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Parthian Cataphract vs. the Roman Army 53 BC-AD 224

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Introduction

This article provides a short overview of the Parthian military and its tactics and what were the Roman responses to that and what were the Parthian countermeasures against the Roman military practices.

I have in my previous studies suggested that the entire cavalry force of Parthia proper could be equipped as cataphracts and that the Parthians obtained their more lightly equipped mounted archers mainly from their subject peoples/tribes or allies.¹ The usual mistake is to think that most of the Parthian cavalry consisted of lightly-equipped cavalry. I have suggested that the main reason for this mistake is to see the description of the battle of Carrhae to reflect the proportion of the different types of cavalry forces of the entire Parthian realm or Parthia proper – and this despite the fact that most historians agree that Suren's force consisted of his feudal army of Sakastan/Sistan. In short, the principal problem with the current analyses of the Parthian army is that the army that annihilated Crassus' Roman forces at Carrhae was not the Parthian army, but the personal retinue of Suren/Surena/Surenas which consisted of his native Sacae/Sakai/Saka forces and not of the Parthians proper (the Royal Army), and that this description is then used to dismiss the evidence in the other sources that state that the Parthian army proper consisted mainly or solely of the cataphracts.²

The aim of this article is to shed additional light on the problem and to prove that the sources which refer to the massive force of cataphract cavalry wielded by the Parthian monarchs really mean what they state: the entire Parthian cavalry force of Parthia proper could really be encased in armour as cataphracts. Basically, all of the sources are unanimous about this. The only exception to the rule is the description of the battle of Carrhae, but, as noted above, it is actually not an exception because it describes the personal retinue of Surena which consisted of the Sacae.

The Parthians had had a long string of successes against the Macedonian combined arms forces before they came face-to-face with the Romans in the first century BC. They could therefore expect to win their battles when they faced forces that consisted of footmen (legionaries armed with the short *pila*) even more poorly equipped to face the cataphracts than were the Macedonian phalangites. The Romans had had a similarly long string of successes against a vast range of enemies, which even included armies (e.g. the Seleucids, Armenians and Mithridates of Pontus) that possessed very significant numbers of horsemen equipped either as lightly-armed mounted archers or as cataphracts. Consequently, they too could expect to be able to crush these kinds of enemy forces, but what the Romans did not understand was the effectiveness of

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¹ Some of these studies have not yet been published thanks to the long publishing processes. Some of the matters discussed here have also been discussed in several separate research papers or articles like e.g. SYVÄNNE (2009), but this article is the only piece of research in which I draw all of these together as an overview of the period 53 BC – AD 224. A more detailed analysis of the tactical and strategic aspects facing the Romans and Parthians at the turn of the third century can be found in SYVÄNNE (2017a). The late Republican and Early imperial matters will be dealt in greater detail in another forthcoming study.

² Solely of the cataphracts: Justin 41.2. Mainly of the cataphracts: Dio 40.15.2, 49.20.2. According to Dio (40.15.2), the Parthians did not use the shield, but their forces consisted of the *hippotoxotai* (mounted archers) and *kontoforoi* (contus-bearing) most of whom were cataphracted (*aspidi men ouden nomizousin, hippotoxotai de kai kontoforoi, ta polla katafraktoi, straeuontai*). They did not use many footmen and all of those were archers. The soldiers started to train to shoot the bows and ride horses already in boyhood. They took to their campaigns droves of horses so that they could change these regularly and advance and retire fast. They did not campaign during the winters because the moist loosened their composite bows and strings. This gives a relative good summary of the type of army fielded by the Parthians, namely that instead of being mainly a cavalry force of lightly-equipped mounted archers as usually claimed, it was usually a force that consisted mainly of the cataphracted spear-bearers and mounted archers. However, the information regarding the footmen is slightly misleading because the Parthians did possess footmen of other types drawn from their subjects and allies, but it is probable that Dio's description is accurate as far as the Parthians proper are concerned.

the Parthian mounted archery, but they soon did. The Roman advance in the east was effectively stopped by the Parthians at the famous battle of Carrhae in 53 BC. This had led some historians to think that in Parthians the Romans had met their match. However, even if there is a germ of truth behind this claim, this is overstating the facts as already well noted by Adrian Goldsworthy.³ The Parthians were a powerful enemy, but they had serious weaknesses that prevented them from ever conquering the Roman east. I will discuss both sides of the coin in the following overview of the Parthian military system.

Organization of the Parthian Realm and its Armed Forces

“The whole populace of the Persians, that is, absolutely their entire nation, is accustomed to set out to war, as the Romans, too, used to before Marius had organized the so-called legiones. Accordingly, they cut a man in twain and march their army between two sections of the cadaver. For it is evident that the Persians maintain no definite nor combat-ready armies, as do the Romans, so as to be prepared for their combats [*the only permanent units of the Parthians were the military retinues of the nobles and the garrisons of the cities*]. They need time, therefore, for preparing an army and an expenditure which is sufficient for war; consequently, it is expedient, says Celsus [2nd cent AD], to attack them by surprise and to initiate the attack especially through Colchis (the people of our day call it Lazica after a leader), for its rough terrain is inaccessible to the Persians because they are horse-borne. For that reason Corbulo in the time of Nero became unbearable to them; for, because he had blocked off their sallies into the wastelands of Persia through Hyrcania, he deprived them of victory by flight; so that, as is usual with Persian masses, they were trapped alive in a mountain pass and fled for refuge into Antioch on the Mygdonius (the Persians captured it and renamed it Nisibis), which, and even it, they abandoned at the time that the Romans lashed at them after the manner of a blitz.” [John Lydus 1.34, tr. by Bandy, 187 with comments added in square brackets].

The Parthian Empire was possibly the first truly feudal society.⁴ The Parthian society was dominated by seven families that had enriched themselves through military expeditions, land possessions and commercial privileges. These nobles/magnates were so powerful as to be able to challenge the king of kings with their own personal armies. It was actually Surena’s personal army of 10,000 horsemen retinue that cut Crassus’ army to pieces at Carrhae. In times of war, the Great King appealed to his subordinate kings,⁵ regional and tribal lords and garrison commanders to muster their followers and bring them to the assembly point at an appointed time. In addition, the Parthians also sometimes supplemented their numbers with mercenaries. However, in practise, the Great King could often rely only on his own clan, vassals and allies. Consequently, Parthian society was not very stable. There were long periods of internal disturbances arising from civil wars that the Romans readily exploited. The position of the king could be challenged by the other nobles. In addition, Parthia also had long frontiers facing the Caucasus and Central Asia with the result that sometimes Parthia had to fight off many simultaneous threats on many frontiers.⁶

Unfortunately, the sources provide very few details of the Parthian army, its tactics and organization. However, we still know that the cataphract cavalry formed the core of the Parthian army. On the basis of Lucian’s reference to 1,000 strong cavalry units and numerical information in the other sources it has been conjectured that the Parthian army followed traditional nomadic practises being divided into units of 10, 100, 1,000, 10,000 men each led by its own commander according to his place in the feudal society. The small company was called *wašt* (c.100 men?), a regiment *drafš* (c.1,000 men), and a division *gund* (c. 10,000). The whole army (*spād*) was under the supreme commander (the Great King, his son, or a *spādpāt* chosen from one of the seven great families). The largest army mentioned by the sources is the Royal Army of 50,000 cataphracted horsemen that the Parthians used against Mark Antony.⁷

In practise, however, as I have already noted before, there is every reason to think that the Parthian decimal numbers for their units were similar in concept to the Greek and Roman ones so that these included

³ See Goldsworthy’s excellent analysis in GOLDSWORTHY (1996) 60-8.

⁴ FARROKH (2007) 157.

⁵ SHAHBAZI (1986) after Pliny’s *Natural History* (2.26): At one point in time there were 18 subordinate kings.

⁶ Justin 41.2; SHAHBAZI (1986) with FARROKH (2007) 114ff. conflicts with Rome 131ff. ; and GOLDSWORTHY (1996) 60ff.. For the general and political history of Parthia, see FARROKH (2007) 114ff.; DEBEVOISE (1938) VERSTANDIG (2001) and last but not least WOLSKI (1993).

⁷ SHAHBAZI (1986).

also the servants and squires, which in turn means that we should not see these decimal figures to be representative of the actual combat strengths of the units in question (Parthians and Armenians) which appear to have followed the concept 32 (rank and file oblong/square order), 64 (wedge order)⁸, 128 (rhombus), 256 (rank and file oblong order or several of the previous), 512 (could consist of any of the previous unit orders) and 1,024 (the chiliarchy) used by the Greeks and Romans. Note, however, that if the unit had suffered casualties its unit order was adjusted to reflect its actual size so that for example at the battle of al-Qadisiyaah in 636 the Sasanians employed rhomboids that consisted only of 85 horsemen deployed as 13 ranks. There is also every reason to believe that the Greeks/Macedonians had actually copied this unit organization from the Achaemenids and Iranian speaking Scythians with the exception of the rhombus array which had been invented by the Thessalians. Note, however, that the unit structures and unit orders of the subjects, allies and mercenaries employed by the Parthians did not necessarily follow this same system.⁹

The army of a magnate could be sizable as Suren/Surena's 10,000 or 11,000 strong cavalry army demonstrates.¹⁰ The most sizable army recorded by the sources is the one collected by the king of kings Phraates against Mark Antony, but in light of the army sizes recorded for the Sasanians it is likely that even larger forces could be collected by the king of kings when the circumstances required and allowed this. However, it is still likely that the size of Phraates' cavalry army should be seen to represent a typical royal cavalry army employed by the king of kings when took to the field in person. According to Justin (41.2), it contained 50,000 horsemen. However, according to Plutarch (Antony 44.2), the army in question had only 40,000 horsemen. Consequently, it is possible that Justin has included in the figure 50,000 also the servants and footmen accompanying the spare horses and the camels of the baggage train, but in light of the other evidence (use of rhomboids) the round figure of 50,000 horsemen is inherently likelier.

In fact, Justin's (41.2) figures can be used to confirm the information given by the so-called *Byzantine Interpolation of Aelian* (Dain ed. J1-2; Devine ed. 45.1-2), which claims that the Armenian and Parthian mounted archers used the rhombus cavalry formation. This can be equated with the 128 men formation, which consisted of two 64 men wedges.¹¹ Justin also claimed that Mark Antony faced 50,000 Parthian horsemen commanded by 400 men. When one divides the 50,000 with 400 this gives each leader 125 men. It is quite easy to see that 125 men actually mean the 128 men rhomboids and that Justin's 50,000 is just a good round figure that he has used.¹² Justin also states that all of these men were fully armored cataphracts, and his account is confirmed by Plutarch.¹³ Plutarch implies the same (Antony 45.3) by stating that the Parthians put aside their bows and then advanced to close quarters with the *kontoi* when they mistakenly thought that the Romans had become fatigued. In other words, Plutarch's Parthians are equipped with both *kontoi* and bows and are used as close-quarters fighters – a role which is always reserved for the cataphracts in the sources. However, Plutarch makes one mistake. He claims that the Parthians had only 40,000 horsemen, but this mistake is easy to explain. Plutarch has just assumed that each of the 400 nobles led 100 men. Justin's figures are therefore closer to the truth in this case. The same campaign against Antony also shows that the Medes and Parthians employed the same tactical methods as the Sacae of Surena did which must have been typical for all of the cavalry based armies of Iran and the steppes

The martial equipment of the Parthian cataphracts consisted of the long composite bows, swords, maces, axes, daggers and pikes. According to Dio, the Parthian cavalry did not use shields, which means that they

⁸ The likely organization behind this '100 men *wašt* unit' is: 64 horsemen of which eight were front-rankers/leaders of ten. Each of the eight front-rankers had a squire while each of the remaining 56 regular horsemen had one servant/squire per two horsemen. In sum, there would have been eight front-rankers with eight squires plus 56 horsemen with 28 servants for a total of 100 men. These figures (64 warriors with 36 squires) are obviously my learned speculations, but the advantage of this is that these figures explain how it was possible to organize 128 rhomboids while the units were supposedly based on decimal principle.

⁹ See SYVÄNNE (2004, 2014, 2015).

¹⁰ It is uncertain whether we should include the 1,000 cataphracts among the 10,000 horsemen or whether they were separate from it. I have not attempted to analyze the problem here. For a discussion and differences in views consult any text that deals with the battle of Carrhae.

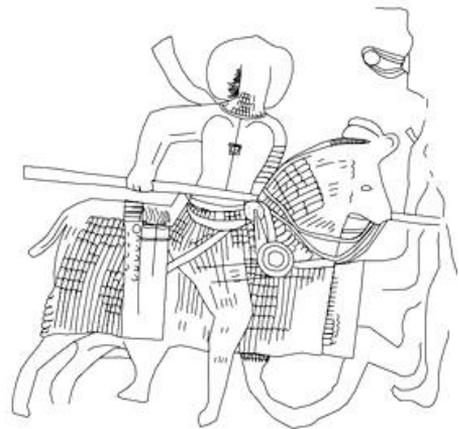
¹¹ See SYVÄNNE (2014).

¹² Note also that the 8th century fighting tactic of the Muslims in the so-called *karadis*-formation (plural for the sing. *kardus* of 128 men) means that they had restarted using the old rhomboid formation. The use of the rhomboids was particularly useful for the cavalry units deployed on the flanks as it gave them an ability to face attacks from all directions. For earlier use of the rhomboids by the Dahae (Parthians were originally part of the Dahae confederacy) in the Seleucid armies, see SYVÄNNE (2009).

¹³ See also Dio (40.15.2, 49.20.2) who confirms that we should always expect that most of the Parthian cavalry would have been encased in armour and in the case of Phraates' army the entire force seems to have been so.

used the 3.6-4 m long *contus*-pike that was held with two hands.¹⁴ The protective equipment consisted usually of a conical helmet (usually the so-called *spangenhelm*, but other types were also used) which could have a face mask, and of armour (could be mail, scale, plate and segmented) with separate arm and leg defences. The arm and leg armour could be made of mail, scale or segmented plate. The horses were also fully armoured typically with hide or scale armour (steel or bronze). The light cavalry was equipped with bows and swords but did not usually wear any armour or helmets. The subject peoples, allies and mercenaries were naturally equipped with their native equipment which varied according to the type of force.¹⁵ The following images give a good overview of the different types of equipment worn by the Parthian cavalry forces.

The information provided by the ancient sources regarding the Parthian battlefield tactics make it clear that the Parthian armies were always accompanied by droves of horses. This allowed them to move to the battlefield on a riding horse, then exchange horses before and during the battle and then move rapidly about on the battlefield and withdraw if necessary. The Parthians did not campaign during the winters because the moisture affected their bows adversely and because their horses would have faced a severe shortage of fodder. Being a feudal cavalry army, they did not use large organized baggage trains of the type that would have been needed in siege warfare. The feudal nature also meant that the Parthians were not eager to conduct distant campaigns in far-flung places like in the Roman East and that they were prone to internal discord. In other words, the Parthians lacked effective siege capability and could not conduct their offensive wars effectively. They could invade and hope that their show of force would overawe the cities to surrender, but if this was not forthcoming they could achieve very little. On the other hand, if the Parthians were defeated in combat they could withdraw easily and fight another day. This meant that the traditional infantry based Roman armies could also achieve very little against the Parthian cavalry.¹⁶



Above Left: ‘Parthian’ light cavalry mounted archer. These consisted usually of the non-Parthian tribesmen, but could also consist of the native Parthians when they chose not to wear armour (e.g. because they served in the vanguard or among the scouts) or when they belonged to the poorer families. However, Justin and Dio both make it absolutely certain that the vast majority of the Parthians were always equipped as cataphracts. Note the use of three arrows simultaneously, which was one of the forms of shower shooting (the Sasanians and Muslims considered it the weakest version of shower shooting). See Syvanne, 2015. © Dr. Ilkka Syvanne 2009.

Above Right: Relief at Tang-e Sarvak in Elymais (without the foot archer and footman throwing a rock that is in the original relief just behind the cataphract). Probably King of Elymais usually dated to the period c. 75-200 AD (but according to Mielczarek, early third century). Drawn after von Gall, 15. © Dr. Ilkka Syvanne 2009.

¹⁴ The regular cavalry of the Romans used the Gallic *contus*, which was used with one hand. The later name of this was the *kontarion*, the length of which was c.3.74 m.

¹⁵ For the Parthian cavalry based tactics, see: Dio 40.15.2-6, 24.1-2; Plutarch (*Crassus*, *Antony*); Justin. See also the modern studies: GOLDSWORTHY (1996), 60-8; FARROKH (2007) 113-183; MIELCZAREK (1993) 51ff., SHAHBAZI (1986). All of these are highly recommended reading for the many insights they give. FARROKH, KARAMIAN, DELFAN, ASTARAKI (2016) offer the most recent discussion of the Parthian iconography and weaponry.

¹⁶ Tacitus, *Annals*, 2.2, 11.8-10, 12.50-51; Dio 40.15, 41.24; SHAHBAZI (1986); GOLDSWORTHY (1996) 60ff..



Dura Europus, cataphract
(drawn after von Gall)

Note that the Persian mounted archers could also be as heavily armoured as their 'lancers'. The horse-armor was primarily used as a defence against enemy arrows.



Dura Europus, mounted archer on armoured horse
(after fig. 17D James)

Above: two graffiti of cataphracts found at Dura Europus (probably before 256 AD).

Below: A relief located at Firuzabad (after 226 AD). The Sasanians (page, Shapur I and Ardashir I) ride towards the right. The Parthians (page, Dadhbundah, Artaban V) are the ones with the segmented arm-guards whereas the Sasanians use mail to protect their arms. See Mielczarek (66-67). This may imply that the early Sasanians favoured the use of the shower archery more than the late Parthians (as I have speculated before in 2015) because it is clear that the mail was less restrictive for movement than the segmented arm-guards. Note that all riders are equipped with the bows and melee weapon. It is usually thought that the horses were covered with only decorative cloth, but in my opinion it is equally possible that these depict only cloth coverings used on top of the armour.



Dr. Ilkka Syväne 2009
(after von Gall)

Unit Orders

As noted above, *the Interpolated Recension of Aelian* dating from the tenth century AD (Dain J1-2; Devine 45.1-2) suggests that the Parthian and Armenian mounted archers used the rhombus formation in combat. The common inclination among Classicists and historians would be to claim that the information in this treatise must be a later incorrect addition to the original interpolation, but the fact that both the Parthians and Armenians are said to have used the rhombus are suggestive of its authenticity, because both realms were ruled by the same Arsacid dynasty. Plutarch (Antony 50.2) also confirms that the Armenians were equipped and fought like the Parthians. Its veracity is also supported by the fact the original Interpolation was probably already in existence by the third or fourth century AD at a time when there were still a lot of information about Parthian tactics. On the basis of the Greek military treatises (Asclepiodotus, Aelian and Arrian), the advantages of the rhombus formation were its ready manoeuvrability in combat and the fact that it had leaders placed on all four corners of the formation. It could face threats from any direction and the mounted archers could also easily shoot backwards. It is not known with absolute certainty if the heavy cavalry cataphracts were also deployed as rhomboids, but this is very likely on the basis of the extant descriptions of combat and because the Iranian and Armenian cataphracts were also simultaneously equipped with bows. However, it is very likely that they could also use the traditional Persian square or oblong formation when needed, but the use of the rhombus would seem to have been the preferred array when the cavalry force was deployed as a

single line, its main advantages in that case being an ability to penetrate enemy formations while its flanks and rear could also be used to face enemies.¹⁷

On the basis of the military manuals (Asclepiodotus, Aelian, Arrian), it is apparent that the rhombus formation had been invented by the Thessalians with the implication that the Parthians had probably copied it from some Thessalian cavalry units that had been stationed in the east during the Seleucid rule. In contrast to the traditional wedge formation used by all other nomadic “Scythian” neighbours of the Parthians, the use of the rhombus gave the Parthians the advantage of being able to face threats also arising from the rear and flanks, if their scattered units of mounted archers were suddenly ambushed from behind. In addition, if the Parthians could induce their enemies to follow them, the widely separated rhombi could immediately engage their foes from either the flank or rear.

The great variety of nations, subjects and tribes that made up the Parthian realm makes it certain that whenever the Parthians took to the field in the company of these that there would have been equally many different types of unit orders and types of units as there were these different nationalities and tribes. We can therefore expect that the Parthian cavalry, with its subjects, clients and allies, included all of the unit varieties that we know to have existed in antiquity so that there would have been light-cavalry archers and javeliners (e.g. Sacae, Indians and Arabs), medium cavalry lancers (e.g. Arabs, Iberians, Albani and Kurds), and cataphracts (e.g. Armenians, Arabs, Sacae, Albani, Parthians, Medes, and Persians) who would have employed the rhomboid, square, oblong and wedge arrays depending on nationality and type of unit.

In addition to this, the Parthian realm included large numbers of different types of infantry even if Dio claimed that they used only small numbers of lightly-equipped archers. It is quite probable that Dio is correct as far as the Parthians proper are concerned, but it is still clear that their subjects and allies included units equipped in the traditional Persian, Median and Middle Eastern styles ranging from the light to medium infantry (slingers, archers and spearmen with large shields), and also Greek style hoplites and pikemen in those areas which had Greek/Macedonian settlers. In addition to this, the Parthians got some Roman style infantry units that had been formed out of the prisoners and deserters. The greatest boost to their strength took place when, a result of the defeat of Niger by Septimius Severus, the former’s followers fled to Parthia. The medium to heavy infantry units employed the close order and phalanx formation when fighting in the open terrain, but in difficult it naturally adopted the open order. The light infantry was always arrayed in such a manner that it could employ their weapons in the most efficient way. The role of the infantry, however, was limited because in practise because the Parthians seem to have used their cavalry for the field battles and their infantry only in sieges or in difficult terrain. It is also quite clear that the Parthians possessed some sort of naval forces and units of siege engineers even if the sources are silent about this. It should be noted, however, that these do not play any role in the encounters between the Romans and Parthians mainly thanks to the fact that the Parthians appear not to have had any overwhelming desire to attempt the conquest of the cities belonging to the Roman Empire – it seems to have sufficed for the Parthians to secure a zone of friendly buffer states between the two empires and to secure that the kingdoms (mainly Armenia) which were ruled by the Arsacid dynasty would remain in their hands. According to Tacitus, and not unnaturally, the feudal forces disliked intensely the long distance campaigns.¹⁸

It was the Roman emperors who dreamed of being new Alexander the Greats. The conquest of Iran would have had four advantages for the emperors: 1) the achievement of this goal would have increased their prestige among the soldiers and populace; 2) the Romans would have gained complete control of the trade routes from Rome to India and China; 3) The destruction of Parthia would have removed the most formidable enemy and would have given Romans access to its cavalry forces and taxes; 4) it would have increased the Roman prestige vis-à-vis all the powers surrounding it and beyond. It is no wonder that the conquest of Parthia remained one of the most enduring dreams of the emperors.

Parthian Cavalry Battle Formations

On the basis of the extant descriptions of the Parthians cavalry battle arrays and the later military treatises that describe the battle arrays of the ‘kings of the age of ignorance’, the Parthians and then the Sasanians employed four variant versions of the cavalry array: 1) the vanguard of mounted archers (these could be so-

¹⁷ See SYVÄNNE I. (2014) for a Sasanian use of the rhombus against the Arabs at the battle of al-Qadisiyaah.

¹⁸ Tacitus, *Annals*, 2.2, 11.8-10, 12.50-51; Dio 40.15; Herodian 3.4.7-9; SYVÄNNE I. (2017a); SKUPNIEWICZ (2011) 14. For a discussion of the most serious of the Parthian offensives in the Roman held east at the end of 1 century BC, see WYLIE (1993) with SEAVER (1952). This offensive was made in support of the Romans opposing the triumvirate and in support of friendly local princes.

called cataphracts that did not wear their entire panoply of equipment when deployed in this manner) behind which was the main force consisting of both mounted archers and cataphracted lancers; 2) the vanguard of mounted archers, behind which stood the cataphracts; 3) the vanguard of mounted archers, behind which stood the mounted archers in the first line and the cataphracts in the second line; 4) the vanguard of mounted archers behind which stood two lines of cataphracts.¹⁹

The following illustrations/diagrams of the Parthian battle formations are based on the battle formations used by the Persian kings during the so-called ‘age of ignorance’ that can be found in four much later Muslim military treatises, but so that the examples have been taken from the Gotha manuscript. The illustrations with the reconstructions are based on Syv  ne (2004, 2014) and will also appear on the forthcoming biography of Caracalla (its ‘fig.108’) and military history of Iran, which analyze the topic in much greater detail. Note that the strength of the standard “square array” with the rhomboids would have been 27,136 horsemen plus the wing units (each rhomboid with equal interval). This strength is quite close to the smaller version of the units deployed as oblongs/squares with unit depths of five ranks (four ranks of warriors and one rank of squires). In fact, it is quite possible that when the army was deployed in two consecutive lines that only the wings were deployed as rhomboids as appears to have been the case during the Sasanian era. The original illustrations from the Gotha ms. are given on the left and the reconstruction which shows the concept behind the diagram on the right, but in such a manner that it naturally leaves out the unit formations employed by the units smaller than a division, brigade or regiment. Depending on the nationality and type of unit, these smaller units would have been deployed as rhomboids, wedges, squares or oblongs. The way in which the units are used in each of the formations are based on the text accompanying the diagrams in the Gotha ms. The outflanking of the enemy army required a numerically superior force when fighting against cavalry, but this was not necessary when the enemy consisted of infantry, while the use of the centre implies a numerically inferior force in which it was important to defeat the enemy with as few men as possible before the enemy would have a chance to outflank the Parthians.²⁰

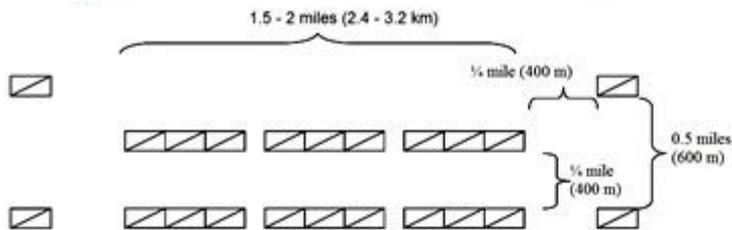
In sum, the principal battle formation appears to have been the single or double line formation with a vanguard which could then be arrayed as a crescent to outflank the enemy. It was the crescent array, which the Parthians and then the Sasanians favoured because this enabled them to subject the enemy to a barrage of arrows from all directions with the concomitant psychological and practical advantages. If the Iranians did not possess adequate numbers they either avoided contact by using the Parthian shot or they deployed their army in advantageous terrain to make it difficult for the enemy to attack or they tried to crush the enemy’s centre or they attempted to outflank one of the flanks. Behind the battle line proper the Parthians placed the bodyguards accompanying the commander, their baggage train of camels (housing their supplies of spare weapons and arrows) and their spare horses, but the commander could also choose to fight in the front of his own unit if he so desired as apparently happened when Pacorus led his forces against Venditius Bassus in 38 BC (Pacorus was killed in combat).²¹

¹⁹ The principal sources for the Parthian tactics are the scattered references in Plutarch (*Crassus, Antony*), Appian, Justin, Dio, Herodian, Tacitus, and Aelian (the footnotes of this article include the most important of these), but relevant information regarding tactics can also be found from later Muslim military treatises like Fakhr-i-Mudabbir and Gotha manuscript.

²⁰ The Gotha ms. refers to Gotha MS 258, f.110-215, which was edited and translated into German by F. WÜSTENFELD in 1880 as *Das Heereswesen der Muhammedaner nach dem Arabischen* (Abhandlungen der Historisch-Philologischen Classe der Königlischen Gesellschaft der Wissenschaften zu Göttingen 26, 1880). This text is basically the same, word for word, as the better known *Nihayat al-su’l* except that some chapters are wanting in the previous. The other Muslim treatises that contain Partho-Sasanian material include e.g. the Sasanian *Āyīn-nāmeḥ* (6th century); *Ādāb al-mulūk wa kifāyāt al-mamlūk* or *Ādāb al-harb wa ’l shadja’/Ādāb al-harb wa al-Shujā’ah* (*Rules of War and Bravery*) of Fakhr-i Mudabbir Mubārakshāh/Muhammad Ibn Mansūr Fakhr al-Dīn Mubārakshāh (c.1230); An abridgment of al-Harthamī (*Siyāsāt al-hurūb*); the *Tafrij al-Kurūb* by Umar b. Ibrāhīm Al-Awsī al-Anṣari. General comments can be found in Syv  ne (2004, 2014, 2017a).

²¹ See the sources mentioned in this article with the quotes.

Fig.108 "Square Array" Gotha Ms.



Allowing 400 meters for the intervals and assuming the use of close order (c. 1m per horse in width) and an average of ten men per file this gives a figure of 40,000-56,000 horsemen for the main formation in addition to which came the flank guards/ambushers that were placed on the wings. With files of five horsemen, the same array would have had 20,000-28,000 horsemen plus the flank guards/ambushers. (see Syväntie, 2004)

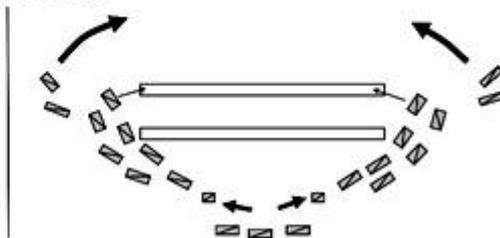
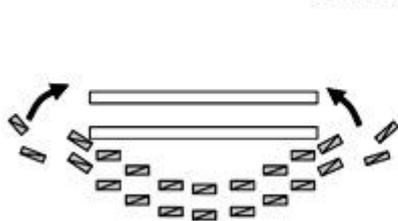
Crescent: Variant 1



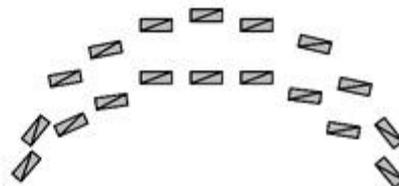
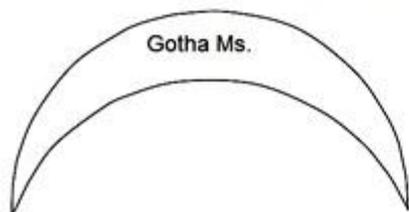
Crescent: Variant 2



the two different ways to use the crescent



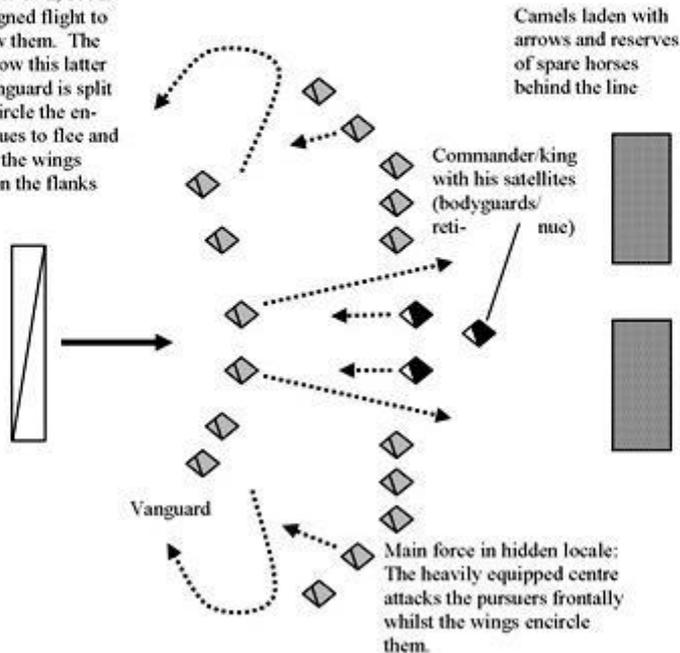
Convex: used to crush the center when outnumbered



The Typical Parthian Cavalry Tactic with the Vanguard

The diagrams below show only the principles. It would have been impossible to portray all the separate c.128-horsemen strong *wast*-units of a major army in rhombus order.

The Parthian vanguard first attempted to defeat the enemy on its own, but if this failed they used feigned flight to lure the enemy to follow them. The diagram below shows how this latter tactic was used. The vanguard is split into three groups to encircle the enemy. The center continues to flee and lure the pursuers whilst the wings gallop away to appear on the flanks

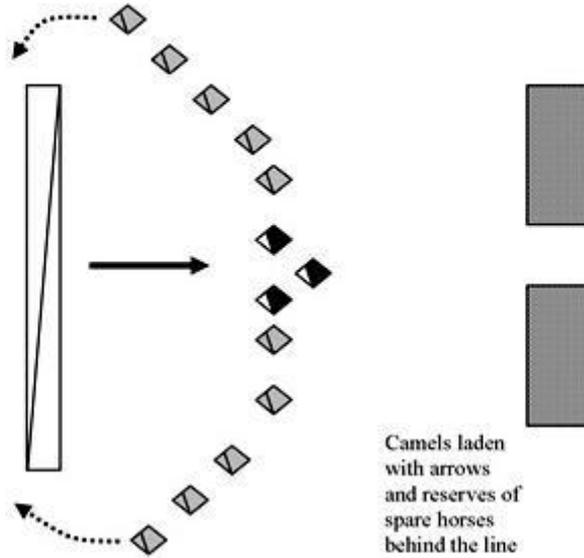


The Parthians usually employed their cavalry in two different ways. The typical way was to use the advance guard to harass the enemy so that it then feigned flight towards the main force. The main cavalry force consisted typically of cataphracts or of the cataphract centre and light cavalry wings if it included subject peoples or allies. The Parthians always sought to encircle the pursuing enemy whilst their centre engaged the enemy in frontal combat. If the enemy could not be defeated through this method, the Parthians tried to wear them down with hit and run tactics with mounted archery which could be employed by both light cavalry and cataphracts. This tactic was also usually employed when the vanguard was not used in the above-mentioned manner. The Parthians shot with their bows just as well in attack and in retreat (the famous Parthian shot backwards). When the units had exhausted their supplies of arrows or had worn out their horses, they galloped back to replenish their supplies of arrows or to change their mounts. This meant that in the course of a prolonged major pitched battle the Parthians could deliver truly incredible amounts of arrows on the enemy. This was the way in which the mixed force of light and heavy cavalry of the Sacae under Surena engaged Crassus and the Royal Parthian army of cataphracts engaged Mark Antony. The second manner in which the Parthians used their cavalry was to attack the enemy head on immediately as was done by Pacorus in 39-38 BC, but this was atypical tactic for the Parthians to employ even if it is included also in the Gotha ms. for example in the context of convex array.²²

²² See the calculation in FARROKH (2007) 133: Surena's 11,000 strong army would have shot 1.6-2 million arrows in 20 minutes. See also SHAHBAZI (1986) and GOLDSWORTHY (1996) 60ff.. Venditius' exploits vs. Pacorus e.g. in WYLIE (1993) 137-138 and SEAVER (1952) 279.

The Typical Parthian Cavalry Tactics without vanguard

The Parthian cavalry tries to engage the enemy at long range with arrows, retreating when necessary and advancing into contact if the enemy line shows any signs of collapse, while the wings try to outflank the enemy.



Camels laden with arrows and reserves of spare horses behind the line

The use of hit and run tactics, outflanking and the use of the frightening looking cataphracts with their shiny armour were not the only means the Parthians tried to produce fright in the enemy. They also tried to scare the enemy through the use of a deafening cacophony of beaten kettle drums and through the use of surprises. The following quote from Plutarch shows how Surena's personal retinue of Sacae employed these, but on in this case one can also extend the same description to cover the Royal Parthian army on the battlefield.²³

“... until the enemy came in sight, who, to the surprise of the Romans, appeared to be neither numerous nor formidable. For Surena had veiled his main force behind his advance guard, and concealed the gleam of their armour by ordering them to cover themselves with robes and skins. But when they were near the Romans and the signal was raised by their commander, first of all they filled the plain with the sound of a deep and terrifying roar. For the Parthians do not incite themselves to battle with horns or trumpets, but they have hollow drums of distended hide, covered with bronze bells, and on these they beat all at once in many quarters, and the instruments give forth a low and dismal tone, a blend of wild beast's roar and harsh thunder peal. They rightly judged that, of all the senses, hearing is the one most apt to confound the soul, soonest rouses its emotions, and most effectively unseat the judgment.

While the Romans were in consternation at this din, suddenly their enemies dropped the coverings of their armour, and were seen to be themselves blazing in helmets and breastplates, their Marginian steel glittering keen and bright, and their horses clad in plates of bronze and steel.” [Plutarch, *Crassus*, 23.6-24.1, tr. by Perrin 385-7].

The Parthian Tactical Advantages over the Romans

The principal tactical advantage of the Parthians was the greater mobility of their numerically superior multipurpose cavalry that enabled them to conduct hit and run attacks against the Romans as long as the Romans could not force them against a terrain obstacle or could not pin the Parthian cavalry down with a cavalry force of their own. The battle descriptions of the campaigns of Crassus, Mark Antony and Corbulo suggest that in the normal circumstances whenever the Parthian cavalry faced a solid infantry formation they (including their allied cavalries) simply scattered about in loose rhombus (or wedge) formations to encircle

²³ SHAHBAZI (1986).

the enemy to harass it with repeated barrages of arrows, but the campaigns of Venditius also prove that on occasion the Parthians could also attack head on.²⁴

If the infantry or cavalry made sorties out of the formation, the Parthian cavalry simply withdrew and shot backwards with the Parthian shot as they fled. The rhombus formation was quite well suited to this tactic. In the course of the action, the mounted archers ideally bunched up the footmen into tight immobile formations, which were then charged by the heavy cavalry pikemen. According to Plutarch, the Parthian lancers were able to fix two Roman legionaries simultaneously with their pikes. In other words, the combination of the mounted archers and charges of the cataphracts easily broke the Roman lines into pieces, if the latter did not maintain their discipline. If the battle lasted for a full day, then the Parthians withdrew to a distance to spend the night because the Parthians were horsemen and because they did not usually fortify their camps. As a rule, therefore, the Parthians avoided night combat.²⁵

These very same sources show most clearly that if the Roman army did not contain adequate numbers of archers and cavalry drawn from their allies, they were absolutely impotent in combat against the Parthian cavalry. In addition, the small Roman armies and detachments, even with the auxiliaries, were always cut to pieces if they foolishly ventured into open cavalry terrain. On the other hand, the Parthians themselves could do very little against sizable Roman infantry armies even in the open terrain, if these possessed adequate numbers of archers and slingers and were led by capable commanders. The most effective way to fight and defend against the Parthian cavalry in the open was to array great numbers of legions in a hollow square formation with legionaries forming a defensive *testudo* (the front rank kneeling, the second rank placing their shields on top of the front rank's shields and the third rank above the second rank's shields). The lightly equipped slingers were used on all sides in front of the square to stop the Parthian mounted archers and the Roman cavalry was then used for short distance pursuits. However, even small Roman infantry armies could hold their own if the terrain was unsuited to cavalry action. Therefore, the outcome of the encounter between the Romans and Parthians situation depended first and foremost upon the terrain and numbers.²⁶

As noted above, the principal advantage of the Parthians over the Roman cavalry was its greater mobility and its advantage in archery. On top of that it is clear that the more lightly armoured Roman cavalry and their allies were also at disadvantage even in melee with the Parthian cataphracts if the latter chose to receive the Roman cavalry charge. The following quotes from Plutarch demonstrate this well:

“[Having been ordered by his father Crassus] Publius [Crassus]... led them all to the charge. ... the Parthians wheeled about and made off. Then Publius, shouting that the men did not stand their ground, rode after them, ... The cavalry followed after Publius, and even the infantry kept pace ... until, after they had gone forward a long distance, they perceived the ruse. For the seeming fugitives wheeled about and were joined at the same time by other more numerous still. Then the Romans halted, supposing that the enemy would come to close quarters with them, since they were so few in number [1,300 cavalry, 500 archers and 8 cohorts]. But the Parthians stationed their cataphracts in front of the Romans, and then the rest of their cavalry in loose array rode round them, ... raising ... limitless showers of dust, so that the Romans could neither see clearly nor speak plainly, but, being crowded into a narrow compass and failing one upon another, were shot and died no easy nor even speedy death. ... Thus many died, and the survivors also were incapacitated for fighting. And when Publius urged them to charge the enemy's cataphracts, they showed him that their hands were riveted to their shields and their feet nailed through and through to the ground, so that they were helpless either for flight or for self defense [i.e. infantry had formed themselves either into a double line or hollow square to protect the cavalry inside]. Publius himself, accordingly, cheered his cavalry, made a vigorous charge with them, and closed with the enemy. But his struggle was an unequal one both offensively and defensively, for his thrusting was done with small and feeble spears against breastplates of raw hide and steel, whereas the thrusts of the enemy were made with pikes against the lightly equipped and unprotected bodies of the Gauls, since it was upon these that Publius chiefly relied, and with these he did indeed work wonders. For they laid hold of the long spears of the Parthians, and grappling with the men, pushed them from their horses [i.e. the two

²⁴ See the quotes and references to the sources elsewhere in this text. For Corbulo, see Tacitus (*Annals* 13.7ff.) with the Loeb ed. of Frontinus (referrals in the Index). The two most recent studies of the eastern campaigns of Mark Antony and his subordinates (in English) are by GOLDSWORTHY (2010) 261ff. and RUGGIERO (2013) 163ff.

²⁵ See the sources mentioned in the other footnotes with SHAHBAZI (1986) and GOLDSWORTHY (1996) 60ff.

²⁶ The sources mentioned in this article with SHAHBAZI (1986) and GOLDSWORTHY (1996) 60-68.

cavalry formations had come to halt just in front of each other after their charge], hard as it was to move them owing to the weight of their armor; and many of the Gauls forsook their own horses, and crawling under those of the enemy, stabbed them in the belly. These would rear up in their anguish, and die trampling on riders and foemen indiscriminately mingled. But the Gauls were distressed above all things by the heat and their thirst, to both of which they were unused; and most of their horses had perished by being driven against the long spears [*the standard un-heroic cavalry tactic of all times was to kill the enemy horses*]. They were therefore compelled to retire upon the legionaries [*hoplites*], taking with them Publius, who was severely wounded. An seeing a sandy hillock nearby, they all retired to it, and fastened their horses in the center; then locking their shields together on the outside, they thought they could more easily defend themselves against the Barbarians. But it turned out just the other way. For on level ground, the front ranks do, to some extent, afford relief to those who were behind them. But there, where inequality of the ground raised one man above another, and lifted every man who was behind another into greater prominence, there was no such escape, but they were all alike hit with arrows, bewailing their inglorious and ineffectual death... Publius... presented his side to his shield-bearer and ordered him to strike home with sword. ... The survivors fought on until the Parthians mounted the hill and transfixed them with their long spears, and they say that not more than five hundred were taken alive. Then the Parthians cut off the head of Publius, and rode off at once to attack Crassus.” [Plutarch, *Crassus*, 25.2-12, tr. by Perrin, 391-397 with comments added in square brackets].

The above quote shows how the Parthians used the tactic of feigned flight to induce the enemy to follow. It also shows well how at least the elite portions of the Parthian cavalries, the personal retinues of the feudal magnates, could react to the commands given to them on a moment's notice – this must have been the result of rigorous training such as could have resulted from the use of hunting, cavalry games or herding to train the cavalry. This shows that the Parthian commanders could expect to be able to exercise very effective command and control over their feudal forces – in fact one may assume that their forces were able to react to the commands faster than the Roman forces thanks to the fact that the Parthian forces consisted mostly of cavalry and did not require similarly well-ordered ranks and files to operate effectively as did the Roman infantry. The quote shows well how Surenas was able to order his cavalry to break up contact with the enemy and then set up an ambush for the foolish Publius. The commanders of the units feigning flight were also clearly superb officers. On a moment's notice, they were able to lead the pursuers to the place of ambush without them having the slightest idea of what was about to happen. It is therefore very likely that the place of ambush had been agreed in advance. The Sacae battle formation (and hence the Parthian with light cavalry) appears to have consisted of the cataphract centre and mounted archer wings. The quote also shows what must have been the standard tactic of the cataphracts against unarmoured cavalry, namely the use of the long *kontoï* against the breasts of the charging enemy horses. Basically, therefore the cataphracts had already won the cavalry encounter at the very outset. It is no wonder that by the time Arrian wrote his treatises,²⁷ the Romans had adopted the use of chamfrons for their mounts. It was an absolute necessity for the Roman cavalry, armed with only short spears and sword, if they entertained any hope of being able to come to close quarters with the *kontoforoi* and *katafraktoi* of the Sarmatians and Parthians.

“Antony, ..., took ten legions and three praetorian cohorts of men-at-arms, together with all his cavalry, and led them to forage, thinking that in this way the enemy would best be drawn into a pitched battle. After advancing a single day's march, he saw that the Parthians were enveloping him and seeking to attack him on the march. He therefore displayed the signal for battle in his camp, and after taking down his tents, as though his purpose was not to fight but to withdraw [*according to the Roman military doctrine the marching camp would have served as a place of refuge if battle went badly*], he marched along past the line of the Barbarians, which was crescent-shaped. But he had given orders that when the first ranks of the enemy should appear to be within reach of his legionaries, the cavalry should charge upon them. ... when the signal was given, and the Roman horsemen wheeled about and rode down upon them with loud shouts, they did indeed receive their onset and repel them, although their foes were at once too close for them to use their arrows; when,

²⁷ SYVÄNNE (2013).

however, the legionaries joined in the charge, with shouts and clashing of weapons, the horses of the Parthians took fright and gave way, and the Parthians fled without coming to close quarters.

Antony pressed hard upon them in pursuit, and had great hopes that he had finished the whole war, or the greater part of it, in that one battle. His infantry kept up the pursuit for fifty furlongs, and his cavalry for thrice that distance; and yet when he took count of those of the enemy who had fallen or had been captured, he found only thirty prisoners and eighty dead bodies. Despondency and despair therefore fell upon all; they thought it a terrible thing that when victorious they had killed so few, and when vanquished they were to be robbed of so many men as they lost at the wagons.” [Plutarch, *Antony* 39.5-6, tr. by Perrin, 227].

The above quote also shows that the Parthians favoured a loose crescent-shaped battle array and that the Parthians were easily able to receive the Roman cavalry charge. It also shows that, just like the Caucasians (see below), the Romans tried to tie up the Parthians with their cavalry so that their infantry could come to grips with their elusive enemy. It was their only way to take the offensive, but the quote also makes it clear that it was very difficult for the Romans to catch the Parthian cavalry even with a cavalry attack of their own. It is also clear that the Roman use of the hollow square array meant the use of passive tactics that gave the enemy the initiative when and where to attack. On the other hand, this was the only formation that the Romans could use in a situation in which the enemy could outflank them at their will.

Roman countermeasures against the Parthians

The Roman countermeasures against the Parthians can be divided into two categories: strategic and tactical.

The former consisted of: 1) the exploitation of an ongoing civil war in Parthia or the encouragement of such (e.g. Caracalla claimed to have induced civil war between brothers) when the intention was to invade; 2) the use of ruses and stratagems to divide the opposition such as were used for example by Trajan and Caracalla when they invaded Parthian territory; 3) the conclusion of alliances with the enemies of Parthia; 4) the use of fortifications in defence to outlast the Parthian supplies and the feudal requirements to stay in the field.²⁸

The latter consisted of: 1) the use of the hollow square/oblong formation with infantry to negate the mobility advantage of the Parthian cavalry; 2) the increasing of the numbers of cavalry (especially the numbers of lancers equipped with 3.74 m *contus*-spear²⁹) and light infantry with the addition of regular units, auxiliary units and allies (e.g. Armenians, Oshroenians, Goths); 3) the changing of equipment to counter the Parthian cavalry (this included the experiments with Macedonian phalanx by Nero and Caracalla; and the introduction flat shields also for the legionaries in the course of the second century AD that enabled the Romans to use tighter formation with overlapping shields; the use of club-bearers) and the introduction of the long composite bow and field artillery; 4) the use of the rough terrain to negate advantages of cavalry.³⁰

The first real full-scale encounter between the Parthians and Romans took place when Crassus launched an unprovoked invasion of Parthian lands in order to gain military glory.³¹ His campaign shows well how inadequately the Romans understood what they faced. Crassus clearly underestimated the effectiveness of the enemy force and banked on exploiting the civil war that the Parthians were fighting. At this stage the Romans appear to have been unaware of the effectiveness of the long composite bow used by the Parthians and Sacae. The only correct thing Crassus made during his campaign was to array his infantry force as a hollow square when it was threatened by cavalry. His army consisted of seven legions, 4,000 light-infantry and 4,000 cavalry. Therefore, it is quite clear that Crassus took with him a relatively large force of heavy infantry but far

²⁸ Dio's treatment of Trajan's Parthian War (68.17.1ff.); Parthian brothers incited to fight against each other in Dio (78.12.1-3, esp. 2a-3). Caracalla's Parthian war with ruses: Herodian 4.9.8-11.2; Dio 79.1.1-5.5; HA *Car.* 6.4ff.; SYVÄNNE I. (2017a). The exploitation of Parthian troubles with supplies also noted by COWAN (2009) 30.

²⁹ This was the Gallic *contus* that was used in conjunction with a shield. The Sarmatian *contus* that was used with two hands was used by far fewer units.

³⁰ Dio 78.7.1-4 (esp. 78.7.1-2); HA *Car.* 5.4-8; Herodian 4.8.2-3, 4.9.4-5. The use of field artillery against heavy cavalry is clear from the descriptions of its use against the Alans in Arrian's *Ektaxis kata Alanôn*, but its inclusion in Trajan's Column (see the accompanying illustrations) and in Vegetius suggest that the use of the field artillery became one of the standard methods employed by the Romans. One of the possible reasons for this would have been to outrange the enemy archery fire. A fuller analysis of the different tactical uses of the infantry against the Parthian cavalry can be found in SYVÄNNE (2017a).

³¹ The principal sources for the war are: Dio 40.12.1-31.1; Justin 41.2, 41.4; Plut. *Crassus* 16.1ff.

too few light infantry and cavalry. Of particular importance was the small numbers of light-armed infantry in a situation in which the Romans faced an enemy who concentrated on the effective use of mounted archery and cataphracts. It is also probable that the Roman light infantry consisted of a mix of javeliners, slingers and archers so that the number of light-armed usable against the Sacae was even fewer than this. On top of this, the Romans appear to have been unaware that their foes (the Sacae) were using the more powerful long composite bow and/or the so-called Sasanian composite bow both of which had much longer range and better penetrative power than the short Scythian composite bow employed by the Romans and their allies. This means that the only long range weapon in the Roman arsenal able to counter the enemy archery was the sling and as we have seen there were far too few slingers in Crassus' army to make any difference. The Sacae and Parthians could also use this long range composite bow with the so-called shower archery technique so that they could deliver far more arrows in the same amount of time as the very few slingers could deliver. The fact that the Sacae were able to force the light-armed Romans back inside the infantry square immediately after they had sallied out proves how ineffective the Roman light-armed were.³²

The impact of Carrhae on the Romans was immediate. They realized that they needed to increase the numbers of both cavalry and light infantry in order to succeed, which is in evidence already in the plans of Julius Caesar and Mark Antony both of whom planned or used larger numbers of these in their campaigns. As we know Julius Caesar was murdered before he could execute his plans, but we can see Mark Antony increasing the numbers of both. In practice, however, Antony's tactical and strategic mistakes undid these sensible pre-cautions. At the time, the principal problems were the lack of sufficient numbers of native cavalry and the lack of a long range weapon able to counter the impact of the long composite bows employed by the Parthians. The Romans relied on their allies to provide adequate numbers of horsemen so it was very important for Roman commanders to secure these. The only weapon, other than the ballistae, in the Roman arsenal that could be used for the long range combat against the Parthians was the sling and its effect on the enemy was weakened by the armour and helmets worn by the Parthian cataphracts and the amount of time it took for the soldiers to learn to use the sling effectively and accurately. According to period sources, the slings outranged the bow so that it was very advantageous to use these against the Parthians, but the problem was that it required really large numbers of professional slingers to be effective in combat at long range and even then the helmets and armour worn by the Parthian cataphracts could negate its effectiveness. It was Venditius Bassus who came up with an idea how to rectify the problems. He posted his army on a hill so that the power of the dropping slingshots was proportionally increased by the amount that it dropped before hitting the cataphract.³³ This increased the effectiveness of the slingshots at long distance. The following diagram of Robert E. Dohrenwend shows this effect quite well.

It was also Venditius Bassus who was the first to employ a series of other countermeasures successfully against the enemy. In the above-mentioned instances, in which Venditius employed the slingers very successfully from higher ground against the Parthian cataphracts, he was also wise enough to feign fear so that the Parthians were lured to attack uphill against the fortified Roman camps. The use of the fortified camp served as a counter-measure against possible impact of enemy archery. It is also likely that these camps were equipped with ballistae for protection even if this is not mentioned by the sources. Consequently, if Venditius' plan would have backfired he could still have protected his army against a complete defeat, but in each of the two battles his plan worked like a dream. When the Parthians reached the distance of 500 paces, the Romans sallied out of their camp with the result that the Romans were able to minimize the number of casualties suffered under Parthian fire while the use of slingers and fast attack enabled the Romans to close into the close range where they had the advantage at the precise moment when the Parthians were in complete disorder resulting the effects of the uphill broken terrain, surprise and impact of slingshots. Venditius was also an expert in the use of ruses and feigned flight, which he used to a great effect. Just like Alexander the Great before him, Venditius realized that he had to use ruses, terrain and cavalry if he wanted to give his infantry forces a chance to fight against the Parthian cavalry at close quarters.³⁴

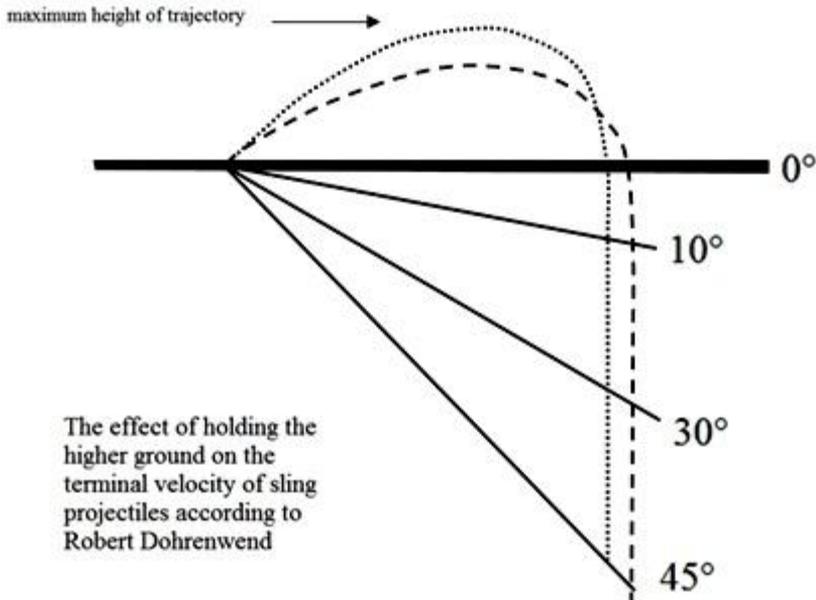
³² Dio 40.12.1-31.1; Justin 41.2, 41.4; Plut. *Crassus* 16.1ff; SYVÄNNE (2015) 123-125.

³³ Venditius and the Roman counter offensive: Dio 48.39.1-41.6, 49.19-21; Plut. *Ant.* 33.3-6; Florus 2.19; Frontinus 2.2.5, 2.5.36-7; Justin 41.2, 41.4. The effectiveness of the slingshot has been studied in detail by DOHRENWEND (2002) and by GABRIEL, METZ (1991) 74-75. However, I am inclined to agree with Dohrenwend that the latter have underestimated the effectiveness of the slingers in combat when they claim that it was not as effective as the ancient sources claim. One should always pay more attention to what is in the sources.

³⁴ The campaign of Venditius Bassus vs. Parthians can be found e.g. in: Dio 48.39.1-41.6, 49.19-21; Plut. *Ant.* 33.3-6; Florus 2.19; Frontinus 2.2.5, 2.5.36-7; Justin 41.2, 41.4. The modern articles of SEAVER (1952) and WYLIE (1993) analyze the career of Venditius Bassus in detail and are highly recommended.

THE EFFECT OF HOLDING THE HIGHER GROUND ON THE VELOCITY OF SLINGSHOT

SLOPE	Terminal Velocity	Impact Kinetic Energy	Impact Momentum	Relative Increase in Impact Momentum
0° (ground level)	128ft/sec	30 footpound	0.52 lb/sec	1.00
10°	192ft/sec	75 footpound	0.78 lb/sec	1.50
30°	224 ft/sec	130 footpound	0.91 lb/sec	1.75
45°	288 ft/sec	170 footpound	1.18 lb/sec	2.27



Above: Note the use of the ballistae mounted on wagons/carrriages, which was called *carroballistae*. These gave the Romans superior range with superior penetrative power, which is the reason for their continued use at least until the 12th century in East Rome.

When one analyses the relative strengths and weaknesses of both sides, the Romans appear to have shed their weakness in the number of cavalry and archery already before the birth of Christ with the addition of eastern mounted archers some of whom consisted actually of the Parthian horsemen³⁵ – and it is the Parthian horsemen that we find Augustus’ armies in Germany and Balkans. It is actually no wonder that the Parthians chose to return the standards they had captured in order to avoid having to fight a war against Augustus at a time when they were fighting a civil war. This face saving diplomacy was beneficial to both. Hence it is clear that the Romans adopted the use of the long composite bow really fast at the same time as they increased the numbers of light infantry and cavalry (including mounted archers) making it unnecessary to train masses of professional slingers to counter the enemy archery – it sufficed for the Romans to possess relatively small numbers of professional slingers and to train the rest of the men to use these in emergencies and sieges. In addition to this, on the basis of the Column of Trajan it appears very likely that the Romans had adopted the use of the club-bearers or mace-bearers against the heavily armoured cataphracts, the effectiveness of which is well attested in the wars fought in the third and fourth centuries.³⁶

The Roman infantry formation of the late republican and early imperial periods was not tight enough to withstand the impact of the arrow shot from the Parthian composite bow. The Romans used their shields in rim-to-rim formation giving each legionary only the protection of a single shield and his armour. It is probably because of this that the Roman legionaries in the latter half of the 2nd century AD discarded their curved semi-cylindrical shields and adopted the flat shield and tight phalanx formation in which the shields were interlocked rim-to-boss giving each legionary the protection of two shields and his armour. The Romans continued to use the curved shield at least until the 5th century, but it was no longer the standard piece of equipment and one may make the educated guess that its use was restricted to those situations in which the legionaries were used in more open formations against footmen. One may make the educated guess that it was Trajan’s Parthian war that inspired Hadrian to change the equipment at the same time as he introduced new training schemes and equipment for the army, or as that it was the war fought under the nominal leadership of Lucius Verus against the Parthians that resulted in these changes.³⁷

As noted above, the less well armoured Roman cavalry was usually at a grave disadvantage when it faced Parthian cataphracts. Good examples of this are the problems that the Gallic cavalry of Crassus (see the quote) had when facing Suren’s cavalry and cavalry of Macrinus had at the battle of Nisibis in 217. In the latter instance the Parthians aimed their arrows at the horses and thereby dismounted large numbers of Roman cavalry (included also allied cavalry) and used spears with equal effectiveness. According to Herodian, the Romans defeated easily those who came to the close quarters (probably an exaggeration), which means that they were unable to come to close quarters with the entire enemy line. This in turn suggests that in those cases in which the Romans were unable to engage the enemy at close quarters, the Parthians were in fact able to put a stop to the Roman cavalry attack with very effective archery fire before it had any chance of reaching the Parthian lines. According to Herodian, when the superior numbers of Parthian cavalry and their camels started to cause trouble, the Roman response was to retreat back into the safety of their infantry and throw caltrops behind – a tactic which brought some success as it lamed those horses and camels that followed. In fact, the best cavalry tactic that the Romans ever came up with against the Parthian cavalry was to feign flight with cavalry so that the Parthians would follow them up to the Roman infantry. It was this method that was employed for example by Venditius when the Parthian cataphracts blocked a mountain pass. This tactic was later refined by Aurelian when he fought against the Palmyrene cataphracts in about 272. His cavalry forces feigned flight until the pursuing Palmyrene horses became tired after which his cavalry turned about and attacked. The other option was to attempt to tie the Parthian cavalry in place with terrain or cavalry attack so that the Roman infantry would be able to attack it, but as noted above this was always a risky move because it was possible that the Parthians were able to dismount the attackers with their effective archery before they reached the Parthian lines or because the Roman cavalry was unable to catch the retreating Parthians. The Parthians were also in the habit of attacking the Romans here and there and then retreat before the Roman reinforcements could arrive on the scene. In other words, they used guerrilla warfare to harass the enemy.

³⁵ Note the ‘*equite sagittario*’ in the army of Germanicus: Tacitus (*Annals*, 2.16). It is quite clear that the Parthian exiles served in the Roman cavalry as mounted archers (probably as cataphracts). Note for example the distinguished service of Ornospades under Tiberius during the Dalmatian War in 8 to 9 AD (Tacitus, *Annals* 6.37).

³⁶ For the use of club- and mace bearers against the cataphracts, see SYVÄNNE (2004, 2015).

³⁷ See BISHOP, COULSTON (2006) for the so-called Antonine revolution in equipment. It is the standard work on the subject.

Corbulo's reaction to this problem was to divide his forces into several detachments so that his army was able to attack several places simultaneously.³⁸

The following quote shows that the Romans were not the only ones whose cavalry forces were at grave disadvantage when facing Parthian cataphracted mounted archers. The quote also shows how the Parthians, even when cataphracted, always relied on their bows in combat. It was the most powerful bow of its age and had the longest reach. The Romans were among the first to copy their bow, but the following quote demonstrates nicely that it took much longer for the Alans to copy it but copy they did it eventually³⁹. As a result, even the famed cavalry of the Alans was also forced to rely on similar tactics as were employed by the Romans but they did this with better success the reasons of which are explained after the quote:

“The violent and treacherous ... Mithridates took the initiative in persuading his brother Pharasmanes [*king of Caucasian Iberia*] to help him recover the Armenian throne. Agents were found to induce the Armenians... to murder Arsaces. Simultaneously a strong Iberian force broke into Armenia and seized the capital, Artaxata. Artabanus [*king of Parthia*], learning the news, appointed another son Orodes to exact retribution, gave him Parthian troops, and sent representatives to hire auxiliaries.

Pharasmanes responded by enlisting the Albani [*another Caucasian tribal nation*] and calling on the Sarmatians, whose chiefs, as is the national custom, accepted gifts from, and enlisted on, both sides. But the Iberians controlled the strong-points and speedily rushed their Sarmatians over the Caucasian pass into Armenia. They easily blocked those of the Sarmatians who had joined the other side [*note the importance of controlling the passes*]. For the Iberians closed every pass except one, and that one- between the outermost Albanian mountains and the sea – is impassable in summer since the seaboard is flooded by Etesian gales: in winter south winds drive back the water, and the sea's recession drains the shallows.

Orodes, short of allies, was now challenged to fight by the heavily reinforced Pharasmanes. He refused. However, the enemy harassed Orodes, riding close to the camp, plundering his sources of forage, and often virtually blockading him with a ring of outposts [*the implication is that the Parthian camp possessed some kind of fortifications, possibly formed of camels and stakes and possibly of the wagons of the women?*]. Orodes' Parthians, unaccustomed to such insolence, pressed round him and demanded battle. Their whole strength lay in cavalry. But Pharasmanes had useful infantry as well as cavalry, since the highland life of the Iberians and Albanians has given them exceptional toughness and endurance. They claim Thessalian origin, dating from the time when Jason, ... They have many stories about him, ... [*Are the Iberians and Albanians actually the Thessalians who invented the rhombus?*]

When both sides had drawn up their battle-line, Orodes addressed his men, glorifying Parthian empire and its royal family's grandeur, in contrast to the humble Iberians and their mercenaries. Pharasmanes, however, reminded his troops that they had never submitted to Parthia... Contrasting his own formidable warriors with the enemy in their gold embroidered robes, he cried: ‘Men on one side – on the other, loot!’

Nevertheless, among the Sarmatians, their Iberian commander's was not the only voice. This must not be a bowman's engagement, men shouted; better to rush matters by charge, and then fight hand-to-hand! So the battle was confused. The Parthian cavalry, expert at withdrawals as well as pursuits, spread out their *turmae* to give themselves room to shoot [*i.e. the rhomboid arrays spread out*]. But the Sarmatian horsemen on the other side, instead of shooting back – their bows being inferior in range – charged with pikes and swords [*contis gladiisque*]. At one moment it was like an orthodox cavalry battle, with successive advances and retreats [*i.e. the Sarmatian/Alan koursores-skirmishers advanced first and then retreated which was followed by an immediate charge of the kontoforoi defensores*]. Next the riders, interlocked, shoved and hewed at one another [*In other words, the Sarmatian kontoforoi charged immediately to the contact in order to avoid the effects of the Parthian archery*]. At this juncture, the Albanian and Iberian infantry struck. Gripping hold of the Parthian riders, they tried to unsaddle them. The Parthians were caught between two fires – infantry grappling with them at close quarters, and Sarmatian horsemen attacking them from higher

³⁸ Tacitus, *Annals* 13.37; Dio 79.26.2 (Loeb ed.); Herodian 4.14.3ff. (esp. 14.2ff, which describes the cavalry combat); Zosimus 1.50.3ff. ; Frontinus 2.37.

³⁹ See the discussion of the Alan and Sarmatian tactics in SYVÄNNE (2015).

ground [i.e., the fast and lightly armoured Sarmatian *kontoforoi* cavalry tied up the Parthians by front allowing the light Caucasian infantry to advance into contact with the swift Parthians].

Pharasmanes and Orodes were conspicuous, supporting the staunchest fighters and rescuing those in trouble. They recognized each other and charged [note the culture of single combat, which was typical for the Iranian cultural sphere; note also the presence of the kings at the forefront of their units]. Pharesmanes' onslaught was the more violent, and he pierced the Parthian's helmet and wounded him. But he failed to deliver a second blow, since his horse carried him past; and the wounded man's bravest bodyguards/followers protected him [note the use of cavalry reserves behind the battle-line under the commander; note also how the events in this account are in accordance with the information that the Parthian mounted archers used the rhombus-cavalry arrays, in which the commander was in the front allowing him to charge in front of his bodyguards; the ability of the commanders to charge through the lines together with their retinues shows that the Parthians also used similarly widely separated units as did their Iranian nomadic cousins the Sarmatians/Alans]. Still, false reports of Orodes' death were believed; the Parthians were panic-stricken, and conceded victory.

Artabanus then mobilized his kingdom's entire resources for retaliation. But the Iberians had the better of the fighting, since they knew the Armenian terrain. Nevertheless, the Parthians were only induced to retire because Lucius Vitellius concentrated his legions in a feint against Mesopotamia. Artabanus could not face war against Rome, and evacuated Armenia. Vitellius then secured his downfall by enticing his subjects to abandon him. ...” [Tacitus, *Annals*, 6.33-6, tr. by M. Grant, 217-8 with some slight changes and additional commentary in square brackets].

The quote demonstrates well that the Alan cavalry was far more successful in tying up Parthian cavalry in place than for example Mark Antony's cavalry. The likeliest reason for this was the higher quality of Alan mounts, which appear to have been faster than the Roman ones and which also appear to have had better endurance. It is not a coincidence that the Romans recruited large numbers of Sarmatian and Alan lancers and then later Goths (and other East Germans) who had copied their tactical methods.⁴⁰ The Romans needed these and their horses in particular against the Parthians and then against Sasanians. The fast moving lancer cavalry without too much armour (with their superb Alano-Sarmatian horses) could be used in like manner for a fast charge with which the faster moving attackers could tie up the Parthian cavalry (especially its core, the cataphracts) in place so that the Roman infantry force could attack it. Regardless, the risk was always that the Parthian archery would decimate the attackers before they were able to reach the Parthian lines, but this was still the only effective offensive tactic that the Romans could use in the open terrain against the Parthian cavalry. The use of the feigned flight with cavalry in an attempt to draw the enemy into contact with the Roman infantry was essentially a passive tactic that required the enemy's unwitting cooperation.

The Strategic Advantages and Disadvantages

On the strategic level the Romans had a clear advantages and disadvantages. The main advantages on the defence were: 1) The Romans used combined/joint armies that could be used very effectively in defence of fortified places and in difficult terrain; 2) Despite the fact that the Parthians had been able to conquer many large fortified cities in the east they did not possess similar expertise in siege warfare as the Romans did; 3) The Parthian military system was based on the feudal concept and it was thanks to this that they could not stay long in the field to besiege Roman cities.

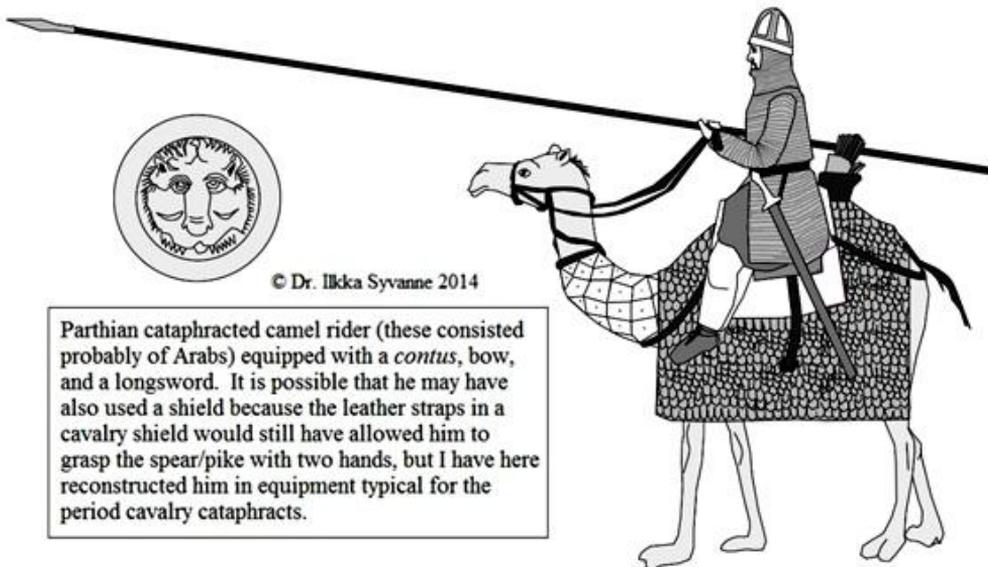
In offense the main disadvantages the Romans faced were: 1) In order to advance deep into enemy terrain, they needed to defeat the Parthian cavalry army decisively which was very difficult to do as the cavalry force could retreat faster than the infantry could follow on top of which the Parthians possessed ready reserves of cavalry further away in the Parthian heartlands; 2) In order for the Romans to advance deeper they needed to besiege fortified cities while being harassed by the Parthian cavalry; 3) Unlike during the Republican era, when the Romans possessed vast reserves of conscripts for the conquest of new territory, the emperors used a relatively small professional forces, which did not possess enough men to garrison all of the strategic locations needed to conquer the land. 4) If the Romans decided to advance into Mesopotamia or even beyond, the Romans also faced a number of almost insurmountable problems. The most difficult problem was the climate and the diseases it fostered among the Romans. In addition to this came the very serious problems of logistics and supply. The Romans had to leave sizable garrisons behind to protect Armenia, Asia Minor and

⁴⁰ See SYVÄNNE (2004, 2015) for examples of the use of the lancers against the Parthians and Sasanians.

Syria. They needed to guard their routes of communication with strong garrisons. They also needed men to garrison the captured strongholds and to protect their supply convoys from the continual harassment of Parthian cavalry.

The problems facing the Romans in offensive warfare did not end there. Dr Kaveh Farrokh (2007, 174) has noted that the Parthians put considerable resources into building of fortresses, which means that the conquering of the Parthian settlements was not an easy task even for the Romans who possessed the best siege train of the day. According to Farrokh, the Parthians also pioneered many military architectural designs that served as models for the later Sassanian fortress systems. The defensive structure of the Parthian fortress city was based on tri-partite system. In the centre, in an elevated position, was the *Kohnadezh*, the quarters of the leadership, nobility, and the king that also served as a keep/acropolis. The second section, the *Sharestan*, was the quarters of the knights, petty nobility and men of learning. In the third section, the *Savad*, were the farmers and craftsmen. The ideal shape for the city was a circle. The concept had been copied from the Central Asian nomads and was to serve as a model for the Sasanians and Abbasids (Baghdad).

As noted by Goldsworthy (1996, 68), the sheer scale of the task of conquering Parthia, doubtless more than anything else, made the conquest of Parthia impracticable – except perhaps to those emperors like Trajan and Caracalla who did not really care how costly the campaign would be. In fact, it was largely thanks to the conquests of Trajan and then later by Septimius Severus (especially in Mesopotamia) that the Romans obtained such territorial gains that they could mount effective invasions and raids deep into Parthian territory, and these deep invasions of the Parthian territory did have a strategic consequences. The new territory in Mesopotamia and the subjection of Iberia and Armenia to Roman influence enabled the Romans to launch attacks from these forward based locations so fast that it was difficult for the feudal forces to react to these fast enough. It was because of this and because of the series of civil wars and other threats in the east (e.g. the Kushans) against the Parthian realm that the Romans were able to repeat Trajan's attack against Ctesiphon. The end result of the resulting loss of prestige was the rise of the Sasanian dynasty. This brings up the only real strategic advantage the Romans had, which was the relative weakness of the position of Parthian ruler vis-à-vis his magnates – he needed to retain his prestige in the eyes of the warrior caste.



The Parthian Reaction to the Roman Combined Arms Tactics

It was painfully apparent for the Parthians that they could not break up the Roman infantry formation with their cataphracts and archery as long as the Roman close-order combat formations remained orderly. Typically the Parthians sought to counter this with the above-mentioned use of guerrilla war with hit and run tactics until the Romans would become so exhausted that they were no longer able to maintain their orderly formations. The second method employed by the Parthians was above-mentioned fortifying of their cities so that these could be expected to defend themselves against the Romans when the Parthian cavalry harassed the

Romans with guerrilla warfare. The third reaction was the lengthening of the amour worn by both the riders and horses to enable them to face the Roman infantry better also at close quarters.⁴¹

Towards the very end of the Parthian Era, there is also evidence for the introduction of a new tactical system, the cataphracted camel forces, which the Parthians employed at the Battle of Nisibis against Macrinus in 217. These mail-clad camel riders used both bows and pikes. In other words, the Parthians tried to use cataphracted camels to break up the Roman phalanx. See the hypothetical reconstruction borrowed from Syv anne (2017a, fig. 118). It is also probable that the camels were meant to scare the Roman mounts through their unfamiliar appearance and smell so that the Roman cavalry would not be able to tie up the Parthian cavalry forces. It is notable that these expedients occurred at a time when the Parthians had been thoroughly humbled by the Romans first under Septimius Severus and then by Caracalla. These expedients also occurred at a time when there were increasing amount of discontent among the native Persian population that did not consider the Parthians, even though they were also speaking an Iranian dialect, as Persians. This also occurred against the background of religious upheaval that was exploited by the House of Sasan. In fact, the House of Sasan portrayed themselves simultaneously as a religiously motivated Zoroastrian movement and as an Aryan/Persian nationalist movement that sought to revive the glory days of the Achaemenids. The first Sasanian King of Kings Ardashir I was well versed in ancient and contemporary military history. He thoroughly reformed the Persian military on the models of Achaemenids while retaining the Parthian type of cavalry. He even reintroduced the famous Immortals, but this time as 10,000 cataphracted horsemen. Consequently, it is not too farfetched to say that Ardashir I, just like the Parthians in their last days, experimented with obsolete military systems in their effort to find a way to defeat the Roman infantry, and therefore reintroduced the scythed chariots and elephants into the Sasanian military as claimed by the *Historia Augusta* (Aelius Lampridius, *Alex. Sev.* 54). However, these experiments also proved just as ineffective against the Romans as the cataphract camels of the Parthians.⁴²

Conclusions

In terms of strategy, the Romans were just as poorly equipped to conquer Parthia as the Parthians were to conquer the Roman east. The former would have required such expenditure of money and resources that it was beyond the Roman means without the re-introduction universal conscription of the Roman youth – and this was something that the emperor-dictators were unwilling to do for security reasons. Excluding the reigns of Trajan and Caracalla the Romans simply lacked the will to spend so much money and energy on a campaign fraught with many dangers! It was practically impossible for the Romans to defeat the Parthians decisively on the battlefield. Excluding some very few exceptions, the Parthian cavalry was almost always able to flee and fight another day, especially so because the heartland of the Parthian monarchy lay in the east. In order to win the Romans would have needed to annihilate in their entirety at least two massive Royal Armies in succession, first the Royal Army that the ruler brought against them and then the reinforcements brought from the east⁴³. This did not happen, because the Parthians were usually led by competent commanders who wanted to avoid such terrain that would have put their cavalry at risk. The Parthian cavalry

⁴¹ MIELCZAREK (1993) 63. He is quite correct to note that the lengthening of the armour could only have resulted from the need to improve the cavalry's ability to fight against Roman infantry.

⁴² Macrinus' war vs. Parthians in 217: Dio 79.26.2; Herodian 4.14.3ff. SYV ANNE (2017a) offers a completely new reassessment of the Roman and Parthian/Persian methods of waging during the reigns of Septimius Severus, Caracalla and Alexander Severus. The question of how the Romans fought against the Sasanians is more fully analyzed in WHEELER (an excellent study and highly recommended) and SYV ANNE (2017a; *Appendix 2*), more detailed but still based on Wheeler) both of which analyze in greater detail the complaints made by Julius Africanus in his *Kestoi*. Many of these are also relevant for the Parthian era, which is the reason for Wheeler's title for the article "Why the Romans can't defeat the Parthians: Julius Africanus and the Strategy of Magic", but strictly speaking Julius Africanus criticized the Roman tactics at the beginning of the third century in the context of how the Romans fought against the forces of Arda sir I. The information provided by the *Historia Augusta* regarding the use of elephants and scythed chariots is usually quite needlessly suspected because there does not exist any other concrete evidence for their use. I agree with Yann LeBohec that it is actually likely that they did. The reason for this conclusion is that Ardashir I claimed to have revived the Achaemenid Empire. It is not too farfetched to think that it also entailed the revival of many of its military practices (e.g. the Immortals) and the use of elephants and chariots, the latter of which by the way were still used in India, which means that the information in the *Historia Augusta* receives also support from the circumstantial evidence.

⁴³ For example, it is possible that if Macrinus had been able to annihilate the army of Artaban V at the battle of Nisibis in 217 that this could have brought about the collapse of the resistance because the Parthian realm was at the time divided into three major groupings (Artaban's realm; Vologaesius' realm around Ctesiphon, and Arda sir's Persis) and large numbers of lesser princedoms.

could also make life very difficult for any army trying to march through its lands. In contrast, in defeat, the Romans had very few chances of making it back to home if they were defeated deep in Iranian territory.

It was at least equally impossible for the Parthians to defeat the Romans if not more so. They did not possess enough men or resources on top of which their feudal forces lacked the will to campaign in far flung places. They did not have sufficiently large and effective infantry forces able to cope with the Roman legions and they did not possess siege trains unless they resorted to the use of their subject peoples. The feudal system also precluded the keeping of armies in the field for long times that was required in wars of conquest. In addition, Rome possessed vastly greater monetary resources and vastly greater population.

Theoretically the Roman Empire did possess the means to conquer Parthia thanks to its use of combined/joint armies. After the improvements that the Romans introduced under and after Augustus, it was impossible for the Parthian cavalry to defeat these on the battlefield if these were well-led and had sufficient numbers. However, it is still clear that the Romans would have needed to enlarge the size of their armed forces significantly in order to be able to conquer and hold territory, and it was this that the successive emperors were unwilling to do. Trajan was clearly prepared to do whatever it would have taken, but his successor Hadrian was not. Similarly, Caracalla was quite prepared to spend whatever it took, but his successors were not. On the basis of this, one can say that it was mainly thanks to the lack of universally agreed grand strategy that it was quite impossible for the Romans to conquer Parthia. Every emperor had his own policies and preferences⁴⁴ and most of them did not seek to conquer Parthia permanently. One can therefore say that both powers were roughly evenly matched, but with the difference that the Parthian realm suffered from far greater internal weaknesses.

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⁴⁴ It is often assumed that modern states would have some long term grand strategies that they would seek to fulfil in a rational manner, but in most cases this is a similar mirage as the above because the goals of modern states have the same tendency to change with every new administration. There is a good discussion of this aspect of modern states in the new edition of the *Roman Grand Strategy* (2016) by Edward LUTTWAK. It is a folly to think that all decisions regarding grand strategy or strategy made by modern leaders would be based on sound assessment of the situation and that the different persons would share the same views and goals. The Romans were no different and yet they did also have a grand strategy – it was just that it changed with the needs and goals of each new ruler.

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Summary:

Parthian Cataphract vs. the Roman Army 53 BC-AD 224

This article provides a short overview of the Parthian military and its tactics, and what were the Roman responses to that and what were the Parthian countermeasures against the Roman methods from ca. 53 BC until AD 224. It also suggests that when the sources claim that the Parthian monarchs fielded massive numbers of cataphract cavalry that we should really accept what these sources state: namely that the entire Parthian cavalry force of Parthia proper was really encased in armour as cataphracts.

Keywords: Parthia, Parthian military, cataphracts, Roman military, tactics, Iran, Persia