ ~~paths of the~~ sent the cavalry out to attack the barbarians.

When Ma Lung (馬隆) of the Chin (晉) dynasty attacked Shu Chi-neng (禡機能) he used the p'ien-hsiang-ch'a (偏廂車) and the nokkakkō (鹿角車) carts. He had to go a thousand li before engaging in battle and finally pacified Liang-chou (涼州). Thus in both the Han and Chin dynasties, they still used carts (chariots) to obtain victories. During the Sung dynasties many famous officials and generals recommended that chariots be built, but at the time there were no rulers who had the capacity to appoint able generals to office, so how could they understand what equipment should be used by the army?

p.433, 22:16b) In our country, the mountains and valleys are steep, and people  
 p.434, 22:17a) say that they are not suited to the use of vehicles. This is a fact.  
 district towns of the  
 Nevertheless, along the/coastal roads ~~and~~ there are also many flat  
 places, and even though there are obstructions, they are not so great  
 as to prevent traffic from passing by or crossing over them. According  
 to ancient texts on (military) methods, they state that on the flat  
 plains vehicles are most important, while in the steep areas and fields,  
 the people are the most important thing. Those who understand this say  
 that it does not mean that one does not use people on the flat plains,  
 but that you give emphasis to the use of carts; and that it is not that you  
 don't use vehicles in the steep fields, but that you give emphasis to  
 (the use of) people. Thus even though you have steep areas, it does  
 not mean that you completely abandon the use of vehicles.


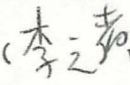
According to the histories of China, when Li Lung (李陵) attacked  
 the Hsiung-nu, he travelled for 30 days beyond the borders until he  
 arrived at Chun'gye mountain (浚稽山), where he confronted the Shan-yu  
 (chief 單于) of the Hsiung-nu and found his army surrounded (by them).  
 Li Lung's army was encamped between the mountains and he used large  
 vehicles to make camp. He led his soldiers outside his camp to form  
 lines of battle and he attacked (the Hsiung-nu) and killed many of them.

In addition at the present, the Mŭchen (Manchus 虜) customarily  
 use cavalry attacks exclusively. Nevertheless, during the 1636 Manchu  
 invasions, the Manchus left from Shen-yang (瀋陽) with large guns & equipment  
 mounted on carts. They passed through P'yŏng'an and Hwanghae provinces  
 and arrived at Namhan-sansŏng and Kangdo (江都 :i.e. Kanghwa island)  
 in great numbers. If you look at the problem on the basis of this, then  
 (success) depends on the talent of the generals in transporting (equipment)  
 and not in exclusively depending on whether or not the terrain is  
 steep or flat. Thus if a state keeps its military system in good repair  
 (shape) and appoints to the head of its armies men who know both military

p.434, 22:17b) and the ways of the ancients and provides them with a well-ordered system (Pyongyang, 4, p.176-- provides them with equipment), then it definitely will have the wherewithal to know what is of advantage and what is not.

(note: In later ages commentators like Mr. Ma and \* Mr. Chiu (馬, 丘) all believed that carts should be used in fighting. According to the method of fighting of China and the Chinese, if they are fighting the northern barbarians, they think that carts are of no use, but this is wrong thinking. If the Chinese are fighting in China, then definitely (they think) that the use of vehicles is important, but ~~when they fight the northern barbarians, they do not~~ think carts can be used and do not have any. In recent times, Ch'i Nan-ta'ang (Ch'i Chi-kuang 戚南塘) was in the south pacifying the bandits and defending against the Japanese, and he was able to achieve success with foot soldiers (to ). But later when he was garrisoned at Kyeju (荊), only after he built vehicles was he able to defeat the Mūchen (barbarians?) and pacify the borders. One can see how effective they are from this.

When it comes to this country, then (we find that) the land is not flat, and there is some doubt as to the utility of using vehicles. However, if you give deep thought to it, then (you find) that you also have no choice but to use them. I recently took a trip from the south to the capital, and whether the land was flat or not, all the kun (districts) in were more or less alike, and ~~at all the points, in the spaces of~~ all the places where the road was kept in good repair one could move vehicles without any obstruction. During peacetime, the roads and bridges are also an important matter for a kingly government, but in our country every thing is shoddily done; ~~and~~ all we know how to do is to let things go (wimi 委靡). If you do not undertake to do things, but just leave things to the natural topography ( to take care of themselves), then how is it that even in China they would not have streams and hills?

p.434, 22:17b) (seems to be saying that the Chinese also have natural obstacles but don't leave things at that but instead take action, like making carts and vehicles). Furthermore in using vehicles in fighting, it is not a case of transporting ~~xxx~~ vehicles from the south to defend the northern frontier, or transporting them from the north to defend the south. (subnote: For if you were to do this, then no matter how many cavalry and infantry you had, they would be worn out and would suffer defeat.) (end subnote) The transport of vehicles should not consist of anything more than moving them from one neighboring province to another in order to form a line of battle and block the road. Is there any reason thus that vehicles cannot be used? And if it is a matter of launching a surprise attack or pursuing an enemy from the rear, then vehicles are basic (important). You distribute them to the infantry and cavalry. The carts are used to protect ~~the cavalry~~ force and the cavalry is used as the surprise attack force. You open up the camp (made by drawing up vehicles as a defense line) and send out the cavalry, and this is only convenient (the right way of doing it). You don't use vehicles to be taken up hills or to be used in steep places. This is the reason why Ch'i Chi-kuang always had vehicle camps (ch'ayöng ) nearby his walled garrisons and coastal walled forts, and used carts and walls together for the purpose of mutual support in defending against attack and in launching attacks. How was this not a complete and perfect system? In recent times we had Mr. Li ( ) who had much experience in the use of military vehicles. He would always say that in controlling the northern barbarians nothing was as good as using vehicles in fighting. As far as our country is concerned, there is truly no reason why we cannot use them. And if there should be places over which vehicles cannot go, then in terms of the methods used in moving armies, you must form them into formation (lines) and proceed (through the place), and

22:18a)

p.434, 22:18a) such places would also be too dangerous and impassable even for infantry and cavalry. I have in the past myself made simple and strong vehicles in order to show that they can be used." This is not empty talk. Generally speaking, ~~in~~ with regard to any matter that the Chinese ought to do, our Eastern Country also has no reason not to do. And anything that people were able to do in ancient times, is also something that people of later ages have no reason not to do.) (end note) the various systems used --. In making carts, we must investigate ~~what has been done~~ in both ancient and modern times, and we must strive to do what is appropriate in making them. (note: The P'yŏnsanggŏ (偏廂車) and Nokkakŏ (鹿角車) ~~are~~ vehicles of Ma Lung (馬隆) of the Chin dynasty (  $\frac{124}{12}$  ); the war vehicles of Ma Su (馬燧) of the T'ang dynasty; and the war carts made by Chang Hsing-chung (張行中) of the Sung and Wei Sung (魏勝) <sup>of Sung</sup> 's Yŏiichka (如意車) were not much different from one another. We ought to investigate the methods tried by people of the past in order to make suitable vehicles. We should make them light and strong, so that one or two people can push or pull them (推挽) & equip them and on the outside we should make (firing) holes/with armor and spears so that the enemy will not dare to approach them. (sounds like tanks). In addition, they should be able to fire arrows and guns and protect against incoming arrows. If they are distributed among cavalry and infantry, then when on the march they can function as camps (chin陣), and when the army has stopped, they can be used as headquarters (yŏng營). This is also fully accounted in the Chinbŏp tosŏl (陣法圖說; a book in 1 ch'akk, compiled by Chŏng In-ji and Kim Hyo-sŏng (金孝誼) under orders from king Munjong (15th c.) of the Yi dynasty) (Yŏngnyŏng, 4, p. 400)

Indented: I note that in past times war vehicles were standard fighting equipment. Therefore when they closed the gates they made carts, and when they opened them (to send them out), the g carts' wheels fit the tracks in the road--this indicates that the carts were made to

p.#34, 22:18b uniform size. But in later times (after ancient times), the system of carts and chariots was abandoned. And when from time to time carts were used, the people made them on their own in accordance with the existing circumstances, relying on their knowledge and skill to make them from scratch (new). Nevertheless, those who were skilled in their use were also able to win victories with them. What we ought to do now, is to investigate the various methods and select the one that is most convenient. In making them we should see to it that they are light carts that people can push so that they will be appropriate for use.