HELLENIC REPUBLIC
National and Kapodistrian University of Athens
EST. 1837

Department of History and Archaeology

MA in Greek and Eastern Mediterranean Archaeology: From the Bronze Age Palaces to the Hellenistic Kingdoms

Battle of Kadesh-Warfare and Military Organization during the 13th century B.C.

MA Dissertation

Liu Yan

Supervisor: Konstantinos Kopanias

Associate Professor in the Archaeology of the Eastern Mediterranean

Athens, 2019

Members of Committee

Konstantinos Kopanias, Associate Professor in the Archaeology of the Eastern Mediterranean

Eleni Mantzourani, Professor of Prehistoric Archaeology

Giorgos Vavouranakis, Associate Professor of Prehistoric Archaeology

ABSTRACT

The Battle of Kadesh in 1274 B.C is perhaps the most famous and best documented battle in the Bronze Age. Through a review of the Battle of Kadesh and the subsequent military organizations of major civilizations in 13th century B.C, this dissertation aims to synthesize our current knowledge about military history in different civilizations around the ancient world in the 13th century B.C. By employing a cross-cultural comparative method, I aim to examine the systems of military organization and the exchanging of military technologies between different ancient civilizations during this period, such a Egypt, Hittite, Yin-Shang China and Mycenaean Greece.

The different system of socio-political organization is reflected in the warfare as well as the military organizations of these different civilizations. Through the comparison of the military organizations of the Egyptian, Hittite, Yin-Shang and Mycenaean civilizations, we see more similarities in the first three kingdoms, potentially due to the similar nature of the social-political system in Egypt, Hittite and Yin-Shang. The image of military organization in Mycenaean states is not very clear since their social-political system and scale were drastically different from Egypt, Hittite and Yin-Shang, making it very difficult to draw any assumptions from the archaeological record.

CONTENTS

LIST OF MAPS

LIST OF FIGURES

Acknowledgements

I would like to give my special thanks to a number of people that supported me in my effort to carry out this dissertation. First, I would like to thank my supervisor Professor Konstantinos Kopanias for guiding me in the right direction with my work; I could not finish this MA program without his encouragement and help. My thanks also to Mr Yue Zhanwei, the Chinese archaeologist from the Institute of Archaeology CASS, for kindly helping about Yin-Shang archaeology. Special thanks to my husband, my mother and mother-in-law, for believing in me and supporting me through the whole process.

Chapter 1- Overview

1.1 Introduction

According to the Oxford English Dictionary, war is 'a state of armed conflict between different countries or different groups within a country' (2003). However, depending on the field of research, be it as an archaeologist, historian, anthropologist, or scholar of another subject the interpretive definition of war may be vastly different. Undoubtedly, though, war is a ghoulish affair, resulting in chaos and death. According to Schneider's (1952:71) study of the beginnings of warfare, 'warfare in some rudimentary and undeveloped forms exists in Mesopotamia by the fourth millennium B.C.' In light of a macro and global view of human history, from the Bronze Age until the present, wars have had the ability to shape and reshape the territories of states or empires, while dramatically affecting the societies within these borders themselves. Military history is part of human history, and through material remains and the more we learn about the details of physical warfare in early human history, the more we are able to understand the social and political aspects in play during the ancient world. The study of the warfare in the 13th century B.C of the Late Bronze Age gives us an opportunity to understand the societies, the people and the technologies of ancient civilizations in the areas of Near East, Aegean and East Asia.

The archaeological record of warfare for the Late Bronze Age is extant in the following forms: military equipment remains, such as weapons, chariots and fortresses; monumental buildings, such as the reliefs and inscriptions regarding triumphs or events on the walls of temples and painting on the walls of tombs in Egypt; and text records, cuneiform letter tablets of Hittite and oracle bones of Yin-Shang (Shang Dynasty) of Ancient China. Unfortunately, none of these visual or textual remains list the detail of the military organization. Therefore the study of ancient military history and warfare in the Late Bronze Age should focus on how did the machine of war functionally work; for instance, the system of military organization, the weapons and military technology, and

‘achievements in logistics, in organizing and supplying armies especially in lands far from home’ (Spalinger, 2005:Ch17-229). In the Late Bronze Age, attributed to the different geographical and ecological foundation, different ancient civilizations around the world had created different social organizations and systems of military organization, particularly in Egypt, Hittite, Yin-Shang and Mycenaean.

The Battle of Kadesh in 1274 B.C is the most famous and best documented battle in the Bronze Age. It was a direct conflict between two superpowers in the Ancient Near East. In the view of Spalinger (2005:209), the Battle of Kadesh was ‘the final and decisive Egyptian battle in Asia, a turning point equal to that of Megiddo under Thutmose III.’ Based on the inscriptions recorded in Egypt, 3,500 chariots and 47,500 soldiers of Hittite and roughly 25,000 soldiers of Egypt participated in this battle, both troops led by their kings. In addition to these numbers being well documented, the actual military actions of this engagement have also been well recorded. Therefore, analysing the Battle of Kadesh serves as an exemplary case study of defining warfare in the 13th century B.C.

1.2 Purpose of the Study

The purpose of the present study is to synthesize our current knowledge about military history in different civilizations around the ancient world in the 13th century B.C, combining the methods of cross-culture comparative analysis to examine the systems of military organization and the exchange of military technologies between different ancient civilizations during this period. The focus on13th century B.C as the period of this study is based on following reasons: first, the Battle of Kadesh, the most well-resourced battle of the Bronze Age, occurred in 1274 BCE; second, the Egyptian Pharaoh Ramesses II(1279-1213 B.C), the Hittites King Muwatalli II (1295-1272 B.C) and Wu Ding (1250-1192 B.C) the king of Yin-Shang are known to the world due to their military campaigns; third, the13th century B.C was the last prosperous period before the collapse of the Bronze Age in 12th century B.C, both in terms of the system of military organization and military technology represented throughout the region.

1.3 Methodology

A cross-cultural comparative approach will be used as the method of this study. According to Peregrine (2001:15), 'cross-cultural comparative approaches have been used widely in archaeological research'. Utilizing a cross-cultural comparative allows us to gain a more thorough understanding of the complex and multifaceted aspect of military organization and technology, phenomenon that are not limited to a singular geo-spatial regions. s. In the archaeological record referencing the military history of the Late Bronze Age, we have been unable to recreate a wholly accurate recreation with specific information of warfare and military organizations, largely due to the varied nature and lack or corruptness of data sets in single civilizations. However, by using a cross-cultural comparative approach, we will be able to fill these gaps with comparand and recognizing trends in military phenomena occurring simultaneously. In the view of Peregrine (2001:15), by 'empirically testing for indicators, differences, and correlations,' the 'cross-culture research might provide an appropriate source for drawing inferences.'

Chapter 2- Battle of Kadesh

2.1 Introduction

In May 1274 B.C. (the fifth year of Ramesses II's reign), the Battle of Kadesh occurred between the Egyptian Pharaoh Ramesses II and the Hittite King Muwatalli II. The battle occurred at the Orontes River alongside the city of Kadesh in central Syria (Santosuosso, 1996:423; Spalinger, 2005:209). There are abundant sources referencing this battle in the form of drawing and inscription from Egyptian records, including reliefs, poems, and reports/bulletins. Ramesses' second northern campaign of Syria aimed to 'restore the vassalage of Kadesh to Egypt and to stem Hittite influence in Syria' (Goedicke, 1996:72). But the battle ended with a draw, neither Ramesses II or Muwatalli II walking away with a decisive victory. The Kadesh remained under control of Hittite power (Bard, 2007:215).

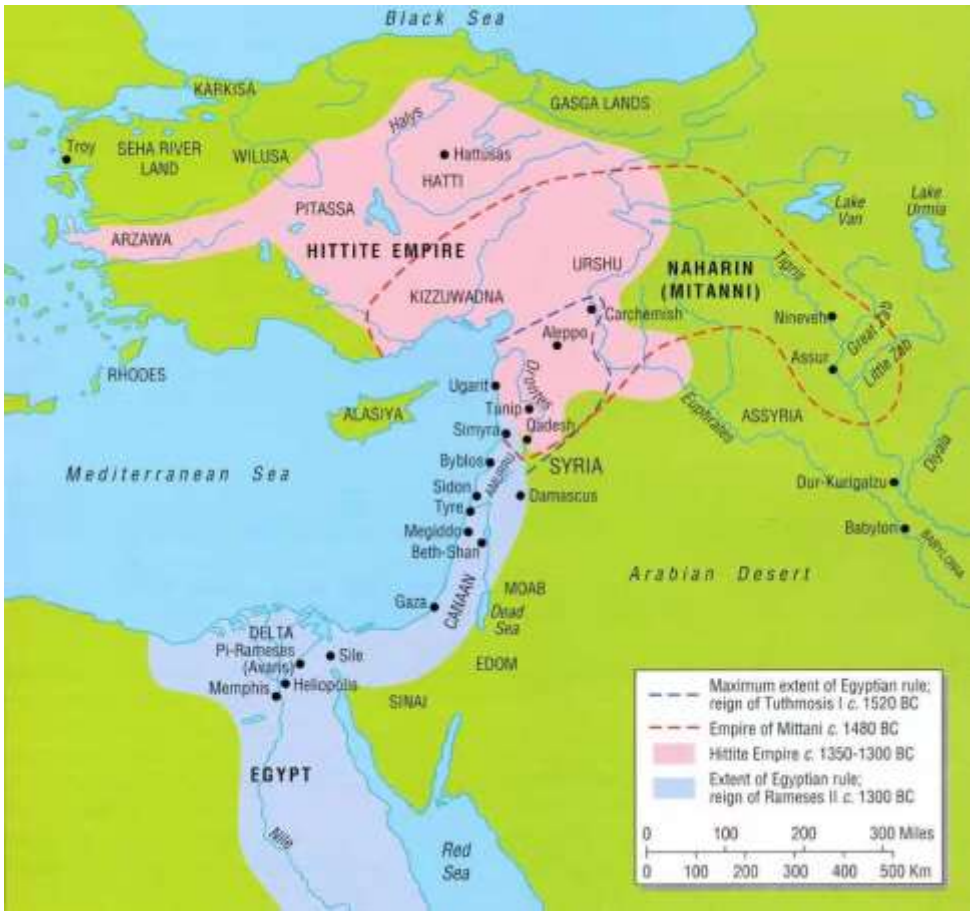
The Battle of Kadesh is an important studying topic of the military history of ancient Near East in the Late Bronze Age.

2.2 Review of warfare in Syria-Palestine before the Battle of Kadesh

For the Egyptians, the Levant attracted their interest because of 'the Hyksos invasion and control of the Nile between the 17th and 16th centuries B.C.' (Santosuosso, 1996:426). Motivations of warfare between superpowers of the Ancient Near East in Syria-Palestine can be succinctly summarized in two points: the first motivation deals with economic motivation. Since the Syrian-Palestinian area could supply various products, resources and manpower, to whatever entity controlled it, advancement in the area was attractive to outside forces. Additionally, the routes and seaports of this area were extremely important for trade in the Eastern Mediterranean; for Hittite, the most 'valuable and profitable' vassals located in Syria, in particular, Hittites relied on the grain import from there (Bryce, 2002:104; Liverani, 2014:318). The second motivation, then, deals with the strategic benefits of controlling the Syrian-Palestinian region. The area acted as a security zone, buffering between territories of Egypt, Hatti and Mitanni (before Mittanni had been conquered by Hittite and Assyria). Moreover, the city of Kadesh was a doorway for Egyptian interests to expand into northern Syria, which was presently controlled by Hittites, as well could be a route for Hittites march to the south through the Egyptian territories. (Santosuosso, 1996:426-428; Goedicke, 1996:71-72; Brad, 2007:211). Certainly, Kadesh played a valuable role 'in the confrontation between Hittites and Egyptians' (Santosuosso, 1996:428). The city itself was not the target, but more so the road to Kadesh and the seaport. The strategic importance of the location of Kadesh and the fact that it controlled the 'crossing of two highways of northern Syria,' the west-east road from seaport city Byblos of Levant to inland, the only inland north-south road which follows the Orontes River, made it an ideal and rather vital land to possess (Van de Mieroop, 2011:219).

The Battle of Kadesh occurred during the second northern campaign of Ramesses II in his early reign (Spalinger, 2005:209). Before the Battle of Kadesh, two major battles had

taken place between Egypt and other kingdoms in the same area of Syria-Palestine: the Battle of Megiddo and the Battle of Kadesh of Seti I.



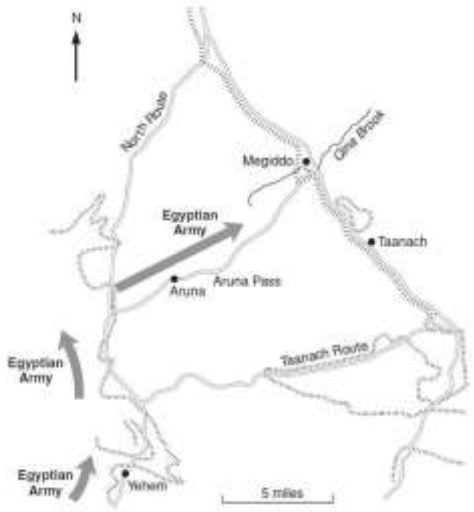
Map 1. The contest for Syria. Healy 1993, pp.7

2.2.1 Battle of Megiddo

At the end of the Second Intermediate Period of Egypt, 'the war against the Hyksos initiated the New Kingdom' (Van de Mieroop, 2011:157), the first Pharaoh of the 18th Dynasty, Ahmose, banished the Hyksos and took controlled of Sharuhen in southern Palestine (Van de Mieroop, 2011:152). In the early 18th Dynasty, Mitanni was the main enemy of Egypt, as they had taken control of Syria as vassals. The Pharaoh Thutmose III led 17 campaigns in the area of Syria-Palestine during his reign (Van de Mieroop, 2011:157), with the Battle of Megiddo (Map 2) taking place in 1482 B.C during the campaigns in the 22nd-23rd year of his reign (Shaw, 1991:47-49; Van de Mieroop, 2011:157; McDermott 2004:94-95).

Map 2. Map of the Levant in the 19th Dynasty, and the route taken by Thutmose III in his final approach to the Battle of Megiddo. Shaw 1991, pp.48

According to the record of '*The Annals of Thutmose III'* (on the walls of Karnak temple), to stifle the revolt of the king of Kadesh in Megiddo, Thutmose and his army left the Nile Delta on the 25th day of the 4th month of winter in year 22. It took them 10 days to get Gaza which was 201 km away from Delta. Then on day 16 of the first month of summer in year 23, the Egyptian troops reached Yehem. With the suggestions of the war council, Thutmose made a risky decision taking the direct route through the narrow pass. On the next day, they arrived in Aruna after 21 km of marching; then, after another 15.3 km marching through the Aruna Pass, the Egyptian troops arrived 1.5 km from the city of Megiddo and led a quick and surprising assault (Map 3)(Shaw, 1991:47-49; Spalinger, 2005:87-88) .



Map 3. The Battle of Megiddo. Spalinger 2005, pp.84

In the morning of day 20th, the Battle of Megiddo took place just outside of the city of Megiddo itself. The total number of Thutmose III's army equalled 18,240 soldiers, 4,000 horses, and 2,000 chariots (Spalinger, 2005:89-90). 1.6 km southwest out of Megiddo, Thutmose III separated his army into three parts: the major forces concentrated in the center and flanked by support on either side. The battle was a defence and offence conflict between both sides around the Megiddo. Ultimately, the Egyptians won the victory on the battlefield, and after a seven months siege, the city fell into the control of Egyptian powers (Spalinger, 2005:90-93; Shaw, 1991:49). Spoils of war included prisoners, horses, chariots, bronze armour, and livestock (McDermott, 2004:165-166). According to the *Amarna Letters*, as Shaw (1991:49) presumed, in the fifty year reign of Thutmose III, the international diplomacy grew to be more politically expedient, while the Egyptian foreign policy shifted 'from battles to treaties'. Some years after the death of Thutmose III, Egypt took complete control of the area of Palestine and eliminated the threat that 'city-states' such as Megiddo and Kadesh posed to Egyptian power (Spalinger, 2005:148).

2.2.2 Battle of Kadesh of Seti I

After the kingdom of Mitannian was divided by the Hittites and the Assyrians in the 13th century B.C., Hittite and Egypt became each other's main enemies. At the end of the 18th Dynasty and early 19th Dynasty, the area of Palestine and south Syria became more

strategically important due to their inherent commercial and military advantages (Spalinger, 2005:Ch17-234). Seti I, son of Ramesses I, was the second Pharaoh of 19th Dynasty of New Kingdom. The last Pharaoh of 18th Dynasty, Horemheb (both him and his predecessor Pharaoh Ay did not have royal blood and used to be officials in the royal court), had no heir, so with the oracle of Amun, Horemheb chose Ramesses I who used to be the vizier of Horemheb and a military commander to become the next ruler (Bard, 2007:214). Ramesses I must be old when he became the Pharaoh, he died in the year 1294 B.C. during the first year of his reign (McDermott, 2004:97). In the first year of the Seti I's reign, he led a campaign into Sinai, and secured fort stations along the routes. His troops followed the steps of Thutmose III which passed Gaza and forward to Megiddo (McDermott, 2004:97). In this campaign, Seti vanquished the Canaanite enemy at the central Palestine city -Yenoam (Spalinger, 1979:31). In the next year, during his second Syria campaign, Seti I and his troops marched toward to Orontes River and passed through Kadesh. He fought against the Hittites king Muwatalli II and won the battle at Kadesh (Figure 1). Based on the inscriptions record from Kanak, with the victory of Kadesh, Seti I took control both of Kadesh and Amurru from the hand of Hittites (Shaw, 1991:52).

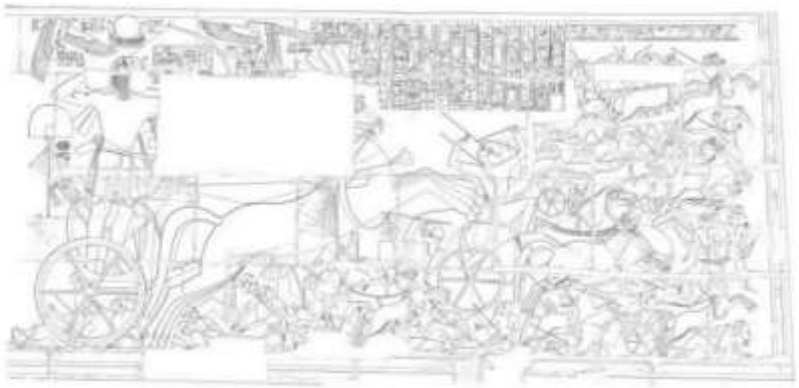
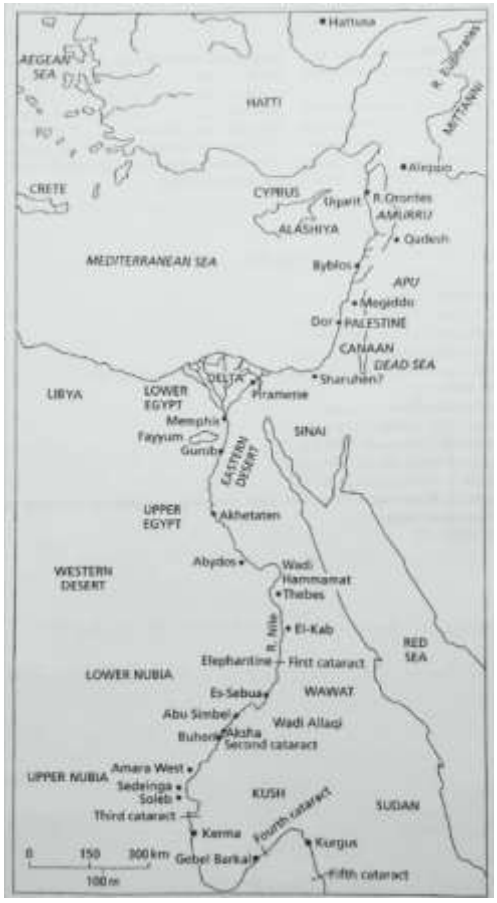


Figure 1. Seti I against the Hittites, reliefs and inscriptions at Karnak. Spalinger 2005, pp.196

2.2.3 First Syria Campaign of Ramesses II

Ramesses II (1279-1231 B.C.) is the most famous Egyptian Pharaoh for the modern world. Ramesses II was born at the time of Pharaoh Horemheb's reign when his father

and grandfather were military officials. He ascended to the throne from his father, Seti I, in 1279 BC when he was 24 years old (McDermott, 2004:97). Ramesses II was a militaristic Pharaoh like his father Seti I, winning glory in the battlefield when he was the crown prince and co-regent during the reign of his father. Ramesses II led several military expeditions at the early time of his reign, included campaigns in Nubia, Syria and Libya. To prepare campaigns in Syria, Ramesses II established the new capital Pi-Ramesses in the Nile Delta area and used it as the main military base. In 1275 B.C., the fourth year of Ramesses's reign, he led the first Syrian campaign. Ramesses and his troops marched from Tjel to Canaan, Tyre and Byblos, then reached Amurru (McDermott, 2004:97). At the end of this campaign, Ramesses controlled the provinces of Canna, Upi and Amuruu (Map 4) without direct military action with Hittites. He forced the prince of Amurru signed the vassal treaty and became a vassal of Egypt (Shaw, 1991:52-53).



Map 4. Egypt and surrounding territories in the New Kingdom with the location of Canna, Amuruu.

Van de Mieroop 2011, pp.153

At the same time, on the Hittite side, the surrender of Amurru to Egyptian forces irritated the Hittite King Muwatalli II. The vassal network that Muwatalli II inherited from his father, Mursili II, retained the Hittite lordship in the territories around their kingdom. During the close of the 18th Dynasty, there was no serious threat from Egyptians for Hittites' controlling Syria (Bryce, 2005:221). Since the reign of Horemheb in the 18th Dynasty, Egypt restarted their military involvement in Syria, such as to support the revolts of vassals against Hittite control.

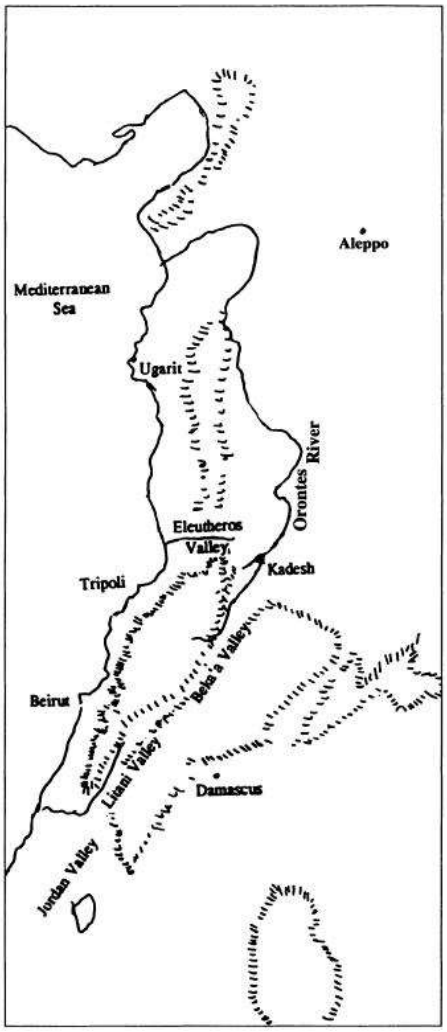
It was possible that Muwatalli II was conscious of the inevitable warfare in the area of Syria between Hittite and Egypt, thus at the beginning of his reign, Muwatalli II took a series of political and military actions to prepare the direct conflict in the near future. First, he started to solve the problem along the north border with Kaskan, to ensure the safety of the Hittite capital in Hattusa. Muwatalli II then formed an alliance with the king of Ahhiyawa in the west of Anatolia, solved the rebellion of Piyamaradu. Since Muwatalli II expected his vassal to provide troops for his campaign in Syria, he banished the ruler of Wilusa (the vassal in western Anatolia) and replaced by his son Masturi (Bryce, 2005:222-227). During the middle years of Muwatalli II's reign, he moved the capital from Hattusa to Tarhuntassa, and passed the authority of Hattusa and ruling of north part of the kingdom to his brother Hattusili while Muwatalli II prepared for warfare with Egypt (Bryce, 2005:230-233).

Consequently, the Battle of Kadesh unavoidably happened between Ramesses II and the Hittite King Muwatalli II in the year 1274 BC, during the second Syria campaign of Ramesses II.

2.3 Review and result of the Battle of Kadesh

In early April in the year 1274 B.C, Ramesses II and his four divisions (Amun, Pre, Ptah and Seth) departed from Sile, each division marched separately and followed one by one. According to the '*Poem*' which is the official 'Literary Record' of the Battle of Kadesh, these Egyptian troops included infantry, chariotry and the bodyguard of the pharaoh.

These troops took the inland roads and not the easier coastal road (Goedicke, 1966:72-73). The *Poem* recorded that the army passed fortress of Tharu, Valley of the Cedar then arrived at the highland of Kadesh. Santosuosso (1996:430) proposed that Ramesses and his army process along the Jordan Valley, Litani Valley, and the Beka'a Valley, the four divisions likely having been separated and going along different routes (Map 5). They passed through 'subject lands' (Santosuosso, 1996:431) to get supplies for the campaign. The town Ramesses-Meriamon (*Poem, p35)* in the Valley of the Cedar located at the border was the last piece of Egyptian land (Goedicke, 1996:73). With the calculation of Spalinger (2005:212) which considered the march of Thutmose to Megiddo, the Egyptian troops marched around 20 km/day.



Map 5. Routes to Kadesh. Santosuosso 1996, pp.430

After one month of marching, 'In the year 5, the second month of the third season, ninth day' (*Poem)*, the first division Amun, which was led by Ramesses himself, reached Shabtuna 14 km south of Kadesh and that was almost half a day's march distance (Spalinger 2005:212). Ramesses received false intelligence from two Shasu who said the army of Hittite King Muwatalli was at Aleppo, far from Kadesh. As a result, the Pharaoh decided to march forward to the northwest of Kadesh city, take the advantageous position, and settle the camp. But the truth was the Hittite troops were hidden in the camp at Old Kadesh, located to the northeast of Kadesh. The king Muwatalli II was planning a surprise attack.

In the later time of the ninth day, Ramesses and the first division Amun pitched their camp northwest of Kadesh and west of the Orontes River. After they settled down, two Hittite spies were caught and revealed that the Hittites' camp was behind the Kadesh city and they were hiding nearby and planning to launch a surprise attack soon.

The positions of the Egyptian army before the Hittite attack was recorded by *Poem* (P 60): Ramesses and his bodyguard which followed by division of Amon march toward to the northwest of Kadesh, the second division of Pre(Re) was crossing Orontes river through the ford of Shabtun, the division of Ptah was at the south of the Arnaim town, the last division Seth still marched inside of the Wood of Labwi (Map 6). According to the *Poem*, the second division Pre 'at the distance of an *iter*' from the division of Amon where Ramesses was. Spalinger (2005:212) assumed that one Egyptian *iter* should be 10.5 km or 2.65 km. This means that the closest troop was around two hours to a half-day marching distance to the camp of Ramesses immediately before the Hittite attack. More specifically, as Santosuosso (1996: 435) indicated, during the marching each division stretched 4.83 km and with a gap of 2.41 km between each division. Therefore, when the Division of Amun arrived the camp the distances of the rest divisions to the camp were: the Division of Re was about 2.41 km, the Division of Path was 9.66 km and the Division of Seth was 16.90 km. With the exception of the divisions of Amun and Pre(Re) which will be attacked in the battle, the rest divisions of Path and Seth were

respectively half or one day marching from the battlefield, none of these troops could stand in with their Pharaoh Ramesses II at the moment when the Hittites launched the surprise attack.

Meanwhile, according to the records of the '*Poem'* and the *'Bulletin'*, the Hittite King Muwatalli II was stationed in the middle of his infantry in the camp of Old Kadesh. He sent his troops of chariotry to implement the surprise attack. As both Spalinger (2005:213-214) and Healy (1993:53-54) indicate, the action of Muwatalli's chariotry started in the evening of the ninth day, they crossed the Orontes River and launched the attack under the cover of darkness. In the early morning on the tenth day, 'they issued from the south side of Kadesh and attacked the division of Re in its middle, while they were on the march' (*Poem*). The chariotry of Hittites messed up the division of Pre (Re), the Egyptian troops fell into confusion; then the Hittites chariots turned to the north, and attacked the camp of Ramesses (Map 6).

Map 6. The Battle of Kadesh: the Hittite attack. Spalinger 2005, pp.210

The Hittites' attack of Ramesses' camp was carried out in two waves: the first wave advancing with 2,500 chariots, and the other one with 1,000 chariots (Spalinger, 2005:214-216). There was no detailed record concerning the kinds of tactics employed

by the Hittites chariotry, but presumably the target of Hittites' lighting strike was Ramesses himself. The attack on Division of Pre (Re) was only the first stage of the Hittite mission, so that, the Hittites chariot force did not stay and destroy the Pre (Re), but caused the Egyptian troop to panic and be thrown into a state of confusion. Consequently, as the closest troop to the camp of Ramesses, the Division of Pre(re) could not reinforce or protect their Pharaoh when the Hittites attacked Egyptian camp. It is probable that the first advancement of 2,500 chariots quickly launched the attack and just as quickly left the battlefield, followed by the second round of 1,000 chariots staying and continuing to strike in order to ensure the Division of Pre(Re) lost any combative power. Based on the relief of the Battle of Kadesh at Abydos (Figure 2), each Hittites chariot had three warriors, the total number of the Hittite chariot force equalling roughly 10,500 soldiers. Spalinger (2005:214) noted that the first group of 2,500 chariots numbered 7,500 soldiers within the area of 27,941 m^2, in 'a square the sides would be 167 m'.

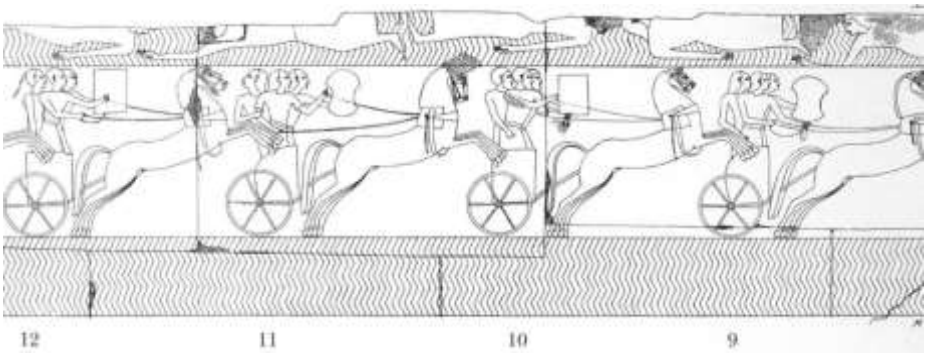


Figure 2. Hittites chariots, Battle of Kadesh, the chariot frieze at Abydos. Spalinger 2003, pp.196

Following the plan of King Muwatalli II, in the early morning on the tenth day, the first troops of 2,500 chariots invaded the camp of Ramesses.. The Hittites attack happened surprisingly and rapidly in the very early morning, Ramesses and his troops did not have time to get ready and organize an effective defence, and the Egyptian infantry fell into disarray. Egyptian Pharaoh Ramesses II was the main target of the Hittites offensive. Thus, the scenes which had been described in the '*Poem*' occurred (Van de Mieroop, 2011:220-221):

No officer was with me, no charioteer
No soldier of the army, no shield bearer;
My infantry, my chariotry yielded before them,
Not one of them stood firm to fight with them.
His Majesty spoke: "What is this, my father Amun?"
Is it right for a father to ignore his son?

Ramesses II fell into isolation, probably only his bodyguard followed and protected him. The question was why and how did the situation became so dangerous for Ramesses in the first place? The argument of Van de Mieroop (2011:221) has given a reasonable answer: 'the Hittites broke several rules of war: they did not issue a challenge nor attack frontally', he also argued that the Battle of Kadesh was 'a sign of a breakdown in the expected diplomatic and military behaviour of the time'. This was a serious accusation, but it is almost certain that was the truth. The Battle of Kadesh was the first major battle which a direct conflict took place between the kings of superpowers of Late Bronze Age (Van de Mieroop, 2011:221), or more concisely, the direct attack which planned and supervised by a king to another king. As the record of the *Poem* indicates, the Hittite King Muwatalli II did not lead the chariot force but was 'standing in the midst of his infantry and his chariotry, was watching the combat'. The second group of Hittite chariots joined into the battle and were led by kings of vassal states and brothers of Muwatalli II. The force of infantry totalled 37,000 (it is possible that the number of infantry was exaggerated by Egyptians) and was kept out of the battle, staying with Muwatalli in the camp of Old Kadesh (Spalinger, 2005:214-215) and holding for potential further conflict with the Division Ptah and Seth in the next phase of the conflict after (Santosuosso, 1996:441).

When Ramesses became isolated from the military forces, the battle reached a significant turning point. The fifth division of Ramesses, the Division of Na'arn, arrived at the battlefield suddenly changing the situation of combat. As Spalinger (2005:216-217) observed, the reinforcement, the Division of Na'arn arrived at exactly the right time, if they had come any earlier they would have been surprises by an attack like the Division Amun, and if they had come any later there would have been no chance to save the

isolated Pharaoh. Due to the arrival of the Division of Na‘arn, the reinforcement and Pharaoh’s bodyguard united and organized an effective counterattack to the Hittites advancement. They successfully stopped the onslaught of Hittites and pushed back the advancing chariots. Meanwhile, the Division of Amun and Pre(Re) had a chance to regroup and join in the battle. Next, the Division of Path arrived the battlefield from south.

Considering the arrival of reinforcements, the Division of Na‘arn marked the turning point of the Battle of Kadesh. It is necessary, then, to discuss in more detail aspects concerning this troop. First, the time of arrival. Based on the record of Luxor texts (Wilson, 1927:279-280), in the evening of the ninth day, two Hittite scouts were caught by the bodyguard of Ramesses at the Egyptian camp. They reported that the Hittite army was hiding behind Old Kadesh, fully armed and ready for a combat. Immediately, Ramesses convened a meeting with his war council, then sent a message to the Division Ptah (*Poem:* ‘the army of His Majesty, on the march south of the town of Shabtun.’) . The message saying that ‘in order to bring them’ to the camp of Ramesses, it is reasonable to believe that the same message also had been sent to the Division of Na‘arn, so they could come just on time. Second, who are *they*? According to the Reliefs that have been found in Breasted, the Division of Na‘arn came ‘from the land of Amurru’ along the Eleutheros Valley route, northwest of Kadesh (Wilson, 1927:285; Santosuosso, 1996:439-440). Therefore, there were two possibilities: they were the troops from the vassal king of Amurru, or that they were, as Burne (1921:193) suggested, ‘part of the garrison’ which Ramesses had left at the sea-base during the first Syria campaign one year before.

As a result, after the Egyptian troops reunited, the situation of the battle completely changed. A stalemate occurred between the opposing Egyptians and Hittites. According to the *Poem*, in the next morning (day 11), Hittite King Muwatalli II sent a letter to Ramesses II and requested for a truce, to which Ramesses agreed. The letter ended as: ‘peace is more satisfactory than combat! Give us breath.’ (*Poem;* Wilson, 1927:276)

After many years of repeated military clashes between Egypt and Hittite powers, the Hittite King Muwatalli II died and his brother Hattusili III usurped the throne from his

nephew (Van de Mieroop, 2011:222-223). Meanwhile the Hittites came under pressure from Assyria, another regional superpower emerging further to the east. By 1259 B.C, the twenty-first year of Ramesses II reign and fifteen years after the Battle of Kadesh, the Peace Treaty of Kadesh was signed between Ramesses II and the Hittite King Hattusili III. The treaty was written in different languages, either on silver or clay tablets. With this treaty, a defensive alliance was established between the two superpowers, leading to lasting peace for the rest of the reign of Ramesses (Van de Mieroop, 2011:222-223; Van de Mieroop, 2007:160).

2.4 Records of Battle of Kadesh

Totally there are at least 13 extant textual and visual records concerning the Battle of Kadesh. To announce his victory at Kadesh, Ramesses II ordered temples to be built in order to display the scenes of the campaign with inscriptions and drawing. Abydos was presented first, later on there are two versions at Karnak, three at Luxor, two in Ramesseum of Thebes and another one in Abu Simbel of Nubia (Spalinger, 2005:209). With these Egyptian records, Spalinger (2005:210) summarized four main events: the camp and the war council, the actions on the battlefield, trophies and captives, and the post-war speech to the gods of Egypt. Unfortunately, no detailed record about the Battle of Kadesh has been found from the Hittite side, only being briefly mentioned in two Hittite versions: the tablets of Treaty of Kadesh (in 1258 B.C, twenty-first years of Ramesses II reign and fifteen years after the Battle of Kadesh) and a historical record of another Hittite king (Santosuosso, 1996:423; Malek, 1999:192).

2.4.1 Reliefs

In terms of reliefs, the scenes of the Battle of Kadesh have been carved on the walls of five Egyptian temples: Ramesseum (Figure 2), Karnak, Luxor, Abydos and Abu Simbel (Bryce, 2005:234). At Abydos, on the west and north wall of the Ramesses II's temple, the reliefs of the Battle of Kadesh is represented by the traditional Egyptian sunken relief technique with much better detail than those depictions found in other temples. The

Abydos Relief completely shows the battlefield and the march of the division Na'arn. The Abu Simbel relief represents the 'standard arrangement' of the battle scenes (Spalinger, 2003:164-165). Based on these visible reliefs, we can restore the functional arrangement of Egyptian and Hittite warfare during the 13th century B.C. Through these reliefs, we are able to better understand what weaponry and armoury was used by the different troops, along with clearly seeing the specific components of chariots and the battle tactics employed at the time.

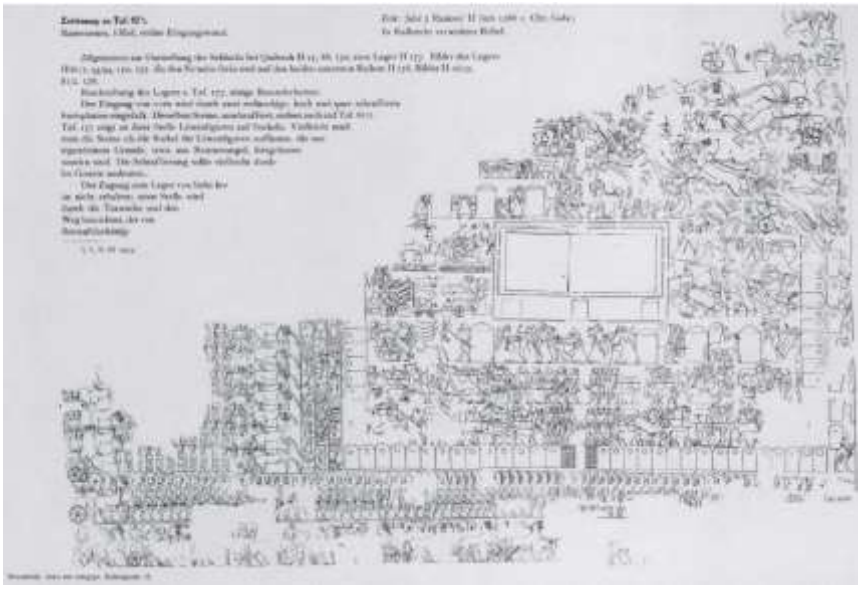


Figure 3. Battle of Kadesh [Ramesseum, Western Thebes, First Court; Camp]. Spalinger 2005, pp.218

2.4.2 Poem and Report/Bulletin

The text version of the Battle of Kadesh has two different forms: 'Poem' and 'Report/Bulletin'. The 'Poem' is also referred to as the 'Literary Record,' is made up of eight copies found on temple walls (Luxor, Ramesseum, Karnak), along with three other references on 'fragments of hieratic papyri' (Santosuosso, 1996:425). Compared with the 'Poem', the 'Report/Bulletin' or the 'Official Report/Bulletin' is a shorter literary version, seven copies have been kept, found in Abu Simbel, Ramesseum (first and second pylons), Abydos, Luxor (Wilson, 1927:278). Overall, these textual versions provide more precise details of battle narratives, in particular, the dates, the marching routes, the positions of the armies, the number of soldiers and chariots belonging to the Hittites.

2.5 Conclusion

Overall, through the review of the narratives of the Battle of Kadesh and the major wars in Syria-Palestine prior to 1274 B.C, the warfare of the Late Bronze Age has been reconstructed. More details about the military organizations on both sides of the battle, Egyptian and Hittite, will be further discussed in the subsequent chapter 3 and chapter 4.

Chapter 3- The military organization of Egypt in 13th century B.C.

3.1 Introduction

As one of the 'two core zones of civilization in the ancient Near East' (Hamblin, 2006:237), Egypt has a long military history Pre-Dynasty. The special geographical and ecological foundation of the Sahara and the Nile affected the social organization and military actions of Egyptians. According to Spalinger (2005:235), during the reign of Thutmose III (1479-1425 B.C) a 'standard system of military organization' had been established.

In the 13th century B.C., Egypt was under the rule of the first three Pharaohs in the Early 19th Dynasty: Ramesses I (1295-1294 B.C), Seti I (1294-1279 B.C) and Ramesses II (1279-1213 B.C) (Van de Mieroop, 2011: 214). Ramesses I used to be the military commander/general of 18th Dynasty, as well Seti I; Ramesses II was a militaristic Pharaoh like his father Seti I and won his glory in the battlefield, even when he was the crown prince and co-regent during the reign of his father. The 'Ramessid Empire' had a long military tradition, even sparking social changes (Spalinger, 2005:Ch17-237).

3.2 Military hierarchy

Same as in the most kingdoms of the Late Bronze Age, the Pharaohs of Egypt occupied the highest position in the military force. Since the 17th Dynasty, the Pharaohs led thie army and fought in the battlefield, which has been described as 'martial spirit' (Spalinger,

2005:Ch17-235). Ramesses I, Seti I, and Ramesses II, led their army in major campaigns, many of which have been shown on the walls of temples like the relief at Karnak (Figure 4) depicting the battle scene of Seti I fighting with the Hittites as a charioteer. During the period of the New Kingdom, many iconographic representations have shown Pharaohs in the image of a warrior, in particular, the Pharaoh wearing the special blue 'war crown' (Figure 5).

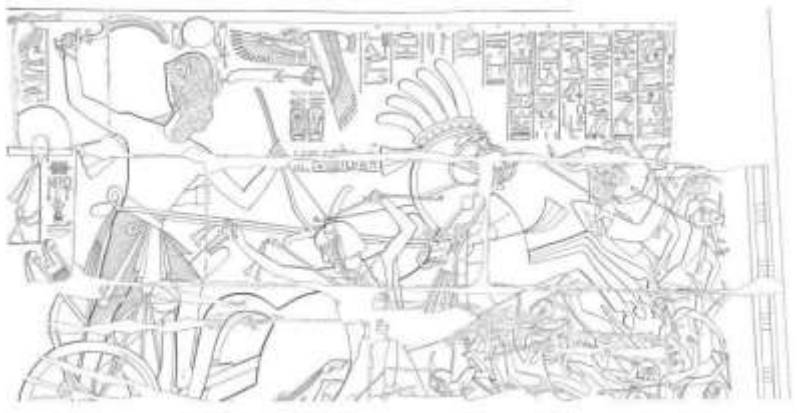


Figure 4. Seti I against the Libyans, reliefs and inscriptions at Karnak. Spalinger 2005, pp.194

Figure 5. Relief fragment showing Ramesses II wearing the blue 'war crown', probably from Tanis.
Shaw 1991, pp.43

Under the 'warrior Pharaoh', the next highest military officials were referred to 'sons' (Spalinger, 2005:Ch17-234). This chief commander could be the biological son of Pharaoh, like Ramesses II who was the crown prince and the highest military official during the reign of his father, or the 'sons' could be a high ranking soldier who was not the son of the Pharaoh. In this case, the title of "king's son" represented their 'economic dependence' (Spalinger, 2005:Ch17-234) and their close relationship with the Pharaoh.

Within the Egyptian military tradition, the Egyptian army was geographically separated into two basic corps, the north corps and south corps. Correspondingly, the chiefs of each corps were called 'chief deputy of the northern corps' and called 'chief deputy of the southern corps.' These two chiefs were under the command of the "king's son" (Shaw, 1991:27). Under the chief deputy, each corps was led by generals, who were the commanders of divisions also called the 'great overseer of the division' (Shaw, 1991:28). These generals and chief deputy, as well the chief commander, were all members of the Pharaoh's war council. The war tactics and strategies would be discussed and dictated by the war council, for example, the night before the Battle of Kadesh, Ramesses II held the war council where they discussed and made decisions with fellow officials.

Shaw listed the hierarchy of the Egyptian military organisation (Figure 6) in his book *Egyptian Warfare and Weapons* (1991:27). Under the higher officials of war council members, in each corps, there were senior officials who commanded the smaller force units, including scribes of infantry, commander of a host, standard bearer and adjutant/deputy. It is worth noting that the officers consisted of civilian cadres and combat officers. These civilian cadres have been called 'scribe' and belong to the 'scribal administration.' Scribes were responsible for recording the provisions and noting the war booty, recording the recruits, tracing deserters, and documenting crimes (Shaw 1991, pp.28). Both the civilian and combat officers included different rank leader for different size of force units.

Figure 6. Hierarchy of the Egyptian armed forces in the New Kingdom. Shaw 1991, pp.27

3.3 Pharaoh's Army

In the view of Spalinger (2005:Ch17-236), the 19th Dynasty was the first time in Egyptian history that 'a permanent standing group of troops was established.' 'Military man' became a lifetime long profession, and had been enfolded into a necessary part of society, some even taking up key positions in the court of Pharaoh.

3.3.1 Military units and formations

According to Shaw (1991:27-28), the smallest military units of the Egyptian army was the 'squad,' consisting of ten soldiers. Above these smallest units, the system of grouping for the structure of military units was established on a quinary, or base-five. A platoon is five squads, with 50 soldiers total and led by a platoon leader who has been called 'chief of fifty'; the platoon was the 'basic military unit' due to their tactical aspect. The company consisted of five platoons, of 250 soldiers and commanded by the deputy. A host was comprised of at least two companies with the size of at least 500 soldiers and followed the order of the commander of the host. The division was the largest tactical unit, with one division being made up of ten hosts with 5,000 soldiers and commanded by a general. As recorded in temple inscriptions of Seti I and Ramesses II, each division was named with 'a name of a god followed by an epithet', like 'Amun, Rich of Bows' and 'Pre(Re), numerous of Heroes' (Sha, 1991:28). For the Battle of Kadesh, the *Poem* mentioned five divisions of Ramesses II, they were -Amun, Pre(Re), Ptah, Seth and Na'arn.

3.3.2 Types of troops

As stated in chapter 2, according to the Battle of Kadesh, the major types of troops were infantry and chariotry. Infantry was comprised of foot soldiers who, unsurprisingly, marched on foot during the campaign. They were armed with body armour, a helmet, a shield, daggers or swords (not for common soldiers), and with either a bow (together with quiver) or a spear (Shaw, 1991:42-43). Some infantries were also trained to take the

responsibility of sappers in the siege war (McDermott, 2004:114-115). The chariotry became the elite troops of the Egyptian army from the reign of Thutmose III (Spalinger, 2005:ch17-235). Each chariot had two soldiers on its platform, with the charioteer holding the reins and shield and the chariot warrior armed with spear and bow (Figure 7). During the campaign, some of the infantry marched together with chariotry, as the reliefs of Battle of Kadesh at Abydos shows each chariot carrying two soldiers which were supported and preceded by four infantries (Spalinger, 2003:165). As the elite troops, chariotry represented the 'new aristocratic warrior class' in the New Kingdom Egypt. The Pharaohs were carved as a chariot warrior in the reliefs of battle scenes, such as the relief of Seti I against the Libyans in figure 4 (Shaw, 1991:41).

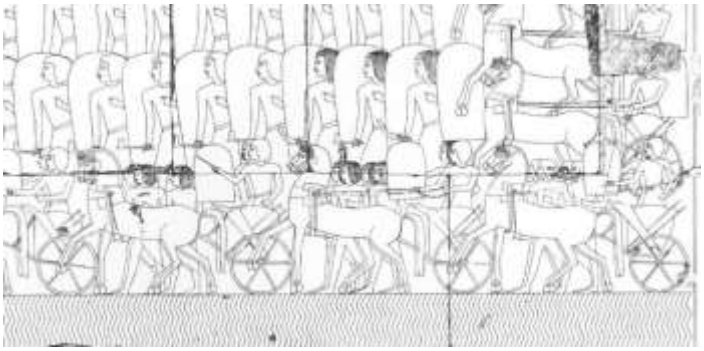


Figure 7. Egyptian chariots, reliefs of Battle of Kadesh at Abydos. Spalinger 2003, pp.192

Apart from these two major troops, the garrison and ship contingents should be mentioned. Garrisons were the soldiers who quartered in the fortresses of border or strategic locations, their mission being to protect these important locations (Spalinger, 2005:ch17-232). In the Battle of Kadesh, the fifth division Na'arn was part of the garrison quartered at the sea-base. Egypt did not have a marine force (McDermott, 2004:117-118), but the ship contingent quartered at Delta and used the Nile River to protect the area and transfer soldiers, animals, chariots and weapons via ships during campaigns (Spalinger, 2005:ch17-236; McDermott, 2004:115). Moreover, there was no evidence to prove the existance of cavalry amongst Egyptian troops, though some reliefs show horsemen, these were likely scouts (McDermott, 2004:113).

Among these troops, one particular type of soldier stood out: the priest soldiers. . As mentioned by McDermott (2004:107-108), these divisions consisting of priest soldiers were already part of the Pharaoh's army since after the Amarna Period. It is probable that the duty of priest soldiers closely connected the ritual and religious performance to the army, especially during the campaigns, before, and after battles.

3.3.3 Foreign troops

Egypt had a very long history of hiring mercenaries from the Early Dynastic Period on, evidenced by the earliest of mercenaries from Nubia. Later on, Syrian, Libyan, Sherden, Shekelesh and even Hittite mercenaries were accepted (Shaw, 1991:30). Some of these mercenaries even got into the upper-class of society. Healy (1993:38) proposed that these Libyans, Nubians, Canaanite and Sherdens who served in the military used to be prisoners and choose to become soldiers instead of being sent into slavery. These war prisoners, then, were forced to serve and fight for the Pharaoh as foreign troops in the Egyptian army, usually as auxiliary forces. The dress and equipment of each foreign troop was different, as seen on the reliefs of the Battle of Kadesh (Figure 8). The Sherden troops were easily recognizable. They carried round shields in their left hands, long spears on their backs, swords held in their right hands, and their helmets were decorated with horn and disc shape decorations. The Sherden mercenaries played a very important role during the Battle of Kadesh (Figure 9), acting as the elite bodyguard of the Pharaoh (Spalinger, 2003:171). They performed their duty very well and protected Ramesses before the arrival of reinforcements.

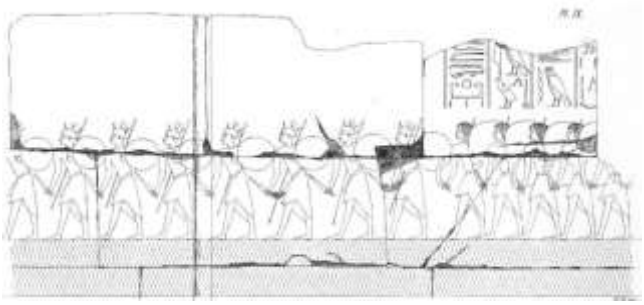


Figure 8. Sherden troops, reliefs of Battle of Kadesh at Abydos. Spalinger 2003, pp.194

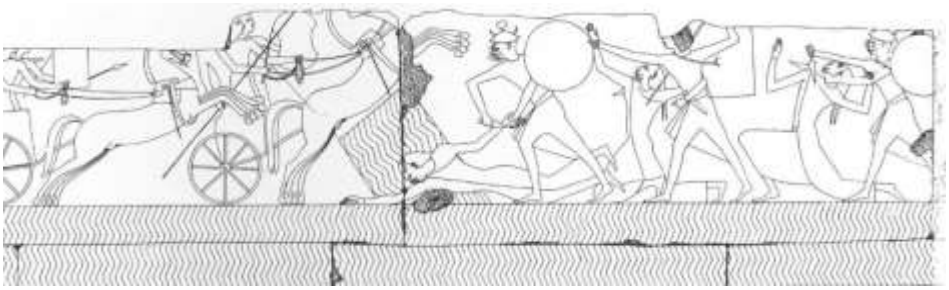


Figure 9. Egyptian troops and the enemy chariots, reliefs of Battle of Kadesh at Abydos.

Spalinger 2003, pp.195

3.4 Conscription and training

As addressed in Chapter 2, in the Battle of Kadesh in 1274 B.C. the total number of Hittite troops numbered around 47,500 soldiers, while the number of Egyptian forces was about 23,000 to 25,000 (the calculation based on Ramesses said that the Hittites army was more than double size of his forces; as well if count with the full members of each division, the total number of the five divisions of Ramesses should be around 25,000). According to Spalinger (2005:147), the total population of Egypt was about 2.9 million around 1290 B.C, assuming an equal number of males and females, the total population of male Egyptians was roughly 1.45 million. Above all, it is possible that one out of 58 Egyptian males participated in the Battle of Kadesh. The troops that participated in the Battle of Kadesh were part of the army of Pharaoh Ramesses II, so that the total number of Pharaoh's army should be more than 25,000 and the ratio should also be higher.

Therefore, conscripting and training such a big army was a difficult task, even though there was only a very small number of these soldiers were permanent standing troops. Referring to McDermott (2004:107), there were two ways to join in the Pharaoh's army: hereditarily and through conscription. Conscription was the major source for the Egyptian military services. Soldiers were seasonally enlisted for special campaigns or missions and they may serve in part time in the campaigning seasons while also working in the fields during off-duty seasons. The campaigning seasons usually lasted from late spring to early autumn when there was less demand and need for agricultural

workers(Spalinger, 2005:150). As seen in the Battle of Kadesh, Ramesses II and his four divisions started off in early April in 1274 B.C.

As aforementioned, the Egyptian army was separated into the north corps and south corps. Correspondingly, the military training for recruits also organized in two 'major centres' which were located respectively in north and south (McDermott, 2004:108). In these military training camps, the program included 'a combination of drill practice and regular physical punishment' (Shaw, 1991:29). However, elite members of the Pharaoh's army were 'highly educated' not only with the fighting skills but also with the skill of scribe and military strategy.

3.5 Weapons and military technology

Benefiting from the introduction of the new technologies in charioteering and metalworking in the Second Intermediate Period, Egyptian weaponry had an obvious advantage which compared with other smaller states in 13th century B.C. During this century, the Military equipment was controlled and supplied by the state during the campaigns.

3.5.1 Chariots

The chariot was the most significant innovation in military technology during the Late Bronze Age, changing the very form and nature of warfare. According to a study by Moorey (1986:197-198), the domesticated horse was first reared by humans in the 'middle Dnieper region of south Russia in the late fifth and fourth millennium B.C.; Horses then were brought into Anatolia and Mesopotamia in the third millennium B.C; after this, the horse-drawn wheeled vehicles were created in the Near East in the middle of the third millennium B.C. Over the subsequent few centuries, the technology of horse-drawn vehicles (war wagon) was well developed, as the wheel was changed from a block-wheel to a cross-bar wheel, then to a spoked-wheel. Eventually, the number of spokes increased from four to six, even to eight in some instances (Moorey,1986:199-201). The

horse-drawn light chariot appeared in the early second millennium B.C (Piggott, 1978:42). During the Second Intermediate Period, with the invasion of Hyksos, the chariot was introduced to Egypt (McDermott, 2004: 129). The Egyptian chariots played a significantly important role in battles of the 13th century B.C, as seen in the second Syrian campaign of Seti I, who won the battle at Kadesh by force of his chariots (Spalinger, 1979:34).

As shown on the reliefs of the Battle of Kadesh at Abydos (Figure 10), the Egyptian chariots were drawn by two horses, 'two horses were yoked to the chassis by a long pole attached to the centre of the axle' (Shaw, 1991:39). Egyptian chariots were made by wood with leather and metal components, and had two wheels each with six spokes. These wheels supported a wooden 'semi-circular framework' for charioteer and warrior to stand (Spalinger, 2003:177; Shaw, 1991:39). The Egyptian chariots were lighter and faster than the Hittite chariots. In the battlefield, the chariot fought as a fast-moving firing platform for arrows, as well as a vehicle to transfer infantry.

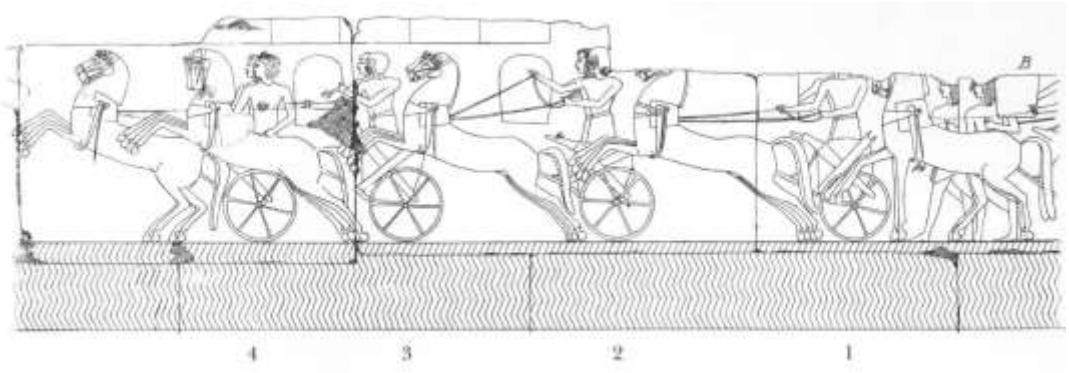


Figure 10. Egyptian chariots, Battle of Kadesh, the chariot frieze at Abydos. Spalinger 2003, pp.193

Each company generally had 25 chariots attached (Healy, 1993:39); therefore, each division would have had at least 500 chariots. The total number of Egyptian chariots in the Battle of Kadesh accompanying Ramesses' five divisions would have been around 2,500.

Maintaining the military force of chariots would have been extremely expensive. McDermott (2004:132) indicated that the chariot workshops were built in the major temples and were working on both chariot production and repairs; during the campaigns, there would have also been groups of craftsmen following the army to fix the chariots whenever needed. There were two major chariot training schools that were based in the north and south corps (McDermott, 2004:132), these schools prepared the military training programme for chariotry. Raising chariot horses also became a specific career, as non-combatant troops the 'stable master' was in charge of training and rearing the military horses (Spalinger, 2005:ch17-239). According to the study of Hansen (1992), in ancient Egypt, the training of chariot horses was complex in procedures and a time-consuming task, as well as costly. This intensive training and conditioning of both men and horses led to the vital contributions of the chariotry in the Battle of Kadesh.

3.5.2 Military equipment

The infantry equipment normally included body armour, shield (with different shapes according to different troops), helmet (with different shapes and material), bow and arrow, dagger and spear (Shaw, 1991:42-43). Figure 11 shows the image of four basic weapons of Egyptian infantry: 'composite bow, bronze-headed battle-axe, *khopesh* sword, and bronze thrusting dagger' (Healy,1993:36). Bronze was the main material used for Egyptian weaponry. Depending on what troop , the soldiers were outfitted with different weaponry reflecting combat preference; , for example, the Sherden mercenaries (Figure8, 9)used the equipment from their own ethnic groups, choosing to use a round shield, fighting with sword and spear, and with helmets that were decorated with horns and disc shapes; and the native Egyptian infantry almost armed as archers. The chariotry carried a shield, bow and spear.

Figure 11. The basic inventory of weaponry used by the Egyptian infantry at Kadesh. Healy 1993, pp.36

3.6 Battle tactics

Since chariot practices were introduced to Egypt during the Second Intermediate Period, causing the Egyptian battle tactics to completely change.. For instance in the Battle of Kadesh, according to the study of Spalinger (2005:217), the Division of Na‘arn followed the marching order as the first line with chariots, then came infantry, then came another line of chariots. In the battlefields, the chariots fought at the wings or in the intervals of infantries(McDermott, 2004:115). For infantries, during the combat, experienced soldiers fought in the front line of each phalanx, with recruits and reserves positioned behind them (Healy, 1993:37).

3.7 Logistics

Military logistics were significantly important for the army during the campaigns and battles. It was a challenge to maintain the army supply lines, especially out of their own land. In the marching of the Late Bronze Age, the soldiers could only carry their own supplies for 10 or 11 days (Spalinger 2005:86). In addition, the Egyptian army was accompanied by lager groups during the campaigns, such as cooks, doctors, scribes, even

with traders, metal workers, female and children servants, and prostitutes, exponentially increasing the amount of supplies and materials needed to keep the company alive, let alone healthy and fit for battle (McDermott, 2004:116-117). Undoubtedly, most supplies would have been accumulated and replenished during the actual campaign, especially food and water provisioning. To solve this problem, the troops marched through the subject lands or friendly territories who could provide the supplies (Santosuosso, 1996:431, 432). The troops also had to draw military supplies themselves in some special situation. With the order of the Pharaoh, some supply bases were built in strategic locations along the routes. Consider the example of the Megiddo Campaign of Seti I: he sent the army to protect the water wells (for both soldiers and animals) and fort stations which had been built previously along the routes (McDermott 2004:94).

3.8 The role of women in the warfare

The role of women in the war has not been mentioned much in the Egyptian military history. There were two images that depicted female figures in the fighting scene, one is Nefertiti 'depicted smiting the heads of the enemy in a traditional pharaonic pose', and another shows a female figure shooting an arrow from a chariot (McDermott, 2004:93). Unfortunately, neither of these are identified as women of 13th century B.C, leaving the role of Egyptian women in warfare during this period still unclear.

3.9 Conclusion

To conclude, under the ruling of Warrior Pharaohs (Ramesses I, Seti I and Ramesses II), the whole system of the Egyptian military organization was effective, but with less technological and strategic innovation. The military specialization also changed the structure of society. The 13th century B.C, Egypt, with its strong military power, maintained peace and territories, especially in the area of Syria-Palestine.

Chapter 4- The military organization of Hittite in 13th century B.C.

4.1 Introduction

The New Hittite Kingdom, which also came to be known as the Hittite Empire, was established in the region of Anatolia. Military activity in Anatolia can be traced back to the Chalcolithic period (Hamblin, 2006:285). From the 14th to 13th century B.C, the Hittite Kingdom(Map 7) expanded from the 'Aegean coast of Turkey, across Anatolia through Syria south to the northern frontier of Damascus, and to the western fringes of Mesopotamia' (Bryce, 2012:725). The 13th century B.C was the last prosperous period before the fall of Hittites New Kingdom. During the 13th century Hatti was mainly under the rule of the kings Muwattalli II (1295-1272 B.C), Mursili III (1272-1267), Hattusili III (1267-1237) and Tudhaliya IV (1237-1209) (Van de Mieroop, 2007:159-160). The Hittite activity of 13th century B.C is largely military conflict (Bryce, 2002:98), with the internal conflicts for the kingship, rebellions of vassals in western and southern Anatolia and Syria, and the military conflict with Egypt in the area of Syria-Palestine being the main themes of Hittite engagement (Van de Mieroop, 2007:162-166). Frequently, campaigns needed various resources to support larger armies and the huge logistics of large scale combat in itself; consequently, this need caused a series of problems for the kingdom which historically had a 'demographic and production problem' from the beginning of the Hittite Kingdom (Liverani, 2014:316).

Map 7. The world of the Hittites. Bryce 2002, pp. viii

4.2 Military hierarchy

Similar to the Egyptian Pharaohs, Hittite kings acted as the chief commander of the army. In this role, the king himself led major campaigns of against other kingdoms, such as the two-time Battle of Kadesh with Egypt, or having supressed rebellions, such as the Wilusa campaign of Muwattalli II (Bryce, 2012:734-735; Bryce, 2005:225-226). Under the king, the most favourite son of the king usually held the position of the army's commander-in-chief as the crown prince [*TARTENU*]; before he got this position, he had received systematic military training and acted as a commander of a division in some battlefield (Bryce, 2002:21; Bilgin, 2018:463). As in most military dependent states, the maintenance of competent military positions and commanders was vital for the survival of the administration. These positions, in the Hittite Empire, were generally filled by the extended family of the kings, working to ensure their loyalty to the kingdom itself (Bilgin, 2018:345). Under the title 'commander-in-chief', there was the position of GAL MEŠEDI which translates to 'Chief of the (Royal) Bodyguards'. This position was usually granted to the king's brother (Bilgin, 2018:97-98).

As stated by Biligin (2018:462-463, Appendix 5 Frequently Mentioned Titles), some other military titles have been recorded in letters, tablets, and oracle texts, including Chief of the Heralds [GAL NIMGIR] with duty of chariot training, Chief of the Cupbearers [GAL SAGI(.A)], Chief of the Wine [GAL GEŠTIN MAGNUS], Chief of the Chariot Drivers [GAL KARTAPPI], Chief of the Chariot Fighters [GAL KUŠ7], Chief/Overseer of Golden Chariot Fighters [GAL/UGULA KUŠ7 KÙ.GI], Overseer [UGULA], Overseer of the Thousand Chariot Fighters [UGULA 1 LI KUŠ7], Overseer of the Military Heralds [UGULA NIMGIR.ÉRIN.MEŠ]. In addition, the 'Overseer of the Ten of the Army' [UGULA 10 ŠA KARAŠ] (Biligin, 2018:350), was the lowest rank in the military hierarchy: the units of ten soldiers that made up the smallest military units, not unlike the *squad* in the Egyptian army. All this presented, then, the Hittites army had a very clear and detailed structure of military hierarchy.

4.3 Hittite King's Army

The army of Hittite king consisted of the standing army, provincial troops, vassals troops and mercenaries. Same as Egypt, chariotry and infantry made up the majority of the type of troops.

4.3.1 Standing army

Due to its geographic location, the Hittite kingdom faced more adversaries in their surrounding territories. It was not uncommon for international and regional conflict to occur on or near their soil, naturally embroiling them in conflict by proximity. Therefore, a standing army was extremely necessary for not only the safety of, but the survival of Hittite kings. The elite troops of the Hittites were a permanent professional army, including infantry, chariotry and the king's bodyguard (Bryce, 2012:734-735). These troops attended the campaigns with the king, marching out of Hatti and also worked to prevent and suppress revolts. They quartered in the military barracks during the wintertime, making the army truly full-time and professional. However, due to the strain this would cause on the labour force, the standing army also had to attend to some other labour works during the off-season, such as building projects and acting as the police force (Bryce, 2012:734-735).

4.3.2 Vassal troops

According to Bryce (2012:730), the Hittite Kings kept their control in the subject territories via the 'vassal treaty system', which was effective and successful during the middle 14th to the middle 13th century B.C. Through the loyalty of the vassal rulers, Hittite kings were able to garner support for both manpower and finance. With this vassal treaty system, one of the most important responsibilities of the vassal kings was to send troops to participate in the king's most champions, and the vassal king or princes would lead the troops themselves. The vassal treaty system is evidenced by two main pieces of evidence, The first is the treaty of Hattusili III with Bentesina of Amurru, which had written 'And if (I send) a prince or a high-ranking nobleman together with his infantry and (his) chariotry (to the aid of Bentesina)' (Bilgin, 2018:358). The second evidence

derives from the *Poem* of Battle of Kadesh, 'every warrior of the foemen of Hatti, together with the many foreign countries which were with them: of Arzawa, Mysia, Pedasia, of Keshkesh of Ilium, of Kizzuwadna, of Aleppo, of Ugarit, Kadesh, and Lycia; being three to a span, acting together'.

Other than sending troops, the vassal kings also provided financial support for campaigns of Hittite kings. Referencing a letter tablet found at Ugarit, the king Tuthalijas IV has received 50 *minas* of gold from the vassal king of Ugarit during his war with Assyria, which instead of sending troops from the vassal(Korošec, 1963:163).

Mercenaries were also employed by Hittites king. The payroll, then, for both mercenaries and vassal troops surely got expensive. As was mentioned in *Poem,* 'He (Muwatalli II) left neither silver nor gold in his land, but despoiled it of all its possessions and gave to all foreign countries to bring them with him to combat'.

4.3.3 Types of troops

The Hittites troops included infantry and chariotry, as well as special forces of garrisons. Infantry used to be the majority of Hittite troops in the Middle Bronze, the infantry of the Late Bronze Age armies were equipped with the 'standard Near Eastern weapons: mace, javelin, axe, and thrusting spear'(Hamblin, 2006:303), along with helmets and shields. In the Hittite New Kingdom especially during 13th century B.C, the infantry became less important in the king's army. Particular, for the battle in open space (Goetze, 1963:126), the Battle of Kadesh is a good example: Muwattalli II held his 37,000 infantry with him in the camp at Old Kadesh but sent 3,500 chariots to attack Ramesses II at the flat and open space west of Kadesh..

Chariotry (Figure 12) was highly trained elite troops, each chariot has three soldiers on board, one charioteer and one archer, the third warrior who hold the shield to protect the rest (Bryce, 2002:111). In the Battle of Kadesh, there were 3,500 chariots fighting for Muwattalli II, therefore with a total number of 10,500 soldiers. To protect Hittite's long

borderline, many watch-towers were built and defended by garrison forces who were under the command of the 'Lord of the Watch-Tower' [BEL MADGALTI] (Bryce, 2002:116).

Figure 12. Hittite charioteers at Kadesh. Bryce 2002, pp.112

4.4 Conscription

The total population of Hittite's capital, Hattusa, was around 10,000 to 40,000 which varied during the different time (Bryce, 2002:250). Liverani (2014:315) postualted that in the 13th century B.C, the population of Hattusa was about 20,000 people. Throught the course of Hittite history, the kingdom experienced a long-standing issue with manpower shortages (Bryce, 2012:730). Hittites, then, saw war was a 'regular source of manpower' (Bryce, 2002:100). Apart from the standing army, provincial troops, vassals troops and mercenaries, 'levies drawn' from agriculture labours and 'war prisoners' were other sources of military conscription (Bryce, 2002:100; Bryce, 2012:734-735). Same as the Egyptians, Hittites also had a campaigning season which covered from spring to early autumn, leaving time in the year for agricultural work to be carried out. (Bryce, 2002:100).

4.5 Military technology

In the Hittite kingdom, horses and chariots were introduced around 1600 B.C (Bryce, 2002:111), earlier than in Egypt. Compared with the lighter Egyptian chariots, the Hittite chariots had a bigger platform which could carry one more warrior than their Egyptian

counterpart. This is depicted on the Abydos' reliefs of Battle of Kadesh (Figure 13), where one of the Hittites chariots is shown with eight spokes, whereas the Egyptian chariot boasts 6. Therefore, the Hittites chariots were heavier, stronger and more combative than the Egyptian chariots. However, the Hittite chariots could not 'execute rapid turns or changes of course without overturning' (Healy, 1993:56). This lapse in integral ability no doubt contributed to the Hittite did not get the victory in the Battle of Kadesh.

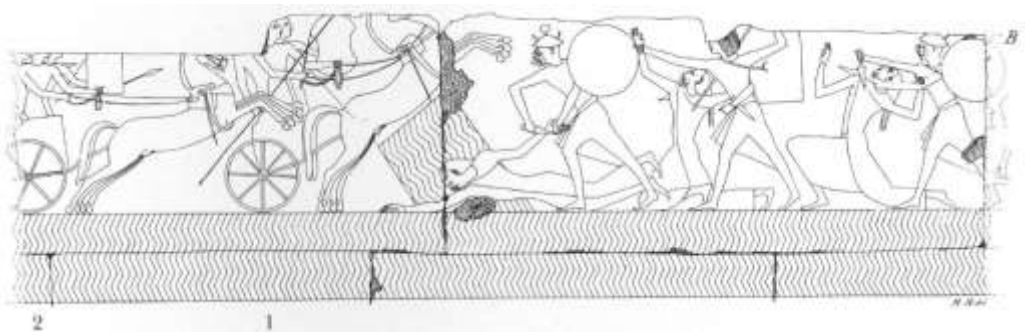


Figure 13. Hittites chariots (with eight spokes), Battle of Kadesh, the chariot frieze at Abydos. Spalinger 2003, pp.195

4.6 Siege tactics

In the Late Bronze Age, chariots were widely used in warfare, sparking massive development in siege warfare itself (Goetze, 1963:128). In the view of Bryce (2002:115), four siege tactics were used by Hittite kings when they faced a strongly fortified city during the campaigns. The objective of siege warfare was as follows: first, force the ruler to surrender without military action; second, destroy the peripheral territory of the city, such as food fields (this kind of siege tactic usually followed by another second campaign); third, direct attack, with the tactics of surprise attack even the night attack, Hittites also have the equipment as 'battering rams' to break the city door; the last option was to enact a protracted siege, blockade the city until surrender.

4.7 Logistics

During the campaigns, soldiers carried their own supplies from Hattusa (the same as Egyptian soldiers, they could not carry supplies for more than 10 to 11 days). They were

also accompanied by large ‘baggage trains’ which had donkey and four-wheeled ox-drawn carts to carry equipment and other supplies (Bryce, 2002:113). Besides these, they could get supplies from food storage stations which were strategically located along the routes, as well as from the provinces of governors and vassals kings when the army marched through their lands (Bryce, 2002:106). On the way back to Hattusa, soldiers could get enough food from the booty.

One big problem should not be ignored, there was no grain grown in the area of Anatolia, so the supply of grain completely depended upon the import from Syria (Mukish) and Egypt (Liverani, 2014:318). Therefore, it must have been a serious problem for grain supply for the campaign troops if there was war in Syria or when Hittites fight with Egyptians.

4.8 Ritual of warfare

Hittites believed that the victory of the warfare was brought from the gods who ‘marched in front of the king and his army’, especially from the weather-god of Hatti (Goetze, 1963:129; Korošec, 1963:163). Hittites had their own ‘ritual to declare war’ (Liverani, 2014:319): at the very beginning, a war notification would be sent to their enemy, as well to the gods of their enemy in the form of ‘legal texts’. Before the campaign, an ‘oath-taking’ ceremony would be held between the lower rank officers and common soldiers. In the battlefields, the ritual also helped Hittites to defeat the enemies who were in ‘lack of moral value.’ ‘Magic rituals’ have also been mentioned which were speculated to transform the soldiers of the enemy camp into harmless women (Liverani, 2014:319, Bryce, 2002:113). The most significant and important military ritual, though, were the oracles. Hittites crafted the plan of attack and strategy through oracles before every military campaign (Liverani, 2014:320).

4.9 Conclusion

In conclude, before the collapse of New Hittite Kingdom around 1200 B.C, Hittites experienced a series of warfare during the whole period of 13th century B.C, including international warfare, vassal rebellions and internal conflicts for kingship. For Hittites, the war machine was heavy and expensive which was caused by the shortage manpower and the big number of enemies surrounded along the borderline.

Chapter 5- The military organization of other major civilizations in 13th century B.C.

5.1 Introduction

In the 13th century B.C, outside of the Near East, civilizations flourished in places like East Asia and Aegean. The Shang civilization bloomed in the central area of the Morden China, while the Mycenaean civilization occupied the western Aegean. During the Bronze Age, both of these civilizations participated in direct or indirect contact with the civilizations of the Near East, especially through the exchange of military technology.

5.2 Yin-Shang

In the middle of 16th century B.C, the Shang civilization (also be called Shang or Yin Dynasty) was established in the middle Yellow River region (Li 李峰, 2014:56),later expanding to the North China Plain (Map 8). This ancient urban civilization was the second dynasty of the pre-Qin period, which developed the widespread use of 'wheeled vehicles, a system of writing and bronze working' (Young, 1982:311). With the record of oracle bone inscriptions, military activities of the Shang Dynasty can be trace back to 1600 B.C (Schneider, 1952:74), the early founding period of Shang Dynasty. However, the beginnings of warfare in China were surely be much earlier than this. Around 1300 B.C, with the political reason, King Pan Geng （盘庚） moved the capital from Yan （奄） to Yin（殷）, the region of modern Anyang （安阳） (Li 李济, 2012:346), that

was the beginning of late Shang Dynasty which also be called Yin-Shang （殷商）. During the 13th century B.C, Yin-Shang was under the ruling of King Xiao Xin (小辛 1300-1251 B.C) and King Wu Ding (武丁 1250-1192 B.C) (Hu 胡厚宣 and Hu 胡振宇, 2003:629-630).

Map 8. The external world of late Shang. Li 李峰 2014, pp.84

Not many records remain regarding the military organization in the Early Shang Dynasty, but undoubtedly this dynasty already had a certain size army and troops of infantry and chariotry, as well as bronze weapons (Li 李忠林, 2014:5). Same as the Pharaohs of Egypt and the kings of and the Hittite empire, the kings of Shang Dynasty were the highest military leader of their army. Under King Wu Ding (武丁), the oracle bone recorded that there were about 50 large or small scale wars that occurred during his reign, including a series of military campaigns against enemies from the Ordos region and Eastern Mongolia. During the 29 to 32 years of King Wu Ding's reign (1221-1218 B.C), he led three campaigns to conquered lands of the enemies, including the states of Ku Fang, Tu Fang and Xiao Zhi (Li 李济, 2012:438-439).

Yin-Shang operating under a very specific system of administration, named "内外服制度"(《尚书•酒诰》which means the central area of the Dynasty (around the capital)

was directly ruled by the king, while the lager appanage and vassal areas were ruled by Hou（候） or Bo （伯）. The small appanage and vassal areas were also ruled by lower rank liege-lords, which included Ren（任）, Tian（田）, Wei（卫）. The lords of appanages usually came from the royal family, such as princes, brothers, or even wives of the king. All of these rulers were conferred by the king. As a result of the focus on loyalty and familial relations when selecting and installing rulers in surrounding areas, there was a central army which was under direct control of the central administration, as well as local, peripheral troops which were led by the ruler of appanage or vassal areas (Li 李忠林, 2014:6-7).

The central army included the king's bodyguards and conscripted troops from the king's land and various clans. The king's bodyguard was a standing army, called Ya （亚）, with no more than 10,000 soldiers whom came from senior noble families (Li 李忠林, 2014:14,21). The majority of soldiers making up the central army were conscripted. Since the Yin-Shang society and economy was based largely on agriculture, same as in Egypt and the Hittite civilizations, the Yin-Shang kings also had the campaign season occur between the agricultural cycle, "三时务农而一时讲武" 《国语·周语上》which means: for conscript troops, during a year three quarters for farming and one quarter for the military training and campaigns. According to Li 李济 (2012:408), the king had the responsibility to ensure the safety of his various clans, and in return, these clans should perform their duties to pay tribute and send troops to fight for the dynasty. The clan troops were usually led by princes, the sons of princes, and other major close relatives.

However, vastly different from the role of Egyptian and Hittite women, royal women of Yin-Shang, especially wives of the kings, played a very important and active role in the social activities and military affairs of the Yin-Shang. One example of this exemplary status granted to royal women comes from the Lady Hao (Fu Hao 妇好), one of the royal wives of King Wu Ding. Based on the records of oracle bone inscriptions, Lady Hao held ritual performances and had her own appanage and local troops numbering 3,000 soldiers. Her name appeared about 180 times on the oracle bone inscriptions (Thorp，2006:136).

Many times, King Wu Ding divined for her good fortune on leading military campaigns. One of the oracle bones showed that she had led three divisions of the king and her own 3,000 soldiers for a campaign against the rebellion of one vassal (Chang 张光直, 2017:1204-205, Li 李峰, 2014:75-76). In 1975-1976, the tomb of Lady Hao was excavated in Xiao Tun(小屯）of Anyang, producing a large number of military equipment, including 91 bronze dagger-axes（Tong Ge 铜戈）, 59 bronze arrow clusters（Tong Cu 铜簇）, and 4 bronze flat axes（Yue 钺）, one of the largest bronze flat axes measuring 39.5 cm long and weighing 9 kg (Geng 耿超，2004：84).

Based on the record of oracle bone inscriptions, the king's central army consisted of 3 divisions (三师), totalling 30,000 soldiers each. The army of Yin-Shang united with the system of grouping was established on decimal and trit system; The 'Division' was the largest tactical unit, with one division -Shi（师） being made up of ten brigades -Lv（旅） of 10,000 soldiers and led by a commander with the title of Shizhang （师长）. The brigades（旅）numbered 1,000 soldiers. Zu（族）was a special military unit from the clan troops which had 100 strong young soldiers (Li 李忠林, 2014:7-19; Chang 张光直, 2017:171).

Same as in Egypt, the army of Yin-Shang also consisted of infantry, chariotry, a ship contingent and garrisons. The infantry and chariotry made up the majority of the army; however, there were small groups of cavalry but only acting with the duty of guard. Military equipment use by the central army was standard and managed by the central administrative authority, while equipment used by the local troops was mandated by the appanage or vassal rulers. Members of the bodyguard were part of the standing army and came from the noble families, thus they had their own weapons and could be buried together with them after death. (Li 李忠林, 2014:23,29-30) Since most infantrymen were conscripted common people, they were mainly armed with spears (Mao 矛), as well as some other equipment like bow（Gong 弓）, arrow（Jian 箭）, dagger-axe（Ge 戈）, shield（Dun 盾）, dagger（Dao 小刀）(Figure 14) (Chang 张光直:2019:212). Apart from these, another special weapon, the large bronze flat axe（Yue 钺）,has been found

in royal tombs in the capital, Anyang (Thorp, 2006:168-171). These have been seen as a symbol of royal power rather than the actual combat weapon, though. Hence, the four bronze flat axes from the tomb of Lady Fu speak more to her high status and power than they do to her combat ability or engagement (Figure 15).

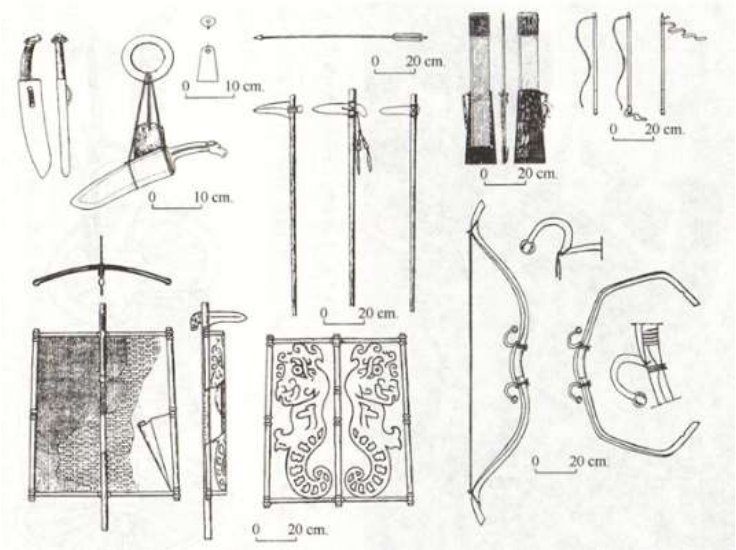


Figure 14. Weapons of Shang Dynasty. Chang张光直 2019, pp.213

Figure 15. Bronze flat axe （铜钺）of Yin-Shang, from the tomb of Lady Fu (tomb 5). Li李峰2006 pp.168

In the view of Shaughnessy (1988:190), the chariot was introduced into China from Central Asian during 1200 B.C. He also suggested that the chariot had not been widely used as military equipment until the Western Zhou Dynasty 西周 (1045-771 B.C). So far, in China, the earliest chariots that have been excavated are from Anyang in the late period of the Shang Dynasty. Compare with the Egyptian and Hittite chariots, these chariots

differ in that they had about 18 to 22 or 26 spokes(Chang 张光直:2019:215; Shaughnessy, 1988:193). The Yin-Shang chariots were ridden by three warriors each: the charioteer （御者）stood in the middle and drove the vehicle, the attacker （击者） stood on the left side of the charioteer and fought with a dagger-axe（戈）and held a special chariotry shield which was much bigger than the shield for infantry, and the archer was on the right and shot with bow and arrow (Chang 张光直:2019:212). Besides these three warriors, and similar to the custom in Egypt, one unit of chariotry also included 10 foot-soldiers who followed behind the chariot (Shaughnessy, 1988:198). On the battlefield, the infantry stood in the front line with chariots behind them. The Chariots accompanied and protected with foot-soldiers, the attack formation consistent by three groups of this kind of units which lined up as left, middle, right troops (Li 李忠林, 2014: 29).

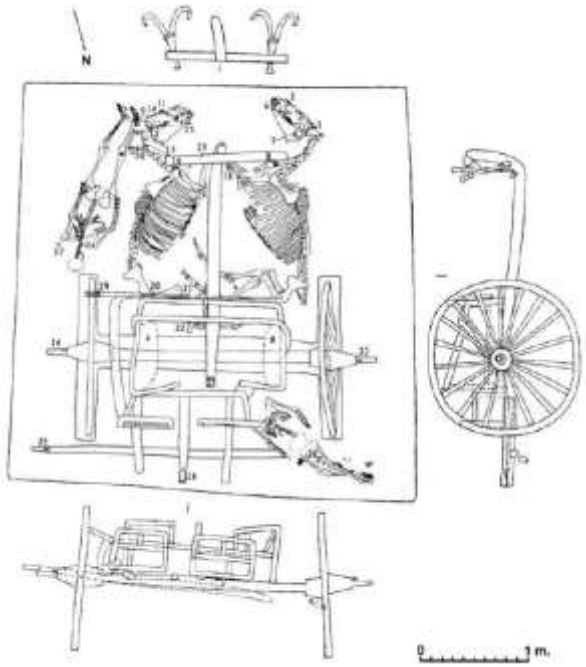


Figure 16. Chariot pit (M40), late Shang Dynasty, Anyang. Thorp 2006, pp.170

The last, and arguably the most important thing that should be mentioned about the military organization of Yin-Shang, is the military ritual. Referencing to *Zuo Zhuan* 《左传·成公十三年》, “国之大事，在祀与戎”, which means during the per-Qin period, for a state, the most important affairs are sacrificial offering and military.

Keightley (1978:213) briefly described the religion and sacrificial offering of Shang people:

> 'Ti, the high god, conferred fruitful harvest and divine assistance in battle, that the king's ancestors were able to intercede with Ti, and that the king could communicate with his ancestors. Worship of the Shang ancestors, therefore, provided powerful psychological and ideological support for the political dominance of the Shang kings. The king's ability to determine through divination, and influence through prayer and sacrifice, the will of the ancestral spirits legitimized the concentration of political power in his person.'

Therefore, before every military action, the king performed the ritual and sacrificed his offerings which always included human sacrifices of war prisoners. During the reign of King Wu Ding, there was an instance of 1,000 human sacrifices (Wang,王平 and Gu 顾彬, 2007:71). After the offering, there was a special procedure to divine the result of the campaigns, and the results of divinations was recorded on the oracle bones. Actually, the idea of oracles before every military campaign is very similar to Hittites.

5.3 Mycenaean

At the west side of Aegean Sea, the Mycenaean civilization experienced its whole life cycle during the Late Bronze Age, the 13th century B.C was the second century of the Late Helladic IIIA-B period (14th-13th centuries B.C), which is also called the Palatial period. During this century, Mycenaean states went through the last prosperous period then started to collapse (Shelton, 2010:142). The Mycenaean civilization was made up of a series of palatial states and settlements, each supposedly functioning with a central government that had some relation to neighbouring palaces such as Mycenae, Tiryns, Pylos, and Thebes (Figure 9).

Map 9. Mycenaean palatial states, Kelder 2010, pp.5

1. Iolkos (Dimini); 2. Orchomenos; 3. Thebes; 4. Athens; 5. Salamis; 6. Mycenae; 7. Lacedaemon (Pellana); 8. Pylos; 9. Miletus; 10. Lazpa (Lesbos); 11. Elis; 12. Kythera; 13. Knossos

According to Hittite texts, there was one Mycenaean king who tried to conquer the Anatolian mainland and incite the 'local anti-Hittite' force to help achieve his plan. One example is the west coast Anatolia city Milawanda had become the vassal and the main base of Mycenaean (Bryce, 2012:730). One letter tablet shows that in 1250 BC, the Hittite king Hattusili III (1267-1237) had written a letter that complained about the intrusion of the 'Great King' of Ahhiyawan on the Anatolian west coast (Kelder, 2010:2). Except for Ahhiyawan, our knowledge about the name of the Mycenaean rulers is very limited. Additionally information regarding the Mycenaean military organization is scarce as well, being based on the Mycenaean archaeological record and texts uncovered in excavations. The current state of research on Mycenaean warfare mainly focuses on the military equipment and fortifications. Most knowledge we have about the details of the military conscription, battle tactics and logistic of the Greek army was not earlier than the Archaic period. But undoubtedly, Greece does have a long history of warfare as other

ancient civilizations. As Christopher (2011:192) assumed, the warfare has played a significant role since the Early Bronze Age.

According to the study of D'Amato and Salimbeti (2011:8-10), clay tablets found in the Pylos palace show the *'wanax'* as the top ruler of the state, with his assistant as a military commander called *'la-wa-ge-tas'* (leader of the host). Under them, there were some titles with different ranks, for example, *'ta-ti-ko-meu'* (commander of *orkha*) and *'epi-ko-wo'* (home guard). Thanks to these tablets, we can realistically speculate that the Mycenaean military complex operated under some sort of basic controlling hierarchy.

The Warrior vase (Figure 17) from Mycenae, dated around 1200 B.C, shows two groups of warriors (6 on the front side and another 5 on the other side) or infantry marching off. Each warrior held a shield in their left hand and a spear in their right hand, and the two different groups wore different helmets and armour. The weapons of Mycenaean soldiers included: dagger, sword, spear, bow and sling, as well as defensive equipment such as helmets, body armor, greaves and different types of shields (e.g. 'figure-of- eight' shield and 'tower' shield) (Georganas, 2005:ch 23). The fresco from the palace of Pylos (Figure 18) displays a battle scene during the 13th century B.C, with the Mycenaean soldiers fighting with dagger and spear and all of them wearing the special 'boar's tusk helmet,' the most common type of helmet in the Bronze Age Aegean world (Georganas, 2005:289).

Figure 17. The warrior vase. Grguric 2005, pp.18

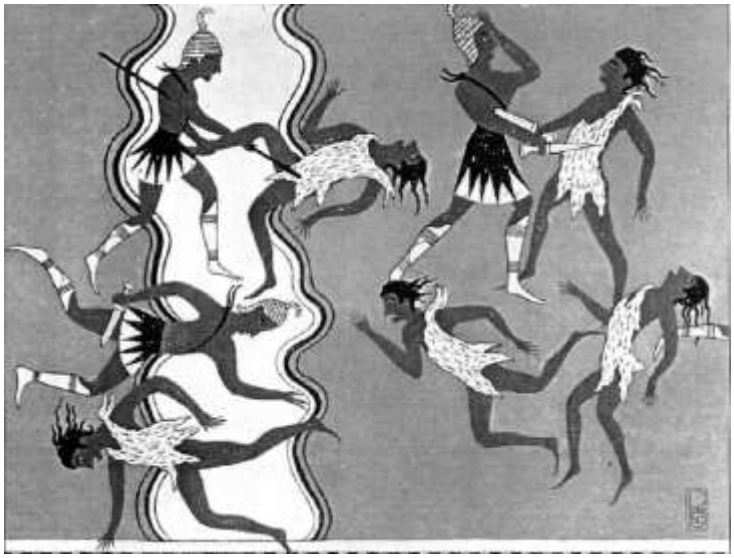


Figure 18. Battle fresco from Pylos. Grguric 2005, pp.28

The chariot was introduced into the Aegean world in the 16th century B.C. Some images of chariots have been found on Mycenaean late 16th century B.C gravestones (Grguric, 2005:32). Mycenaeans state Ahhiyawan had at least 100 chariots (Christopher, 2011202). But in 13th century Mycenaean Greece, chariots were mainly used as 'battle taxis' rather than as a codified military force, there was not chariotry (Drews, 1993:118-119).

Chapter 6- Comparisons of the military organizations of Egypt, Hittite, Yin-Shang and Mycenaean

Through the review of Battle of Kadesh and military organizations of Egypt, Hittite, Yin-Shang and Mycenaean in the 13th century B.C, an image of warfare in the Late Bronze has been brought to light. This chapter will use a cross-cultural comparative approach to compare and analyse current information and discuss the similarity and differences in regards to the following sections: military hierarchy, types of troops, army composition, conscription and training, military technology, equipment, tactics, logistics, military ritual, role of women in warfare and causes of warfare. These comparisons will be listed in table form, with 'Y' representing that there are archaeological records and texts to prove this point, 'N' means the opposite, and '-' means uncertain.

6.1 Military hierarchy

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Military Hierarchy	Y	Y	Y	-
Warrior King	Y	Y	Y	-
Royal member in key positions	Y	Y	Y	N
Clear structure	Y	Y	Y	N

In regards to military hierarchy, Egypt, Hittite and Yin-Shang share that a hierarchy is evidenced in the record, but the situation in Mycenaean was not very clear. Consider the Hittite record of the 'Great King' of Ahhiyawan: we could carefully assume in Mycenaean palatial states that there were warrior kings who occupied the position of highest military commander. In the 13th century B.C, the social-political organizations and even the administration systems in Egypt, Hittite and Yin-Shang were very similar; therefore, it makes sense that they also shared a similar system of military hierarchy and administration. Since Mycenaean states were city-states with small territories close to each other, population and resources limited the scale of the states. As a result, military organization was likely limited by a lack of resources.

6.2 Types of troops

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Types of troops				
Infantry	Y	Y	Y	Y
Chariotry	Y	Y	Y	N
Garrison	Y	Y	Y	-
Ship contingent	Y	Y	Y	Y
Cavalry*	Y	Y	Y	-

For types of troops, all four kingdoms had infantry and ship contingents (navy). Infantry was the most common and oldest type of troop in the Bronze Age world. In Egypt and the Hittite kingdom, the chariotry occupied the elite position amongst the troop. Mycenaean militaries did not have chariotry, but chariots were used as 'battle taxis.' In Yin-Shang the chariot had not been widely used, but they did have a formal chariotry force. Although there were no real cavalry troops until the Achaemenid Empire, the13th century B.C did have examples of horsemen who performed the duty as scouts in Egypt, Hittite and Yin-Shang civilizations.

6.3 Army composition

Civilization	**Egypt**	**Anatolia**	**Chinese**	**Aegean**
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Army	**composition**			
Standing army	Y	Y	Y	N
King's bodyguard	Y	Y	Y	-
Vassal troops	Y	Y	Y	N
Province troops /appanages troops	Y	Y	Y	N
Mercenaries/Foreign troops (prisoners)	Y	Y	Y	N

For Egypt, Hittites and Yin-Shang, the compositions of the army was almost the same: they all had a standing army, a king's bodyguard, province/appanages troops, and foreign prisoner troops. However, Yin-Shang did not have mercenaries. Due to the limited scope of inscription records, the situation in Mycenaean is very unclear, but some Mycenaean did have one or two provinces, they may also have troops from these provinces.

6.4 Conscription and training

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Conscription and training				
Seasonally conscript from farmers	Y	Y	Y	N
Training for soldiers	Y	Y	Y	N
Training for horse	Y	Y	Y	N

Similarly, in regards to conscription and training, there is no evidence for what this looked like in the Mycenaean world. In the other three kingdoms, seasonal conscription of troops from the workforce from agriculture sector has been recorded, along with a developed military training system for soldiers and chariot horses, in Yin-Shang sometimes the training exercised in the form of hunting.

6.5 Military technology-chariot

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Military technology-chariot				
Chariot	Y	Y	Y	Y
Earliest chariot	16th century B.C	17-16th century B.C	13th century B.C	16th century B.C
Numbers of warriors each chariot	2	3	3	-
Numbers of spokes	6	6-8	18-22	4
Numbers of houses for drawn	2	2	2	2

The most important military technology of the Bronze Age was the chariot, with its existence on the battlefield completely changing warfare. As listed in the previous section, all four kingdoms had at least a form of 'two horses drawn' chariot. Both Hittite

and Yin-Shang had 3 warriors fighting on the chariot, and Egypt had one less. Mycenaean used chariots as ‘battle taxis.’. Significantly, the number of spokes of Yin-Shang chariots was much more than the Egyptian, Hittite and Mycenaean chariots, but similar to the chariot has been found in the area of modern south Russia which is older than Yin-Shang. This may show the different routes of exchange and development of the chariot technology.

6.6 Military equipment

Civilization	**Egypt**	**Anatolia**	**Chinese**	**Aegean**
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Equipment				
Mace	Y	Y	-	-
Bow	Y	Y	Y	Y
Arrow	Y	Y	Y	Y
Dagger	Y	Y	Y	Y
Sword	Y	Y	Y	Y
Spear	Y	Y	Y	Y
Axe	Y	Y	Y	Y
Shield	Y	Y	Y	Y
Armour	Y	Y	Y	Y
Helmet	Y	Y	Y	Y

For the military equipment , there was not much difference between these four kingdoms. The shared collection of military technology and weapons between these far flung regions of the world demonstrated that there was likely frequent communication between these ancient civilizations during the Bronze Age.

6.7 Tactics

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Tactics				
Battle tactics	Y	Y	Y	-
Marching	Y	Y	Y	-
Battle formation	Y	Y	Y	-
Siege	Y	Y	-	Y

It is not very easy to define the tactics of the Late Bronze Age army, but for sure different tactics had been widely used in the marching, combat and siege. The surprise attack, though, was not a normal tactic in the 13th century B.C, because it broke the 'rules of war'. Formally, in the Bronze Age a challenge should be issued first, or at the very least, the offenders should attack frontally. This system relied on a mutual adherence to a standard of warfare that operated on respect and political relationships.

6.8 Logistics

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Logistics				
Solider carry	Y	Y	Y	-
Accompanies supply	Y	Y	Y	-
Supply base	Y	Y	-	-
Hunting	-	-	Y	-
Build water-well	Y	Y	-	-
Vassal support	Y	Y	-	-

Logistics is the one of the most important elements for the success of military campaign.

Through the comparison, Egypt and Hittite had a relatively complete logistics system that secured the combat power of the army during long distance campaigns. Yin-Shang and Mycenaean also set up long distance campaigns, but the detail of logistics was not well recorded.

6.9 Military ritual

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Military ritual				
Oracles	N	Y	Y	-
Oath-taking ceremony/ King's Speech ceremony	Y	Y	Y	-
priest solders	Y	-	-	-

Ritual was extremely important for all civilizations in the Bronze Age, not least of which was the military ritual in Egypt, Hittite and Yin-Shang during the 13th century. It is very interesting that both the Hittite and Yin-Shang had the same military ritual of seeking out oracles before every campaign. It is interesting that we do not have an extensive record, or record at all, of military ritual associated with the Egyptian religion, seeing as they were a deeply spiritual and religious civilization. This gap in data and knowledge is something that can be explored further.

6.10 Role of women in warfare

Civilization	Egypt	Anatolia	Chinese	Aegean
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Role of women in warfare				
Court/foreign affairs	Y	Y	Y	-
Lead army	N	N	Y	-

During the 13th century B.C, in Egypt, Hittite and Yin-Shang, royal women performed a very activity role in the court, especially for foreign affairs. Significantly, royal women, especially wives of the kings, were also active in the military affairs. They had their own appanage troops and led the king's army for military campaigns. But it was not common in other dynasties during the whole Ancient Chinese history, some scholars proposed that was caused by the incomplete administration system in the Yin-Shang period.

6.11 Causes of warfare

Civilization	**Egypt**	**Anatolia**	**Chinese**	**Aegean**
Kingdom	**New Kingdom Egypt**	**New Hittite Kingdom**	**Yin-Shang**	**Mycenaean**
Causes of warfare				
Internal conflict for kingship	-	Y	Y	-
Vassal rebellion	Y	Y	Y	-
International warfare	Y	Y	Y	Y

During the 13th century B.C. in Egypt, Hittite and Yin-Shang, the most common causes of warfare or campaigning were vassal rebellion and invasion of enemy from other states. Internal conflict for kingship was a serious problem for Hittite and also caused some trouble for Yin-Shang.

Chapter 7- Conclusion

To conclude, as Schneider (1952:71) indicated 'warfare is older than the peoples in whose hands it apparently became an end in itself, a way of life, and a principal guiding element in the organization of society'. Analysing and studying the intricacies of ancient warfare provides us a lens through which to observe and understand the multifaceted system of socio-political organization existing throughout the ancient world. The ancient Chinese civilization was different from the Anatolia civilization, Egypt civilization and

Mycenaean civilization. The Near East and Aegean civilizations relied more on the import of raw materials and even products for everyday life, leading to trade playing a significant role in the social life and political and military organizations. Conversely, the ancient Chinese civilization were more self-sufficient, getting local resources to satisfy the needs of everyday life and production (Liu 刘莉 and Li 李星灿,2017:415). These differences are also reflected in the style of warfare and the military organization of these different civilizations. Apart from this, through the comparison of the military organizations in Egypt, Hittite, Yin-Shang and Mycenaean, there were more similarities between the first three kingdoms. These may be due to similar social-political systems in Egypt, Hittite and Yin-Shang, as well as all these kingdoms being based on agriculture. The version about the military organization in Mycenaean states is not very clear since the social-political system and scale of them were totally different from Egypt, Hittite and Yin-Shang, so it is impossible to make an assumption which based on the information we know from other three kingdoms.

Obviously, as Drews (1993:97) pointed out, 'warfare in the pre-classical world is a subject on which we evidently will never know very much', for each ancient kingdom or civilization there must be some blank area could not be proved by the archaeological record and texts. But human and human societies tend to behave in similar ways, so assumptions and inferences could be carefully made through cross-cultural comparative, drawing on data and connections between different systems and administrations. There are also some limitations of this study, only four civilizations in 13th century B.C have been chosen as the study samples, some other important ancient civilizations, such as Mesopotamia civilization and Vedic civilization of Indian were not included in.

Of course, there are still some unclear questions on this topic that could be further investigated through future research. First, the details of the eleven sections have been listed in chapter 6, which need more material remains to prove, such as the logistics in Yin-Shang and the tactics that would have been used in combat. Second, how the king or his generals commanded different tribes troops on the battlefield, and how they were

organized and how they communicated with each other even with different languages. Finally, the military ritual and the role of religion in warfare are all perfect examples of opportunities for future research.

References:

Bard, K. A (2007) *Introduction to the Archaeology of Ancient Egypt*, Oxford: Blackwell Publishing

Bilgin, T. (2018) *Officials and administration in the Hittite world*, Berlin &Boston: de Gruyter

Breasted, James H. (1903) *The Battle of Kadesh -a study in the earliest known military strategy*, Chicago: The University of Chicago Press

Bryce, T. (2002) *Life and society in the Hittite world*, Oxford & New York: Oxford University Press

Bryce, T. (2005) *The kingdom of the Hittites*, Oxford & New York: Oxford University Press

Bryce, T. (2012) *The Hittite Empire*, in Potts, D.T. (eds.), A Companion to the Archaeology of the Ancient Near East -Volume II, Oxford: Blackwell Publishing, Chapter 38, pp. 722-739

Burne, A. H. (1921) *"Some Notes on the Battle of Kadesh: Being a Military Commentary on Professor J. H.Breasted's Book, The Battle of Kadesh"*, The Journal of Egyptian Archaeology, Vol. 7, No. 3/4 (Oct., 1921), Sage Publications Ltd, pp. 191-195

Chang, K. C 张光直 (2013) *The Chinese Bronze Age* 中国青铜时代，北京：生活·读书 ·新知三联书店

Chang, K. C 张光直 (2019) *Shang civilization* 商文明，北京：生活·读书 ·新知三联书店

Christopher, M (2011) *Greek archaeology : a thematic approach*, Chichester: Wiley-Blackwell

D'amato, R. and Salimbeti, A. (2011), Bronze Age Greek warrior 1600-1100B.C, Oxford: Osprey

Drews, R. (1993) *The end of the Bronze Age: changes in warfare and the catastrophe ca. 1200 B.C.*, Princeton: Princeton University Press

Geng, C. 耿超 (2004) 《殷商政治领域中的性别差异与"王妇领兵制"》，《南方文物》2009-4, pp.83-91

Georganas, I. (2010) *Weapons and warfare*, in Eric H. C. (eds.), The Oxford handbook of the Bronze Age Aegean (ca. 3000-1000 BC), New York: Oxford University Press

Goedicke, H. (1966) *"Considerations on the Battle of Kadesh"*, The Journal of Egyptian Archaeology, Vol. 52 (Dec.1966), pp. 71-80

Goetze, A. (1963) *"Warfare in Asia Minor"*, Iraq, Vol. 25, No. 2 (Autumn, 1963), pp. 124-130, British Institute for the Study of Iraq

Grguric, N (2005) *The Mycenaeans c. 1650-11—BC*, Elite Series 130, Oxford: Osprey

Hamblin, W.J. (2006) *Warfare in the Ancient Near East to 1600 BC*, London & New York: Routledge

Hansen, K. (1992) *"Collection in Ancient Egyptian Chariot Horses."* Journal of the American Research Center in Egypt, vol. 29, 1992, pp. 173–179

Healy, M. (1993) *The warrior pharaoh: Ramesses II and the Battle of Qadesh*, Oxford: Osprey

Hikade, T. (2012) *Egypt and the Near East*, in Potts, D.T. (eds.), A Companion to the Archaeology of the Ancient Near East -Volume II, Oxford: Blackwell Publishing, Chapter 44, pp. 833-850

Hu, H.X 胡厚宣 and Hu, Z.Y.胡振宇(2003) *A history of Yin-Shang* 殷商史, 上海：上海人民出版社

Keightley, D. (1978) "*The Religious Commitment: Shang Theology and the Genesis of Chinese Political Culture*", History of Religions, 17(3/4), pp.211-225

Kelder, J.M. (2010) *The Kingdom of Mycenae : a great kingdom in the late Bronze Age*, Amsterdam: Vrije Universiteit

Korošec, V. (1963), *"The Warfare of the Hittites: From the Legal Point of View",* Iraq, Vol. 25, No. 2 (Autumn, 1963), pp. 159-166, British Institute for the Study of Iraq

Li, C. 李济 (2012) *Anyang* 安阳, 北京：外语教育与研究出版社

Li, F. (2014) *Early China -a social and culture history*, Cambridge: Cambridge University Press

Li, Z. L. 李忠林(2014) *"Several Questions in the Military System of Yin-Shang"*,《殷商兵制若干问题刍议》,《中国史研究》2014 年 2 期，pp. 5-32

Littauer, M.A. (1972) *"The Military Use of the Chariot in the Aegean in the Late Bronze Age"*, American Journal of Archaeology, Vol. 76, No. 2 (Apr., 1972), Archaeological Institute of America, pp. 145-157

Liu, L 刘莉 and Chen, X. C. 陈星灿 (2017) *The archaeology of China: from the late Paleolithic to The Early Bronze Age* 中国考古学：旧石器时代晚期到早期青铜时代，北京：生活·读书 ·新知三联书店

Liverani, M. (2014) *The Ancient Near East -history, society and economy*, New York & London: Routledge Taylor and Francis Group

Malek, J. (1999) *Egyptian Art*, London: Phaidon Press Limited

McDermott, B. (2004) *Warfare in Ancient Egypt*, England: Sutton Publishing

Moorey, P.R.S (1986) *"The Emergence of the Light, Horse-Drawn Chariot in the Near-East c. 2000-1500 B.C.",* World Archaeology, Vol. 18, No. 2, Weaponry and Warfare (Oct., 1986), pp. 196-215

Peregrine, P. N. (2001) *"Cross-Cultural Comparative Approaches in Archaeology"*, Annual Review of Anthropology, Vol. 30 (2001), pp. 1-18

Piggott, S. (1978) *Chinese chariotry: an outsider's view*, in Denwood, P. (eds.) Arts of the Eurasian Steppelands, London: Percival David Foundation of Chinese Art, pp.32-51

Santosuosso, A. (1996) *"Kadesh Revisited: Reconstructing the Battle Between the Egyptians and the Hittites"*, The Journal of Military History, Vol. 60, No. 3 (July, 1996), pp. 423-444

Schneider, J. (1952) *On the Beginnings of Warfare*, Social Forces, Vol. 31, No. 1 (Oct., 1952), Oxford University Press, pp. 68-74

Shaw, I. (1991), *Egyptian warfare and weapons*, Princes Risborough Shire Publications Ltd

Shaughnessy, E.L (1988) *"Historical Perspectives on The Introduction of The Chariot Into China",* Harvard Journal of Asiatic Studies, Vol. 48, No. 1 (Jun., 1988), Harvard-Yenching Institute, pp. 189-237

Shelton, K. (2010) *Mainland Greece,* in Eric H. C. (eds.), The Oxford handbook of the Bronze Age Aegean (ca. 3000-1000 BC), New York: Oxford University Press

Soper, A.C. (1966) *"Early, Middle, and Late Shang: A Note"*, Artibus Asiae, Vol. 28, No. 1 1966, Artibus Asiae Publishers, pp. 5-38 Published by:

Spalinger, A.J. (1979) *"The Northern Wars of Seti I: An Integrative Study",* Journal of the American Research Center in Egypt, Vol. 16 (1979), pp. 29-47

Spalinger, A.J. (2003) *"The Battle of Kadesh: the chariot frieze at Abydos"*, Ägypten und Levante / Egypt and the Levant, Vol. 13 (2003), Austrian Academy of Sciences Press, pp. 163-199

Spalinger, A.J. (2005) *War in Ancient Egypt: the New Kingdom, Oxford: Blackwell Publishing*

Spalinger, A.J. (2005) *Warfare in Ancient Egypt (Chapter Seventeen),* in Snell, D.C. (eds.), A Companion to the Ancient Near East, Oxford: Blackwell Publishing, pp. 229-241

Thorp, R. L (2006) *China in the Early Bronze Age -Shang Civilization,* Philadelphia: University of Philadelphia Press

Van de Mieroop, M. (2007), *A History of the Ancient Near East ca. 3000-323 BC,* Oxford: Blackwell Publishing

Van de Mieroop, M. (2011), *A history of ancient Egypt*, Chichester: Wiley-Blackwell

Wang, P 王平 and Gu, B 顾彬 (2007) *Oracle bone inscriptions and human sacrifice during the Yinshang Period* 甲骨文与殷商人祭，郑州：大象出版社

Wilson, J. A. (1927) *"The Texts of the Battle of Kadesh",* The American Journal of Semitic Languages and Literatures, Vol. 43, No. 4 (Jul.,1927), The University of Chicago Press, pp. 266-287

Young, L. M. (1982) *The Shang of Ancient China,* Current Anthropology, Vol. 23, No. 3 (Jun., 1982), The University of Chicago Press on behalf of Wenner-Gren Foundation for Anthropological Research, pp. 311-314