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Studies

ANCIENT HISTORY

TECHNICAL TRAINING OF THE ATHENIAN CAVALRY (375 - 350 BC)

Abstract: Cavalry tactics require a well-thought-out horse and rider training on a regular basis as well as a cavalry led by a commander who has tactical skill, sufficient horsemanship and knowledge of horses. As a cavalry commander and horseman Xenophon studied the developments on the battlefield during the 5th and 4th century BC. He carefully analysed cavalry tactics of various enemies of Athens and he put forward recommendations on how the Athenians should train their cavalry. His works *On Horsemanship* and *On the Cavalry Commander* therefore show the most modern cavalry requirements of that time. They are important documents showing how the different styles of cavalry deployment came to influence each other. This paper wants to explain which foreign tactics he studied and why Xenophon advised specific horse training exercises to the Athenians.

Keywords: *cavalry, Xenophon, cavalry training, cavalry tactics, horse training, warfare.*

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INTRODUCTION

The works of Xenophon on cavalry and horses should be regarded against the background of the developments in Greek cavalry warfare in especially the 4th century BC. Traditionally and generally speaking, there had been a different approach to battle tactics in Greece, where some states favoured their cavalry contingents and states with hoplite traditions, such as Athens, favoured their hoplite tactics.¹ There is also a difference between warfare in Asia Minor and on the Greek mainland. The Persians possessed large contingents of lightly armed cavalry, whereas the Greeks had smaller units of cavalry.² Traditional cavalry states such as Thessaly and Boeotia were more capable of fighting cavalry battles, although even those riders preferred not to attack hoplite lines.³

The encounters Greek armies had with new foes outside their *poleis* and in the Mediterranean caused them to adapt to different tactics. For cavalry particularly this meant that it had to evolve and become a bigger and more reliant part of the Greek army starting from the Persian wars. After the Peloponnesian War, the Athenian cavalry had suffered from the Spartan takeover as many *hippeis* who had supported the Spartan *Reign of the Thirty* were subsequently banned from their cavalry service. This meant a decline in knowhow and training. After the loss of important battles

¹ SPENCE 1995, 178-179.

² WORLEY 1994, 152; whether or not light armed cavalry formed the core of the Persian army, see TUPLIN 2010, 101-182.

³ SPENCE 1995, 123-32; 153-55; WORLEY 1994, 123-52; KOOLEN 2012, 75; KOOLEN 2013.

against Thebes, Xenophon had made an extensive analysis on cavalry tactics used by the enemies of Athens. He then put forward recommendations to the Athenians on cavalry training and duties in several works, i.e. *On Horsemanship* and *On the Cavalry Commander*. Xenophon understood that cavalry needed to improve their horsemanship together with bridles, weaponry and training to reach the unconditional obedience of the horse to its rider.⁴

In this paper I will first discuss a few examples of cavalry tactics and secondly the technical improvements that cavalry needed to make to adapt to these changes. Xenophon had studied extensively the differences in cavalry warfare and horse training in Athens, Sparta, Thessaly, Persia and specifically Boeotia. From this knowledge he extracted the best practices and put them in his works, I will explain these technical recommendations on training and weaponry against the military background. The discussion will be based on the principle that

*'As long as cavalry exists, however it may be armed or maneuverer, the fundamental principle of such instruction will be horsemanship; that science which gives the soldier perfect control over the machine which transports him; which makes it safe for himself and effective against his enemy; which gives him confidence in his own prowess, and which inspires him with an esprit de corps, and a love for his horse and the saddle which every cavalryman who is really master of his steed must feel.'*⁵

GREEK CAVALRY TACTICS

Greek cavalry was very capable of raiding and fighting small skirmishes as a unit working on the field around their infantry, but they failed to train themselves to fight in formations or to fight as a unit against lines of infantry. This usually appeared not to occur in the battle until a decision was made and then the cavalry went for the remaining infantry units or fleeing infantry to cut them down one by one. One of the reasons that cavalry did not earn a high standard in the hoplite army was that cavalrymen usually waited for the infantry to decide a battle and came into action only afterwards.⁶ This does not mean that Greek cavalry did not have an important role in warfare at all or that it was not able to render decisive actions on the battlefield.

Athenian cavalry, for instance, played a decisive role on the battlegrounds of Solygeia in 425 BC.⁷ So, although the approach to tactics differed, cavalry was certainly not an obsolete type of defence. This conclusion is fortified by the new coordination between Greek cavalry and infantry that began to appear in the 4th century - a development that had started during the Peloponnesian War. Cavalry units

⁴ KOOLEN 2015.

⁵ ROBERTSON 1883.

⁶ Athenian cavalrymen even seem to have had a reputation for staying mounted or riding off the battlefield with their infantry in a troubled situation. *Ar. Lys.* 15.13; 14.7. In *Knights* Aristophanes seems to be referring to such a situation, when a slave called Nicias offer a solution to a difficult situation: 'let us bolt at top speed' (*Ar. Eq.* 25).

⁷ *Thuc.* 4.43-44.

were more often used on the battlefield itself to drive off enemy cavalry and their close combat deployment increased. Traditionally, the safest and easiest way of deploying cavalry was on the wings. This provided not only flank protection but also made sure that the cavalry could not get in the way of the infantry in case of a forced retreat (which would put them against their own infantry). The traditional tactics of deploying cavalry on the wings was easier, probably safer, and required less thought from the commander. Deploying cavalry in front of the hoplite lines asked for an intelligent general that had a well-trained cavalry capable of manoeuvring easily as it could then be used either against other infantry or cavalry.⁸

Before 490 BC, Greek wars had mainly been restricted to border warfare and regional skirmishes in which raiding was important; great land wars thus far had not been numerous.⁹ Raiding and border patrol were cavalry duties. Most Greek *poleis* consequently did not need to employ a large cavalry regiment for border warfare; they usually employed small cavalry units. These units functioned as border patrols, forage parties, scouts and messengers. They could also spy, chase or harass the enemy, or cut off their water or food supplies. These units usually did not engage in battle.¹⁰ A small cavalry is more suitable to tasks such as raiding, spying or the conveying of messages. Being small in numbers, it can hardly function as an independent military force on the battlefield.¹¹

When Greek *poleis* were planning to invade the territories of neighbouring cities, larger regiments of cavalry were hired, which could be committed to battle. Thessaly, for example, was known to be the most powerful Greek cavalry state.¹² This sort of cavalry was highly trained and the riders serving in it were accustomed to fighting cavalry battles, mostly against other cavalry and over large distances. They were light-armed and resorted to the use of long-distance missiles thrown by peltasts and archers.

Simon names Thessaly as the most powerful cavalry state in Greece. Thessaly has large pastures and is relatively flat. Thessalians were especially renowned as peltasts who use javelins in combat. The Thessalians could easily field 1,000 horsemen, as in the battle at Phaleron, 514 BC, where Thessalian cavalry fought the Spartans. The Athenians had hired this Thessalian cavalry. On the plain of Phaleron the Thessalian king Cineas led one thousand Thessalian horsemen against the Spartans who were trying to attack Athens.¹³

⁸ SPENCE 1995, 154; KOOLEN 2015.

⁹ OBER 1985, 35; *Thuc.* 1.15.2. 'Wars by land there were none, none at least by which power was acquired; we have the usual border contests, but of distant expeditions with conquest for object we hear nothing among the Hellenes. There was no union of subject cities round a great state, no spontaneous combination of equals for confederate expeditions; what fighting there was consisted merely of local warfare between rival neighbors.'

¹⁰ Herodotus describes the regular tasks of the Greek horsemen. In *Hdt.* 9.54 the Athenians send a messenger on horseback to the Spartans to ask Pausanias for instructions. The Athenians send mounted messengers to the Spartans in *Hdt.* 9.55; *Hdt.* 9.56; in *Hdt.* 9.60 the Spartans send a messenger to the Athenians.

¹¹ *Xen. Eq. mag.* 7.2-4; 7.6-10.

¹² Simon, *De re equestri* 1.

¹³ *Hdt.* 5.63.3-4. 'They [the Spartans] sent these men by sea on shipboard. Anchimolius put in at Phalerum and disembarked his army there. The

The disembarking Spartans were surprised by the amount of cavalry and therefore, at a later date the Spartans did not travel by sea, but attacked over land from the Northwest. The outcome of this battle was rather different and the Thessalian horsemen took flight to Thessaly.¹⁴ Their cavalry was known for its discipline and large numbers. Pausanias writes that the Phocians were greatly terrified by the army of the Thessalians, especially by the number of their cavalry and the discipline of both mounts and riders.¹⁵ These troops may have been trained to the highest degree.¹⁶

According to Strabo, Thessalian horsemanship was equal to that of the Medes.¹⁷ This is an interesting remark, because the Medes were a Scythian people and, according to Xenophon, the Medes were the originators of Persian horsemanship.¹⁸ The Mede style of horsemanship relied much on large numbers and distances.¹⁹ It was suitable for fighting battles on horseback, but not for fighting against closed infantry lines.²⁰ Xenophon states that the Thessalian army would usually form a hollow square of infantry with cavalry placed in front and at the rear, but they would wheel their horses and flee when they encountered hoplites.²¹

Athens was the leading city in its naval Empire and needed more cavalrymen to defend it. They had cavalry, which would be sent out in small units together with infantry. There are but few sources concerning cavalry deployment during the 60 years between the Persian Wars and the Peloponnesian Wars. According to Thucydides, the Greek *poleis* were well-trained in the school of war because during these 60 years, the balance between war and peace was a fragile one.²²

The Athenians sent in a fleet carrying infantry and horses to the north to subdue rebellious Potidaia in a first attack in 433 BC. The Potidaeans received help from the Macedonian king Perdiccas and from the Corinthians, who both sent aid, including some cavalry. Macedonia sent 600

sons of Pisistratus, however, had received word of the plan already, and sent to ask help from the Thessalians with whom they had an alliance. The Thessalians, at their entreaty, joined together and sent their own king, Cineas of Conium, with a thousand horsemen. When the Pisistratidae got these allies, they devised the following plan. First, they laid waste the plain of Phalerum so that all that land could be ridden over and then launched their cavalry against the enemy's army. Then the horsemen charged and slew Anchimolius and many more of the Lacedaemonians, and drove those that survived to their ships. Accordingly, the first Lacedaemonian army drew off, and Anchimolius' tomb is at Alopecae in Attica, near to the Heracleum in Cynosarges.'

¹⁴ Hdt. 5.64.1-2. 'After this the Lacedaemonians sent out a greater army to attack Athens, appointing as its general their king Cleomenes son of Anaxandrides. This army they sent not by sea but by land. When they broke into Attica, the Thessalian horsemen were the first to meet them. They were routed after only a short time, and more than forty men were slain. Those who were left alive made off for Thessaly by the nearest way they could.'

¹⁵ Paus.10.1.4.

¹⁶ Xen. Hell. 6.4.28.

¹⁷ Str. 11.14.12; 2.14.12; Diod. Sic. 2.43.4-7; Paus. 10.1.5; Hdt. 4.128; 9.57: Persian cavalry did not want to fight against closed infantry lines.

¹⁸ Str. 2.13.9: 'the zeal for archery and horsemanship came to the Persians from the Medes.'

¹⁹ Hdt. 8.28.

²⁰ Hdt. 9.18.

²¹ Xen. Hell. 4.3.5-9.

²² Thuc. 1.18.3 'So that the whole period from the Median war to this, with some peaceful intervals, was spent by each power in war, either with its rival, or with its own revolted allies, and consequently afforded them constant practice in military matters, and that experience which is learnt in the school of danger.'

riders. This allied cavalry, however, were of little use to the Potidaeans in battle actions.²³

During their first invasion of Attica in 431 BC, the Spartans defeated the Athenian cavalry at the *Rheitoi*.²⁴ Afterwards, Pericles regularly dispatched cavalry to prevent patrolling and plundering enemies from coming too close to the Athenian city walls. On another occasion in 431, a cavalry battle raged at the Greek town of Phrygia between the Athenian and Thessalian cavalry and their Boeotian mounted opponents. The Boeotians were assisted by their hoplites and subsequently defeated the Athenians and Thessalians.²⁵

In 430 BC, the Athenians began to use horse transport ships for the first time. In 429 the Athenians dispatched 200 cavalrymen and some 2,000 hoplites against Chalcis. The Chalcidian horsemen attacked with spears wherever they could, put to fight the Athenian cavalrymen and pursued them.²⁶ Shortly after, in the summer of 428, Athenian horsemen attacked Lacedaemonian raiders who were spoiling Attica during the third Lacedaemonian invasion of Attica.²⁷

In 425, after taking part in a small raid against Sicily, the Athenian fleet sailed to Corinth. The Athenian horse transport ships carried 200 cavalrymen with their horses. They beached in the vicinity of the small town of Solygia. Here the Athenians had the benefit of cavalry as their opponents had none. They defeated the Corinthians here and went on to Crommyon, where they first devastated the land and finally disconnected the Peloponnesian peninsula from the Greek mainland by building a wall at Methana, between Epidaurus and Troezen.²⁸

After this strategic feat, the Athenians went on to occupy the island of Cythera in the summer of 424. Cythera lies opposite to the southeast tip of the Peloponnese, giving it high strategic importance. The Spartans feared more Athenian land raids after this move and decided to put small contingents of hoplites at various towns across the Peloponnese. They even fielded an extraordinary number of 400 cavalry and archers.²⁹

In 424 BC, the Boeotian cavalry numbered 600 horsemen and these attacked the Athenian light-armed troops.³⁰ Hippocrates left 300 horsemen at Delium to defend the city but also to attack the Boeotian cavalry if the occasion arose. The Boeotians had 1,000 horsemen, so they were the dominant force. The Athenians had cavalry on both flanks and had to charge uphill. The Thebans were on the hill and charged downhill. On the left flank, the Athenians defeated the Boeotians, who were in fact Thespians but on the right,

²³ Thuc. 1.56-65. The cavalry eventually does not fight (Thuc. 1.63).

²⁴ Thuc. 2.19.

²⁵ Thuc. 2.22.2. There was a trifling affair at Phrygia between a squadron of the Athenian horse with the Thessalians and the Boeotian cavalry; in which the former had rather the best of it, until the heavy infantry advanced to the support of the Boeotians, when the Thessalians and Athenians were routed and lost a few men, whose bodies, however, were recovered the same day without a truce.

²⁶ Thuc. 2.79.

²⁷ Thuc. 3.1.

²⁸ Thuc. 4.42-44.

²⁹ Thuc. 4.55

³⁰ Thuc. 4.72; Thuc. 4.76-77; 4.89-101.1-2.

the Theban cavalry was winning the battle. The battle was won by Pagondas, the Theban general, when he sent two squadrons of cavalry around the hill. When these appeared, the Athenian hoplites panicked and fled. The Theban cavalry followed in pursuit and killed them.³¹ Boeotia was an ally of the Spartans at that time and had clearly specialised in cavalry. In 424 another battle between Boeotia with their Spartan allies and Athens ensued at Megara, in which 600 cavalymen of Boeotia fought against the Athenian cavalry and won.³²

PERSIAN CAVALRY TACTICS

Around 500 BC, Athens did not have a large body of cavalry.³³ Athens kept up its policy of raising about 96 horsemen from its *naucraries*.³⁴ This lasted until about 483 BC, seven years after the Battle at Marathon. Around 483 BC this number was increased to 300.³⁵ According to Bugh and others, the Athenian cavalry consisted of 300 men between 483 and 450 BC when Pericles increased its number to 1,000.³⁶ Therefore the Persian Wars are often interpreted as a turning point in Athenian cavalry history. The so-called rise of the Athenian cavalry is said to have happened after this period.³⁷ Attica was unsuitable for horse combat, because in the event of defeat one had to retreat through narrow passes which could easily be defended by a small number of men.³⁸ Iphicrates of Athens had formed his riders in a line over a large area because of their numbers, but when they were forced to retreat they were impeded due to the difficult terrain and this cost him 20 riders.³⁹

In 499 BC, the Persian empire was expanding towards the Greek mainland. The Ionian *poleis* in Asia Minor had revolted against the Persian King Darius and sought assistance from Athens and Sparta. King Darius wanted to punish Athens and Sparta for aiding the Ionian states. The Greek *poleis* were suddenly aroused by a threatening invasion of their homeland. These *poleis* had only small cavalry squadrons available to them.⁴⁰ These were not accustomed to fighting cavalry battles. The Persian army had a large battle cavalry regiment which partly consisted of mounted archers.

Their first encounter was at the Battle at Marathon. After the Persian army had conquered Eretria, they deployed

³¹ Thuc. 4.93–94; Thuc. 4.96.5 Beotian squadrons suddenly appeared and won the battle.

³² BUGH 1988, 87. In 408, however, the Athenians routed the enemy here according to Diod. Sic. 13.65.1–2.

³³ Herodotus describes the regular tasks of the Greek riders during the Persian Wars: in 9.54 he writes that the Athenians sent out a messenger on horseback to the Spartans to ask Pausanias for instructions. This happens again in 9.55 and 9.56. The Spartans sent out a mounted messenger in 9.60.

³⁴ Poll. *Onom.* 8.108. The 48 Athenian *naucraries* had each to deliver 2 horsemen (and a ship), which adds up to 96 horsemen.

³⁵ BUGH 1988, 15.

³⁶ BUGH 1988, 80.

³⁷ VAN WEES 2004, 180.

³⁸ Hdt. 9.13–15.

³⁹ Xen. *Hell.* 6.5.52; Xen. *Eq. mag.* 8.9 'If you charge a superior force, you must remember never to leave behind you ground difficult for horses.'

⁴⁰ Herodotus describes the regular tasks of the Greek horsemen. In 9.54 the Athenians send a messenger on horseback to the Spartans to ask Pausanias for instructions. The Athenians send mounted messengers to the Spartans in 9.55 and 9.56; in 9.60 the Spartans send a messenger to the Athenians. According to Xenophon these are the normal tasks of a small cavalry contingent ('raiders' or 'naucraries').

their army including the cavalry on the Marathon plain. They believed their cavalry would have the largest space to manoeuvre on this plain.⁴¹

As said before, Attica itself was not suitable for cavalry battles, because in the event of defeat there was no escape route since it was enclosed by small mountain passes where only a few men would be needed to finish off the cavalry.⁴² According to Herodotus, the Persians were rather surprised to find that the Greeks did not field cavalry together with their infantry. Their surprise however, as it turned out, would soon turn to despair. The Persians apparently were not aware of the ground conditions at Marathon.⁴³

After the Persians had been defeated at Marathon and had returned home, Xerxes mobilised an enormous cavalry.⁴⁴ Athens and Sparta knew they could not cope with the Persian cavalry themselves and they appealed to Gelon, tyrant of Syracuse, for help. He refused to help them, according to Herodotus, either because he felt that Sparta and Athens had not helped him in a previous war or because he was threatened by the Carthaginians who wanted to take over Sicily, and he needed to concentrate his armed forces.⁴⁵

The Thebans and their Boeotian allies were aiding the Persians with their cavalry.⁴⁶ At Plataeae, for example, they protected fleeing hoplites from their enemies and they fought off any pursuers. The Theban horsemen defeated Megaraeans and Phleisians by killing 600 men at the first encounter.⁴⁷ The Thessalians also aided the Persian army.

The Persian army was a difficult opponent because of its mounted archers. According to Herodotus, it was extremely difficult to get at these riders, who were light-armed, and were rapidly moving bowmen.⁴⁸ Furthermore, the Persians made good use of their cavalry, cutting off Greek infantry divisions from water supplies and preventing them from foraging.⁴⁹ They could fire arrows from long distances and from horseback. They were a fast-moving target, were difficult to hit, and they could execute swift charges on infantry lines.⁵⁰ Sparta and Athens and their allies apparently did not have cavalry capable of counteracting this or of fighting cavalry battles for that matter. They did have horsemen, but these were used as messengers and raiders, and were not trained in cavalry combat.⁵¹

⁴¹ Hdt. 6.102 'After subduing Eretria, the Persians waited a few days and then sailed away to the land of Attica, pressing ahead in expectation of doing to the Athenians exactly what they had done to the Eretrians. Marathon was the place in Attica most suitable for riding horses and closest to Eretria, so Hippias son of Pisistratus led them there.'

⁴² Hdt. 9.13–15.

⁴³ Paus. 1.32.7 'There is at Marathon a lake which for the most part is marshy. Into this ignorance of the roads made the foreigners fall in their flight, and it is said that this accident was the cause of their great losses.'

⁴⁴ Hdt. 7.84–88. A total of 80,000 horsemen containing amongst others Persians, Medians, Sagartians, Indians and Arabians who did not ride horses, but camels.

⁴⁵ Hdt. 7.158.

⁴⁶ Hdt. 9.40 9.68.

⁴⁷ Hdt. 9.69.

⁴⁸ Hdt. 9.49.

⁴⁹ For example, Hdt. 9.49; 9.50; 9.51.

⁵⁰ Hdt. 9.40; 9.49; 9.50; 9.52; 9.57; Xen. *An.* 3.3.10: even while fleeing the Persian cavalry was still able to slay enemies because they could fire missiles from horseback.

⁵¹ Hdt. 9.54; 9.60.

In close encounters, however, the Persian cavalry could be defeated. At Plataeae, the Persians and Spartans clashed. The Persian cavalry regiments attacked one by one, but the Spartan hoplites did not give way. The Persian cavalry commander Masistios was thrown from his horse and Persian cavalymen tried to protect their leader, but were not successful in doing so.⁵² In this battle the Persians were no longer able to use their bows, but had to fight hand to hand. Now they in their turn showed themselves to be inexperienced, lacking tactical insight, and were extremely vulnerable against hoplite lines because they were fighting without armour.⁵³

Another example of how the Persian cavalry might not be capable of facing the hoplite lines is the encounter of Phocian hoplites against the Persian cavalry. This happened when Mardonius, the Persian general, was in Boeotia to lead the Thebans and other Boeotians against Athens in the summer of 479 BC, some months before the Battle at Plataea. All Boeotians came willingly to his aid, but the Phocians did so reluctantly out of necessity. Mardonius bade them to take their station on the plain by themselves. When they did so, the Persian cavalry showed up, encircled them and the Phocians thought the Persians would attack them with their javelins.⁵⁴ Herodotus believes this to mean that the Persians did not actually intend to attack the Phocians and were merely testing them, but I believe that the Persian cavalry was unwilling to attack hoplites.⁵⁵

The Persians preferred to fight in small groups or individually.⁵⁶ The Greek army used battle formations, while the Persians sought to fight from long distances with arrows and javelins.⁵⁷ The Athenians and Spartans fought mainly in close combat, with their hoplites battling against one another. The Athenian horsemen and their allies simply may not have had the training or experience to fight the Persian cavalry in cavalry battle formation but, as Gaebel rightly remarks: "The Persians never did overcome the fundamental disparity between their infantry and that of the Greeks."⁵⁸

During the Persian Wars, the Athenian cavalry was a small, border patrol cavalry and therefore did not perform battle tasks. Boeotian and Thessalian cavalry were battle cavalries and chose to aid the Persian side. This proved to be a helpful addition to the Persian cavalry, which was in fact a long-distance cavalry accustomed to fighting with mounted archers and not used to fighting in close combat. After the Persian Wars, the number of Athenian cavalymen was increased. However, a larger cavalry regiment is not always a tactical improvement, since a large cavalry is hard to

manage.⁵⁹ The only way for a large cavalry regiment to have success is for its horsemanship to be improved.⁶⁰

SICILIAN CAVALRY TACTICS

Between 415–413 BC, the Athenians embarked on their infamous Expedition to Syracuse. Sicily was part of Magna Graecia, but it had Iberian trade posts, for example. Long before the Persian Wars, the Syracusans had been involved in a longstanding conflict with the neighbouring Carthaginians.⁶¹ Gelon, tyrant of Syracuse, was heavily involved in a war with Hamilcar of Carthage, who was trying to invade Sicily with an army of Carthaginians, Lybians, Iberians and some island tribes.⁶² Syracuse had many trading posts and settlers on the Iberian peninsula.⁶³ The Athenians even tried to ally themselves with the Carthaginians and the Etruscans before they undertook this expedition.⁶⁴ The Syracusan army was aided by the Spartans and the Corinthians (given that Syracusan Greeks were of Dorian and Corinthian origin) and their allies of the Boeotian league, which sent 300 hoplites to Sicily in 413 BC.⁶⁵

Athens must have had a thorough knowledge of the military situation in Sicily. After the Battle at Marathon, Athens and Sparta had sent emissaries to Gelon, requesting him to provide them with infantry and cavalry.⁶⁶ They knew,

⁵⁹ Xen. *Eq. mag.* 8.16 "Then again it is obvious that in point of endurance and speed the advantage is much more likely to rest with a small than with a large force. I do not mean that mere paucity of numbers will increase the men's powers of endurance and add to their speed; but it is easier to find few men than many who will take proper care of their horses and will practise the art of horsemanship intelligently on their own account."; Xen. *Eq. mag.* 5.6–9. "But should he guard whatever lies outside the walls with a force that will be just sufficient to keep an eye on the enemy and to remove into safety from as great a distance as possible property that needs saving,—and a large force is not necessary for this: a small force can keep a look-out as well as a large one, and when it comes to guarding and removing the property of friends, men who have no confidence in themselves or their horses will meet the case, because Fear, it seems, is a [7] formidable member of a guard—well, it may perhaps be a sound plan to draw on these men for his guards. But if he imagines that the number remaining over and above the guard constitutes an army, he will find it too small; for it will be utterly inadequate to risk a conflict in the open. Let him use these men as raiders, and he will probably have a force quite sufficient for this purpose. [8] His business, it seems to me, is to watch for any blunder on the enemy's part without showing himself, keeping men constantly on the alert and ready to strike. [9] It happens that, the greater is the number of soldiers, the more they are apt to blunder. Either they scatter deliberately in search of provisions, or they are so careless of order on the march that some get too far ahead, while others lag too far behind."

⁶⁰ MAUDE 1910, 653-672. 'For the generation preceding the outbreak of the French Revolution, Frederick the Great's army, and especially his cavalry, had become the model for all Europe, but the mainspring of the excellence of his squadrons' revolution was everywhere overlooked. Seydlitz had manoeuvred great masses of horsemen, therefore everyone else must have great masses also; but no nation grasped the secret, the unconditional obedience of the horse to its rider, on which his success had depended.'

⁶¹ Hdt. 7; Xen. *Hell.* 1.1.37.

⁶² Hdt. 7.165.

⁶³ Hdt. 1.163: Phocians discovered trade routes to the Iberian Peninsula before the fifth century. Str. 3.2.14: de Phoenicians occupied the best of Iberia and Lybia before the age of Homer and continued to be the masters of those regions until the Romans broke up their empire. According to Str. 3.4.3 emigrants from Messene colonised Iberia, a part of Cantabria became colonised by Laconians. Strabo mentions Polybius and Asclepiades as his primary sources. Cantabria which is nowadays called Terraco is on the border between Iberia and Celtica (3.4.8).

⁶⁴ Xen. *Hell.* 6.88.

⁶⁵ Thuc. 7.19.3.

⁶⁶ Hdt. 7.158.

⁵² Hdt. 9.21-25.

⁵³ Hdt. 9.62; 63.

⁵⁴ Hdt. 9.17. But when the horsemen had encircled the Phocians, they rode at them as if to slay them, and drew their bows to shoot; it is likely too that some did in fact shoot. The Phocians opposed them in every possible way, drawing in together and closing their ranks to the best of their power. At this the horsemen wheeled about and rode back and away.

⁵⁵ Hdt. 9.18.2. Now I cannot with exactness say whether they came at the Thessalians' desire to slay the Phocians, but when they saw the men preparing to defend themselves, they feared lest they themselves should suffer some hurt, and so rode away (for such was Mardonius' command), — or if Mardonius wanted to test the Phocians' mettle.

⁵⁶ LAZENBY 1985, 55; Hdt. 9.62.3.

⁵⁷ LAZENBY 1985, 94; Hdt. 7.225.3.

⁵⁸ GAEBEL 2002, 73.

therefore, that Syracuse and its Sicilian and Celtiberian allies had cavalry which was capable of fighting the Persians. Alcibiades believed that the Sicilian infantry would not be able to fight against the Athenian hoplites, but saw the Sicilian cavalry as a great danger.⁶⁷ Therefore it is rather surprising that the Athenians did send cavalrymen but not horses along with these men.⁶⁸ They would appear to have underestimated the necessity of training their cavalry or for that matter the level of horsemanship that was required. The horses had to be bought in Sicily, therefore they made themselves dependent on the goodwill of Sicilian horse traders and their willingness to sell good-quality horses. Eventually, after a number of defeats, Athens agreed to send horses with their cavalry.⁶⁹

The Sicilian cavalry was a difficult enemy for the Athenians, since it harassed the Athenian cavalry during foraging and scouting.⁷⁰ Worse still, the Athenians had no military response to the Sicilian cavalry when it attacked both their cavalry and their heavy infantry.⁷¹ The Sicilians employed a different method of cavalry warfare: they attacked heavy infantry lines and threw javelins at the hoplites.⁷²

This appears similar to actions by the Numidian cavalry in the Second Punic War. The Numidians were known for their speed and their method of harassing their enemies by attack and flight.⁷³ To quote Appian: "The Numidians practice themselves in throwing the javelin and attack and flight".⁷⁴

⁶⁷ Thuc. 6.90.

⁶⁸ Thuc. 6.41.

⁶⁹ Thuc. 6.44 Athens sends one horse transport ship with 30 cavalrymen and horses.

⁷⁰ Thuc. 6.101; 7.1; 7.4 the Syracusan horsemen overran the country. They had stationed one third of their cavalry at the hamlet at P. That these might not go out and commit depredations; 7.5 benefit of Syracusan cavalry and javelin-men deprived because of arranging the line of battle too much between the walls; 7.6 Syracusan cavalry attacks the left wing of the Athenians. They destroyed the Athenian infantry which resulted in a defeat; 7.78 the Sicilian cavalry is continually attacking the Athenian army with their javelins. They try to prohibit the march of the Athenian army by riding up and down the lines of infantry and throwing their javelins.

⁷¹ Thuc. 6.68–6.69.

⁷² Thuc. 7.78. As he made this address, Nicias went along the ranks, and brought back to their place any of the troops that he saw straggling out of the line; while Demosthenes did as much for his part of the army, addressing them in words very similar. [2] The army marched in a hollow square, the division under Nicias leading, and that of Demosthenes following, the heavy infantry being outside and the baggage-carriers and the bulk of the army in the middle. [3] When they arrived at the ford of the river Anapus they there found drawn up a body of the Syracusans and allies, and routing these, made good their passage and pushed on, harassed by the charges of the Syracusan horse and by the missiles of their light troops. [4] On that day they advanced about four miles and a half, halting for the night upon a certain hill. On the next they started early and got on about two miles further, and descended into a place in the plain and there encamped, in order to procure some eatables from the houses, as the place was inhabited, and to carry on with them water from thence, as for many furlongs in front, in the direction in which they were going, it was not plentiful. [5] The Syracusans meanwhile went on and fortified the pass in front, where there was a steep hill with a rocky ravine on each side of it, called the Acraean cliff. [6] The next day the Athenians advancing found themselves impeded by the missiles and charges of the horse and darters, both very numerous, of the Syracusans and allies; and after fighting for a long while, at length retired to the same camp, where they had no longer provisions as before, it being impossible to leave their position by reason of the cavalry.

⁷³ Sall. *Iug.* 52: 'plerosque [Numidae] velocitas (...) tutata sunt.'. 59: 'quibus illi freti non, uti equestri proelio solet, sequi, dein cadere, sed advorsis equis concurrere, implicare ad perturbare aciem'.

⁷⁴ App. *Pun.* 2.6.

Lazenby calls this the peculiar Numidian way of fighting.⁷⁵ The Numidians were known for their speed⁷⁶ in this mode of combat in which they again and again try to break into the closed enemy battle lines.⁷⁷ It is likely that the Sicilian cavalry had more or less adopted this Numidian mode of combat as they had been enemies of the Carthaginians for so long. Later, in the Peloponnesian War, they adopt the same tactics.⁷⁸ The Athenian cavalry was not capable of fighting the Sicilian cavalry.⁷⁹ The Athenian infantry was pursued by the Sicilian cavalry and was unable to stand their ground against the attack and flight tactics. To the Athenians, this was an unexpected type of cavalry warfare. The Athenians eventually found a solution to this problem. They attacked with their heavy infantry and their cavalry and were able to win a small victory against the Syracusan cavalry.⁸⁰ The Athenians managed to secure a small victory by deploying both their infantry and their cavalry at the same time.

Iberian cavalrymen were even used to first destroy the enemy cavalry and subsequently to dismount in order to finish off the enemy infantry. Diodorus Siculus regarded this way of fighting as ingenious: '[The Celtiberians], able as they are to fight in two styles, they first carry on the contest on horseback, and when they have defeated the enemy cavalry

⁷⁵ LAZENBY 1978, 84: 'the peculiar Numidian way of fighting. Numidians were masters at this kind of fighting, wheeling in and dashing away before the enemy would close.'

⁷⁶ Sall. *Iug.* 52: 'plerosque [Numidae] velocitas (...) tutata sunt.'.

⁷⁷ Sall. *Iug.* 59: 'quibus illi freti non, uti equestri proelio solet, sequi, dein cadere, sed advorsis equis concurrere, implicare ad perturbare aciem'.

⁷⁸ Xen. *Hell.* 7.1.21. But the horsemen sent by Dionysius, few though they were, scattering themselves here and there, would ride along the enemy's line, charge upon them and throw javelins at them, and when the enemy began to move forth against them, would retreat, and then turn round and throw their javelins again. And while pursuing these tactics they would dismount from their horses and rest. But if anyone charged upon them while they were dismounted, they would leap easily upon their horses and retreat. On the other hand, if any pursued them far from the Theban army, they would press upon these men when they were retiring, and by throwing javelins work havoc with them, and thus they compelled the entire army, according to their own will, either to advance or to fall back.

⁷⁹ It should be noted that Sicilian *hamippoi* also known as *hippodromoi* are referred to by Herodotus: "This is what they said, and Gelon, speaking very vehemently, said in response to this: "(...) I am ready to send to your aid two hundred triremes, twenty thousand men-at-arms, two thousand horsemen, two thousand archers, two thousand slingers, and two thousand light-armed men to run with horsemen. I also pledge to furnish provisions for the whole Greek army until we have made an end of the war. All this, however, I promise on one condition, that I shall be general and leader of the Greeks against the foreigner. On no other condition will I come myself or send others." (Hdt. 7.158.4-5) It is remarkable that Gelon already had *hamippoi* troops at his disposal during the Persian Wars and that these apparently were not deployed during the Sicilian Expedition against Athenian cavalry. Could it be that Herodotus is mistaken about these *hamippoi* of Gelon?

⁸⁰ Thuc. 6.98 Not long afterwards three hundred cavalrymen came to them from Egesta, and about a hundred from the Sicels, Naxians, and others; and thus, with the two hundred and fifty from Athens, for whom they had got horses from the Eggestaeans and Catanians, besides others that they bought, they now mustered six hundred and fifty cavalry in all. [2] After posting a garrison in Labdalum, they advanced to Syca, where they sat down and quickly built the Circle or centre of their wall of circumvallation. The Syracusans, appalled at the rapidity with which the work advanced, determined to go out against them and give battle and interrupt it; [3] and the two armies were already in battle array, when the Syracusan generals observed that their troops found such difficulty in getting into line, and were in such disorder, that they led them back into the town, except part of the cavalry. These remained and hindered the Athenians from carrying stones or dispersing to any great distance, [4] until a tribe of the Athenian heavy infantry, with all the cavalry, charged and routed the Syracusan horse with some loss; after which they set up a trophy for the cavalry action.

they dismount, and assuming the role of foot-soldiers they put up marvellous battles.⁸¹

BOEOTIAN CAVALRY TACTICS

After the Peloponnesian war cavalry was to become increasingly important on the battlefields in the Greek and Eurasian mainland. Much tactical advice given in the *Cavalry Commander* appears to be very similar to the tactics used by Epaminondas in the Battle at Mantinea. According to the *Hellenica*, which was written after Mantinea (362 BC), Epaminondas used *hamippoi* and cavalry in a dense square formation, with the infantry units forming an oblique phalanx in order to cut through the enemy infantry lines.⁸² The improvement that Epaminondas made is the use of a dense cavalry column with intermingled hoplites serving as *hamippoi* to push their way through enemy infantry or cavalry. In this particular battle he believed that when he could cut through the Athenian cavalry fielded in a formation like a hoplite phalanx six lines deep, he would have defeated the entire opposing army.⁸³ The Athenians had merely fielded their cavalry in phalanx formation, without intermingled foot soldiers, on which Xenophon commented: 'erêmon pezôn hamippôn'. This leads us to conclude that Xenophon ascribed the defeat of the Athenian cavalry to the absence of *hamippoi*.⁸⁴

We now need to consider that *hamippoi* had already been used by the Thebans in 419 BC in the Peloponnesian War being dispatched against Athens, so we would be wrong to assume that the phenomenon of *hamippoi* was new.⁸⁵ Why did Xenophon put so much emphasis on the need to implement such intermingled foot soldiers? In my view there

⁸¹ Diod. Sic. 5.33.2 The Celtiberians provide for war not only excellent cavalry; Diod. Sic. 5.33.5: able as they are to fight in two styles, they first carry on the contest on horseback, and when they have defeated the cavalry, they dismount and assuming the role of foot-soldiers they put up marvellous battles.

⁸² Although the battle at Mantinea (362) is renowned for what seems to have been the first deployment of a wedge formation, this formation is not described by Xenophon in his *Hellenica* nor his *Cavalry Commander*. Nor is it described by Diodorus Siculus in his account of this battle or by any other author. Diod. Sic. 15.85.4; Xenophon does say that Epaminondas led his army 'prow on like a trireme', using the adjective 'antiproiron'. This can be translated as 'head on' or 'frontally'. Xenophon applies this term to wheeling of the Spartan *lochoi* in parallel columns to the right to meet an attack on the line of march. Epaminondas led his cavalry and infantry force in a deepened and dense phalanx forward, which is described by the word 'embolon' (ANDERSON 1970, 326-327 on these tactics; Arr. *Tact.* 11.2); DEVINE 1983, 201-217.

⁸³ He was not mistaken, according to Xen. *Hell.* 7.5.24: 'Thus, then, he made his attack, and he was not disappointed of his hope; for by gaining the mastery at the point where he struck, he caused the entire army of his adversaries to flee.'

⁸⁴ Xen. *Hell.* 7.5.23-24.

⁸⁵ First mention of *hippodromoi psiloi* by Hdt. 7.158.4.; 'The Tegeans and the other Arcadian allies of Lacedaemon joined in the expedition. The allies from the rest of Peloponnese and from outside mustered at Phlius; the Boeotians with five thousand heavy infantry and as many light troops, and five hundred horse and the same number of *hamippoi*.' (Thuc. 5.57.2) It may well be that the heavy infantry which came to the aid of the Boeotian cavalry and so defeated the Athenian and Thessalian cavalry were also *Hamippoi* (Thuc. 2.22). But Thucydides is not clear on this. This is the first time that *hamippoi* are mentioned. It is possible that the Boeotians devised this type of cavalry in order to be capable of fighting the Thessalian cavalry which, according to Simon (*De re equestri* 1) was the most powerful cavalry in Greece, though unwilling to fight hoplites in battle formation (Xen. *Hell.* 4.3.5-9). In the above passages from Xenophon, this would seem to be the first time that the *hamippoi* are mentioned.

is only one explanation: Epaminondas must have improved the *hamippoi*. At Mantinea the Athenian cavalry could not keep up with this improved deployment of cavalry and *hamippoi*. Apparently, Epaminondas was not only fielding merely *hamippoi* like he presumably did at Leuctra and other battles, but put to field a new and improved version. From the comment in *Hellenica* chapter 7.5 on Mantinea, Xenophon says it was noteworthy what Epaminondas did.⁸⁶ The Athenian cavalry did not succumb necessarily to Boeotian tactics but to the innovations of Epaminondas.

THE SQUARE FORMATION

Clearly having a large amount of cavalry, even if it concerned cavalry that was able to attack hoplite lines by itself, no longer sufficed; more cunning plans would have to be devised. Both Spartan Agesilaus and Boeotian Epaminondas had come up with all sorts of formations and tactics that embedded a highly trained cavalry. Epaminondas used his cavalry in front of his infantry, while leaving behind the less effective part of the army. He recognised how small victories or setbacks in battle had a psychological effect on his own army and on that of the enemy.⁸⁷

Epaminondas himself therefore led his force in a battle formation with his cavalry ahead of his infantry to cut through the enemy lines, whereas the Athenians merely had fielded their cavalry without any infantry support.⁸⁸ Epaminondas made good use of his cavalry and *hamippoi* in a battle formation.⁸⁹

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Epaminondas believed that he could cut through the ranks of the enemy cavalry in a frontal attack of his cavalry

⁸⁶ KOOLEN 2015, 251-264.

⁸⁷ Xen. *Hell.* 7.5.23. Meanwhile Epaminondas led forward his army prow on, like a trireme, believing that if he could strike and cut through anywhere, he would destroy the entire army of his adversaries. For he was preparing to make the contest with the strongest part of his force, and the weakest part he had stationed far back, knowing that if defeated it would cause discouragement to the troops who were with him and give courage to the enemy.

⁸⁸ Xen. *Hell.* 7.5.23. Again, while the enemy had formed their horsemen like a phalanx of hoplites, — six deep and without intermingled foot soldiers,

⁸⁹ Xen. *Hell.* 7.5.24. Epaminondas on the other hand had made a strong column of his cavalry, also, and had mingled foot soldiers among them, believing that when he cut through the enemy's cavalry, he would have defeated the entire opposing army; for it is very hard to find men who will stand firm when they see any of their own side in flight.

⁹⁰ Diod. Sic. 15.85.4.

⁹¹ See the *lemma* in Liddell Scott James.

⁹² Xen. *Lac.* 11.10.

⁹³ ANDERSON 1970, 326 and 327: *embolon* did not mean 'wedge formation' in Xenophon's time. According to Anderson, confusion began with Arrian using this word mistakenly. See also Arr. *Tact.* 11.2.

in a battle formation, supported by his infantry which was intermingled with his cavalry.⁹⁴ He might have used his cavalry in a dense phalanx to push its way through enemy lines, either cavalry or infantry, followed immediately after first impact by hoplites. Epaminondas understood the impact of psychological warfare.⁹⁵ Whereas Agesilaus used a hollow square formation for marching,⁹⁶ with cavalry in front and at the rear, Xenophon recommended the use of a (full) square formation when marching or fielding the cavalry.⁹⁷ This formation was used by Epaminondas at Leuctra in 371 BC.⁹⁸

TECHNICAL IMPROVEMENTS OF ATHENIAN CAVALRY

Xenophon admits that 'our cavalrymen are not accustomed to these movements' and these are 'novel feats of skill'.⁹⁹ Referring to the 'attack and flight' tactic, he says: 'I think that these manoeuvres would look more like war and would have the charm of novelty'.¹⁰⁰ In *Cavalry Commander* Xenophon also explains that the cavalry should be capable of 'attack and flight' tactics. Such 'attack and flight' tactics seem to have been employed by Sicilians and Boeotians specifically.¹⁰¹ Xenophon suggests that cavalry should line itself up in the no-man's-land between infantry battle lines with a front as large as possible. In this no-man's-land, the cavalry should take strategic positions and harass the opposing side while wheeling, pursuing and retreating. This harassing tactic is more effective if the commander keeps four or five of his best horses and riders hidden behind the infantry, so that the enemy will be surprised at his next

attack: infantry appears from behind the cavalry to surprise the enemy.¹⁰²

Xenophon had also come to the conclusion that *hamippoi* or cavalry combined with infantry was the key to dominating the Greek battlefields in the future and this led him to recommend *hamippoi pezoï* in *Cavalry Commander*, referring to infantry intermingled with cavalry and the benefit of such tactics.¹⁰³ He strongly recommends a heavily armed infantry to work in close cooperation with the cavalry on the battlefield. This would mean that cavalry attacking a line of battle in an attempt to break the lines is followed by the *hamippoi*, who either charge simultaneously with the cavalry or follow closely behind.¹⁰⁴ In addition to the *hamippoi* he mentions a 'cutting through steel' ability of the square formation if it is rightly put in line with the best men who are 'bent on winning fame by some brilliant deed'.¹⁰⁵ Xenophon's friend Agesilaus II of Sparta used a square infantry formation for marching,¹⁰⁶ with cavalry in front and at the rear, but Xenophon takes the idea of Epaminondas and recommends a square formation when marching or fielding the cavalry.¹⁰⁷ The square formation was used in the Battle of Mantinea by Epaminondas. Xenophon explained why he preferred this technique.¹⁰⁸ In the *Cavalry Commander*

⁹⁴ He was not mistaken, according to Xen. *Hell.* 7.5.24: 'Thus, then, he made his attack, and he was not disappointed of his hope; for by gaining the mastery at the point where he struck, he caused the entire army of his adversaries to flee.'

⁹⁵ Xen. *Hell.* 7.5.24. 'And in order to prevent the Athenians on the left wing from coming to the aid of those who were posted next to them, he stationed both horsemen and hoplites upon some hills over against them, desiring to create in them the fear that if they proceeded to give aid, these troops would fall upon them from behind.'

⁹⁶ Xen. *Hell.* 3.4.20 in the battle at Sardis in 395 BC and also at Coronea in 394 BC against Thessaly. See for example: Xenophon *Ages.* 2.2.

⁹⁷ Xen. *Eq. mag.* 2. 'When your men are well trained in all these points, they must, of course, understand some plan of formation, that in which they will show to greatest advantage in the sacred processions and at manoeuvres, fight, if need be, with the greatest courage, and move along roads and cross rivers with perfect ease in unbroken order. (...) To use an illustration, steel has most power to cut through steel when its edge is keen and its back reliable. (...) You must be very careful to appoint a competent man as leader in the rear. For if he is a good man, his cheers will always hearten the ranks in front of him in case it becomes necessary to charge; or, should the moment come to retreat, his prudent leadership will, in all probability, do much for the safety of his regiment. An even number of file-leaders has this advantage over an odd, that it is possible to divide the regiment into a larger number of equal parts.'

⁹⁸ Xen. *Hell.* 6.4.10. In the second place, since the space between the armies was a plain, the Lacedaemonians posted their horsemen in front of their phalanx, and the Thebans in like manner posted theirs over against them. (...) the horsemen had already joined battle and those of the Lacedaemonians had speedily been worsted; then in their flight they had fallen foul of their own hoplites, and, besides, the companies of the Thebans were now charging upon them.

⁹⁹ Xen. *Eq. mag.* 3.5.

¹⁰⁰ Xen. *Eq. mag.* 3.13.

¹⁰¹ Plut. *Vit. Pel.* 15.5. 'for they were not pitched battles, nor was the fighting in open and regular array, but it was by making well-timed sallies, and by either retreating before the enemy or by pursuing and coming to close quarters with them that the Thebans won their successes.'

¹⁰² Xen. *Eq. mag.* 8.23-25: 'Suppose now that the cavalry are busy in the no-man's-land that separates two battle lines drawn up face to face or two strategic positions, wheeling, pursuing and retreating. After such manoeuvres both sides usually start off at a slow pace, but gallop at full speed in the unoccupied ground. But if a commander first feints in this manner, and then after wheeling, pursues and retreats at the gallop he will be able to inflict the greatest loss on the enemy, and will probably come through with the least harm, by pursuing at the gallop so long as he is near his own defence, and retreating at the gallop from the enemy's defences. If, moreover, he can secretly leave behind him four or five of the best horses and men in each division, they will be at a great advantage in falling on the enemy as he is turning to renew the charge.'

¹⁰³ Xen. *Eq. mag.* 5.13. 'Another duty of a cavalry commander is to demonstrate to the city the weakness of cavalry destitute of infantry as compared with cavalry that has infantry attached to it. Further, having got his infantry, a cavalry commander should make use of it. A mounted man being much higher than a man on foot, infantry may be hidden away not only among the cavalry but in the rear as well'; E.g.: Xen. *Eq. mag.* 5.13; 8.19; 9.7: 'infantry attached to cavalry will be most effective if it consists of persons who are very bitter against the enemy.' As explained above 'the enemy' seems to refer specifically to Thebes.

¹⁰⁴ Xen. *Ages.* 1.31. Please note that Xenophon speaks of the Spartan *hamippoi* being heavy infantry of 10 years with the cavalry.

¹⁰⁵ Xen. *Eq. mag.* 2.2-4.

¹⁰⁶ Xen. *Hell.* 3.4.20 in the battle at Sardis in 395 BC and also at Coronea in 394 BC against Thessaly. See for example: Xen. *Ages.* 2.2.

¹⁰⁷ Xen. *Eq. mag.* 2: 'When your men are well trained in all these points, they must, of course, understand some plan of formation, that in which they will show to greatest advantage in the sacred processions and at manoeuvres, fight, if need be, with the greatest courage, and move along roads and cross rivers with perfect ease in unbroken order. (...) To use an illustration, steel has most power to cut through steel when its edge is keen and its back reliable. (...) You must be very careful to appoint a competent man as leader in the rear. For if he is a good man, his cheers will always hearten the ranks in front of him in case it becomes necessary to charge; or, should the moment come to retreat, his prudent leadership will, in all probability, do much for the safety of his regiment. An even number of file-leaders has this advantage over an odd, that it is possible to divide the regiment into a larger number of equal parts.'

¹⁰⁸ Xen. *Eq. mag.* 2.5-7. The reasons why I like this formation are these. In the first place, all the men in the front rank are officers; and the obligation to distinguish themselves appeals more strongly to men when they are officers than when they are privates. Secondly, when anything has to be done, the word of command is much more effective if it is passed to officers rather than to privates. Let us assume that this formation has been adopted: every file-leader must know his position in the line of march by word passed along by the colonel, just as every colonel is informed by the commander of his

Xenophon mentions this ‘cutting through steel’ ability of the square formation if it is rightly put in line with the best men who are ‘bent on winning fame by some brilliant deed’.¹⁰⁹ He suggests concealing behind the formation the best horsemen to fall upon the enemy when they least expect it.¹¹⁰

MASTERING TURNS AND ACCELERATION

These attack and flight tactics and the cavalry in formation working closely together with infantry required cavalry to master speedy turns on the hocks and acceleration.¹¹¹ Xenophon recognised that mastering ‘collection’, which enables a horse to go at a very slow pace or make a sharp turn while maintaining energy so it can quickly respond to the riders wishes, was a prerequisite for the Athenian cavalry.¹¹² The Greek word for collection is ὑπολαμβάνειν.¹¹³ Be well aware that collection does not come from the bit, which unskilled riders may try to do or which may look so to the untrained eye. Xenophon wrote too that the rider should slant the horse with the bit as little as possible.¹¹⁴ He described a few horse training exercises and made reference to the following: the ring (πέδη); the ‘manage’ (έτερομήκη

proper place in the charge. For when these instructions are given there will be much better order than if the men hamper one another like a crowd leaving the theatre. And in the event of a frontal attack, the men in the van are far more willing to fight when they know that this is their station; so is the rear-rank in the event of a surprise attack in the rear, when the men there understand that it is disgraceful to leave their post. But if no order is kept there is confusion whenever the roads are narrow or rivers are being crossed; and when an action is fought no one voluntarily takes his post in the fighting line.

¹⁰⁹ Xen. *Eq. mag.* 2.2-4. I hold that within these you should, to begin with, appoint file-leaders after consulting each of the colonels, choosing sturdy men, who are bent on winning fame by some brilliant deed. These should form the front rank. [3] Next you should choose an equal number of the oldest and most sensible to form the rear rank. To use an illustration, steel has most power to cut through steel when its edge is keen and its back reliable.

¹¹⁰ Xen. *Eq. mag.* 8.17-20 [17] Should it happen at any time that the cavalry forces engaged are about equal, I think it would be a good plan to split each regiment into two divisions, putting one under the command of the colonel, and the other under the best man available. [18] The latter would follow in the rear of the colonel’s division for a time; but presently, when the adversary is near, he would wheel on receiving the order and charge. This plan, I think, would make the blow delivered by the regiment more stunning and more difficult to parry. [19] Both divisions should have an infantry contingent; and if the infantry, hidden away behind the cavalry, came out suddenly and went for the enemy, I think they would prove an important factor in making the victory more decisive; for I have noticed that a surprise cheers men up if it is pleasant, but stuns them if it is alarming. [20] Anyone will recognise the truth of this who reflects that, however great their advantage in numbers, men are dazed when they fall into an ambush, and that two hostile armies confronting each other are scared out of their wits for the first few days.

¹¹¹ Xen. *Eq.* 7.17: ‘in war too, turns are made with a view to pursuit or retreat.’

¹¹² Collecting a horse means to teach it to put more weight on the haunches by suppling and strengthening the hindquarters so they will bend more easily. This way a horse can shift its weight to the hind legs and perform smaller turns than a horse that has stiffer and weaker hind quarters. It is a process that requires a lot of training and daily exercise. Some breeds have more talent to do this than others; as with dogs, horse breeds are bred for certain purposes, so the exterior decides what purpose is best suited. ‘Collection is necessary for work in the shortened tempo of the paces, and for the performance of short turns and smooth halts. The horse in collection must step with his hind legs well under its body’ PODHAJSKY 1967, 46.

¹¹³ Xen. *Eq.* 7.15.

¹¹⁴ Xen. *Eq.* 7.16.

πέδη);¹¹⁵ and the ‘hippasia’. The last word indicates a location as well as a training programme.¹¹⁶

Xenophon speaks of galloping along the straight as fast as possible, then at the end, turning the horse as sharply as possible.¹¹⁷ The Greek text reads ‘*strophein*’.¹¹⁸ This means turning the horse with a rein or ‘neck reining’ as it is called today. The term ‘*strophein*’ is usually translated as ‘to wheel’, but I would like to suggest referring to this as ‘making a pirouette-turn’. The advantage of being able to turn a horse on the spot without falling is decisive in close combat actions. This is however not an easy feat, therefore to be able to understand why it is important is a big realization in particularly cavalry warfare. Xenophon speaks of ‘*strophein*’, by which he undoubtedly means making a pirouette-turn, in this context.¹¹⁹ Please note that the Greek word *καμπάι* is used for making curve like turns not turns ‘on the spot’.¹²⁰

In chariot racing too, mastering collection was an important feat. The difference with modern horse racing is that it is not about racing at top speed constantly, but the shape of the course (‘manage’) required the skill to collect the horses at the turns and then accelerate again. The turns were the most dangerous as this required precision work and horses trained well enough to readily turn and then accelerate again. As early as Kikkuli, who wrote an extensive manual on chariot horse training, mastering collection and acceleration is recognised as one of the hardest things in horse training. Both to train with the horses and for the driver to exert this. These procedures were important to previously mentioned cavalry tactics such as the square formation, chase and flight, and the use of *hamippoi*, which were all advocated for by Xenophon as we have seen in the previous chapter.

¹¹⁵ See the appendix.

¹¹⁶ Xen. *Eq.* 7.19

¹¹⁷ Xen. *Eq.* 7.14-18 ‘We recommend the manage rather than the complete ring, for thus the horse will turn more willingly when he has gone some distance in a straight course, and one can practise the career and the turn at the same time. It is necessary to collect him at the turns; for it is neither easy for the horse nor safe to turn short when going fast, especially if the ground is uneven or slippery. In collecting him the rider must slant the horse as little as possible with the bit, and slant his own body as little as possible; else he may be sure that a trifling cause will be enough to bring him and his horse down. As soon as the horse faces the straight after turning, push him along at once. For of course, in war too, turns are made with a view to pursuit or retreat. It is well, therefore, to practise increasing the pace after turning. So soon as the horse appears to have been exercised enough, it is well to let him rest a certain time, and then suddenly to put him to his top speed again, of course away from, not towards, other horses, and to pull him up again in the midst of his career as short as possible, and then to turn and start him again from the stand. For it is obvious that a time will come when it will be necessary to do one or the other.’; see also: *Eq. mag.* 3.14: ‘To avoid being thrown the riders should throw the body back in charging, and collect their horses when wheeling, to keep them from falling. In the straight, however, they should gallop.’

¹¹⁸ Xen. *Eq.* 7.14 - 15.

¹¹⁹ Xen. *Eq.* 8.12. ‘If at any time when an enemy’s camp lies in front there is a cavalry skirmish, and one side presses the pursuit right up to the enemy’s line of battle, but then retreats hastily to its own main body, it is well to know in that case that so long as you are by your friends, it is proper and safe to be among the first to *wheel* and make for the enemy at full speed; but when you come near the enemy to keep your horse well in hand. For in this way you have the best chance of injuring the enemy without coming to harm yourself.’

¹²⁰ Poll. *Onom.* 1.204 ‘One should make turns or half-voltes, in Greek *kampai*, and pirouette-turns, called *hypostrophai* and *strophai*. In these *strophai* one should not spur his horse, but rein it, which is also called ‘to collect’ (...). One should also not make the horse turn with one rein while sitting sideways, because in that case both could easily come to fall.’

Because he saw the benefits of mastering collection, Xenophon tried to convince the Athenians that collection is not only important for performance purposes, but that it is also desirable because a horse that shows off his energy while being under full control looks astonishing, which would appeal to the Athenians who were more inclined to the arts and making a good appearance than to actual warfare.¹²¹ Xenophon therefore wanted the Athenians to buy horses that had strong bodies so that it would be capable of collection.¹²² The horse that is most suitable in this respect will have the characteristics referred to in the footnote.¹²³ This must have made an impression on those Athenians who regarded the exterior image in the spirit of *imitatio* and *aemulatio* as important.¹²⁴

¹²¹ The horses on the Parthenon frieze are a good example of how this would look like.

¹²² Xen. *Eq.* 1.3-17. You should notice, too, whether both jaws are soft or hard, or only one; for horses with unequal jaws are generally unequally sensitive in the mouth. (...) The broader and shorter the loins, the more easily the horse lifts his four quarters and the more easily he brings up his hind quarters. (...) The haunches must be broad and fleshy, that they may be in right proportion to the flanks and chest, and if they are firm all over, they will be lighter for running and will make the horse speedier. If the gap that separates the hams under the tail is broad, he will also extend his hind legs well apart under his belly; and by doing that he will be more fiery and stronger when he throws himself on his haunches and when he is ridden, and will make the best of himself in all ways. One can infer this from the action of a man: for when he wants to lift anything from the ground, a man invariably tries to lift it with his legs apart rather than close together. (...) He who applies these tests to a colt's shape is sure, in my opinion, to get a beast with good feet, strong, muscular, of the right look and the right size. If some change as they grow, still we may confidently rely on these tests, for it is far commoner for an ugly colt to make a useful horse than for a colt like this to turn out ugly.'

¹²³ Xen. *Eq.* 8.12 But in case anyone wants to own a horse suitable for parade, with a high and showy action, such qualities are by no means to be found in every horse: but it is essential that he should have plenty of spirit and a strong body. [2] Many suppose that an animal that has supple legs will also be capable of rearing his body. That, however, is not the case: rather it is the horse with supple, short, strong loins that will be able to extend his hind-legs well under the forelegs. By "loins" we do not mean the parts about the tail, but those between the flanks and haunches about the belly. (...) 'His neck should not hang downwards from the chest like a boar's, but stand straight up to the crest, like a cock's; but it should be flexible at the bend; and the head should be bony, with a small cheek. Thus, the neck will protect the rider, and the eye see what lies before the feet. Besides, a horse of such a mould will have least power of running away, be he never so high-spirited, for horses do not arch the neck and head, but stretch them out when they try to run away.

¹²⁴ Xen. *Eq.* 11.11.[3] Now, if when he is planting his hind-legs under him you pull him up with the bit, he bends the hind-legs on the hocks and raises the fore-part of his body, so that anyone facing him can see the belly and the sheath. When he does that, you must give him the bit that he may appear to the onlookers to be doing willingly the finest things that a horse can do. [4] Some, however, teach these accomplishments by striking him under the hocks with a rod, others by telling a man to run alongside and hit him with a stick under the gaskins. [5] We, however, consider that the lesson is most satisfactory if, as we have repeatedly said, the rider invariably allows him relaxation when he has done something according to his wishes. [6] For what a horse does under constraint, as Simon says, he does without understanding, and with no more grace than a dancer would show if he was whipped and goaded. Under such treatment horse and man alike will do much more that is ugly than graceful. No, a horse must make the most graceful and brilliant appearance in all respects of his own will with the help of aids. [7] Further, if you gallop him during a ride until he sweats freely, and as soon as he prances in fine style, quickly dismount and unbridle him, you may be sure that he will come willingly to the prance. [8] This is the attitude in which artists represent the horses on which gods and heroes ride, and men who manage such horses gracefully have a magnificent appearance. [9] Indeed a prancing horse is a thing so graceful, terrible and astonishing that it rivets the gaze of all beholders, young and old alike. At all events no one leaves him or is tired of gazing at him so long as he shows off his brilliance. [10] Should the owner of such a horse happen to be a colonel

BRIDLES

The sharpness of the bridle enables the rider to train his horse more easily to a certain degree of control, you can compare this to cars with or without power steering. Xenophon therefore advised the use of two kinds of bits.¹²⁵ The bit that Xenophon was describing is not the same bit we usually come across on vase paintings and other sources. For example, the horses on the Vix krater (600 BC) are equipped with bridles that have bits which are very similar to the Assyrian bits. The Assyrian bits have a peculiar triangular shape and the bridles have a high noseband. Similar bits are visible on the François vase and on the Exekias amphora (540 BC). Not only were chariot horses bridled in this way, but riding horses too. Comparative research by Helga Donder shows that early Greek bits (from 1300 – 350 BC approx.) are similar to Scythian or Assyrian bits.¹²⁶

The type of bit Xenophon describes was used next to the other type of snaffle from the first half of the fourth century.¹²⁷ This bit dates from the 5th or 4th century and was found originally in Thebes and Corinth.¹²⁸ It seems this bit was adopted from the Celts and was called '*frenum lupatum*' by the Romans.¹²⁹ According to Donder this is not a curb bit, but a severe snaffle bit. According to Azzaroli, who follows Vigneron, it is a curb bit, since he claims a rein would be fastened on the lower end of the cheek pieces. According to Azzaroli, the oldest curb bits are from Thrace and other regions in the Danube valley. Curb bits were also found in Italy.¹³⁰ Xenophon does not clearly tell us whether this bit was used as a snaffle or curb bit.

or a general, he must not make it his object to be the one brilliant figure, but must attach much more importance to making the whole troop behind him worth looking at. [11] Now if a horse is leading in the manner which wins most praise for such horses, prancing high and with his body closely gathered, so that he moves forward with very short steps, the rest of the horses must obviously follow also at a walking pace. Now what can there be really brilliant in such a sight?

¹²⁵ Xen. *Eq.* 10.6-11. 'To begin with, you should possess two bits at least. One of these should be smooth and have the discs of a good size; the other should have the discs heavy and low, and the teeth sharp, so that when the horse seizes it, he may drop it because he objects to its roughness, and when he is bitted with the smooth one instead, may welcome its smoothness and may do on the smooth bit what he has been trained to do with the aid of the rough one. In case, however, he takes no account of it because of its smoothness, and keeps bearing against it, we put large discs on the smooth bit to stop this, so that they may force him to open his mouth and drop the bit. It is possible also to make the rough bit adaptable by wrapping it up and tightening the reins. But whatever be the pattern of the bits, they must all be flexible. For wherever a horse seizes a stiff one, he holds the whole of it against his jaws, just as you lift the whole of a spit wherever you take hold of it. But the other kind of bit acts like a chain: for only the part that you hold remains unbent, while the rest of it hangs loose. As the horse continually tries to seize the part that eludes him in his mouth, he lets the bit drop from his jaws. This is why little rings are hung in the middle on the axles, in order that the horse may feel after them with his tongue and teeth and not think of taking the bit up against the jaws. In case the meaning of the terms flexible and stiff as applied to a bit is not known, we will explain this too. "Flexible" means that the axles have broad and smooth links so that they bend easily; and if everything that goes round the axles has large openings, and does not fit tight, it is more flexible. "Stiff," on the other hand, means that the pieces of the bit do not run over the axles and work in combination easily.

¹²⁶ DONDER 1980, see also Appendix A, B and D.

¹²⁷ DONDER 1980, 19–67. See also Appendix.

¹²⁸ DONDER 1980, 51, no 80: Thebes, no 81: Corinth) Types 7, 8 and 9 are Greek creations (54). See also Appendix.

¹²⁹ AZZAROLI 1985, 120.

¹³⁰ AZZAROLI 1985, 120. Dating from approx. 300–100 B.C.

As previously said, collection is necessary in order to guide the horse and for the rider to be properly seated. It proves difficult to remain seated on an uncollected horse. It is also important to prevent the horse from falling in difficult manoeuvres. The bit was invented as a refinement in the collection process. In the Appendix D modern and ancient bridles are shown.

A modern cavalry bridle is a combination of a snaffle and curb bit or a pelham bit, which combines the effect of the snaffle and curb. Usually, the horse is ridden on the snaffle rein, but if the rider needs more control or needs to stop his horse, the curb rein is used. A military cavalry horse is ridden one-handed. A cavalryman should be able to present and use his sabre on the horse and ride his horse with the other hand.¹³¹

Over the ages, the bridles changed. Throughout the Renaissance period, we see riders using a *kandare* (curb bit) and riding one-handed. The horse is trained to perform the high school movements to the highest collection in order to enable participation in knightly combat (which was close combat).

The 18th century saw a change in the role of the horse on the battlefield: the larger regiments needed to cover greater distances and were used for large frontal attacks on the enemy lines. The horses no longer needed to be able to turn on the spot and therefore collection was no longer considered necessary. The larger English and German horses found their way into the Western European armies. They were capable of large movements and speed but were harder to collect. With them came the Weymouth or double bridle, which consists of a bridoon and curb bit. These bridles are used nowadays in dressage sport. Examples of this development are found in art paintings from the period prior to the 18th century in which we observe the use of *kandare* bridles. After the 18th century the type of horses tends to change and the Weymouth bridle or double bridle is introduced.

WEAPONRY

As to the use of weaponry, the cavalry needed to choose between flexibility and safety. Heavy equipment did not always provide a guarantee for victory on the battlefield. The Greek cavalry was equipped with a leather cuirass, a breastplate, a helmet, a 'hand' or '*cheir*' in Greek for protecting the arm holding the reins (i.e. the left hand). The horse was protected by various armour which also served in part for protecting the rider's legs. The horse's belly in particular had to be protected. In addition, the saddle cloth was used to protect the horse's back. Xenophon also speaks of using the quilting of the cloth as some sort of a safer seat for the rider, which can be seen as a rudimentary form of a saddle.¹³²

The rider had to wear leather boots and Xenophon recommends wearing the Boeotian helmet. A Greek cavalryman tended to be armed with a sword, though Xenophon recommended the Persian sabre. This offered a more effective thrust. He found that two Persian javelins of cornel wood were stronger and easier to manage than the

long-shafted spear traditionally used by the Greeks.¹³³ These are first described in *Hellenica*, from which we may conclude that Greek cavalry were no longer using these javelins at that stage.¹³⁴

Throwing a javelin from horseback is anything but an effortless task. A rider would need to have excellent control not only over his own movement but also over that of his horse. He would need to be able to ride one-handed, so his horse would need to be well trained. Arrian tells us

¹³³ Xen. *Eq. mag.* 12.1–12. 'We say, then, that in the first place his breastplate must be made to fit his body. For the well-fitting breastplate is supported by the whole body, whereas one that is too loose is supported by the shoulders only, and one that is too tight is rather an encumbrance than a defence. And, since the neck is one of the vital parts, we hold that a covering should be available for it also, standing up from the breastplate itself and shaped to the neck. For this will serve as an ornament, and at the same time, if properly made, will cover the rider's face, when he pleases, as high as the nose. For the helmet we consider the Boeotian pattern the most satisfactory: for this, again, affords the best protection to all the parts that project above the breastplate without obstructing the sight. As for the pattern of the breastplate, it should be so shaped as not to prevent the wearer from sitting down or stooping. About the abdomen and middle and round that region let the flaps be of such material and such a size that they will keep out missiles. (...) And as a wound in the left hand disables the rider, we also recommend the piece of armour invented for it called the "hand." For it protects the shoulder, the arm, the elbow, and the fingers that hold the reins; it will also extend and fold up; and in addition, it covers the gap left by the breastplate under the armpit. But the right hand must be raised when the man intends to fling his javelin or strike a blow. Consequently, that portion of the breastplate that hinders him in doing that should be removed; and in place of it there should be detachable flaps at the joints, in order that, when the arm is elevated, they may open correspondingly, and may close when it is lowered. For the fore-arm it seems to us that the piece put over it separately like greave is better than one that is bound up together with a piece of armour. The part that is left exposed when the right arm is raised should be covered near the breastplate with calf-skin or metal; otherwise, the most vital part will be unprotected. Since, the rider is seriously imperilled in the event of his horse being wounded, the horse also should be armed, having head, chest, and thigh pieces: the last also serve to cover the rider's thighs. But above all the horse's belly must be protected; for this, which is the most vital part, is also the weakest. It is possible to make the cloth serve partly as a protection to it. The quilting of the cloth should be such as to give the rider a safer seat and not to gall the horse's back. Thus, horse and man alike will be armed in most parts. But the rider's shins and feet will of course be outside the thigh-pieces. These too can be guarded if boots made of shoe-leather are worn: there will thus be armour for the shins and covering for the feet at the same time. These are the defensive arms which with the gracious assistance of heaven will afford protection from harm. For harming the enemy, we recommend the sabre rather than the sword, because, owing to his lofty position, the rider will find the cut with the Persian sabre more efficacious than the thrust with the sword. And, in place of the spear with a long shaft, seeing that it is both weak and awkward to manage, we recommend rather the two Persian javelins of cornel wood. For the skilful man may throw the one and can use the other in front or on either side or behind. They are also stronger than the spear and easier to manage.

¹³⁴ Xen. *Hell.* 3.4.13–14. 'The Hellenic horse was drawn up like an ordinary phalanx four deep, the barbarians presenting a narrow front of twelve or thereabouts, and a very disproportionate depth. There was a moment's pause, and then the barbarians, taking the initiative, charged. There was a hand-to-hand tussle, in which any Hellene who succeeded in striking his man shivered his lance with the blow, while the Persian troopers, armed with cornel-wood javelins, speedily despatched a dozen men and a couple of horses. At this point the Hellenic cavalry turned and fled. (...) It was clear enough to his mind that without a proper cavalry force it would be impossible to conduct a campaign in the flat country.' (...) 'And when the two squadrons saw one another, not so much as four plethra apart, at first both halted, the Greek horsemen being drawn up four deep like a phalanx, and the barbarians with a front of not more than twelve, but many men deep. Then, however, the barbarians charged. [14] When they came to a hand-to-hand encounter, all of the Greeks who struck anyone broke their spears, while the barbarians, being armed with javelins of cornel-wood, speedily killed twelve men and two horses. Thereupon the Greeks were turned to flight. But when Agesilaus came to the rescue with the hoplites, the barbarians withdrew again and one of them was killed.'

¹³¹ KAMPEN 2006, 8–9.

¹³² Xen. *Eq.* 12.9

that throwing a javelin from horseback is fairly difficult and may only be performed by a rider who is well educated in horsemanship.¹³⁵

Xenophon contends that not all men but as many as possible should learn how to throw the javelin while mounted. From this remark we may deduce that not all riders were proficient in this kind of horsemanship.¹³⁶ Xenophon explained how a Greek cavalryman should practise javelin throwing.¹³⁷ In these manoeuvres, proper timing was important, combined with a good seat. Only riders who were seated on their horses in a well-balanced and steadfast manner would have been capable of throwing a javelin on horseback.¹³⁸ Any wrong movement or loss of balance would have caused the javelin to miss its target. Furthermore, when throwing the javelin, the horse should not be inclined to hesitate or make any unwanted moves. The horse had to be steady and easy to steer, responding quickly to the aids. Basically, the level of horsemanship had to be improved again and the only way to do this is by daily exercise and training. Xenophon was well aware of this and understood how essential it was, and he wanted the Athenians to appreciate this too.¹³⁹

HUNTING

Xenophon regarded hunting and jumping as very important, and he advised Greeks to hunt while mounted even though the Greeks were accustomed to hunting on foot. However, Xenophon's work *On Hunting* does not make any reference to mounted hunting, which is somewhat peculiar. Xenophon merely writes about hunting with dogs and refers only to mounted hunters when he deals with the hunting of big game such as lions, leopards, lynxes and so on, which may only be captured in other regions such as Macedonia, Mysia and Nysa beyond Syria.¹⁴⁰

According to Xenophon, Cyrus the Great used to take horsemen out hunting when he thought they needed such practice, for he held that this offered altogether the best training in military science and superb horsemanship. He regarded it as the best exercise for giving riders a firm seat in all conditions, because they had to pursue their prey wherever it ran. It was also the best exercise for ensuring

that they remained active on horseback in view of their rivalry and eagerness to hunt down the game.¹⁴¹

Xenophon also advises the training of horses and riders in jumping and galloping up and down hills, which may be linked with hunting or cross-country riding.¹⁴² Xenophon lets Cyrus explain this to his men. The whole idea of hunting and cross-country riding seems to come from Persia, since the Greeks preferred hunting on foot. This sort of riding is of course more easily done in a countryside which has much open and wider terrain, in mountainous and rocky terrain horses are less usable. In medieval times Dom Duarte recommends the same sort of training.¹⁴³

During Medieval and Renaissance times, knights used to engage in tournaments during peacetime in order to maintain their training and horsemanship. In modern times, something similar is done. What nowadays is called 'Three-day-eventing', used to be called 'The Military'. Eventing receives its roots from the Military and in the first years of its existence this sport was aptly named 'The Military'. Eventing was first introduced in 1912 at the Olympic Games in Stockholm, Sweden. The purpose of the sport was to test the precision, elegance and obedience of army horses on the parade ground, as well as the stamina and courage of the horse in battle. Another aim was to put to the test the horse's fitness, versatility and obedience. At first, only army officers on military chargers could compete in the sport but by 1924 civilians were allowed to compete at the Paris Olympics. The tests of this newly organized equestrian competition were patterned after the training and testing of military chargers—precision, elegance, and obedience on the parade ground; stamina, versatility and courage on marches and in battle; cross-country jumping ability and endurance in traveling great distances over difficult terrain and formidable obstacles in the relaying of important dispatches; and jumping ability in the arena to prove the horse's fitness to remain in service. Spread over consecutive days, it was a complete test for the Army horse, and in fact only Army officers on active duty

¹⁴¹ Xen. Cyr. 2.4.18–21; 8.8.12: Again, in times past they used to go out hunting so often that the hunts afforded sufficient exercise for both men and horses. Xen. Eq. mag. 8.1.34–35.

¹⁴² Xen. Eq. mag. 8.3 As the horse will frequently have to gallop downhill and uphill and along a slope, and as he will have to leap over, and to leap out, and to jump down at various times, the rider must teach and practise both himself and his horse in all these things. For thus they will be able to help each other, and will be thought altogether more efficient. 'those that are taught and accustomed to jump ditches, leap walls, spring up banks, leap down from heights without a spill, and gallop down steep places, will be as superior to the men and horses that lack this training as birds to beasts. Moreover, those that have their feet well hardened will differ on rough ground from the tender-footed as widely as the sound from the lame'.

¹⁴³ Dom Duarte (1438), 70–71. 'In order to be at ease when riding it is necessary to have a good knowledge about all the most important actions you can be required to perform mounted on a beast; otherwise, you can neither be at ease nor appear so. (...) You should train yourself fully armed and wearing your armour (as if you were going to war) and you should participate in jousts and tournaments (...). Acting similarly you will be able to be at ease when performing several other activities also important when you are mounted on a beast such as galloping up and down hill, hunting, manoeuvring and throwing spears and playing with canes and striking with a sword. All these activities should be practised by all those who want to be at ease when mounted as it is a known fact that a good and frequent practise is the best of teachers, without which nobody could acquire the necessary skills; and after having achieved that objective it is mandatory to keep practicing, otherwise the skills will be very quickly forgotten.'

¹³⁵ Arr. Tact. 40.1.8.

¹³⁶ Xen. Eq. mag. 1.5–6. 'As soon as they have acquired a firm seat, your next task is to take steps that as many as possible shall be able to throw the javelin when mounted and shall become efficient in all the details of horsemanship.'

¹³⁷ Xen. Eq. mag. 12.12–13. (...) it is a good method of training for two riders to work together thus: one flies on his horse over all kinds of ground and retreats, reversing his spear so that it points backwards, while the other pursues, having buttons on his javelins and holding his spear in the same position, and when he gets within javelin shot, tries to hit the fugitive with the blunted weapons, and if he gets near enough to use his spear, strikes his captive with it. (...) We recommend throwing the javelin at the longest range possible. For this gives a man more time to turn his horse and to grasp the other javelin. We will also state in a few words the most effective way of throwing the javelin. If a man, in the act of advancing his left side, drawing back his right, and rising from his thighs, discharges the javelin with its point a little upwards, he will give his weapon the strongest impetus and the furthest carrying power; it will be most likely to hit the mark, however, if at the moment of discharge the point is always set on it.

¹³⁸ Xen. Eq. 8.10.

¹³⁹ KOOLEN 2012b.

¹⁴⁰ Xen. Cyr. 11.1.

were allowed to compete in the first Olympic Three-Day Event, and they had to be mounted on military chargers.¹⁴⁴

Eventing originated as a military competition which tested officers and horses in challenges that could occur on or off duty. It also provided a basis to compare training standards between the cavalries of different countries. The military or three-day-eventing test includes:

'Dressage, Cross-Country and Jumping. They take place on separate consecutive days during which a competitor rides the same horse throughout.

1. *Dressage Test After an opening Horse Inspection, a Dressage test is performed, the object of which is the harmonious development of the physique and ability of the horse. The test consists of a series of compulsory movements at walk, trot and canter gaits, within a rectangular arena 60 m. long and 20 m. wide. To perform a good Dressage test, the horse needs to be flexible and fluid. To keep the strong Eventing horses under the firm control required by the exacting Dressage movements involves great knowledge and understanding. A good Dressage test lays the foundation for the rest of the competition and horses that are found wanting in this phase face an uphill struggle to get up amongst the prize-winners.*

2. *Cross-Country Test The focus of the entire event is on the Cross-Country test, the objective of which is to test the ability of athletes and horses to adapt to different and variable conditions (weather, terrain, obstacles, footing etc...) and jumping ability of the horse, while at the same time demonstrating the rider's knowledge of pace and the use of his horse. Exceeding the time allowed and refusals result in penalties. All penalties are added together and recorded for inclusion in the final classification. Fall of a horse and/or of a rider entails immediate elimination.*

3. *Jumping Test The Jumping test takes place on the last day after a second Horse Inspection. Riders may voluntarily retire their horses if they seem unfit to continue. This test is run in reverse order of merit and its main objective is to prove that the horses have retained their suppleness, energy and obedience in order to jump a course of 11 to 15 obstacles'.¹⁴⁵*

These competitions and challenges enable both rider and horse to develop in a multifaceted manner and to respond more and more to each other's needs. It allows for the rider to retain a good seat and for the horse to remain confident and ready to respond to unexpected situations. In the 19th century, a US cavalry colonel also wanted to start up

¹⁴⁴ Kentucky Three Day Eventing on <https://kentuckythreedayevent.com/about-eventing/> (last visited 17th June 2022).

¹⁴⁵ FEI (Federation Equestre Internationale) on <https://inside.fei.org/fei/disc/eventing> (last visited 17th June 2022).

a competition in equestrian sports to motivate his cavalry men:

'(...) to develop in our corps that love for equestrianism and mounted sport which alone can render it entirely worthy of outside admiration, or entitle us to be proud of it. (...) At all large posts, and especially Leavenworth, let officers aspire to have good horses; let their training be the pride and pastime of their owners. Let clubs for the promotion of steeple-coursing and the hunt, wherever the latter is practicable, be formed, and let skilful feats of horsemanship and a love for the saddle as a means of pleasure be encouraged (...) In fact, a thorough knowledge of the horse should be considered essential from motives dictated by both duty and pleasure. Few officers have any idea how much amusement can be derived from work of this kind, or how much the dullest garrison at which there are half a dozen devotees of such sport can be enlivened by it.'¹⁴⁶

CAVALRY ON FOOT

Cavalry had a twofold use, depending on battlefield circumstances and numbers of horsemen available. Being able to fight both on foot and on horseback increased the chance of victory and survival. Terrain is always a major factor in the deployment of cavalry.¹⁴⁷ The terrain often compelled Greek riders to dismount; they had to deploy their cavalry in a different and more flexible manner than some of the peoples of the Near East had done. This diminished the need and motivation for thorough cavalry training. As a result, they were no match for cavalries such as the Thessalian or Persian cavalries. The Greeks understood their shortcomings in cavalry warfare on level grounds and plains. Agesilaus, for example, knew that he needed better cavalry to meet the Persians on the Asian plains.¹⁴⁸ Modern cavalry were also trained to fight on horseback as well as on foot.

"It follows therefore that cavalry reconnaissance duties will be strictly local and tactical, (...) and that on the whole that nation will be best served in war which has provided in peace a nucleus of mounted infantry capable of rapid expansion to fill the gap which history shows always to have existed between the infantry and the cavalry. Such troops need not be organized in large bodies, for their mission is to act by "slimness," not by violence. They must be the old "verlorene ilaube" (anglice, "forlorn hope") of former days, men whose individual bravery and decision is of the highest order. But they can never become a "decision-compelling arm," though by their devotion they may well hope to obtain the grand

¹⁴⁶ ROBERTSON 1883, 314-317; 323-328; 335-340.

¹⁴⁷ Dion. Hal. *Ant. Rom.* 2.13.3-4 and 2.64.3. "They fought on horseback where there was level ground favourable for cavalry manoeuvres and on foot where it was rough and inconvenient for horses."

¹⁴⁸ Xen. *Ages.* 3.4.15.

opportunity for their cavalry, and share with them in harvesting the fruits of victory.

The great cavalry encounters of forty to sixty squadrons on either side, which it has been shown must arise from the necessity of screening or preventing the formation of the all-important artillery lines, will take their form mainly from the topographical conditions of the district, and since on a front of 60 to 100 m. these may vary indefinitely, cavalry must be trained, as indeed it always has been, to fight either on foot or on horseback as occasion requires. In either case, thoroughness of preparation in horsemanship (which, be it observed, includes horsemastership) is the first essential.¹⁴⁹

Xenophon therefore commented that Agesilaus should allow rich men to shirk cavalry duty by paying for their substitutes and by providing horses for the cavalry.¹⁵⁰ He advised the Athenian hipparchs to do likewise, because the strength of cavalry does not lie in its numbers, but in the level of horsemanship.¹⁵¹

'For the generation preceding the outbreak of the French Revolution, Frederick the Great's army, and especially his cavalry, had become the model for all Europe, but the mainspring of the excellence of his squadrons' revolution was everywhere overlooked. Seydlitz had manoeuvred great masses of horsemen, therefore everyone else must have great masses also; but no nation grasped the secret, the unconditional obedience of the horse to its rider, on which his success had depended.¹⁵²

CAVALRY PARADES AND INSPECTIONS

Xenophon also recounted that Agesilaus organised competitions in order to keep morale high and challenge the men to train themselves and their horses.¹⁵³ Sufficient

¹⁴⁹ MAUDE 1910, 569.

¹⁵⁰ Xen. *Eq. mag.* 9.4-5. 'I know that the fame of the Lacedaemonian horse dates from the introduction of foreign cavalry: and in the other states everywhere I notice that the foreign contingents enjoy a high reputation (...) I believe that money would be forthcoming from those who strongly object to serve in the cavalry—since even men actually enrolled are willing to pay in order to get out of the service.'; Xen. *Hell.* 3.4.15. 'Accordingly, he assigned the richest men of all the cities in that region to the duty of raising horses; and by proclaiming that whoever supplied a horse and arms and a competent man would not have to serve himself, he caused these arrangements to be carried out with all the expedition that was to be expected when men were eagerly looking for substitutes to die in their stead.'

¹⁵¹ Dom Duarte (1438) 6. 'And we can really understand the great advantage that the skilled horsemen have when at war, compared to others less qualified in the art of riding, even if they have identical abilities in the other necessary arts; riding skills are one of the most valuable skills for warriors. And those who have very good horses can get very little advantage out of them if they do not really have the appropriate riding skills, as they would not know how to do it.'

¹⁵² MAUDE 1910, 653-672.

¹⁵³ Xen. *Hell.* 3.4.15-19. 'Accordingly, he assigned the richest men of all the cities in that region to the duty of raising horses; and by proclaiming that whoever supplied a horse and arms and a competent man would not have to serve himself, he caused these arrangements to be carried out with all

training is necessary not only to obtain routine but also to gain confidence.¹⁵⁴ It is also necessary to train a horse on a regular basis so it will not lose its suppleness and strength:

War was raging, so the cavalryman was able to feed his horse with barley and give him good hay to eat, treating the horse as his noble companion in battle. Then the war came to an end and a time of peace ensued. The soldier was no longer given wages by the state so his horse now had to work all the time carrying heavy logs down out of the woods into the city. In addition, his owner hired the horse out to other people to carry their loads as well. All the while, the horse had as his food only the worst sort of chaff, and the harness he wore on his back was no longer that of a warhorse. Sometime later, the clash of battle resounded once again around the city walls, and the trumpet summoned every man to dust off his shield, sharpen his sword, and ready his horse. The horse's owner put the bridle back on his steed, but when he led the horse out to be mounted, the horse collapsed and fell to his knees, having lost all his former strength. 'Go join the infantry!' the horse told his owner. 'You have transferred me from the horse regiment to the donkeys; do you really think you can just change me back again?'¹⁵⁵

The best way to motivate troops is writing out a contest for the best cavalry battalion or by making the men show themselves off at parades and horse inspections that could fuel their appetite for competition and to excel. To maintain a high standard of horsemanship and condition of the horses shows and inspections of cavalry horses are required.¹⁵⁶ In Athens such horse inspections or *dokimasiai*

the expedition that was to be expected when men were eagerly looking for substitutes to die in their stead. After this, when spring was just coming on, he gathered his whole army at Ephesus; and desiring to train the army, he offered prizes both to the heavy-armed divisions, for the division which should be in the best physical condition, and to the cavalry divisions, for the one which should show the best horsemanship; and he also offered prizes to peltasts and bowmen, for all who should prove themselves best in their respective duties. Thereupon one might have seen all the gymnasia full of men exercising, the hippodrome full of riders, and the javelin-men and bowmen practising. In fact, he made the entire city, where he was staying, a sight worth seeing; for the market was full of all sorts of horses and weapons, offered for sale, and the copper-workers, carpenters, smiths, leather-cutters, and painters were all engaged in making martial weapons, so that one might have thought that the city was really a workshop of war. And one would have been encouraged at another sight also – Agesilaus in the van, and after him the rest of the soldiers, returning garlanded from the gymnasia and dedicating their garlands to Artemis. For where men reverence the gods, train themselves in deeds of war, and practise obedience to authority, may we not reasonably suppose that such a place abounds in high hopes? And again, believing that to feel contempt for one's enemies infuses a certain courage for the fight, Agesilaus gave orders to his heralds that the barbarians who were captured by the Greek raiding parties should be exposed for sale naked. Thus, the soldiers, seeing that these men were white-skinned because they never were without their clothing, and soft and unused to toil because they always rode in carriages, came to the conclusion that the war would be in no way different from having to fight with women.

¹⁵⁴ Xen. *Cyr.* 2.1.29. 'those who are conscious that they have been well drilled are certainly more courageous in the face of the enemy.'

¹⁵⁵ Aesop, *Fabulae* 415 (Perry 320; Babrius 76).

¹⁵⁶ KOOLEN 2021.

existed and in 1970 small lead tablets were found on which details about horses and their valuations were inscribed.¹⁵⁷ Traditions in horsemanship and public display presume that *Hippeis* thoroughly trained themselves.¹⁵⁸ Abandoning such spectacles would have had alarming consequences for training and motivation of cavalry men and their horses.¹⁵⁹

The required movements at such parades and inspections reflect the tasks that would be put on the cavalry during battles. Xenophon wanted them to parade on the Agora starting from the Herms to perform a gallop at top speed, javelin-throwing, a ride in two divisions in line of battle, a gallop downhill in large companies. They should perform a sham fight in the Hippodrome and practise the attack and flight routines just as they would do in battle.¹⁶⁰ We can now safely conclude that anyone who was skilled in each particular exercise which prepared him to fight either in a close combat formation or in high-speed tactics was ready to participate in combat on horseback.¹⁶¹

CONCLUSIONS

Cavalry needs sufficient training and daily exercising because the skill of horse riding cannot be mastered in a few months and a cavalry mount needs training on a daily basis to keep the horses fit and obedient. This way the cavalry men will have to train for these performances which will keep them motivated and the innate will to excel will push them to try to be the best riders on the shows. Horses should be checked annually during horse inspections to see if they still match up to the requirements of the cavalry commander and the state. This will enhance the level of horsemanship and therefore the performance of cavalry on the battlefield as well.

The Athenian cavalry had to adopt new battle tactics due to changes on the battlefield. Such new tactics included infantry working closely together with cavalry, instead of the two divisions working apart from each other. It also included perfecting 'attack and flight' tactics which made it important that Athenian cavalry had to renew their training and remaster skills such as collecting a horse and working on turning a horse on the spot instead of wheeling. According to Xenophon training from now on also had to include

javelin throwing and close combat skills with the Persian sabre instead of the traditional Greek sword and the Persian javelins instead of the heavy and easy to break Greek lances.

In the Athens of Xenophon's time cavalry training on a regular basis seems to have ceased and he recommends that the old festivals and parades should be reinstated again with different sorts of exercises to be shown. He tried to enflame the spirit of *imitatio et aemulatio* in the Athenians by showing them that they once had that level of horsemanship by remembering them of the age of the Athenian Empire and the wonderful images on the Parthenon temple.

Against the background of the military developments during the age of Xenophon, the Athenians fought more big land wars against Persians, Sicilians and Boeotians with their own style of horsemanship because of the terrain they were used to, the Athenians had to keep up with this development. *On Horsemanship* and *On the Cavalry Commander* are important documents that show the differences in cavalry deployment. They show that weaponry, biting and training were subject to improvement and why these improvements were necessary. In conclusion they are a well-thought-out amalgam of the most modern cavalry technical requirements of equipment, training and tactics of that time.

¹⁵⁷ KROLL 1977.

¹⁵⁸ About Agesilaus writing out contests: *Xen. Hell* 3.4.16-1; *Xen. Hell* 4.3.9: 'greatly pleased with his exploit in that he had been victorious, over the people who pride themselves particularly upon their horsemanship with the cavalry that he had himself gathered together.'; also, in *Cyr.* 8.1.34: 'Cyrus used to take out hunting those who he thought ought to have such practise, for he held that this was altogether the best training in military science and also the truest in horsemanship'; also, in *Xen. Eq. mag.* 8.1.35: 'for it is the exercise best adapted to give riders a firm seat in all sorts of places, because they have to pursue the animals wherever they may run; and it is also the best exercise to make them active on horseback because of their rivalry and eagerness to get the game.'; this is to be found as well in: *Xen. Cyr.* 8.8.12: 'Again in times past they used to go out hunting so often that the hunts afforded sufficient exercise for both men and horses.'; *Xen. Cyr.* 8.8.13: 'but instruction and practice in horsemanship have died out because there are no occasions on which they may give an exhibition and win distinction for skill.'

¹⁵⁹ *Xen. Cyr.* 8.8.13. 'Instruction and practice in horsemanship have died out because there are no occasions on which they may give an exhibition and win distinction for skill'.

¹⁶⁰ *Xen. Eq. mag.* 3.1-14.

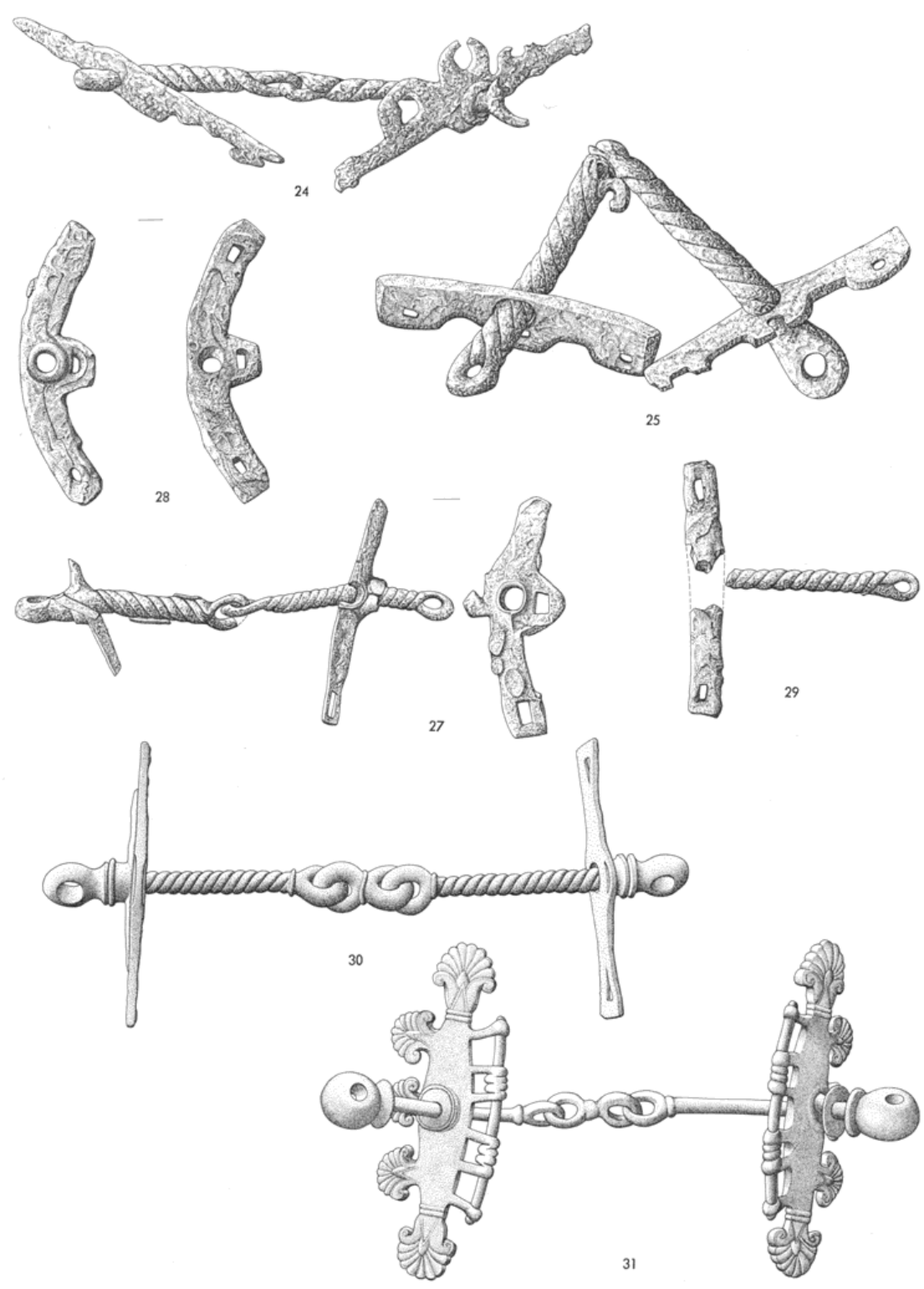
¹⁶¹ *Xen. Cyr.* 3.3.9-10.

APPENDIX WITH HORSE BITS

A. Ancient Greek horse bridles (*H. Donder, Zaumzeug in Griechenland und Cypern, 1980*)

Trensen vom Typ I, Var. C (24. 25); Var. D (27-29); Typ I wohl zugehörig (30-32)

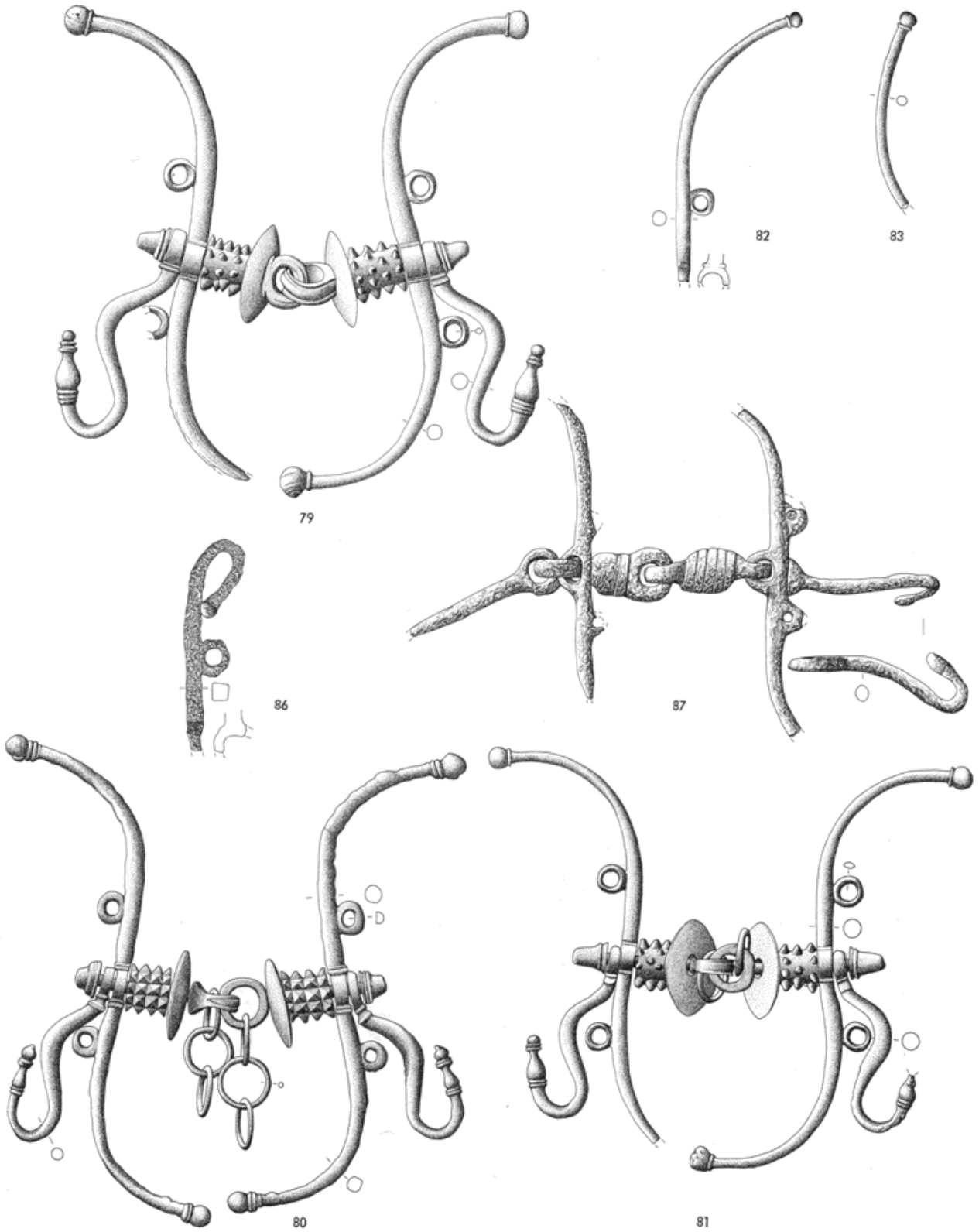
TAFEL 5



24. 25. 32 Salamis, Nekropole, Gr. 79. - 27-29 Palaepaphos, aus den Gräbern 7 und 8 (?). - 30 Curium. - 31 Cypern. - (24. 25. 27-29. 32 nach Karageorghis; 30 nach Foto Metr. Mus. New York; 31 nach Gjerstad).
M. 1 : 3

TAFEL 10

*Trensen vom Typ VIII, Var. A (79–81); Var. B (82, 83);
Typ VIII wohl zugehörig (86); Typ IX, Var. A (87)*

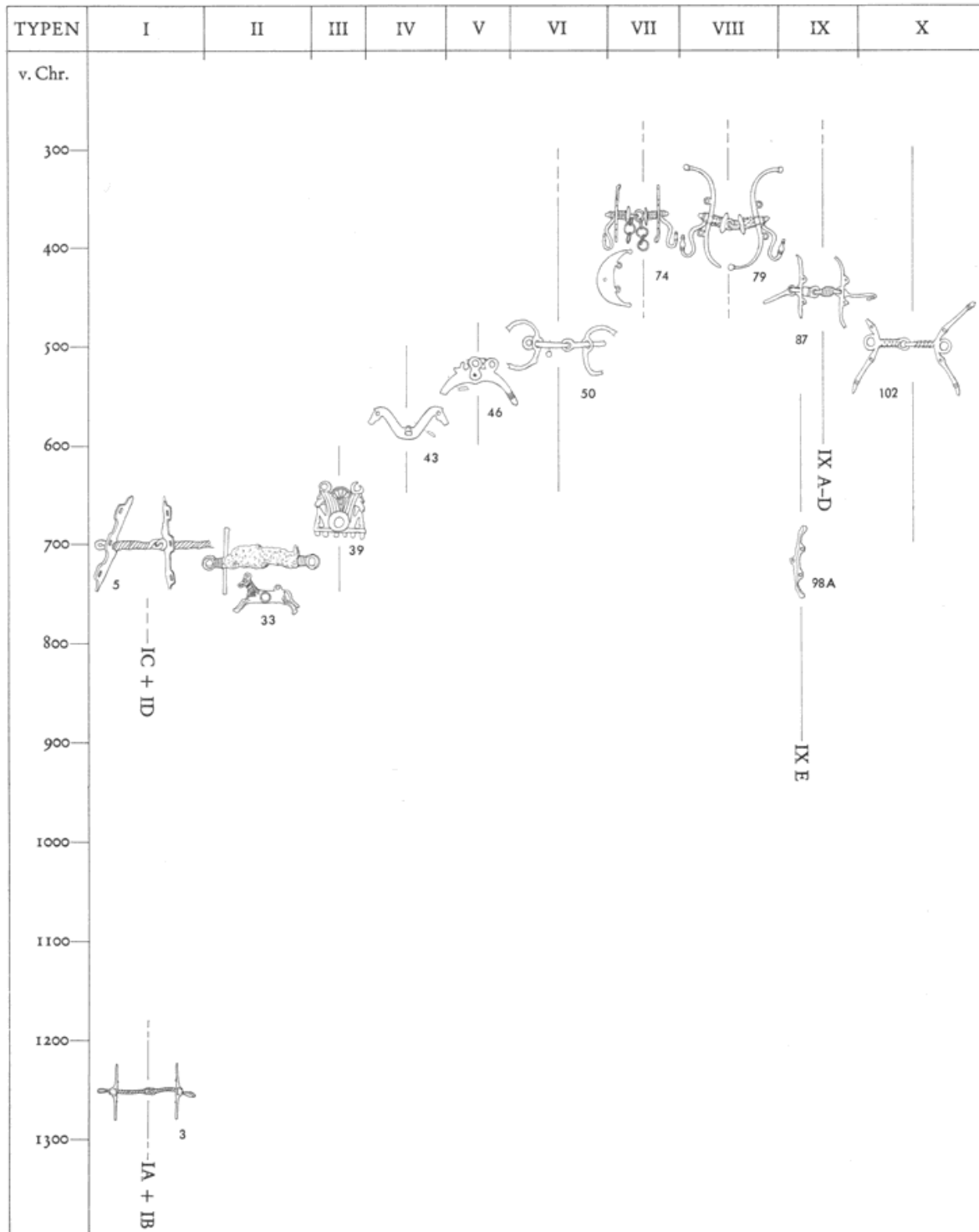


79, 83 Fundort unbekannt. – 80 Theben (?). – 81 Korinth. – 82. Olynth, Südhügel. – 86 Olynth, Nordhügel. – 87 Olympia.
(80 nach Kopie RGZM.).

M. 1 : 3

B. Chronological record of Greek bits (DONDER 1980)

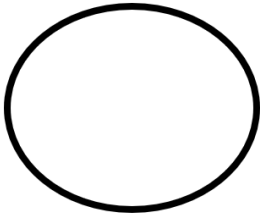
TAFEL 42



Chronologische Stellung der in Griechenland und Cypern vorkommenden Trensen.

C. The Ring and the Manage

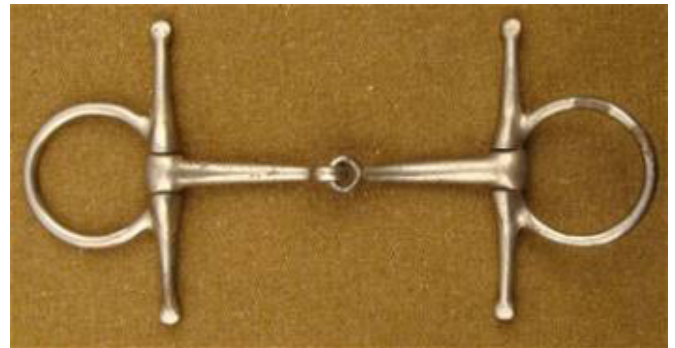
the ring (πέδη); the 'manage' (έτερομήκη πέδη)



D. modern cavalry bits



Cavalry curb bit (kandare) from American Civil War period (<https://stewartmilitaryantiques.com/us-civil-war-cavalry-horse-bit.47487.archive.htm>)



Cavalry snaffle bit (<https://www.liveauctioneers.com/item/44808187-us-cavalry-1860-no-2-horse-bit-custer-battle-field>)



Cavalry double bridles (snaffle and curb bit combined) <https://www.worldwar1centennial.org/index.php/brookeusa-ancillary-industries/4858-brooke-usa-saddlery-and-harness.html>



FIGURE 429. Corgaon, Second Cavalry (ca. 1917), in field dress with steel helmet for service in France. His Model 1917 snaffle is padded for service in the field, and he carries the required gas mask over his right shoulder. Near side.

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