Who were the cataphracts?

An archaeological and historical investigation into ancient heavy cavalry in the Near East

By Ruben Modderman

Figure 1: Historical reenactment of a Sassanian cataphract

Figure 1:
commons.wikimedia.org/wiki/File:Ancient_Sasanid_Cataphract_Uther_Oxford_2003_06_2(1).jpg

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Content

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Chapter 1: Introduction

In the early 20th century archaeologists uncovered the ruins of the ancient city of Dura-Europos, usually just called Dura. Inside one of the towers they discovered two complete and one fragmentary horse armour that were in such a good state they were able to dress actual horses with them. These horse harnasses were presumably Roman, but the cataphract, as these armoured horsemen were called was introduced much earlier in the ancient Near East. Who exactly were these heavily armoured horsemen?

§1.1 Identifying the cataphract

Factors such as armour, weaponry and the numbers of cataphracts in battle are easily determined using the archaeological record and ancient literature of Greek and Roman writers. A less well studied aspect of this heavily armoured cavalry is what status they had in several civilizations.

Therefore the research question posed here is: How do we identify cataphract cavalry in the Near East? The research question is divided into several sub-questions:

- When do they appear in archaeological and historical sources?
- How do their armour, weaponry and tactics develop over time?
- What is their status in the Seleucid, Parthian, Roman and Sassanid empires?

In chapter 1 an introduction will be given to the concept of cavalry in general and how scholars assume this aspect of warfare came into existence. It also includes a short explanation of how cataphract cavalry is generally defined.

Chapter 2 will elaborate on various ancient classical sources on cataphract cavalry, primarily Greek and Roman ones, although a few examples of later historiography will be mentioned.

Chapter 3 will then present the archaeological evidence on the subject, starting from when they can be recognised as cataphract cavalry.

Chapter 4 is based on the evidence presented in chapters 2 and 3 and will combine the information into a chronological timeline of cataphract armour and tactics.

Chapter 5 deals with the social-demographic context and will answer the question who the cataphracts were in their respective society, if they can be identified, in the Seleucid-, Parthian-, Roman- and Sassanid empire.

The conclusion will then consist of answers of the research question and its sub-questions and present the process which preceded the completion of this thesis.

§1.2 What is cataphract cavalry?

Cataphract cavalry is a somewhat unclear term which has been used by classical authors to designate a specific type of cavalry. In general, it is used to describe a horseman who is clad in full armour, both for the horse and the rider. However, this is the only similarity. In various sources the definition of a cataphract is different. Some carry bows, others only lances and so on. It appears the definition of a cataphract changes over time, whereas the social status of this cavalry differs per region.

Pugachenkova gives a different definition of a cataphract than most other authors, she says: “the cataphracts, in original cuirasses and helmets, ride horses wearing armour” (Pugachenkova 1971, 131). This implies that a cataphract is the armoured rider and that his horse may or may not be armoured.

This thesis aims to identify the cataphract and analyse the development of this type of cavalry, while also including the social-demographic context.

There are several peoples who have used this type of cavalry in battle. Examples, but not restricted to are the Seleucid Empire, The Parthian Empire, The Sassanid Empire and the Romans. All of the above have been described in classical sources, but of only a few is archaeological evidence present as well.

§1.3 Chronology and geography

In order to write a thesis about a cataphracts, one needs to understand what cavalry is, where it originates from and how it became possible to develop them.

To establish a clear boundary for this research and to prevent it from becoming to big a thesis, a line has to be drawn both geographically and chronologically. The period in man’s history that will be discussed is rather long. The cataphract type of cavalry was first mentioned in Greek descriptions of Antiochos IV Epiphanes’ army around 166 BC (Michalak 1987, 75), while the latest sources are Roman and date after 2nd century AD. However, this thesis will deal primarily with the development of the cataphracts in the Middle East. This means that the timespan is around 700 years: from ca. 200 BC until AD

600. It's hard to draw a line on where to stop describing material, since the cataphract kept being used for a long period of time.

Since determining the exact area where a particular kind of military unit in ancient times has been used is difficult, a selection of five archaeological sites has been made (figure 2).

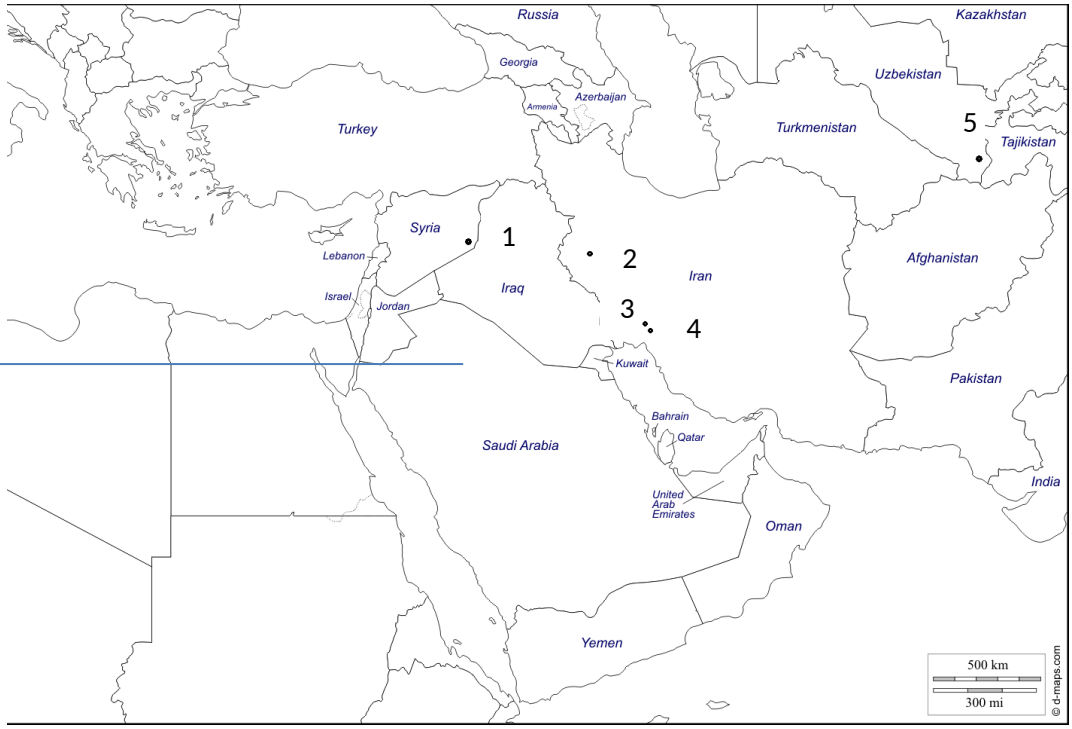


Figure 2. Map of the Near East and Central Asia with Dura-Europos (1), Taq-e Bostan (2), Tang-e Sarvak(3), Tang-e Ab(4) and Ňalčayan (5) (after d-maps.com)

The majority of the archaeological remains such as sculptures, reliefs, inscriptions and to a lesser extent direct archaeological material have been found in this region and the thesis will primarily focus on these locations.

§1.4 The horse before antiquity

§1.4.1 Use of the horse in prehistoric times

Therefore, one needs to start with the origin of horse riding in itself. In Europe the horse had a minor role after around 10.000 BC when the species of wild horse *Equus caballus* became increasingly rare and ultimately extinct, probably due to hunting by early

humans (Drews 2004, 8). After 10.000 BC the wild horse remained only east of the river Danube on the steppe of eastern Europe and Central Asia.
Horses were primarily used for food, they grazed in large groups and were easy to hunt because of the herd instinct of the animal.
In early prehistoric sites, it is astounding how many horses have been hunted at any given time. Of almost all big game kill sites have been found, including bizon and aurochs, but also from horse. One such site is Dereivka, dated to the neolithic and chalcolithic period in modern Ukraine, on the right bank of the Omelnik river which in turn is part of the Dniepr. Six hearths were found here, containing hundreds of animal bones, more than three-quarter of them being horse bones (Drews 2004, 13). The estimated number of horses buried here is fifty-two, a sizeable amount.
The faunal remains of Dereivka have been studied by Bibikova, who unfortunately had to discard almost half of the horse bones as a result of a lack of storage space. Therefore it is impossible to establish a create a complete record of this material, while the original material wasn't available for study either. Despite the incomplete state of the assemblage, about 900 bones and teeth were studied by Levine in the eighties, almost twenty years after the initial documentation (Levine 1990, 734).
The site of Dereivka has been used as proof for early domestication of the horse around 4000 BC, based on a controversial account of Bökönyi on how to recognize domestication traces:
"The presence of complete skeletons, the absence of old animals, and an overwhelming majority of mares are indications of a domesticated population. The absence of vertebrae and breastbones, the occurrence of old animals, and an equal proportion of stallions and mares point to a wild population... More recent methods of determining early horse domestication include the osteological analysis of individual variations in enamel patterns and body size and the detailed investigation of artifacts connected with horsekeeping" (Levine 1990, 728).
A few points can be used to reject the previous citation. First, the absence of old animals might occur in domesticated populations as well as wild ones. In wild populations, young and old animals are the first to become victim of predation. They are the most vulnerable class, usually slower in movement than adolescent animals, while in a

domesticated context, older animals are of least use to humans. Meat is less edible, offspring of lesser quality and older horses are of less use as draft animals.
Second, breastbones and vertebrae are fragile, and usually not very well preserved, rendering a distinction based on the quantity of these bones useless (Levine 1990, 1728). Finally, the amount of stallions and mares in a domesticated herd depend on how the herd is managed. Since these methods are impossible to reconstruct and therefore subject to speculation, determining the nature of a group of animals on this basis is not possible. In a wild herd, one dominant male has multiple females and their young, while other males group together in a pack until they are ready to form their own herd (Levine 1990, 729).
Telegin, the excavator of Dereivka determined that the horses found in the hearths were domesticated around 4000 BC. In addition to this assumption, the site became known as one where horses were possibly ridden on a regular basis (Drews 2004, 14). It was concluded after the studying of burial of a horse's head and hooves and antler "cheek pieces" (Drews 2004, 15). However, Telegin's theory was rejected when carbon dating proved the horse burial belonged to the Scythian period, dated to 700-200 BC, almost three thousand years older than the first estimation.
The antler pieces were made from the tines and were perforated in the middle. They were interpreted as cheek-pieces from bridles (Drews 2004, 16). However, like the majority of the original research, this guess has brought up discussion as well. The perforated antler tines were found amidst several hundred other antler objects, indicating that the Dereivkans had been hunting deer extensively and that all parts of the antler were used for tools, since there are few materials so strong and sharp as antler. Another argument questions why this type of horse riding hasn't been used in other regions. This innovation would have had a great impact on the world's understanding and use of horses (Drews 2004, 19), instead, none of these "cheek-pieces" have been found at other sites. Other archaeological finds that have been used to explain early riding are equine molars with wear. Wear can be used to explain medical conditions and has been used to show how particular activities result in a deformation of the teeth. Wear of teeth used to provide evidence of early riding came from horse molars from Botai, Kazakhstan and has been attributed to bevelling, although it isn't clear evidence for a horse to have been ridden by man. The wear may also have resulted from bits used

for pack animals, in which case the animal would have been used for drafting (Drews 2004, 20). However, since this is speculation, the opposite might also have been the case.

If horses were used for meat, the question arises how they acquired them. Were the horses compelled, or were they kept in herds close to the settlement which requires domestication? Aside from the dubious evidence for the presence of early riders, the date of domestication is another difficult problem. Horses in particular are fast, agile animals and require a certain amount of skill to herd. Herding on foot is a difficult task: the horses might have been driven to a particular area, although it would require several men and good coordination to be able to bring the operation to a good end, while it would have been significantly easier if the horses were driven by riders on horseback or another animal. Perhaps herding on horseback wasn't necessary, no thiefs or wild animals to fear from might have made herding on foot the best and least difficult solution. However, if the horses were driven by herders on horse back, it would have been a major feat, since being able to control a horse that well that a large herd can be made to go in one direction is hard and would require years of training,

§1.4.2 The origin of cavalry

Archaeological sources such as graffitos and reliefs provide us with an in-depth view on how horses were used around 2000 BC. Although these were found in a different region than where the site of Dereivka was located, it can still be assumed that developments to the north of the Caucasus mountain range would have been able to spread relatively fast to the Middle East, since these two areas aren't far away from each other. One such relief is a tablet with a sealing of Abbakalla of Ur, which pictures a man riding a horse. The animal is no ass or onager because of a couple of characteristics: it has a long tail, contrary to an ass, short ears and a long mane indicated by circle-like carvings on the tablet (Drews 2004, 32). While pictures of someone riding a horse are rare enough by themselves, the way this man rides the horse gives an understanding of how well mankind was able to ride around 2000 BC.

The man in question rides the horse without a saddle with each leg on one side with his face towards the horse's head. No reigns, saddle or stirrups are present, although the man carries a stick in his left hand. The sealing dates from the end of the Early Dynastic

period or from the early Akkadian period, roughly from 2400-2300 BC and is one of the earliest clear examples of a man riding a horse. Some other figurines that have been called “cavaliers” have been found in Syria. The relative size of the figurines is comparable to a horse’s physique, although due to the rough nature of the molding, no distinction between ass or onager and horse can be made. A figurine from Tell es-Sweyhat is a clear horse figurine with holes in the cheeks which some scholars consider traces of a bridle or bit. However, a bridle or bit as early as 2300 BC would be distinct, since other figurinse and reliefs from 500 years later still show horses and asses being led by reigns through a ring in the nose.

Early horsemanship simply consisted of the controls used to direct a pack ass to one direction transferred to the horse, an entirely different animal. This method of controlling the animal can be used when utilising the animal for packing, while it is insufficient when riding a horse. A ring with reigns allows the driver to make the animal stop or go forward and a gentle pull to left or right can make it go that way. When riding at high speed, this method of giving directions does not work (Drews 2004, 40). A horse is too anxious and a sudden pull might cause it to panic.

Early riders in Mesopotamia didn’t have armour as far as the figurines and reliefs depict, which might mean that the horse was meant for speed, such as for races or carrying messages. Not until much later was the horse used for warfare for the first time, and even then, a rider didn’t just ride the horse. He rather stood on a chariot and pulled the reigns from there, while later chariots also allowed a second man to carry weapons such as bows and arrows to pepper the enemy. Clear evidence of horses being ridden by men carrying arms or amour appears during the first millennium BC, earlier sources have not yet been discovered. One of the earliest sources is an account from Herodotos on the Scythian tribes of the Pontic-Caucasian steppe, who mentions men riding horses while also drawing bows and shooting arrows accurately (Drews 2004, 57). Archery on horseback provided commanders with high mobility and the ability to outflank the much slower infantrymen, who would have had to protect their vulnerable backs and sides. Horsemen were a minority on the battlefield in antiquity, a major part of the fighting was executed by heavily armoured infantrymen, such as the Greek hoplites or the later Roman legionairies. A reason for this major difference in warfare is the size of horses. During all of prehistory and antiquity, horses were much smaller than they were during

the medieval period or later. The relative small size of horses, commonly around 120-150 cm at the withers might seem too small to conduct military operations. Horses of this size are classified today as “ponies” and are considered unsuitable for heavy work. In the Netherlands, ponies are used to entertain children. The height of equids increased after the nineteenth century, when the standard became “bigger is better”. Although modern horses vary greatly in size as a result of the different existing breeds, the larger horses stand around 157 cm, while the larger ones stand can be as tall as 173 cm at the withers (Bongianni and Bongianni 1988, 30-32). Horses in the nineteenth century had an average height of 166 centimetres, Cavalry played a decisive role in only a handful of battles, mostly fought by Alexander the Great and his successors. They made use of shock cavalry, divided in *hetairoi*, the companion cavalry of the Macedonians, and the cataphract, one of the most heavily armoured variants of cavalry the world has ever known. Shock cavalry were used for their charge, the combination of the heavy horse and armour would allow heavy cavalry to penetrate the enemy lines, possibly deciding the battle. The reason cavalry was used mostly for mounted archery up until then was that horses could not be made to charge a stationary line. The Romans and Greek knew this and employed cavalry only in a skirmishing role or to chase down enemy skirmishers (Drews 2004, 58). The effects of the charge will be elaborated in chapter 5.

Chapter 2: Ancient sources on cataphracts and related cavalry

The cataphract was a type of heavy cavalry not much archaeological material has been recovered from. Most sources relate to the later periods of its development. For accounts of cataphracts in early classical times Greek and Latin writers will have to be consulted. Although some of these are historians who described military units with great detail and experienced them firsthand, several others have heard stories about them from third parties and reworked them.

This chapter deals with the several authors who have written texts about cataphracts or similar cavalry and the determination whether these sources are reliable

§2.1 Terminology

The term cataphract or *cataphractarii* derives from the Greek word for armoured: καταφρακτος, which is the noun for "καταφρασω", meaning "to cover with mail" (Eadie 1957, 162) and describes the characteristics of this kind of heavy cavalry. However, several other terms have been known to describe similar or even the same units. In Latin texts, *clibanarii* and *cataphractarii* are used alongside each other, even cornering terms as "*catafractarii clibanarii*" (Mielczarek 1993, 32).

In later texts, "clibanarii" becomes a regular cited term. The difference between cataphractii and clibanarii will be elaborated in chapter 3, where the different forms of armoured cavalry are described. The term clibanarii is usually derived from the Latin word for armour or bread oven: "clibanus", while the word "*clibanarius*" when meaning a heavy horseman derives from a Middle Iranian term, "tanūrīg" (Michalak 1987, 76). However, F. Lundgren supposedly proved the word to have a different origin. According to him, it stems from the word "clibanum", in Greek "κλιβανον" as opposed to "clibanus", which means bread oven. The Middle Iranian "grīvpān", roughly translated as "neck- or body-protection". The reason for this name is still being discussed. Some suggest it has to deal with the shape of the helmets, while others suggest it has a more literal meaning. Eadie states that the word "clibanus" is most appropriate given the climate these cavalry types were used in. The armour would become very hot in the climate of the eastern mediterranean, almost like an oven (Eadie 1957, 169). This interpretation seems a somewhat simplistic one in comparison with a translation of the

Middle Iranian word, which is considered more probable by Michalak (Michalak 1987, 77). Eadie also called the Sassanian cataphract-type of cavalry “bizarre” for an unknown and unexplained reason. He used the word “κλιβανος” to determine the origin of the term “clibanarius”.

During the fourth century, the words “clibanarii”, “equites catafractarii” and “equites clibanarii” are used alongside each other to distinguish the original Persian and Parthian “clibanarii” from the later Roman adaptations (MIchalak 1987, 77). Although cataphracts are heavily armoured cavalry, not all heavily armoured cavalry are cataphracts. The name cataphract is typically given to cavalry units of eastern origin, Roman units are consistently given the pronomen “equites”. In addition to this, cataphacts are characterised by armour for the horse, not only for the rider. Other examples of heavy armoured cavalry are the “hetairoi” of the Greek armies and the “contarius” of the Roman armies (Edie 1957, 166) but they will be left out of consideration here.

§ 2.2 Greek sources

Although Greek sources on cataphracts or heavy cavalry are as numerous as Latin sources it doesn’t mean that they predate them. Except for Xenophon and Polybius, the first lived in the 5th century BC and the latter in the 3rd century BC, all other writers lived in the first century or later.

§2.2.1 Xenophon

Xenophon is one of the earliest writers to be of importance to military affairs discussed here. He was born in Attica, Greece around 430 BC and died shortly before 350 in Attica. He served in the army of Cyrus the Younger as a mercenary, and is therefore a reliable authority on warfare. This historian has written many works that depict the history of late Classical history. The ones that are of value here are his *Cyropaedia* and his *Anabasis*. The *Cyropaedia* tells a fictive story of the life of Cyrus the Great, the founder of the Achaemenid empire, one of the largest empires in ancient history. The *Cyropaedia* has been deemed fictive by many analysts since the empire is described to have expanded, though in reality the Persian empire declined at the end of Cyrus’s life. The

Anabasis is more reliable, as it is an autobiography of Xenophon's years in service of the Persian army.

The passage used here concerns the battle of Cyrus against Croesus of Lydia, a kingdom in western Anatolia (Cyrop. 7.1.5). Xenophon gives a detailed account of the armour used by Cyrus and his staff, who all ride upon horses (Cyrop. 7.1.2).

The armour of the riders consists of a corselet and a helmet with plume, and a purple tunic, where weaponry consists of a savre and a spear with a wooden shaft. However, the horses are armoured as well. Each of them wears a frontlet (piece of armour for the horse's forehead), a breastplate and thigh protection, which also served to protect the thighs of the rider. The arms of Cyrus are described to flash like a mirror (Cyrop. 7.1.2), perhaps wearing armour made of iron or silver, although precious metals aren't as useful for combat, since silver and especially gold have the characteristic to be relatively soft and easily damaged in comparison to metals like bronze and iron.

Although this passage isn't reliable in itself, it is supported by a part from Xenophon's *Anabasis*: (Anab. 1.8.6-7).

This piece of text tells how Cyrus and his horsemen number six hundred and were armed with breastplates, thigh pieces and helmets, like in the *Cyropaedia*, the exception being Cyrus himself, who did not wear a helmet. The horses were armoured as well, again with frontlets and breast pieces.

In light of the subject, the armour of the horses are obviously meant to protect themselves as well as the rider. The armour being not as heavy as later developments, the breastplates are mentioned time and time again in different sources among different peoples. Since the battle that is described here took place during Xenophon's own life and he participated in it, dating and determining reliability is easier than with other writers, who often draw on descriptions or writings of others. The battles of Cyrus the Younger took place long before cataphracts or other extremely heavily armoured cavalry appeared and therefore can be used to determine its origins.

§ 2.2.2 Polybius

Polybius was born around 200 BC in Megalopolis in Greece and who wrote primarily about military affairs the Romans dealt with (www.britannica.com). In addition to his writings, he criticised others for not always telling the truth and exaggerating efforts. In

his opinion, reports had to be trustworthy and reliable. He is the first known author who writes specifically about cataphracts used in battle. He does so around 150 BC concerning the battle of Antiochos IV at Daphne in 166 BC (Mielczarek 1993, 20). The writing tells about a manifestation organised by the king to celebrate the victory. The parade included both infantry and cavalry, with about 1500 cataphracti among the 9500 cavalry in total. Polybius has knowledge of the military system and is therefore to be considered a valuable asset in describing military excursions. His descriptions of these types of heavily armoured cavalry are scarce though, they are only mentioned in one chapter, in three sections of his work. The first section is the following: (Polybius 30.25.9) and is preceded by two sections describing the rest of the cavalry amassed at the triumph:(Polybius 30.25.7-8).

These three sections name three different heavy cavalry corpses. The first to be mentioned are the “companion cavalry”, remnants from the reign of Alexander, the second are the “agema”. This term is not limited to cavalry alone, it appears to have been used for elite infantry corpses as well.

The final section then lists the “κατάφρακτος ἵππος”, a regiment of mailed horses. The way they are equipped is not listed here. The text also mentioned the numbers of these cavalry forces, something which ancient writers took great care to mention, either to promote their ruler and emphasize his might, or to display a healty respect for an enemy. More often than not are these numbers exaggerated, to make the enemy look formidable or, especially when their own, smaller force wins, to emphasize the bravery and the miracle of their own people overcoming a much larger force.

However, the listed number of cavalry in Polybius’s account are quite realistic. The numbers are relatively small in comparison to the infantry forces, which are many times greater. This age of infantry warfare saw only small numbers of cavalry, which were usually used to chase fleeing enemies, and weren’t used in close combat. Times changed though, when more Hellenic, and eventually Roman as well came into contact with Parthians, Scythians and other (semi) nomadic tribes, who made almost solely use of cavalry and archers, something infantry forces alone couldn’t deal with. These battles made the Hellenic and Roman nations see the importance of cavaly and so they began to raise and implement their own cavalry regiments.

§2.2.3 Plutarch

Plutarch is another writer of Greek texts who can shed light on the subject of armoured cavalry. Born in Chaeronea in Greece in AD 46, he has become known for his works on several important people through Roman and Greek history (www.britannica.com). The ones included and used in this thesis are Lucullus and Crassus, the former a general under Crassus and the latter one of the three men from the first Roman triumvirate, where Pompey and Julius Caesar belonged to as well. Crassus died after the battle of Carrhae in southern Anatolia against the Parthians in 53 BC, where the combination of horse archers and cataphracts proved deadly to the Roman legions. Although Plutarch hasn't been able to meet with these himself, he bases his descriptions on works of several other authors.

He has written about the cataphracts that were used in the battle of Carrhae against Marcus Licinius Crassus of the first triumvirate of Rome as well as about the armoured horsemen used by Tigranes of Armenia (Plutarch Luc. 28. 1-4).

The part on the Armenian horsemen is a description of the battle of Tigranocerta where The Roman general Lucullus fought against the Armenian king, Tigranes (Mielczarek 1993, 25).

What stands out in the text is the use of heavily armoured horsemen in conjunction with missile troops. (Plutarch Luc. 28. 1,2). This means that the Roman army was at a disadvantage, as it consisted primarily of infantrymen. Therefore, they needed to close the gap between them and the archers as quickly as possible. The heavily armoured horsemen are in this translation described as mail armoured cavalry, although not much else is said about their arms and armour. Plutarch accentuates the cowardly behaviour of the horsemen, they ran before combat even started (Plutarch. Luc. 28. 4). This also means that the combat effectiveness of te cataphract cavalry could not be analysed.

Another interesting part of the horsemen in this text is that the men that were ordered to take them down were advised not to throw their javelins, but instead engage in close combat to attack the thighs and legs, for they were the only exposed body parts. It is hard to distinguish if Plutarch means by this the legs of the horse of the man, yet the former seems more obvious. It would have been hard for a horse to run if its legs were covered in metal. If one considers this text the truth, the armour of the horsemen covered almost the entirety of the horse and the man alike, which would have made the

whole particularly heavy, while mail in itself is still a relatively flexible armour, which was often preferred by the Roman soldiers and was called the *Lorica hamata*. The more famous *lorica segmentata*, which was primarily used during the first and second century AD was a segmented armour which provided more protection against missiles and melee blows, but in return was heavier than the mail shirt. After the fall of the Western Roman Empire plate fell out of use and mail armour became the standard for armies again until the fifteenth century, when plate armour started to return to favour again (Williams 1980, 105)

The second text of Plutarch where heavily armoured cavalry comes into play concerns the battle at Carrhae where the Roman general Marcus Licinius Crassus lost against the Parthian general Surena. It is considers one of the greatest defeats of the Roman army. In this piece more detail is provided on the armour of the cavalry itself. They have helmets and breastplates of Margianian steel, while their horses have plate armour of bronze and steel (Plut. Crass. 24, 1).

It is stated that the lancers of the Parthians were not suited to fight the blocks of Roman troops directly, instead they reverted to launch volleys of arrows at them (Plut. Crass. 24, 3). The surrounding of the square of infantrymen ensured no side was completely protected.

A charge of Roman light troops didn't help Crassus' cause, it instilled fear in the remaining troops as they were struck with a multitude of arrows. The shear quantity of arrows shot at Crassus' troops coupled with the shoot and flee tactics of the horse archers made it impossible to initiate close combat.

This text shows a different view on the tactics used by heavily armoured cavalry. While the cavalry of the Armenians was used in tandem with missile troops, the Parthians opted to finish it all with one decisive charge and only didn't use this tactic because of the depth and sturdiness of the Roman formation. It was clear to them that a different tactic had to be used. The danger of such deep ranks is that the initial charge may be powerful, but once the charge has been stopped by the bodies in front of the horse, the remaining soldiers of the formation could have easily dodged or blocked the strikes of the rider and could have killed him. Since Surena was vastly outnumbered by the Romans, this had to be evaded at all costs, every soldier less in his army would have

hurt. Instead they peppered the Romans with arrows from “curved bows”, which sounds like a description of a composite bow.
Therefore, when the Parthians used this and the Roman formation was very tight, carefully aiming was not necessary. Arrows would have hit nevertheless and halted the Roman advance, where psychological warfare came into play. The soldiers that were wounded ran back to their own ranks, where the severity of the wounds struck the more heavily armed soldiers and as a result they began to waver. Of the initial composure of the Roman troops was not much left after the Parthians had shot them.
The text then goes on about the courage of Crassus himself and picks up on the advance of the Romans, where the heavily armoured cavalry are mentioned again (Plutarch. Crass. 25.4)
This passage displays once again the tactics used by the Parthians. They circled around the enemy with light cavalry while the riders shot their arrows. The Romans were not used to this kind of war and wanted to initiate close combat as soon as possible, they realised too late that this was not going to happen.
The next relevant text starts again at the book of Crassus chapter 25, section 6, where the destruction wrought by the missile fire is described in detail as well as the actions taken against the armoured horsemen.
The heavily armoured horsemen portrayed here are very inflexible. They were seemingly unable to prevent the enemy riders from grappling their lances and were subsequently lifted out of their saddle and killed. In initial combat the Gallic cavalry was at a disadvantage because their arms and armour were of inferior quality to the heavy metal armour of the Parthians (Plutarch. Crass. 25.7). The fight of Publius was an unequal one, it is mentioned that his cavalry was lightly armoured and armed in comparison to the Parthian cataphracts. Apparently the lances of these horsemen were so tall that it was hard for the riders to wield them after the initial impact, when they became bogged down and could be killed by the foot soldiers.
Plutarch also shows that as much as the tactical advantage Surena had, psychological warfare also had an effect, as the arrows piercing shields and bodies alike must have been discouraging to watch.

§2.2.4 Cassius Dio

Lucius Cassius Dio was a Roman historian who was born in 150 AD in Nicaea in modern Turkey and died in 235. Cassius Dio wrote a history of Rome in Greek about the last years of the republic and the early imperial period.

He occupied several different positions during his life, including the responsibility for the administration of the cities of Pergamon and Smyrna and the proconsulship of Africa. When he retired fromt his position he became a legate for the regions Dalmatia at the Adriatic sea and Pannonia. A short while before he retired he acquired a second consulship. These highly ranked positions in society allowed him to do extensive research on the history of the Roman empire. His books are a combination of storytelling from a third person's view and a speech in book 52 (www.britannica.com).

He is described as an author who preferred to use older source material for his books, which is in contrast with other historians, such as Tacitus. In some instances their source material is the same though (Dihle 1989, 358).

The sections that are of use for this particular subject is 40.15.2-3, which describe the warmachine of the Parthians, in particular the art of horsemanship in combination with archery. Apparently the infantry division of the army is rather small, consisting of only archers. No shield is used by these people and they rely primarily on their mastery of archery and horsemanship (Cassius Dio 40. 15.3).

As a stand-alone source, Cassius Dio provides not nearly enough material to build a clear chronology of heavy cavalry, but together with the other authors listed here, and the archaeological material discussed in the next chapter, the origin of the cataphract type of cavalry can be determined.

§2.3 Latin sources

§2.3.1 Livy

Livy was one of the three most well known Roman historians, the other two were Sallust and Tacitus. He was born in 59/64 BC in Patavium and died AD 17 in the same city.

Although he attracted the attention of emperor Augustus at an early stage in his life, he never had a connection with the literary world of Rome. He is never mentioned to have enjoyed the company of important poets of the city, such as Ovid, Virgil or Horace.
Livy wrote the “History of Rome”, an immense work spanning a period of time starting with the foundation of Rome until 9 BC, spread out of 142 books. Only summaries of the books after 45 exist, which ends with the war with Perseus in 167 BC (www.britannica.com).
Two books that provide information on cataphracts are 35 and 37. These books tell the story of Antiochos III The Great who crossed the Hellespont with his army in order to conquer Greece and reclaim Macedonia as a successor of Alexander the Great. Despite his efforts, he was defeated by the Romans and forced to retreat behind the Taurus mountains. As a result of this defeat, the Seleucid empire started to fall apart.
Livy writes in a way that makes Antiochos look more formidable than he is in reality. He calls the amount of cavalry crossing the sea “innumerable”, overestimating the Seleucids. This cavalry was partially equipped with breastplates and sometimes used bow and arrow and using shoot and retreat tactics (Livy 35.48.3). Now, while the breastplates are mentioned, it isn’t mentioned whether these were breastplates for the horse or the man. However, with Livy calling the cavalry specifically *Cataphracti*, it is likely that it was a piece of horse armour.
In book 37 the *cataphracti* are mentioned once again, this time with the added piece of information that the horse itself is armoured, verifying the existence of these armoured horsemen. Interestingly, the *cataphracti* are distinguished from another unit, which is called the *agema*, an elite unit, but without the characteristic armour the *cataphracti have*. This elite unit was, according to Livy, made up of Medes, an Iranian people famous for their horse mastery. No account is made of the ethnicity of the *cataphracti* though.
While the exact numbers of Livy’s estimations are unreliable, the descriptions of the cavalry could be reliable. However, since Livy lived more than a century after the Roman war with the Seleucids, he probably used a source from before he was born. A likely source could be Polybius, who lived around the same time as Antiochos III. He served in the Seleucid army and, as a result, has knowledge on the subject.

§2.3.2 Quintus Curtius Rufus

Barely anything is known about the life of Quintus Curtius Rufus, but linguistic, stylistic and other evidence might indicate that he lived in the first century AD (www.iranicaonline.org). The work he is known for is the “Historiae Alexandri Magni”, or the Histories of Alexander the Great. Classicists have doubted the reliability of Curtius Rufus for a long time, since the books are sometimes written in a romantic and overexaggerating way (Dihle 1989, 257). However, in recent times, this opinion has reversed somewhat.

Because so little is known about the author of the Historiae itself, it is hard to tell which sources Curtius Rufus has used to compile all the facts about Alexander the Great’s life. Two authors are mentioned to have possibly influenced the Historiae Alexandri Magni: Diodorus Siculus and Cleitarchus. The first one lived in the first century BC and wrote a universal history, the second one was a Greek historian who lived in the fourth century BC. He wrote a history on the life of Alexander the Great as well, but like Curtius Rufus’s and Diodorus’ work it is focused more on drama than research by a scientific approach, rendering all three sources much less credible.

The passages of use for this thesis tell about the Persian army Alexander the Great fought and they provide quite a detailed description of the cavalry.

The horses and their riders are described to be weighed down by linked plates which covered their bodies as far as the knees and they have trouble keeping in line with the column, since that one depended on speed (Curtius Rufus 3.11.15). Later, this cavalry is mentioned again: they have “coverings of iron plates joined together in one mesh” (Curtius Rufus 4.9.3).

§2.3.3 Ammianus Marcellinus

Ammianus Marcellinus is the last Roman author who provides a description on armoured cavalry. He was born in the fourth century AD in Antioch, a time period when the Sassanids ruled territories in Iran and Mesopotamia. In contrast to many other authors, Ammianus Marcellinus has experienced the warmachine of the Persians firsthand, he was an officer in the Roman army under emperor Julian (Dihle 1986, 476). He participated in the siege defence of Amida in 359, which ended in defeat for the

Romans (www.iranicaonline.org) and provides a detailed account of the tactics and weaponry used by the Sassanids.

The infantry is clad in mail and march on both sides of the army, while the full armoured cavalry are scattered inbetween. While earlier writers called this full armoured cavalry c*ataphracti*, Ammianus Marcellinus calls them v*libanarii*. These horsemen wear masks, have a breas plate and girts with iron belts (Amm Marc. 16.10.8). Even their armour itself is described in detail: they are thin circles of iron plates, which covered their limbs and were custom made to provide easy movement.

With the first attack, the king charged with a group of horsemen, covered in full armour, but they were peppered by missiles and driven back (Ammianus Marcellinus 20.7.2).

At the battle of Argentorate, modern Strasbourg, the Alemanni fought the Romans 357 AD. Ammianus mentions that the *clibanarios* were effective against the enemy cavalry and so the Alemanni mixed infantry soldiers with their cavalry to counter them (Amm. Marc. 16.10.8).

§2.4 Other sources

Although the great writers of the Roman and the Greek world provide the bulk of information about cataphract cavalry, there are several other sources that may provide help in the matter.

One such example is the “Scriptores Historiae Augustae”, a compilation of texts on the lives of several emperors, up until Maximus and Balbinus. The authors are unknown and there is much discussion whether it was written by a single author who used multiple styles or by multiple authors (Magie 1922-1932, vii-viii). The part of this set of *vitae* that mentions cataphracts is part of the “Vita Alexandri Severi”. This section is about the war of Alexander against the Persians and deals with the aftermath of the defeat of the latter. The emperor is told in the story the arms and units of the persian army, which includes ten thousand mailed horse (*cataphractarios)*. This particular book of the Loeb classical library also notes: “ The καταφρακτοι were a body of cavalry whose horses were clad in full mail; they were Persian in origin but were also used by the Seleucid kings, and they appear in the Roman army of the late Empire” and Ammianus Marcellinus is referenced.

A document that is sometimes used to explain the difference between *clibanarii* and *cataphracti* is the “Notitia Dignitatum”. It is a list of units stationed all over the Roman empire (Mielczarek 1993, 77).

Another source I have found to be often quoted and relied on is the Aethiopica of Heliodorus of Emesa. This book was written in the fourth century AD and is a romantic novel. Although this reduces the reliability of the book, chapter 9 is often considered the least affected by the storytelling and is used for description of cataphract cavalry. Unfortunately, there is no example of this book readily available for reading, which means I would have to rely on the comments of other authors for information and I am reluctant to do so since the majority of the book is fiction.

A final source is the “Tarikh al-Rusul wa al-Muluk”, the “history of the prophets and kings” by al-Tabari, an islamic writer who lived 839-923 AD. His work is regarded as the highest authority on Sassanid and early Arabic history in the Near East (Shahid 1977, 117). Al-Tabari was an Iranian and especially interested in the history of his homeland and he composed the “book of Lords” about the Sassanian kings. He probably used the account written by Ibn al-Muqaffa, who translated directly from a document written in the time of the Sassanids and based upon their Royal Annals: the “Pahlevi Khvadhāynāmagh” (Shahid 1977, 118). In the 19th century Tabari’s work has been translated into a more common language in western Europe, German, by the Arabist Theodor Nöldeke.

§2.5 Reliability

While the number of authors mentioning heavily armoured cavalry is quite substantial, it is important to decide which of these sources are actually useful and which ones are best left out. Aside from the personal interests of the authors, a negative opinion of foreign peoples or a too positive one about their own people is without a doubt a factor in most Greek and Roman books. The accounts of Livy are a good example, he mentions an uncountable amount of cavalry crossing the Hellespont, which is obviously an exaggeration (Livy 35.48.3).

Other writers have the problem of being born considerably later than the time period they write about. Writers such as Plutarch or Cassius Dio are both born more than a century later than the events they write about and as such, have had to rely upon

previous writers or oral traditions to tell their stories. Sometimes, fragments are taken from writers who have taken parts of other writers. Such is probably the case with Curtius Rufus, who probably took parts from Diodorus, who in turn based his histories on Cleitarchus' work.

It is clear that when dealing with ancient sources one has to be careful with determining which information is reliable and what not. To this end, archaeology is invaluable to recreate the past. It allows scholars to possibly verify the writings of classical authors or, if that is not possible, propose an alternate theory on the matter. It is a shame that both archaeologists and historians still don't cooperate more often to share their knowledge, while the combination of the two fields could mean much more to the subject.

The Greek authors Xenophon and Polybius can be considered a reliable source. Xenophon served under the Persian king Cyrus the Great himself and is an authority on the subject of the military. In the case of Polybius, who might not have served in the army like Xenophon did, he emphasized on telling the truth on whatever he wanted to tell. He criticized colleagues of his for not writing the truth.

The *Vita Alexandra Severi* is considered unreliable by several scholars. The material from Severus' *vita* has been taken from several other authors preceding the Scriptores Historiae Augustae, such as Herodian, while the "autobiographical" part of the story is considered fake, fictitious. Some even go as far as to say that the author was a fourth or fifth century writer who chose the emperors of the second century AD to criticise the shift of the imperial religion to Christianity (Magie 1922-1932, xxv).

In general, the critics of the *vitae* of the emperors are overwhelmingly negative, which leads to the conclusion that this piece of literature is unusable for research on the subject of cataphract cavalry and that one has to rely on more reliable sources.

Another source which doesn't provide detailed descriptions of the cavalry or a story to get any information from is the *Notitia Dignitarum*. Instead, it is a list of units stationed around the Roman empire at the end of the third and well into the fourth century, including a section on cataphracti or clibanarii.

The "Tarikh" or *Histories* of al-Tabari about the Sassanid dynasties is considered a very reliable source since the author used material from the Sassanid period for his work (Shahid 1977, 118).

Chapter 3: Archaeological evidence

In order to reconstruct the origins of the cataphract cavalry, archaeological material is the most desirable method of dating. Relative dating methods like stratigraphy and seriation of pottery work well in combination with absolute methods such as dendrochronology and thermoluminescence dating. Unfortunately, in terms of direct evidence, very little has been recovered. In some rare cases armour has been found, but the majority of finds consist of graffito's or reliefs.
In this chapter, several sites that are important for this reconstruction will be discussed.

§3.1 Ĥalčayan frieze, Uzbekistan

Ĥalčayan is a site in ancient Bactria, now Uzbekistan, which used to be a Hellenistic kingdom until it became part of the Indo-Kushan empire. The frieze which will be described here is part of a building which has been dubbed either a palace or a temple. Nevertheless, this building measures 26 x 35 m and has friezes in a hellenistic-baktrian style (von Gall 1990, 48). One of the friezes includes the depiction of three horse archers of the Heraos clan and a Bactrian cataphract (fig. 3).

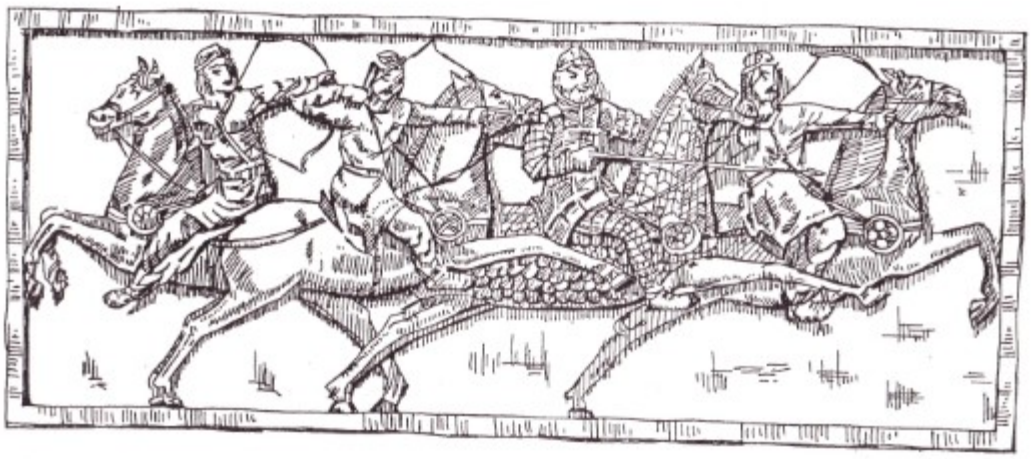


Figure 3: Reconstruction of the Ĥalčayan frieze (Mielczarek 1993, 131)

The Heraos clan was a branch of the Kushans and the one to lay the foundation for the Kushan empire (Pugachenkova 1971, 130).
Exact measures of the frieze itself are not known, even the excavator of the site, G.A. Pugachenkova, did not list measurements of the frieze (Pugachenkova 1971).

The horse archers wear no armor, neither do their horses. They only wear simple clothing and trousers and a simple helmet or head band.
On this frieze only the cataphract rider wears armour, both the horse and the rider. The horse wears armour of scale which covers its entire body except its legs, which allows the horse to be mobile despite the heavy armour. Its neck is covered by a different type of armour from its body. Unlike its body, which appears to be covered by scales, the neck is covered by laminated plates which point upwards (von Gall 1990, 64). All the horses have a round device on their shoulders attached to the bridle to fasten it (Pugachenkova 1971, 131). The rider wears segmented armour on the arms and legs, while his body is covered by armour divided in square plates. His helmet appears to only cover his crown, thile the rest of his face is left free.
The horse archers carry bows, while they have no visible quivers. The armoured horse rider only has a long lance, which he holds with one hand, counterbalancing it by holding it under his armpit. His left hand is used to hold the reigns.
There is some discussion about the age of the frieze, namely two different dates are to be named. Pugachenkova has placed the palace, or temple, in the first century BC and bases this date on the assumption that the founder of the Heraos clan, a man with the same name, has erected it (von Gall 1990, 48). On the other hand, B. Staviskij points out that this Is inherently impossible as the Kushan empire did not exist at that time. He places the frieze in the second half of the first century AD instead (von Gall 1990, 48).

§3.2 Tang-e Sarvak relief, Iran

Tang-e Sarvak is an archaeological site in southwest Iran, close to the Persian Gulf and consists of three reliefs, of which one shows an armoured rider on an armoured horse (figure 4).

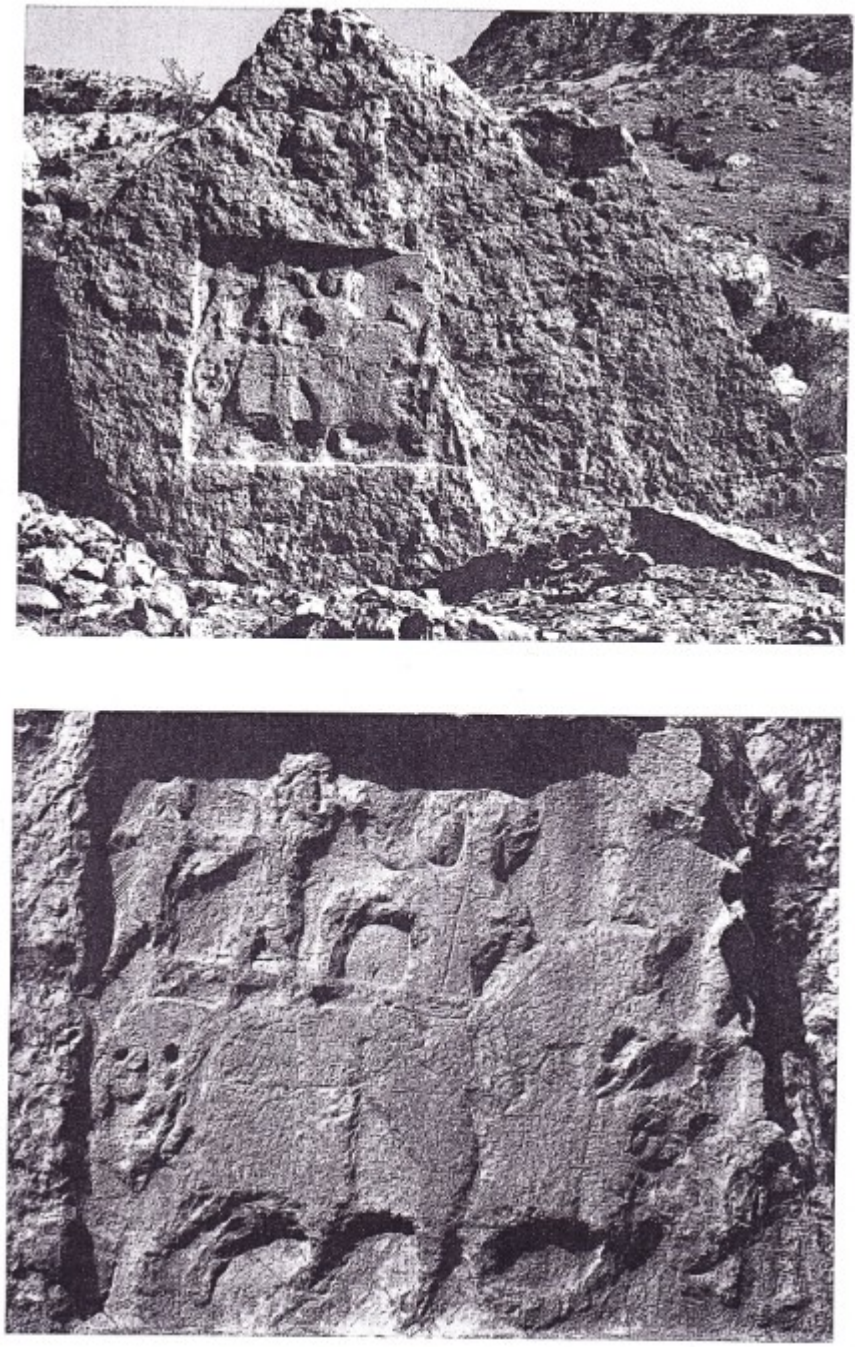


Figure 4: (upper) Overview of the Tang-e Sarvak relief, (lower) close up of the cataphract rider (von Gall 1990, figure 3)

It measures 7 meters in length, is 5,5 meters high and is oriented to the west. The rider itself is 1.96 m high and the horse it rides is 1.40 m. The two footsoldiers next to the horseman are 1.02 and 0.85 m in height respectively (von Gall 1990, 14).

As mentioned, the relief has a horseman pictured with two foot soldiers slightly above it to the left. These two are an archer and a soldier throwing a stone, while to the far right of the relief another weapon can be seen. What appears to be a slingshot is portrayed here, although unfortunately the relief has been broken at this point and the soldier carrying the slingshot is gone.

The horseman is portrayed in a way it seems closer to the viewer, while the foot soldiers seem to be further away. The relief shows great detail where it comes to armour and weaponry (figure 5).

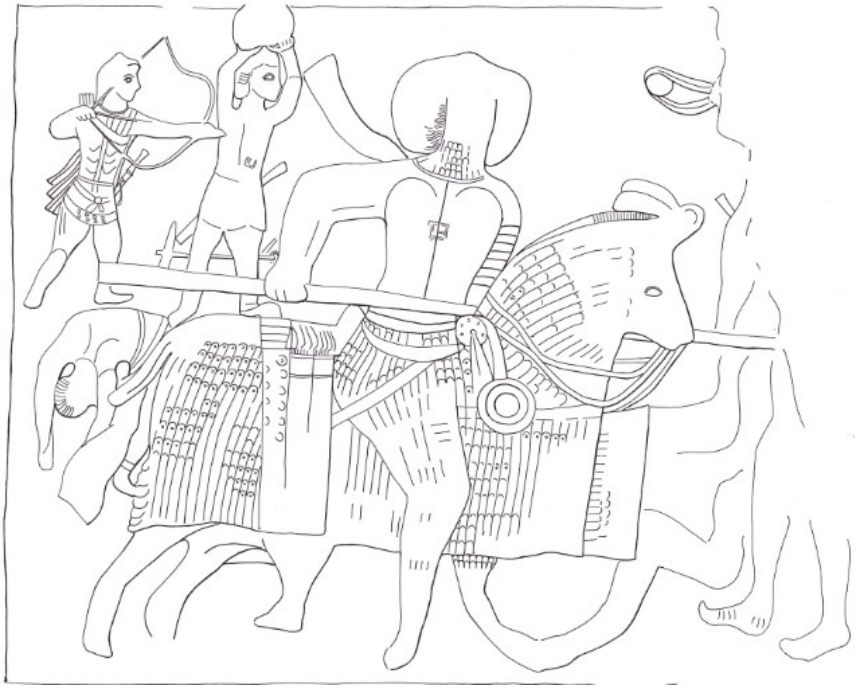


Figure 5: Reconstruction of the Tang-e Sarvak relief (von Gall 1990, 15)

Both the rider and the horse are fully armoured. The horse is covered by armour which covers all but its legs, including even a protective plate for its tail. It looks like they are made of linked plates that are stitched to an undergarment. This can be derived from the holes that are visible on the plates. Strings lead from the horse's mouth to the waist of the rider and a hint of a saddle behind the rider is present. No stirrups are visible on the relief, which were not used regularly until the early medieval period. The head of the horse is adorned by what seem to be plumes, two of these curve backwards on its head. The rider is covered in armour as well and seems to have two different kinds of armour. His lower body is covered by scales, including his legs, while his left arms has segmented armour. His upper body is poorly preserved though, which means that unlike his lower

body and his horse not much can be said about this part of his body. Nevertheless, his neck seems to be protected by scale armour as well. Extending from his neck is a scarf, although not much else can be said about it. The head of the rider is seemingly unprotected, as two great curves can be seen around it. It has been argued that these curves are in reality the persons hair and that he was a Parthian king, although which one is unknown (von Gall 1990, 18).

Weaponry of the horseman is very limited, the only visible weapon is a long lance, longer in length than the horse and extending in front. The rider holds the lance with two hands to hold the long lance straight and steady. This probably means that the lance is the primary weapon of this horseman. The tip of the lance is not preserved on the relief, meaning that the exact length of the lance is impossible to determine. While other sources mention armoured horsemen with bow and arrow, this is not the case with this individual. If it were present, the bow would probably have the same shape as the bow of the foot soldier in the left corner of the relief. This bow is of the composite recurve type, a kind of bow which has seen much use in the Near East and the nomadic steppes. The advantage of this bow is that is is very flexible and allows the archer to fire arrows a great distance away. The disadvantage of the recurve bow is that is does not fare well in wet weather, one of the reasons why these bows are never found in northwest-Europe. Modern bows are often modeled after these composite recurve bows due to their great power.

Facing the horseman is another human although his lower body and his legs are the only parts preserved. Judged by the positioning of this human, he is about to or has aready been hit by the lance of the horseman, implying that the length of the lance is about one and a half times the length of the horse.

Several different dates have been mentioned for this relief, although the most common one states it stems from the second century AD. At this point in history, the Parthians started portraying their leaders with their face turned to the viewer, while the rest of the relief is portrayed in profile. This development starts taking place during the final quarter of the first century and is integratedin the second century (von Gall 1990, 18). The aformentioned way of determining the date of this relief works well together with the characteristic “balls of hair” of the rider. These do not appear until the reign of the

Parthian king Ĥosrow in the early second century and later with Vologases V, who reigned 191-208 AD, yet it is primarily a late Parthian phenomenon. Hair styling before this tradition meant crimping hair on both sides of the head (von Gall 1990, 18).

§3.3 Tang-e Ab frieze, Firuzabad, Iran

The relief of Tang-e Ab is an enormous relief of the Sassanid period which depicts several armoured horse riders in battle. It is located on the western shore of a small mountain river called the Tang-e Ab. The relief measures 22.40 m in length, although it was probably even longer than that in the past, since part of it has broken of at the right end (figure 6).

Figure 6: Battle relief of Tang-e Ab (von Gall 1990, figure 5)

Nowadays it's around 4 m high, although it used to be higher, as the legs of the horses have broken off as well. It might have measured around 6 m in this dimension (von Gall 1990, 20).

This relief depicts a battle between the Sassanids and the Parthians, where the Sassanid king Ardešir I kills the Parthian king Ardawan IV. The rightmost rider is supposed to be the latter. As a source the islamic writer al-Tabari provides the most information in his book "Tarikh al-Rusul wa al-Muluk", translated as "History of the prophets and kings". Unfortunately this source is written solely in Arabic and therefore impossible to use directly for this purpose. As a result, the findings listed here are those of Hubertus von Gall, who provides his readers with his interpretation of al-Tabari's work.

Tabari writes that Ardešir killed Ardawan himself, explaining a part of the relief, namely the rightmost surviving part of it. During the same battle, crownprince Šapur killed the scribe of Ardawan, Dadbundadh and this is supposedly portrayed in the middle part of the relief. The reason why it has been determined that this relief potrays this battle is the similar use of a symbol of an opened bud on two different reliefs. According to von Gall, the use of these symbols explains who are on the relief. For example, a key-shaped symbol is depicted on the cover of the horse of one of the falling riders. This symbol is also used at the site of Naqš-e Rostam, where it can be seen on the tiara of Ardawan IV (von Gall 1990, 20). The relief shows five horses and six riders with different kinds of armour. Three of the riders have mail armour for their arms and waist, they are the Sassanids, while their legs are protected by segmented armour (centerfold figure). Their chests are protected by a single plate, which might have been either leather or metal. The helmets of the Sassanids vary in shape The most important figure on the relief: Ardešir wears no helmet at all, according to von Gall. He argues that this representation of Ardešir is meant to be heroic (von Gall 1990, 23). Why else would a king ride to battle without head protection? However, I myself doubt this assumption. The reason for this is that his “hair” has a different pattern on the relief than that of the two other Sassanid riders. That what is on his head is pictured as round to semi-square shapes linked to eachother, looking very much like scales. Something similar, as mentioned before, can be seen with a Parthian rider. He wears a helmet, but his neck is covered by the same kind of material. Therefore, I assume that Ardešir wears a simple helmet which covers his forehead and his crown, while a neck guard of scales protects the back of his head and his neck.

The other Sassanid riders wear a different type of helmet. Šapur, the son of Ardešir wears a round helmet with the beak of a bird pointing forward. His shoulderlength, curling hair waves behin him and he has a beard. The last Sassanian rider, presumably a page, has no beard, wears a high, oval helmet and has a similar hairdress to Šapur. He is the only rider on this relief that does not have a beard. On their waist they carry a quiver with arrows, although a bow has not been carved. Two of these riders carry long lances, which they hold with both hands. The leftmost rider on the relief has an object strapped to his hip which might be a sword, although little of it can be seen.

The Parthians are dressed in a different way. Like the Sassanids, they wear a breast plate of an unknown material, most likely metal, although they don't have the characteristic mail armour on their arms. Instead, they wear segmented armour on both their arms and legs, with scale armour around their waist. Their helmets are oval shaped and have a protecting neckguard consisting of scales. This neckguard covers the back of their necks and a small part of their chest, unlike the soldiers they are fighting. They carry quivers on their hips as well and do not seem to carry weapons beside their lance.
Both kinds of riders have horses that are protected by barding, although the nature and the material of these can't be determined. What can be seen is that these bardings are adorned with different symbols. It is likely that these covers are made of leather, since it's obviously difficult to adorn metal with symbols while still keeping the armour flexible.
The date of this frieze has been determined by a study of coins of Ardešir. Around threehundred coins are stored in the Hermitage and Historical museum in Moscow. For the dating a terminus ante quem has also been used. A different monument in Bišapur has been dated to 205/206 AD at the start of the Sassanid era (von Gall 1990, 26). Šapur, the son of Ardešir has been crowned king in 240 AD, which means that the date the battle against Ardawan happened must have been before that. Using the coins, the work of Tabari and the relief at Bišapur the estimated date for the relief is 224 AD (von Gall 1990, 28), placing it around thirty years before the events at Dura-Europos.

§3.4 Dura-Europos, Syria

Dura-Europos was originally a garrison city in modern eastern Syria on the Euphrates and founded by the Seleucid dynasty in 303 BC (figure 7).

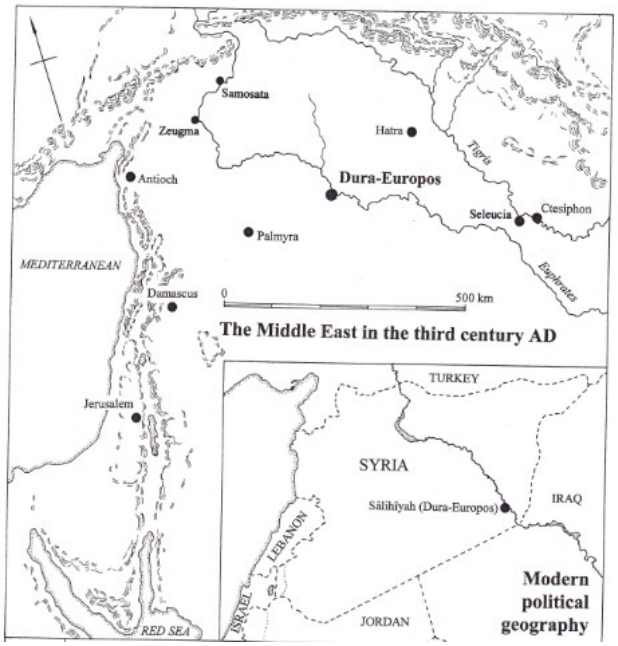


Figure 7: Location of Dura Europos (after James 2004, 12)

Its current lay-out as a city date back to the mid-second century AD. The name Dura-Europos is a modern term, in ancient times either Dura was used or Europos. In this text, the term Dura will be used. It has switched ownership between Romans and Parthians in the second century several times until it was permanently occupied by the Romans 165 AD. In the subsequent centuries it has been occupied by the Parthians, Romans and Sassanids until it was largely destroyed by a Sassanid army in the second half of the 3rd century AD (James 2004, XXIII). During this period it was an important military base and river port, the Euphrates wasn't a frontier for the Romans or Parthians, but constituted a hub for communication and invasion. Only when the Parthian dynasty collapsed and was replaced by the Sassanid dynasty did Dura become a frontier fortress. The Sassanids took the town in 252 or 253 AD but it was shortly thereafter retaken by the Romans, only to be captured by the Sassanids again in 255. Following the occupation of Dura, its citizens were likely deported and the town was abandoned.

The location of the city next to the river on a high plateau had several advantages: The river provided the citizens with drinkable water, much like in present times the local

population is used to the bacteria in the water and are able to drink it without sustaining harmful conditions. The river allowed for easy transport of military supplies, soldiers or trade goods. The location of Dura on a plateau and close to a cliff ensured that when heavy rain poured down, it would flow down the slope off the cliff into the river, while cisterns still collected rain for personal use (James 2004, 13).
The excavations took place in the 1920's and the archaeological report on military material has only been published ten years ago. The variety of these finds is immense, from armour and weaponry until decorative strappings, buckles of these armour pieces, catapult bolts, painted shields and much more. This is the only site where complete horse armours have been recovered, so perfectly preserved that they could be put on a horse once they were excavated (James 2004, 132).
Apart from the material that has been recovered, several murals and graffito's are known from this site as well.

§3.4.1 Preservation of material

Dura is a unique site in that as a result of certain circumstances during the siege the material left behind was preserved to such an extent that wood, paint, even leather and textiles were preserved. No other site with a Roman history has so many organic finds in such good condition.
The reasons this was possible is because several micro-environments were created during the siege. The walls for example were encased in an earthen rampart which drained the rain before it could get to the material. However, only certain parts of the defences of the city allowed this extraordinary survival of material, in particular the towers 14 to 17 (figure 8), located in the lower left corner of the picture and the embankment (raised platforms for protection against water) areas (James 2004, 29).

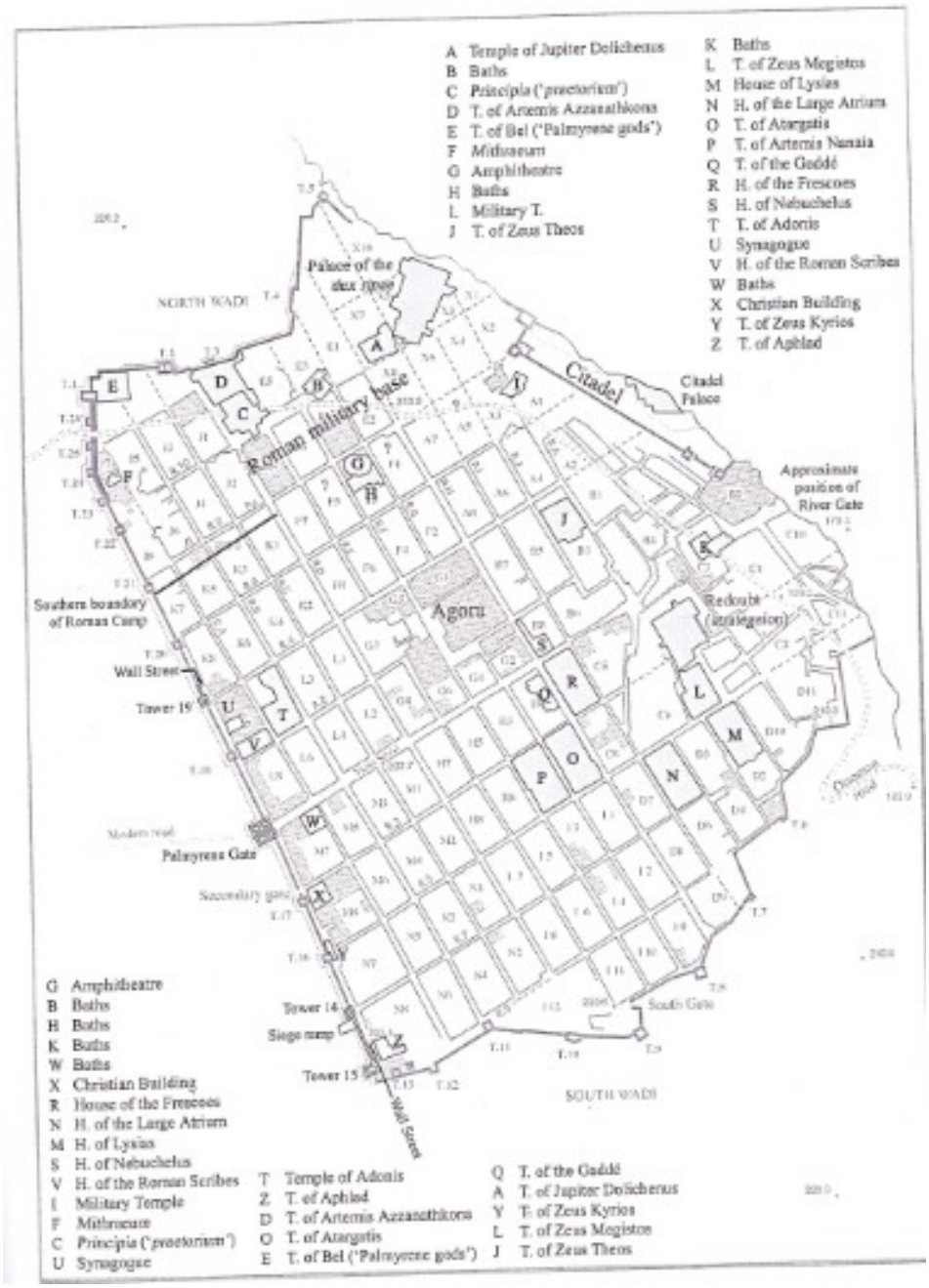


Figure 8: Lay-out of the city of Dura-Europos (James 2004, 17)

Aside from these unique environments, metal has not been preserved well in other contexts across the settlement. Small copper alloy objects such as scales have often corroded to a point where they have completely disappeared whereas thicker objects are often almost completely mineralized. However, the opposite is the case for iron objects. Smaller items of this category tend to be less affected by corrosion than larger, thicker ones.

However, a problem that arises with all the material on the site is the lackluster documentation and subsequent publishing of military equipment. This is not only a problem for Dura, but for the Near Eastern region in general. Western Europe has a much better researched record of military archaeology than the eastern Mediterranean (James 2004, 6).
The material discovered at Dura is overwhelmingly Roman, the few individuals that have been determined Persian were only recognisable as such by their helmets and weaponry, little of the garments they wore survived or were discernable as "non-Roman" (James 2004, 57).

§3.4.2 Horse trappers

Like many Middle-Eastern communities, Dura also had a rich equestrian tradition, which is attested to by the many graffitos', murals and paintings which feature horses (James 2004, 66). Skeletal remains from horses didn't survive, although horse armour did. These provide an insight into the use of the horse in warfare.
The Roman unit that was stationed here was the cohors XX Palmyrenorum and it should have had many more horses at its disposal than there were soldiers riding them in case some died or had to be replaced. A list has been preserved with the names of the cavalrymen of the cohort and the identifying characteristics of their mounts. It dates from AD 251, though it is unclear which type of horses were used at Dura. In ancient times, certain breeds were famous, like the Nisaeans or the Armenian or Cappadocian horses.
Horses in the Roman army had to be strong, which made large and robust individuals desirable. The estimated size for horses at Dura is around 142-157 cm at the withers (James 2004, 67). Horses wouldn't have been much bigger than this, since stirrups weren't in use yet and riders had to climb on the horse without the aid of such a device.
The category of finds that provide some of the most well preserved examples of armour meant for cataphract-type of cavalry are two trappers that have been recovered. One is made of copper alloy scales, a second consists of iron cales and a third is an only partially preserved iron scale specimen.
None of these have a designated excavation number, and only the ones that are stored at the university of Yale have received a number at all.

The armour made of copper alloy scales had been stored at the National Museum in Damascus, which might mean that it has been destroyed in the recent war in Syria. The other two are stored at the university of Yale in the United States and therefore in a much safer storage facility.

All of these have originally been made by attaching scales to a leather undergarment, which have then been stitched together. The term copper alloy is used as a synonym for “bronze”, and will be the term used for this particular material.

The scales have been arranged in a way that incoming missiles from the front are deflected or made to slide from the armour.

The complete horse armours have different shapes, the copper alloy individual consists of two rectangular pieces which are strapped together with a leather strip in the middle (figure 9).

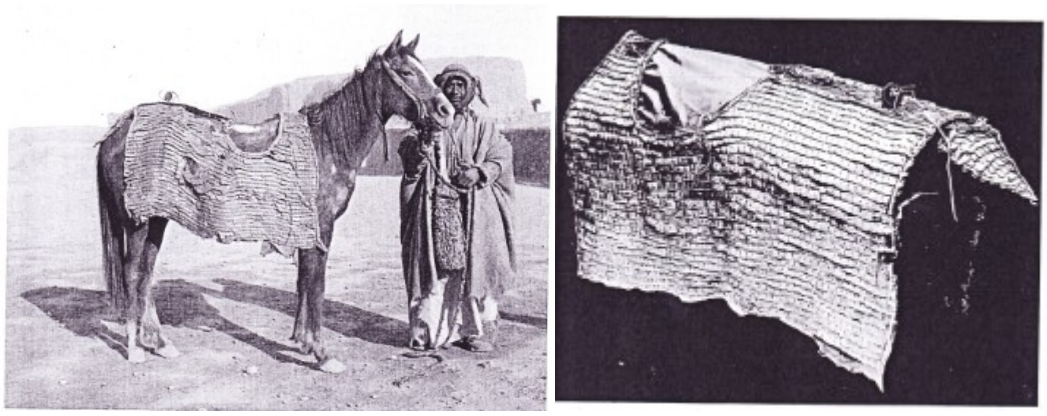


Figure 9: Copper alloy scale trapper after excavation (left) and the trapper without the horse (right), no 449 (James 2004, 129)

A small piece covers the buttocks and tail of the horse and is connected to the main piece by a leather strip to the center (James 2004, 129). The armour is 1.22 m long and 1.69 m wide when laid flat and is covered with numerous scales, each 3.5 cm long and 2.5 cm wide that overlap each other by a small amount. They are strapped to the leather garment underneath by thin bronze wires and have eight holes. The holes on the sides are used to strap the individual scales to each other (James 2004, 129).

Along the middle line of the leather straps a small cut has been made where the armour passes over the horse’s withers. Around 12 cm behind this cut a hole of 37 cm long and 68 cm wide can be seen, where the saddle must have been attached to the it.

While these three pieces of military equipment are examples of perfectly conserved armour, their late dating means little to the question where it originated from. It provides information that heavily armoured cavalry developed well into late antiquity, only to be improved upon even more during later years.
The specimen made of iron scales has a different shape. Its basic shape consists just like the iron example of two rectangle planes, although the front part of the armour juts forward on both sides of the horse (figure 10).

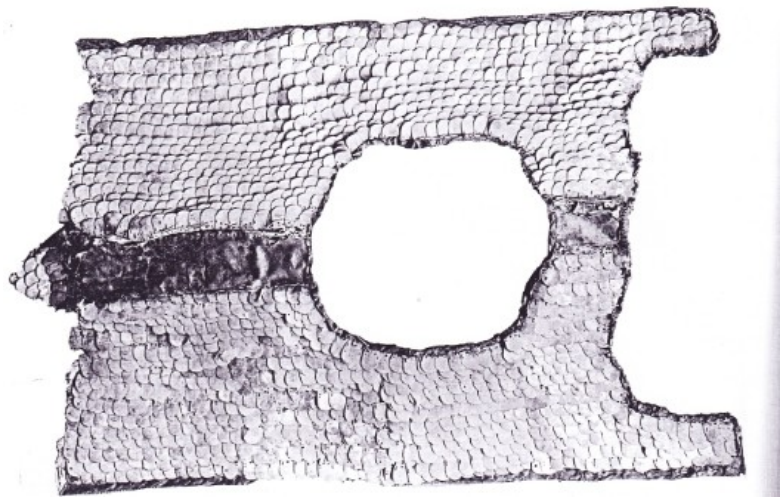


Figure 10: Iron scale trapper, no 450 (James 2004, 132)

It looks like it has been used to fasten the chest. A large hole on the back of the horse has been left open for the saddle, while a triangle of scales protected the rear end of the horse. The small area in the middle of the armour separating the two planes of scales is covered with leather, presumably to allow some kind of flexibility of the armour.
Although these three specimens are the most complete example of horse armour, they were likely not the only armour protecting the horse. If one compares the representations of horse armour on reliefs with the actual archaeological finds, it is clear that the horses had neck protection and head protection as well. This corresponds with the large number of loose scales found next to the complete specimens, which possibly once belonged to these neck guards. Unfortunately, no definite conclusion could be reached about this material, since it just concerns loose material.

§3.4.3 Rider armour and weaponry

Although horse armour is represented at Dura, less can be told about the armour their riders wore. No skeletons belonging specifically to a rider have been discovered and since Dura has been the scene of a siege, cavalry would have been of little use here. As mentioned before, the only horse armour discovered was located in tower 19, probably stored away. Infantry armour has been discovered and consisted of two different types: chain-mail shirts and scale armour. These mail shirts are all made of iron rings, linked together to form the armour (James 2004, 110). Althought the shirts are made of iron, some of them have copper rings as well, probably for embellishment.

The majority of the shirts belong of a simple type: a mail shirt which could be pulled overhead and without shoulder guards. Although these were used by the Roman army since the early second century, similar shirts were used by the Sassanians as well (James 2004, 111).

In contrast to the primarily iron mail shirts, scale armour was usually constructed from copper alloy material. However, it is hard to prove, since iron armour corrodes easier. The largest copper scales are about the same size as the smallest iron scales, suggesting that these might have belonged to horse armour instead of human armour, as with a horse obviously a larger area has to be protected.

The one category of armour that appears to be specifically belonging to horse riders are limb defences. For infantry, the protection of limbs is of course important, but with more than shin guards mobility is sacrificed. For a horse rider, mobility for himself is less important than for his horse as it does the moving for him. The rider is then able to focus on fighting, where his arms and legs are more vulnerable and armour would be useful to prevent harm. Some fragments of scale armour have supposedly belonged to thigh defences, this suggestion was only possible because substantial parts of scale armour and therefore their shape as well have been preserved. In other parts of the world with less favourable preservation circumstances this identification is not possible (James 2004, 113).

Important to mention is that Roman armour is nearly indistinguishable from Sassanian armour. This is attested by the mail shirts from Roman soldiers and the “Sassanian soldier”. A skeleton was discovered under the countermine tunnels of tower 19, it has been dubbed the “Persian”, as it is the only skeleton on the outer part of the tunnel,

while a large mass of other skeletons has piled up on the other side of the wall. This “Persian” wore a mail shirt, like all the other soldiers (figure 11).

Figure 11: The “Persian” skeleton in tower 19 (James 2004, 117)

These two groups were separated from each other by a couple of meters. Close to the pile of skeletons lay an iron helmet and a sword, both believed by the excavator to belong to the “Persian” (James 2004, 37).

Few weapons have been attributed specifically to cavalry, this is only the case for the head of a copper alloy mace (find nr. 647) and a couple of longswords. Even in the seventeenth century horsemen were equipped with long sabers compared to those of the infantry to be able to effectively dispatch enemy soldiers while riding a horse. The copper alloy mace has been mentioned in Arrian’s work, perhaps verifying its likability to have belonged to a horseman (James 2004, 190). Although neither of these weapons can be attributed specifically to cataphract cavalry, their weapons probably comprised of the same kind. When combined with graffito’s or reliefs for evidence, a reconstruction can be made of these ancient horsemen.

Archery is a category of warfare that has been poorly preserved at the site. Apart from a few bone fragments which belonged to the tip of a composite recurve bow (James 2004, 199) only arrowtips have been recovered and a part of a thumb ring for pulling back the string. In order to discover what kinds of bows were used at the sites, one has to study

the reliefs and graffito's at the site. Especially horse archery is a well-represented category, several examples of graffito's have been discovered at Dura's temples (James 2004, 194) although care must be taken not to overly rely on artistic representations, for an artist's impression of a weapon is not always reliable.

§ 3.4.4 Graffito's

A final category of finds of Dura-Europos include graffito's. Several of these provide an insight, although not always a detailed one into warfare in the third century. Several graffito's on the wall of the synagogue show several horse archers with drawn bows, while they are lightly armoured. One example of a graffito deserves special mention. It is a graffito which has been called the "*clibanarius* of Dura-Europos", which is currently stored at the Yale University Art Gallery. It was discovered in the court of a building which abuts to tower 17 (Baur, Rostovtzeff and Bellinger 1933, 216). The graffito is 43,18 cm long and 40.64 cm wide and is located just below a relief of a *cataphractarius*. It shows a horseman on his horse covered in full armour (figure 12).

Figure 12: Graffito of a *clibanarius* (Baur *et al* 1933, figure XXII 2)

His horse is covered by scale armour and it reaches to its knees, while its tail is left free. On the horse, just in front of the the riders' knee and another one just behind the saddle two circular plates are attached to the horse. These are known as "tamgas", roughly translated as "clan emblems" (Vernadsky 1956, 188). Tamgas are depicted on various other reliefs as well, which leads one to assume it is a common display of affiliation among Persian peoples. The rider is covered in armour as well. His chest is covered by chain mail armour, his legs and arms by segmented plates. His head is covered by a

conical helmet and his neck seems to be protected as well, although it is too unclear to do more speculations. The clibanarius is armed with a lance, held in his right hand and his left hand holds the reigns while the horse is galloping. A small dagger is attached to his back. Interesting is that the shape of the horse is visible underneath the armour, as if it is transparent.

The cataphractarius mentioned above looks very different from the clibanarius. While the latter is completely armoured, this horseman only has an armoured rider completely covered in what appears to be scale armour (figure 13).

Figure 13: The *cataphractarius*-relief of Dura-Europos (Baur *et al* 1933, figure XXII 1)

The head is covered by a helmet which leaves openings for the eyes and mouth (Baur, Rostovtzeff and Bellinger 1933, 216). Apparently the rider has three different parts of armour: the arms and breast are covered by continuous scale; the waist has a belt and the lower part of the tunic lacks the straps the upper part has (Baur, Rostovtzeff and Bellinger 1933, 216). Unfortunately it is impossible for me to distinguish these small features with only a small picture of the fresco at my disposal. Like the clibanarius, the cataphractarius is armed with a lance, although shorter than the Sassanid example.

§ 3.5 Taq-E Bostan relief of a horseman, Iran

This relief is located at the site of Taq-E Bostan in western Iran and probably depicts Peroz I, a Sassanid king who reigned 459-484 AD. This date isn't set though, as a controverse still goes on between two scholars. One proposed Peroz I to be depicted, the other king Ĥosrow II, who reigned 590-628 AD. The most important dating argument for

the first option stems from a depiction of the king on a coin, which is apparently very similar to this relief (von Gall 1990, 38).
The relief depicts a heavy armoured horseman on an armoured horse and several factors distinguish it from earlier representations of cataphract-type cavalry (figure 14).

Figure 14: King Peroz I at the Taq-e Bostan relief (von Gall 1990, figure 15)

This relief has been lightly damaged, a leg and part of the head of the horse has broken off as well as the right elbow of the rider. The rider is fully protected by armour most likely mail, which covers his entire body. He wears a helmet with a ball like figure on top and his face is completely covered by it, leaving only his eyes free. From his forehead down his face is covered by mail as well, it is a helmet not previously seen on reliefs of horsemen.
The horse is covered by armour as well, though unlike other reliefs from earlier periods, this horse has only armour covering the front of its body and it actually consists of rows of laminated plate. It covers it from the head to the knees, leaving its lower legs free to move. The rear end of the horse is left completely free, no armour covers it in any way, showing a clear example of how cavalry armour evolves over time.
The weaponry of the rider differs from other reliefs as well, he carries the usual lance, although he carries it overhand with only one hand instead of underhand with two

hands. In his left hand he carries a small round shield, protecting the left side of his chest and probably holding the reigns, as they lead from the horse's mouth to his left hand as well. The rider carries a quiver on his right hip yet a bow is absent on this relief.

Chapter 4: Different types and development

Cataphracts are not a very common sight in recent literature, only a few books are considered right on the subject, yet something they all have in common is that there is an oddity in the terminolog., Some classical authors call them cataphracti, others call them clibanarii. What exactly determines if a horseman belongs to either of these categories? Is there any difference? How do these heavy horsemen develop over time? These are questions relates to technicalities concerned with this subject. The more culturally related questions, about who they were in daily life, will be answered in chapter 5.

§ 4.1 Cataphracti and clibanarii

As was mentioned in the introduction, both the terms cataphracti and clibanarii have been coined for a specific type of heavy cavalry commonly occurring in the Seleucid, Parthian and Sassanid armies. Two theories have been proposed by scientists of what they are. According to most, the distinction of cataphracti and clibanarii is made based on armour. In a couple of centuries, the armour of these cavalry units changed such that some consider them different kinds altogether. A different opinion is Mariusz Mielczarek's, he introduces the possibility that this difference in naming might be as a result of the implimenting of new tactics.

What must be noted is that not every heavily armoured horseman is considered a cataphract or clibanarius. The only ones that have been named this way are the Seleucid, Parthian, Armenian, Sassanid and Roman cavalry distinguished by this name. Although similar cavalry exists across the world, for example in ancient Scythia or even China, they were not named cataphract or clibanarius by ancient authors and are therefore off topic for this thesis. This does result in a highly theoretical approach and great reliance on ancient sources, a disadvantage of dealing with a subject that has been of interest to classical writers and less to modern scholars.

The ancient writers that list these heavily armoured horsemen as "cataphracts" are: Polybius; Plutarch; Cassius Dio; Livy and Sallust.

The only writer that lists them as clibanarii is Ammianus Marcellinus, who lived in the fourth century, the only other author who lives after the early third century AD is Cassius Dio.

Although these are the writers that list the heavily armoured horsemen of the Middle East as cataphracts or clibanarii, there are also a few writers who describe similar cavalry yet do not name them this way. Rather, they simply call them “armed with breast plates and thigh-pieces” (Xenophon. Anab. 1. 8. 6) or “weighed down by the linked plates which covered them as far as the knees” (Curtius Rufus 3. 11. 15).

The *Notitia Dignitarum* mentioned earlier lists both clibanarii and cataphracti, although in slightly different terms. In this document the dinstinction of the two is based on their origins. The *equites catafractarii* as they are called here have their origins in the west, such as the unit under command of the *Dux Britanniarum* (Mielczarek 1993, 77). The origins of the clibanarii in this document are all eastern except for one. The only western unit is positioned in the province of Africa. This unit is called the *equites sagitarii clibanarii*, which implies a unit with a skirmishing role, since *sagitarius* means “archer”. However, this list does not exclude the possibility that clibanarii were stationed in the west or the catafractarii in the east in the past.

§4.2 Weaponry

§4.2.1 Spear and lance

A part of the arms of the cataphract that seems to never change is the spear or lance as their primary weapon. First of all, when is a weapon a spear and when is it a lance? A lance is basically a long spear meant for cavalry combat and it is used exclusively to thrust. The lengths of these lances varied and there existed different types. A spear used by Roman infantry and possibly their light cavalry as well was a *hasta*, a short spear slightly longer than a man, around 2 meters in length (Eadie 1957, 163).

A second type is the *xyston*, a cavalry lance mentioned for example in Xenophon’s Cyropaedia (Xen. Cyrop. 4.5.58). These are lances meant exclusively for cavalry and they were the weapon of choice for the Macedonian *hetairoi*, the Companions (Bar-Kochva 1976, 74). The Companions were a unit of shock cavalry, which meant that there lances

had to be of considerable length to have any effect. However, unlike later lances the xyston was held in one hand, the other held a shield. This combination was introduced by the Successor states after Alexander the Great's death. This meant that the spear couldn't be too long or it would become unwieldy and hard to keep in place. It has been suggested that the *xyston* would have been as long as the Roman *hasta*, around two and a half meters in length (Sage 2012, 1). What also needs to be taken into consideration is the way spears were held. Unlike the common view, spears were often held in an overhand position, instead of underhand, as it improved handling and prevented infantrysoldiers from stabbing someone with the rear end. As most infantryweapons were given to cavalry in their early phase, it is likely that the overhand position was used by them as well. However, when time passed and lances became longer and heavier the overhand method was no longer an option.

This was the case with the *kontos*, a heavy lance which had to be held with two hands on one side of the horse.

The *Aethiopica* of Heliodorus provides some detailed descriptions of cataphract cavalry. In the fourth century, it was fastened to the horse's neck and back to keep it from swaying (Michalak 1987, 79). Like the xyston, the kontos was of considerable length. It was the main weapon for the shock cavalry of the Sassanian cavalry. Eventually the development of stirrups led to a revival of the lance in the Medieval period., which now could be held under the armpits to keep it balanced.

Two ways of holding the lance must be mentioned. The first is to hold the lance along the horse's flank, this way the lance is held relatively low, ideal to hit infantry with it, but against cavalry it is less effective. The other way is to hold the lance higher, parallel with the horse's head to the left. This way is seen at the reliefs of Tang-e Sarvak and Taq-e Bostan and is similar with how medieval knights held their lances to throw their opponent out of the saddle.

§4.2.2 One handed weapons

One handed weapons, that is swords, axes and maces are a category not commonly related to cataphract cavalry. In fact, only one example in the archaeological record gives a cataphract horseman such weapon. This is the relief of Taq-E Bostan, where the king has a sword girded around his waist. The sheath is at his left, while his sword itself is

absent on the relief. It might have been lost or dropped in battle. One other example of a one handed weapon wielded by a cavalryman in Dura is known, a mace head was discovered at the site, although it is unknown if it belonged to a cataphract rider.
The aforementioned graffito of a *clibanarius* shows a small dagger fastened to the back of the rider and it seems to be his only weapon beside his two handed lance.
Given the amount of represenations of reliefs, it is likely that this category of weapons was generally absent on this type of cavalry and that they almost solely relied on the shock value of the heavily armoured horse and the several meters long lance.

§4.2.3 Bows

In the Near East and on the steppes, bows and arrows had a prominent role on the battlefield. Soldiers were raised to handle a bow, among the Scythians and Parthians the majority of their army was made up of archers, both on foot and on a horse. The type of bow that appears to have been used regularly is called a “composite recurve bow” (figure 15).

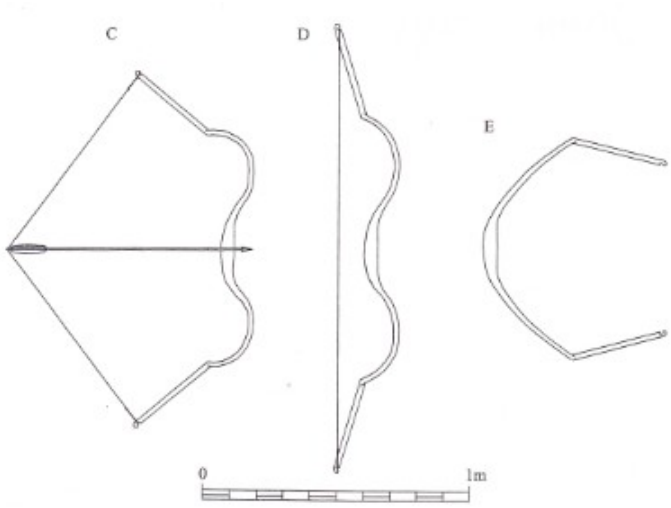


Figure 15: Modern of a composite revurve bow in its drawn (C), strung (D) and unstrung (E) position (after James 2004, 193)

The tips of the bow are made of bone or ivory, the string was a sinew, while the main structure was made of flexible wood. These types of bow were very powerful and are part of the reason why eastern archers were highly valued. While almost all historical

sources on cataphract cavalry mention the use of bows, they do not mention the heavy armoured horsemen to use them themselves. That role seems to be fulfilled by lightly armed and agile horsemen that used a shoot and flee tactic to stay out of harms way. Of course, cataphracts couldn't perform this role, they are far too heavy and encumbered by their heavy armour to be a swift unit in battle. However, the use of a bow as a secondary weapon does have some uses. Especially if the earlier mentioned lance is fastened to the horse a bow could easily be drawn and shot before the initial charge was executed. However, if the lance was held with two hands exclusively a bow would not see much use, as the rider would need all his concentration to keep it steady. Nevertheless, on the relief of Tang-E Ab quivers can be seen as well as with the rider of the Taq-e Bostan relief. These are attached to the rider on their sides and while a bow is absent, it does imply the use of them. Unfortunately wood is a material that easily perishes, in the soil of the Near East it is usually not preserved. The site of Dura-Europos does provide a few bone parts which belonged to the tips of a recurve bow, yet the majority of bow parts consist of arrowheads. Unfortunately none of these could be linked to cataphract cavalry. However, some of the graffito's show armoured horses with a n archer on top. None of those riders who do carry a bow are armoured themselves, which makes it unlikely that they fit the definition of a cataphract. This makes one wonder if the bow was a weapon meant to distinguish the elite from the regular soldiers or that the cataphracts on the Tang-E Ab frieze and the Taq-e Bostan relief were just exceptions.

§4.3 Armour

§4.3.1 Scale-, mail-, lamellar- and segmented armour

From the archaeological representations it is clear that there are basically three different kinds of armour to distinguish. The first is scale armour, consisting of many plates with punctured holes that are linked together by leather strips or metal rings. The scales partially overlap, usually away from the neck of the horse to have incoming projectiles slide off and do no harm. Examples of scale armour can be seen at Ḧalčayan, at Dura where all the horse armours are created this way and at the frieze of Tang-e Ab, where

all the Parthians wear this type of armour and one of the Sassanids as well. None of the horses on this frieze wear scale armour, according to von Gall they wear leather trappers although it is unclear if the horses have armour underneath these.
Another type of armour that occurs in several historical sources and on multiple friezes is mail armour. Mail armour consists of many small rings, usually of iron which are linked together. The whole creates a flexible coat that protects against blows from melee weapons or against projectiles. Due to the construction of the mail coat they can't penetrate the mail enough to damage the body underneath. This type of armour is seen exclusively on the horsemen, the type of armour favored for the horse is most commonly scale armour and segmented armour. Mail armour can be seen at the friezes of Tang-E Ab and Taq-E Bostan. Mail armour has also been discovered at Dura, although these can't be linked to cavalry directly. A famous example is the body of a soldier buried in a mining tunnel. The soldier wore a shirt of mail and a conical helmet of a type called a ridge helmet. They are characteristically build up of two plates of metal joined together by a strip over the crest. Mail armour is also used throughout the Roman empire. where it is known as a *lorica hamata*, whereas the famous *lorica segmentata* is build up of segmented plates and the *lorica squamata* of scales.
Lamellar armour is the third category, which has been used in several instances, most of the time on horse armour. Examples are the reliefs of Tang-e Sarvak and Taq-e Bostan, where both horses where this type of armour. The difference between scale and lamellar armour is that all lamellas are connected with eachother and catenated to create a flexible armour. This is different with scale armour, where the individual scales are only connected with another scale overlapping by binding them together with leather or bronze strips. Lamellar armour provides the same kind of protection as scale armour, yet it is more flexible due to the lesser amount of connections needed to bind the scales.
One must not forget that all these types of armour were created by attaching scales or lammellas to a leather undergarment. This way the armour would not hurt the horse or the rider, while it still provided the necessary protection. Examples of these leather garments are discovered at Dura, where some fragments as well as the two complete trappers were preserved with the scales still attached to them (James 2004, 130). The differences between scale and segmented armour are perfectly illustrated at figure 16.

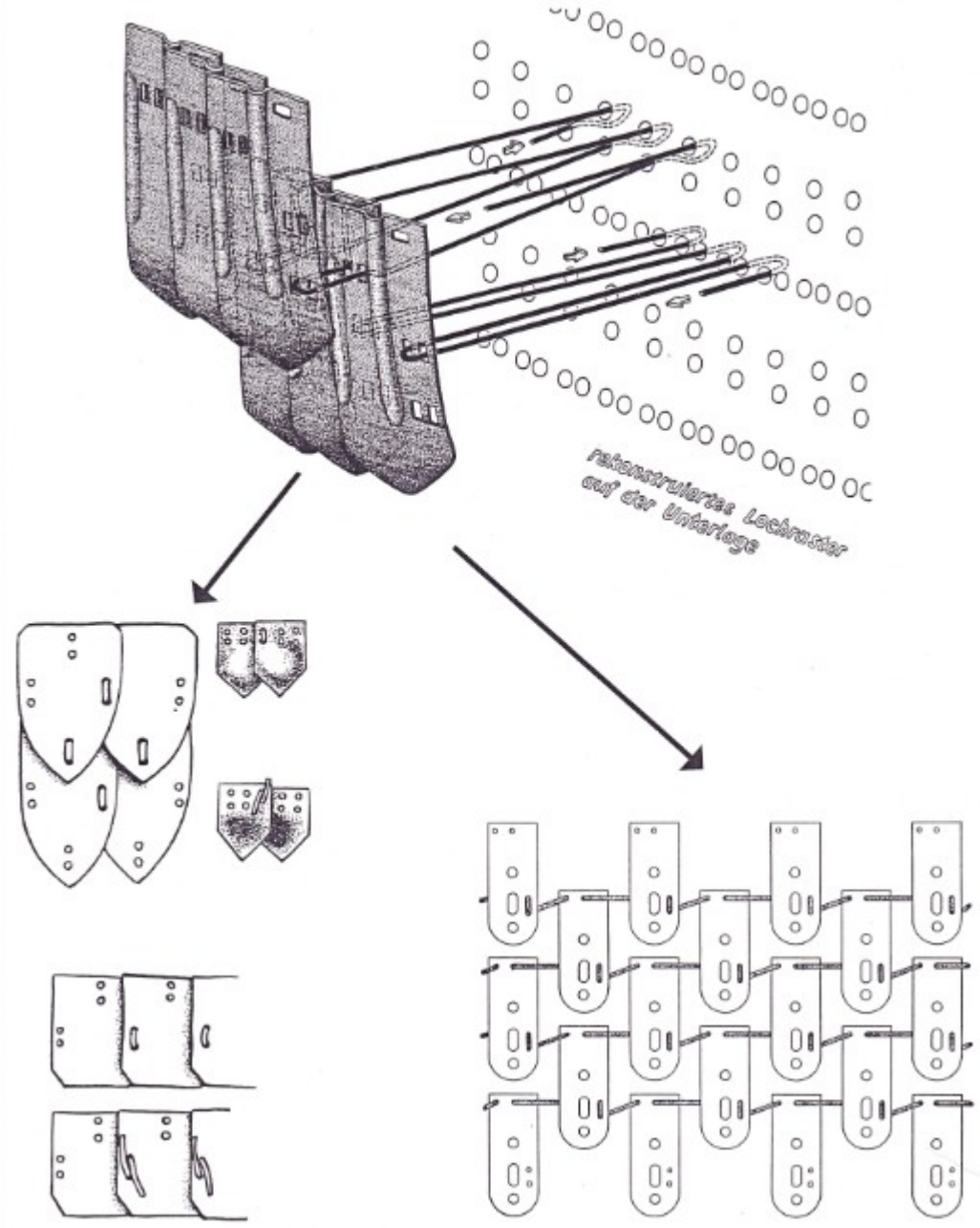

rekonstruiertes Lochraster
auf der Unterlage

Figure 16: The difference between scale and lamellar armour: bronze scales on leather backing (above), scales (left) and lamellar armour (right) (von Gall 1990, 63)

Segmented armour is seen in several instances and are mentioned in ancient literature as well. Curtius Rufus is the prime example, he mentions “coverings of iron plates joined together in one mesh” (Curtius Rufus 4.9.3). Ammianus Marcellinus also mentions this type of armour, he describes them as “thin circles of iron plates, fitted to the curves of their bodies, completely covered their limbs; so that whichever way they had to move their member, their garment fitted, so skillfully were the joinings made” (Amm. Marc. 16.10.8).

In the archaeological record segmented armour is seen on the friezes of Ǧalčayan, Tang-E Sarvak, Tang-E Ab and Taq-E Bostan, although in different settings. The first frieze shows only segmented armour on the neck of the horse, the segments point upwards. This seems slightly odd, as one could imagine incoming missiles to get stuck between the plates. If they pointed downwards, the missiles would slide off the armour. The friezes of Tang-E Ab and Tang-E Sarvak have in common that the limbs of the riders are protected by segmented plates. On the frieze of Tang-E Ab the difference is that the Parthians have all their limbs covered in it, while the Sassanids have their arms protected by mail armour and only their legs in segmented plate. The horseman on the frieze of Taq-E Bostan has no segmented armour, instead his horse is protected by it, although only the part of its body in front of the feet of its rider. As mentioned in the previous chapter, the rear end of the horse is not covered by armour whatsoever.

When one examines the friezes of the cataphracts, a certain chronology can be established. Initially the armour favoured for the horse is a scale armour, which remains in use for a couple of hundred years. It appears at Ǧalčayan, it appears and it appears at Dura. The latter is the later site, approximately one hundred and fifty years after the former. The examples at Dura-Europos can be considered Roman, since they were discovered in a tower, while the graffito is of a presumed Sassanid rider. What can be concluded from this is that scale armour was adopted by every major power in the east sooner or later, yet in can not be said that they were the only ones used as there is not enough material to come to this conclusion.

However, a distinction can be made between the Parthian and Sassanid armour sets. Based primarily on the relief of Tang-e Ab where a battle is depicted between the

Parthians and the Sassanids. Although the armour of both opponents are similar, slight differences exist. A characteristic of Sassanid cataphract armour is that they wear a coat of mail, instead of the scale armour that is worn by the Parthians. The Sassanids favour the lightweight mail coat over the heavier scale armour, while the segmented limb defences are the same for both the Parthians and the Sassanids. This can be seen on the relief of Tang-e Sarvak as well.
Unfortunately no archaeological evidence exists on the armour of Seleucid cataphracts, only historical sources give some information.

§4.3.2 Rider helmets and neck guards of horse armour

Although the two parts of paragraph 4.2 are strongly connected to one another and it could have been only one, I felt it necessary to split them to improve readibility of the piece. As a result, the pieces of armour described in this part is everything that does not belong directly to the category of mailed, scaled or segmented armour.
To continue with the differences between Parthian and Sassanid armour, their helmets differ as well. The Parthians on the Tang-e Ab relief seem to wear more oval helmets with a neckguard of scales, while the Sassanids do not wear similar helmets. Instead they wear simple helmets that protect their crown and their hair is waving freely behind them. Given that the relief of Tang-e Ab is a representation of a fight between kings, this may be the heroisation of the Sassanid kings. This relief dates to the period when the Sassanids succeeded the Parthians as the major power directly east of the Roman empire, around the start of the second half of the 3rd century AD. It is known from later archaeological sources that the Sassanids did in fact wear covering helmets, although they differed greatly from the ones depicted here. The relief of Taq-e Bostan shows this, as it dates to the 5th century AD. This helmet is almost square-shaped with a small dome protecting the rider’s crown (figure 17).

Figure 17: The helmet of the Taq-e Bostan rider (after Farrokh 2005, 10)

Decorations adorn the helmet, a round plume is attached to the top of it, while only small slits are left open for the eyes. The lower part of the face is completely protected by mail. This type of helmet is typical for the late Sassanid period. It is at this point that the horse armour differs completely from earlier variations as well in that it no longer covers the rear end of the horse, only the front. At this point it is clear that the Sassanids chose the reduced weight and mobility over the sheer defensive power of a heavily armoured horse.

Although the trappers, mail shirts and helmets are the most recognisable parts of armour of a soldier, other important parts are neck guards and thigh pieces which protected the rider and the horse from harm. As was mentioned in chapter 3, at Dura several rows of scales and loose scales were discovered in Tower 19 along with the two complete trappers. These were probably once part of a neckguard piece of the copper alloy trapper (James 2004, 131). The frieze at Ĥalčayan shows an example of such a neckguard piece which consists of a different type of armour than then trapper itself. The trapper itself is made of scales, while the neck is protected by lamellar armour. This difference can be determined by looking at the way the armour was fit. The lamellas point upwards whereas the scales point of the trapper downwards.

§4.4 Formations and tactics

While armour is an important subject to study when one tries to identify cataphract cavalry, formations and tactics are equally important. Cataphract cavalry belongs to the category of shock cavalry, which means that the charge is the most important in battle. Shock cavalry is designed to charge at full speed at the enemy and use the combined

weight of the horse and the rider in combination with a weapon, usually a lance, to break the lines. However, as was explained in chapter 1, making a horse charge a static line is unwise, since a line deep enough will be able to stop the horse and kill the rider. This means that different tactics have to be applied to do justice to cataphract cavalry. Regarding the distinction between *cataphracti* and *clibanarii*, most scientists base this difference upon the development of armour over time or on the peoples who use them, as has been explained in the previous chapteres. However, another theory exists. The distinction could be based on how cataphract-type cavalry was used, their formations and tactics and how these were implemented into the army.

In the western mediterranean cavalry played a minor role in battle, usually only rounding up skirmishers to stop the main infantry line from being harassed and so they could finish off the enemy. This was different on the Asian continent, where archery and cavalry both played a larger role, which meant that cavalry tactics had to be adopted as well. The Seleucid empire is an example where cavalry made up a larger part of the army than in other hellenistic armies. A good example is the line up of the Seleucid army at the Battle of Magnesia against the Romans in 190 BC. This battle ended in a loss for the Seleucid king, Antiochos III The Great, and he had to cede most of his territories in Anatolia to Rome and its allies. However, a good reconstruction could be made of the line ups and it shows that cavalry was important for the Seleucids. The centre of the army still consisted of a Macedonian pike phalanx of 16.000 soldiers, guarded by 22 elephants. On both sides of this group of phalanx soldiers small groups numbering 1500 regular soldiers, on the left guarded by 4700 light infantry. On the right of the army the elite units were positioned, comprising of 3000 cataphracts and a small unit of 1000 cavalry called the *agema*. On the far right 10.000 the elite *argyraspides* or “silver shield foot soldiers” were positioned, along with 1200 Dahae soldiers, also cavalry units, since the Dahae are a nomadic people (Bar Kochva 1976, 49). On the left more cavalry was positioned, including another 3000 cataphracts (Bar-Kochva 1976, table 14). In front of the battle lines of the Seleucids a line of chariots was positioned. By this time chariot warfare had become outdated, Alexander the Great already invented tactics to stop the Persian chariots in the 4th century BC and the battle of Magnesia proved once again why. When the horses turned as a result of a hail of missiles they threw the cataphracts into disarray. Immediately after the Roman cavalry attacked the Seleucid heavy horse (Bar

Kochva 1976, 171). The Seleucid elephants further reduced the chance on a positive outcome for Antiochos III. Due to constant missile fire at the elephants they ran amok and trampled their own soldiers.

The idea of the combination of a pike phalanx army with cavalry is to let the enemy run onto the pikes, while the cavalry flanks the army and charges from behind. This way the so-called “hammer and anvil” is created, the anvil being the pikes and the hammer the cavalry. However, the location of this battle between rivers restricted movement of cavalry greatly, since the enemy lines almost reached the river banks, leaving little room for outflanking.

This way Antiochos III could not profit from his superior numbers and his cavalry the way he was used to.

Unlike the battle of Carrhae, the cataphracts in this battle are reported to charge the Roman infantry from the front, apparently well enough equipped and trained to be able to. The subsequent routing of the Roman units faced by the charge proves that it had a devastating effect on the morale of the Roman soldiers (Bar Kochva 1976, 170).

Although this is a part of Justin’s account on the battle, it is the one Bar-Kochva listed as most humiliating for the Romans as they were accused of cowardice. He uses Justins account as a source to determine the battle lines as well because he considers Livy not an authority on military, he was a historian after all. One problem with trying to discern what has happened at a battle is the dependence upon classical sources, many of whom lived long after the war took place. This results in different accounts among different authors, as Livy and Justin prove. Livy bases most of his work about the battle of Magnesia on Polybius’ work, yet he also makes the Roman empire looks more formidable than they probably were in reality. This also proved that the highly mobile Roman infantry was superior to the stiff phalanx formation of the successor kingdoms. Following the battle of Magnesia the Seleucid Empire started to decline until it was finally occupied by the Romans in 63 BC.

In chapter 2 the text of Plutarch about the battle of Tigranocerta in 69 BC showed that the cataphracts could not always be used. They charged without support and were flanked by the Roman formation, resulting in the flight of the cataphracts onto their own ranks (Plut. Luc. 28. 4).

At the battle of Carrhae in 53 BC, Crassus of the first triumvirate fought against the army of the Parthian general Surena who was outnumbered greatly. Initially Surena sent the cataphracts to charge the Roman formation, yet they could not break it and retreated. Surena sent the horse archers instead to use a shoot and flee tactic, the riders turned backwards on their horses and shot, a way of firing arrows called the “Parthian shot”. Although Crassus wanted to fight in close combat, it became apparent that the Parthians desired to stay at a distance to remove the Roman advantage of superior numbers. The cataphracts were used to conceal the Parthian army from the Romans yet didn’t initiate close combat. Ultimately, the son of Crassus charged the cataphracts with the Roman cavalry but it became clear that the Gauls could not withstand the Parthian way of fighting. The charge came too late, many were wounded and the Romans were forced to retreat. The battle resulted indirectly in the death of Crassus and his sons and was a sound victory for the Parthians.

It is clear from all these accounts that the cataphracts depended on the formation for their succes, individually they couldn’t do much and were rather weak because of their weight and inflexibility. They would fight in columns of similar riders, all armed with a long spear or lance to increase the force of the charge and to be able to trample enemy soldiers (Mielczarek 1993, 47). They were primarily used to counter infantry, as the weight of the horseman and horse slowed them down and made them ineffective against lightlier armoured cavalry who could dodge the initial spear thrust and counter on their own.

The *clibanarii* however were perhaps used to counter cavalry, Ammianus Marcellinus states that the spears of the Alemanni cavalry were ineffective against the mail armour, but that infantry could slip under the horse to attack it. Instead of a column, the *clibanarii* fought in a wedge formation to counter enemy cavalry (Mielczarek 1993, 49). At the frieze of Tang-e Sarvak the cataphracts are used against cavalry as well and use the long lance to throw the rider of the horse. As was mentioned earlier, the way the lance was held meant a significant difference in how the cataphract was used in battle. To hold the lance parallel to the horse’s head to the left while held in the right hand would make it effective against cavalry, as it pointed slightly upward, while it was less effective against infantry as they stood too low. A lance parallel to the horse’s flank would be held too low to be effective against cavalry, although it would be at the perfect

height to counter infantry. Although the former way of holding the lance is not mentioned in Ammianus' account, he does mention how the infantry could duck under the *clibanarius´* weapon where other cavalry is ineffective against it. In most other sources, the heavily armoured horseman mentioned is a *cataphractus* and he is used against infantry, which makes a difference in naming based upon tactics and not solely on armour possible.

The The latter way of holding the lance can be seen at the relief of a *cataphractus* and the graffito of the *clibanarius* as well as at the frieze of Ĥalčayan: they all hold the lance parallel to the horse's flank on the right and not on the left side of the horse, implying they were used against infantry if we follow Mielczarek's way of thinking.

However, there are more differences between the friezes, some of which might contradict the previous assumptions. The frieze of Tang-e Sarvak shows that the lance is held to the left side of the horse, the way of fighting of cataphracts against other cavalry according to Mielczarek. However, on the frieze the opposing soldier is a footsoldier and this does not correspond with the previously mentioned idea.

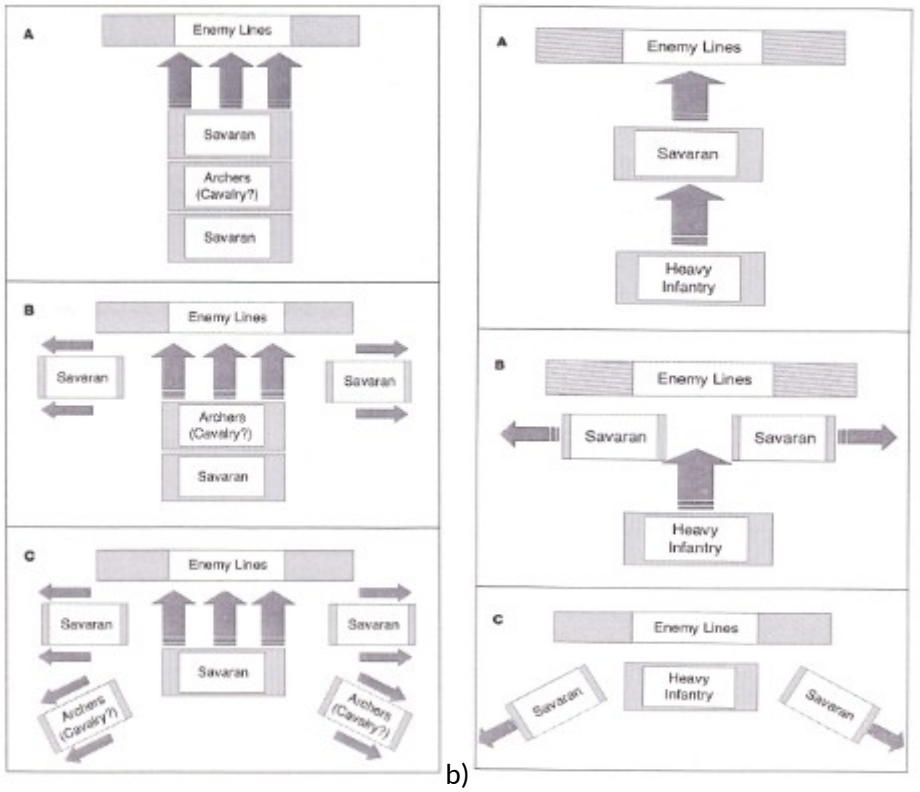
The lance of the horseman of the Taq-e Bostan relief is held differently from the other friezes, it is held overhand instead of underhand at the other friezes. This positions the lance significantly higher and let's the lance point down, while resting the lance on the shoulder. It may be a more comfortable position to hold the lance, and the rider could switch grip when he got to battle. Or the overhand held lance could alow the rider to put more force into the thrust to reach the opponent while retaining control of the weapon. These are just speculations, as the frieze shows just the rider and no one to fight him (anymore). Most of the time the lance is held in an underhand position while the overhand hold is considered by some to be used only outside of battle (von Gall 1990, 38).

Most of what is known about the battle tactics of the Sassanian commanders is derived from the "Strategikon", a document that has been attributed to the Byzantine emperor Maurikios, who reigned AD 582-602 (Farrokh 2005, 54). The most important unit in the Sassanian army was the Savaran elite cavalry. They formed the front line and were designed to break the enemy line with a devastating charge, while the archers behind soften up the enemy battl eline. For the first fifty years after the overthrow of the Parthian king this strategy worked perfectly. Apparently their use of cavalry was different

from Parthian warfare, otherwise battles against the Sassanid king Šapur I might have turned in their favour, instead of the other way around (Farrokh 2005, 45).

One example of Sassanian battle tactics consisted of a frontline of Savaran, directly behind them a line of archers, possibly horse archers and a rear guard of Savaran again. The plan was to let the front line Savaran fake a charge, withdraw at the last moment and let the archers soften up the enemy formation. Was that done, the rear guard of the Savaran would charge in and break the formation (figure 18 a). This tactic is reported at the battle of Singara, 350 AD in present day northwest Iraq (Farrokh 2005, 30).

Unlike the Parthians the Sassanids made use of heavy infantry in their armies as a way to support their heavy cavalry. After the Romans had learned to withstand the charge of the Savaran by locking their shields together the Sassanid tactics changed as well. The Savaran would approach the enemy lines and branch of to the left and right at the last moment. The heavy infantry lines that had followed behind the Savaran would engage the enemy infantry (figure 18 b)



a) b)

Figure 18: Archer/Savaran tactics (a) and Heavy infantry/Savaran tactics (b) (Farrokh 2005, 32 + 41)

I assume that the Savaran would try to get behind the enemy lines to quickly end the battle, possibly with support from the archers who were probably mounted to ensure the battle plan would be executed smoothly, yet I can't prove this assumption.

Chapter 5: Ethnicity and status

Although armor and weaponry is an important aspect in order to identify cataphract cavalry, status and identity are not well defined in either history and archaeology.
In the past military archaeology consisted of determining the arms and armour of the combatants while life outside of battle mattered little. In this chapter the status, identity and position in society will be discussed whereby the Seleucid Empire, the Parthians, the Romans and the Sassanids will be paid attention to. These are the major empires in the Near East over the course of around 800 years and therefore they are worth mentioning.

§5.1 Seleucid cataphracts

The Seleucid Empire occupied at its peak around the beginning of the 2nd century BC an enormous amount of land. This resulted into problems for the ruling dynasty and so the emperor divided the land into satrapies which had a limited amount of autonomy. In war however, each satrapy was obliged to send manpower and help the Seleucid king. The armies consisted of a core of Macedonian soldiers, ususally the pike phalanx and the *argyraspides*. This role was not given to the natives, as it could eventually result into uprisings and revolts were they given such heavy weaponry (Bar-Kochva 1976, 21).
This core of Macedonians was then supplemented with several units of natives.
Although nothing can be said directly about the ethnicity of the Seleucid cataphracts since barely anything has been written about them, Mielczarek suggests that the lack of an ethnic name is the result of a lack of an ethnic set of armour. In other words, the lack of an armour set belonging specifically to one people (Mielczarek 1993, 69). This implies

that the Seleucid cataphracts were recruited from among Seleucid soldiers, although there is no guarantee either that this cavalry unit was homogenous.
two other cavalry units have to be mentioned that may clarify the position of heavy cavalry in the Seleucid empire. These are the *agèma*, a unit which has already been mentioned in the previous chapter and the *hetairoi*, the Companions. The *agèma* was an elite cavalry unit which consisted of the Medes, a people in southeast Turkey and northwest Iran who were famous for their horsemanship. This, combined with their familiarity with the Seleucid Royal stables might be the reason why the Seleucids continued to employ them for the cavalry corps (Bar-Kochva 1976, 33).
The *hetairoi* on the other hand were the personal guard of the king, they are first mentioned in the company of Alexander the Great and they continued to exist in the Seleucid Empire. Unlike the *agèma* the Companions were recruited from Macedonian troops *agèma*, like they originally were in Alexander the Great's army even when the population of Macedonians in the Near East declined.
The difficulty in identifying Seleucid cataphracts is that other than in Polybius' work or work based on Polybius himself they are not mentioned anywhere. This is complicated further by the lack of archaeological material.
Drawing from the information mentioned above, three possibilities can be defined. The Seleucid cataphracts might have been drawn from the Seleucid settlers or from the expert cavalrymen from Media. They may have been homogenous or not, although these are all uncertainties.

§5.2 Roman cataphracts

The Roman army was primarily an infantry army, cavalry played a relatively unimportant role in Roman tactics. However, with the even more frequently occurring wars against armies relying predominantly on cavalry the Roman army had to adapt. The Sarmatians, the Roxolani, the Parthians and later the Sassanids all had this in common. Therefore several units were erected all across the empire, although they were more numerous in the eastern part of it. This also led to the division of the cataphracti, by the third century AD a reform of the Roman army had taken place. This meant that the main troops were called *comitatenses*, while the supportive units were called *limitanei*. In the east, the

cataphract units were listed as *comitatenses*, while they belonged to the *limitanei* in the west (Mielczarek 1993, 78).

The Roman cataphracts developed rather late, after the Parthian model, probably after the Parthian wars of Trajan. Although initially a small unit, their numbers became more numerous in the 3rd century, when wars were fought against opponents who fielded large numbers of cavalry, most notably the Parthians and Sassanids (Mielczarek 1993, 75).

Nearly all cavalry fielded by the Roman empire were auxiliary soldiers, enlisted locally to support the heavy infantry of the empire. This resulted in an advantage for the Roman commanders, as they were able to call upon cavalry forces quickly and they could adapt them to the local environment, which made the army more flexible (Eadie 1957, 165). The Notitia Dignitatum shows that cataphract units were recruited in various provinces, which means that for the Romans, this particular cavalry corps did not consist of one men from one particular ethnicity.

This assumption is supported by a papyrus which gives information about the soldier Serapion who joined the cataphract cavalry after ten years of service in another cavalry unit (Mielczarek 1993, 79). This also means that while the cataphract was not an elite unit like it was in the Parthian and Sassanid armies, it was a unit of veteran soldiers, who had already had experience and training with cavalry warfare. A new recruit would not be able to wear the heavy equipment and wield the heavy lance to a good result.

§5.3 Parthian and Sassanid cataphracts

§5.3.1 Parthian cataphracts

Most information about the Parthian cataphracts derives from Roman literature, the majority having been written by Plutarch about the war of Crassus against the Parthians in 53 BC. This leads to problems when one tries to identify the ethnicity of the Parthian cataphracts. In no text has a specific people been named as has been done in for example Polybius' description of the battle of Magnesia, where the Libyan phalanx was present. This denomination means that this unit of phalanx troops consisted entirely of Libyan soldiers, something which does not occur in documents about the Parthian military.

However, the representation of Parthian cataphracts on the frieze of Tang-e Ab allows some speculation about their status. On the frieze the Sassanid king Ardešir is shown killing the Parthian king Ardawan IV and his scribe. Both of these Parthians are cataphract riders, which suggest that the cavalry corps had some elite status. The equipment necessary for this shock cavalry unit must have been very expensive, as the armour consisted of many iron or bronze plates and scales, something that would not be cheap for common soldiers, especially if they had to pay for their armour themselves.

§5.3.2 Sassanid cataphracts

More is known about the Sassanid military organisation and therefore their cataphracts as well. Of the soldiers of the Sassanid empire the heavy cavalry had the highest status. The members of the Savaran as they were called belonged to a few categories. All of them had to be of Aryan (Iranian) descent and they belonged to one of three categories. A small group belonged to one of the seven most important families of Persia, six of which were Parthian. The only Sassanid family was the House of Sassan (Farrokh 2005, 5). The second group made up the core of the elite cavalry, they were the Azadan, the upper nobility. The third group could only join after the military reforms of Ĥosrow I in the 6th century, they were the lower nobility.

These three groups made up the elite cavalry corps, the Savaran. Among the cataphracts there were several prestige units, one of them reintroduced after centuries of absence: the “Immortals” (Farrokh 2005, 6), while the other was the Royal guard which were stationed in the Sassanid capital, Ctesiphon on the shores of the Tigris. An additional two prestige units had appeared towards the end of the 6th century, they were called the Ĥosrowgetae (Ĥosrow’s own) and the Piroozetae (The Victorious ones) (Farrokh 2005, 6). The earlier mentioned reforms of Ĥosrow I resulted in four changes for the Savaran. As mentioned, the lower nobility ranks were allowed to join this heavy cavalry corps. Secondly, the Savaran were supplied by the state, which means that they received their weaponry, armour as well as extra subsidies from the empire directly. The third change meant that inspections lasted longer and were more thorough. Finally, not one

commander was in charge of the elite cavalry, but four were appointed to each guard one region of the empire, divided into north, east, south and west (Farrokh 2005, 8). Although in theory the cataphracts could now comprise soldiers from every status, this was not put into practice. The status the cataphracts previously had continued to play a major role in Sassanid society, which meant that the Savaran continued to be an elite unit meant solely for the nobility of the empire. The lower ranks of society joined the ranks as light cavalry or as foot soldiers.

That the Sassanid cataphracts belonged to a the noble class can also be determined from the friezes where they are depicted. All of them are depicted as kings, their sons or their direct associates, as is the case with the frieze of Tang-e Ab. The *clibanarius* graffito is the exception here, although only because there is no additional information about the rider.

Chapter 6: Conclusions

Initially I wanted to investigate the “eastern” influences on the military organisation of the Seleucid empire, because such a large empire had to have some influences from outside the Hellenistic world. However, it soon became apparent that this subject would be far too substantial for a bachelorthesis and so I had to choose one particular element which I would like to study. I chose to study the origins of cataphract cavalry, where they came from and how they developed. However, I noticed soon that some literature I definitely needed to reach a conclusion was written by a Russian archaeologist in the Soviet period, which meant it was written in Russian and there was no English version or even an abstract in English of it. If I wanted to contiue with the subject, I had to rely on literature which was based on his work and since this would only be an interpretation of the original work. This reason, and the amount of words I had already written at the time made me realise that my research question still encompassed to much and that I had to make it even more compact. This line of thought led me to my current research question: When did cataphract cavalry appear for the first time in archaeological and historical sources and how can we identify them? I divided this research question into several parts, the subquestions were:

- When do they appear in archaeological and historical sources?
- How do their armour, weaponry and tactics develop over time?
- What is their status in the Seleucid, Parthian, Roman and Sassanid empires

I tried my best to answer these questions and I regret to say that I reached only an incomplete conclusion, which of course is a conslusion in itself.
First of all, there is literature available on the subject, although some fields are more thoroughly researched than others.
The earliest classical source which lists *cataphract* cavalry explicitly is Xenophon, who lived in the 5th century BC. Overall, most early sources are written in Greek, while the later sources are mostly written by Romans in Latin. The latest Latin source is Ammianus Marcellinus, who lived in the 4th century AD.
Especially armour and weaponry have been studied extensively, authors have repeatedly tried to distinguish *clibanarii* from *cataphracti* by studying these categories. Clearly, these heavy cavalry units developed over time, adapting to changing circumstances and the need to keep up with enemy technology, most notably the Romans. This led ultimately to the only partially armoured cavalry horse and the rider clad in mail, who were then called *clibanarius* by Roman writers. The Romans distinguished the Persian cataphracts from their own by putting the noun *equites* in front. This noun was absent when they wrote about Parthian or Sassanid cataphracts.
The suggestion of Mielczarek that the distinction between the two names was based on the tactics they used. The *clibanarii* would have been used as an anti-cavalry measure, while the *cataphracti* were used to counter infantry forces. This suggestion is supported by the different ways of holding a lance, and the frieze of Tang-e Ab. Some arguments can also be used against it though, as the relief of Tang-e Sarvak shows a rider holding a lance that would have been used against cavalry according to Mielczarek. However, this rider possible impales an infantryman, which would at least partially invalidate the previously mentioned suggestion.
There are many arguments for the option to base this distinction solely on armour although it is quite hard to do when one does not know much about the identity and status of the cavalryman. Far less attention has been paid to this side of the subject, almost nothing in fact. A few remarks have been made about the cavalry in general and they might apply for other cavalry as well, this is the case for the Roman cataphracts. However, about the status of the Parthian cataphract nothing concrete is known. All arguments are based on assumptions and on comparisons with the Sassanid cataphract corps, the Savaran, about who more information is available.

The tactics of the Sassanid Savaran are based solely upon Farrokh's interpretation of the early Byzantine Strategikon. I do realise that this leaves the reliability of this part of the thesis somewhat lacking. However, since there are few other sources that address this component of Sassanian warfare and the source is contemporary as well I decided to use this imformation to clarify the use of cataphract-type cavalry in battle.

Unfortunately practically nothing is known about Seleucid cataphracts. They are reported to have starred in the battle of Magnesia and were present at a triumph, yet nothing is said about their ethnicity and status nor their equipment which is rather disappointing. I can conclude that trying to identify the Seleucid cataphracts is nearly impossible due to the lack of archaeological material and historical sources . Examples from cataphracts exist in Roman, Parthian and Sassanid archaeology, while the Seleucid field of study is still rather underdeveloped. It would be good idea to spend more time studying the military organisation of the Seleucid empire in order to get a clear picture of the functioning of an empire that once encompassed an area from western Anatolia to Pakistan.

Studying these fields of archaeology would give us a more detailed view of the situation in the Near East in the last 300 years BC and might provide an insight to how a large empire other than the Roman empire could be managed.

Summary

At the end of the second century BC cataphract cavalry are mentioned for the first time. Little more is mentioned than that they exist and that their name implies they are heavily armoured. Over the course of the next eighthundred years they continued to exist. Sometimes they are reported to be more capable than they were in reality, yet some of the most influential empires of the ancient world used these heavily armoured horsemen. The archaeological sites which show cataphract cavalry are mostly located in modern Iran, although the ancient Syrian city of Dura-Europos is important for image-forming as well. Ancient authors who wrote about the cataphract range from Greek authors from the 5th century BC until Roman authors from the 4th century AD, which means that there is a large variety in ancient literature on the subject. Cataphract armour changed over time, as well as their weaponry and the tactics that were employed. The differences between Seleucid, Parthian, Roman and Sassanid cataphracts become apparent throughout the thesis.

Samenvatting

Aan het einde van de tweede eeuw voor Christus wordt cataphract cavalerie voor het eerst beschreven. Er wordt weinig meer verteld dan dat zij bestaan en dat hun naam impliceert dat zij zwaar gepantserd zijn. Gedurende de daaropvolgende achthonderd jaar werden zij regelmatig gebruikt. Soms werd bericht dat zij tot grotere heldhaftigheden in staat waren dan zij waarschijnlijk konden. Desondanks maakten enkele van de grootste

rijken in de antieke wereld gebruik van dit zwaar gepantserde cavalerie corps. De archeologische sites waar sporen van cataphract cavalerie zijn aangetroffen liggen voornamelijk in het moderne Iran, maar de oude Syrische stad Dura- Europos is ook belangrijk voor de beedlvorming. Klassieke auteurs die over de cataphracts schreven variëren van een Griekse auteur uit de vijfde eeuw voor Christus tot een Romein uit de vierde eeuw na Christus en meerdere schrijvers uit die periode ertussenin, wat betekent dat er een grote verscheidenheid bestaat aan literatuur.
De bepantsering van de cataphract veranderde in de loop der tijd, evenals hun wapens en de tactieken die hun aanvoerders gebruiken om hen tot hun recht te laten komen. De verschillen tussen Seleucidische, Parthische, Romeinse en Sassanidische cataphracten worden duidelijk tijdens het lezen van de scriptiie.

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