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Xenophon
and the Ancient Greek Cavalry Horse:
an Equestrian Perspective

A Thesis Submitted to
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by

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Wherever man has left his footprint in the long ascent from barbarism to civilization, we find the hoof print of the horse beside it.

(John Trotwood Moore)

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This is dedicated to the memory of my parents

who filled my life with books

Acknowledgements

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The importance of the horse, not only in my life, but throughout history is best expressed by the American, John Trotwood Moore (1858–1929), "Wherever

man has left his footprint in the long ascent from barbarism to civilization, we find the hoof print of the horse beside it". It has been one of the most gratifying experiences of my life to have had the opportunity to combine in this thesis ancient scholarship with my passion for the horse.

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Finally, all errors, omissions, and deficiencies are, of course, mine alone.

Adelia Greer
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Abstract

The origins of this thesis lie in my appreciation, because of my own equestrian background, of Xenophon's *Art of Horsemanship* and the *Cavalry Commander*. As the research progressed, I was surprised that classical scholars skirted around questions concerning the ancient Greek cavalry: their horses, their equipment, and their horsemanship. The standard views on the ineffectiveness of the Greek cavalry, I felt, needed to be reconsidered from an equestrian standpoint, which, in turn, would give a greater understanding of the role and effectiveness of this branch of the ancient Greek military forces.

Four primary research topics are at the core of this thesis. The first deals with the physical characteristics of the ancient Greek horse. Using archaeological and artistic evidence, I challenge assumptions made by many scholars about the size of the ancient Greek cavalry horse.

The second topic explores the equestrian equipment utilised by the ancient Greek cavalry. The standard view that the lack of saddles, stirrups and horseshoes made the cavalry an ineffective fighting force is challenged.

Using both Xenophon's *Art of Horsemanship* and the *Cavalry Commander*, the third topic compares ancient Greek horsemanship with modern theories on horsemanship. This exploration reveals not only the depth of Xenophon's equestrian knowledge and its relevance today, but also his profound understanding of the physical and psychological workings of the horse.

The fourth topic combines the findings of the first three in order to offer a new perspective on the effectiveness and value of the ancient Greek cavalry. It is hoped that my conclusions will be used as a springboard for further study and will lead to a greater appreciation of the cavalry as an important and necessary arm of the ancient Greek military.

Abbreviations

Author	Work	Abbreviation
Aelianus (Ael.)	*De Natura Animalium*	NA
Aeneas Tacticus		Aen.Tact.
Aeschines		Aeschin.
Ammianus Marcellinus		Amm.Marc.
Andocides		Andoc.
Aristophanes (Ar.)	*Archarnenses*	Ach.
	Equites	Eq.
	Nubes	Nub.
	Pax	Pax
	Vespae	Vesp.
Aristotle (Arist.)	*Constitution of the Athenians*	Ath.Pol.
	Ethica Eudemia	Eth.Eud.
	De Generatione Animalium	Gen.An.
	Historia Animalium	Hist.An.
	Politica	Pol.
Arrian (Arr.)	*Anabasis*	Anab.
Athenaeus		Ath.
Q. Curtius Rufus		Curt.
Demosthenes		Dem.
Dio Cassius		Dio.Cass.
Dio Chysostomus (Dio Chrys.)	*Orationes*	Or.
Diodorus Siculus		Diod.Sic.
Diogenes Laertius		Diog.Laert.
Herodotus		Hdt.
Homer (Hom.)	*Iliad*	Il.
	Odyssey	Od.
Isocrates		Isoc.
Justinus (Just)	*Epitome of Trogas*	Epit.
Pausanias		Paus.
Philostratus (Philostr.)	*Vitae Sophistarum*	VS
Plato (Pl.)	*Laws*	Laws

Plato (Pl.) (cont.)	*Meno*	Meno
Pliny (the elder) (Plin.)	*Historia Naturalis*	HN
Plutarch (Plut.)	*Agesilaus*	Ages.
	Alcibiades	Alc.
	Alexander	Alex.
	Amatorius	Amat.
	Gaius Gracchus	C. Gracch.
	Lysander	Lys.
	Pelopidas	Pel.
Pollux		Poll.
Polybius		Polyb.
Strabo (Str.)	*Geographus*	Geog.
Tacitus (Tac.)	*Historiae*	Hist.
Thucydides		Thuc.
Varro	*De Re Rustica*	Rust.
Vitruvius (Vitr.)	*De Architectura*	De Arch.
Xenophon (Xen.)	*Agesilaus*	Ages.
	Anabasis	An.
	Apologia Socratis (Apology)	Ap.
	Cynegeticus (On Hunting)	Cyn.
	Cyropaedia	Cyr.
	De Equitandi Ratione (On the Art of Horsemanship)	Eq.
	De Equitum Magistro (The Cavalry Commander)	Eq.Mag.
	Hellenica	Hell.
	Hiero	Hier.
	Respublica Lacedaemoniorum (Lacedaemonian Constitution)	Lac.
	Memorabilia	Mem.
	Oeconomicus	Oec.
	Symposium	Symp.
	De Vectigalibus (Ways and Means)	Vect.

Introduction

> *The one best rule and practice in dealing with a horse is never to approach him in anger; for anger is a reckless thing, so that it often makes a man do what he must regret. Moreover, when the horse is shy of anything and will not come near it, you should teach him that there is nothing to be afraid of, either with the help of a plucky horse - which is the surest way - or else by touching the object that looks alarming yourself, and gently leading the horse up to it. To force him with blows only increases his terror; for when horses feel pain in such a predicament, they think that this too is caused by the thing at which they shy* (Xen. *Eq*. 6.13-15).

> *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* (Xen. *Eq*. 11.6).

The two quotes above were the beginning of my quest to understand Xenophon. That a man living some 2,400 years ago could have known so much and written so perceptibly about the psychology of the horse fascinated me. The Greek philosophers explored the mind of man at that time, but not the minds of animals. Xenophon was well ahead of his time, studying the behaviour of the horse (without resorting to anthropomorphism), long before it became the science that it is today.

The sentiments expressed in the two quotes form the basis of what is known today as *natural horsemanship* or the art of the *horse whisperer*. This movement in equestrian studies came to prominence in America in the 1980s with Tom and Bill Dorrance, Pat Parelli and Monty Roberts (Miller and Lamb 2005, 25-76). At the basis of *natural horsemanship* is the principle that "the dynamics of horsemanship can be obtained naturally through communication, understanding and psychology" (Parelli 1993, 6).

The more I read about Xenophon, the more I realised that there were many questions about ancient horsemanship that classical scholars were reluctant to tackle. Much that they wrote was based on received wisdom that was merely repeated despite being based on unfounded assumptions. The issues I wanted to address

included the following subjects: riding without stirrups; the use of bareback pads; riding a horse that is unshod; the size of the ancient Greek horse; use of spurs; and the sex of ancient cavalry horses. Of course, many classical scholars, although they may consult a horseman about equestrian matters, do not, on the whole, have a firsthand knowledge of things equestrian. Why should they? Most modern historians have grown up in the age of industrialism, where the once ubiquitous and indispensable horse has been relegated to a minor role, mainly in leisure or sports. The goal of this thesis is to give a foundation in equestrian studies to the research on Xenophon's equestrian works. For those without an equestrian background, I have tried to explain all equestrian terms in everyday language.

Chapter One is an overview of the life and works of Xenophon. In the first part, I review Xenophon's life. There are very few facts on his life that have survived, so I have tried to gather together the various works of other scholars to give a composite sketch of his life. The second part examines his work. I review the substantial corpus of his work and its reception throughout history. There is no doubt that there was a remarkable stability in Xenophon's reputation as a writer up until the nineteenth century. During the nineteenth and twentieth centuries, his critics were harsh, but there has been an upswing in recent years with scholars showing more appreciation and interest in his contributions to history, philosophy and biography. Some of his technical essays, such as the *Art of Horsemanship*, have been held in the highest critical esteem throughout the centuries. I attempt to extrapolate the kind of man that Xenophon was from the kind of man he most wished all men to be in his writings. However, this needs to be read in a critical manner. Is there a mismatch between the values that Xenophon espouses in his works and how he actually chose to live his own life? As an Athenian involved with Persians and Spartans for most of his career, do Xenophon's writings serve to gloss over his reputation or to justify his actions? I then explore the relationship of Xenophon and the ancient Greek cavalry horse.

Chapter Two examines the ancient Greek horse. I start with a history of the horse from the Pleistocene Era, the type of horse that first appeared in Greece and the suitability of the Greek landscape to horse breeding. I then consider the arguments for a timeline of the domestication and first attempts at the riding of the horse. The size of the ancient Greek horse has been a matter that most scholars have ignored. Yet this is important, as the size of the horse has implications not only in

purely equestrian terms, but also, in the use of that horse in warfare. The topography of Greece is also important as it determines the suitability of the land to support the breeding, raising and riding of these horses. Using the archaeological and artistic evidence available, I make a case for the size of the ancient Greek horse. Finally, I examine the Greek horse today and identify the most likely ancestor to the horse that existed at the time of Xenophon.

In Chapter Three, I consider the Greek cavalry starting with an overview of the history of cavalry in ancient times. Next, I discuss the suitability of the landscape of Greece to warfare and cavalry. Following this is the question of the Greek landscape's ability to produce enough horses for an effective cavalry force. Then I give an overview of the history of the Greek cavalry from 490-365 BC. This brings us to the year that Xenophon wrote the *Cavalry Commander*. I examine this treatise in detail. This includes the organization of the Athenian cavalry, the duties of a cavalry commander, and the actual price and turnover of horses in the ancient cavalry.

Chapter Four is an in depth investigation of Xenophon's *Art of Horsemanship*. I begin with an overview of the history of horsemanship, its oscillation from Xenophon's caring approach, through the harsh methods employed in the Middle Ages, and back to a more compassionate approach beginning in the nineteenth century. Next, I tackle the question of saddles and stirrups - how much did the lack of both disadvantage the ancient rider? What effect did the lack of horseshoes have on the ancient cavalry horse? Turning to the *Art of Horsemanship*, I review it book by book. This includes the conformation of the cavalry horse, according to Xenophon, and comparing his knowledge with that of modern veterinarian and equestrian experts. Xenophon gives little detail on the training of the horse, but I have tried to compare the methods he espoused in his other works with modern methods. Xenophon's specifications for buying a good horse - very important when the horse is to be ridden into war - are explored. The stabling of the horse is another subject largely skimmed over by modern scholars, primarily because there have been so few archaeological remains that can be definitively named as stables. I have tried to get an idea from the various ancient archaeological, literary, and artistic sources, alongside current designs for stables, in order to build up a picture of the appearance of the stables, and their position in relation to the owner's house. The groom was essential to the early training of the horse for Xenophon.

Xenophon's ideas, again mirroring today's *natural horsemanship* methods, are examined in detail. The actual process of mounting the horse bareback from Xenophon's methods is compared to modern methods. I then examine the movement of the horse, which had been wrongly perceived through the naked eye until the nineteenth century, when the correct movement of the horse at the various gaits was revealed by motion photography. Xenophon, however, was able to see some of the movements correctly with his naked eye, a monumental feat of observation and the mark of a true horseman. The exercise of the cavalry horse was very important, and I consider the locations for this exercise and the various movements involved. Xenophon also had definite ideas on how to make the horse look its best when on show. I compare his methods of horsemanship with those in practice today. The final book of the *Art of Horsemanship* looks at the armour of the Greek cavalryman, which is a wish-list of the type of armour that Xenophon would desire each cavalryman to have going into battle.

Although the *Art of Horsemanship* has always been held in the high esteem, it has not been critically appraised in a thorough manner from an equestrian perspective. The more I read material on Xenophon written by classical scholars, the more I realised that several core issues had never been addressed in relation to the ancient Greek horse in warfare. These form the key research questions addressed in this thesis:

1. What were the physical characteristics of the ancient Greek cavalry horse?
2. What equestrian equipment was used by the ancient cavalryman?
3. How does ancient Greek horsemanship compare to modern?
4. How do my conclusions impact on our understanding of ancient Greek cavalry?

"The only prerequisite in any investigation of classical Greece is that we must always consider the seemingly ordinary as well as the extraordinary if we are to understand and thus learn from the most profound lessons of these most practical of men" (Hanson 1989, 8). I have attempted in this thesis to challenge the received wisdom on the *seemingly ordinary* details of the lives of ancient Greek cavalrymen and their horses. Some of these details are referred to by Xenophon, others are not referred to at all, as they represented the ordinary, accepted minutiae in their daily lives. Using the evidence available to me from both Xenophon and other ancient

writers, combined with modern equine knowledge, I have tried to shed new light on these minutiae by posing new questions and offering some possible solutions.

Chapter One

Xenophon

The Life - The Man

1.1 Introduction

This chapter is divided into two parts. The first part looks at what we know of Xenophon's life. By this, I mean purely the factual details of his life - where and when he was born, how he was educated, the adventures that he had, the people he met who most influenced him, his marriage and family, his innovative and unusually eclectic writings and their dates, and finally, his death. Any account of Xenophon's life will be limited as so little is known for certain about his life.

In the second part, I shall try to discover, from his own works, what we can know of the man - the characteristics that combined to form his thinking. Since we have no contemporaneous biography of Xenophon, this is the only way to piece together the type of man that he was - what he stood for, his ethical code, what he expected from others, and his ideals. With Xenophon we are lucky because all of his works are didactic in nature and moralistic in force; he wrote to instruct in the ways that he saw most fit for a man to live his life. From these we can try to extrapolate the kind of man that Xenophon was from the kind of man he most wished all men to be, keeping in mind the potential pitfalls concerning a writer's voice / persona / mask / literary objectives - the simple mismatch between the values that Xenophon espouses in his works and how he actually lived his life. The ego of the writer also has to be taken into consideration when he writes with an autobiographical dimension. Is he self-serving? Is his writing so self-effacing as to be a front? Or is he a pure egomaniac who feels that it is all about him? Finally, I look at Xenophon in relation to horses. The horse pervades nearly all of his writings. A study of his work resulted in 450 mentions of the horse, which I have broken down into 32 categories encompassing both military and social contexts. A table showing these categories is in Appendix 1. Hopefully, in the future, I can take a closer look at these, but they are beyond the remit of this thesis.

1.2 Part One - The Life

1.2.1 Xenophon's Early Life

Biography as a literary genre was not yet established in the fourth century BC and, as a result, we have very little reliable information on the life of Xenophon. The only certain thing that we know about Xenophon is the certainty that we know very little. What we know has to be pieced together from his writings, from what we know of Greek society during his lifetime, and from those writing about him several hundreds of years later.

The principal ancient source for the life of Xenophon is in the *Lives of the Eminent Philosophers* by Diogenes Laertius, written sometime in the third century AD. He, in turn, based his biography on one written in the first century BC by Demetrius of Magnesia (Diog.Laert. 2.52) (Wilamowitz-Moellendorff 1881, 330-5). As his primary source of information was written long after Xenophon's death, the reliability of Diogenes' account must be questioned. Having said that, even though no records of Xenophon's life are still extant, they may have existed in the first century BC, and could have been used, but not cited, by Demetrius. Diogenes tells us that, "Xenophon, the son of Gryllus, was a citizen of Athens and belonged to the deme Erchia; he was a man of rare modesty and extremely handsome" (Diog.Laert. 2.48). The deme Erchia is located 10 miles to the east of Athens, near modern day Spata (Figure 1).

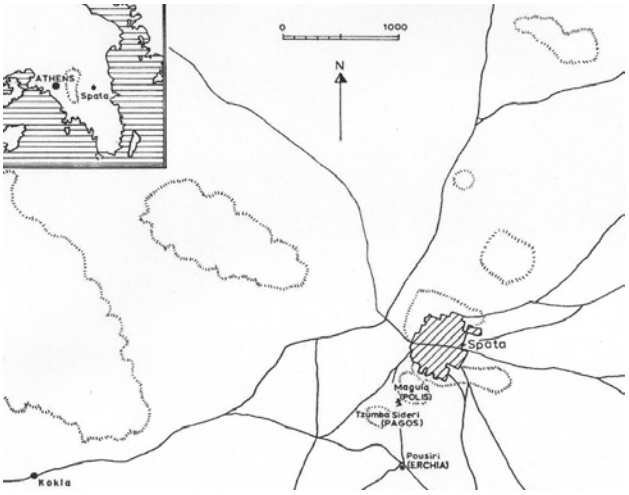

Figure 1.
Sketch Map of Spata
(Vanderpool 1965, 2)

This area of Attica is still compatible with horse rearing, and it was chosen as the venue for all the equestrian events of the 28th Olympiad held in Athens in 2004.

They took place at the Markopoulo Olympic Equestrian Centre, built in 2003, which is located near Spata (Figure 2).

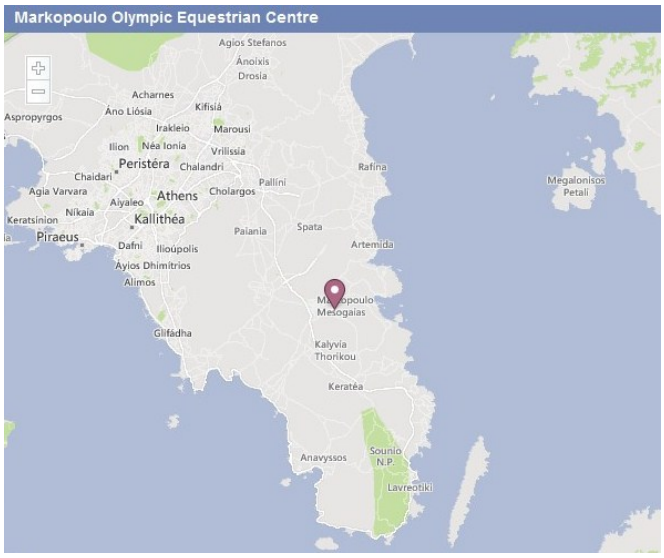

Figure 2
Markopoulo Olympic Equestrian Centre near to Spata
(Available at: https://www.facebook.com/pages/Markopoulo-Olympic-Equestrian-Centre/140686765958295?sk=wall)
(Accessed 20-04-14)

The deme of Erchia is that in which Theodoros, father of Isocates, the orator, also held land in 430-420 BC (Davies 1971, 245-248). He was one of the 400 richest men in Athens and his fortune was made from the ownership of a workshop of slave flute makers in Athens. Isocrates was a member of the cavalry in his youth, so his father's farm must have produced at least the minimal qualification for a *hippeis* (see section 1.2.2). However, the family lost their farm during the Peloponnesian War when Theodoros' sons had already reached maturity, sometime between 413-404 BC (Isoc. 15.161). The probable cause of their loss would have been the flight of slaves to Decelea. Thucydides wrote:

> *The previous invasions had not lasted for long and had not prevented the Athenians from enjoying their use of their land for the rest of the time; now, however, the enemy were on top of them throughout the year….They were deprived of the whole of their country: more than 20,000 slaves, the majority of whom were skilled workmen, deserted, and all the sheep and farm animals were lost* (Thuc. 7.27).

I think we can reasonably assume that if one farm in the deme of Erchia was lost at this time and in this manner, then other farms in the deme are likely also to have been destroyed. This could have included the farm belonging to Gryllus.

We have no evidence of the source for the wealth of Xenophon's family, perhaps it was only from the farm. Unlike Theodoros and Isocrates, Gryllus and Xenophon are not mentioned in J.K. Davies' *Athenian Propertied Families, 600-300 B.C.* Had they ranked among the 400 wealthiest families in Athens, there almost certainly would have been some lasting evidence of their existence for Davies to uncover. Unlike Theodoros, whose main source of wealth was his workshop, perhaps the farm constituted the entire wealth of Xenophon's family. In that case, even though Xenophon was already in the cavalry by the time of the flight of the slaves to Decelea, with the loss of the farm, times would have been harsh for himself and his family.

We have no exact date for his birth. Here is a list of some of the suggested dates of birth offered in the multitude of previous studies on Xenophon:

1. The earliest suggested date for his birth is in the 430's BC as argued by G.M. Edwards (1933, vii) in his introduction to the *Anabasis*, Book III who notes that "the date of his birth is entirely a matter of conjecture; the slender evidence available seems to point to the year 435 BC".
2. Vivienne Gray (1998, 5 fn25) broadly concurs suggesting a date range "between 440 and 430 BC".
3. Dakyns (1901, iii) opts for the year 431 BC, "though with a good deal of circumspection, he was born about the commencement of the Peloponnesian War in 431 BC (possibly a little earlier; not improbably even somewhat later)" (also Thomson 1928, 7).
4. According to J.K. Anderson (1974, 10), "we may place Xenophon's birth, then, a little after 430 BC" (also Tredennick 1970, 9).
5. "Xenophon was born within about five years of its [the Peloponnesian War's] beginning, perhaps between 429 and 427" (Antrich and Usher 1979, 7).
6. "Xenophon was born if not quite into the purple at any rate into an elite and propertied Athenian family in the early 420s" (Cartledge 1997, viii).
7. Both E.C. Marchant (1928, 1) and Robin Waterfield (1990, 5) give the date as 428 BC.
8. "Xenophon was an Athenian born about 425 BC" (Norwood 1925, 12).

Thus, the date of his birth should lie somewhere between 440 and 425 BC.

If we turn to Xenophon's own writings, we find that he set out in 401 BC to join his friend from Boeotia, Proxenus, on an expedition with the Persian prince, Cyrus. If Xenophon was born in 425 BC, he would have been 24 years old at this time, or, if born in 440 BC, he would have been 39. Xenophon states that "There was a man in the army named Xenophon, an Athenian, who was neither general nor captain nor common soldier, but had accompanied the expedition because Proxenus, an old friend of his, had sent him at his home an invitation to go with him" (Xen. *An*. 3.1.4). Philostratus reports that Xenophon was captured by the Boeotians in 406 BC before the battle of Arginusae (*VS.* 1.12). Anderson (1974, 18) sees this as the basis for his connection with Proxenus, who could have arranged his release on account of their friendship.

We know that "Athenian citizens were obligated to serve on active military duty from age twenty to fifty, cavalry duty was a young man's military assignment" (Worley 1994, 73; Bugh 1988, 63, 207-8). Xenophon's detailed account of actions in Lydia in 410 BC in the *Hellenica* 1.2.1-13 suggest that he was a participant (Pomeroy 1994, 2; Anderson 1974, 18; Dakyns 1901, iii). If this is so, then Xenophon was most likely to have been born c. 430 BC (a date which the majority of scholars seem to agree on), making him 20 years old in 410 BC and well able to have gained military experience in the cavalry from then until his departure for Asia in 401 BC at the age of 29. This would serve to explain his description of himself as "neither a general nor captain nor common soldier" (Xen. *An*. 3.1.4), as he had only served as a cavalryman.

If Xenophon's family did own a farm in the deme of Erchia to the east of Athens, it is most likely that, as the Peloponnesian War progressed, his father would have moved the family into the city for protection (Thuc. 2.16-17). Annual raids from the Peloponnese drove most Attic landowners to seek the protection of the walls of Athens. Anderson (1974, 10) posits that Erchia did not suffer much in the early years of the war, and it is possible that, if the family did have a farm in Erchia, Xenophon, as a child, would have spent many of his early years on that farm. It is most likely that during these years Xenophon's love of hunting, horses and other country pursuits would have developed. Thomson (1928, 8) states that "no ancient writer is fonder of the country or shows a better knowledge of it" than Xenophon.

In Athens, Xenophon would have lived in a townhouse owned by his father (much like the one owned by Ischomachus in the *Oeconomicus*). As with most

Athenian citizens at that time, Xenophon would have begun his formal education at the age of seven. This consisted of training in music, gymnastics, mathematics, tactics and rhetoric (Anderson 1974, 23). After finishing his education, around the age of 15 in 415 BC, the young Xenophon could have come under the influence of Socrates, who would have been 53 at this time.

1.2.2 Xenophon as a Young Man

At the age of twenty, Xenophon would have joined the cavalry. This would verify that he came from a family of high standing or wealth, as only those of the class of knights (*hippeis*) could serve in the cavalry.[1] According to Aristotle, Solon in his Athenian constitution (594 BC) divided citizens into four classes:

1. *Pentacosiomedimnoi* - valued at 500 *medimnoi* annually and eligible to serve as *Stategoi* (generals).
2. *Hippeis* - valued at 300 *medimnoi* and eligible to serve as cavalry.
3. *Zeugitai* - valued at 200 *medimnoi* and eligible to serve as hoplites.
4. *Thetes* - valued at 199 *medimnoi* annually or less and eligible to serve as rowers in the navy (Aristot. *Ath. Pol* . 7.3-4; Moore 1975, 151-152).

At that time, one *medimnos* equalled approximately 40 kg (Lefevre 2007, 52). In today's class qualifications, the *Pentacosiomedimnoi* would be equivalent to the ultra wealthy, the *Hippeis* to the super wealthy, the *Zeugitai* to those of middle class wealth and the *Thetes* to the lowest wealth class (van Wees 2004, 56). In Aristotle's time, the cavalry received a grant to cover the upkeep of the horse, but there were other expenses, such as armour, equipment, and the maintenance of a mounted servant, that would exclude all but the wealthy from cavalry service (Moore 1975, 286). Therefore, it seems that an Athenian man needed a great deal of wealth to join the cavalry. And, as Xenophon himself states, the cavalry should be made up "from those who are most highly qualified by wealth and bodily vigour" (Xen. *Eq.Mag.* 1.9). He presumably would have served in the cavalry for the last few years of the Peloponnesian War.

[1] See Pomeroy 1994, 2; Bugh 1988, 36-38; Snodgrass 1999, 104-105; Raaflaub and Rosenstein (eds) 1999, 132; De Ste. Croix 1981, 280; Worley 1994, 72-73; and Stronk 1995, 3.

Based upon the events in *Hellenica* (1.2-3), in 409/8 BC Xenophon could well have gone to Asia Minor as a cavalryman under the command of Thrasyllus and, once there, could have served under Alcibiades, who, though still an exile from Athens at this time, had persuaded the Athenian navy at Samos to give him the command. Again in 406 BC he could have been one of the cavalrymen that went to the aid of Conon who was blockaded at Mytilene. They were short of men in Athens at this time so "even the knights went aboard in considerable numbers" (Xen. *Hell*. 1.6.24) even though the cavalrymen were normally exempt from naval service. It was also at this time that Xenophon was captured and held prisoner in Boeotia according to Philostratus (*VS*. 1.12) but was released on bail, perhaps by the family of Proxenus who had a connection with Xenophon's family, hence the friendship which led Xenophon to Cyrus. Once released, Xenophon was able to attend lectures by Prodicus of Ceos, a sophist c. 465 BC - c. 395 BC, from whom he learned the fable, *The Choice of Heracles*, which Xenophon later turned into the essay, *On Hercules*, recounted in his *Memorabilia* (2.1.21-34). When discussing *The Choice of Heracles*, Philostratus states that, "As for the language of Prodicus, why should I describe its characteristics, when Xenophon has given so complete a sketch of it?" (Philostr. *VS*. 1.12).

The report by Xenophon of the defeat of the Athenian fleet in 405 BC at Aegospotami by the Spartans under Lysander is so graphic that it suggests that he was probably in Athens "during that night [when] no one slept, all mourning, not for the lost alone, but far more for their own selves, thinking that they would suffer such treatment as they had visited upon the Melians" (Xen. *Hell*. 2.2.3-4). And he would have witnessed the surrender of Athens to Sparta in 404 BC at the end of the Peloponnesian War. Contrary to the wishes of the Peloponnesian League, Sparta refused to destroy Athens and enslave her population. The Spartans were well aware that the complete subjugation of Athens would only be of benefit to two of the members of the League, Thebes and Corinth, the two city-states that Sparta now most feared. Instead, a committee of thirty was appointed to frame a new constitution for Athens and a further ten adjutant governors placed in charge of the Piraeus. It soon became clear, under the leadership of Critias, that the *Thirty*, as they came to be known, were not interested in a democratic government but planned to run Athens as an oligarchy - a form of government acceptable to the Spartans. The *Eleven* acted as the enforcers of the *Thirty*. Their duties were to execute the many

democrats opposed to the policies of the *Thirty* and any oligarchs who protested their actions, which included many innocent wealthy citizens. They then confiscated the properties of those executed to add to the coffers of the *Thirty*. Along with the *Eleven*, the *Thirty* made use "of the doubtless not unwilling Athenian cavalry in order to police the resistant masses" (Cartledge 1997, x). Indeed Widdra (2007, 10) speculates that Xenophon may have been among this cavalry who made the unsuccessful attempt to take Phyle from the Thebans under Thrasybulus in 404 BC.

Xenophon with his "elite birth and exceptional wealth [to which] was added an inegalitarian, oligarchic political disposition, which will not have been softened by his encounter with the teaching of Socrates" (Widdra 2007, ix), probably supported the rule of the *Thirty* as a member of the cavalry at this time. Xenophon's positive portrait of Theramenes, one of the *Thirty*, in *Hellenica* (2.3.15-56) would support this theory, as would the fact that "much of *Hellenica* II.iv, which records the actions of the Athenian cavalry in the winter of 404/3 [during the reign of the *Thirty*], reads like an eye-witness account" (Bowen 1998, 2).

Many Athenians chose exile over residence in Athens during the reign of the *Thirty*. These exiles, led by Thrasybulus, mounted a military challenge to the *Thirty* and succeeded in their overthrow by September 403 BC. Pausanias, the Spartan leader, worried about the unrest in Athens because of the rule of the *Thirty*, worked in league with Thrasybulus to bring peace to Athens, and, as a result, democracy was established once more (Schwenk 1997, 8-12).

Xenophon perhaps spent some of the time from 403-401 BC on his father's farm in Erchia. Even though he never mentions a family farm in his writings, there must have been one for him to have possessed the horses and all that goes with them (stabling, fodder, land to turn them out on, etc.) which enabled him to become a cavalryman. One could assume that after the Peloponnesian War, his father would have returned to a life of time spent half in Athens and half running his farm, much as Ischomachus does in the *Oeconomicus*. Also, there is no mention of any siblings in Xenophon's family; male siblings, as females would probably not have been mentioned. Could he have been an only son? If so, why was the farm not left to him, or was it? We do know that he was exiled from Athens (though scholars disagree as to the cause and date of his exile - see section 1.2.4) and, as an exile, the government of Athens would have seized his property. Perhaps this is what happened. He may have been left the farm by his father, and then had it confiscated, leaving him a

cavalryman with neither property nor wealth. This, added together with his uneasiness in the newly democratic Athens as a supporter of the *Thirty* (even though the cavalry was pardoned in the general amnesty at that time), could have led to his seizing the chance for adventure and perhaps wealth and fame in Persia with his friend Proxenus. As Dakyns (1901, xvii) points out, Xenophon "was not, we suspect, enough of a student to sit down quietly and work out his literary salvation in the closet (as did his contemporary, Isocrates)".

1.2.3 Xenophon's Adventures in the *Anabasis*

The next phase of Xenophon's life can be told through his own writing of the *Anabasis* (or *March Up Country*), although I am fully aware that there is an issue of impartiality in the use of his work. It is interesting to note that the horse pervades the *Anabasis*, even though the Greeks who joined Cyrus were a hoplite force.

In 401 BC Xenophon set out for Asia to meet up with his friend Proxenus on the expedition of Cyrus, the Prince of Persia. Cyrus the Younger was the brother of the Persian King, Artaxerxes II. He was only 24 in 401 BC but was secretly keen to overthrow Artaxerxes and assume the kingship. He had helped the Spartans during the Peloponnesian War by financing Lysander's navy (Xen. *Hell*. 1.5.2-3, 5-6; 2.1.13-15; Xen. *Oec*. 4.20-5), so he now turned to the Spartans to help him raise an army of Greek mercenaries to add to his own troops.

Because the Peloponnesian War had lasted for so many years and the devastation to the countryside was so extensive, there were thousands of young, displaced (because of the forfeiture of their lands) Athenian soldiers, who had grown up only knowing of war and fighting. These were now hardened, professional soldiers who were unwilling to return to the quiet life of a citizen, even if they were able. The rule of the *Thirty* had driven many of these young men from their homes. "The general demoralisation caused by a long period of war and the dissolution of family ties hastened the decay of patriotism and kindled the passion for a roving life of profit and adventure" (Edwards 1933, ix). These men seized the opportunity to fight for Cyrus as mercenaries in the hope of rebuilding their fortunes by winning great plunder in Asia (Antrich and Usher 1979, 13-14; Yalichev 1997, 122-49; Hanson 1999a, 123-6). Each soldier provided his own arms and then was paid by Cyrus for his expenses on the expedition. They were originally told that the

expedition was to help Cyrus against the Pisidians, an uncontrollable tribe in a distant part of his satrapy (Xen. *An.* 3.1.9-10).

In March of 401 BC, Cyrus had collected 8,000 Greek troops, including Xenophon, and his own 100,000 Asiatic troops in Sardis. In Tarsus the men mutinied when they discovered that the true target of their endeavour was Artaxerxes (Xen. *An*. 1.3-1.4). Of the five generals on the march, only the Spartan, Clearchus, knew the true nature of their campaign. Xenophon makes it very clear that neither he nor Proxenus were aware of this fact. According to Xenophon, Clearchus managed to persuade the men to continue the march by using superb tact and very persuasive argument. They marched on and by September 401 BC, the army had marched for seven months and covered 15,000 miles (Hanson 1999a, 124-6). The army now consisted of 100,000 of Cyrus' troops and 14,000 Greek troops.

On the way to Cunaxa, word reached them that the Persian army with 400,000 soldiers was approaching in battle formation. Cyrus and Clearchus quickly formed their men into battle lines. The Greeks fought well and managed to defeat the left flank of the Persian army. However, Cyrus, spying his brother Artaxerxes, recklessly rode straight into the middle of the Persian army in an attempt to kill him. Unfortunately, he was hopelessly outnumbered and only managed to wound Artaxerxes before he was surrounded and slain.

At the sight of their dead leader, the Asiatic troops, under the command of Ariaeus, fled. The Persians then attacked the Greeks, but the Greeks, unaware of Cyrus' death, won this battle. The Persians fled back toward Babylon. Clearchus waited around the battlefield hoping to hear news of Cyrus. When he could not discover anything, he returned with his troops to their camp, only to find it had been completely plundered. His men retired, without food or comfort, thereby closing Book One of the *Anabasis*.

Strictly speaking, only the first book of the *Anabasis* describes the *March Up Country* (from Sardis to Cunaxa). Books Two through Four describe the *March Down Country* (or *Katabasis*) from Cunaxa to the Euxine Sea (the Black Sea). Books Five through Seven describe the *March Along* (or *Parabasis*) the Euxine Sea to Byzantium.

In the first two books of the *Anabasis*, Xenophon is mentioned three times (1.8.14-17; 2.4.15 and 2.5.37-42). In Book Three (3.1.4-5) he introduces himself as one who came on the expedition as a friend of Proxenus but who soon seemed to act

as a staff officer to Cyrus (Anderson 1974, 85). From this point on "Xenophon's name occurs about two hundred and thirty times, he delivers over twenty speeches, and he leaves us in no doubt whom he considers [to be] the true saviour of the Ten Thousand" (Cawkwell 1972a, 18).

Books Two through Four describe the march down to the Tigris River and its tributary, the Zapatas, and the journey up through the mountains of Armenia. Tissaphernes, a Persian general, followed them without attacking and eventually lured five generals, including Proxenus, and twenty captains to his tent for peace talks. These men were either killed or imprisoned. Tissaphernes hoped that the lack of leadership would allow him now to overpower the Greeks. It was at this point that Xenophon came into his own with great energy and initiative to save everyone from their leaderless depression. Dressed in his full armour, he gathered together three different groups: the captains under the murdered Proxenus; the surviving generals and lieutenants from the rest of the army who chose replacements; and finally the entire army. He made three speeches (3.1.15-25; 3.1.35-45; 3.2.1-39), one to each group in an attempt to raise their morale which was at an all time low. His arguments were simple, expressed in his desire to generate enough hope in the men to complete the journey home. Included in these is a very untypical speech (3.2.18-19) in which he discredits the cavalry with arguments such as: a man on a horse runs the risk of falling off and no one ever lost his life from the kick or bite of a horse in battle as it is the men who "do whatever is done in battles". Xenophon's disingenuousness is revealed later in the march, when Tissaphernes sends the Persian cavalry repeatedly and successfully against the Greeks. It is then that all the generals decide to provide a cavalry and some slingers to counterattack (3.3.16-20). He also downplayed in these three speeches the difficulties ahead of finding their way, of crossing rivers and, most of all, of finding enough food to keep them going.

Throughout, Xenophon conveys himself as having great leadership skills and compassion and care for the entire army. There is the story of Soteridas the Sicyonian (3.4.44-49) who complained that Xenophon had no empathy for the hoplites as he rode upon his horse. Xenophon leapt off his horse, grabbed the man's shield and moved on up the hill although, eventually, he found it hard to keep up because his cavalry breastplate weighed him down. He then urged the men to pass him out and take the hill. Eventually, Soteridas took back his shield and Xenophon remounted. He had made his point and the men respected him for it. Later, when

they awoke, they were covered in snow. None of the men wanted to come out from under the snow, as it kept them warm. Xenophon, alert to the fact that they were in danger of freezing to death, arose and started chopping wood for the fire, and the men soon followed his example (4.4.11-13). As they marched through the snow, Xenophon would beg, plead and finally get angry with any stragglers, anything to get them to keep moving (4.5.15-21). Xenophon, the general in the rear, took on the care of these tired and sick men when he could have just let them fall by the wayside and die. Towards the end of Book Four we get a palpable sense of the men's relief when they cry out, "The sea, the sea" (4.7.24) as they finally catch sight of the Black Sea and salvation.

In February, 400 BC, at the beginning of Book Five, the army arrived at the Greek city of Trapezus on the shore of the Black Sea. After nearly a year of marching, having covered nearly 3,000 miles (Hanson 1999a, 124), the men were anxious to return home. In Books Six and Seven, the men made their way westward to Byzantium. At this point, Xenophon expressed the wish to return home to Greece (7.1.4), however, Anaxibius, the Spartan general in Byzantium, asked Xenophon to remain with his army while they were ferried across the straits to Byzantium with the promise of pay. Once the army arrived in Byzantium, Anaxibius reneged on his promise and the army turned violent. It took all of Xenophon's skills as a leader to pacify the men and negotiate with Anaxibius.

Eventually, Xenophon arranged for the men to fight for the Thracian, Seuthes. The Greek army stayed with Seuthes until the spring of 399 BC. Seeing that his men were happy, Xenophon again began to make plans to return home to Athens. "It was plain that he [Xenophon] was making preparations for his homeward journey; for not yet [in 399 BC] had sentence of exile been pronounced against him at Athens" (7.7.57). But his friends begged him to lead the army to the Spartan, Thibron, and then make his way home. This he agreed to do and the army sailed across to Lampsacus. They joined Thribron, who was fighting to free the Ionian Greeks from the satraps Tissaphernes and Pharnabazus. At this stage, the original Greek force of 14,000 men who had set out with Cyrus more than a year previously had been reduced to only 6,000 (Thomson 1928, 14). The Greek army was joined with the Spartan army, and this brings the *Anabasis* to an end.

1.2.4 Xenophon and Agesilaus

The Greeks, including Xenophon, who seemed to have forgotten his yearning for home, served under Thibron, and then under his replacement, Dercylidas, from 399-396 BC, and finally under the Spartan King Agesilaus (Hanson 1999a, 124; Hutchinson 2000, 14). This was the beginning of a close relationship between Xenophon and Agesilaus.

It can be argued that the reason Xenophon did not want to return to Athens in 399 BC was because he had been exiled.[2] Both Pausanias (5.6.5) and Dio Chysostomus (*Or*. 8.1.) cite Xenophon's march with Cyrus as the reason for his exile. This strongly suggests that he was exiled for joining forces with Cyrus against King Artaxerxes, who was an ally of Athens in 401 BC. Cyrus, "the greatest enemy of the Athenian people" (Paus. 5.6.5), had been supplying the Spartans with money for their fleets. Xenophon's exile cannot have had anything to do with his joining forces with the Spartans, as the Spartans and Athenians were still allies against the Persians in 399 BC. Athens, at the request of the Spartan, Thibron, sent 300 of their cavalry to him. Xenophon derisively comments on this in *Hellenica* (3.1.4) "that the Athenians only sent some of those who had served as cavalrymen in the time of the Thirty, thinking it would be a gain to the democracy if they should live in foreign lands and perish there".

Xenophon said, at the end of the Thracian campaign with Seuthes, that "he was making preparations for his homeward journey; **for not yet** had the sentence of exile been pronounced against him at Athens" (Xen. *An*. 7.7.57).

> *Ξενοφῶν δὲ οὐ προσῄει, ἀλλὰ φανερὸς ἦν οἴκαδε παρασκευαζόμενος:* ***οὐ γάρ πω*** *ψῆφος αὐτῷ ἐπῆκτο Ἀθήνησι περὶ φυγῆς.*

I have highlighted the phrase ***for not yet***, because the argument supporting the year of 399 BC as the date of his exile hinges on this. Others argue that he was not exiled until after the battle of Coronea in 394 BC for fighting on the Spartan side against Athens. I would contend that you would not use the phrase ***for not yet*** if the exile was not pronounced until five years later. The pronouncement of exile must have

[2] For a variety of views on Xenophon's exile see: for exile in 399 BC: Anderson 1974, 149; Erbse 1966, 485-505 and 2010, 476-501; Gray 2010, 13; Green 1994, 215-27; Higgins 1977, 22-5; Ober 1985, 4; 398/7 BC: Cawkwell 1972a, 14. f n.2; 396 BC: Strassler 2009, xviii., 394 BC: Pomeroy 1994, 4; Rahn 1981b, 103-19; Sordi 2004, 72; Waterfield 2006, 51-4; 392 BC: Badian 2004, 40-2.

been made in 399 BC, shortly after Xenophon expressed thoughts of going home in Book Seven of the *Anabasis*. It is interesting to note that 399 BC is also the year in which Socrates was put to death for impiety and corruption of the young. How ironic that it was Socrates who tried to warn Xenophon not to go on the expedition with Cyrus as it might not be well received by the Athenian authorities (Xen. *An*. 3.1.5).

There is also the view that the *Anabasis* is a lengthy defence by Xenophon, directed towards the citizens of Athens, of his actions from 401-399 BC (Rood 2004b, 323-5). Xenophon perhaps wanted to set the record straight. He tells us that he thought the campaign with Cyrus was harmless, directed at some obscure Pisidian tribe (Xen. *An*. 3.1.8-10). He hints at his exile to come, albeit, through reference to a dream in which a thunderbolt struck his father's house and burnt it to the ground (Xen. *An*. 3.1.12-15). This dream can be interpreted in two ways. First, that Xenophon, in the midst of hardships, had seen a great light from Zeus, or, second, that Xenophon would become an exile now that his father's house was burnt, leaving him with no home/country to which he could return.

Xenophon takes on no starring role in the *Anabasis* until long after Cyrus is dead. Repeatedly, we see him coming to the rescue of his comrades who have ended up in this dreadful situation through the deception of Cyrus. When offered the command of the men in Sinope, he contemplated the great esteem that would be bestowed on him by his city (Athens) if he accepted the position (Xen. *An*. 6.1.20). He was thereby implying to his audience that even that far into the journey, he was unaware that he had committed a sin against his city. Moreover, he recalled that from the beginning of the march, as he set out from Ephesus to meet Cyrus, he had been under divine protection.

> *An eagle screamed upon his right; it was sitting, however, and the soothsayer who was conducting him said that while the omen was one suited to the great rather than to an ordinary person, and while it betokened glory* (Xen. *An*. 6.1.23).

He wanted to convince readers of the *Anabasis* that he had set out on that journey as an innocent, and, that it was his achievements on the journey through Persian lands leading Athenians to safety that should be recognized and celebrated. Throughout his writings, however, Xenophon never expressed any bitterness about his exiled state. This might suggest that he accepted that he had done something to

deserve it, but knew that it was safest never to put this offence down in words (Strassler 2009, xviii).

By 396 BC, Artaxerxes realised that the Spartan army constituted a real threat to his kingdom. Knowing that if he could once again get the Greeks fighting one another, they would leave Persia, he sent money to Athens to help her to rebuild her ships and then mount an attack on Sparta. The *Hellenica* locates Agesilaus in Ephesus in 396/5 BC building up his cavalry (perhaps with the help of Xenophon) (Xen. *Hell*. 3.4.16-19). In 395 BC, near Sardis, Agesilaus had his greatest victory over Tissaphernes, a victory which eventually led to the downfall and execution of his opponent. In August 394 BC the Athenians defeated the Spartans off Cnidus in southwest Asia Minor. The Persians then sent money to help the anti-Spartan coalition back on mainland Greece to mount an offensive against the Spartan homeland. At the Nemea River, near Corinth, in that same year, the Spartan forces defeated the coalition of Argives, Corinthians, Thebans and Athenians. But the Spartans, with few troops based at home, sent word to Agesilaus to return home as quickly as possible with the rest of the army and abandon his Persian invasion. Agesilaus returned in time to fight and win the Battle of Coronea (394 BC) in Boeotia against the anti-Spartan coalition, which included Xenophon's home city of Athens. Xenophon's account of this battle is so convincing as an eye witness testimony (Xen. *Ages*. 2.9-16), that most scholars presume that he fought in the battle on the Spartan side - a reasonable assumption as he had nothing left to lose having been already exiled from Athens. He called it "a battle like none other of our time" (Xen. *Ages*. 2.9).

Xenophon accompanied Agesilaus back to Sparta (Xen. *Ages*. 2.51-52; Plut. *Ages*. 20.2) where he was honoured as a *proxenos* of Sparta and granted an estate at Scillus just south of Olympia in territory formerly belonging to the city of Elis (Xen. *An*. 5.3).

1.2.5 Xenophon's Final Years

By 393 BC, Xenophon and his wife, Philesia, were probably settled at Scillus (Anderson 1974, 165). We are told nothing of his wife but she must have been an Athenian citizen for her sons to have been able to join the Athenian cavalry. According to Aeschines Socraticus, Xenophon married Philesia before he left Athens

in 401 BC and the couple were given advice by Aspasia (Badian 2004, 37. fn.10). His sons, Gryllus and Diodorus, most likely stayed behind in Sparta where they were offered an education in the *Agoge*.

He lived in Scillus for twenty years, or more, and it was here that he accomplished the majority of his writing (Finley 1959, 382). He also went on several more campaigns with Agesilaus, notably at Corinth (391 BC) (Xen. *Hell*. 4.4.19), Peiraeum (Xen. *Hell*. 4.5.1-6) and Acarnania (390 BC) (Xen. *Hell*. 4.6.5-7). When the city of Elis reclaimed the land of Scillus sometime after the Battle of Leuctra (371 BC), Xenophon moved to Corinth (Strassler 2009, xviii). At this point, Athens had allied herself with Sparta and it is probable that Xenophon's exile was revoked, allowing him to send his sons to Athens to serve in the cavalry there. One of his sons, Gryllus, was killed at Mantinea (362 BC) while serving in the Athenian cavalry (Hutchinson 2000, 15).

There are two reasons to believe that Xenophon's exile was revoked sometime in the 360s: first that his sons were then fighting in the Athenian cavalry, something that they could not have done had their father still been an exile; and second, that he wrote *The Cavalry Commander*, which was directed towards the Athenian authorities to improve their cavalry. He could have returned to Athens, and perhaps he did, after the Corinthians expelled their Athenian garrison in 366 BC (Xen. *Hell.* 7.4.4-6), but most scholars agree that he lived out his life in Corinth.

The year of Xenophon's death is not certain. We know that the last datable event alluded to in the *Hellenica* dates to between 357-353 BC, when Tisiphonus was the king of Thessaly (Xen. *Hell*. 6.4.37). In his last treatise, *Ways and Means*, he refers to the end of the Social War between Athens and its allies in 355 BC (Xen. *Vect*. 4.40). It is thought that he died shortly after writing this in 354 BC, most likely in Corinth (Diog.Laert. 2.6.56). Pausanias claims that on his visit to Scillus, he was shown Xenophon's tomb, which consisted of a sanctuary built by Xenophon, containing a tomb with a statue of Pentelic marble (Paus. 5.6.6).

1.3 Part Two - The Man

1.3.1 His Work

In order to discover Xenophon the man, it is important first to look at his substantial corpus of work and how it has been received in literary history. He has gone from a writer highly respected to one who fell out of favour in the nineteenth century. Nadon laments that "over the past 150 years, perhaps no other author from the classical tradition has been so little studied and so much reviled" (Nadon 2001, 1). I will look at Xenophon's reputation and then turn to his works in order to glean the character of the man.

According to Diogenes Laertius (2.6.56-70):

> *He wrote some forty books in all, though the division into books is not always the same, namely:*
> *The Anabasis, with a preface to each separate book but not one to the whole book.*
> *Cyropaedia.*
> *Hellenica.*
> *Memorabilia.*
> *Symposium.*
> *Oeconomicus.*
> *On Horsemanship.*
> *On the Duty of a Cavalry General [The Cavalry Commander].*
> *A Defence of Socrates.*
> *On Revenues.*
> *On Hunting*
> *Hieron or Of Tyranny.*
> *Agesilaus.*
> *The Constitutions of Athens and Sparta.*

It seems that all of these works were composed between 368 BC and 354 BC. The cross-references and repetitions in Xenophon's works could imply that they were written at the same time under the same conditions, presumably during his retirement in Scillus and Corinth/Athens (Higgins 1977, 131-2). Of course, this could also imply that he had copies of his earlier works to hand when writing the later ones.

Although critics in the nineteenth and twentieth centuries have been severe on the quality of Xenophon's work, there is no doubt that there had been, up to that time, a remarkable stability in his reputation. "Xenophon's works have been preserved over the centuries in their entirety and this without the benefit of special

care from any particular school, a compliment rarely paid to so prolific a writer" (Nadon 2001, 3). According to Tuplin, Xenophon was praised by the following classical authors: Polybius (6.45) called him, "most learned"; Tacitus; Cicero; Dionysius of Halicarnassus; Aulus Gellus; Athenaeus of Naucratis (504c) in AD 200 called him, "the sweetest and most graceful Xenophon"; Quintilian; Arrian, who saw himself as the new Xenophon and modelled his history of Alexander the Great on the *Anabasis* both in name and structure (Gray 1998, 5)[3]; and Longinus praised him both as a philosopher and an historian.[4] Moving forward in time, in 1642, Milton in his *An Apology for Smectymnuus* wrote that "the ceaseless round of study and reading led me to the shady spaces of philosophy; but chiefly to the divine volumes of Plato and his equal Xenophon" (Milton [1642] 1970, 70). This sentiment is echoed in Catiglione, Alberti, Montaigne, Rousseau, Montesquieu, Bacon, Spenser, Swift, Bolinbroke, Franklin (Nadon 2001, 3) and Gibbon (1910, 148), who called him "sage and heroic" and described the *Anabasis* as, "this pleasing work is original and authentic". Machiavelli cites Xenophon more often than he does Plato or Aristotle (Higgins 1977, 1).

Xenophon was "the first polygraph in Greek history, and it is sufficient measure of his continuing popularity that every one of his works, so far as we know, has survived in full, a fate almost without parallel among the Greek writers" (Finley 1959, 382). If ancient readers had found him lacking, his work would have been forgotten.

I am not sure that comparing Xenophon with Thucydides or Plato (Bowen 1998, 8; Pomeroy 1994, 23-4) is either constructive or worthwhile, as the critics below have done:

> *He* [Xenophon] *was not a man of great intellect…nor did he have the lofty detachment or intellectual rigour of a Thucydides. His philosophy is second-hand and second-rate, his history moralizing memoirs* (Cawkwell 1972a, 26).
>
> *He* [Xenophon] *is neither as great a historian as Thucydides, nor as great a philosopher as*

[3] Gray (1998, 5) states, "Xenophon was himself a master of many genres, and Arrian's imitations, the sincerest form of flattery, show that they were not all deemed to be miserable failures".
[4] For a full list of classical references to Xenophon see Tuplin 1993, 21-28.

> *Plato,…nor as outstanding a writer as either of these two* (Waterfield 1990, 8*).*
>
> *In history as in philosophy he* [Xenophon] *was a dilettante; he was as far from understanding the methods of Thucydides as he was from apprehending the ideas of Socrates…his mind was essentially mediocre, incapable of penetrating beneath the surface of things…If he had lived in modern days, he would have been a high-class journalist and pamphleteer* (Bury 1909, 151).

Xenophon wrote on many subjects and in many genres - some well-established, others he invented. Higgins sums up his talents, "Philosopher, biographer, essayist, novelist, historian, he was a versatile talent and, let it be remembered, often a pioneering one" (Higgins 1977, 2; also Strassler 2009, xxiii and Hirsch 1985b, 66). This is testimony to the breadth and originality of his talent. "Xenophon is no genius, but it is precisely because of this that he provides the finest example of what the Greek world could provide as a truly liberal education" (Norwood 1925, 134).

However, it is hard for any scholar, perhaps not so widely versed in such a myriad of subjects, to evaluate his work fairly. "Besides giving scholars a most unpleasant feeling of incompetence, Xenophon's ability to compose in many different genres may cause suspicion as to his talent" (Due 1989, 11). He has come to be viewed as a *Jack of all trades, master of none*. Critics tend to pick at individual works and dismiss them as facile, instead of trying to judge his entire corpus, with the result that insufficient respect is shown to its breadth. "Xenophon is a more interesting and creative personality than is usually allowed" (Hirsch 1985b, 65). Recently, Xenophon's writings have been taken on their own merits without comparison to the other writers of his time, just as the later writer, Plutarch, is now being rediscovered as an author worthy of serious study.

In the established genres, he wrote history (*Hellenica*), technical treatises (*On Hunting*, *The Art of Horsemanship*, *The Cavalry Commander*, *Ways and Means*) and essays widely ranging in subject-matter, length and style (*Apology* and *The Constitution of the Lacedaemonians*). He was the inventor or co-inventor of several new genres. Along with his contemporary, Plato, he began the writing of philosophical dialogues (*Memorabilia*, *Symposium* and *Hiero*). Pomeroy (1994, 15) states, "Diogenes Laertius and the Suda (s.v. *Ξενοφών*, iii. 496 Adler) credit

Xenophon with being the first to write lives and reminiscences of the philosophers". He wrote an historical-romance novel (*Cyropaedia*) which Due (1989, 10) states "has an important place in the history of literature, being the first educational novel and in a way the first novel at all in European literature". Due (1989, 26) also credits the *Cyropaedia* with the birth of biography. Xenophon wrote a war memoir (*Anabasis*), and, at the same time as his contemporary, Isocrates (who wrote biographies of Evagoras of Greek Cyprus and his son Nicocles of Salamis) (Cartledge 1997, 31; Bury 1909, 153), an encomiastic biography (*Agesilaus*). Bury states that "after Xenophon and Isocrates, historians generally considered sketches of character and biographical facts to be part of their business" (Bury 1909, 154). The *Oeconomicus* was among the first prose treatises in dialogue form to be written on agriculture and is the earliest to survive (Pomeroy 1994, 15). Not only were some of the genres new, he was the first to use the literary *koine*, or the common language derived from the various dialects and poetry of the period (Pomeroy 1994, 10-11).

1.3.2 Xenophon as a *Kalos Kagathos*

Most scholars agree that "Xenophon's own view of life, his moralistic, didactic way of thought, dominates his writing (and thinking) thoroughly" (Gera 1993, 27; Waterfield 1990, 2). He "very probably considered that 'story-telling' was the most effective method of persuasion in contexts other than the purely technical (where the concept of story is not appropriate anyway)" (Tuplin 1993, 168). Throughout his works, Xenophon is interested in the *kalos kagathos*, the truly good man, as a literary conceit. The abstract noun, *kalokagathia*, meaning *true goodness*, first appears in literature in the work of Xenophon (Waterfield 1990, 60). A *kalos kagathos* can be defined as a *gentleman* with all its connotations of correct behaviour and a certain moral code. Xenophon saw himself as a gentleman and in his writings, he was interested in how a gentleman could be created, particularly in his philosophical dialogues and in those works to do with leadership: the *Cyropaedia*, *Anabasis*, *Agesilaus* and *The Cavalry Commander*. Waterfield (1990, 59 fn.2.) sees the values and character of Socrates in Xenophon's writings as really those of Xenophon. "A striking confirmation of this is that the general picture we acquire of Socrates in Xenophon's Socratic writings is much the same as the ones we acquire from other writings about his other heroes, such as Cyrus and Agesilaus." As

Mahaffy (1892, 109) says "in the whole range of Greek literature, he [Xenophon] appears the most cultivated of authors, in his external life he combines everything which we desire in the modern gentleman".

A *kalos kagathos* for Xenophon is a "virtuous person who is free". This freedom is attained by order developed through self-discipline/control, education, and piety. The *kalos kagathos* has the ability to manage his estate and, if necessary, his country and to do well for his country. He has the ability to make friends and get along with people, to command their respect when necessary. He knows when to do good for his friends and when to harm his enemies. We find these qualities expounded in the *Memorabilia*[5] and in the *Oeconomicus* (the word means, "one skilled in managing a household or estate"), where to be a good estate manager is to be a truly good person. Xenophon saw agriculture as the foundation of civilization, an old idea quite commonplace in Greek thought at the time and evident in the writings of both Hesiod and Aristotle, who linked agriculture with politics (Hanson 1995, 25-45). "It has been nobly said that husbandry is the mother and nurse of the other arts" (Xen. *Oec*. 5.17). Xenophon makes the analogy between wielding authority on an estate and doing the same in an army. Managing an estate inculcates self-discipline, which is the foundation of all external management, and teaches men to rule others. If you are protective of your estate, you will be protective of your country. For a man to become a good estate manager (or a good ruler), he needs training, a certain natural talent and divine dispensation.

The mind of man was beginning to be seen at this time as a means for understanding and then controlling the world - the rational mind governing the choices man makes. Deliberate, knowing action - virtuous action - became preferable to involuntary action, which was unknowing and therefore not virtuous - action governed by ignorance. The concept of order in one's mind and a life obtained by self-discipline became very important in Greek thought at this time. "In the *Hellenica*, order, and a range of accompanying notions (preparedness, obedience, caution), tend to be found in the ranks of the victorious, while disorder is often cited as the chief reason for failure on the battlefield." (Dillery 1995, 28). In the *Anabasis*

[5] *kalos kagathos* appears in the following passages of the *Memorabilia*: I.i.16; I.ii.2; 7,17,23,29,48; I.iii.11; I.v.1,14; I.vi.13-14; II.i.20; II.iii.16; II.vi.16-28; 2.ix.8; III.v.15; III.ix.4-5; IV.ii.23; IV.vii.1, IV.viii.11.

(3.1.38), “for good order, it seems, keeps men in safety, while the lack of it has brought many before now to destruction” (see also Xen. *Oec*. 8.3-4; Xen. *Cyr*. 6.3.25-26; Xen. *Mem*. 3.1.7).

Agesilaus training his army at Ephesus in the *Hellenica*, “suggests that Xenophon believed that order had an aesthetic - it could literally be perceived, and what is more, it was beautiful” (Dillery 1995, 30). This echoes Plato who, in the *Republic* (3.403a), has Socrates say that, “to love rightly is to love what is orderly and beautiful in an educated and disciplined way”. And in the *Gorgias* (508a), this idea of order is again reinforced, “and gods and men are held together by communion and friendship, by orderliness, temperance, and justice; and that is the reason, my friend, why they call the whole of this world by the name of order, not of disorder or dissoluteness”.

Along with the concept of order comes that of piety, as the gods are seen as the guarantors of order. In the *Cyropaedia* (8.7.22), “but if it is not so, and if the soul remains in the body and dies with it, then at least fear the gods, eternal, all-seeing, omnipotent, who keep this ordered universe together, unimpaired, ageless, unerring, indescribable in its beauty and its grandeur; and never allow yourselves to do or purpose anything wicked or unholy” (see also Xen. *Oec*. 7.31). *Eusebeia* or “a duly reverential attitude to the gods” was the duty of every citizen. Throughout the *Anabasis*, Xenophon sacrifices to the gods to enable him make the correct decisions for both himself and his men. In the *Hellenica* (5.4.1), he cites incidents where the gods punish those without *eusebeia*, “one could mention many other incidents, both among Greeks and barbarians, to prove that the gods do not fail to take heed of the wicked or of those who do unrighteous things”.

Xenophon was interested in temperance and self-control and by this he meant, “abstinence and self-control in the face of temptations…food and drink, but it is also associated with the idea of endurance of cold and hunger…..combined with the idea of training and hard work” (Due 1989, 174). Socrates, in the *Memorabilia* (2.1) exemplified these traits, as does Agesilaus, who loved hard work and would eat and drink whatever came his way and sleep anywhere he could lay his head. (Xen. *Ages*. 9.3) Jason of Thessaly, in the *Hellenica* (6.1.16), is another example, “again, he has greater self-control than any man I know as regards the pleasures of the body,

so that he is not prevented by such things, either, from doing always what needs to be done".

Xenophon's humanity is strongly felt in many of his works. In the *Oeconomicus*, Isocrates is gentle and considerate towards his wife and rewards his slaves when they deserve it. In the *Cyropaedia*, you are left with the understanding that "Xenophon recommended fairness and self-restraint instead of oppression and brutality, winning by affection and generosity the loyalty of the subjects and treating vanquished nations and even defected allies with kindness and clemency. And in his work there is not any nationalist or racist prejudice" (Due 1989, 239). In the *Anabasis* (4.4.7-14; 4.5.7-24), Xenophon helps his men through the snow, helping up those who have fallen, encouraging them and finally by getting himself up in the freezing conditions and starting to chop wood for the fire. It is not just men who deserve kind treatment but also animals, as is shown in the *Art of Horsemanship* (2.5) where Xenophon reveals his humane side, "let the groom be under orders also to lead him [the horse] through crowds, and accustom him to all sorts of sights and all sorts of noises. If the colt shies at any of them, he must teach him, by quieting him and without impatience, that there is nothing to be afraid of".

1.3.3 Xenophon and Persia

At a time when the Greeks considered all non-Greeks barbarians, Xenophon had managed to overcome typical Greek prejudices towards barbarians and had developed a balanced and respectful attitude towards Persia (Hirsch 1985a, 12). He shared many Persian interests: land, hunting, horses and estate management. Persia and Persians play a large part in the *Anabasis*, the *Agesilaus*, the *Cyropaedia* and the *Hellenica*. A story that exemplifies Xenophon's attitude to Persia is told by Diogenes Laertius. He tells us that Xenophon left a sum of money in Ephesus with Megabyzus, the priest of Artemis, to keep for him until his return. Years later, Megabyzus arrived at Xenophon's estate at Scillus en route to the Olympics and returned the money. Xenophon then built a park or paradise on land bought with this money and dedicated it to the goddess, Artemis. This park has a river named Selinus, which is the same name as the river at Ephesus. There are four significant connections with Xenophon and the barbarians found in this story. The first is the connection of Xenophon with Ephesus, one of the Greek towns of western Asia

Minor most imbued by Oriental influences (Plut. *Lys*. 3.2; Lewis 1977, 116). Second, is his trust in Megabyzus, the priest of Artemis, in Ephesus (Lewis 1977, 108 fn.1). Third is his devotion to the goddess Artemis, whose cult had strong Oriental affinities to that of the Iranian goddess, Anahita (Hirsch 1985a, 153 fn.14). And, fourth is his construction of a park reminiscent of the Persian paradises described in the *Anabasis (1.2.7; 1.4.10; 2.4.14)*, the *Oeconomicus* (4.20-25), the *Hellenica* (4.1.15-16) and the *Cyropaedia* (1.3.14; 1.4.5; 8.6.12). Xenophon was the first Greek writer to use the word, *paradeisos* (Liddell and Scott 1996, 1308), to describe the haven of peace and prosperity which symbolized so much of the Persian King's power (and that of his governors in their provinces) (Moynihan 1979, 1-2, 19). Xenophon's park at Scillus was possibly one of the first in mainland Greece and through his writing he popularized this concept and influenced its development in Hellenistic and Roman times.

1.3.4 Xenophon and the Horse

Throughout Xenophon's work, he continually makes reference to the horse, with the exception of the *Apology* and *On Hunting* (which is concerned with hunting with dogs and not horses). Setting aside the *Art of Horsemanship* and the *Cavalry Commander*, which are centred on the horse, Xenophon mentions horses 450 times in his other works both in military and social contexts (see Appendix I). Of the historians who went before him, Thucydides, only in passing, makes mention of horses in their military context - in relation to cavalry and warfare. Herodotus makes references to horses in both the military and social contexts. These are usually in relation to barbarians - Persians, Scythians, etc. - and give us an insight into the various uses to which they put their horses. These include their use in warfare, and also the fact that some used the horse as food, as well as a conveyance or beast of burden. Xenophon, however, seems to have had another agenda.

Xenophon was interested in horse behaviour in order to get the best from each horse in terms of performance on the battlefield. He understood what made a good cavalry horse both in terms of external appearance and internal psyche. Interestingly, he was not a sentimentalist when it came to horses. Nowhere in his writings does Xenophon mention the name of an individual horse. This is striking in a man who seems so passionate about horses and good horsemanship. Throughout history,

famous men have owned equally famous horses: Alexander the Great and *Bucephalus*, Caligula and *Incitatus*, King Arthur and *Hengroen*, El Cid and *Babieca*, Prince Marko of Serbia and *Sharatz*, Hernando Cortés and *El Morzillo*, Napoleon and *Marengo*, Wellington and *Copenhagen*, George Washington and *Nelson*, Abraham Lincoln and *Old Bob*, Ulysses S. Grant and *Egypt*, Stonewall Jackson and *Little Sorrel*, Robert E. Lee and *Traveller*, Philip Sheridan and *Rienzi*, Zachary Taylor and *Old Whitey*, Sitting Bull and *Gray Ghost*, Buffalo Bill and *Charlie*, and the only U.S. survivor of Custer's Last Stand, *Comanche*, to name but a few (Evans 1975, 9-114). But Xenophon does not give us the name of any of his horses, nor those of the famous men he dealt with: Cyrus, Agesilaus, Seuthes, etc. Even his own favourite horse, which he sells near the end of the *Anabasis* to pay for his passage back to Greece, is given no name. His own men, "suspected that he had sold it for want of money, since they heard he was fond of the horse - gave it back to him, and would not accept from him the price of it" (Xen. *An*. 7.8.6).

As previously mentioned, I have broken down the 450 horse references into 32 categories and their references are listed in Appendix 1. The analysis of these references would encompass an entire new thesis. However, they show that the horse is never very far from Xenophon's mind.

1.3.5 Xenophon and Alcibiades (the compromised *Kalos Kagathos*)

This section examines whether Xenophon lived up to his own aspirations and values by contrasting him to Alcibiades. The careers of Alcibiades and Xenophon can be usefully compared and contrasted to shed light on Xenophon's character (Figure 3). Alcibiades (451-404 BC) lived only 47 years. Xenophon (430-354 BC), born perhaps 20 years after Alcibiades, lived for 76 years. They would have known one another in Athens and perhaps in Asia Minor through the cavalry, social connections and Socrates. Though they both had wealth, Alcibiades was high-born, with Pericles as his relative and guardian. These were attractive men, although Alcibiades was clearly exceptionally handsome. (Xenophon: Diog.Laert. 2.48; Alcibiades: Paus. 1.3) Xenophon was a student of Socrates, as was Alcibiades, however it was strongly rumoured that Alcibiades could have been a lover of Socrates, who was 18 years his senior (Rhodes 2011, 27-8; Plut. *Alc*. 6.1-4). They were good orators, but Alcibiades was particularly gifted. Both served in the cavalry

and seemed to have an exceptional rapport with horses. Pious men, Xenophon constantly sacrificing, Alcibiades with his famous reinstatement of the march to Eleusis in 407 BC, where he provided the military escort to protect the pilgrims from the Spartan forces at Decelea (because of their fear of the Spartans, the pilgrims had travelled from Athens to Eleusis by sea previously). However, Alcibiades was called an impious man because of the destruction of the Herms, but this was never proven to have been an act of destruction perpetrated by him. They were friendly with Persian leaders: Xenophon with Cyrus, and Alcibiades with both Tissaphernes and Pharnabazus. Both were arrogant men. They were exiled from Athens: Xenophon in 399 BC and Alcibiades in 415 BC and again in 406 BC. A proxeny from Sparta was given to both men: Xenophon as a personal reward for his service (Perlman 1958, 187-8); Alcibiades held his as a heredity entitlement.

There were many differences between the two. Alcibiades seems to have been a brilliant general for Athens, serving from 420-416 BC and later as the Supreme Commander in 407 BC. Xenophon, in the *Anabasis*, was only acting as a general for the mercenaries who elected him on their march. Alcibiades was a renowned drinker, a womanizer and a man prone to violence; Xenophon is not recorded as having any of these failings. Alcibiades was a bit of a chameleon; he could be austere in Sparta and live the life of luxury in Persia. Xenophon presented himself as a prudent man. Both had scheming minds, but Xenophon never schemed to hurt others, whereas Alcibiades revelled in plots and schemes to ruin those who had turned against him. Alcibiades was murdered at the age of 47; Xenophon died a natural death at the age of 76.

The biggest difference between the two men is that Xenophon left behind his writings; we have nothing from Alcibiades. Xenophon was able to explain the reasons for his actions; with Alcibiades, we have to rely on other writers. Both men were condemned as traitors to Athens. Alcibiades, because of his brilliance in tactics, was able to inflict more harm on Athens. He flip-flopped from Athens to Sparta to Persia to Athens to Persia, whereas Xenophon seems to have left Athens and once exiled, in all probability, never returned. One key difference is that Xenophon, through his writings, had a chance to paint another picture of himself, to justify his actions and protest his innocence. Xenophon appears to be a victim of circumstance, while Alcibiades becomes a victim of his ambition combined with character flaws.

As with all ancient literature, it is necessary to dig in under the literal Xenophon to ascertain the real man that lies beneath. He would like us to think of him as a kindly retired general, a *Kalos Kagathos*, loyal to his country and the gods. Critical reading of his works and actions opens up the possibility of questioning this self-image.

Figure 3 - Xenophon versus Alcibiades	
Xenophon	**Alcibiades**
Lived from 430 - 354 BC (76 years)	Lived from 451 - 404 BC (47 years)
Athenian / Wealthy	Athenian / Wealthy / Aristocratic
Attractive (D.L. 2.48)	Attractive (Pau.1.3)
Knew Socrates	Knew / lover of Socrates ?
Cavalryman	Cavalryman
Had love of horses	Had love of horses
Good orator - persuasive	Excellent orator - very persuasive
Proxenos of Sparta - honorary	Proxenos for Sparta - hereditary
Pious	Pious - march to Eleusis
	Impious - Herms?
Exiled in 399 (or 394 BC)	Exiled in 415 and 406
Commander only for the 10,000	Commander in Athens (420-416)
	Supreme Commander 407
Persian friends - Cyrus /Megabyzus	Persian friends - Tissaphernes / Pharnabazus
Pedantic	Arrogant
Only one woman mentioned - his wife	Womaniser
All things in moderation	Heavy drinker
Preached non-violence to horses/ wives	Violent
Inflexible	Chameleon - could adapt to whatever society he ended up in.
Always austere	Austere in Sparta
Had his own Persian style Paradeisos	Enjoyed the life of luxury in Persia
Writer	
	Had a certain charisma
Schemed to get his story across in his writings	Scheming in all facets of life

1.3.6 Conclusion

In summary, the characteristics of Xenophon that come through his works are as follows: he was an active man, versatile, resourceful and able to assume responsibility when necessary; he was at all times pious; he was an optimist (except for one brief moment in the *Cavalry Commander*, 4.5); he believed in order and self-discipline along with moderation and physical fitness; and he was sensitive to the

problems affecting the human condition - a true humanist (Antrich and Usher 1979, 8-11). These were standard Athenian values at this time. Xenophon was not overly virtuous, but he emphasized the values that each Athenian citizen should aspire to in their lifetime.

But does this reflect the real Xenophon or is this the Xenophon that he wished he had been? The following quote is one that would meet Xenophon's approval but does it describe the man in reality?

> *Xenophon quite closely resembles a familiar British figure - the retired general, staunch Tory and Anglican, firm defender of the Establishment in Church and State, and at the same time a reflective man with ambitions to write edifying literature* (Gray 1998, 2).

He was a retired general, but not a general voted into office in Athens. He had only been promoted to a general by the group of mercenaries that he led out of Persia. Yes, he was conservative and religious, but was he really a defender of the establishment? Perhaps he was in relation to religion, but certainly not to the state.

Xenophon, as an old man, paints a picture of himself as the embodiment of traditional Athenian aristocratic values: loyalty to his men, his class, and his polis. The reality may be that, as a young man, he was more ambitious and opportunistic, and paid a heavy price later for his recklessness. In fact, his career was not all that different from that of Alcibiades, who has gone to his grave with the reputation of a flamboyant aristocrat who flaunted convention, and was never quite trusted by anyone because of his burning personal ambition and excessive private life.

Chapter 2

History of the Ancient Greek Horse

2.1 Introduction

In this chapter, I summarise the evidence for the domestication of the horse, and the evidence for where and when the first horse was ridden. I will then identify the horses that first came into Greece - their possible breeds and sizes - through the use of the available literary, artistic and skeletal evidence.

2.2 History

At the end of the Pleistocene (12,000 years ago), the genus *Equus* only survived in Eurasia and Africa and had evolved into sixteen species.[6] Of these, three were horses: *Equus caballus*, *Equus caballus celticus* (the Celtic pony) and *Equus ferus przewalski*; six were types of wild ass, and seven were types of Zebra.[7] We are interested here in *Equus caballus*, which is distinguished from the other species by its tail, which is covered with long hair for its entire length. It also has a forelock (the hair between the ears falling over the forehead), shorter ears, longer limbs (with chestnuts on the inner sides of the legs[8]), a smaller head, and broader hooves. Their gestation period is eleven months, while that of the ass and zebra exceeds twelve months (Ridgeway 1905, 16).

From the *Equus caballus*, four types of horse emerged. The first, the *Northern Horse*, inhabited north-west Europe. It stood at c. 12.1 hh (124 cm)[9] and

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[6] According to the Linnean system of organizing the living world, equines slot in as follows: Kingdom: Animal; Phylum: Vertebrate; Class: Mammal; Order: Perissodactyl; Family: Equid; Genus: Equus. (Bowling 1996, 161-166) After Genus comes the Species: Equus caballus, which is the horse of today. (Hastie 2001, 13) This is further broken down into Breeds: a stock of animals within a species having a distinctive appearance and typically having been developed by deliberate selection, and Types: this is not a breed but is simply a term used to describe a group of breeds that are similar in appearance (phenotype) or use.

[7] The Przewalski or Takhi is the only true wild horse alive today. The others referred to as wild are actually escaped domestic horses gone wild (feral). Unlike the common horse (Equus caballus) which has 64 chromosomes, the Przewalski has 66 and is now a protected species (McBane 2000, 5).

[8] The chestnut, the last vestige of the pads of the paws of their ancestors, is a callosity on the inside of the hind leg, just below the hock. It corresponds to the wrist pad. The ergot is a callosity on the back, lower surface of the fetlock. It corresponds to the middle portion of the trilobed sole pads (Hayes 1969, 318-319).

[9] Horses are measured from the ground to their withers (see Figures 12 and 13) in hands (hh). A hand is 10 centimetres (cm).

was strong, hardy, and chunky. Living in the north, it was resistant to wet, wind, cold, and privation (Edwards 2008, 175 and 186-7). Today, the *Exmoor* pony (Figure 4) and the *Icelandic* horse (Figure 5) are its closest relatives.

Figure 4
Exmoor pony
(Available at: www.whatsonexmoor.co.uk./exmoor_pictures/pony_punchbowl2.jpg.)
(Accessed 15-07-14)
(Photo by kind permission of Jerry Beggs)

Figure 5
Icelandic horse
(Available at: www.why.is/svar.pph?id=5453)
(Accessed: 05-04-14)
(Photo by kind permission of Icelandic Horse Consulting)

The second type, the *European Horse*, occupied the area of northern Europe and Asia. This was larger than the *Northern Horse*, standing at c. 14.2 hh (147cm). It could live at sub-zero temperatures and withstand the bitter winds, frost, and the

accompanying privation (Edwards 1980, 192-3). Today its closest relative would be the *Norwegian Fjord* pony (Figure 6).

Figure 6
Norwegian Fjord pony
(Available at: www.rightpet.com/ratingofhorse/Norwegian-fjord-horse/726)
(Accessed 05-04-14)
(Photo by kind permission of SNA88)

The third type, the *Eurasian Horse*, inhabited central Asia and central and western Europe. This was a desert/steppe horse standing at c. 14.3 hh (149 cm). It could withstand drought and heat, and was spare and lean (Hope and Jackson 1973, 47,320). Its relatives today are the *Akhal-Teke* horse (Figure 7) and the *Turkoman* horse (Figure 8).

Figure 7
Akhal-Teke horse
(https;//en.wikipedia.org./wiki/Akhal-Teke#/Media/File:Dagat-Geli.jpg.)
(Accessed 15-05-14)
(Photo by kind permission of Artur Baboev)

Figure 8
Turkoman horse
(Available at:
http://buzzsharer.com/wp-content/uploads/2015/07/Turkoman-Horse.jpg)
(Accessed: 01-08-15)
(Photo by kind permission of Artur Baboev)

The fourth type, the *Afro-Asian Horse*, populated western Asia and Africa and is the Proto-Arab pony. This was a small desert pony standing at c. 12 hh (122 cm). It had a small head with a concave profile and a domed forehead. Its body was short and compact. Its relative today would be the *Arab* horse (Figure 9) (Pickeral 2002, 162-175; McBane 2000, 9-17).

Figure 9
Arab horse
(Available at:
http://davenporthorses.org/photos/All Davenports/1950s/prince-hal.jpg.php)
(Accessed: 02-05-13)
(Photo by kind permission of Davenport Arabian Horse Conservancy)

The ancient Greek cavalry horse came from one of these four types of *Equus caballus*. In 10,000 BC, these horses were in Europe, Asia and Africa, but were unknown in the countries bordering the Mediterranean. The horse was probably introduced into Greece at the start of the Middle Bronze Age, around 2000 BC (Camp 1998, 3).

2.3 Landscape

Mainland Greece has never had a climate naturally enticing to the wild horse or conducive to the raising of horses (Howe 2000, 16). As Gladitz states:

> *It is a region of mountains. Low plains are mostly small and are relatively isolated. Within this region wild horses were unknown* (Gladitz 1997, 115).

The harsh weather conditions leave the soil infertile and extremely poor (Garnsey 1988, 93-6). Howe states, "Only 30 percent of the [Greek] land can even be cultivated. Less than half of that, around 12 percent, is truly fertile, watered by adequate rainfall" (2010, 335). Horses require extensive and well-watered pasture. A mature horse contains 70% water and needs plenty of fresh water to maintain this level (Houghton Brown 1997, 308-9). Pastures of moisture-rich grass can supply this water, but these are not found in great abundance in Greece (Kane 2007, 62). White (1970, 289) points out that due to the dry conditions in Greece, a limited supply of water will mean that only coarse grass will be produced, rather than the moist and nutritious grasses needed to sustain horses.

Greece did not have the nutritional grasses necessary for the horse to thrive naturally, unlike the Nisaean Plain in Media where the *Medic* grass was of the highly nutritious alfalfa/lucerne type and produced the quality Nisaean horses. The Nisaean Plains were able to maintain huge numbers of grazing horses (Hyland 2003, 31). Arrian tells us:

> *In the course of this journey that Alexander is said to have seen the plain called the plain of Nisaea where the royal mares were pastured. Herodotus tells us that the mares were always known as Nisaean. There were once about 150,000 of them, but when Alexander saw them there were not more than 50,000, as most of them had been* stolen (Arr. *Anab*. 7.13).[10]

Strabo claimed that the Nisaean horse was of this large size and quality because of the rich alfalfa/lucerne grass which grew in abundance on the Nisaean Plains. The size of horses must have been an issue at this time as he says they are not only "the best" but "the largest".

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[10] For more on Nisaean horses see Herodotus 7.40.2; Strabo 11.13.7; and Diodorus 17.110.6 who gives slightly different figures of 160,000 mares reduced to 60,000.

Strabo described Nisaean horses:

> *As for the Nesaean horses, which the kings used because they were the best and the largest, some writers say that the breed came from here, while others say from Armenia. They are characteristically different in form, as are also the Parthian horses, as they are now called, as compared with the Helladic and the other horses in our country* (Str. 11.13.7).

Pliny (*HN*, 18.43) claimed that alfalfa/lucerne grass was introduced into Greece from Media during the Persian invasion of Darius in 490 BC, but owing to the Greek climatic conditions, it did not thrive there. Howe states that Attika in Greece, "is one of the driest regions of mainland Greece, with very little wetland pasture, large animals such as cattle and horses, which require abundant fodder and water, would not prosper, and certainly would not survive in large herds" (2008, 63).

According to Alcock (1998, 31), there is no reason to believe that, "the rural landscape of ancient Greece was significantly different from what we see today". Driving through mainland Greece, which today remains a rural landscape, there is little evidence of horses or ponies. They are so obviously unsuited to this environment that their upkeep is prohibitive. Comparing Ireland with Greece can highlight this. In 2011, Greece, with a land area of 131,957 km², had a population of 11 million, with a horse population of 29,800 (Hellenic Statistical Authority 2014). In that same year, Ireland, a much smaller country of only 84,421 km², had a population of only 4.5 million, with a horse population of 106,000 (Central Statistics Office 2012, 172). Clearly, Ireland has a more suitable environment for horses than Greece. Instead, the landscape of Greece is synonymous with the donkey/ass whose daily requirements are far less demanding than those of the horse. An average size horse needs 1.25 - 2.5 acres of pasture per month and 25-50 litres of water per day, while an average size donkey/ass needs only ½-1 acre of pasture per month and 10-25 litres of water per day. While a horse needs good quality grasses, the donkey/ass can exist on coarse herbage, marsh grass, young thistles and shrubs, which a horse will not eat (Defra 2009, 3-10).

2.4 Horse Domestication and Horse Riding

The horse was the last of the five most common livestock to be domesticated (Clutton-Brock 1999, 9). Sheep were first domesticated around 9,000 BC, with goats, pigs and cattle following around 7,000 BC (Vilà 2001, 477; Edwards 2002, 12). “Domestication entails control of wild species and is generally regarded as a complex process confined to a restricted area and culture. Previous DNA sequence analyses of several domestic species have suggested only a limited number of origination events” (Vilà 2001, 474). The people responsible for domesticating the horse were probably nomadic tribes moving about the steppes bordering the Caspian and Black Seas. “There is evidence of this [domestication] happening, but it is probably that domestication was also taking place simultaneously elsewhere in Eurasia, in areas supporting a horse population” (Edwards 2002, 12). These domesticating populations in the area surrounding the Black Sea also used a wide variety of game in their diet, but “from 6,600 to 6,100 years ago, bones of boar, deer and aurochs become much scarcer. And in their place begin to appear vast numbers of bones of horses” (Budiansky 1997, 38-9).

At Dereivka on the Dnieper in ancient Scythia, now modern Ukraine (Figure 10), 2000 bones of horses were discovered, which represented sixty per cent of all animal bones found there dating from 4000 BC (Azzaroli 1985, 5-6). At Botai (located in north-central Kazakhstan) ninety-nine per cent of the identifiable faunal material dating from 3600-3100 BC is from the horse (Olsen 2003, 83). Botai yielded an animal bone assemblage of c. 300,000 items (Kelekna 2009, 35).

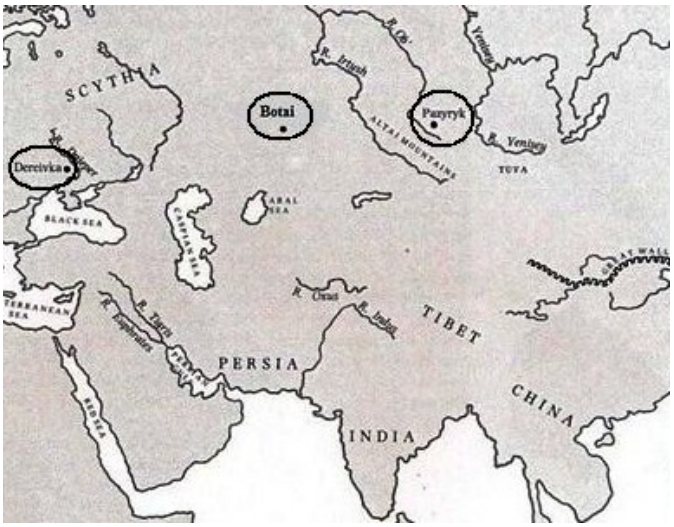

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Figure 10
Map of Dereivka, Botai and Pazyryk
(after Clutton-Brock 1999, 54)
(Map by kind permission of Rebecca Jewell)

According to Clutton-Brock (1992, 55), “it is clear from the remains of these horses at Dereivka and other sites that there was a pattern of specialized exploitation of the horse, about 6,000 years ago, in the steppe lands of the Ukraine”. Levine (1999a, 36-7) disputes that these were domestic horses, claiming that, as the majority of the bones are male, these were wild bachelor groups that would have been easy to target and kill (Hyland 2003, 3). It is more likely that these were domesticated horses where the males, unwanted for stud duty, would have been culled and eaten, leaving the mares for breeding and milking purposes.

It has also, somewhat controversially, been argued that the horse was first ridden in this area (Anthony 1986, 291-313; Kelekna 2009, 28-44; Levine 1999c, 14). Although some of the evidence found at this site, e.g. wear on premolar teeth and antler-tine cheek pieces (Anthony and Brown 1991, 22), has since been proven not to be from as early as 4,000 BC (Drews 2004, 15-30), this early date for riding is still supported by a body of scholars.[11]

The argument has moved from material evidence to the assumption that the keeping of horses for food could not have succeeded unless the owners were able to ride; “riding was a decisive aid to pasturing herds in the open country” (Jankovich 1971, 18).

> *Before the use of horses could become a regular practice, man had to learn to herd them and keep them under control. For this it was necessary, first of all, to learn to ride. This was required by the natural attitudes and social behaviour of the horses: they are gregarious animals who under natural conditions live in small herds of mares and foals led by a stallion. They are too swift to be kept under control by dogs, as had been done before with cattle or ovicaprines, and in a primitive economy they could not be stabled like pigs, but open pasturages had to be exploited. Only a herder mounted on a stallion could make use of their natural instinct to keep a herd together and lead it around at will. Riding was a primary requirement for horse breeders* (Azzaroli 1998, 41).

[11] See also Azzaroli 1985, 6-7; for those against this theory see Drews 2004, 21-30; Donaghy 2009, 22-30.

Clutton-Brock (1992, 12) backs up this assumption, “horses cannot be moved about in any numbers without a mounted herdsman, so there is an inherent probability that they must have been ridden from the beginnings of domestication”.

The riding of the horse was an important milestone for man, as the horse could double or even triple the distance travelled by a human in a day, and proportionally increase his speed (Anthony 1996, 57-82). It has been considered a *mobile revolution*, like that of the automobile six thousand years later (Dietz 2003, 189). This enabled expanding human populations to move from the river valleys, which were becoming deforested and over-hunted, out onto the steppes (Clutton-Brock 1992, 55). The central Asian grasslands could finally be crossed and the nomads could attack sedentary communities and make a rapid retreat (Anthony 1986, 295).

The first evidence of horse riding in Greece comes from at least 700 years after the appearance of the first horses there in 2000 BC. The earliest written evidence of the ridden horse comes from Crete in 1400 BC, with tablets from Knossos giving details of equipment and a singular horse, which could indicate a single rider (Hyland 2003, 127). Horses buried facing each other in the entrance passageway to a tholos tomb at Marathon from 1400 BC would suggest that they were of great importance, not only for their usefulness, but also as a symbol of great wealth and high status (Camp 1998, 9). The earliest artistic representations of ridden horses are terracotta statuettes from Mycenae and Argos dating from 1300 BC (Drews 2004, 53).

2.5 The Size of the Ancient Greek Horse

The size of the horse in ancient Greece can only truly and reliably be determined by skeletal remains. With artistic representations, there is always the chance that *artistic licence* has been used and the proportions of the horse are not true to life (Markman 1943, 3). Although Engels states that “the size of the average horse has not changed from Alexander’s day to our own” (1978, 127), this has not been borne out by the skeletal remains found to date. Xenophon gives a clue regarding scale in the *Anabasis* where he compares the Armenian horses to Persian horses; “The horses of this region were smaller than the Persian horses, but very

much more spirited" (4.5.36). However, he does not tell us the size of either the Armenian or the Persian horses.

Before looking at the osteological evidence, an explanation of the measurement of horses will be helpful. This discussion more accurately addresses *ponies* rather than *horses*. Horses and ponies are both *Equus caballus*, who differ in several aspects of *phenotype*, most usually their height. There is an exception to the height differentiation, and that is with the *Falabella* and other miniature horses, which can be no taller than 8 hh (81 cm), the size of a medium-sized dog, and are classified by their respective registries as very small horses rather than ponies. According to the International Federation for Equestrian Sports (FEI), which uses metric measurements, the cut off between horses and ponies is 148 cm, or just over 14.2 hh, without shoes, and 149 cm, or just over 14.2½ hh, with shoes (FEI 2012). The height of a horse is measured from the ground to the point of the withers, where the neck meets the back (Figures 11, 12 and 13). In the past, this measurement was made in *hands* and *inches* - a *hand* being the average measurement of the width of a human hand, 4 inches - but today is usually given in centimetres (Silver 1976, 14).

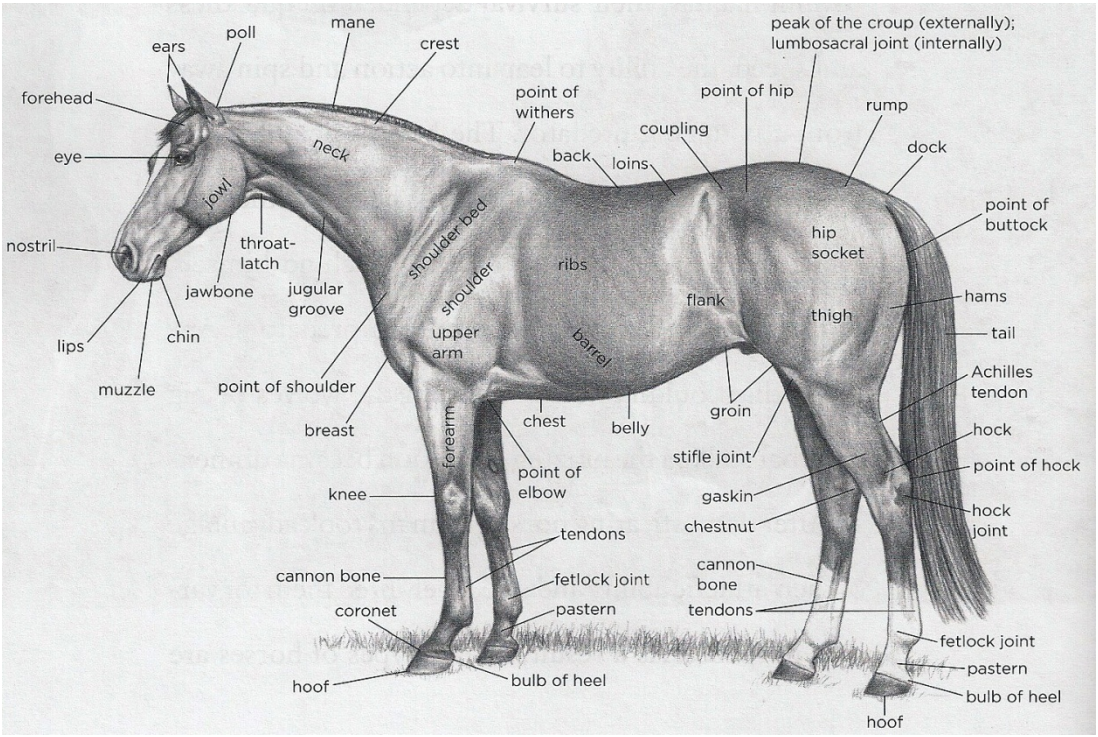


Figure 11
The Anatomy of the Horse
(Thomas 2005, 10)
(Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

Figure 12
The correct way to measure the height of a horse from the ground to the withers.
(Forever Horses 2009)

Figure 13
The correct use of the measuring stick
(Forever Horses 2009)

Ponies often exhibit thicker manes, tails, and overall coat than the horse. They also have proportionally shorter legs, wider barrels, heavier bone, shorter and thicker necks, and short heads with broad foreheads. They may have calmer temperaments than horses and also a high level of equine intelligence that may or may not be used to cooperate with human handlers (Pickeral 2002,182).

The ancient Greek word for horse is ἵππος, which was probably used to denote both horse and pony, the distinction between the two being a modern invention. However, there is an ancient Greek word for pony, πωλίον, *the diminutive of πώλος [foal, whether colt or filly], pony* (Liddell and Scott 1996, 1560-1561). The term appears in Aristophanes, *Vespae*,189, where the word refers to a *she-ass*; *Pax* 72-77, where the word refers to a *horse*; Andocides, 1.61, where the word refers to a *colt*; and Aristotle, *Generation of Animals*, 748[a], 2, where the word refers to *asses'*

foals. In each case the term seems to have little to do with a *pony* in the modern sense of the word, but rather to refer to young animals or foals.

Xenophon uses another word, *hipparion* (ἱππαρίων), to describe Assyrian horses in the *Cyropaedia* (1.4.19):

> *νὴ τὸν Δί', ἔφη, ὦ πάππε, ἀλλ' οὖν πονηροί γε φαινόμενοι καὶ ἐπὶ πονηρῶν ἱππαρίων ἄγουσιν ἡμῶν τὰ χρήματα*
>
> *Well then, by Zeus, grandfather, said he, at any rate, they are a sorry looking lot on a sorry lot of nags who are raiding our belongings.*

The word is translated as *nags* in most versions of the *Cyropaedia*. The Liddell and Scott (1996, 833) definition is: *Dim. of ἵππος, pony. 2. wretched horse, in contempt, X.Cyr.1.4.19.*

2.5.1 The Skeletal Evidence

From the excavations carried out at Pazyryk in the Altai Mountains (Figure 10) by Sergei Rudenko from 1947-9, several types of horse skeletons were represented in a range from 12.2½ hh (127 cm) to 14.3 hh (149 cm) (Littauer 1971, 293-294; see also Bökönyi 1974, 246, Table 3). Vitt found that the largest horses proved consistently to be the finest, and the smallest, the poorest - the largest here would only be one inch (2.54 cm) over the modern classification of a pony. The larger animals could be explained by early gelding (which extends the period of growth of the length - not thickness - of the long bones, and a longer neck, with a longer and narrower face) and special care and feeding. This led Vitt to believe that all the animals were probably from the same breed, only fed and handled differently (Littauer 1971, 294). Of the horse remains found at Botai, seventy per cent stood at 13-14 hh (132 cm - 142 cm) (Kelekna 2009, 38). Figure 14 gives some idea of early horse sizes from skeletal horse remains from nine sites in Greece.

As can be seen, they range in size from 10.3½ hh to 15.3 hh (110 cm to 160 cm), averaging 13.1 hh (134 cm). They are all ponies in today's terminology, with the one exception of the horse standing at 15.3 hh (160 cm). It is interesting to note how little they changed in size from 2100 BC to 670 BC.

Figure 14[12] The Estimated Height of Greek Horses from Osteological Remains from 2100-670 BC			
Place	**Date BC**	**Estimated Height**	
		Cms.	**Hands**
Dendra (Argolis, Peloponnese)	c.2100-1060	135-140	13.1-13.3
Nichoria (South Peloponnese)	c.2100-1550 c.1550-1060	140 160	13.3 15.3
Lerna (Argolis, Peloponnese)	c.1400-1100	138.99 145	13.3 14.1
Kokla (Argolis, Peloponnese)	c.1550-1060	133.74 133.78	13.1 13.1
Kastanas (Central Macedonia)	c.1200-500	119.28 120.90	11.3 12.0
Lefkandi (Euboea)	c.100-900	110-140	10.3½ - 13.3
Knossos (North Cemetery)	c.670	133 134 133 135	13. ½ 13.1 13. ½ 13.1½

2.5.2 The Artistic Evidence

The ancient Greeks were no strangers to the concept of proportionality in mathematics, architecture and in art. The height of the average Greek man in the fifth century BC would have been c. 168 cm (Pain 2007, 47). Using a proportional equation, I measured seven examples of Greek sculpture and three from pottery, to see if the size of the Greek horse as depicted in art was consistent with the skeletal data. The measurements were taken from my scanned photos of the Parthenon frieze, which are reproduced with the correct proportions, not from the original frieze. The equation is as follows:

Average Greek man in fifth century BC = 168 cm
Measurement of man = m / Measurement of horse = h
m ~ 168
1~ 168/m
h ~ 168 x h / m

My first four examples are from the Parthenon frieze. This frieze measures 3 feet 3 inches (90cm) in height and is 524 feet (160 m) in length (Jenkins 1994, 49).

[12] This table is an amalgamation of the tables in Spence 1993, 283 and Trantalidou 2005, 30-31. See also McMiken 1990, 75 and Drower 1969, 75.

There are 145 cavalry mounts on the frieze as shown in Figure 15.

Figure 15 Cavalry mounts on the Parthenon Frieze			
Side of Frieze	Mounted Horses	Unmounted Horses	Total
North	60	2	62
South	60	0	60
West	14	9	23
East	0	0	0
Total	134	11	145

On the West side there are fourteen mounted horses and nine unmounted. Of these nine, I have applied the proportional equation to three - Slab III (Figure 16), Slab V (Figure 17) and Slab 12 (Figure 18). The six remaining unmounted horses are located as follows: one on Slab VIII, two on Slab XIII, one on Slab XIV and two on Slab XV.

On the North side there are 60 mounted horses, arranged in ten ranks of six horses each. I have applied the proportional equation to one of the two unmounted horses on the North side on Slab XLVII (Figure 19).

4 5

Figure 16
The Parthenon Frieze West III, 5
©Acropolis Museum, Athens

Man at number 4 = 8.8 cm
Horse = 5.8 cm
168 x 5.8 / 8.8 = 111 cm = 11 hh

9 10

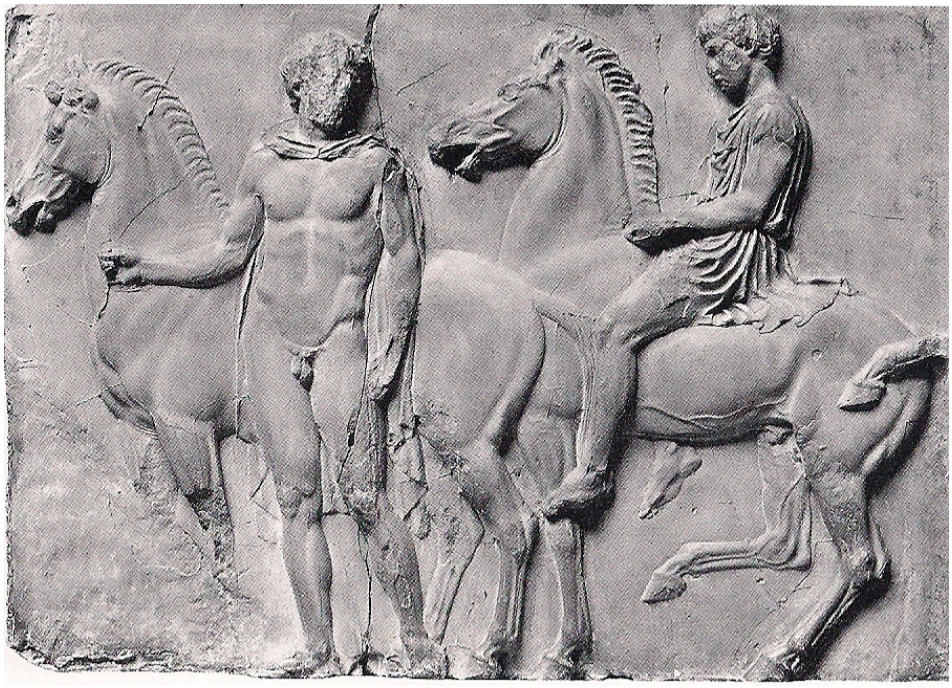


Figure 17
The Parthenon Frieze West V, 9 and 10
©Acropolis Museum, Athens

Man at number 9 = 8.7 cm
Horse at number 10 = 6 cm
168 x 6 / 8.7 = 116 cm = 11.2 hh.

23

Figure 18
The Parthenon Frieze West XII, 23
©Acropolis Museum, Athens

Man at number 23 = 8.7 cm
Horse at number 23 = 6.2 cm
168 x 6.2 / 8.7 = 120 cm = 11.3 hh.

131 132 133

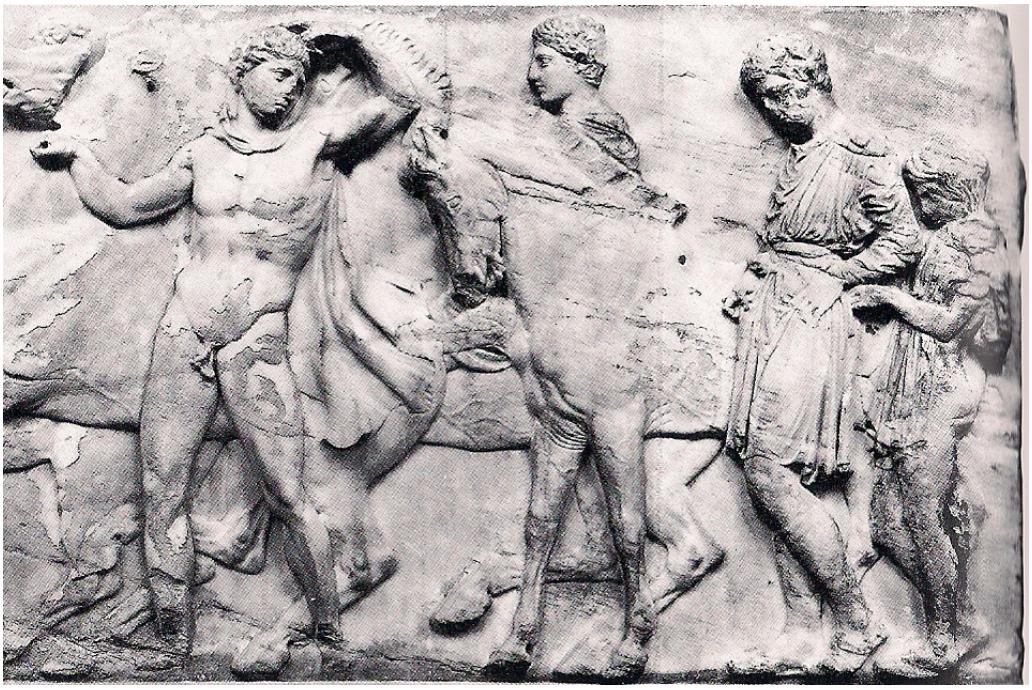


Figure 19
The Parthenon Frieze North XLVII, 131-133
©Trustees of the British Museum

Man at number 131 = 8.7 cm
Horse at number 133 = 6.1cm
168 x 6.1 / 8.7 = 118 cm = 11.2 hh

I chose these four horses as they were obviously easier to measure than the mounted ones. Based on the assumption that the Greek man averaged 168 cm at this time, the four horses measure between 11 hh (112 cm) and 11.3 hh (119 cm) in height, which clearly makes them small ponies. Even if the height of the average Greek man has been underestimated, these examples would still be ponies, if the frieze depicts the scale of humans and horses accurately.

Statements like, "It has often been noted that there is a proportional discrepancy between the size of the horses and that of their riders, i.e., the riders are too large for their mounts, which thus resemble ponies" (Neils 2001, 115), have been repeated throughout classical scholarship. Some scholars will argue that the men are larger on the frieze in order to give them a more important, even heroic, stature. Others argue that the horses are so small because the sculptors, in an attempt to keep the height of the men's heads on one level, disregarded the true size of the horses. Perhaps, because of pre-conceived ideas as to the size of the ancient Greek cavalry horse, scholars do not want to admit that the evidence, as it stands, is reliable. They

return their fixed ideas, instead of allowing their analysis to reach its logical conclusion, that the ancient Greek cavalry horse was, in fact, a pony.

I think that Neils' statement is correct in recognising that these are ponies. However, she rejects the simplest interpretation of the evidence (Occam's Razor), i.e. that the images are correct. I contend that they are the size of pony that the Greek cavalryman probably rode, making the second half of her statement above incorrect - the riders are **not** too large for their mounts, which are, in fact, ponies. Anderson states, "in the fifth century B.C. the Greek horse, as represented by painters and sculptors and described in literature, was a small animal, perhaps never exceeding, and seldom reaching, fifteen hands, with a fine head and legs, high head carriage, and rather heavy body" (1961, 15). I agree with most of his statement, but contend that the height of 15 hh (152 cm) is a significant overestimate for the size of a horse in this era. As I have explained above, they would seldom reach 14 hh (142 cm).

Figure 20 is a relief from, it is thought, building G on the Acropolis at Xanthos from c. 450 BC. Xanthos was in ancient Lycia (now southwest Turkey). This is a larger animal than those found on the Parthenon frieze at 14.1 hh (145 cm). Applying my method of measurement consistently, the size of this cavalry mount would be correct. As I have already stated, the animals in the east at that time were larger than those in Greece (see section 2.3), and this example is a large pony at 14.1 hh.

Figure 20
Horse from Xanthos c. 450 BC
©Trustees of the British Museum

Man = 6.7 cm
Horse = 5.8 cm
168 x 5.8/6.7 = 145 cm = 14.1 hh.

The relief on the Satrap Sarcophagus from Phoenician Sidon (Figure 21) from the fifth century BC, is in keeping with the Parthenon horses at 11.1 hh (114 cm). Although I have already stated that Eastern horses were generally larger than the Greek, as in Figure 20, it is possible that this relief was carved by a Greek sculptor, who may have used Greek ponies as his models. At that time, of all the Phoenician cities, "Sidon was the one whose rulers were most engaged in the employment of Greek sculptors" (Boardman 1995, 214).

Figure 21
Relief on Satrap Sarcophagus from Sidon
c. 420 BC (by kind permission of the Istanbul Archaeological Museum)

Man holding horse = 2.5 cm
Horse = 1.7 cm
168 x 1.7 / 2.5 = 114 cm = 11.1 hh

Figure 22
Tripod Base signed by Bryaxis, c. 350 BC
(National Archaeological Museum, Athens)
©Hellenic Ministry of Culture and Sports/Archaeological Receipts Fund

Man = 4.2 cm
Horse = 3.5 cm
168 x 3.5 / 4.2 = 140 cm = 13.3 hh

The tripod base signed by Bryaxis, from Athens, c. 350 BC (Figure 22) shows a cavalryman riding his horse towards a victory tripod. “On three sides it is decorated with a relief of a mounted rider approaching a tripod. On the fourth side is an inscription of the fourth century BC which lists the event and names of three victorious phylarchs” (Camp 1998, 30). The three are “Damainetos, son of Demeas, of the deme Paiania, and his two sons, Demeas and Demosthenes, all of whom had been phylarchs at one time or another” (Bugh 1988, 60). Bugh identifies this as a victory in the *anthippasia* (see section 3.6.1). To measure the height of the rider, I made three measurements: from the head to the waist, from the waist to the knee, and from the knee to the foot. The horse in Figure 22 is again larger than those on the Parthenon, at 13.3 hh (140 cm), but still qualifies as a pony.

Figure 23
Terracotta Kylix Attributed to the Painter of Berlin c. 510-500 BC
(The Metropolitan Museum of Art 06.1021.170)
(www.metmuseum.org)

Man = 4.8 cm
Horse = 3.7 cm
168 x 3.7 / 4.8 = 130 cm = 12.3 hh

Turning to pottery, again all measurements are taken from my scans of photographs of the pottery. The first is a terracotta kylix attributed to the Painter of Berlin (Figure 23). It has horses and men on the outside of the piece, and a tondo showing a cavalryman with his horse. The Berlin painter was noted for “his

sympathetic treatment of animal studies" (Boardman 1975, 111). This horse, which qualifies as a pony, is slightly bigger than those of the Parthenon, measuring 12.3 hh (130 cm).

The tondo of an Attic red-figured kylix attributed to Onesimos, c. 490 BC, shows a groom blowing the dust off his oblong grooming tool (Figure 24) (see section 4.5.5). The horse seems to be tethered to the wall by the object with the hole in it to the right of the horse's head (see section 4.5.5). There is a fly whisk, or perhaps a grooming tool tied up above the horse on the left. The horse here measures 12.2 hh (127 cm), still a pony, but, again, slightly bigger than those on the Parthenon.

Figure 24
The tondo of a terracotta kylix by Onesimos
c. 490 BC
(The Metropolitan Museum of Art - 1989.281.71)
(www.metmuseum.org)

Man = 3.7 cm
Horse = 2.8 cm
168 x 2.8 / 3.7 = 127 cm = 12.2 hh

My final example is the tondo of an Attic Red Figure kylix by Euphronios (Figure 25). It is signed by the painter on the left-hand side, behind the horse, and by the potter, Kachrylion on the right-hand side in front of the horse. The theme of the kylix is the battle between Heracles and Geryon, which is painted on the outside of the kylix. The tondo shows a cavalryman riding his horse, with the horse objecting to his bit by throwing his head up in the air. This artist, in his attempt to fill the space of

the tondo with a design that avoids large areas of blank space, has given the horse's movement an unnatural appearance; however, I do not think this skews the proportional measurements to any great extent. Again, this horse qualifies as a pony and is only slightly bigger than those on the Parthenon at 12.3 hh (130 cm).

Figure 25
Cup signed by Euphronios
c. 510-500 BC
(Munich, Antikensammlungen.2620, from Vulci)

Man = 7 cm
Horse = 5.4 cm
168 x 5.4 / 7 = 130 cm = 12.3 hh

In conclusion, when the artistic evidence is placed alongside the skeletal evidence a compelling argument can be made that the horses available to the ancient Greek cavalry would have been ponies ranging in height from 11 hh (111 cm) to 13.3 hh (132 cm). Ponies of this size would have been sustainable in the Greek climate at this time. It is possible that the horses available to the cavalries of the east were larger. One can only deduce that scholars on this subject have opted to assume that the evidence for ponies is anatomically incorrect, and is, therefore, part of an artistic convention. Their pre-conceived notions of cavalry mounts will not allow them to consider the alternative; that the evidence is anatomically accurate and the ancient Greek cavalry was mounted on ponies.

2.6 The Greek Horse Today

Although much is known about Greek history and its influence on Western civilization, there is little known about the origins and breeding histories of Greek horses (Bömcke 2011, 68). The mountainous terrain (see section 2.3) and many islands of Greece have led to the creation of areas with distinct and isolated breeds in small numbers. Six Greek native horse breeds have been identified to date, all named for their area of origin. Five are ponies and one a horse: the *Cretan*; the *Pindos*; the *Peneia*; the *Andravida*; the *Thessalian;* and the *Skyros* (Bömcke 2011, 69).

Figure 26
Cretan pony
(Menegatos 2013, 7)
(Photo by kind permission of John Menegatos)

Figure 27
Main habitation area of the *Cretan* pony
(Available at: www.elbarn.net)
(Accessed: 20-11-14)
(Map by kind permission of elbarn)

The *Cretan* pony (Figure 26) is also known as the *Messara* pony as it is mostly found on the Messara plain in Crete (Figure 27). They usually stand between c. 12.2 hh and 14 hh (127 - 142 cm) and were used in the past mainly for transport. They have increased in size with the crossbreeding of the native stock with Arab stallions imported during the Turkish occupation from the seventeenth century

onwards (Hendricks 1995, 283). They are now a rare and endangered breed with a population of only 213 in 2013 (EFABIS).

Cretan ponies are known for their *pacing* gait which is comfortable for the rider (Menegatos 2013, 7). Some horses, either due to conformation or heredity, *pace* rather than *trot*. The pace is a lateral gate where the legs on the same side come forward together. At the *trot*, which is a diagonal gate, the left front and right hind move in unison as do the right front and the left hind (see section 4.5.7). The *trot* becomes a two-beat movement which necessitates the rider rising up and down to the beat. Without stirrups or saddles, the rider is forced to sit to the beat, which can be very jarring. However, the *pace* has a rolling motion, which is extremely restful for the bareback rider (Thomas 2005, 236-243).

Figure 28 *Pindos* ponies (Menegatos 2013, 5) (Photo by kind permission of John Megegatos)

The *Pindos* pony (Figure 28) is a direct descendant of the oriental type brought from Scythia, and the *Thessalonian* ponies bred by the Greeks for their courage and beauty. They are tough, mountainy ponies from the Pindos Range in Thessaly and Epirus (Figure 29).

Extremely long lived with great endurance and stamina, they can survive on the minimal rations found in Greece (Edwards 1980, 199-200). Known for their toughness, they have a coarse head with an unattractive small eye, poor and underdeveloped hindquarters, a light and narrow frame, though with strong sound legs and hooves. In temperament they have a reputation for being difficult and stubborn, not good traits for a ridden horse, but are still used for riding and light

agricultural tasks. They are usually dark in colour and stand at c. 12 hh - 13 hh (122 cm - 132 cm) (Silver 1976, 52). These are not endangered with 4,291 *Pindos* ponies in Greece in 2013 according to EFABIS.

Figure 29
Main habitation area of the *Pindos* pony
(Available at: www.elbarn.net)
(Accessed: 20-11-14) (Map by kind permission of elbarn)

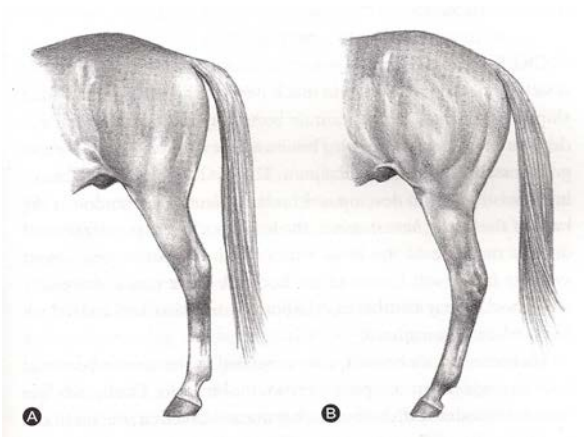
Figure 30
Peneia pony
(Menegatos 2013, 6)
(Photo by kind permission of John Menegatos)

The *Peneia* pony (Figure 30) is from the mountains of Eleia in the Peloponnese (Figure 31). These are related to the *Pindos* pony and are also tough and hardy with great stamina and endurance and are surefooted across rough terrain. They have a coarse head but with a thicker, more muscular neck than the *Pindos.* They stand at c. 10.1 hh - 14 hh (104 cm - 142 cm).

Figure 31
Main habitation area
of the *Peneia* pony
(Available at: www.elbarn.net)
Accessed: 20-11-14)
(Map by kind permission of
elbarn)

The *Peneia* pony has a broad and strong back, but the hindquarters are weak and underdeveloped. Their legs are strong but are prone to having sickle hocks or cow hocks, which would make them undesirable as cavalry horses (Pickerel 2002, 213). These two conditions are explained as follows:

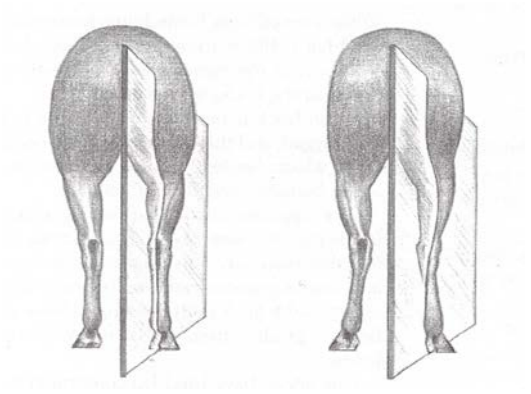
Figure 32
Sickle Hocks
(Thomas 2005, 159)
(Reprinted by kind
permission of *The Horse
Conformation Handbook*
© Heather Smith
Thomas, illustrations by
Jo Anna Rissanen,
published by Storey
Publishing LLC)



A - Proper Hock Angle B - Sickle or Bent Hocks

"The so-called sickle hock [Figure 32] results in the cannon bone taking an inclination forward so that the hind leg is brought under the body. Such a conformation is most undesirable. It leads to excessive strain of the hock joint above and of the tendons below, and usually results in unsoundness" (Hayes 2002, 722). To aid soundness of the hind leg, the strongest construction is to have the point of the hock directly under the point of the buttocks (Thomas 2005, 159).

Figure 33
Cow Hocks
(Hastie 2001, 142)



Correct Hocks
plane bisects hoof,
fetlock, hock and stifle

Cow Hocked
hoof and fetlock lie
outside plane, hock is
inside

"Cow hocks [Figure 33] occur when the hocks point towards each other on top of the cannons which are nearer together at their top than at their fetlocks. This is weak conformation which will compress the outsides of the hock and maybe the fetlock joints" (McBane 2000, 122). "The condition known as cow hock is objectionable and is often associated with other defects of conformation. As a result, the toes are turned out and loss of power and movement occurs as the limbs are moved outwards instead of forward in a straight line" (Hayes 2002, 722).

Either of these conditions would have been most undesirable in a horse used for any strenuous activity (such as cavalry work) - so the *Peneia* is a poor candidate for being the descendant of the ancient Greek cavalry horse. However, when their conformation is correct, they are known for their natural jumping ability. They are taught a gait called the *aravani*, which is a pacing gait like that of the *Cretan* pony, where their legs move together laterally. Unless they were taught this gait in ancient times, they would have been extremely uncomfortable to ride bareback over any distance, again making them a poor candidate for the ancient Greek cavalry horse. In temperament they are very amenable, unlike the *Pindos*. They range in height from 10 hh - 14 hh (102 cm - 142cm) and are usually used for agricultural work or as a pack pony (Hendricks 1995, 335). As of 2011, there were only 134 registered *Pindos* ponies, according to EFABIS, making them another endangered breed.

The *Andravida* horse (Figure 34), also known as the *Eleia*, developed in the plain of Eleia in the region of Andravida in the northwest Peloponnese (Figure 35). This is the area near Olympia where Xenophon was given a farm by the Spartans at Elis (see sections 1.2.4-1.2.5). During his stay in this area, the native equines would

have been ponies. However, these were then bred with larger Anglo-Norman horses and later to the Hungarian Nonius in the 1900s. Today they range in height from 15 hh - 16 hh (152 cm - 163 cm), making them a horse rather than a pony. They have a straight nose, rectangular head shape with long ears. They are a strong horse with a broad chest and good bone (Hendricks 1995, 170). Faced with extinction, there has been a concerted effort to save the breed since the 1990s with the establishment of an official studbook in 1995. They are rarely found outside of Eleia and with so few numbers (only 10 remained in 2004 according to EFABIS), it is not certain that they can be saved as a breed (Menegatos 2013, 16-18).

Figure 34
Andravida horse
(Available at: www.flickr.com/photos/yukicat/2702261263/)
(Accessed: 03-02-14)

Figure 35
Main habitation area of the *Andravida* horse
(Available at: www.elbarn.net)
(Accessed: 20-11-14)
(Map by kind permission of elbarn)

The *Thessalian* pony (Figure 36) from the plains of Thessaly (Figure 37) is another breed facing extinction today. As of 2013, there were only 737 remaining (EFABIS 2013). Prior to the two World Wars, the *Thessalian* was a small pony

averaging 13.2 hh (137 cm). With good conformation, it has a nicely shaped head with a straight profile, short slim legs, and is intelligent and affectionate (Hendricks 1995, 417). Unfortunately, after the two World Wars, in an attempt to breed larger horses, the *Thessalian* was crossed with imported Arab, Anglo-Arab, and Lipizzan breeds.

Alexander's *Bucephalus* was most probably a *Thessalian* pony (see section 3.4.1). Some scholars feel that the *Thessalian* breed was influenced by the 20,000 horses that Alexander's father, Philip II of Macedon, imported from the Ferghana Valley in Central Asia (modern day Uzbekistan, Kyrgyzstan and Tajikistan) (Just. *Epit*. 9.2.16). These horses were most likely *Akhal-Teke* (Figure 7) or *Turkoman* (Figure 8), and were well known for their stamina (Sidnell, 2006, 87).

Figure 36
Thessalian ponies
(Available at:
www.elbarn.net)
(Accessed: 20-11-14)
(Photo by kind permission
of elbarn)

Figure 37
Main habitation area
of the *Thessalian* pony
(Available at:
www.elbarn.net)
(Accessed: 20-11-14)
(Map by kind permission of
elbarn)

The *Skyrian* pony (Figures 38 and 39) is primarily found on the island of Skyros, the southernmost island of the Sporades archipelago in the Aegean Sea (Figure 40). They have lived on Skyros for many centuries and their exact origin is unknown. They were used for farm work in the summer and then turned out for the winter months, where they roamed freely in small herds across the island. With no supplementary feeding, their numbers decreased over the years (Hendricks 1995, 383). In the twentieth century, with modern machinery, they were no longer needed on the farms and faced extinction. However, in the 1990s several breeding sanctuaries were set up to try to save the *Skyrian* pony. In 1996 *The Silva Project* was established by Mrs. Sylvia Dimitriadis Steen on her estate in Kanoni, Corfu (Copland 2003, 10). *The Katsarelias-Simpson Project* was set up by Amanda Simpson and Stathis Katsarelias on Skyros in 2005, and they have also created the *Skyros Island Horse Trust* and *Skyrian Horse Conservation Limited* (Simpson 2012). Manolis Trachanas founded *Mouries Farm* and the *Skyrian Conservation Centre* on Skyros in 2006. *Hippolytus* was established in Larissa in 2010 by Achilles Kaounas (Horsetalk 2012, 3). And, finally, a farm breeding Skyrian ponies was founded in Scotland by Sheilagh Brown in 2011 (Horsetalk 2012, 1-3).

As of 2013, the entire population of Skyrian ponies in the world was thought to be 239 (EFABIS) of which "roughly three-quarters of that number live on the Greek island of Skyros" (*Horsetalk* 2012).

Figure 38
A *Skyrian* pony on Skyros (Author's own photo 2006)

Figure 39
Skyrian ponies
(Photo by kind permission of Horsefly Films)

Figure 40
Main habitation area of the *Skyrian* pony
(Available at: www.elbarn.net) (Accessed: 20-11-14)
(Map by kind permission of elbarn)

The *Skyrian* pony is probably the most ancient of the six breeds. They are extremely tough, surefooted, and hardy with exceptionally hard feet that rarely require shoeing. This would have been a valuable trait in ancient Greece where the horseshoe had yet to be invented (see section 4.4). They have an even temperament and today stand at c. 10.2 hh (107 cm) (Edwards 1980, 201-102). With an attractive rather than a coarse head, they are small and light of frame, giving the impression of

a miniature horse. “Although its history is none too clear the Skyros does bear a marked resemblance to the horses depicted on the Parthenon friezes in Athens and to the chariot horses depicted in Greek statues and friezes” (Edwards 1980, 201). There is some debate as to whether they are, indeed, miniature horses rather than ponies, but for the present, they are classified as ponies:

> *Interestingly, between the latitudes of 30° and 45° from Greece into China, several small breeds developed that are remarkably similar in appearance, including the Mytilene of Turkey, the Sardinian pony, the Carpthian, the Caspian of Iran, and the tiny Guoxia of China. All resemble miniature horses more than ponies* (Hendricks 1995, 382).

In 475 BC, Cimon, the Athenian commander of the Delian League, took control of Skyros, according to Thucydides (1.98.2), Diodorus (11.60.2), and Pausanias (1.17.6). He colonized the island by giving out allotments to Athenians (Dawe 2008, 68). “Apart from interludes of Macedonian rule Scyros remained Athenian until Roman imperial times, valued for its strategic position on the Black Sea route” (Hornblower and Spawforth 2003, 1374). No one knows the origin of the *Skyros* pony, but they could have been brought to the island from mainland Greece.

Although the ponies on the island of Skyros today are c. 10.2 hh (107 cm), and the skeletal and artistic examples that I have given range from 11 hh (112cm) to 13 hh (132 cm), this difference can be explained by the deprivation that the *Skyrian* ponies have endured on their impoverished island for the last two millennia. Not only have they been breeding from a limited stock, but they have also become redundant to man on the island due to mechanization. Once they were no longer useful, they were neglected until the recent efforts to save them from extinction.

The genetic diversity of the six native Greek horses can be seen in the chart at Figure 41. They can be divided into three groups of distinctly Greek horses. “Phylogenetic analysis placed the *Crete*, *Pindos* and *Pinias* [*Peneia*] breeds within the cluster of horses with an oriental [Eurasian] origin. The *Skyros* showed no close relationship to any group of horses....The *Andravidas* and *Thessalias* breeds fell into the cluster that contained the Thoroughbred and its allies” (Cothran 2010, 1). The *Skyrian* pony seems to be the purest strain of the native Greek horses, and, perhaps, this puts the Skyros pony at the forefront of the candidates for the ancient Greek horse that would have fought in the Athenian cavalry (see section 4.5.6).

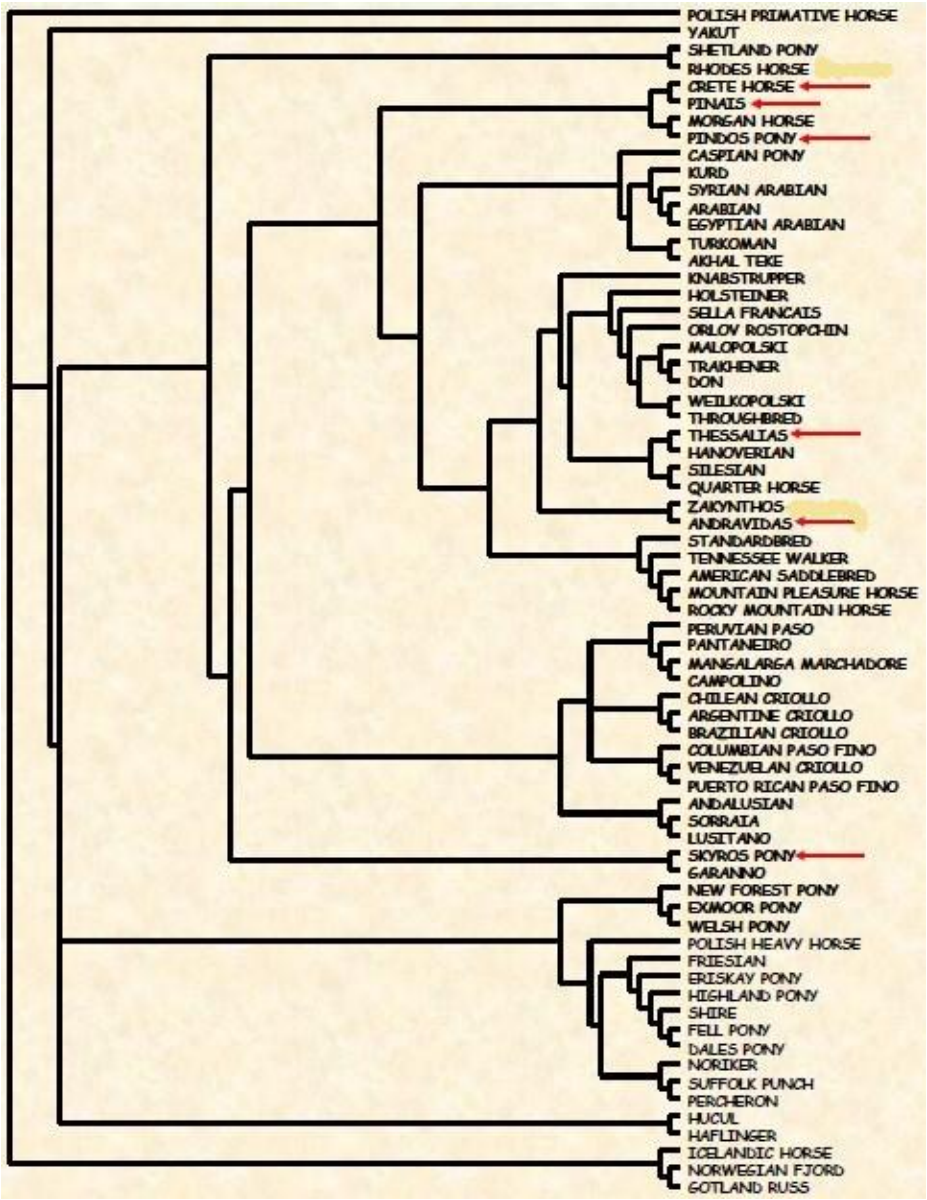


Figure 41. Partial RML(Restricted Maximum Likelihood)
tree of genetic similarity to domestic horse breeds.
(Cothran 2010,1) (Illustration by kind permission of Gus Cothran)

2.7 Conclusion

As early as 10,000 BC, the four types of *Equus caballus* (Northern, European, Eurasian and Afro-Asian) inhabited Europe, Asia and Africa. However, with the climate and geography unsuited to horses, they did not appear in Greece until c. 2000 BC (Camp 1998, 3). The Greek environment has never been conducive to the rearing of horses. It lacks the nutritional grasses necessary for horses to thrive and the water to sustain them throughout the year.

With the evidence available today, scholars have concluded that the horse was domesticated and ridden c. 4000 BC. Domestication and the ability to ride the horse occurred at the same time by necessity. In order to control a herd of horses, man had to learn to ride, as only the horse had the speed to keep up with the herd (Azzaroli 1985, 6-7). Nomadic tribes using the areas around the Caspian and Black Seas were probably the first to domesticate and ride the horse. The earliest evidence for the ridden horse in Greece comes from Mycenae and Argos at around 1300 BC (Drews 2004, 53).

Using the skeletal evidence, complemented by a sample of artistic evidence, it is argued here that the ancient Greek cavalrymen rode ponies rather than horses. The skeletal evidence gives an average height of 13.1 hh (134cm), with a range from the smallest at 10.3½ (110 cm) to the one large exception at 15.3 hh (160 cm). The seven examples of the Greek horse in sculpture come from four sources, and all qualify as ponies ranging in size from 11 hh (111 cm) to 14.1 hh (145 cm). In pottery, the three examples also qualify as ponies, ranging in size from 12.2 hh (127 cm) to 12.3 hh (130 cm). It would have been easier to raise and sustain these small ponies in the ancient Greek landscape than the larger horses that we have come to expect in modern cavalry.

Examining the six Greek native horse breeds and their characteristics, the *Skyrian* pony emerges as the one most likely to be similar to those ridden by the Greek cavalry at the time of Xenophon. As seen in Figure 41, *Skyrian* ponies do not have a close relationship to the other five native Greek horses. The *Cretan*, *Pindos*, *Peneia* and *Thessalian* ponies and the *Andravida* horse all lack the finer conformation of the *Skyrian* pony, which is more that of a miniature horse than a pony, and most lack the even temperament possessed by the *Skyrian* pony. The *Skyrian* pony has a marked similarity to the horses on the Parthenon frieze in their physical shape and size. Although, having said this, the examples from the Parthenon frieze are significantly larger than the modern *Skyrian* pony, so it cannot be definitively concluded that the *Skyrian* pony is the ancestor of the ancient Greek cavalry mount.

Classical scholars have been in denial about the size of the ancient Greek cavalry mount for centuries. Even though the evidence points strongly to these mounts being ponies, numerous excuses have been given by scholars, as the picture of Greek men riding to war on small ponies does not fit our modern concept of a

cavalry at war. However, the probability that they were, indeed, ponies has wider implications for the study of ancient Greek cavalry warfare.

Chapter 3

The Cavalry Commander

3.1 Introduction

Cavalry has been defined as "mounted troops - trained to a degree where they function with precision as a unit - advancing on command, changing gaits, turning, deploying and reassembling in their proper positions in the ranks" (Crouwel 1981, 23). A distinctive feature of cavalry is that it attacks and retreats as a body in which the individual rider becomes anonymous - much as the individual hoplite becomes anonymous in his phalanx. In this chapter, I assess Xenophon's contribution to our knowledge of the organisation of the Greek cavalry in both battle and practice.

3.2 Early History of Cavalry in Battle

As discussed in Chapter Two, it is generally held, and championed by Clutton-Brock (1992, 12), Anthony and Brown (1991, 22), Azzaroli (1985, 5-8) and Levine (2005, 7) amongst others, that horseback riding was practised in the Far East as early as 4,000 BC. By the fifteenth century BC, it had spread as far as Egypt as evidenced by a single horse burial in the tomb of Sen Mut at Thebes, which contained horse bones together with a linen and sheepskin saddle cloth, a neck strap and girth (Gaebel 2002, 44). Meagre iconographic evidence would suggest that the riders, however, rode far back on their horses creating an insecure seat (Littauer and Crouwel 1979, 66-68, 72) (Figure 42). This is often called a *donkey seat* as the rider is seated on the animal's croup or loins (Figure 11), reflecting original riding on an donkey or mule. Since a donkey's withers are lower than its croup and its head carriage is also low, a rider sitting in the middle of the donkey's back experiences a sensation of sliding forward (Littauer and Crouwel 1996, 936). Sitting further back on the croup minimises this sensation. On a horse, however, this seat is totally unsuitable as the croup area, under which lie the kidneys with only the protection of the spine, is the weakest part of a horse's anatomy. As a horse's weight is borne mostly on his forehand and his impulsion comes from his hindquarters, a central seat just behind the withers is far more efficient and comfortable for the rider (Hyland 2003, 51).

Figure 42
Terracotta plaque, Mesopotamia (2000-1600 BC)
of Early Babylonian rider from Kish, Ashmolean Museum,
Oxford (Drawing by kind persmission of Jaap Morel)

By the eighth century BC, the sculptures of Tiglath-Pilser III at the royal palace at Nimrud show riders with a more secure forward seat (Barnett and Falkner 1962, plates xiii-xvi; lxiv-lxviia) (Figure 43). These armed riders supplemented the Assyrian chariot force (Ferrill 1985, 73-73); however, the ranks were composed of a mix of infantry, chariots and armed horsemen with no evidence of the horsemen fighting in formation, as is required by the definition of a true *cavalry* (Littauer and Crouwel 1979, 143).

Figure 43
Assyrian Horsemen pursuing an enemy from Nimrud.
(British Museum, 118907)
©Trustees of the British Museum

McNeill makes the point that the Assyrians went from using the chariot as a shooting platform to pairing up two riders - one to steer the horses, the other to shoot - making them *charioteers sans chariot.* Once they learned to ride more securely, there was no need for the second horseman, and this led to the formation of groups of fighting horsemen into cavalry troops (McNeill 1982, 13-15; also Littauer and Crouwel 1979, 134-5; Dalley 1985, 37; Worley 1994, 32; Ferrill 1985, 70; Keegan 1993, 177).

Around this time, Scythians, Medes and Persians began to exert their influence on the Assyrians. While the Scythians were very proficient horsemen, they could not sustain movement in a cohesive group against their enemies (Rice 1958, 50; Azzaroli 1985, 68-70). They tended to use hit and run tactics and feared the infantry. Their influence in geopolitical terms was negligible by the early sixth century BC, leaving the Medes and Persians to engage in battle for the control of Central Asia against the Assyrians (Azzaroli 1985, 81; Hdt. 1.103-5), with the Medes finally overcoming the Assyrians in 612 BC (Hornblower and Spawforth 1998, 944).

According to Herodotus, the Median king, Cyaxares, was the first ruler to organize his army into separate units “the spearmen and archers and cavalry: before this they were all mingled together in confusion” (Hdt.1.103.1). Astyages, son of Cyaxares, was defeated by his own grandson, the Persian king, Cyrus the Great, in 550/49 BC (Hdt.1.123-130): a victory largely owing to his knowledge of horsemanship. An example of Cyrus’ horse sense is his easy defeat of Croesus, and his Lydian cavalry in 547/46 BC. As Herodotus relates, Cyrus placed his baggage camels in his front line, a presence which did not disturb the Persian horses, who were well used to the camels. However, the Lydian horses, with no experience of these strange animals, were frightened to the extent that they became uncontrollable and the Lydians were defeated (Hdt.1.80.2-5). The Median/Persian cavalry was a force to be reckoned with from this time onwards until their defeat by Alexander in 333 BC.

3.3 Greek Landscape and Cavalry

As previously stated, in general, the Greek landscape is not well suited for breeding and maintaining large numbers of horses (Adcock 1957, 48; Trench 1970,

37; Sage 1996, xiv) (see section 2.3). “It can fairly safely be assumed that climatic conditions throughout the Balkan Peninsula in classical times were on the whole not significantly different from what they are now” (Gladitz 1997, 116). Howe, however, states that “the Greek countryside was much less forested in antiquity than it is today, and at least half of the landscape was dominated by rocky, sloping scrublands consisting of woody shrubs, small trees, and hardy herbs” (Howe 2010, 334). Greece has a largely mountainous landscape, although the mountains are interspaced by small and fertile river valleys and plains (Figure 44). As Semple states:

> *In Greece proper only a few localities afforded suitable pastures for horses and cattle, especially in the more arid eastern part of the peninsula, which was cut off by mountain ranges from the rain-bearing winds from the west* (Semple 1922, 22).

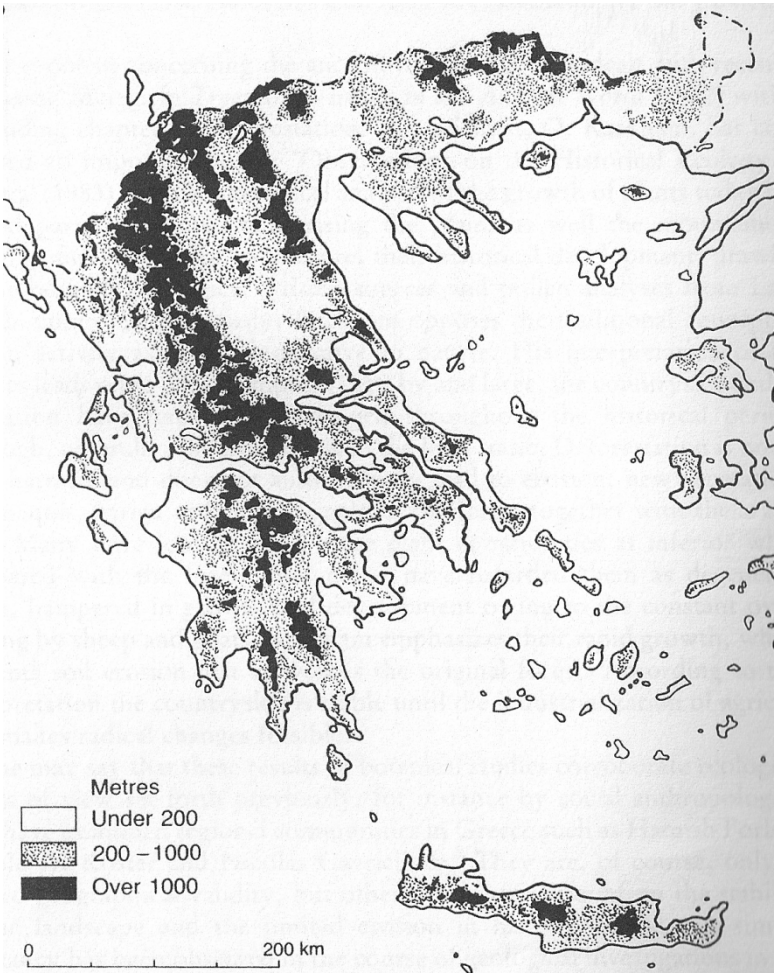


Figure 44
Orographic Map of Greece
(Isager and Skydsgaard 1992, 12 Figure 1.1)
(Map by kind permission of Taylor & Francis Group)

According to Gladitz:

> *High mountain pastures are poor in most of the southern peninsula [of the Balkans] because so many of the mountains are composed of very porous limestone through which the water from melting snows quickly percolates away. Good pastures for rearing horses were therefore largely confined to the plains, and were characterised by marsh meadows* (Gladitz 1997, 116).

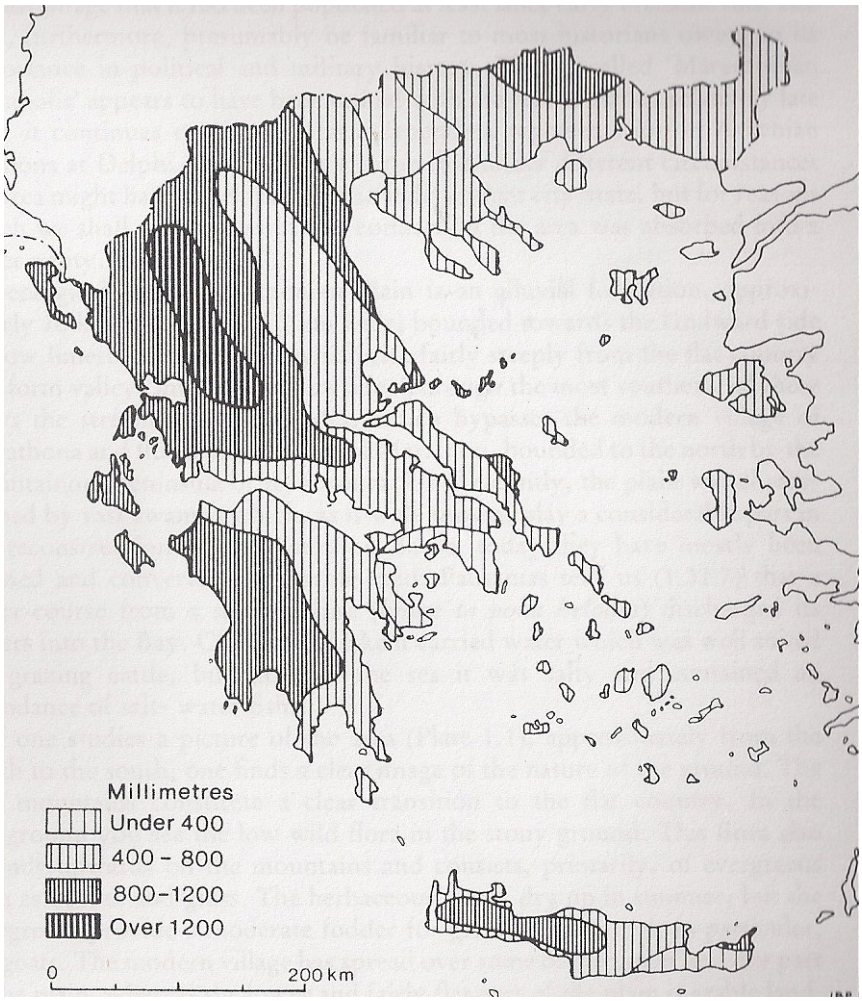


Figure 45
Hydrographic Map of Greece
(Isager and Skydsgaard 1992, 13 Figure 1.2)
(Map by kind permission of Taylor & Francis Group)

The importance of these marsh meadows for the pasturing of livestock becomes evident during the summer when the water table is at its lowest. In the height of the Greek summer, they retain enough wet pasture to support herds of

cattle and horses (Figure 45) (Turrill 1929, 157). They can provide sufficient fodder to get the herds through to the winter months when upland pastures become available to graze. It is quite likely that these marshy regions were greater in extent in antiquity than they are today (Donaghy 2009, 87).

The amount of cavalry which each *polis* could raise was dependent on these wet meadows. The few regions with abundant and superior pastures became famous for their cavalry, and the cities therein were sought after as allies in war. Horses were purchased and mounted troops hired from them by wealthy *poleis* with limited cavalry resources of their own. This is attested to by the 111 lead *cavalry tablets* dating from the mid-fourth to late third century BC, excavated in the Athenian Agora in 1971. These tablets give each cavalryman's name, rank, horse's value and the horse's brand mark. These brands were "known to or maybe inferred to have had specific regional associations" (Kroll 1977a, 88). A few examples are:

1. βουκεφάλας (ox head) from Thessaly
2. πέλεκευς (axe) from Thessaly
3. κηρύκειον (caduceus) from Macedonia
4. δελφίς (dolphin) from Sicily

There is "little doubt that the brands were trademarks of the established stables and herds that provided the finer mounts for the whole of Greece" (Braun 1970, 265-267).

As well as limiting the number of regions capable of the production of horses, the rugged Greek terrain also inhibited the large-scale use of cavalry. No southern *polis* ever developed an army orientated more towards cavalry than infantry. It is only in the north (especially in Thessaly) that the land is more suited to cavalry use. Most large battles in ancient Greece were hoplite set pieces. Because of the rugged terrain, the cavalry was only effective with small attacks on the flanks of the battle. It would have been suicidal for a cavalry troop to ride straight into a tightly-knit hoplite phalanx. Even attempting to ride around behind the enemy was often thwarted by the landscape, as battles often took place in a plain between two mountains.

3.4 The Four Main Horse Breeding Regions of Ancient Greece

In the fifth and fourth centuries BC there were four major horse breeding regions supplying the armies of Greece: Northern Greece, Central Greece, the Peloponnese (Figure 46), and Sicily (Figure 47).

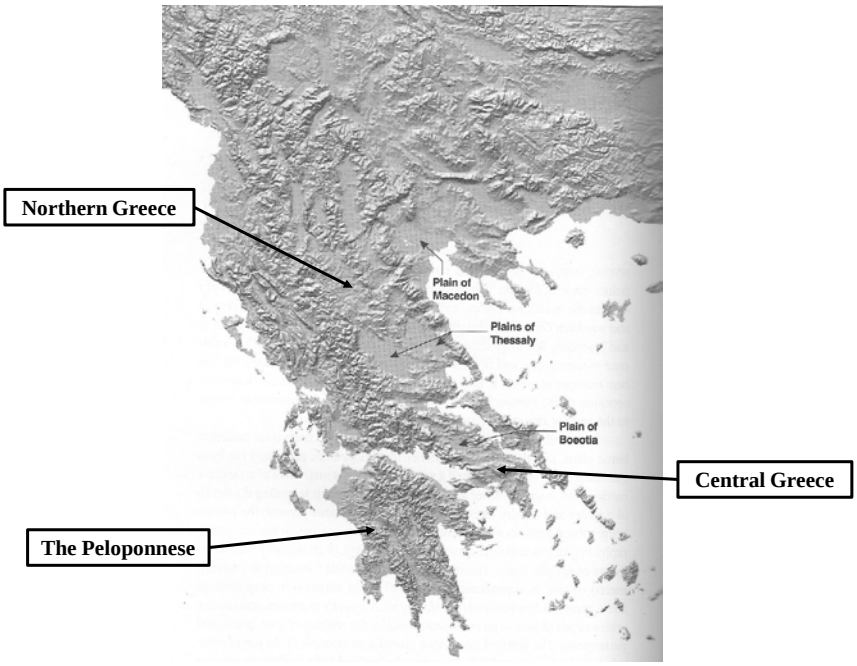


Figure 46
The Main Horse Breeding Areas of Mainland Greece
(after Gaebel 2002, 316)
(Map by kind permission of Robert E. Gaebel)

3.4.1 Northern Greece

According to Plato's *Laws*, Northern Greece is a flat and agriculturally rich region that naturally lends itself to the rearing and riding of horses (Pl. *Laws*. 1.625d). There were three main cavalry powers in this region: Thessaly, Macedonia and the cities of Chalcidice. Aristotle posited a deterministic model that this wealth of pasturage, held among the very rich, led to the formation of an oligarchy, which in turn had the wealth to rear the horses and form a cavalry to protect the people.

> *...military forces are of four classes, cavalry, heavy infantry, light infantry and marines, in places where the country happens to be suitable for horsemanship, there natural conditions favor the establishment of an oligarchy that will be powerful (for the security of the inhabitants depends on the strength of this element, and keeping studs of horses*

> *is the pursuit of those who own extensive estates)* (Arist. *Pol*. 6.1321a.7-11).

While this relationship is clearly not inevitable, there is merit in Aristotle's claim, at least with regard to the wealth of pasturage and the importance of cavalry.

Thessaly had the best cavalry in Greece up until the rise of Macedonia in 320 BC (Denison 1913, 19). Aristotle may well be referring to Thessaly in the following passage:

> *And the upper classes have distinctions also corresponding to their wealth and the amounts of their property (for example in a stud of horses - for it is not easy to rear horses without being rich, and this is why in ancient times there were oligarchies in all the states whose strength lay in their cavalry, and they used to use horses for their wars against their neighbours...* (Arist. *Pol.* 4.1289b.33-39).

As Semple states:

> *The best and largest pastures were to be found in the broad lacustrine basin of Thessaly, which was alternately flooded and drained by the Peneus River system. This region repeatedly furnished cavalry for Athens from the days of Pisistratus (Hdt. 5.63.3; Thuc. 1.107; 2.22), and provided horsemen for Alexander's army in his conquest of Asia* (Semple 1922, 23).

The Thessalians were renowned for their horsemanship, according to Plato (*Meno* 70a). They were also famous for their exceptional horses, which were the product of good feeding, of wide artificial selection made possible by a large pool of breeding stock, and free movement over the plains (Semple 1922, 23; Str. 8.8.1). The native Thessalian horses were often crossed with imported Scythian, Nisean and Ferghana horses to improve the stock and yield "weight carriers with size and speed" (Hyland 2003, 149). The importance of importing quality horses for the improvement of the native breeding stock is also documented by Justin, who notes that Philip II of Macedon was said to have imported 20,000 Scythian mares for just this purpose (Just. *Epit*. 9.2.16) (see section 2.6). Alexander's famous horse, Bucephalus, was bred at a Thessalian stud farm at Pharsalus by Philoneicus (Plut. *Alex*. 6.1; Arr. *Anab*. 5.19.5; Gaebel, 2002, 20).

According to both Herodotus (5.63.3-4) and Aristotle (*Ath. Pol*. 19.5), Thessaly had a cavalry force of at least 1,000, which was sent to aid the Athenians (whose cavalry amounted to 96) against Sparta at the end of the sixth century BC. I would assume that Thessaly had a much larger force than this, as they would not send their entire cavalry to aid the Athenians and leave their own country vulnerable. By 375-374 BC, Jason of Pherai, head of the Thessalian League at that time, claimed to have 6,000 cavalry available to him (Xen. *Hell*. 6.1.8). Burford contends that "Thessaly had pasture and grain to spare for horses, and this was probably one of the prime sources of both cavalry and chariot-racing horses for most of the rest of Greece" (Burford 1993, 72).

Lying to the North of Thessaly, Macedonia was a monarchy with a strong cavalry tradition. The Macedonian cavalry functioned like the equivalent units in other Greek states until the reign of Philip II, who, once he had absorbed the Thessalian cavalry, transformed this unified force into a specialized cohort within his army capable of deciding victories. He introduced a wedge shaped formation for the cavalry and also perfected battle charges which were used to great effect in Asia by Alexander at Granicus, Issus and Gaugamela (Arr. *Anab*. 1.14; 2.9; 3.8; Diod.Sic. 17.19; 17.33; 17.60).

Chalcidice, the area to the south of Thessaly consisting of a peninsula jutting into the northwest Aegean Sea, merged its cities into a confederacy and the size of this united cavalry force was said to be 1,000 from the period 432-379 BC. Xenophon (Xen. *Hell*. 5.2.14), Thucydides (1.62) and Demosthenes (19.263, 266-267) all refer to a cavalry of this size. In 379 BC the confederacy was dissolved and most of the cities, and presumably their cavalries, were later absorbed into the Macedonian state under Philip II (Spence 1993, 28).

3.4.2 Central Greece

The only region conducive to horse rearing in Central Greece is the plains of Boeotia. The land of Attica was very poor and only suitable for the raising of barley, wheat and olives by small farmers (Bugh 1988, 29). Sallares claims that "meadowland and good quality land for pasturage have always been in very short supply in Attica" (Sallares 1991, 384). Hanson notes that "the largest farm attested in Attica was probably no larger than 100 acres, and that appears exceptionally large

(i.e. the product of rhetorical exaggeration)" (Hanson 1998, 43 fn.2). Only one quarter of Attica is estimated to be cultivable (McHenry 2003, 4). According to Herodotus, Mardonius in 479 BC withdrew from Attica:

> *His reason for abandoning Attica was that it was bad country for cavalry; moreover, had he been beaten in an engagement, his only way of retreat would have been by a narrow defile, which would have been held by a very small force. His plan, therefore, was to retire on Thebes, where he could fight in good cavalry country and near a friendly town* (Hdt. 9.13).

Along with Athens, the only other city-states in Central Greece with cavalry were Locris, Phocis and Boeotia (Thuc. 2.9.3). Both Locris and Phocis seem to have raised a cavalry sometime between the end of the Persian Wars and the start of the Peloponnesian War. The size of the two cavalries is uncertain.

Made up of several autonomous cities, the Boeotian League had a long equestrian tradition and good countryside to support horses (Worley 1994, 61-3). This further confirms the connection between good pasture and cavalry production. The Boeotian cavalry, a force of 1,100 - 2,000, fought with great distinction on the Persian side at Plataea in 479 BC (Hdt. 9.68.1 and Worley 1994, 61).

3.4.3 The Peloponnese

The two most important horse breeding areas in the Peloponnese were the marshy coastal plain of the Eurotas River (in Laconia) and the plains of Messenia. Messenia, with its well watered and fertile plains on the windward side of the Taygetus mountains, was superior in this regard to Laconia, a plain of only 40 square kilometres in size with less annual rainfall than Messenia (Semple 1922, 25). Although no real cavalry appears in Sparta until the end of the fifth century BC, the Spartans were involved in the breeding of racehorses, as their record in the Olympic Games attests. Of the 45 known winners of the Olympic four-horse chariot race between 648 and 344 BC, one third were Spartan (Donaghy 2009, 94-95). Moreover, Sparta had enough horses in the third century BC to export them from Messenia to Alexandria in Egypt (Polyb. 5.37.7-8).

The Spartans, however, only established a cavalry of 400 horsemen in 425/4 BC because of the Athenian menace (Thuc. 4.55.2). This cavalry differed from

others in that the wealthy Spartans only paid for the horses to be used; they were not themselves the horsemen. It must be remembered here, that in Sparta, the greatest ambition of the Spartan male was to fight as a hoplite not as a cavalryman. The men picked to ride the horses were "least strong of body and least ambitious" according to Xenophon (*Hell*. 6.4.10-11) (see section 3.5).

Another horse breeding area in the Peloponnese was the pasture land of Argos that consisted of the small silted plain at the head of the Argolic Gulf (Semple 1922, 24). Even though Homer refers to "Argos, the pasture-land of horses" (*Il*. 2.287) and "horse-pasturing Argos" (*Il*. 15.30), and Diomedes as "horse-taming" (*Il*. 5.415, 782, 849; 7.404-5; 9.51, 712), its hinterland was not conducive to the breeding of large numbers of horses. Thucydides (5.59.3) tells us that in 420 BC, the Argives and their allies became surrounded by the enemy; "their army was without cavalry" while waiting for the Athenians to arrive. This account suggests that the Argives were unable to field a cavalry possibly due to the dearth of horses in their area.

Homer (*Od*. 21.347-8) refers to "horse-pasturing Elis", but the evidence for a later cavalry force in this area is sparse. Xenophon does refer to the horsemen of Elis putting down a revolt but this does not necessarily mean that this was a properly organised cavalry (Xen. *Hell*. 7.4.15-16).

Corinth had a cavalry by 370/69 BC when they were sent as scouts by Iphicrates, along with the Athenian cavalry, to look for the Thebans (Xen. *Hell*. 6.5.52).

In general, the Peloponnese was too arid and mountainous for the maintenance of a good cavalry force. Except for the two areas mentioned above, this was never going to be a region to produce either great horsemen or a strong cavalry arm to their military. Along with land unsuitable to horse production, "the Peloponnese contained little territory suited to cavalry movements" (Semple 1922, 24).

3.4.4 Sicily

Sicily (Figure 47) was a land well suited to the breeding of horses. "Although horses were bred throughout the island it was the south-eastern plains that were home to the greatest populations especially those in the territory of Gela, which

commanded the fertile plain of the River Gelas, and those of Syracuse which dominated the eastern portion of the island" (Donaghy 2009, 130).

The Sicilians had a history of equestrian and cavalry excellence and their cavalry played an important role in their long running struggle with the Carthaginians. During the Second Persian War, Gelon, tyrant of Syracuse, offered 2,000 horsemen and 2,000 *hamippoi* (light infantry attached to cavalry) to assist the Greeks (Hdt. 7.158.4; Sabin 2007a, 188).

Figure 47
The fourth horse breeding region of Greece - Sicily
(Available at: www.lukeuedasarson.com/Gela.html)
(Accessed: 20-04-13)
(Map by kind permission of Luke Ueda-Sarson)

Syracuse used its cavalry to great effect as a mobile defence unit against the Athenians from 415-413 BC. It restricted the Athenian attempts to scavenge for supplies and protected their own hoplites when retreating from battle (Gaebel 2002, 105-106). They secured a final victory over the Athenians by charging their left flank and causing it to break (Spence 1993, 31-32).

3.5 The Greek Cavalry in Battle from 490 to 365 BC

There is on-going controversy as to how early Athens developed a true cavalry. The portrayal of horsemen on early Athenian vases cannot be taken as proof of cavalry, as the image could represent a hoplite riding to the battle in order to dismount and fight (Greenhalgh 1973, 84-150; Worley 1994, 1-3; Anderson 1961, 130; Bugh 1988, 37-38). Snodgrass notes that:

> *Our ignorance of much of the military field should not be underestimated: there is still room for learned discussion, and complete disagreement, over many fundamental questions, such as whether or not the Athenian 'cavalryman' of the seventh, sixth and early fifth centuries actually rode his*

horse into battle (Snodgrass 1999, 77; also Bugh 1988, 3-38; Worley 1994, 21-58).

Hoplite warfare, according to Hanson, was a limited exercise of face to face combat with no use made of flank attacks or reserves, while the use of missiles for attack was scorned (Hanson 1989, 16). Hoplite warfare suited a farmer defending his land. He would have had little time to train as a soldier and instead relied on the cohesiveness of his unit in battle, and not on his individual skills as a soldier. Given that most conflicts were local affairs, there would have been a level playing field for both sides in terms of training and armament. By mutual accord, the battles only lasted a few hours when both sides accepted the outcome and went back to their land. Gaebel states that "the comparative absence of cavalry from Greek battlefields circa 650-430 was caused less by bias against the horsey aristocrats and the expense of keeping horses than by the realization that they could not contribute much to the desired outcome of hoplite battle" (Gaebel 2002, 68; Bugh 1988, 38; Andrewes 1971, 221). Hanson agrees that "landed infantrymen developed a 'system' that deliberately made missiles and mounted warriors incidental to success in battle" (Hanson 1995, 234).

Sources for the Persian Wars of 490 BC and 479 BC should shine a light on this question, but Herodotus' silence on this matter suggests that there was no Athenian cavalry present during the major battles (Bugh 1988, 8). The Greeks were keenly aware of the limitations of a phalanx when facing cavalry, an awareness which is evident in the choice of ground at Marathon, Thermopylae and Plataea. "On a flat and narrow field hoplites could smash any other infantry on earth as well as cavalry without stirrups or bowmen whose arrows reached only one hundred yards and could not penetrate a hoplon" (Herwig 2002, 70). Among the Greeks, only the Boeotians fought on the Persian side with their cavalry at Plataea (Hdt. 9.68). It seems as if the Athenians knew that their insignificant cavalry could not provide any meaningful resistance to the superior Persian cavalry and resolved to fight as hoplites. Xenophon alludes to this in the *Cyropaedia*, when Cyrus recommends that his cavalry dismount and fight on foot if this proves more useful to the infantry (Xen. *Cyr*. 4.5.49).

There was no Persian cavalry used in the Battle of Marathon in 490 BC. Herodotus makes no mention of them at the battle, which leaves open many possibilities, as we know that Persia had extensive cavalry forces. It is questionable

whether the Persian cavalry disembarked from their ships. If they did disembark, they may have been posted or sent on the road to prevent more Greeks arriving at Marathon, although it is possible that they remained at the battlefield. Perhaps they are not mentioned in the literature because once on the battlefield they were unable to get to the flanks of the Athenians and, therefore, had no effect on the battle. Scholars cannot agree on this. However, it seems most likely that they were present but had little impact on the outcome of the battle.[13]

At Thermopylae, the narrowness of the pass meant that the Persians could not make use of their cavalry. Cavalry is only effective in open country where it can attack the flanks and rear of the infantry. It is no wonder that the Greeks picked Thermopylae as the site would effectively negate the prowess and superiority of the Persian cavalry. According to Herodotus, Xerxes had brought cavalry with him, but the only use he found for them was in the races that he challenged the Thessalian horsemen to on his way through Thessaly. Despite the fact that the Thessalian horsemen were renowned as the best in Greece, the Persians were victorious (Hdt. 7.196).

At Plataea, in 479 BC, it is estimated that the Persians brought 10,000 cavalry to the battle, along with 50,000 infantry (Ferrill 1985, 119; Gaebel 2002, 74). As mentioned above, the Greeks deployed no cavalry, only mounted messengers (Hdt. 9.54 and 60.1). Even though the Greeks were victorious without a cavalry, "their experiences in the Persian Wars had convinced even the Athenians of the value of the mounted arm" (Gaebel 2002, 84). This was strongly evidenced by the Persian and Boeotian cavalries, who, although defeated, harassed the Greek front lines (Hdt. 9.69.1-2), blocked supplies from getting through, blocked the Greek water supply (Hdt. 9.40 and 49), and shielded their own men in retreat.

In 458 BC the Athenians, assisted by Thessalian cavalry, met a Peloponnesian force in the battle of Tanagra. During the course of the battle, the Thessalian cavalry deserted to the Peloponnesian side, which is often viewed as the deciding factor in the Athenian defeat (Spence 1993, 11-12; Bugh 1988, 41-44; Worley 1994, 69). This defection was also the catalyst that convinced the Athenians

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[13] See Ferrill 1985, 108-110; Hodge 1975, 172; Evans, J. 1986-7, 97-106; Snodgrass 1999, 102-3; Bury 1894-5, 99; Delbrück 1975, 72-90; de Souza 2004, 44; Denison 1913, 20-1; Hanson 1999a, 83-6; Harrison 1972, 365; Hodge 1975, 164-5,172-3; How 1923, 124-6; Humble, R. 1980, 115-6; Kelekna 2009, 126-7; Hyland 2003, 112-3; Shrimpton 1980, 20-37; Hammond 1968, 13-57; and Marincola 1996, 361fn.49.

that they needed to establish their own cavalry force. In 393 BC, Andocides refers to the establishment of a force of 300 cavalry in a speech concerning the Thirty Years Peace between Athens and Sparta of 446 BC, which ended the first Peloponnesian War (Andoc. 3.5). Andocides noted that during this peace the Athenians were able to re-arm themselves by constructing new ships and also by establishing a cavalry of their own citizens (cited in Bugh 1988, 52).

By 431 BC, the Athenians had a cavalry force of 1,000 and 200 mounted archers (Thuc. 2.13.8). The archers, according to Xenophon, were deployed in front of the regular cavalry (Xen. *Mem*. 3.3.1). At this time, the cavalry was "used at home to prevent raiding beyond the enemy's armed camp, in enemy country to make a raid; in pitched battles they were present on the wings, to harry an outflanking movement (especially against the left wing) and to hinder pursuit, seldom for a decisive action" (Gomme 1945, 15). Cavalry trumped infantry in terms of psychological intimidation, mobility, and speed but could not function on rough, uneven, or steep ground, where there was increased likelihood of leg or to a lesser degree, hoof damage (Spence 1993, 48).

From 424-418 BC, the Athenians suffered three major defeats through lack of a cavalry force. The first was in 424 BC at the Battle of Delium, where the Athenians were defeated by Theban cavalry, who surprised the Athenian right wing, causing them to flee. The deserting army was pursued by the cavalry leaving more than 1,000 Athenians dead (Thuc. 4.96). The second defeat was in 422 BC at Amphipolis. Here, the Peloponnesian cavalry, led by Brasidas, played a pivotal role in the outcome. The Athenians had retreated in order to await reinforcements, when the Peloponnesian forces sprang a surprise attack. As the Athenians broke ranks and fled, the Peloponnesian cavalry was able to pursue and cut them down. The casualties of 600 Athenians, as opposed to only seven on the Peloponnesian side, were due, according to Thucydides, to the success of the cavalry pursuit in "no set battle, but only the unforeseen panic-ridden affair" (Thuc. 5.11). The third defeat was at Mantinea in 418 BC. The Athenians suffered defeat this time by the Spartans under their king, Agis. It is important to note that, at this battle, the Athenian cavalry, although defeated, was successful in preventing further losses by providing cover for the retreating forces (Thuc. 5.67 and 5.73).

In 415 BC the Athenians set out to conquer Sicily, but by September, 413 BC, they had surrendered. The Sicilians had the advantage of an impressive cavalry

comprising a large number of horses from which to choose, and the grain with which to feed them. During the two years in Sicily, the Syracusan cavalry played a major role in the defeat and destruction of the Athenian forces, both in battle and by preventing foraging through intimidation and attack (Thuc. 7.78-87).

The Athenians thus realised the importance of having a strong cavalry component to their army (Sabin 2007a, 222). From 410 to 406 BC the emphasis turned to the area of the Black Sea, with the Spartans now allied with the Persians, trying to gain control of the Bosphorus and the important sea lanes supplying grain to Athens (Xen. *Hell*. 1.1.35-6). In 409 BC, Xenophon relates the success of Alcibiades at Abydos when his cavalry pursued a large force of Persian cavalry under Pharnabazus until nightfall (Xen. *Hell*.1.2.16).

Athens finally surrendered to the Peloponnesian forces in 404 BC. During the 30 years of the Peloponnesian War, the Athenians came to realize that a hoplite army of citizens was no longer enough to ensure victory. From this time forward, before the Greeks could penetrate Persia, "they had to create an integrated army - heavy and light infantry, skirmishers, and heavy and light cavalry - and to learn the means of supporting such a force logistically" (Ferrill 1985, 149).

After the death of Cyrus in 401 BC, Tissaphernes was reappointed as the military commander of western Asia Minor. The Spartans interpreted this as a sign that the Persians were preparing a campaign to oust the Spartans from Asia Minor. They sent King Agesilaus to evaluate the situation in 396 BC. He was joined by Xenophon, who had just finished his march from Cunaxa. It quickly became evident to Agesilaus that he would need a cavalry if he were to have any success against the Persians (Xen. *Ages*. 1.23-24; Wheeler 2007, 222). He spent the winter in Ephesus outfitting and training all the various branches of his army, especially the cavalry. He offered incentives to the best divisions, the heavy infantry, the peltasts, the bowmen, and specifically, to the cavalry for the best horsemanship (Xen. *Hell*. 3.4.16; *Ages*. 1.25). Worley goes so far as to contend that Xenophon may have become Agesilaus' advisor on cavalry by this time:

> *Considering Agesilaus' lack of knowledge of cavalry and Xenophon's competence in both cavalry and Persian tactics and weapons, it seems almost certain that Xenophon played a major role in the organization and training of the mounted units for Agesilaus' army* (Worley 1994, 136).

Rahe believes that Xenophon was Agesilaus' "tutor in the coordinated use of infantry and cavalry" (Rahe 1980, 95). The tactics used by Xenophon for the ten thousand (Xen. *An*. 3.3.6-4.6) are comparable to those employed by Agesilaus (Xen. *Hell*. 3.4.20-4; Xen. *Ages*. 1.23-32). Anderson maintains that Xenophon may have uncharacteristically played down the extent of his involvement in the formation of Agesilaus' cavalry in the *Hellenica* in an effort to give the credit and honour for its formation to Agesilaus (Anderson 1970, 302, fn. 27). But, we should be mindful that Xenophon always tried to play down his role in Spartan campaigns in order to reduce further damage to his name after his exile from Athens (see section 1.2.4).

The validity of Xenophon's version of the Battle of Sardis of 395 BC, as opposed to that of the Oxyrhynchus historian, is the subject of intense debate. It is clear from both accounts that Agesilaus defeated a Persian force, sacked their camp, and advanced on Sardis, but was unable to take the city. The cavalry of Agesilaus did play a part in the battle itself, according to Xenophon (Xen. *Hell*. 3. 4. 22-5), who, because of his interest in cavalry, would seize the opportunity to emphasize their role in the battle. However, the Oxyrhynchus historian indicates that the cavalry only took part in the pursuit of the enemy (cited in Gaebel 2002, 119). Although it is impossible to establish with certainty which account is the correct one, Xenophon's eye witness account would lead one to believe that the cavalry did fight in the battle.

Agesilaus was summoned back to Sparta in 394 BC after the death of Lysander at the battle of Haliartus in Boeotia, at the beginning of the Corinthian Wars (Xen. *Hell*. 4.2.1-4). On his march home, Agesilaus was able to use his cavalry to mount a surprise attack on the Thessalians, who had been harassing his troops. He was victorious, killing the Thessalian commander, Polycharmus, and his companions, as well as most of the fleeing Thessalians. This was a significant and unexpected victory for the Spartans over the Thessalians, who "pride themselves particularly upon their horsemanship" (Xen. *Hell*. 4.3.9).

In 394 BC, Agesilaus was victorious at Coronea, but was beaten by the Athenians under Iphicrates near Lechaeum in 390 BC. The cavalry, in this instance, did not use their speed and mobility to their advantage, instead joining up with the hoplites, advancing and retreating with them. Xenophon is highly critical of the underuse of the cavalry in this battle, as he felt that they should have independently pursued the retreating Athenian peltasts and killed them.

> *And now that the best men* [of the Spartans] *had already been killed, the horsemen joined them, and with the horsemen they again undertook a pursuit. But when the peltasts turned to flight, at that moment the horsemen managed their attack badly; for they did not chase the enemy until they had killed some of them, but both in the pursuit and in the turning backward kept an even front with the hoplites* (Xen. *Hell*. 4.5.16).

This was followed by the King's Peace in 386 BC. Sparta was now in decline but spent the next few years in battle with various city-states, especially Thebes. In 383 BC, the Spartans and their allies prepared for a battle against Olynthus. Xenophon highlights the expense of fielding a cavalry at this time, noting that the allies could send money instead of men to join the Spartans (Xen. *Hell*. 5.2.20-21). The amount needed to support a cavalryman at this time was four times that needed to support a hoplite. The Spartans were ultimately defeated, but the cavalry on both sides were exemplary - especially the cavalry from Elimia, who joined the Spartans, according to Xenophon (Xen. *Hell*. 5.2.37-43).

In 375 BC at a battle near Tegyra, we have evidence of more sophisticated cavalry tactics being employed. This was the first time in ancient records that cavalry was used to initiate the attack (Plut. *Pel*. 17). Returning home after an attempted attack on Orchomenus was foiled, the Theban, Pelopidas, fought the Spartans in a narrow pass, even though he was outnumbered two to one (Diod.Sic. 15.37). He ordered his cavalry to attack first so that he and his Sacred Band could break through the Spartan infantry. He had instigated a coordinated attack, using both cavalry and infantry, and routed the entire Spartan force.

At the battle of Leuctra in 371 BC the Thebans and Spartans each had cavalry: according to Plutarch, the Thebans had a force of 1,000 (Plut. *Pel.* 20.1). Xenophon does not supply any numbers for cavalry on either side to substantiate Plutarch's claim; however, modern scholars list numbers anywhere between 200 and 1,000 (Anderson 1970, 196; Gaebel 2002, 130; Worley 1994, 141). The Spartan king/commander, Cleombrotus, placed his cavalry at the front of his hoplite phalanx, presenting an unusual move, as they were usually deployed on the wings. Epaminondas, the Theban commander, imitated this innovative positioning and his superior horsemen had no problem pushing the Spartan cavalry back into their hoplites, causing such confusion that the Spartans were put to flight and soundly

defeated (Xen. *Hell*. 6.4.13). Xenophon blames the poor quality of the Spartan cavalry for this defeat (see section 3.4.3). He tells us that:

> *Now the cavalry of the Thebans was in good training as a result of the war with the Orchomenians and the war with the Thespians, while the cavalry of the Lacedaemonians was exceedingly poor at that time. For the richest men kept the horses, and it was only when the ban was called out that the appointed trooper presented himself; then he would get his horse and such arms as were given him, take the field on the moment's notice. As for the men, on the other hand, it was those who were least strong of body and least ambitious who were mounted on the horses* (Xen. *Hell*. 6.4.10-11).

In Sparta, the wealthy citizens, who owned the horses, only loaned them to the riders when they were conscripted for war. These riders were not chosen to serve as hoplites because they were lacking in physical strength and in the courage and ambition needed to fight in the Spartan phalanx. They were not given the opportunity to train on their mounts. Thus, the Spartans were left with inexperienced and unmotivated riders to form their cavalry at Leuctra. This may sound surprising when one remembers the amount of effort Agesilaus invested in the cavalry in Asia Minor, and Xenophon could be subtly flagging the fact that once he was no longer involved in the training of the Spartan cavalry, their efficiency declined. Moreover, Agesilaus would have used native horses and perhaps hired some local horsemen to increase the numbers in his cavalry at Ephesus (Xen. *Ages*. 1.25-27; Plut. *Ages*. 9.3-4; Worley 1994, 136).

> *Accordingly he* [Agesilaus] *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* (Xen. *Hell*. 4.15).

Once at home in Sparta, the horses would have been far inferior to those available at Ephesus and, as seen above, the horsemen would have been neither physically strong nor well schooled as a unit. It may be that the Spartans, once back on their home ground, were relying on the hoplites to fight their battle. After all, this

had worked in the past. No one is certain of the hoplite numbers, but it is thought that the Spartans were superior in strength with 10,000 men, while the Thebans had only 7,000 (Gaebel 2002, 130). If the Spartans had 1,000 cavalry at Leuctra, it would follow that they had increased the quantity of their cavalry from the 400 horsemen in 425/4 BC, but not necessarily its quality.

From 370-369 BC, the Athenians allied with the Spartans to halt the rising power of Thebes. Xenophon criticised the Athenian general, Iphicrates, for sending his entire force of Athenian and Corinthian cavalry as scouts to check on the movements of the Thebans, as a smaller number would have retreated more easily. As a result, Iphicrates lost 20 of his horsemen (Xen. *Hell.* 6.5.51-52).

In 369 BC, Dionysius of Syracuse sent troops, including 50 cavalry, to aid the Spartans against the Thebans, who were camped near Corinth. The Athenian and Corinthian cavalry kept their distance from the plundering Theban forces, but the cavalry of Dionysius kept hectoring the Thebans: charging down at them, hurling javelins, and then retreating, thereby allowing the enemy to move towards them, so that they could suddenly turn and hurl the javelins at them again. In this manner, they were able to make the enemy advance or retreat at will, and were much admired by Xenophon (Xen. *Hell.* 7.1.20-1).

From 370-366 BC the Phliasians, Spartan allies, were able to make their mark through extremely aggressive tactics with only a small cavalry force of 60 horsemen. They attacked and killed many Argives, as they retreated from ravaging the land around Phlius in 369 BC. As Xenophon attests, they "attacked these troops and turned to flight the entire rearguard" (*Hell*. 7.2.4). The following year, the Argives returned to destroy the Phliasian crops once more; however, this time, the Phliasian cavalry along with the Athenian cavalry, caught them at a river crossing and defeated them (Xen. *Hell*. 7.2.10). Through these minor episodes, Xenophon purposely emphasizes how a cavalry of limited size, taking the offensive, can play a decisive role in the outcome of a battle. He was ahead of his time in highlighting this new tactical role for a more aggressive cavalry used offensively, rather than strictly defensively.

3.6 Xenophon's *Cavalry Commander*

This brings us to 365 BC, which is widely considered to be the year in which Xenophon wrote the *Cavalry Commander* (Marchant and Bowersock 1925, xxviii; Bugh 1982, 25; Anderson 1975b, 445; Morgan 1894, 71). Xenophon had previously written about the cavalry commander in his *Memorabilia*, where the duties of the cavalry commander were put into the mouth of Socrates (*Mem*. 3.3.1-15). In that work, Socrates exhorts the young man looking for a cavalry command to improve both the riders and the horses for the betterment of the state, to inspire them by being the best horseman and an eloquent speaker and, finally, to use the Athenian love of honour as an incentive.

> *Our cavalry, they too would greatly excel others in arms and horses and discipline and readiness to face the enemy, if they thought that they would win glory and honour by it* (Xen. *Mem*. 3.3.14).

We can safely say that the *Cavalry Commander* was composed some time after the Battle of Leuctra (371 BC) during the years of Theban supremacy. It is probable that Xenophon's two sons, Gryllus and Diodorus, were serving in the Athenian cavalry at this time (Worley 1994, 74). Their reports to their father of the inefficiency of the cavalry prompted Xenophon to comment further on the duties of the cavalry commander (Bugh 1988, 151-152). Throughout Xenophon's life, he had been very dismissive of the military training that existed in any Greek city, except Sparta (*Mem*. 3.5.15-17; *Lac*. 13.5; *Hell*. 6.1.5-6). Perhaps now he felt the time was right to give some constructive criticism to Athens on her cavalry training, and somehow redeem his tarnished reputation in Athens.

The *Cavalry Commander* was written in anticipation of the outbreak of war between Athens and Thebes. The cavalry was in disarray at this time, and, even though Athens was at peace, Xenophon could see that this was not sustainable and that the cavalry would have to be properly trained. In spite of the amnesty of 403 BC, many Athenians refused to forgive the role of the cavalry in the service of the oligarchs in 404/403 BC. In response, many of the cavalrymen withdrew from the political arena and from Greece itself (as Xenophon had in 401 BC). The result of this was a decline in the number of experienced cavalrymen. Recruits had to be drawn from the lower ranks of the well-to-do, men who "probably devoted less attention to the purchasing of good cavalry mounts, to the proper care of them, and

to the acquisition of the requisite equestrian skills" (Bugh 1988, 151-152). Also, after so many years of war, and the resultant poverty, filling the ranks of the cavalry was proving difficult. The number of horsemen had dropped from 1,000 to only 650 and the quality of both the horsemen and their horses left a lot to be desired (Xen. *Mem*. 3.5.10; Worley 1994, 74; Bugh 1988, 152-153).

Although Xenophon seems to be addressing a cavalry commander in this treatise, it soon becomes clear that it is aimed at the Athenian authorities. He is instructing them in the reorganization of this branch of the military, with the help of experienced commanders, before it is too late. Xenophon claims that the Council had become slack, and, as a result, so too had the cavalry. He hints at hostility in the Council to the cavalry and suggests the cavalry commanders cultivate friends on the Council to ensure the smooth running of the cavalry (Xen. *Eq.Mag.* 1.8-12, 3.5, 5.13, 9.3-6). Perhaps there is a subtle message here from Xenophon for the authorities to allow him, a very seasoned commander, to return from exile in order to organize the cavalry for Athens?

As seen throughout the *Hellenica*, Xenophon knew that imperialist war could lead a city to ruin, but he felt that a city should always be prepared to defend itself. Even though Xenophon was normally an optimist in his work, the *Cavalry Commander* has pessimistic undertones. Xenophon almost seems to be shrugging his shoulders, not caring if his advice is taken or not, when he says, "these rules, no doubt, are familiar to nearly everybody; but few will take the trouble to observe them" (Xen. *Eq.Mag.* 4.5). Here is an old man, giving his advice from a lifetime of military experience and disparagingly looking at the younger generation. He is perhaps also subtly pointing out that the democrats, now in charge in Athens, do not make good leaders on the field of battle.

Unlike the other works of Xenophon, the narrative of the *Cavalry Commander*, although divided into nine books, is poorly organized. This lack of organization leads to constant repetition, leading the reader back and forth through his various areas of concern.

I have split the treatise into subject areas, rather than giving a summary of the order in which the various themes appear in the work. Looking at the treatise as a whole, three core themes emerge:

1. The organisation of the Athenian cavalry
2. Duties of the cavalry commander

3. Cavalry horses

Below is a table (Figure 48) with the various topics in the *Cavalry Commander* and their reference locations:

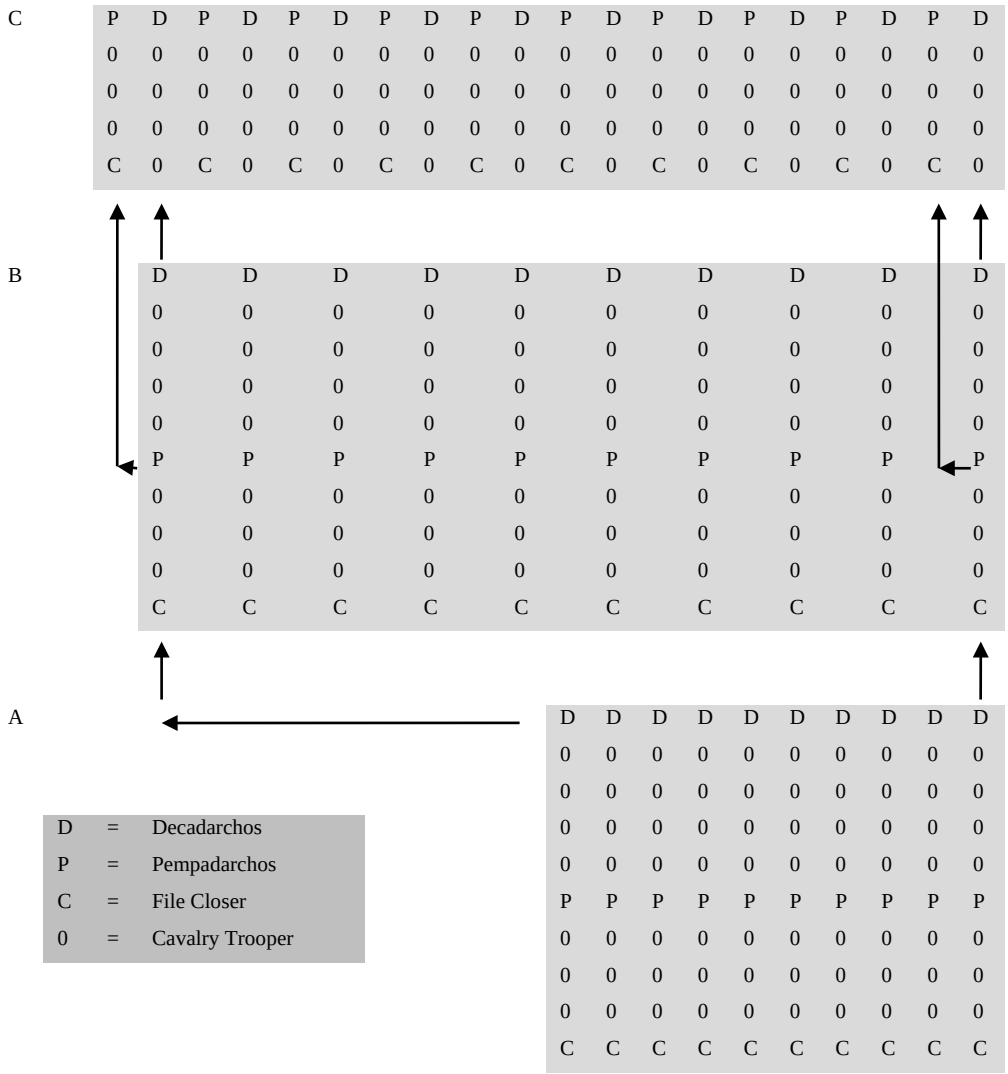
Figure 48. References in Xenophon's *Cavalry Commander*	
Topics	**Reference Numbers**
Piety	1.1-2; 3.1-2; 5.1; 5.14; 7.1; 7.3; 7.14; 9.8-9
Recruitment	1.2; 1.9-12; 5.13; 9.3-7
Horse /horse care	1.3-4; 1.14-15; 8.3-4
Training cavalrymen	1.5-7; 1.17-24; 5.1; 6.1; 8.1-3; 8.5-7
Cavalry commander	1.7-8; 3.1; 4.1-20; 5.1-13; 6.2-6; 7.1-15; 8.9-25; 9.1-2
Chain of command	1.8; 1.22-23, 1.25-26; 2.2-9
Existing cavalry	1.13-15
Sustaining morale	1.26; 6.2-6; 8.22
The hoof	1.16
Processions/manoeuvres	2.1; 3.1-14
Cavalry on the march	4.1-3; 4.9; 7.11
Spies, scouts & outposts	4.4-5; 4.7-8; 4.10-12; 4.16;7.13-15
Knowing the terrain	4.6; 8.9
Tactics	4.13-15; 5.1-13; 5.15; 7.8-10, 7.12; 8.10-20; 8.23-25
Deception and stealing	4.17-20; 5.2-3; 5.5-7; 5.9-12; 7.14-15; 8.8; 8.18-19

3.6.1 The Organization of the Athenian Cavalry

In Xenophon's explanation of the organization of the Athenian cavalry, he notes the Council chose two unpaid cavalry commanders (*hipparchs*) and, under these, ten colonels (*phylarchs*): one for each of the ten tribes (Xen. *Eq.Mag.* 2.2; Bugh 1988, 53). These ten colonels were each in charge of a regiment of 100 cavalry men - giving an ideal total of 1,000 cavalry and 12 officers.

Xenophon recommends that the cavalry commander remind his men that the state is paying 40 talents a year to maintain a highly trained cavalry on constant stand-by (Xen. *Eq.Mag.* 1.19). Forty talents can be divided through the year into a rate of 666 drachmae per day, with the wage for a cavalryman being 1 drachma per day (Marchant and Bowersock 1925, 243, fn.1). Then if 40 talents was the sum paid

in 365 BC, it indicates that the cavalry must have numbered only 666 men and not the 1,000 required by law, unless, of course, the cavalrymen were being underpaid. This strongly suggests that the cavalry was seriously undermanned, either in numbers or in the quality of their mounts, and that the Council had allowed this situation to arise.



A = The standard parade formation - 10 x 10 square
B = An extended or open formation
C = The final 20 x 5 rectangle

Figure 49
Athenian Cavalry *Phyle* Formation
(after Worley 1994, 76 Figure 4.1)
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Xenophon also recommends that each colonel, along with the cavalry commanders, appoint file leaders (*decadarchs*) for each file (consisting of 10 men)

of each regiment (*phyle*) (Xen. *Eq.Mag.* 2.2) (Figure 49). These 10 file-leaders formed the front rank in battle, being chosen for their youth, bravery and eagerness to win glory. The 6th man (*pempadarchos*) in each file was the leader of the next 5 men, including the file closer (Worley 1994, 75) (Figure 49). The officers then selected 10 of their older men to form the rear ranks. These men were chosen for their age and good sense, making them useful in cheering on the men in battle and wise enough to retreat when necessary (Xen. *Eq.Mag.*2.5). Here Xenophon uses the metaphor of the cavalry being like a steel blade that cuts most efficiently when the edge is keen (as in the front ranks) and the back reliable (as in the rearguard) (Xen. *Eq.Mag.* 2.3).

As Xenophon explains:

> *To fill the ranks between the front and rear, the file-leaders should choose the men to form the second line, and these in turn the men to form the third, and so on throughout. In this way every man will naturally have complete confidence in the man behind him* (Xen. *Eq.Mag.* 2.4).

This arrangement of men is also discussed by Xenophon in his *Constitution of the Lacadaemonians*:

> *In the Laconian formation the front rank men are all officers, and each file has all that it requires to make it efficient. The formation is so easy to understand that no one who knows man from man can possibly go wrong. For some have the privilege of leading; and the rest are under orders to follow* (Xen. *Lac*. 11.5-6).

With an even number of file leaders, the regiment could be divided into equal parts if necessary (Xen. *Eq.Mag.* 2.6; Spence 1993, 88-89). Thus, the normal formation of the regiment would be in a 10-by-10 square of 70 men and 30 officers (Figure 49A). The area covered would be 19 yards (17 m.) wide by 57 yards (52 m.) deep, allowing for a distance of one horse's width between the files and one horse's length between the ranks (Worley 1994, 75). This would allow each regiment to parade on the Panathenaic Way, which was 23 yards (21 m.) wide, as Xenophon discusses in the *Cavalry Commander* (Xen. *Eq.Mag.* 3.2-5; Thompson and Wycherley 1972, 85). Also, each regiment would be fluid enough to form a rectangle, of 20 men across by 5 men deep, if necessary in battle (Worley 1994, 76) (Figures 49B, 49C).

Pay and Funding

The new recruits to the cavalry were granted a state loan or *katastasis.* This is defined as "a loan made by the state to each recruit when he was formally enrolled ('established') in the cavalry primarily to assist him in the purchase of his mount" (Kroll 1977a, 97-98). This had to be repaid to the state upon retirement from the cavalry. The *katastasis* had a limit of 1,200 drachma, "a very respectable sum, indeed, approximating four years' wages for a skilled workman" (Bugh 1988, 57). Each cavalryman also received an allowance from the state, the *sitos*, which is thought to have amounted to one drachma per day and covered the daily expenses for the cavalryman's food and his horse's grain (Kroll 1977a, 97 fn. 36; Dem. *First Philippic* 4.28).

Next, the Council put the horses of the recruits through an evaluation, the *timesis,* to determine the monetary value of each horse. This was necessary as the state would refund money to the cavalryman if his horse was killed or lamed in action. The horses were also put through inspections, *dokimasiai,* by the Council. The first was to determine if each horse had been properly fed and cared for; if a horse was found wanting, its owner was fined the *sitos* (Arist. *Ath.Pol.* 49). The second involved mass reviews in riding and manoeuvring to ensure that the horses were obedient and fast enough for cavalry service (Kroll 1977a, 86). Any horse failing these exercises was banned from the cavalry and branded with the sign of the wheel (Arist. *Ath.Pol.* 49).

Drills in the Agora

Cavalry displays (*expideixeis*) also formed a part of the *dokimasiai* and, according to Xenophon, took place in the Academy, the Lykeion, and the hippodrome (thought to be located in the northwest district of the Piraeus) (Xen. *Eq.Mag.* 3.1). These displays would have been collective exercises for the cavalry to give them experience in riding and handling their weapons as a unit in their *phyle* formations. The officers would benefit from the practice involved in controlling their men as a group.

Xenophon suggested that, in the Agora, the cavalry ride from the Herms in a complete circuit saluting the gods at their shrines and statues, and then gallop as fast as possible to the Eleusinium, with their spears between their horses' ears to make

them look fiercer, and finally, ride back slowly along the same route to the temples (Xen. *Eq.mag* 3.2-4) (Figure 50).

The Herms refers to an area in the northwest corner of the Agora between the Royal Stoa and the Painted Stoa (Figure 50). “A herm was a typical Athenian dedication which consisted of a simple rectangular shaft with a set of male genitalia halfway up and a portrait of the god Hermes on top” (Camp 1986, 74). Thucydides refers to “customary square figures so common in the doorways of private houses and temples”, thereby revealing that they were used to mark entrances (Thuc. 6.27.1; Green 2013, 27). Hence, the appropriate place for herms in the Agora would be at the principal entrance or gateway in the northwest corner where the Panathenaic Way led into the square (Thompson and Wycherley 1972, 95) (Figure 50). This whole area became known as *The Herms*.

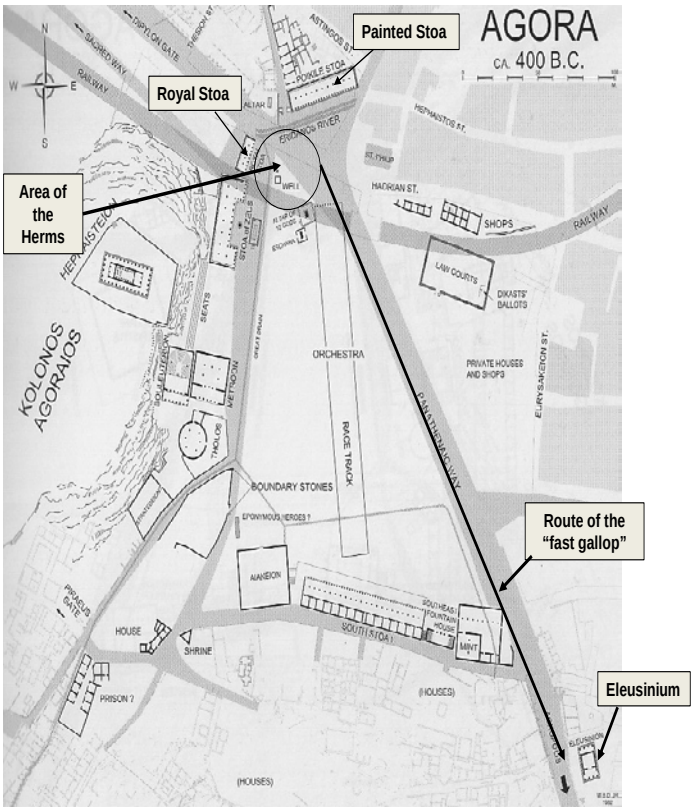


Figure 50
The Athenian Agora c. 400 BC
(after Camp 2010, 19) (Map by kind permission of the American School of Classical Studies at Athens: Agora Excavations)

Excavations in this area have yielded parts of numerous herms dating from fifth century BC to the second century AD (Camp 2010, 80; Harrison 1965, 108-

110). There also seems to have been a *Stoa of the Herms* and the cavalry headquarters, the *Hipparcheion*, in this area, although neither building has been decisively identified in any modern excavations (Thompson and Wycherley 1972, 90; Shear 1971, 265-266; Harrison 1965, 108-110; Bugh 1988, 219-220).

The *Stoa of the Herms* was mentioned by Aeschines in 330 BC:

> *There were certain men in those days, fellow citizens, who endured much toil and underwent great dangers at the river Strymon, and conquered the Medes in battle. When they came home they asked the people for a reward, and the democracy gave them great honor, as it was then esteemed-permission to set up three stone Hermae in the Stoa of the Hermae, but on condition that they should not inscribe their own names upon them, in order that the inscription might not seem to be in honor of the generals, but of the people* (Aeschin. 3.183).

Demosthenes mentions an inscription "in the Hermes-Portico" (20.112) while Atheneaus gives us the following fragment from Mnesimachos' *Horse Breeders*:

> *Go forth Manes, to the Agora, to the Herms, the place frequented by Phylarchs, and to their handsome pupils, whom Pheidon trains in mounting and dismounting* (9.402).

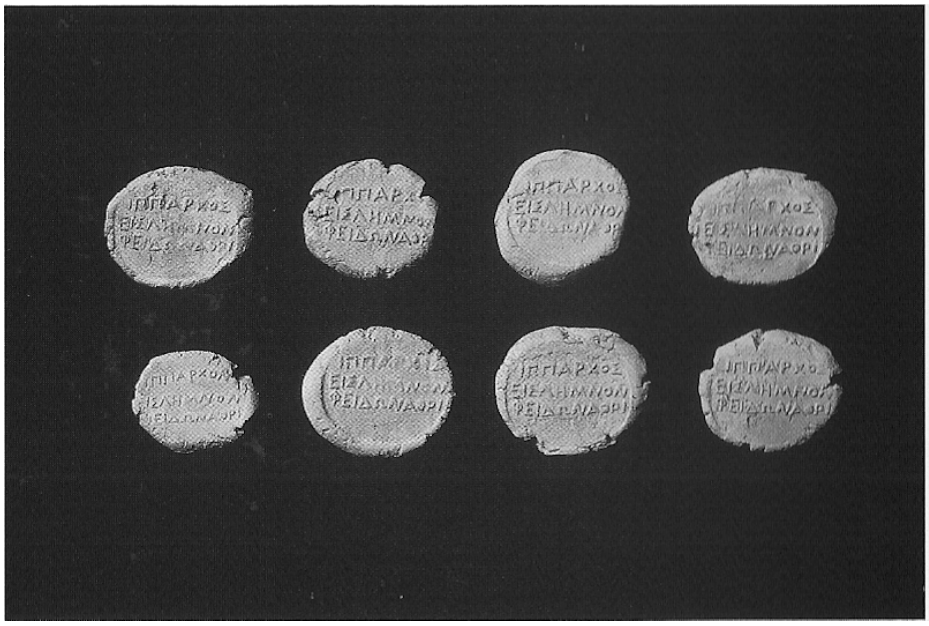


Figure 51
Clay tokens stamped with the name of Pheidon from the Agora.
(Camp 2010, 109, Figure 70) (Photo by kind permission of the American School of Classical Studies at Athens: Agora Excavations

In the Agora excavations of 1971, 25 clay tokens were found in a well, along with the 111 lead tablets mentioned in section 3.3, stamped with the name of *Pheidon, Hipparchos of Lemnos,* the same name as the trainer mentioned by Mnesimachos above (Figure 51). As Pheidon is listed as a trainer in the poem, he may have been one of the 10 *phylarchs* at the time the poem was written and subsequently elected as the *Hipparch of Lemnos,* later in his career, when these tokens were stamped (Kroll and Mitchel 1980, 91).

> *The well itself is situated at the extreme northeast corner of the Agora square in front of the Royal Stoa and so was very close to the area anciently known as "The Herms" and to the as yet unidentified building that served as Athens' cavalry headquarters, the Hipparcheion. Thus there is every reason to suppose that the Pheidon tokens and the lead tablets had been located in the Hipparcheion before being discarded down the well* (Kroll and Mitchel 1980, 90).

Several important pieces of sculpture relating to cavalry have also been found in this area. In 1891, a sculpture signed by Bryaxis (one of the sculptors of the Mausoleum of Halicarnassos in 353-350 BC) was discovered, depicting on three sides a horseman riding towards a tripod, the prize for victory (Camp 1998, 30) (Figure 52). The fourth side bears Bryaxis' signature and an inscription stating that this commemorated a victory in the *anthippasia* (see page 99) (Bugh 1988, 60).

Figure 52
Base for a monument commemorating a victory in the *anthippasia*. A mounted horseman approaches the victory tripod. Signed by the artist, Bryaxis
(National Archaeological Museum, Athens)

A second sculptural relief was discovered in 1970, built into the wall behind the Royal Stoa (Shear 1971, 271-272) (Figure 53). This fragment depicts five

overlapping horsemen. In the rear, a bearded (presumably denoting an older man) and helmeted horseman is depicted, thereby evoking Xenophon's instruction, "You must be very careful to appoint a competent man as leader in the rear" (Xen. *Eq.Mag.* 2.5). "The style and quality of the carving suggest a date for the relief in the early years of the fourth century BC, but the composition betrays its direct descent from the great cavalry reliefs of the Parthenon frieze" (Shear 1971, 272). The rear paw and the tail of a lion, and an adjacent inscription stating, "Leontis won the victory", features on the back of this relief (Camp 1998, 30). It is thereby assumed that this monument commemorated a victory in the *anthippasia* (see page 99) by the tribe, Leontis (Shear 1971, 272).

Figure 53
Fragment of relief from the Royal Stoa
(Shear 1971, plate 57c)
(Photo by kind permission of the American School of Classical Studies at Athens: Agora Excavations)

Drills in the Lyceum

The cavalry executed military exercises and manoeuvres at the Lyceum located outside the Diochares Gate at the eastern side of the city (Figure 54). This area rose gradually to the east but more steeply to the northeast side (Wycherley 1962, 10; 1963, 15). The contours curved around to form a natural theatre. Xenophon described two divisions of five regiments, each with the commander and colonels at the head, extending over the full width of the Lyceum. They galloped up to the highest point on the hill and then turned and galloped down (Xen. *Eq.Mag.*

3.6-8). This is in keeping with Xenophon's emphasis on cavalrymen acquiring firm seats on their horses so that an exercise involving downhill movement would cause them no concern (Xen. *Eq.Mag.* 1.18; Xen. *Eq.*. 8.1; Xen. *Oec*. 11.15-18). He also alluded to the fact that this exercise occurred before javelin throwing, which leads us to believe that javelin competitions must have taken place in the Lyceum as well.

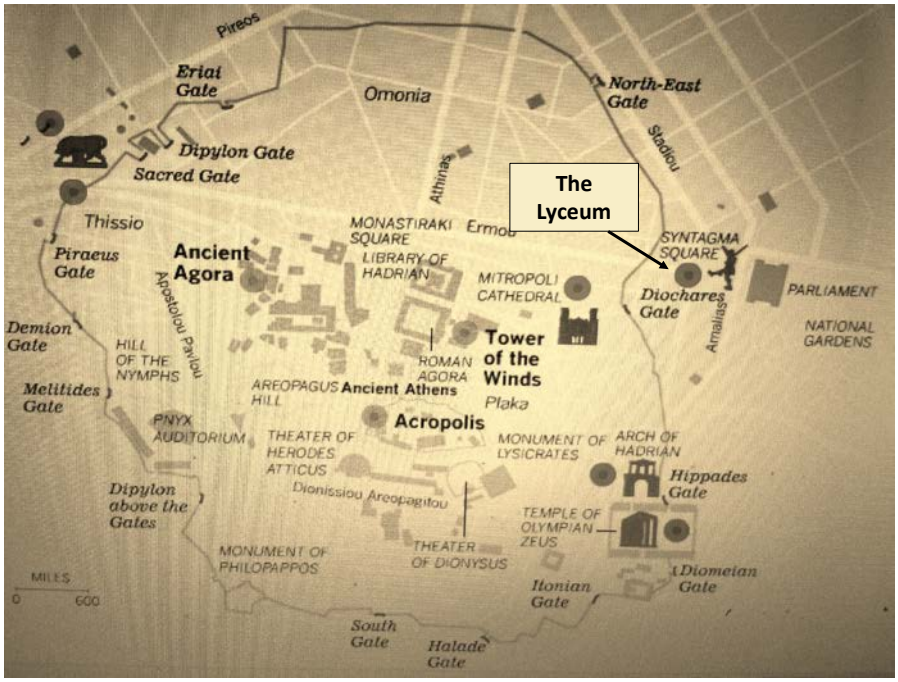


Figure 54
Site of the ancient Lyceum near the Diochares Gate
(after map available at: http://www.sumimike.net/europe/athens.html)
(Accessed: 14-01-13)

Drills in the Hippodrome

No physical remains of an Athenian hippodrome have been found. A hippodrome needed no architectural expression; it could be located on any flat piece of land (Hom. *Il.* 23.330), leaving negligible archaeological remains. Ferguson placed the ancient Athenian hippodrome at New Phaleron, where the modern racetrack is today, and this location is generally accepted albeit on meagre evidence (Ferguson 1938, 25-26; Kyle 1993, 97; Camp 1998, 29) (Figure 55). Phaleron was the main port of Athens until Themistocles moved it to the Piraeus, a further two miles from Athens (Brown 1927, 54; Holland 2005, 166). Xenophon described the cavalry spreading out in a line to fill the hippodrome and "drive out the people standing there" (Xen. *Eq.Mag.* 3.10). This further supports the assumption that the hippodrome was open with no barriers.

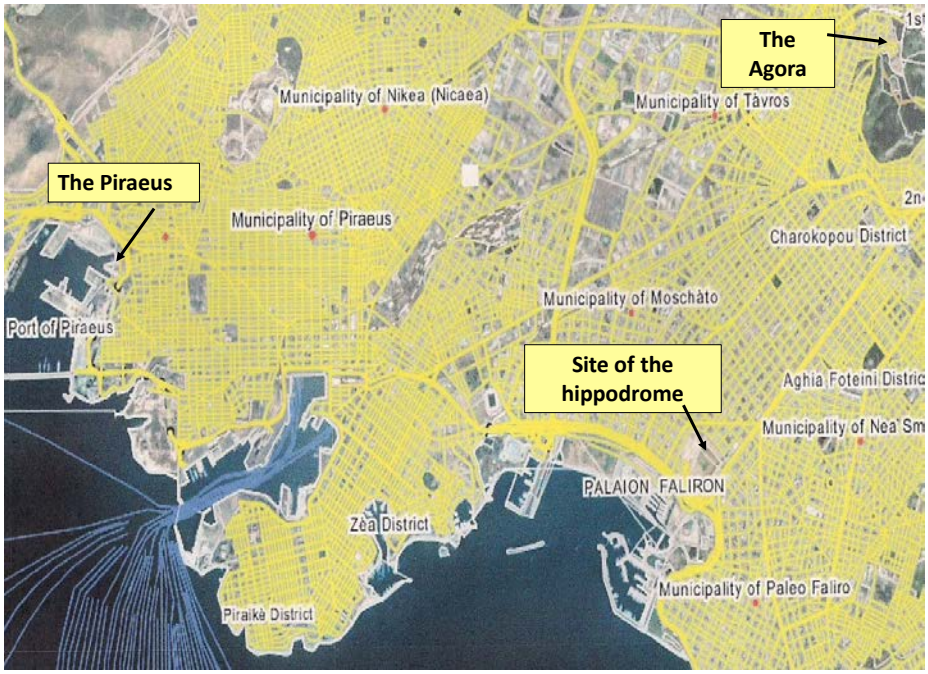


Figure 55
Suggested site of the ancient hippodrome
(after map available at:
http://wikimapia.org/#lat=37.9719908&lon=23.7136217&z=13&l=0&m=b)
(Accessed: 14-01-13)

One display drill mentioned by Xenophon is the *anthippasia*, where the cavalry split into two squadrons of five each, led by a *hipparch*, and engaged in a sham battle (Xen. *Eq.Mag.* 3.10-13). They started by facing each other at opposite sides of the hippodrome and then charged at one another but, at the last moment, rode through each other to the other side, where they turned and repeated the manoeuvre three times (Shear 1971, 271-272). Xenophon thought this display was novel, splendid, and gave the thrill of war to the audience (Xen. *Eq.Mag.* 3.11-13). The *anthippasia* was a popular event at the festivals of the Greater Panathenaia and the Olympieia (Vanderpool 1974, 311; Pritchett 1940, 111-112).

Exercises near the Academy

The Academy lay to the north west of the Agora, beyond the Kerameikos about a mile from the Dipylon Gate (Hornblower and Spawforth 1998, 2) (Figures 56 and 57). Xenophon referred to the hard ground here, and advised only galloping in the straight, and only attempting to turn when the horse was fully under control to avoid falling (Xen. *Eq.Mag.* 3.14).

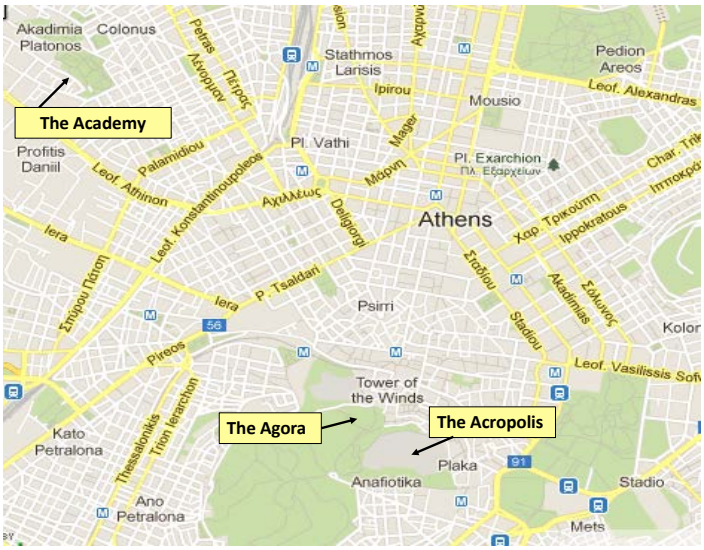


Figure 56
The site of the ancient Academy
(after map available
at: http://www.mesogeia.net/athens/places/platonacademy/platonacademy_en.html)
(Accessed: 14-01-13)

Perhaps this was the site for a part of the *timesis* or the *dokimasiai* since Xenophon stressed that, if his instructions were followed, the Council was assured a safe and beautiful performance.

Figure 57
The site of the Academy
(Available at: http://en.wikipedia.org/wiki/Platonic_Academy#/media/
File:Athens_Plato_Academy_Archaeological_Site_2.jpg)
(Accessed: 20-01-13)
(Photo by kind permission of Tomisti)

3.6.2 Duties of the Cavalry Commander

Piety, man's duty to serve the gods, is evident in all of Xenophon's writings, and the very first line of the *Cavalry Commander* states that the first duty of the commander is to sacrifice to the gods (Xen. *Eq.Mag.* 1.1; 3.1). He is to pray that the gods will find his thoughts, words and deeds pleasing and that through this observance of piety, his side will gain the most glory and advantage (Xen. *Eq.Mag.* 1.1; 5.14). The cavalry commander organized processions and festivals acceptable to, and worthy of, the gods (Xen. *Eq.Mag.* 3.2; 2.1; 3.1-14). He excelled in both his observance of his duty to the gods and in his qualities as a warrior (Xen. *Eq.Mag.* 7.1). With the help of the gods, the cavalrymen and infantry were trained correctly (Xen. *Eq.Mag.* 7.3). The gods' help was also sought to help the cavalry stealthily enter enemy territory (Xen. *Eq.Mag.* 7.14). Only the gods gave counsel in times of peril. They gave warnings in sacrifices, omens, voices and dreams, and, they were more likely to help those who served the gods in times of prosperity as well as in times of need (Xen. *Eq.Mag.* 9.8-9).

It was the cavalry commander's duty to recruit enough men to bring his number up to that specified by law. These recruits were selected from among the most highly qualified in terms of wealth and fitness. He must have enough recruits to replace those who retired through old age or injury (Xen. *Eq.Mag.* 1.2). The men were recruited between 18 and 20 years and most likely served until middle age. This, however, is contested by Kroll who contends that a cavalry career could be from the ages of 20-45 (Kroll 1977a, 103). Aristotle noted that a cavalryman could retire if he swore on oath that he suffered from "bodily incapacity", which meant a physical disability or just simply being too old (Arist. *Ath.Pol.* 49.2). Xenophon mentioned elderly cavalrymen when he referred to mounting horses, noting that "the way to help the older men is to accustom them to get a leg-up in the Persian fashion" (Xen. *Eq.Mag.* 1.17). In Aristophanes' *Knights* (731) the horsemen are very youthful, while most artistic representations of cavalrymen are clean shaven, which would imply youth (Bugh 1988, 64).

The average age of an ancient Greek cavalryman may be comparable with that of a cavalryman in the American Civil War or one serving under the Duke of Wellington. During the American Civil War, 1861-1865, the average age of the enlisted men of the 9th Texas Cavalry was between 18 and 27. Their officers

averaged 34 years, with the youngest at 19 and the oldest at 53. “Usually older men resigned after a fairly short time in the field, due to exhaustion, and, in this case [the 53 year old], the older officer went home after less than a year of service” (Katcher 2002, 9). In 1802, recruits to Wellington’s cavalry were not older than 25 and not less than 5’6” in height (Morgan 2004, 25). Judging by the age at which most athletes today retire from their chosen field - sometime in their thirties - the rigours of active cavalry duty probably caused a cavalryman to retire sometime in his mid-thirties. Bugh contends that it was common for the Greek cavalryman to “retire from service after ten to fifteen years” making most of the cavalrymen “in their twenties and early thirties” (Bugh 1988, 65-65).

If insufficient numbers of young men cannot be coerced to enlist, they should be summonsed by court orders (Xen. *Eq.Mag.* 1.9). Xenophon saw the importance of leading by example, so he tried to compel the most highly qualified to serve as a model for the less qualified to follow (Xen. *Eq.Mag.* 1.10). Also, he thought it important to stress the brilliancy of the horsemanship of the men as this might fire up the ambition of the younger men (Xen. *Eq.Mag.* 1.11). He also felt it important to let the guardians of these young men know that if they allowed the young men to enlist, this would stop their extravagant purchase of expensive horses for racing and pleasure, as they would now be expected to have war-worthy animals. The horses used for racing would have been unsuitable for cavalry use because of their highly-strung temperament. They would also have been light of bone, with an emphasis on the speed needed to win races, rather than endurance so necessary for a cavalry horse. Xenophon also argued that the cavalry commander would improve the riding abilities of their young men through their service in the cavalry (Xen. *Eq.Mag.* 1.12).

Xenophon also believed that they should allow 200 mercenaries to join the cavalry as this would foster rivalry between the men and improve their efficiency (Xen. *Eq.Mag.* 9.3). This was a socially radical suggestion to put before a *polis* with such a strong tradition of a self-sufficient citizenry. It was also a radical departure from the socially conservative thought that Xenophon normally espoused. He wanted to pay for the cost of the mercenaries’ horses by exacting payment from rich men who were unfit for the cavalry and from the estates of orphans (Xen. *Eq.Mag.* 9.5). Along with the mercenaries, Xenophon also posed another radical suggestion. He wanted to open the option of enrolment in the cavalry to the resident aliens who wished to serve (Xen. *Eq.Mag.* 9.6).

> *If, moreover, we granted the resident aliens the right to serve in the cavalry and various other privileges which it is proper to grant them, I think that we should find their loyalty increase and at the same time should add to the strength and greatness of the state* (Xen. *Vect*. 2.5).

He also felt it important that the cavalry should be given infantry (*hamippoi)* that could be concealed amongst the cavalry and in the rear of their *phyle* as well (Xen. *Eq.Mag.* 5.13; 8.18-20). All of the above show how Xenophon had kept up-to-date with the latest thinking in cavalry tactics.

Once the men were recruited, they were taught horsemanship, how to care for their horses, and how to throw a javelin while mounted (Xen. *Mem*. 3.3.3-4). They learned to mount the horse by springing onto him from the ground (Xen. *Eq.Mag.* 1.5; 1.17; Xen. *Mem*. 3.3.5). Then, they practised riding over all sorts of terrain until they acquired a firm seat (Xen. *Eq.Mag.* 1.6; 1.18; 1.20; 8.1-3; 8.5-7; Xen. *Mem*. 3.3.6). Once this was done, they began to practise throwing the javelin (Xen. *Eq.Mag.* 1.6; 1.20-23). Each cavalryman learned "at what distance a horse can overtake a man on foot, and how much start a slow horse needed to escape from a fast one" (Xen. *Eq.Mag.* 5.1). They learned obedience, otherwise neither a firm seat nor good horses would help in a battle (Xen. *Eq.Mag.* 1.6-7; 1.24). As previously noted (at the beginning of section 3.6.1), the men were reminded that the state was paying them 40 talents a year, so that it had a cavalry ready at a moment's notice (Xen. *Eq.Mag.* 1.19). The men should view the commander as someone with the wisdom to lead them in battle (Xen. *Eq.Mag.* 6.1).

It was the cavalry commander's responsibility to see that the horses were getting enough food, that they were docile, and that their hooves were looked after (Xen. *Eq.Mag.* 1.3-4; 1.16; 8.3-4). Vicious horses were rejected from cavalry service for the safety of the rest of the *phyle*, and, in so doing, this inspired the men to purchase and break in their horses with greater care (Xen. *Eq.Mag.* 1.14). The kicking horse was rejected straight away for it was a menace in line, lagged behind in a charge, and rendered the rider useless against an enemy (Xen. *Eq.Mag.* 1.15). Finally, the horses were well exercised to attain fitness for battle. The commander had to be sure to have plenty of straps to use when fastening on bits and saddle cloths (Xen. *Eq.Mag.* 8.4).

For Xenophon, the cavalry commander was the embodiment of a *kalos kagathos*, as discussed in Chapter One. His description of the cavalry commander can be seen as a mini self-portrait, devised to show himself as a good man to an Athenian readership.

The cavalry commander was the principal authority of the cavalry and demanded obedience from his men (Xen. *Eq.Mag.* 1.7-8; Xen. *Mem.* 3.3.8). The men, if they had high regard and respect for their commander, would conduct themselves well in battle (Xen. *Eq.Mag.* 6.1). The commander should be kind to his men, look after all their provisions and their safety, and give them a share in all plunder (Xen. *Eq.Mag.* 6.2-4). He led by example and was seen to be more capable than his men (Xen. *Eq.Mag.* 6.5-6; 7.2-15; Xen. *Mem.* 3.3.9). During a march, the commander thought ahead at all times and had the men alternate between riding and walking so as to rest the horses' backs (Xen. *Eq.Mag.* 4.1-2). Scouts were sent ahead to give advice on the location and strength of the enemy, and reported back on the terrain to be covered (Xen. *Eq.Mag.* 4.4-6; 4.10-12; 7.1; 8.9). Enlistment of local spies was also important, although information they provided would always be treated with caution (Xen. *Eq.Mag.* 4.7-8; 4.16). With this information, he could arrange the formation of the *phyle* to fit the terrain (Xen. *Eq.Mag.* 4.3; 5.1; 7.11).

How underlines the importance of the terrain, "the issue of a battle may often depend entirely on the nature of the ground on which it is fought; hence it will often be the main object of a general's strategy to compel or induce the enemy to fight on ground which decisively favours one method of fighting, or fatally handicaps another" (How 1923, 117) (see section 3.5). Orders were passed along by word of mouth, so as not to alert the enemy with the noise of a herald (Xen. *Eq.Mag.* 4.9). A commander was prudent, never took unnecessary risks, and was able to find the weakness of the enemy by observing them from a vantage point (Xen. *Eq.Mag.* 4.13-16). Whenever possible, he ordered the men to plunder from the enemy and attack any enemy stragglers (Xen. *Eq.Mag.* 4.17-20; 5.2-3; 5.5-7; 5.9-12; 7.13-15; 8.8; 8.18-19; Ober 1985, 35-36, 46, 81). The commander understood battle tactics and was decisive in his plans (Xen. *Eq.Mag.* 4.13-15; 5.1-13; 5.15; 7.8-10; 7.12; 8.10-25; 9.1-2). He was also well versed in the art of deceiving the enemy (Xen. *Eq.Mag.* 5.2-13).

The commander had good colonels to assist him (Xen. *Eq.Mag.* 1.8). These colonels made sure that the men under them were armed correctly (Xen. *Eq.Mag.*

1.22-23). The organization of the cavalry, which I have already discussed, was taught, so that each man knew his place in the *phyle* formation (Xen. *Eq.Mag.* 2.2-9). Once they were thoroughly drilled, they would be able to endure the demands of a campaign (Xen. *Eq.Mag.* 8.2)

Xenophon recommended that the existing cavalry should double their exercise, and that any horse unable to sustain the extra training should be rejected. He felt that this would force the men to feed, care for, and train their horses better (Xen. *Eq.Mag.* 1.13-14). The Athenian cavalry was expected to be on stand-by at all times - this was not just a seasonal force. This meant that Athens would not have to "look about for cavalry in the event of war, but may have it ready to immediate use" (Xen. *Eq.Mag.* 1.19). To this end, Xenophon stressed that each cavalryman should keep himself and his horse fit through constant practice over a variety of terrains at various times (Xen. *Eq.Mag.* 1.20; Xen. *Oec.* 11.17; Xen. *Mem.* 3.3.5-7). If this was not done, they would be unable either to overtake or escape during a skirmish (Xen. *Eq.Mag.* 1.3).

The awarding of prizes for various skills was seen as a good way to boost morale in the troops (Xen. *Eq.Mag.* 1.26). A feeling of loyalty was instilled in the men, by their commander showing his respect and care for them (Xen. *Eq.Mag.* 6.2-6). The commander "must be capable both by his words and action of making the men under him realize that it is good to obey, to back up their leader...of firing them with a desire to win commendation" (Xen. *Eq.Mag.* 8.22; Xen. *Mem*. 3.3.13-14).

3.6.3 Cavalry Horses

Xenophon recommended that the breaking of a horse should be done by a professional (Xen. *Eq.* 2.1; Xen. *Oec*. 3.9-10). The purchase of a horse was the responsibility of each individual cavalryman through funding by the *katastasis.* In 1971, 111 inscribed lead tablets were discovered in a disused well in the Agora in Athens (Kroll 1977a, 83-86) (see section 3.3); among the tablets, 17 were dated to the fourth century BC. The tablets provide evaluations of cavalry horses ranging from 100 to 700 drachma, with the mean at 400 drachma (at this time 1 drachma equalled a day's wage) (Camp 1986, 120). The price of a "cheap but serviceable cavalry horse" would have been 300 drachma, while the price of "a first-rate charger" would be closer to 1,200 drachma (Kroll 1977a, 89). Thus, if the figure

above is accurate, a cheap horse would amount to nearly a year's wages, and a first-rate horse would amount to over three years' wages. The tablets dating to the third century BC, provided ranges between 100 and 1,200 drachma, with the mean just under 700 drachma, or nearly two years' wages (assuming there was no wage inflation between the fourth and third centuries BC).

Two references in Greek literature corroborate the upper price range of 1,200 drachma. In Aristophanes' *Clouds*, Strepsiades cannot sleep, so worried is he by the debts that his son, Phidippides, has landed him with through the purchase of extravagant horses. Here he is reviewing the money he owes to Pasias for the good (blood) horse he bought for his son for 1,200 drachma:

> *Why twelve minae* [12 minae = 1,200 drachmas] *to Pasias?*
> *Why did I borrow them?*
> *When I bought the blood-horse. Ah me, unhappy!*
> (Aristoph. *Nub*. 20-24)

While in the *Anabasis*, Xenophon sells his horse for fifty darics, with Kroll calculating that 1 daric was equal to 25 drachma, making the horse worth 1,250 drachma (Xen. *An*. 7.8.6; Kroll 1977a, 89, fn. 22). The fact that Xenophon owned a very expensive horse attests both to Xenophon's wealth and his ability to judge a horse of good quality.

The tablets also show a frequency in the turnover of new horses each year, and a drop in the valuation of a horse from between 100 to 200 drachma per year, although the more expensive horses did not suffer the same rate of depreciation, often for a three year period, as the cheaper ones. Kroll explains that this may be due to the fact that there was an arbitrarily imposed ceiling on the amount at which the cavalry mounts could be appraised of 1,200 drachma. The better horses probably cost more than the 1,200 drachma originally, so they would show no drop in value for a period of up to three years, until they reached the 1,200 drachma level (Kroll 1977a, 88-90). The less well off cavalrymen probably had to trade their horses more often than the wealthy, because their horses would have been of a lesser quality, and therefore, more liable to injury and fatigue leading to replacement. This placed an extreme financial burden on these cavalrymen. Even though the booty accrued on campaigns would have boosted their finances, they still had to return the *katastasis*

upon retirement, no matter how much they had spent on replacement horses during their tour of duty with the cavalry.

3.7 Conclusion

So to conclude, Xenophon, although he had a clear agenda in writing the *Cavalry Commander*, contributes greatly to our knowledge of the Athenian cavalry in 365 BC. The *Cavalry Commander* "is our chief authority on the organisation and employment of the Athenian cavalry, and it contains many details about the ceremonial processions" (Marchant and Bowersock 1925, xxxi).

Xenophon wanted to improve the Athenian cavalry by offering sound, practical advice based on experience not sentiment. He was a lifelong scholar of cavalry warfare with great *nous* on the latest developments in cavalry tactics, and he made three significant new recommendations in the *Cavalry Commander*.

The first recommendation was that any horses unfit for cavalry service be rejected. While this practice must have been commonly executed, Xenophon emphasised its strict adherence. Indeed, Aristotle, writing forty years later, relates that:

> *The Council also inspects the Knights' chargers, and if anybody having a good horse keeps it in bad condition, it fines him the cost of the feed, and horses that cannot keep up with the squadron or will not stay in line but jib it brands on the jaw with the sign of a wheel, and a horse so treated has failed to pass the inspection.* (Arist. *Ath.Pol*. 49.1)

Secondly, and more significantly, Xenophon recommended the addition of infantry to supplement the cavalry (*hamippoi*) (Xen. *Eq.Mag.* 5.13; 8.18-20), which, again according to Aristotle, became a regular feature of the cavalry. "It [the Council] also inspects the foot-soldiers that fight in the ranks of the cavalry, and anyone it votes against is thereby stopped from drawing his pay" (Arist. *Ath.Pol.* 49.1). These examples imply that Xenophon's advice was listened to and acted upon.

His third and most radical recommendation was the opening of cavalry enlistment to mercenaries and resident aliens. It must be remembered that up to this point, the cavalry had been the bastion of the older, most aristocratic, and established families of Athens. Although not adopted, the opening of enrolment to non-citizens was an extremely modern and innovative suggestion. The person that made this

suggestion was not the conservative *kalos kagathos* that emerged from his other works, but a pragmatist, like the leader of the expedition in the *Anabasis*: a man who adapts to his circumstances.

Lastly, when discussing cavalry horses, Xenophon was always practical. He recommended that weak, intemperate horses should be rejected from the cavalry. But, he also showed a humane approach; they were to be well fed and well cared for above all other considerations. This approach comes through in his other works, especially in *The Art of Horsemanship*, which will be discussed in the next chapter.

Chapter 4

The Art of Horsemanship

4.1 Introduction

This chapter first examines the history of horsemanship and Xenophon's place in that history. Two perceptions that have persisted in classical scholarship for generations are then critically evaluated. The first, that riding without stirrups and saddles constituted an impediment to the Greek cavalryman; the second, that ancient cavalries were handicapped by riding horses unshod (without horseshoes). And, finally, there is an in-depth examination of Xenophon's *Art of Horsemanship.*

4.2 The History of Horsemanship

> *Equestrian art is the perfect understanding between the rider and his horse. This harmony allows the horse to work without contraction in his joints or in his muscles, permitting him to carry out all movements with mental and physical enjoyment as well as suppleness and rhythm. The horse is then a partner, rather than a slave who is enforced to obey a rigid master by constraint* (Oliveira 2001, 17-18).

The above is a modern definition of the art of horsemanship by Nuno Oliveira, a Portuguese riding master, who cites Xenophon as a writer who based his theory of equitation on the premise that "the horse must not be considered a tool but rather a being that must be understood" (Oliveira 2001, 18). Xenophon, with his approach to the training of the horse which is so in tune with modern methods, laid the foundation for what is now referred to as *classical equitation*. This is a philosophy/method of training the horse with respect to its nature and temperament, so that it may perform its work optimally and with full confidence in its rider (Seunig 1941, 268). The golden thread, the *leitmotiv*, that runs throughout the history of equitation is the necessity of adapting one's schooling of the horse to its intended use. That use, for Xenophon, was as a reliable cavalry horse.

The earliest known treatise on *training* the horse was discovered in 1910 in the ancient Hittite city of Hattusa (in southern Anatolia). The treatise sets forth a seven-month training programme for chariot horses, as devised by a Hurrian horse master from Mitanni, named Kikkuli, who was hired/acquired by the Hittite king,

Suppiluliuma c. 1345 BC (Nyland 2009, 7-28; Miller 2005, 171). Kikkuli's programme involved leading horses in the early stages of training, followed by interval training, and continued with a detailed description of each exercise involved, and the daily feed and care regimes each day for 184 days (Hyland 2003, 36-41; Gurney 1952, 120; McMiken 1990, 76). This method was duplicated by Dr. Ann Nyland in Australia in 1991. She discovered that it was an effective method of culling weak horses that would have later problems, as well as a viable training programme producing fit horses without injury (Nyland 2009, 7-9). Nonetheless, as it is a manual for chariot horses, it does not discuss the actual riding of the horse (Drews 2004, 3).

Simon of Athens, possibly at the beginning of the fourth century (Morgan 1894, 120 n.1), wrote the first known treatise on horsemanship. This treatise, of which only fragments survive (see Appendix II), is mentioned by Xenophon in the *Art of Horsemanship* (*Eq.* 1.1). It is generally held that Simon was an Athenian cavalry commander of some fame, as there is a *Simon* mentioned in Aristophanes' *Knights* (line 242). He is also mentioned by both Aelian and Pollux as the man who, while observing a painting of Micon's (a contemporary of Polygnotus in Athens c. 460 BC), said that he had never seen eyelashes on the lower lids of a horse (Ael. *NA.* 4.50; Poll. 2.69). This is actually incorrect (Figure 58).

> *The upper eyelids have dense tufts of eyelashes to keep sweat and dust from getting into the eyes. The lower lashes are usually thinner but longer; they keep dust and foreign matter from blowing up into the eye* (Thomas 2005, 32; also Hayes 2002, 174).

Figure 58
A horse's eye with the top lashes and the bottom, longer lashes (Oliver 1991, 91) (Photo by kind permisssion of Bob Langrish and J.A. Allen, London)

Simon is also mentioned in Pliny's *Natural History*, "Demetrius [made]...also an equestrian statue of Simon, the first writer on the art of equitation" (Plin. *HN*. 34.19).

Xenophon, in acknowledging his predecessor, says in the *Art of Horsemanship*:

> *True there is already a treatise on horsemanship by Simon, who also dedicated the bronze horse in the Eleusinium at Athens and recorded his own feats in relief on the pedestal* (Xen. *Eq*. 1.1)

He then goes on to say that "we shall try to explain all the points that he [Simon] has omitted" (Xen. *Eq*. 1.1). This is Xenophon's tactful way of establishing that he has greater authority than Simon, as his *Art of Horsemanship* will cover all the relevant points.

Xenophon's *Art of Horsemanship* (360 BC) is the oldest extant treatise on the subject. This was followed in 210 BC by Polybius' history of the cavalry commander Philopoemen of Megalopolis, who rebuilt the cavalry under his command through the use of drills and instruction (Polyb. 10. 22-24). In AD 62-66, Pliny wrote *De Iaculatione Equestri*, which, as the name suggests, laid an emphasis on the use of the javelin as a cavalry weapon, rather than on horsemanship, but it is no longer extant (Healy 1991, x).

In AD 106, Aelianus Tacticus published a military treatise in fifty-three chapters, *On Tactical Arrays of the Greeks*. It reveals the Macedonian drills and tactics as practised by the successors of Alexander the Great. Arrian, in AD 136, wrote the *Ars Tactica*, which consists of two parts: the first describing the organisation, drill and formations of the Hellenistic phalanx (borrowing heavily from Aelianus Tacticus); and the second, an original work, recounting Roman cavalry exercises (Wheeler 1978, 353).

From the downfall of Rome through the Dark Ages, the theory of *classical equitation* was forgotten. Many factors contributed to this. First was the invasion by the Goths, who were renowned horsemen, but with a rough style of riding and scant regard for the individual horse (Dossenbach 1987, 130-131). They were followed by the Huns, who vanquished the Goths in AD 375, and were described by Ammianus Marcellinus:

> *They cover their heads with round caps and protect their hairy legs with goatskins; their shoes are formed upon no lasts, and so prevent their walking with free step. For this reason they are not at all adapted to battles on foot, but they are almost glued to their horses, which are hardy, it is true, but ugly,*

> *and sometimes they sit them woman-fashion and thus perform their ordinary tasks. From their horses by night or day every one of that nation buys and sells, eats and drinks, and bowed over the narrow neck of the animal relaxes into a sleep so deep as to be accompanied by many dreams* (Amm.Marc. 31.2.6).

The Huns were followed in the AD 570s by waves of attacking Avars, Slavs, Arabs and Bulgars (Jankovich 1971 54-55). In the thirteenth century, the Mongols (the Devil's Horsemen) thundered into Europe led by Genghis Khan. These were natural riders but viewed their horses as a commodity. Each man had at least one extra horse, but most averaged 3 to 5. On campaign, their horses were "a source of protection, warmth and sustenance" (Jarymowycz 2008, 32-33). They drank mare's milk and blood, would eat any equine casualties, and also made use of their hides.

During the Middle Ages when knights in cumbersome metal armour galloped heavy horses in a straight line towards one another in battle in order to unseat the enemy with a long lance, manoeuvrability, flexibility, collection and subtle ways of communication with the horse were not necessary. The riders stood upright in their saddle with feet braced against the stirrups. The saddles were large and relatively high on the horse's back which, along with the armour, made it all but impossible for the rider to feel any connection with the horse. The curb bits had long shanks, and their harshness enabled the bad horseman to get his horse to stop and turn easily. The medieval horse had to carry a load of approximately 150 kg - the cumulative weight of the rider plus the armour of both horse and rider (Dossenbach 1987, 138). With the appearance of firearms, the heavy cavalry became redundant. By the middle of the fifteenth century, armoured knights were replaced by light horsemen. Their role in battle was to attack swiftly, usually from the wings, and then retreat. Manoeuvrability was of extreme importance to light cavalry, and the cavalrymen turned to the theory of *classical equitation* to train their horses in the areas of flexibility and collection. This restored the importance of communication between horse and rider in order to ensure their safety in battle, allowing them to attack and retreat swiftly and effectively.

The loss of the Greek tradition in language and literature also contributed to the ignorance of the theory of *classical equitation* espoused by Xenophon. The Western world, during this time, was Latin based with many of the Greek texts left

unstudied. In fact, there was no Greek grammar for Latin readers until the thirteenth century. Roger Bacon in England wrote a grammar that was "useful as an introduction to the reading of Greek but....was scarcely known" (Berschin 1988 90). During this time only the well educated studied Latin, and Greek fell out of fashion. In fact, it was not until 1397 that Manuel Chrysoloras wrote the Greek textbook, which became the textbook for the humanistic circles in Florence who were beginning to take an interest in Greek literature (Berschin 1988, 90).

According to Widdra, there are 20 manuscripts that exist of the *Art of Horsemanship* (Widdra, 2007, 36-43: also Delebecque 2008, 29-33). Of these, the earliest surviving manuscript is the Graecus Vaticanus 989 from the thirteenth century (Widdra 2007, 36). Given the restrictive knowledge of Greek in Western Europe, it is no wonder that it took many years until Xenophon's theories became widely known and studied.

It is not until the beginning of the sixteenth century that the written word on the art of horsemanship was revived by an Italian, Federico Grisone, known to his contemporaries as the *father of classical equitation* (Podhajsky 1967, 18). He wrote *Ordini di Cavalcare* in Naples in 1550. According to Schmit-Jensen, this is "the first serious book on riding as such to appear since Xenophon" (Schmit-Jensen 2000, v). It was during the Italian renaissance that ancient Greek writers, including Xenophon, and their theories became fashionable again. Grisone's methods followed those of Xenophon in relation to the seat of the rider on the horse and the aids used, but he differed in his tactics. He used excessively cruel and harsh bits, spurs and whips, disregarding Xenophon's gentle training methods (Miller and Lamb 2005, 223). He advised, for instance, that "if a young horse refuses the very first time that it is supposed to be ridden, it is very useful for it to be punished by several men with sticks" (Seunig 1941, 48). Grisone was followed in the Riding Academy at Naples by Giovanni Battista Pignatelli, another harsh master of the horse, who taught the Frenchman, Antoine de Pluvinel (1555-1620) (Miller and Lamb 2005, 177-179; Podhajsky 1967, 18). Unfortunately, Pignatelli did not publish a book so we only know of his harsh approach through the writings of Pluvinel.

Antoine de Pluvinel returned to France in 1571 and became riding master to three successive French kings: Henri III, Henri IV and Louis XIII. He wrote a book on horsemanship, *Manège du Roi*, in 1623. In his book, he advocated individual treatment for each horse and substituted humane principles for the brute force in use

at that time (Seunig 1941, 319). He used praise, careful use of the aids, and softer bits to elicit a response from his horse. Just as Simon and Xenophon before him, Pluvinel believed that "the horse should enjoy himself in his work; otherwise neither the horse nor the rider would be able to give an elegant performance" (Miller and Lamb 2005, 178). Founded in 1594, his *Académie d'Equitation* became the centre of the academic art of horsemanship. The training of the horse was seen as part of a Royal education with a philosophical aim of getting to *know thyself* (Koolen 2012, 37).

> *Equestrian art, perhaps more than any other, is closely related to the wisdom of life...The horse teaches us self-control, constancy, and the ability to understand what goes on in the mind and the feelings of another creature, qualities that are important throughout our lives. Moreover, from this relationship with his horse the rider will learn that only kindness and mutual understanding will bring about achievements of highest perfection* (Podhajsky 1967, 20-21).

As a result of Pluvinel's book, the writings in 1657 of William Cavendish, Duke of Newcastle (1593-1676), failed to make an impact on British equestrianism, as his methods were deemed too cruel (Schmit-Jensen 2000, vi-vii). Pluvinel was followed in the *Académie d'Equitation* by François Robichon de la Guérinière (1688-1751), the greatest riding master of France (Trench 1970, 133-134). He produced a revolutionary book in 1733, *École de Cavalerie*, in which he aimed to obtain by systematic work, a riding horse that was "quiet, supple and obedient, agreeable in his movements and comfortable for his rider who should be able to experience the greatest pleasure on his back" (Podhajsky 1997, 36). His humane approach to *classical equitation* was lost to France during the Napoleonic Wars, when French cavalry consisted of 440 squadrons and 95,000 horsemen (Vukšić 1989, 139). The sheer numbers and constant regeneration of both men and horses at this time did not allow the time needed to train a horse or rider sympathetically to the highest standards. It was not until the early nineteenth century that *classical equitation* re-surfaced in Vienna under Max Ritter von Weyrother, head of the Spanish Riding School (Olsen 1996, 112-113). Von Weyrother coined the phrase, *the thinking rider*, to underscore his belief that a great horseman must marry his theoretical knowledge with practical ability (Podhajsky 1967, 23).

These men were impressed by the precision of Xenophon's explanations and by his insight into the feelings of the horse; "his training was based on intuition and kind treatment" (Podhajsky 1967, 17). Now, 2,500 years later, we approach horsemanship in a way that is consistent with much of Xenophon's advice:

> *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* (Xen. *Eq*, 11.6).

4.3 Stirrups and Saddles

The misconception that a horseman is at a disadvantage without the use of a saddle or stirrups has been perpetuated throughout the history of classical scholarship. The stirrup was developed to aid horse riding. It gives the rider added lateral stability, but it was invented long after man first learned to ride. It is a useful piece of equipment, but not essential. Here are a few samples to indicate the pervasiveness of this misconception:

> *The use of stirrups renders mounting easier, increases control over the horse, and results in a steadier seat, particularly in hilly or broken terrain. Ancient riders of the pre-stirrup era certainly were less secure than their more fortunate successors* (Spence 1993, 43).
>
> *Before the introduction of the stirrup, the seat of the rider was precarious* (White 1962, 1).
>
> *Also, the lack of saddle and stirrups made it harder to achieve the steady seat needed to fight from horseback* (van Wees 2004, 66).
>
> *Even more important, the stirrup had not been invented. Thus Greek cavalry men were, in general, less stable* (Hunt 2007, 119).

As I have already stated, the stirrup came into its own during the Middle Ages when the knights used stirrups to brace themselves during a joust (see section 4.2) but, up to that time, they were not a necessary piece of equipment for the horseman.

Instead of a saddle, ancient riders may sometimes have used a type of pad or blanket (see Figure 88), possibly fastened with a surcingle (the belt that fastens

around the horse's belly to keep the pad or blanket in place) (see Section 4.5.6). Xenophon mentions not only a surcingle-type strap, but also saddle-cloths in the *Cavalry Commander:*

> *And since bits and saddle-cloths are fastened with straps, a cavalry leader must never be short of them, for at a trifling expense he will make men in difficulties efficient* (Xen. *Eq.Mag.* 8.4).

Riding with some type of pad makes sense as horsehair can be extremely prickly to bare skin. There were no stirrups attached to these pads. In Ireland, in the present day, it is common in racing stables to exercise a horse with a sore back by using only a chamois cloth that has been soaked in water and then wrung dry. The cloth is then put on the horse's back. The cloth affords protection from the horse's hair, as well as giving the rider a bit more stability than would be achieved bareback. Chamois cloth is from the hide of the *Rupicapra rupicapra*, a goat-antelope species native to Europe, certainly plentiful in the mountains of ancient Greece, and possibly used by ancient Greek horsemen (Mitchell-Jones 1999, 406-407).

Ancient horsemen functioned not only without stirrups but sometimes without even a bit or bridle. The Numidians used neither bridle nor bit, simply taps of a light stick, even in battle (Trench 1970, 21, Miller and Lamb 2005, 223). Lady Mary Blunt, writing about her travels along the Euphrates in 1879, described the Bedouin horsemen as riding:

> *Without a bit or bridle of any sort, but, instead, a halter with a fine chain passing round the nose. With this he controls his mare easily and effectually. He rides on a pad of cotton, fastened on the mare's back by a surcingle, and uses no stirrups.....the animals are nearly always gentle and without vice. I have never seen either violent plunging, rearing, or, indeed any serious attempt made to throw the rider* (Blunt 1879, 432).

The Native Americans, who are renowned throughout history as excellent horsemen, also rode the majority of the time without a saddle (Trench 1970, 216-225). Francoise Larocque, travelling through North America, wrote in 1805:

> *They* [the Crow Indians of the Eastern Rocky Mountains] *are excellent riders, being trained to it from their infancy. In war or hunting if they mean to exert their horses to the utmost they ride without a saddle. In their wheelings and evolutions they often*

> *are not seen, having only a leg on the horse's back and clasping the horse with their arms around his neck, on the side opposite to where the enemy is. Most of their horses can be guided to any place without bridle, only by leaning to one side or the other they turn immediately to the side on which you lean, and will not bear turning until you resume a direct posture. They are very fond of their horses and take good care of them; as soon as a horse has a sore back he is not used until he is healed; no price will induce a man to part with a favourite horse on whom he places confidence for security either in attack or flight* (Burpee 1910, 64-65).

At the Spanish Riding School in Vienna, acknowledged today as the centre of the *haute école* of *classical equitation*, the new riders spend from six months to a year training on the longe (the horse is asked to work at the end of a long rope - the longe line - in a large circle with the trainer in the middle) with a saddle but no stirrups and no bridle. The horse is controlled from the ground by the trainer holding the longe line. They ride in this fashion until they have obtained and established a correct seat (Podhajsky 1967, 211-221). This method was also used by the American cavalry in the nineteenth and twentieth centuries, who taught "recruits to ride bareback, or with a blanket and surcingle, before allowing the use of a saddle" (Carter 1906, 154).

In Ohio in 2006, Stacy Westfall won the Freestyle competition at the All American Quarter Horse Congress on *Whizards Baby Doll* riding bareback with no bridle. The video of her performance went viral on YouTube, and it is easy to see in this video how she controls her horse with only her weight, leg pressure, arm movements and her voice (http://www.youtube.com/watch?v=a-7v8Ck1crg).

Figure 59
Joe Hamilton hunting bareback
in Co. Antrim
(*The Irish Field* 2012, A53) (Photo by kind permission of *The Irish Field*)

In Ireland in 2012, thirteen year old Joe Hamilton fox hunted bareback for four hours with the Mid-Antrim Harriers to raise money for charity (Figure 59). “On a dirty day weather-wise when sleet fell at times, this was no easy task as there was plenty of jumping over drains, stonewalls and hedges and they didn’t hang around” (*The Irish Field* 2012, A53).

Stirrups and saddles do make mounting and riding easier for the modern horseman, who has learned to ride using them. For these horsemen, riding bareback will always be a challenge. What must be remembered is that stirrups and saddles do not make a rider. Often, good riders go back to bareback riding as it “promotes the balance and feel essential for developing a secure seat ... and that improved security increases your overall confidence as a rider” (Barakat 2000, 67). As seen in the examples above, ancient and modern, horsemen managed without stirrups or saddles. This evidence renders the four quotes at the beginning of this section as patently incorrect. The ancient horsemen were accustomed to riding bareback as a way of life, which gave them a proficiency in horsemanship, a secure seat and control of their horse, which made stirrups and saddles unnecessary. It must also be noted that in ancient warfare, the lack of saddles and stirrups would not have been a disadvantage because the cavalries on both sides in a battle would have ridden without them.

4.4 Horseshoes

A second misconception in classical scholarship is that ancient horsemen were limited by riding their horses unshod (without horseshoes). Some examples of this misconception include:

> *Greek horses did not enjoy the benefit of horseshoes and were more easily lamed* (Greenhalgh 1973, 81).
>
> *The reasons for these limitations to the value of cavalry are clear... the horseshoe, had not yet occurred, and Greek war-horses cannot have had reasonable endurance on the rough Greek terrain* (Snodgrass 1999, 85).
>
> *Possibly the lack of the horseshoe made the use of cavalry in rough terrain, where it would have been deployed more often than chariots, too expensive in animals, since it caused a breakdown in the horses’ hooves* (Ferrill 1985, 73).

> *Much terrain* [in ancient Greece] *was unsuitable for horses, especially since horseshoes were not used and hardening hooves was a laborious business* (van Wees 2004, 66).

Unshod hooves are no problem in dry, hard ground, because the dry atmosphere preserves the wall of the hoof and the hard ground wears it down, keeping it to the correct, natural length and shape. "Horses born and raised in any open country, and allowed to run at will over the dry, rocky terrain of mountains and desert, develop a hardness of hoof that requires little attention" (Vernam 1964, 76). The ancient Greeks had a climate and a soil that was conducive to hard, well-formed hooves which could be left to care for themselves (Anderson 1961, 92; Hyland 1990, 36). In the wet sod soils of central and northern Europe, a horse's hoof softens and disintegrates, and the wall of the hoof grows too long. It is not surprising that, before the horseshoe was invented, it was the dry countries that excelled in horsemanship (Trench 1970, 299; Kust 1983, 48).

Marcus Junkelmann, in his three-volume study of the Roman cavalry, *Die Reiter Roms*, asserts that Roman cavalry horses were ridden unshod. In 1988, he set out on Camargue ponies, from the south of France, averaging between 13.1 - 14.1 hh, (Edwards 1991, 104-105) for a test ride along the *Limes Germanicus*:

> *We tried to avoid routes with asphalt or paving as much as possible but this was often impossible. After covering 450 k. three horses that had marched with us without interruption had to have their front feet shod. Of the other four horses some would undoubtedly also have had to be shod had they not, for one reason or another, been rested and if they had not been brought along as hand led horses. This means that cavalry horses stationed along the Limes would normally not have been shod. The normal range of action of an Ala would probably not have extended beyond 100 km for routine patrol duties. It would have been unusual to ask the horses to do several days continuous marching in a row* (Junkelmann 1992, 97).

Junkelmann also carried out a study of the *Castell Pfünz* in Bavaria, the camp of the *Cohors I Breucorum equitata*, and found not a single horseshoe. *Castell Pfünz* was overrun in a surprise attack in the third century AD; if the horses had been shod, there would certainly be evidential remains (Junkelmann 1992, 93). He also points to the fact that not a single horseshoe has been found in Pompeii or Herculaneum, and

points to the Middle Ages as the starting point for the horseshoe (Junkelmann 1992, 92). He has a theory that the larger the horse, the weaker the hoof. Therefore, the ancient cavalryman, riding with little armour and minimal weapons, could be carried by large ponies and small horses without damage to their hooves. This supports my contention that the ancient Greek horsemen rode ponies/small horses (see section 2.5). However, the Medieval knight, with his armour, the horse's armour, his large saddle and his weapons, needed a large horse to carry him. These large horses had weak hooves which were not up to the carrying this immense weight, therefore, horseshoes were invented (Junkelmann 1992, 96). Bokonyi agrees:

> *It is interesting to note that the first horseshoes appeared in Central Europe in the 9th-10th century, more or less at the time when heavy horses were first bred. Since their weak hoofs need shoeing more than those of the eastern horses it is not impossible that there was a connexion between the emergence of heavy horses and the introduction of shoeing* (Bökönyi 1974, 271-272).

Gaebel observes that the lack of horseshoes did not "unduly limit the use of the horse in war" (Gaebel 2002, 28). At all times it must be remembered that in a battle, the cavalries on the opposing sides would both be equally limited by the lack of horseshoes. Our perception of unshod horses is clouded by our Western Tradition of only riding horses that are shod. There are many examples of the use of unshod horses in war throughout history. The Huns, like the Mongols 800 years later, did not use horseshoes (Jarymowycz 2008, 23). In the seventeenth century, the Crimean Tartars rode unshod horses, "their horses are not shod because the snow protects their feet" (Beauplan 1990, 65). In Ethiopia, a dry and mountainous land, horses are never shod (Barclay 1980, 273). The Yakut, the most northerly of the Turkic pastoralists who inhabit the sub-Arctic taiga, and the south Siberian pastoralists, do not shoe their horses (Barclay 1980, 327).

It was only after man began confining his mounts to stables and soft pasturelands that horseshoes became a necessity (Vernam 1964, 77). Domesticated horses are kept in unnatural conditions; the hooves are exposed to more moisture than would be encountered in the wild, as well as ammonia from urine. The hoof capsule is mostly made from keratin, a protein, and is weakened by this exposure, becoming even more fragile and soft (Thomas 2005, 187-188). Shoes do not prevent or reduce damage from moisture and ammonia exposure; rather, they protect already

weakened hooves. Further, without the natural conditioning factors present in the wild, the feet of horses grow overly large and long unless trimmed regularly. Also, the prevalence of horseshoeing in the past was, "closely associated with those areas of civilization where iron is more easily obtainable and where there is a highly developed road system: Europe, the Middle East, India, China" (Barclay 1980, 365).

Even today in Ireland, two of the leading racehorse trainers have had to rethink their approach to shoeing their horses. In the past, horses were shod as soon as they came in from a period at grass but, in recent years, this has proven difficult for racehorse trainers. Both Aidan O'Brien, leading flat trainer in Ireland for the past fourteen years, and Willie Mullins, leading National Hunt trainer in Ireland for the past six years, only shoe their horses before they are to run (Curling 2013, pers.comm.). Both have developed their training yards in such a way as to aid this practice. They train barefoot on soft surfaces at home but must wear shoes when racing, as the ground would usually be significantly harder. Usually, a racehorse will wear a normal shoe for everyday, change to a lighter racing shoe just before they are to run, and return to the normal shoe after racing. The manipulation of nails putting on and taking off shoes causes extra wear and tear to the hoof. This, along with the long hours standing in a stable with urine soaked bedding, makes the hoof walls soft and they cannot withstand this treatment.

In the last twenty years, the practice of keeping horses barefoot has increased in popularity with the publication in Germany of Hiltrud Strasser's book, *Shoeing: A Necessary Evil?* and, in America, with Jaime Jackson's *Horse Owner's Guide to Natural Hoof Care*. These two proponents of barefoot riding have opened the barefoot vs. shod debate. Those on the barefoot side point to the fact that a horse with a shoe is unable to use the elastic expansion of the hoof during weight bearing when the lateral walls of the hoof need to spread apart and the concave sole draws flat. This movement constitutes 60-80% of the natural shock absorption for the horse. It is argued that any decrease in this activity has severe consequences for the horse: circulatory disruption, reduced hoof horn production, tissue necrosis of the hoof, and the reduced shock absorption can lead to ossifications, arthritis, and joint / ligament damage (Strasser 2000, 50-51).

In conclusion, the evidence presented has proved that the four classical scholars quoted at the start of this section were wrong. We may be confident that the

ancient Greek cavalryman rode his pony/small horse unshod with few complications. As Trench relates:

> *I have ridden unshod ponies for thousands of miles on safari in Kenya; but it can only be done in countries where the ground is generally dry and hard, because the dry atmosphere preserves the wall of the hoof and the hard ground wears it down, keeping it to the correct, natural length and shape* (Trench 1970, 299).

It is only when man started to ride larger horses with heavy armour in damp, northern European countries, combined with the use of full time stabling, that the horseshoe became a necessity. Unfortunately, along with the horseshoe have come many more complications in keeping a horse sound.

4.5 Xenophon's *Art of Horsemanship*

> *As long as cavalry exists, however it may be armed or manoeuvred, 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 which every cavalryman who is really master of his steed must feel* (Robertson 1883, 1).

4.5.1 The Conformation of an Ideal Cavalry Horse

Book I of the *Art of Horsemanship* begins by listing the ideal qualities of a horse. Xenophon does not want his reader to be cheated when buying a horse and points out that it is impossible to judge the temperament of an unbroken horse, so the only factor that can be judged objectively is the body of the horse. This is a horse's *conformation*, which can be defined simply as the shape of the horse (Henriques 1991, 4). But this also includes an "interest in the skeletal frame and its accompanying muscle structures, in terms of the symmetrical proportion of the individual parts to each other and the whole" (Edwards 1991, 14) (Figure 60).

> *A horse's 'conformation' is its 'make and shape' as determined by its skeletal outline, which is an inherited immutable feature. Conformation is a reflection of the dynamic skeleton, and influences the horse's manner of going, its 'action'. This in*

> *turn is a major factor in a horse's ability and in its durability* (Hastie 2001, 133).

There is not one ideal conformation of a horse as its conformation has to suit the purpose for which it is going to be used; for example, "the requirements of a draught horse will be totally opposed to those necessary for the racehorse" (Edwards 1980, 12). However, Xenophon is looking for a horse best suited to the cavalry. As Simon states, after discussing the ideal conformation of a horse, a horse "is by far the best that has all these points; and second is he that has the majority of them, including those which are of most service" (cited in Morgan 1894, 110).

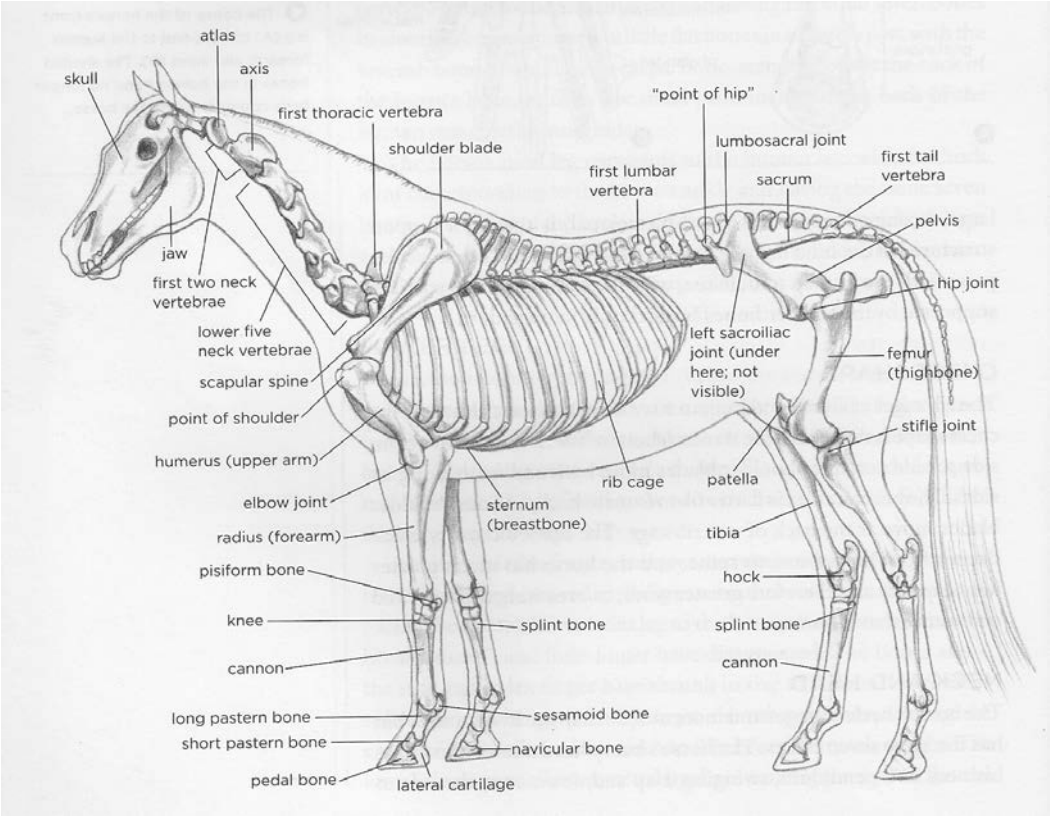


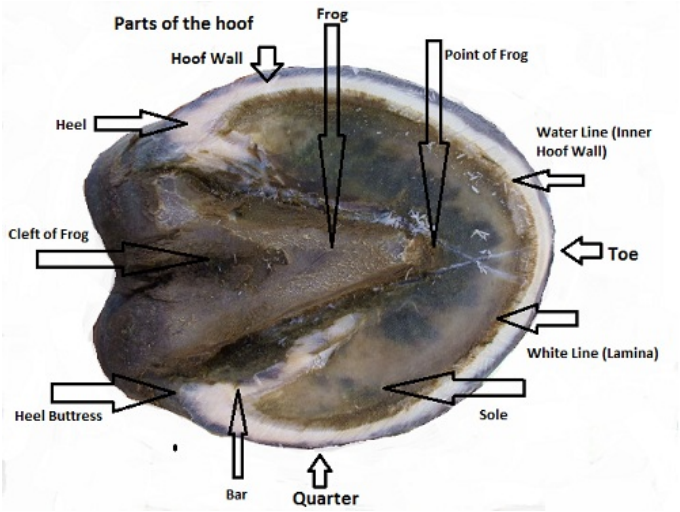
Figure 60
The Equine Skeleton
(Thomas 2005, 14) (Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

Simon's ideal horse conformation is amplified by Xenophon, who goes into far more detail in order to fulfil his claim to "explain all the points that he [Simon] has omitted" (Xen. *Eq*. 1.1). Later Greek and Roman writers also closely mirror Simon and Xenophon when writing on a horse's conformation: Varro's *Res Rusticae* (2.7.5); Vergil's *Georgics* (3.79-89); Calpurnius Siculus' *Eclogues* (6.52-55);

Columella's *De Re Rustica* (6.29.2-3); Oppian's *Cynegetica* (1.175-193); Nemesian's *Cynegetica* (245-255); Pelagonius' *Ars Veterinaria* (2); and Palladius' *De Re Rustica* (4.13.2 ff).

Xenophon begins with the foot of the horse and uses the metaphor of a house that will be of no use if the foundation is unsound (Xen. *Eq.* 1.2). A cavalry mount will be of no use, no matter how wonderful the upper body looks, if he has bad feet. There is a modern saying, "No foot, no horse", which succinctly sums up this point. It is interesting that Xenophon should recognize the value of the foot at a time when there was no real understanding of the inner workings of a horse's anatomy. The horse's foot acts as its second heart. Normally, muscle activity in the body helps the circulatory system return blood to the heart. The horse has no muscles in his lower legs to aid his circulation. It is through the hoof's expansion and contraction with each step that blood is pushed back up the leg to the heart. Each time the horse puts weight on the hoof, the pressure helps force blood out of the hoof and up the veins of the leg. When the hoof is lifted, the release of pressure allows new blood to flow into the hoof. A horse in natural circumstances, keeps on the move, which in turn keeps his legs healthy (Thomas 2005, 175). "The hoof evolved to function unshod. The foot cannot expand and contract with each step when clamped [by a horseshoe]. Blood supply to the foot is impoverished and horn production becomes deficient" (King 2008, 2). It is interesting to note that because of this muscle-lack in the lower legs and a corresponding low blood supply to these lower limbs, a horse can withstand cold weather and stand in snow with no risk of frostbite (Thomas 2005, 25).

Figure 61
The Foot of the Horse
(Available at: www.bare-foot-horses.com.)
(Accessed: 21-06-2013)



For Xenophon, the hoof must be thick rather than thin, and high off the ground (Xen. *Eq*. 1.3). The benefit of this is that the *frog* (a v-shaped cushion of soft, horny material located from the back to the centre of the sole) (Figure 61), which he considers the weakest part of the hoof, will be kept off the ground. In ancient Greek, the frog is referred to as χειδών, which literally means *swallow*, as the frog resembles a swallow's forked tail (Morgan 1894, 122 n.5).

Xenophon refers to Simon, who maintained that if the hoof rang like a cymbal when striking the ground, it was a clear test of a good hoof (Xen. *Eq*. 1.3). Xenophon is correct - thick horned hooves are preferable to thin ones. As a hoof grows between ¼ inch (0.6 cm) and ½ inch (1.3 cm) per month, a thin hoof would abrade too quickly (Hyland 2003, 35). The heel should be deep with at least 1" (2.54 cm) of horn (Figure 62).

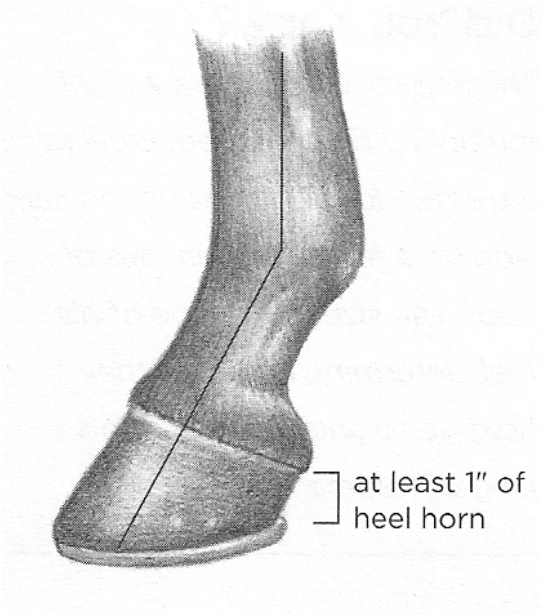


Figure 62
Heel Horn
(Thomas 2005, 183)
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But Xenophon is wrong about the *frog*, although it is easy to see how this mistake could be made by relying on observation alone. To even the most careful observer, the frog looks and feels like a soft pad which could be mistaken as a vulnerable part of the hoof. Indeed, the frog of the horse "evolved from the foot pad behind the toes of its early ancestors, rather like a dog's paw" (McBane 2000, 55). The frog is "made up of the same fibrous material as the rest of the external hoof, except that the frog contains oil glands that make it somewhat rubbery (Thomas 2005, 178). Far from being soft, the frog "should be thick, hard and tough, so as to resist in an efficient manner the effects of wear" (Hayes 1969, 232-233). The frog "is one of the main means by which the foot absorbs and dissipates concussion and is,

significantly, sited at the back of the foot because in fast gaits the heels impact with the ground first, and the heels are the part of the foot which expand most to help in this action" (McBane 2000, 56). Therefore, the frog should not be kept off the ground. Xenophon's erroneous perception of the function of the frog persisted into the twentieth century (Trench 1970, 299-300; Morgan 1894, 122). If Xenophon's horses had good feet it was "because the hard, stony ground kept the walls of the hoof short and allowed the frog to do its job despite his attempts to prevent this" (Trench, 1970, 300).

Moving up the leg from the hoof, Xenophon states that the pasterns (Figure 63) should not be too upright, like a goat's, otherwise their movement will lack spring, jarring the rider, and the legs will tend to become inflamed (Xen. *Eq*. 1.4).

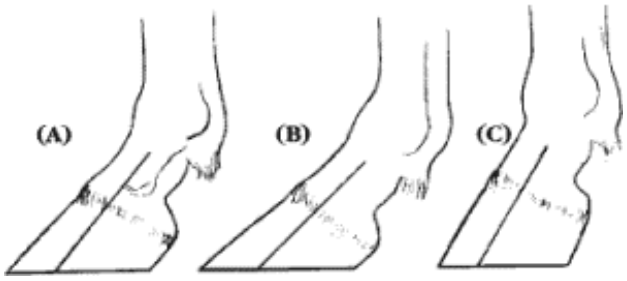

Figure 63
The Pastern Angle:
(A) Correct
(B) Sloping,
(C) Upright
(Available at:
www.thoroughbrednet.co.nz/
woodbinefarm/In_The_News.asp))
(Accessed: 20-06-13)

He is correct in this assessment. If the pastern is too upright, it is impossible for adequate absorption of the concussion to take place in the foot. Instead, it is transmitted directly to the bones of the leg. This can lead to "tendon strain and breakdown, sore shins, damaged knees, splints, or navicular disease" (Thomas 2005, 128). Nor should the pasterns slope too low as the fetlocks will become bare and sore when ridden over rough ground (Xen. *Eq*. 1.4). Again, Xenophon is correct. Sloping pasterns will cause the fetlock joint to descend too low when the horse is running and cause not only wear and soreness, but also injuries to the bones, tendons and ligaments (Thomas 2005, 322). A sloping pastern can often predispose a horse to injuries, which can leave the horse useless for several months or permanently impaired and unfit for further strenuous work and, therefore, unsuitable for cavalry (Hyland 2003, 34).

Marchant (1925, 300-301) translates the next section as follows:

> *The bones of the shanks should be thick, since these are the pillars of the body; but not thick with veins nor with flesh, else when the horse is ridden over*

> *hard ground, these parts are bound to become charged with blood and varicose; the legs will swell, and the skin will fall away, and when this gets loose the pin, too, is apt to give way and lame the horse* (Xen. *Eq*. 1.5).

He translates the Greek word *κνήμη* as the *shank* of the leg. This is defined in Liddell and Scott as, "the part of leg between the knee and the ankle" (Liddell and Scott 1996, 382). And this is indeed the meaning of the English word *shank* as defined in the Chambers Dictionary, "the leg from knee to foot" (Schwartz 1988, 1352). But there is no such place on a horse's leg.

> *Unlike man, the horse has evolved to stand on one rather than on five digits. Immediately below the knee and hock joints three bones persist, the cannon bone and the splint bones* (Hayes 2002, 204).

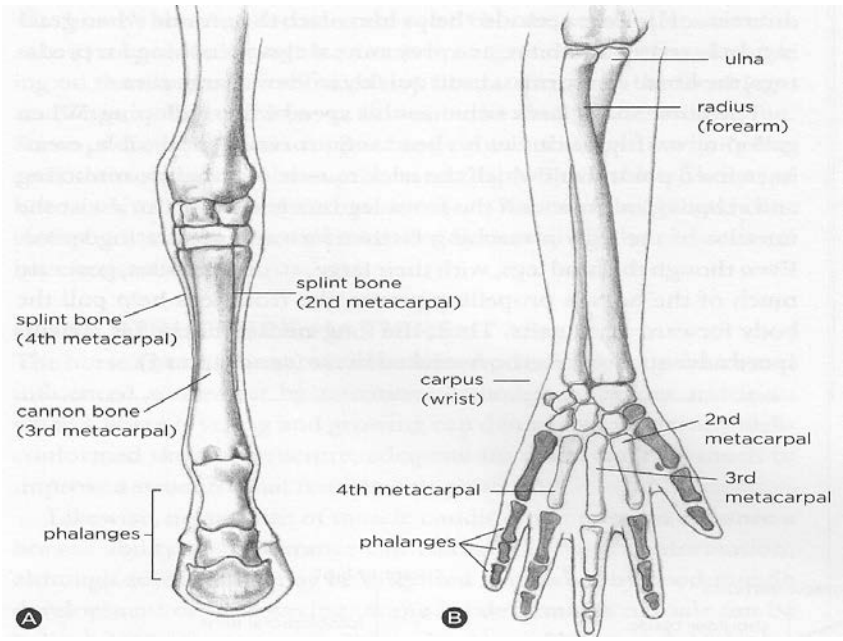

Figure 64
The Bones of the Horse's Front Leg Correspond to the Human Forearm and Hand
(Thomas 2005, 13) (Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

In other words, the area from the horse's knee to his hoof on his foreleg corresponds with the area between the wrist and the fingernails on the human (Figure 64). The human part between the elbow and wrist or *shank* corresponds to the area on the horse's foreleg from the elbow to the knee or his forearm (Figure 65). As Xenophon has not yet reached the knee in his progression up the horse's body, *shank*

is patently the wrong word to use. There is obviously a mismatch here between common usage of a term and the correct anatomical usage of that term. So, the translation should be changed from the *bones of the shanks* to the *cannon bones*. This is the only way to make sense of the rest of the sentence where Xenophon mentions that this bone *should be thick*.

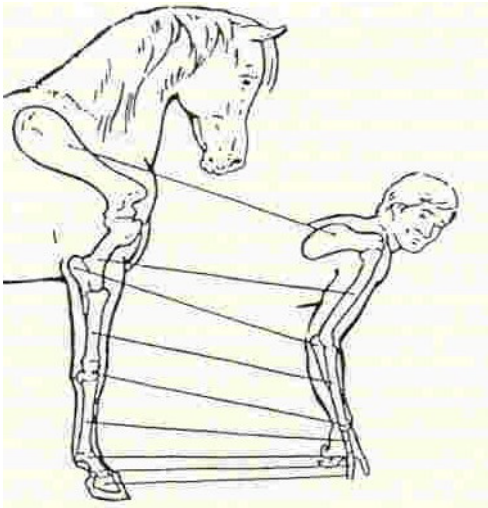

Figure 65
The Foreleg -
Comparison of horse to man
(Rudish 2013, Figure 10)
(Drawing by kind
permission of Rich Rudish)

In the same passage, the word *περόνη* is translated here as *pin*, which is defined in Liddell and Scott as "the small bone of the arm or leg., Lat. radius, fibula" (Liddell and Scott, 1996, 556). And the *fibula* is defined in Chambers Dictionary as, "the outer of the two bones from the knee to the ankle" (Schwartz 1988, 528). Marchant explains in a footnote that "The Greek word means the *fibula* in man, but the *fibula*, of course, is no part of the *shank* in the horse" (Marchant 1925, 300 fn. 1). Morgan states that:

> *Xenophon, who has not yet reached the knee, cannot be thinking of a part above it. Hence it has generally been believed that he meant a bone in the knee itself, one of the astragals. But I believe that Xenophon was not thinking of the skeleton, but rather of the animal as he looked in the flesh. Indeed he may not have understood the anatomy of the horse in its relation to man's; certainly below he speaks of the forearm as if it corresponded to the upper instead of to the lower arm in man. What, then, was more natural than that he should compare the back sinew to the small bone of man's leg?* (Morgan 1894, 123).

If the passage by Xenophon is to be read literally, the *pin* has to refer to either of the two splint bones on the cannon bone (Figure 64). This makes perfect sense as a *splint* is the name of a lameness caused by too much hard work on hard ground. “In the young horse it [a splint] most frequently occurs as a sequel to slight tearing of the interosseous ligament between the splint bone and the cannon bone…..Thus there is inflammation of the interosseous ligament and the periosteum, causing pain and soft-tissue swelling” (Hayes 2002, 207). So the leg swells and the horse becomes lame, as Xenophon has stated (Xen. *Eq.* 1.5).

But this passage could also refer to two other conditions of the cannon bone which cause lameness in the horse. Both involve the tendons that are on the cannon bone. And both conditions are caused by, “haemorrhage into the tendon and accumulation of inflammatory fluid cause considerable swelling and pain….Usually the vein on the inside of the leg is enlarged” (Hayes 2002, 267). This can explain Xenophon’s reference to parts becoming *charged with blood and varicose* (Xen. *Eq.* 1.5).

Figure 66
Bowed Tendon
The leg at the left is fine, the one at the right has a badly bowed tendon (Lewis 2005, 1) (Photo by kind permission of Maria L. Lewis, VMD)

The first condition is a *bowed tendon* (which Morgan seems to be referring to) where the back of the leg above the fetlock has a convex contour instead of being straight (Figure 66). “Inflammation results in the accumulation of fluid, causing swelling and distortion of the normal anatomical arrangement of fibrils within the tendon” (Hayes 2002, 266). This is Morgan’s *back sinew* (Morgan 1894, 123).

The other condition is *sore shins* (known as *bucked shins* in America). This is a condition which results from a “skeletally immature horse working on hard ground….There may be some swelling over the front of the bones, resulting in a

more convex contour than usual" (Hayes 2002, 209-210). This is a condition more widespread in America than elsewhere, because of the force that is needed when a young racehorse pulls out of the starting gate at the racecourse with either dirt or artificial tracks. The tendons and ligaments literally get torn away from the cannon bone on the front of the leg. Here we have Xenophon's *legs that swell and the skin will fall away* (Xen. *Eq.* 1.5).

Xenophon's description is so general that he could be referring to a splint, a bowed tendon or sore shins. Indeed, he could have known of all three conditions and simply grouped them together, as he did not recognise that they were different. All three fit his reference to "these parts are bound to become charged with blood and varicose; the legs swell, and the skin will fall away" (Xen. *Eq*. 1.5).

Moving on up the leg, Xenophon goes quickly over the points to look for in the knees and chest. The knees should be supple as these will make a horse less likely to stumble or tire than stiff legs (Xen. *Eq*. 1.6). The knee in a horse's front leg is equivalent to a human wrist, but unlike a wrist, which can rotate, the horse's knee can only move in a straight line. In the horse's hind leg, the equivalent of the human knee is the stifle joint, not the hock (which corresponds to the human ankle) (Figure 67) as one would assume. The knee of the horse's front leg and the human wrist have the same seven bones in identical arrangement (Thomas 2005, 12). The forearms are better looking and stronger if thick, as in a man (Xen. *Eq*. 1.7).

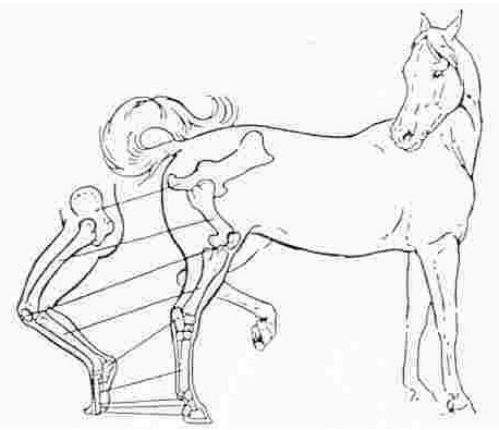

Figure 67
The Hind Leg - comparison of horse to man
(Rudish 2013, Figure 6)
(Drawing by kind permission of Rich Rudish)

Xenophon makes a very valid point when he states that the chest should be wide, both for strength and to keep the legs well apart (Xen. *Eq*. 1.7). "If the chest is wide and easy to see (nearly cylindrical in shape), his stamina may be surprisingly good, even if he [the horse] is shallow through the chest, for what was lost in height or depth of chest was gained in width and still allows adequate space for lung

expansion" (Thomas 2005, 75) (Figures 68 and 69). With a narrow chest, the horse can be predisposed to a range of problems with his legs and feet, along with a problem carrying substantial weight (Oliver 1991, 64). A narrow chest can also lead to the horse clipping one hoof with the other and, in some extreme cases, they can scrape the lower limbs (Hyland 2003, 34) (Figure 68).

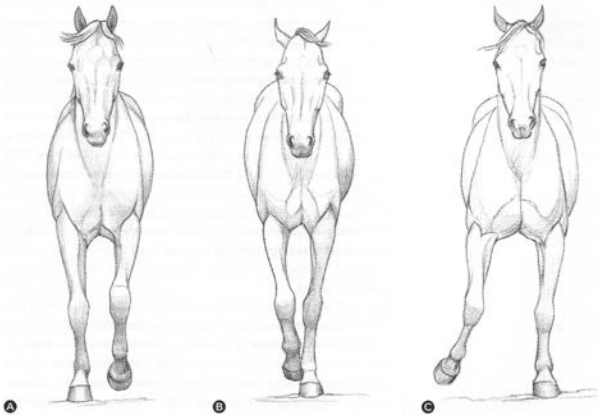

Figure 68
Chest Width - A = Normal, B = Too Narrow, C = Too Wide
(Thomas 2005, 113) (Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

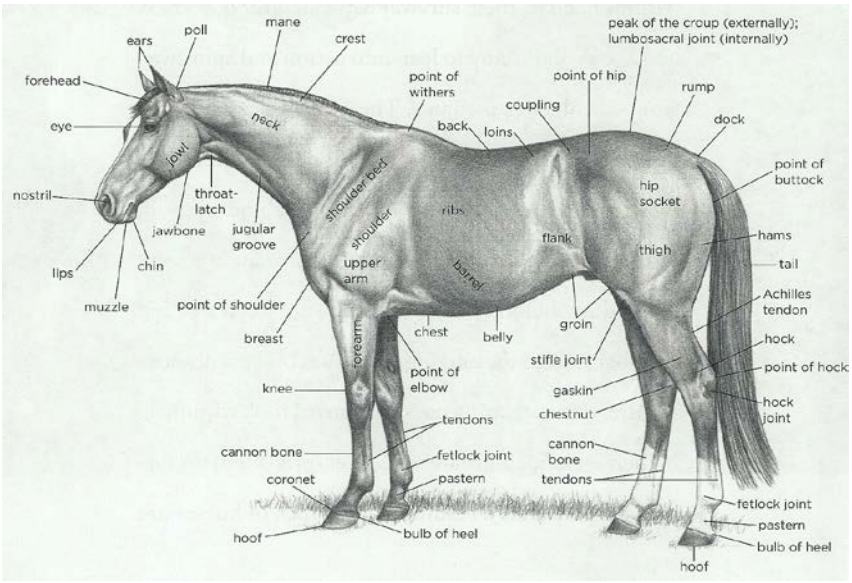

Figure 69
Equine Anatomy
(Thomas 2005, 10)
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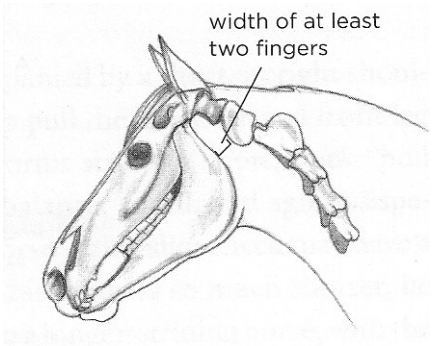
"His neck should not hang downwards from the chest like a boar's, but stand straight up to the crest, like a cock's; but it should be flexible at the bend; and the head should be bony, with a small cheek" (Xen. *Eq*. 1.8). It is noteworthy that Xenophon drew attention to this, as horsemen today feel that it is the angle at which the head and neck meet that is one of the most important aspects of general

conformation. This is determined by the top two vertebrae. The *atlas* is the first large vertebra of the neck and it slips over the *axis*, the second vertebra of the neck (Figure 60). This gives the horse the ability to nod his head up and down without moving the rest of his body and to flex his head at the poll - all of this makes it easier for the rider control the horse. This is Xenophon's *flexible at the bend* (Xen. *Eq*. 1.8). One way to check the angle of the head and neck is to make sure that there is the width of at least two fingers between the jawbone and the *atlas* (Figure 70). Again, Xenophon is correct, because the smaller the cheek, the wider the area between the jawbone and the *atlas*.

Figure 70
Angle of Head to Neck
Room for at least 2 fingers between the jawbone and the atlas
(Thomas 2005, 40)
(Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)



The neck acts as the "balancing pole of [a horse's] conformation" (Oliver 1991, 74). It is the link between the head and shoulders and it gives the horse the ability to swing the head up and down to shift the weight and maintain his balance with each stride (Thomas 2005, 37). As a rule of thumb, the horse's neck should be one-third the length of his body (Figure 71).

The head should be higher than the withers, with a gentle arch to the neck, and a slope of 45 degrees. If the nose sticks out too far in front, or the chin is tucked in too close to the chest, "the horse's freedom of action is reduced and his field of vision - especially his ability to see the ground in front of him - is impaired" (Thomas 2005, 38). Xenophon makes the same observation and draws the same conclusion when he says, "Thus the neck will protect the rider and the eye see what lies before the feet" (Xen. *Eq*. 1.8). He also makes a second point here that, if the horse is carrying its head and neck correctly, it offers protection to the rider from oncoming missiles in a battle situation. Again, just as in the *Anabasis* when he does not give his horse a name (Xen. *An*. 7.8.6), Xenophon leaves sentimentality behind

when suggesting that it is better for the horse to suffer the missile blows rather than the rider.

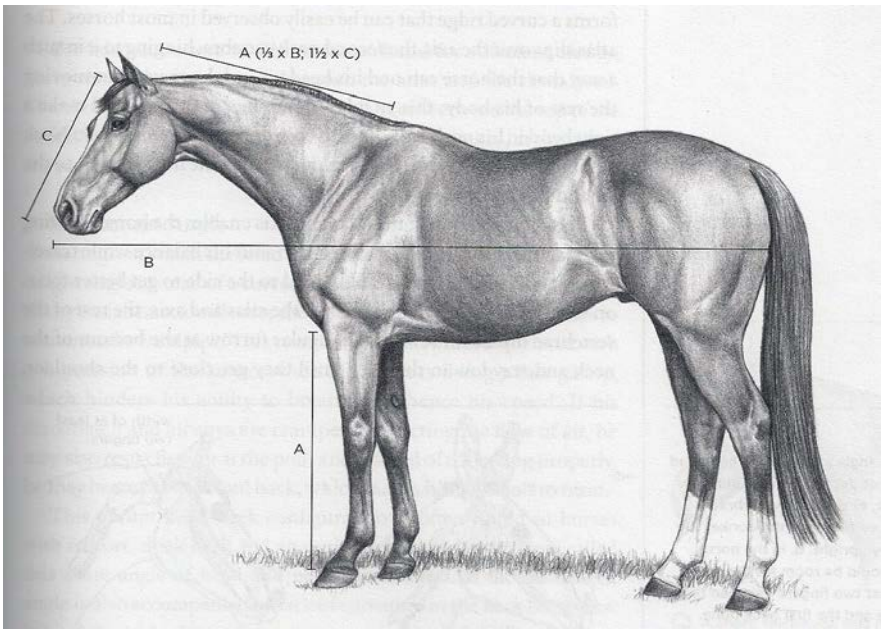


Figure 71
Neck Proportions - Neck length (A) should be one-third of the horse's total length (B), one and a half times the length of the head (C), and the same length as the front legs (A). (Thomas 2005, 39) (Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

Xenophon goes on to say, "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" (Xen. *Eq*. 1.8). Xenophon is writing about the *conformation* of the horse with the cavalryman in mind, a horseman. This signals his intention that this treatise should be taken seriously by the horsemen who would make up the Athenian cavalry. Because he assumes that his readers are most likely to be good horsemen, he, perhaps knowingly, conflates *conformation* with what is now termed *collection* - which is achieved while riding the horse. Most horses will run away, no matter what their *conformation*! The ideal state while riding a horse is termed *collection*.

> *Collection is produced by pushing the horse with seat and both legs up against the reins which are held equally in both hands. By driving the hind legs more under the body the horse will become shorter and his neck will be more beautifully shaped* (Podhajsky 1967, 103).

> *A horse is said to be collected when his head is raised and bent at the poll, the jaw relaxed and his hocks brought well under him, so that he has the maximum control of his limbs, and is in a position to respond instantly to the least indication of his rider* (Brooke 1924, 94).
>
> *The aim of the collection of the horse is:*
> *To further develop and improve the balance and equilibrium of the horse, which has been more or less displaced by the additional weight of the rider.*
> *To develop and increase the horse's ability to lower and engage its hindquarters for the benefit of the lightness and mobility of is forehand.*
> *To add to the 'ease and carriage' of the horse and to make it more pleasurable to ride* (FEI 2013, 24).

When collected, the horse is held in a state of elasticity between the rider's seat and hands. Once his head is raised and his neck is arched, the horse is under the rider's full control, as stated by Xenophon. However, if the horse is able to stretch out his neck and run, there is no way a rider can match the strength of the horse to bring him under control.

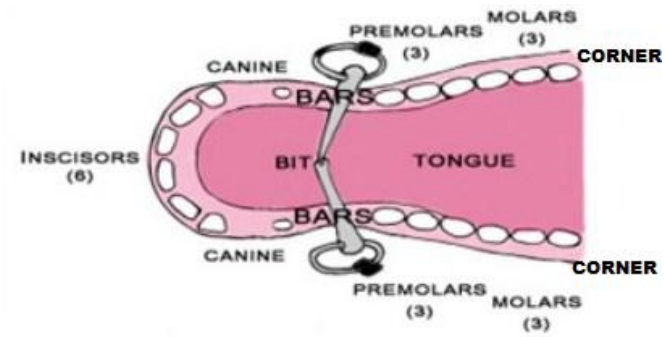


Figure 72
The bars of the horse's mouth
(after Hannah 2009, 1)
(Drawing by kind permission of Caroline Hannah)
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Xenophon is correct when he states, "You should notice, too, whether both jaws are soft or hard, or only one; for horses with unequal jaws are generally unequally sensitive in the mouth" (Xen. *Eq*. 1.9). When he uses the term *jaws*, he is actually referring to the *bars* in the horse's mouth. The *bars* of the mouth are the parts of the gums of the lower jaw which are bare of teeth (Figure 72). If they are still sensitive and functioning, they are referred to as *soft*; if they are no longer sensitive, they are referred to as *hard*. It is the pressure of the bit on the *bars* that makes a horse respond to the reins. The *bars* are much more sensitive to pressure than the corners of the mouth, and the horse should be taught to carry his head so

that the bit will not shift from the *bars* to the corners (Hayes 1969, 78-79). If the *bars* lose their sensitivity, the bit is no longer effective, leaving the rider with little control. Again, Xenophon is speaking to a horseman, as this is a quality of the horse that can only be assessed by riding the horse with a bit. It would be impossible to assess this on an unbroken horse.

Xenophon correctly states, "a prominent eye looks more alert than one that is hollow, and, apart from that, it gives the horse a greater range of vision" (Xen. *Eq*. 1.9). The horse, unlike man, can see straight forward and straight backward at the same time without moving either the head or the eye, allowing for a wide semicircular sweep of vision with each eye. The horse is sensitive to moving objects on the edge of this wide field of vision. It is this sensitivity which allowed the horse to survive in the wild where its main defence from a predator was to flee (Simpson 1951, 13-15). For the cavalryman, this extra set of eyes was an asset, unless, of course, the horse was not under the rider's control and tried to flee from the motion it detected. The position of the eye and its prominence allows the horse to see the ground in front when *collected*, "since the large cornea enables much light to enter the eye, and its low position [on the head] enables the horse to see the ground immediately in front of it without having to lower its head" (Seunig 1941, 27). Xenophon is also correct in that a hollow eye denotes an old horse. "It denotes that the animal is old or more or less worn out" and one which should not be purchased for cavalry duty (Hayes 1969, 172). Ideally, "the eyes should be large (round and prominent, not bulging)" (Thomas 2005, 31). As far as sight goes, the horse with prominent, large eyes will have better vision than a horse with *pig eyes*. *Pig eyes* are small and recessed as opposed to prominent, giving the horse a narrower field of vision (Thomas 2005, 31). In Xenophon's *Cyropaedia*, Cyrus, while discussing the merits of being a horseman, rather than a Centaur, states:

> *And then, he* [Cyrus] *added, I shall have the advantage of the Centaur in this, too, that he used to see with but two eyes and hear with but two ears, while I shall gather evidence with four eyes and learn through four ears; for they say that a horse actually sees many things with his eyes before his rider does and makes them known to him, and that he hears many things with his ears before his rider does and gives him an intimation of them* (Xen. *Cyr.* 4.3.21).

Nostrils, according to Xenophon, should be wide open to allow the horse to breathe easily. The horse will also appear fiercer when he dilates the nostrils (Xen. *Eq*. 1.10). A horse cannot breathe through the mouth as we can. This is because "the soft palate at the roof of the mouth tends to drop down, obstructing the air passage" (Thomas 2005, 36).

> *Owing to the great length of the soft palate and its relation to the upper end of the windpipe [in the horse], breathing takes place entirely through the nose. When men, dogs, and many other animals, in consequence of any great exertion, begin to pant and require an additional quantity of air to that which is ordinarily taken in by the nose, the mouth comes to the aid of that channel and is widely opened; but the horse under the same circumstances can only expand the margins of the nostrils, for which action there is a very efficient set of muscles, acting on the cartilaginous framework which supports them and determines their peculiar outline* (Flower 1891, 142).

As Xenophon states, when buying a horse, the opening of the nostrils should be very wide, thin and elastic to allow for maximum expansion when exerting strenuously. In a horse, "narrow, coarse nostrils are to be avoided" (Oliver 1991, 86). Xenophon recommends large nostrils to give the horse the adequate oxygen supply needed for the strenuous effort of a cavalry charge.

Xenophon looks for a "fairly large crest and fairly small ears to give a more characteristic shape to a horse's head" (Xen. *Eq*. 1.11) (Figure 69). The *crest* is the upper part of the neck, extending from the withers to the ears (Hayes 1969, 26). Usually, a horse with a large *crest* also has a short neck, therefore lacking flexibility and balance, which would be seen as a conformation fault today. However, Xenophon is right here in that stallions usually have a fairly large *crest*, and the cavalryman in all probability would be buying a stallion. As Hayes notes:

> *On its* [the suspensory ligament of the head and neck] *top there is a layer of fat, which in entires* [stallions] *(especially if they are coarsely bred) often increases to a great size and consequently gives them a high and thick crest* (Hayes 1968, 43).

It is not definitive, but most scholars agree that nearly all horsemen in the ancient world rode stallions (Hyland 2003, 35-36; Trench 1970, 25 and 36; Hyland

1990, 80; Delebecque 2008, 44 n.1; Anderson 1961, 38). In Greek art, most horses are depicted as stallions.

> *However, the number of riders portrayed on stallions in Greek art suggests that ancient riders preferred these to the more temperamentally stable alternatives; almost all horses depicted on vases or in sculpture are stallions. On the other hand, this may result from an artistic convention designed to heighten the impression of power and majesty often intended in representations of horses* (Spence 1993, 44).

Certainly on the Parthenon frieze, all the horses whose sex can be determined are stallions (or perhaps geldings) with the exception of one filly (Figure 81).

> *Sometimes the hind leg nearest the viewer overlaps the genitals, but I still think these horses should probably be considered male. The thick necks of many of the horses also suggest they are stallions with heavy crests, or geldings, not mares whose necks are more slender than those of their male counterparts. I am inclined to think they are stallions. Many of these horses look very frisky and high strung; if they are stallions, keeping them in check and well under control would be hard enough by itself without mares around to excite and provoke them. A filly would be a different story because she would not yet be of breeding age* (Moore 2003, 36).

There are three categories in the horse world: the stallion (an entire male horse), the gelding (a neutered male horse), and the mare (an entire female horse). Today, geldings would seem the logical choice of horse for a cavalryman. They are very predictable, reliable animals that work well in a group situation, such as a cavalry (Corrigan 2004, 181). Geldings, performing at fast gaits, can endure more work and attain and retain better muscular condition than stallions. This is mainly due to the stallion's extra neck weight which makes him heavy on the forehand, and consequently more liable to wear out his forelegs prematurely (Hayes 1968, 176). Aside from the reproductive incapacity, geldings are in no way physically inferior to stallions (Corrigan 2004, 183). According to Xenophon 'vicious horses, when gelded, stop biting and prancing about, to be sure, but are none the less fit for service in war' *(*Xen. *Cyr. 7.5.62*). Varro, while writing about castration, confirms that stallions were used in the Roman military:

> *Nor does the man who wants to turn out horses for carrying proceed in the same way as he who wants them for military service. For just as we need them high spirited for camps so we prefer to have them quiet on the road. Castration effects this* (Varro. *Rust.* 2.5.17).

Gelding a horse by castration entails the removal of the testes, to render them sterile and to make "the animal more docile and to facilitate control in the presence of mares" (Hayes 2002, 629). Several other ancient authors referred to gelding:

> *It is a peculiarity of the whole Scythian and Sarmatian race that they castrate their horses to make them easy to manage; for although the horses are small, they are exceedingly quick and hard to manage* (Str. *Geog*. 7.4.8).

> *These people* [the Sarmatians and the Quadi] ....*most of their horses are made serviceable by gelding, in order that they may not at sight of mares become excited and run away, or when in ambush become unruly and betray their riders by loud neighing* (Amm.Marc. 17.12.2).

However, it is felt that gelding was "rarely practised by the ancients, perhaps from fear of infection" (Anderson 1961, 38). A bad job of castration could easily result in the death of the horse (Hayes 2002, 630-633). An exception to this is Pazyryk, Siberia (Figure 10), where "in the tombs of noble persons ... all the horses were geldings; not a single stallion or mare was found" (Rudenko 1970, 118). "The colder climate in this area of the world would allow gelding to be less risky than in the warmer one of ancient Greece" where the operation would be more prone to insect borne infections (Moore 2003, 36).

Mares, however, can prove to be difficult and unpredictable animals to ride, especially when they are in season (*oestrus*). This usually occurs in the months from April through September. As this was also the prime time for ancient military campaigns, it would have made little sense to base a cavalry on mares. Also, "mares can become quite aggressive or frenziedly stupid if separated from their particular female companions" (Hyland 1990, 95). Another problem is that the stallion, which is always ready for intercourse, would be impossible to control in a cavalry that contained mares during the spring and summer months. Another practical reason for using stallions rather than mares in the cavalry is that, in order to keep up the

numbers of horses available, many mares would be needed for breeding purposes at home (Hyland 1990, 81-81). One stallion (which could be a retired cavalry stallion with the correct physical attributes) can service many mares, so the other stallions could be used in the cavalry.

Stallions, if handled correctly, can easily be ridden either individually or with a group. A good example of this is the Spanish Riding School in Vienna where only Lipizzaner stallions are used. They live as a bachelor group as young colts and then are stabled, trained and perform together as adults (Williams 1975, 37).

In the wild, horses form harems, each harem having one stallion in control of the protection of many mares and foals. When young males in a harem reach puberty, they are forced to leave (as are the young mares once they reach puberty). They often band together with other young stallions in bachelor groups until they form their own harems (Budiansky 1997, 69).

> *Although it's the nature of domestic stallions to fight over a harem of mares and their foals, they're not territorial - that is, they don't fight over a piece of real estate. Many stallions kept in the same pasture or pen get along as well as any geldings might, as long as there are no mares to fight over. In fact, large-scale breeders commonly turn out all their stallions together during the off-season* (Hayes 2012, 2).

This ability to bond in a group without any mares present would work well in the cavalry. And, sometimes, an ill-tempered stallion could be seen as an asset in war as attested to by Herodotus:

> *Now the horse which Artybius* [the Persian commander] *rode was trained to fight with infantrymen by rearing up. Hearing this, Onesilus said to his attendant, a Carian of great renown in war and a valiant man, "I learn that Artybius' horse rears up and kicks and bites to death whomever he encounters. In light of this decide and tell me straightway which you will watch and strike down, Artybius himself or his horse"* (Htd. 5.111.1-2).

On the 111 lead tablets found in the Agora in 1971 (see section 3.6.1), each gave the name of the cavalryman, the colour of the horse, its brand, and its value (Kroll 1977a, 83-106). There is no mention of the sex of the horse. Surely, if the cavalry consisted of stallions, geldings and mares, the tablets would list the sex of

the horse in an effort to distinguish one from the other, especially if they had the same owner, brand and colour. I find this very strong evidence to reach a conclusion that Athenian cavalry horses were all stallions so there was no need to list them as such.

Xenophon looked for “fairly small ears” (Xen. *Eq*. 1.11), but the horse’s ears can be large or small, as ear size has no bearing on a horse’s ability (Thomas 2005, 34). *Bucephalus* probably had small ears giving him the look of a bull or ox, hence his name (Morgan 1894, 125). This is refuted by both Pliny (*HN*. 8.44) and Arrian (*Anab*. 5.19.5) who claim that the horse was named *Bucephalus* for the ox-head brand denoting a localized Thessalian stock of horses from the vicinity of Pharsalos (Kroll 1977a, 87-8). The marble head by Phidias of a horse of Selene is a good example of Xenophon’s ideal, as it has prominent eyes, tiny ears and very large nostrils (Figure 73).

Figure 73
The head of a horse of Selene by Phidias from the east pediment of the Parthenon
(British Museum, 1816,0610.98)
©Trustees of the British Museum

Xenophon recommends a high withers and a double back to aid a rider’s seat. A high or well-defined withers will give a horse a longer stride and more speed. For the buyer of a horse, a high withers is also a sign that a horse has reached maturity (Thomas 2005, 196).

“The double back is both softer to sit on than the single and more pleasing to the eye” (Xen. *Eq*. 1.11). By *double back*, Xenophon means that “the flesh rises up on each side of the spine so that the latter does not stick up like a ridge but lies in a slight depression”(Morgan 1894, 125) (Figure 74). This may seem incomprehensible

to the non-rider, as a horse obviously only has one back, one spine. The thick bands of muscles that run alongside the spine in the horse, compounded by fat, make two rounded pads (the *double back*) on either side of the spine, so that when riding bareback, the rider's coccyx does not come into contact with the spine, but is suspended over it, making riding more comfortable for both horse and rider.

Figure 74
A Double Back
Note the dip along the line of the spine
(Available at:
http://www.rodnikkel.com/content/index.php/saddle-tree-blog-from-shop-and-desk/of-single-backs-double-backs-and-crown/)
(Accessed: 18-09-13) (Photo by kind permission of Rod and Denise Nikkel)

Figure 75
The back of a thin horse with the spine prominent and the muscles to either side falling away.
(Available at: http://www.rodnikkel.com/content/index.php/saddle-tree-blog-from-shop-and-desk/of-single-backs-double-backs-and-crown/)
(Accessed 18-09-13) (Photo by kind permission of Rod and Denise Nikkel)

The spine of a thin horse noticeably projects above the rib cage (Figure 75). When riding bareback, this makes contact between the rider's seat and the horse's spine inevitable and can lead to soreness for both. "A narrow, bony back would have been very uncomfortable, even painful, and would have given a very insecure seat, further exacerbated if it was also combined with a low wither" (Hyland 2003, 35).

Xenophon is alluding to three positives here for the buyer. First, the horse with the double back is in good condition with enough flesh and musculature to bulk out the back. Second, a horse in good condition is a good *doer* [a horse with a good appetite] or an *easy keeper*:

> *The compact, well to moderately fleshed animal usually has a good food conversion ratio with a slower metabolism than the leaner types. This would be highly favourable to a large body of cavalry that had to forage on the march, as such animals would maintain body flesh more easily and would need correspondingly less time to graze* (Hyland 1990, 69).

Third, this horse will be comfortable to ride without the spine sticking up in the middle of the back. It must be remembered here that the Greek cavalryman was riding naked, with, at best, only a pad or chamois cloth between his body and the spine of the horse. It takes little imagination to realise that riding a horse bareback with a prominent spine at the two-beat trot would be excruciatingly painful. "The shape of a horse's back can make or break your comfort and security" (Barakat 2000, 70).

The *flank* "is the part of the side of the horse which is free from bone and which thinly covers the intestines. It is placed between the loins above, the ribs in front, the thigh and point of hip at the rear, and the belly below" (Hayes 1969, 28) (Figure 69). The flank is defined by the ribcage.

> *The greater the degree of rib curvature, the greater the "spring of rib" in traditional horsemen's terms. A horse with good "spring of rib" is preferred, because a horse with a well-rounded chest usually has more endurance and is a better "doer"* (Thomas 2005, 73).

This is what Xenophon is referring to when he says, "the deeper the flanks and the more swelling toward the belly, the firmer is the seat and the stronger, and as a rule, the better feeder is the horse" (Xen. *Eq*. 1.12). The horse with ribs that are flat, short, upright, and straight rather than sloping backward will have shallow flanks with less-developed abdominal muscles and, therefore, less stamina.

The *loins* "are placed between the back and croup, with the flanks on each side. They include the portion of the spinal column which is devoid of ribs and which is in front of the highest point of the pelvis" (Hayes 1969, 28) (Figure 69).

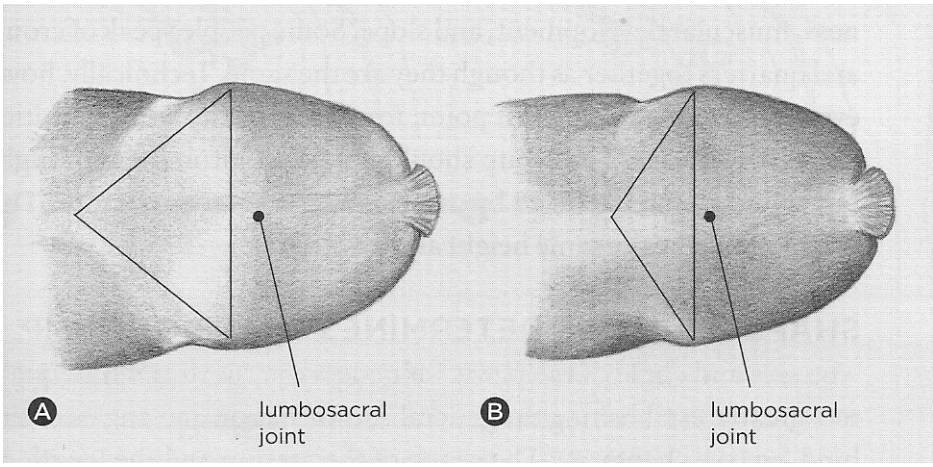

Figure 76
A = a long back - making a short rump and long loin = bad
B = a short back and a short rump - broad and short = good
(Thomas 2005, 89) (Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

Xenophon states "the broader and shorter the loins, the more easily the horse lifts his fore quarters and the more easily he brings up his hind quarters" (Xen. *Eq*. 1.12) (Figure 76). This is absolutely correct.

> *A horse that is close coupled, with a short loin area, usually has strong, short muscles and can tense the spine more readily to raise and propel the front quarters and thus is more easily collected. As the back muscles stiffen his spine and the loin muscles contract to pull the hindquarters farther underneath himself, he can lift his front end* (Thomas 2005, 88).
>
> *It is a popular fallacy to imagine that the muscles over the loins are propellers. They have no propelling power at all; for they are not connected either with the thigh bone, or with any of the bones of the limb below it, their office in locomotion being merely to regulate the weight on the fore-hand. The muscles under the loins draw the thigh forward* (Hayes 1968, 62).

It is remarkable that Xenophon could understand the way the muscles of the horse's back interact with the spine, the hindquarters and the forequarters without the benefit of dissection. The nature of his knowledge comes from a true horseman's observations over a lifetime of the way a horse moves, without the aid of a scientific knowledge of anatomy.

Xenophon goes on to say, "if it [the loin area] is big it disfigures the horse to some extent, and also makes him to some extent both weaker and clumsier" (Xen.

Eq. 1.12). With too much length of loin, a horse will have difficulty getting his hocks underneath his body giving him bad coordination and poor balance. This is reference again to the *collection* of the horse. With too long a loin area, the horse will find it hard to place his hind legs under his body, and thus harder to make his forehand light for the rider and often tire easily because of the effort in trying to accomplish this (McBane 2000, 117-119).

Xenophon next refers to the *haunches*, which must be broad and fleshy and firm all over to make the horse speedier (Xen. *Eq*. 1.13). *Haunches* here refer to the hindquarters of the horse - the croup, rump, buttock, hip and thigh area (Figure 69). The hindquarters of the horse are "famously called the *powerhouse* of the horse because this is where all the forward thrust and surge comes from. A good horse is said to require the head of a duchess and the bottom of a cook, and no horseman who knows his stuff would argue with that. Very good musculature is essential" (McBane 2000, 121).

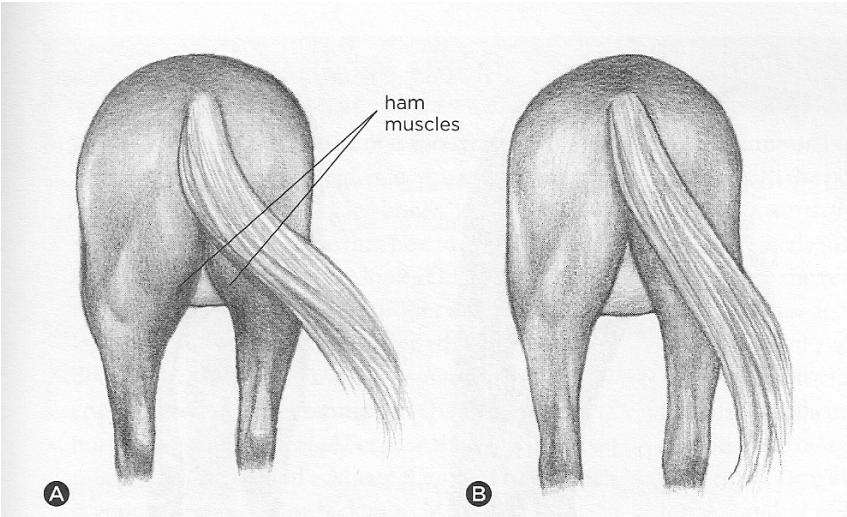

Figure 77
Bad Examples of the Ham Muscles
A - they do not touch all the way down
B - Cat-hammed - long thin thighs with inadequate muscling
(Thomas 2005, 147)
(Reprinted by kind permission of *The Horse Conformation Handbook* © Heather Smith Thomas, illustrations by Jo Anna Rissanen, published by Storey Publishing LLC)

According to Marchant's translation, Xenophon says:

> *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* (Xen. *Eq*. 1.14).

In a mature, fit horse, "The hams, or back of the thighs, should be thick enough to touch one another for most their length, until they abruptly split and curve inward to the top of the gaskin. If daylight shows between the inner thighs when viewed from behind, the muscles are said to be split up or undeveloped" (Thomas 2005, 146-147). However, Xenophon is talking here of a young, unbroken horse, whose ham muscles would not yet be fully developed (Anderson 1960, 9) (Figure 77A). Marchant's translation of this passage is confusing and the resulting horse would be categorised as *cat-hammed* (Figure 77B), which is most undesirable in a horse, and cannot be what Xenophon is referring to. I think Anderson's translation is closer to capturing Xenophon's meaning:

> *If the buttocks under the tail are separated by a broad line, the horse will carry his legs wide apart under him, and in so doing will be prouder and stronger in his bearing and in his work, and be improved in every way. One may infer this from human beings. For when humans want to lift something up from the ground they all attempt to do so by straddling their legs rather than by bringing them close together* (Anderson 1961, 158).

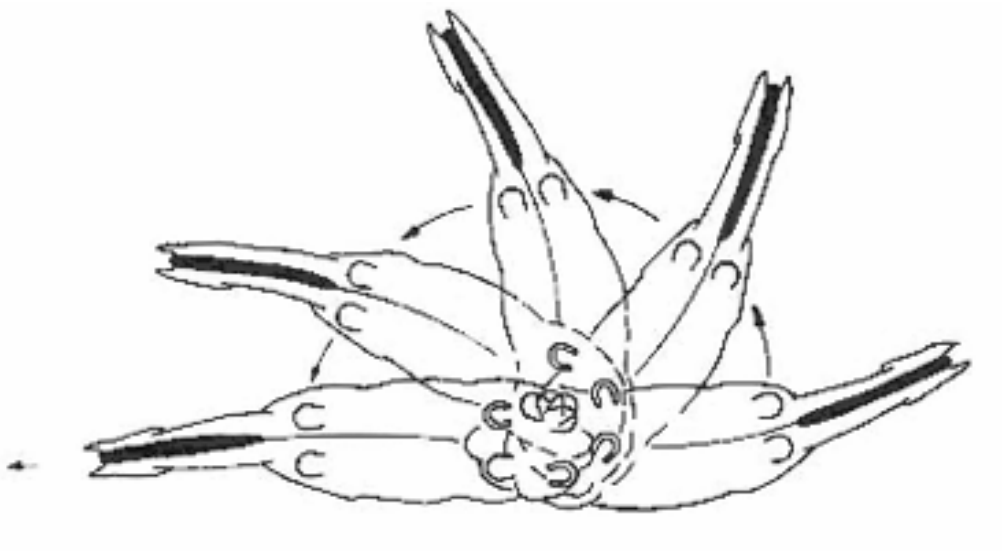

Figure 78
The Half-Pirouette to the left from above
(FEI 2013, 22)
©FEI

Figure 79
A Pirouette performed to the left at the canter
(Available at: http://luda-stock.deviantart.com/art/Dressage-Canter-Pirouette-Stock-01-306150570)
(Accessed 18-09-13) (Photo by kind permission of luda-stock)

Xenophon is trying to say that the horse's hind legs should be wide apart to allow for better extension of the hind legs beneath the horse. This is how the rider *collects* his horse. The horse extends the hind legs under himself, throwing the weight of his body onto his hind legs, thus freeing his forehand of weight, making it lighter and easier to lift. Put another way, the horse shifts his centre of gravity to his hindquarters, the spine forms an arc, and the hind legs provide the impulsion. This lightness of the forehand is called *collection*. This allows a horse to pirouette on his haunches: raising the forehand and turning in a slightly rearing posture (Figures 78 and 79). The *collection* of the horse allows this to be done in a minimum amount of space, a bonus if the horse and rider find themselves in a battle situation, where they need to turn and run.

A horse's testicles should not be too large, but Xenophon rightly points out that this would be hard to observe in a young colt (Xen. *Eq*. 1.15). This, however, is interesting as it adds to the proof that the Greek cavalryman would be looking only at male horses with their testicles intact, i.e. stallions, not mares or geldings.

Xenophon then advises the reader to treat the hocks, shin bones, fetlocks and hooves of the hindquarters as he did with the corresponding parts of the forelegs.

He goes on to state that “the colt that is longest in the shanks [cannon bones] at the time he is foaled makes the biggest horse” (Xen. *Eq*. 1.16). As equine surgeon Marc Desjardins states, “By 120 days (4 months), the cannons and pasterns [of a foal] have stopped growing....Most horses mature and stop growing at about 2 years of age” (cited in Albee 2005, 1). Xenophon is correct and was extremely observant to realize that the cannon bones are nearly their adult length at birth. A way of measuring the height that a foal will reach at maturity is to measure the cannon bone from the top of the hoof (coronet) to the centre of the knee (Figure 69). You then multiply that measurement by four and add two inches (Thompson 1995, 2515-2516).

Xenophon concludes the first book by saying that the horseman who uses the various tests that he has set out, will end up with a horse with “good feet, strong, muscular, of the right look and the right size” (Xen. *Eq*. 1.17). Even if the horse should grow and change slightly, “it is far commoner for an ugly colt to make a useful horse than for a colt like this to turn out ugly” (Xen. *Eq*. 1.17).

4.5.2 Training the Horse

Unfortunately, in Book 2, Xenophon tells the reader to send the newly purchased horse to a trainer, but does not go into any of the training methods. Therefore, this section is based on what can be gleaned about the training of the horse from the other works of Xenophon supplemented by the works of later writers. *The Art of Horsemanship* reflects that Xenophon’s readership was the horse owner, not the trainer. As cavalrymen were recruited from the amongst the wealthier citizens, Xenophon felt it far better that the younger cavalrymen concentrate on getting fit and improving their horsemanship, while the older cavalrymen should devote themselves to their estates and the affairs of state, rather than to the training of their horses (Xen. *Eq*. 2.1). This makes perfect sense as the breaking and training of a horse takes a good deal of time and an exceptional horseman to accomplish it. Xenophon is looking for a trainer “to produce the perfect horse for the cavalry officer, who, for his safety and efficiency in combat, depends so largely on the handiness and obedience of his charger” (Wynmalen 1938, 29-30).

Figure 80
Attic Red-Figure Krater of a boy getting onto a horse
mid-fifth century B.C.
(British Museum, 1836,0224.192) ©Trustees of the British Museum

Most horses in the ancient world were broken at three years of age. Xenophon does not give us an age for the horse to be broken, but the Roman author Varro, writing in the first century BC, testifies to three years. Just as we follow Xenophon's advice after 2,500 years, it is not unreasonable to assume that the Romans followed the Greek method of breaking a horse. Because it was such a commonplace practice, Xenophon felt it unnecessary to give us the horse's age. Varro also recommends handling the foal while young and accustoming it to the various noises of everyday life (Varro *Rust.* 2.7.12-14). At three years of age, as soon as the horse is easy to handle, a young lad should lie across its back a few times. The next step is for the young boy to sit astride the horse (Figure 80). This is the same practice followed today.

It takes at least 4 to 6 weeks to break a horse to a basic level, a further 6 weeks to bring it to a stage where it could perform with other horses, and longer to achieve a standard desirable for a cavalry mount (Hyland 1990, 106). It is very common to have a qualified horse breaker and trainer in all areas of equestrian activity. In Ireland today, most racehorse trainers send their newly acquired, young horses to a *breaker's yard*. This has become a very profitable business in the last twenty years giving jobs to horsemen who do not want to ride professionally as

jockeys or become racehorse trainers, while taking the stress of horse breaking away from the racehorse trainers.

Xenophon advises the cavalryman to make a contract in writing with the trainer so that the horse will come back having learned all that the owner required. (Xen. *Eq*. 2.3). Richardson feels that Xenophon advised this because he "most likely had come across bands of itinerant breakers while he was a mercenary for the Persians, and knew something of their unscrupulous practices" (Richardson 1998, 36). Alternatively, this could reflect the aristocratic mistrust of the *professional* classes prevalent at this time.

However, before the young horse goes to the trainer, it must be "gentle, tractable and fond of man" (Xen. *Eq*. 2.3). This is the job of the groom: to condition the horse in such a way that it associates bad things, such as hunger and thirst, with solitude, and good things, such as eating, drinking and relief from irritation, with man (Xen. *Eq*. 2.3). In this way, the horse will learn to like men and even to "hanker after them" (Xen. *Eq*. 2.3).

The groom must also accustom the horse to all sorts of sights and noises and teach him, with great patience, not to be afraid (Xen. *Eq*. 2.5).

> *As with all grazing animals that rely on a speedy escape route, horses see not only to the front but to the side and partially to the rear as well. Their natural inclination is to run from danger, which they normally construe as anything that looks strange, moves suddenly, smells obnoxious, or sounds threatening. Part of a cavalry horse's training would be to accustom him to these things* (Hyland 1990, 107).

Figure 81
Parthenon West Frieze
Slab XII
©Acropolis Museum,
Athens

Moore cites the filly on the Parthenon Frieze as an example of a groom allowing his charge to become accustomed to the noise of the Panathenaic procession, even though she is not taking part (Figure 81). “So far, this horse seems to have learned her lessons very well. She is calm, relaxed and seemingly unbothered by her obviously noisy and unpredictable surroundings” (Moore 2003, 41). She is so relaxed that she pauses to scratch her nose on her leg.

Xenophon probably learned the importance of this training during his time in Persia. Aelian describes something similar when discussing how the Persians trained their horses for war:

> *In order that their horses may not panic, the Persians accustom them to noises and the clang of bronze, and sound them, so that in war they may never be afraid of the rattle of full armour and the clash of swords upon shields. And they throw dummy corpses stuffed with straw beneath their feet in order that they may get used to trampling on corpses in war and may not through terror at some unnerving occurrence be useless in encountering men-at-arms* (Ael. *NA*. 16.25).

If such practices were in use at Athens, I would assume that these would be taught by the trainer, not the groom, as they involve advanced techniques.

Turning things around, an example of why not to accustom your horses to the sound of music is the story of the defeat of the Sybarites by the men of Croton, given by Athenaeus, and derived from Aristotle’s *Constitution of Sybaris*. Athenaeus relates that, to amuse themselves, the Sybarite cavalrymen trained their horses to dance to pipe music. Armed with pipes, an invading army from nearby Croton assailed the Sybarite cavalry with music. When the horses heard the music, they began to dance and deserted to the people of Croton with the riders on their backs (Ath. 520 c-d, see also Ael. *NA*. 16.23). This story, of course, should not be taken on face value. By the fifth century BC, Sybaris was seen as the archetype of a city that “bred an indolent upper class devoted to self-indulgence” (Brown 1963, 41). Herodotus cited their lack of religious observances, and ominous signs which they chose to neglect, as a powerful role in their destruction (Hdt. 5.44.2). Another negative perception of Sybaris in the fifth century BC was the fact that the city was ruled by a tyrant, Telys (Evans 2014, 12). The destruction of the Sybarite cavalry as they danced to music connotes a whole socio-political stratum of the city, as the

cavalry represented the wealthiest of the city and would have been the main supporters of Telys. “Later Roman writers were able to expand on this theme especially noting the coincidence of the date - real or invented - that placed the end of Sybaris in the same year as the fall of tyranny at Athens and the tyrannical kingship at Rome. This congruence is almost certainly invented but became a useful moralising passage in the hands especially of the writers of the Second Sophistic (second century AD)” (Evans 2014, 17).

The trainer would also have to accustom the horse to various smells. A good example is the way the Macedonians used dummy elephants smeared with unguent to make their horses familiar with them and their smells:

> *Also, in order to make sure that the beasts should not prove a source of terror to the horses, he* [Perseus] *constructed images of elephants and smeared them with some kind of ointment to give them a dreadful odour. They were terrible both to see and to hear, since they were skilfully arranged to emit a roar resembling thunder; and he would repeatedly lead the horses up to these figures until they gained courage* (Dio. Cass. 20.1).

As previously mentioned in Chapter 3 (see section 3.2), an example of the power of smell on horses is related by Herodotus. When Cyrus went to fight Croesus and his Lydian cavalry in 547/46 BC, he placed his baggage camels in his front line, a presence which did not disturb the Persian horses who were well used to the camels. However, the Lydian horses, with no experience of the look or smell of these strange animals, were frightened to the extent that they became uncontrollable and the Lydians were defeated (Hdt.1.80.2-5).

The horse would also have to learn to cross water. Horses naturally swim, but sometimes are unhappy to enter deep water. Tacitus describes the Batavian cavalry force:

> *They* [the Batavians] *had also at home a select body of cavalry, who practised with special devotion the art of swimming, so that they could stem the stream of the Rhine with their arms and horses, without breaking the order of their squadrons* (Tac. *Hist*. 4.12).

They would also have to learn to jump small walls and ditches:

> *After this, I* [Ischomachus] *usually mount my horse and go through exercises, imitating as closely as I can the exercises needed in warfare. I avoid neither slope nor steep incline, ditch nor watercourse, but I use all possible care not to lame my horse when he takes them* (Xen. *Oec*. 11.17).

It is hard for a horse to judge the depth and width of a ditch without training. In a battle situation, this could prove fatal for the rider, as an untrained horse would stop to look at the ditch. Then, instead of jumping the ditch in the forward movement of a smooth arc, the horse would jump straight up in the air, in a movement known as a *deer leap*, unseating the bareback rider in the process.

Even though there is not much detail in Xenophon as to the training of horses, we can get a sense of it through other, later writers, and from what we know of training horses today. As can be seen from the examples above, the basic elements in the training of horses have remained the same for the past 2,500 years.

4.5.3 Buying a Horse

In Book 3, Xenophon lists the criteria to look for when buying a horse that is broken and riding. First is the age of the horse. "A horse that has shed all his milk teeth does not afford much ground for pleasing expectations, and is not so easily got rid of" (Xen. *Eq*. 3.1). "Between the ages of ten months and five years the milk incisors and milk back teeth become replaced by permanent teeth, tushes spring up in the males horses, and three more back teeth make their appearance behind the first three back teeth on each side of each jaw, the total being forty" (Hayes 1969, 49; Varro *Rust*. 2.7.2-4)) (Figure 72). Pelagonius wrote in *Ars Veterinaria*:

> *At two and a half the middle teeth in the upper jaw erupt. At four years of age the teeth called canine erupt. In his sixth year* [as a five year old] *the first change occurs. At seven all the teeth fill up. Nor after seven can the age be verified unless the man is very experienced* (*Ars Vet. Int. I.* cited in Hyland 1990, 46).

A horse with no deciduous teeth would be over five years old, and, as most horses were broken at three years of age, a horse over five years would have had two years to, perhaps, acquire very bad habits. So, for the buyer, it is a case of *caveat emptor*. I imagine that horse dealers in the ancient world were no more honest than

the horse dealers of today (Delebecque 2008, 46, n.4); the difference is that horses of today generally come with passports that tell their age, making the art of telling the age of a horse by its teeth redundant.

Next, the horse should be tested to see how he accepts the bit and the bridle. This should be tested by asking the seller to take the bridle off and put it back on again (Xen. *Eq*. 3.2). If the horse tries to avoid the bit either by tossing the head, or refusing to open its mouth, the horse should be rejected at once. The ready acceptance of the bit and bridle would be of vital importance on the field of battle where the horse would need to be ready at a moment's notice. There would be no time for a horse who tried to evade having the bridle put on by tossing its head or clamping its jaw.

Xenophon then advises the purchaser to test the horse's reaction to being mounted by a rider. "For many horses will not accept a thing if they know beforehand that, if they accept it, they will be forced to work" (Xen. *Eq*. 3.3). Apart from the laziness factor, a horse with a sore back will resist being mounted, and his sore back would make him unfit for cavalry work. It is also important to know that the horse will not rush off as soon as the rider attempts to mount. This would be a definite drawback, if not lethal, in a battle situation.

Once mounted, Xenophon advises the rider to make sure the horse is willing to leave his companions and act as an individual, and that he will not bolt for home whenever possible (Xen. *Eq*. 3.4). This is very important on manoeuvres as a cavalryman may be asked to do something away from the main cavalry, and he needs to know that his horse will obey, especially under battle conditions.

While on the horse, the rider must check the horse's sensitivity to the bit (Xen. *Eq*. 4.5). Xenophon recommends this be done by riding the horse in a figure of eight, as this will test both sides of the mouth (Xen. *Eq*. 3.5). If the horse is unresponsive on either side, it is a sign that the bars on that side have been damaged and, as this fault can never be repaired, this horse should be rejected as a cavalry horse. Xenophon also recommends galloping the horse at full speed and trying to pull him up to a standstill: a manoeuvre very necessary in a battle situation (Xen. *Eq*. 3.5). Finally, it is important to see if the horse is "roused by a blow". If not, the horse will be useless, just as "a disobedient servant and a disobedient army are of course useless" (Xen. *Eq*. 3.6). He compares a disobedient horse to a traitor who will lose the war for you.

To prove that the horse's "spirit is strong and his body sound", it is important to test the horse over the terrain that one meets in wartime. Therefore, he must be ridden up and down hills, over ditches and walls and up and down banks. This is also alluded to in the *Oeconomicus* when Isochomachus exercises his horse (Xen. *Oec.* 11.17). In the *Cavalry Commander*, Xenophon also stresses the use of exercises over varied terrain for the cavalryman and his horse (Xen. *Eq.Mag.* 1.5, 1.18, and 8.3). Even though the horse is a natural jumper, he must learn how to do it with the rider on his back. As this involves the horse learning how to use his muscles in different ways, Xenophon advises not to reject a horse that "is not perfect in these trials" (Xen. *Eq.* 3.8). He realizes that this lack of perfection can be due not to a want of ability but a lack of experience. Xenophon recognizes here that one of the fundamentals of successful horse training is repetition to the point of habituation (Boot and McGreevy 2013, 374). With proper teaching and discipline, a horse can learn to cross over the varied terrain that needs to be crossed in a battle situation. The horse will also be more useful for reconnaissance, if it is proficient and swift over the terrain.

However, a shy, timid horse is to be avoided, "timid horses give one no chance of using them to harm the enemy, and often throw their rider and put him in a very awkward situation" (Xen. *Eq*. 3.9). As discussed in section 4.5.2, a cavalry horse must be desensitised to the conditions of battle, otherwise, its instinctive reaction would be to bolt in the opposite direction, or unseat the rider by coming to a sudden halt.

A horse that "has any vice towards horses or towards men" can prove "troublesome to the owner" (Xen. *Eq*. 3.10). Because of the possible disruption caused on the march, in cavalry drills, or during battle, a horse that is prone to bite or kick could not be tolerated. This is also highlighted in the *Cavalry Commander* where Xenophon states "and horses that kick when mounted must be got rid of, for such brutes often do more mischief than the enemy" (Xen. *Eq.Mag.* 1.4). Xenophon also mentions avoiding a horse that will "not stand tickling" (Xen. *Eq.* 3.10). Often a horse that is ticklish will respond with either a kick or a buck; both of which are detrimental to the smooth operation of the cavalry.

As a final test of the horse, Xenophon recommends taking the bridle off the horse after the completion of its work, and then putting it back on again to see if it is willing to go on again for more work. "All horses that are willing after their work to

do another spell thereby give sufficient proofs of a patient temper" (Xen. *Eq*. 3.11). Such willingness of spirit would be especially desirable in a cavalry horse; after a long march and short rest, a horse might be asked to go straight into battle.

Book 3 ends with a summary of the most desirable traits of the cavalry horse. Xenophon has given a comprehensive outline for the purchase of a good mount, which has stood the test of time. The horse must have sound feet and have a good temperament as well as having speed. "Obedience is the asset Xenophon required most, allied to which he demanded soundness, gentleness, adequate speed, endurance and willingness" (Hyland 1993, 31). He goes on to describe the horses at each end of the horse temperament spectrum - the lazy horse at the bottom and the highly spirited one at the top - as being too demanding on the rider and, through the rider's loss of confidence in it, the most dangerous to the cavalryman's welfare and a liability to the entire cavalry. This lack of confidence can become infectious in a troop of cavalry, leading to the majority of the horses refusing to go forward, or whirling and fleeing, both actions fatal in a battle situation.

4.5.4 The Stables

Book 4 looks at the physical set up of the stables for the horse. Unfortunately, no archaeological remains of ancient Greek stables have been definitively identified to date, although claims are made for stables at several sites (Isager and Skydsgaard 1992, 83-4; Moore 2004, 37). Also, we have no systematic description of Greek stables in the literature. The word *stable* often refers to the area that contains the stalls, fodder and all items necessary for the care of the horse, but it can also be used to denote the straight or box stall which houses the horse. Vitruvius, writing on Greek mansions tells us:

> *The Greeks, not using atria, do not build as we do; but as you enter, they make passages of scanty width with stables on one side, and the porter's rooms on the other; and these immediately adjoin the inner entrance* (Vitr. *De Arch*. 6.7.1).

In Book 4, Xenophon gives some idea as to the relative position of the stable to the house:

> *When a man has found a horse to his mind, bought him and taken him home, it is well to have the stable so situated with respect to the house that his master can see him very often; and it is a good plan to have*

> *the stall so contrived that it will be as difficult to steal the horse's fodder out of the manger as the master's victuals from the larder. He who neglects this seems to me to neglect himself; for it is plain that in danger the master entrusts his life to his horse* (Xen. *Eq*. 4.1).

Naturally, fodder in a city situation would have been a valuable commodity and Xenophon is well aware that it would be much harder for a thief to steal the fodder, if those in the main house have a clear line of sight to the stable. The theft of the actual horse would have been less of a concern, because most horses in the cavalry were branded and registered (Jones 1987, 151; Kroll 1977a, 85-9).

Pomeroy (1994, 312) believes that there is no reason why Ischomachus' horse in the *Oeconomicus* could not have been stabled in a closed area on the ground floor or in the courtyard of Ischomachus' house. A stable would not have to be large, and with the value of the animal and its fodder in mind, it was best to have it within the safe confines of the home.

Turning to possible archaeological evidence for stables, there is an example from the excavations at Epirus in north-west Greece, the Kassope home 5, dating from the mid fourth century BC. A single door on the house's western side leads into a small court. A doorway to the right of the court gives access to what was probably a workshop. The doorway to the left of the court leads to two rooms which Hoepfner and Schwandner (1994, 156-9) identify as stables (Figures 82 and 83). There is then another door which opens into the main house, suggesting these two rooms have a separate function to those of the main dwelling. The two rooms measure 3m x 4m each.

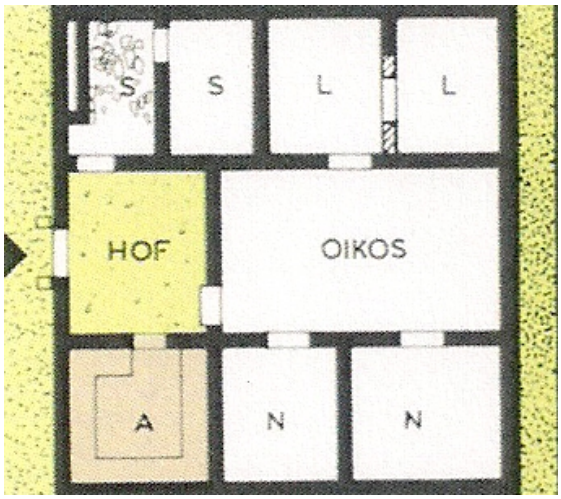

Figure 82
Kassope, Home 5
A = Andron
O = Oikos
L= Utility Room
N = Neighbouring Room
S = Stable
Hof = Court
(Hoepfner and Schwandner 1994, 157)
(Drawing by kind permission of Wolfram Hoepfner and Ernst-Ludwig Schwandner)

Figure 83
Kassope, Home 5
Interior showing the paved manger of the stable
(Hoepfner and Schwandner 1994, 154)
(Photo by kind permission of Wolfram Hoepfner and Ernst-Ludwig Schwandner)

Another possible stable can be identified in the *House of the Star Mosaic* at Olynthos in Chalcidice (excavated between 1928-1938). Located in the northwest corner is a long rectangular room measuring 5m x 2.5m floored with slabs of stone - nine large slabs down the middle with a number of smaller slabs against the sides. In the northwest corner there is a square hole in the floor along with other holes. Robinson (1930, 41) believes they may have been used for mangers and that "the room would probably not be a latrine or lavatory, but a stable used for animals" (Figure 84).

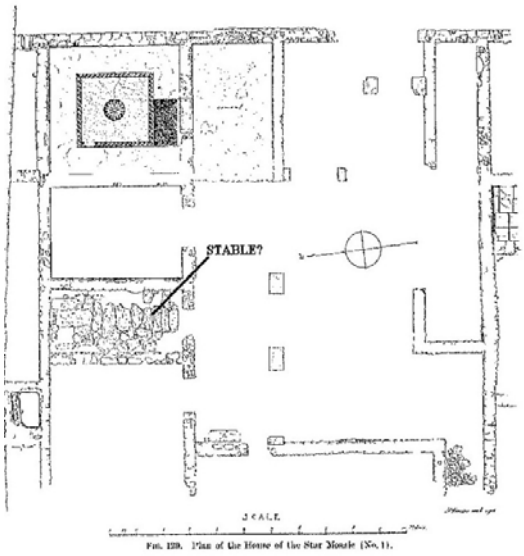

Figure 84
House of the Star Mosaic, Olynthus
(Robinson 1930, Fig.120)
(Drawing by kind permission of David Robinson)

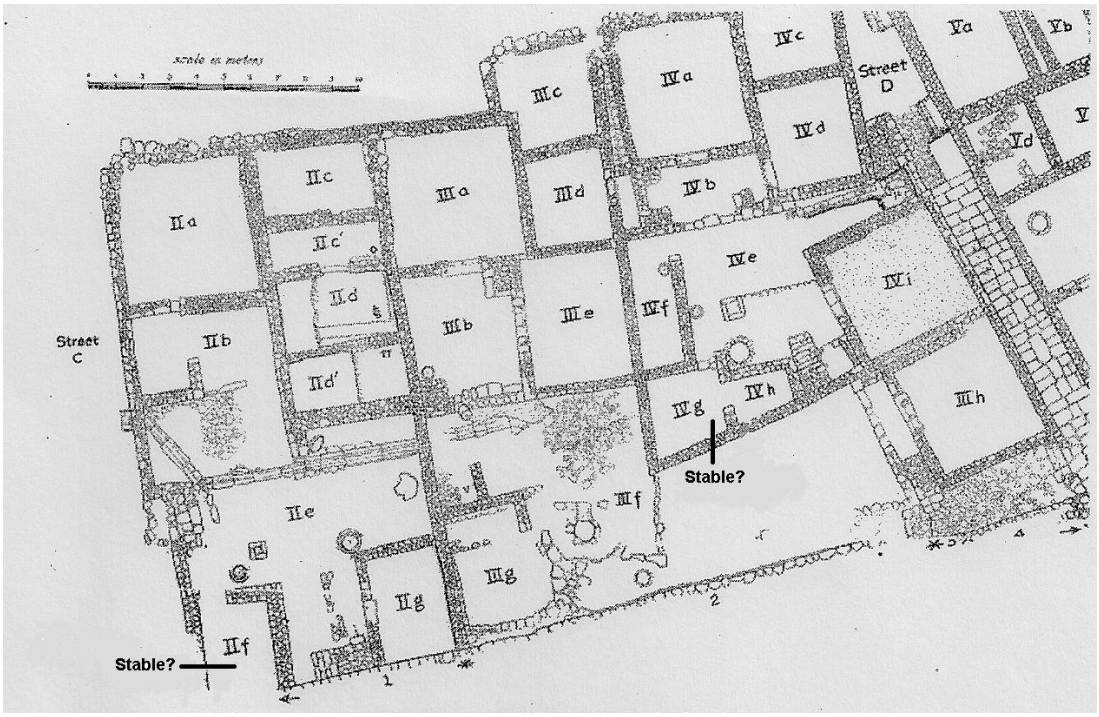

Figure 85
Stables at Colophon
(Holland 1944, Pl.11)
(Drawing by kind permission of the American School of Classical Studies at Athens)

Possible stables have been identified at two fourth century houses at Colophon (in Asia Minor). In the block of houses between streets C and D (Figure 85), the south side of the court in the east house (IV) is faced by a two-roomed structure (IVg\IVh). The courtyard doorway to IVg has only irregular poros blocks as a threshold, while the inner doorway to IVh has no sill at all. Holland believes that the rooms probably served as a stable and storage shed (Holland 1944, 127). IVg measures 2m x 2m and most probably served as a stable with the smaller room, IVh, used for storage. Both the wall stones and door jamb of room IVh are of an unusually large size and Holland (1944, 128) suggests "that the inner door may have been designed to resist hoof blows". The west house (II) has a room built in the southeast corner of the court against the terrace wall. This room (IIf) measures 2.6m x 3.4m on the inside and has no threshold to the door. Holland (1944, 128) believes this to be either a simple storage shed or a stable.

Today, the recommended size for a box stall is 3.7m x 3.7m (Smith 1967, 17-18; Hayes 1968, 189; Hyland 1990, 95). However, the size necessary for a small horse or pony is 3m x 3m (Smith 1967, 17) or 2.7m x 2.7m according to Teagasc, the Irish Agriculture and Food Development Authority (Teagasc 2010, 7). All of the

rooms mentioned above - Kassope, 3m x 4m; Olynthos, 5m x 2.5 m; and the two rooms at Colophon, 2m x 2m and 2.6m x 3.4m - could possibly have been stables, certainly for ponies, but none can be conclusively be proven to be so.

Turning to art, Moore finds evidence for stables in three depictions on Late Geometric pots where peculiar L-shaped objects can be seen above the horse's back.[14] The first is on the body of a neck-amphora attributed to the Benaki Painter c. 710 BC (Figure 86), the second on a neck-amphora from the workshop of Athens c.710-700 BC (Figure 87) and the third the namepiece of the Master of Argos c.700 BC (Figure 88). A fourth example is a Late Geometric Argive Pyxis (Figure 89). They all feature an L-shaped object above the horses, some with birds perched on them. Moore suggests that these refer to the wooden beams or rafters of a stable where birds would be natural visitors, as they are in stables today (particularly sparrows and swallows). Another possibility is that these objects represent the open window in a stable with the birds perched on the sill.

Figure 86
Late Geometric neck-amphora attributed to the Benaki Painter.
(The Metropolitan Museum of Art, Rogers Fund 1910, 10.210.7)
(www.metmuseum.org)

[14] Moore 2004, 60 fn23, provides further examples of pottery with L-shaped objects with birds perching on them above the backs of horses. These objects are also noted by Boardman 1983, 20, who was not sure what they represented but suggested they were structural or possibly to do with paving.

Figure 87
Neck of neck-amphora attributed to a painter from the Workshop of Athens showing two horses in a stable, c.710-700 BC (Archäologischer Anzeiger 1969, 137, fig.1) (Photo by kind permission of Karl Kübler)

Figure 88
Detail of Side A of krater, the namepiece of the Master of Argos, showing man holding horse in a stable, c.700 BC (Archaeological Museum of Argos, C.201)
Photo ©EFA/E. Serafis

Figure 89
Detail of an Argive pyxis (Nauplion) ©Nauplion Archaeological Museum

On Side A of the Amasis Painter's cup c. 540-530 BC (Figure 90), there are five Doric Columns supporting a metope-triglyph frieze, which, for Moore, indicate a stable (Moore 2004, 39). Each horse is tied to a column at about head level as suggested by Xenophon (*Eq.* 5.4) and is being groomed prior to harnessing (see section 4.5.5).

Figure 90
Detail of Side A of black-figured cup attributed
to the Amasis Painter showing
the Stable of Poseidon, C. 540-530 BC.
(The Metropolitan Museum of Art,
Gift of Norbert Schimmel Trust 1989.281.62)
(www.metmuseum.org)

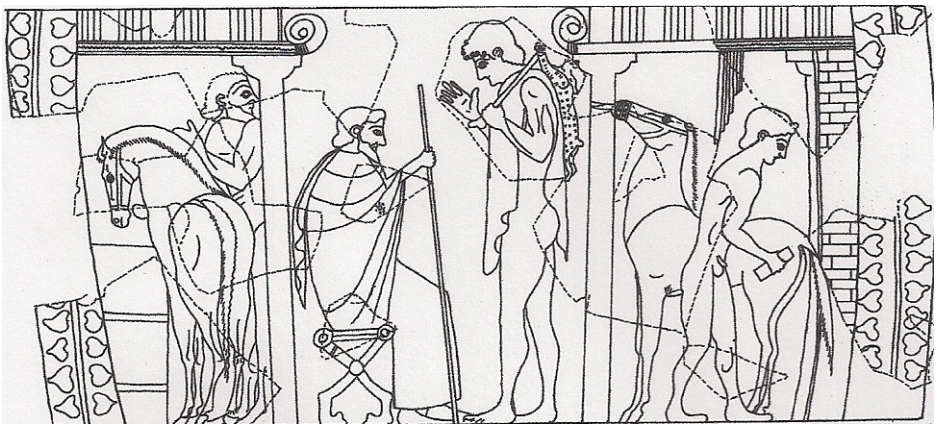

Figure 91
Reconstruction drawing of the panel on the body
of an Attic black-figured hydria attributed to
the Antimenes Painter showing a stable scene, ca. 520 BC.
(Private collection, New York)
(Drawing by kind permission of Mary B. Moore)

A fragmentary hydria attributed to the Antimenes Painter c. 520 BC (Figure 91), in three sections, depicts a comparable scene. The section to the left shows a horse probably being fed or watered, while the section to right shows a horse tied up ready to be groomed. Architectural frameworks to the left and right have Doric columns supporting an architrave. The tall rectangular object decorated with two pairs of lines seems to denote a drinking trough or manger.

Figure 92
Detail of Side A of an Attic black-figured amphora Type A attributed to the Priam Painter, (Ashmolean Museum, 212) ©Ashmolean Museum, University of Oxford

On side A of the Attic black-figured amphora attributed to the Priam Painter, c. 510 BC (Figure 92) showing the harnessing of Athena's horses, three large Doric columns represent the stable (Moore 2004, 40-1).

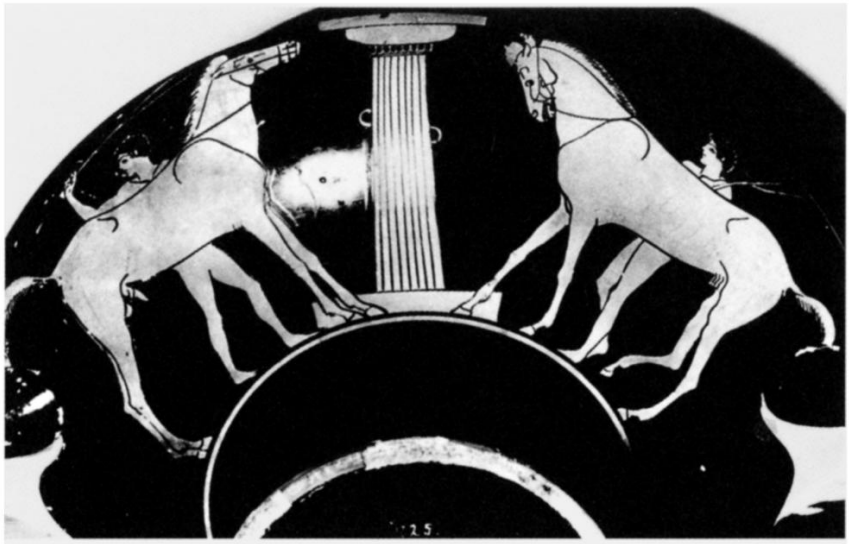

Figure 93
Detail of Side B of an Attic red-figured cup
attributed to Onesimos
showing youths and horses in a stable, c. 490 B.C.
(Photo by kind permission of Staatliches Museum Schwerin)

On another cup, this time by Onesimos (early fifth century BC) (Figure 93), a Doric column indicates the stable. Rings for tying the horses are visible on the upper half of the column.

Again, no ancient manger has ever been found in Greece, as presumably they would have been made of wood. Each stable or individual stall would have a manger to contain the food necessary for the horse - the fodder and the grains. Four basic types seem to be represented on Late Geometric vases:

1. Cauldron-shaped on a stand (Figures 87 and 94)
2. T-shaped (Figures 88 and 95)
3. A rectangle supported by a post (Figure 96)
4. Attached to the wall (Figure 97) (Moore 2004, 42-5 and Boardman 1983, 27)

All would be suitable for the feeding of a horse.

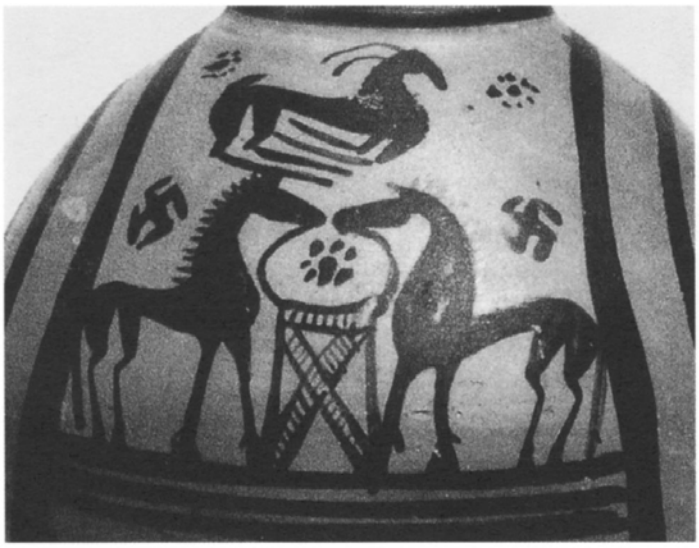

Figure 94
Detail of oinochoe attributed to a painter from the Concentric Circle Group showing two horses at a manger, c. 720-710 BC.
(British Museum, 1920,1014.4)
©Trustees of the British Museum

Figure 95
Detail of Side A of krater, the namepiece of the Master of Argos,
showing man holding horse in a stable, c.700 BC
(Archaeological Museum of Argos, C.201)
Photo ©EFA/E. Serafis

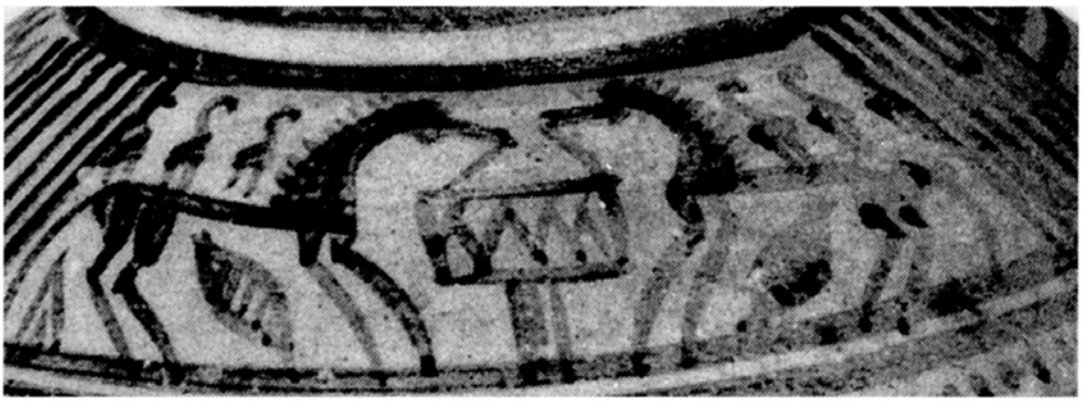

Figure 96
Detail of the shoulder of a Late Geometric Argive neck-amphora
attributed to a painter related to the Verdelis Painter,
showing two horses at a manger, c. 700 B.C.
(National Archaeological Museum, Athens)
©Hellenic Ministry of Culture and Sports/Archaeological Receipts Fund

Figure 97
Detail of the shoulder and body of a Euboean krater
showing horses at their mangers and horses grazing, c. 750-740 BC.
(The Metropolitan Museum of Art,
The Cesnola Collection,1874-76, 74.51.965)
(www.metmuseum.org)

Xenophon stresses the importance of noting if the horse is eating up his food or throwing it out of the manger. The latter can be a sign of an ailment. He mentions *colic* as one of these. He is correct in that *colic* is a very serious condition that can cause a horse to reject food and lead to its death. *Colic* is "a general term given to abdominal pain in the horse" (Hayes 2002 46). Horses, unlike humans, are unable to

vomit when in abdominal pain. The oesophagus in humans and horses acts like a one-way valve for all food entering the stomach. In humans, however, the oesophagus does not really work, and is not strong enough to hold back material vomited up from the stomach. In horses, the muscles around the oesophagus are so strong that the stomach of the horse will rupture before the oesophagus will yield (Hastie 2001, 291-298). There are well over 70 types of *colic* but the four most common are:

1. *Spasmodic Colic* caused by a spasm in the muscular wall of the intestine.
2. *Impactive Colic* caused by the impaction of food material in the large intestine.
3. *Gaseous Distension* caused by the fermentation of food material.
4. *Intestinal Catastrophy* where there is a twisting of the intestines, cutting off the blood supply and usually resulting in the death of the horse (Hayes 2002, 46-47).

Xenophon does not make any distinction between the different types of *colic*. However, he notes that, as with men, it is easier to cure all illnesses at an early stage, rather than letting them become chronic.

The floor of the stable and stall must be kept as dry as possible. In order to do this, Xenophon recommends that the floor be sloped to carry off fluids. Today a fall of 1:48 is recommended (Cooper 2007, 130). This is important as "a urine-soaked surface can lead to *thrush*, or to respiratory problems from breathing ammonia vapors" (Strickland 2001, 1). *Thrush* "is a degenerative condition of the *frog* [of the horse's foot] which results in the accumulation of black, foul-smelling, moist material in the *frog* clefts. The condition usually develops due to poor hygiene, failure to clean the feet regularly, and leaving the horse standing in dirty, moist conditions" (Hayes 2002, 294-295). The stable floor should also be covered with stones, "each one the size of a hoof" (Xen. *Eq.* 4.3). Cobbled floors have been in use up to modern times and are to be found in the stables of many old country estates in Ireland and England to the present day. They not only allow any moisture to seep down under them, leaving the top dry, they also are good for the horse's hooves. The stones would have the duel action of keeping the hooves dry and hard.

The stable yard must also be cobbled with stones "the size of a fist, about a pound in weight" (Xen. *Eq*, 4.4). While the groom rubbed down the horse, the horse

would stand on the cobbles, stamping now and again to get rid of flies, and this would have the same effect as if the horse were being ridden on a cobbled road. Because the stones used are rounded, they would also get the *frog* used to the effects of the impact on a cobbled road or the hard ground when on campaign.

Book four ends with Xenophon advising that just as a groom should harden the horse's hooves, so he must work to soften the horse's mouth. "This is done by the same methods as are employed to soften human flesh" (Xen. *Eq*. 4.5). Pollux advises rubbing the bars on the inside of the horse's mouth with the fingers, washing the mouth and lips with warm water and anointing them with oil (Poll. 1.201) (Figure 72). On paper this sounds like a good idea, but Xenophon's advice is wrong here. A horse's mouth becomes hard by the use of harsh bits and riders with unforgiving hands. As Cooper explains in *The Manual of Horsemanship*:

> *The bit lies across the tongue and on the bars of the mouth, which are extremely sensitive, as they are thinly covered with skin containing a mass of nerves. These nerves easily become numbed; then the feeling in the mouth is lost. Finally, the nerves may be destroyed and the bars may then develop splint-like bony lumps. When this happens, the mouth is permanently damaged and the horse is referred to as 'hard-mouthed'* (Cooper 2007, 309).

Once the bars of a horse's mouth become hard, because of the bruising from the bit, there is no way to soften them again. The harder the horse's mouth becomes, the harder it is to control him with the bit, as he no longer can feel any sensation from it (see section 4.5.1).

4.5.5. The Groom

Xenophon remarks in Book 5 that "it is the mark of a good horseman, in our opinion, to see that his groom, like himself, is instructed in the way in which he should treat the horse" (Xen. *Eq*. 5.1). Here Xenophon again shows his wisdom and compassion in the way he directs the horseman to ensure that his horse is well cared for.

He begins with the halter and advises that there never be a knot in it up near the horse's ears. It is interesting that he should mention a *knot*, as this would imply that they had not yet developed a buckle system to adjust their halters (Anderson 1961, 43). A knot could develop a sore on the horse's head and, in turn, lead to a

horse that resists a halter, muzzle or bridle. Xenophon recommends that the horse wear a muzzle at all times when not wearing a bridle (Xen. *Eq*. 5.3). A muzzle would prevent him from biting and go “far towards preventing any propensity to mischief” (Xen. *Eq*. 5.3).

Early muzzles “were of the simple basket-like weave which went around a horse’s nose and mouth” (Hyland 2003, 58). They were made of rope, leather or wicker (Estallo 2011, 8). Later, they were made of “thin bronze perforated like a sieve, or of bronze wire or wicker” (Morgan 1894, 131). Figure 98 gives an example of a modern synthetic muzzle.

Figure 98
Modern Horse Muzzle from the side (left) and from the front (right)
(Best Friend Equine 2014, 1)
©Best Friend Equine Supply, Inc.

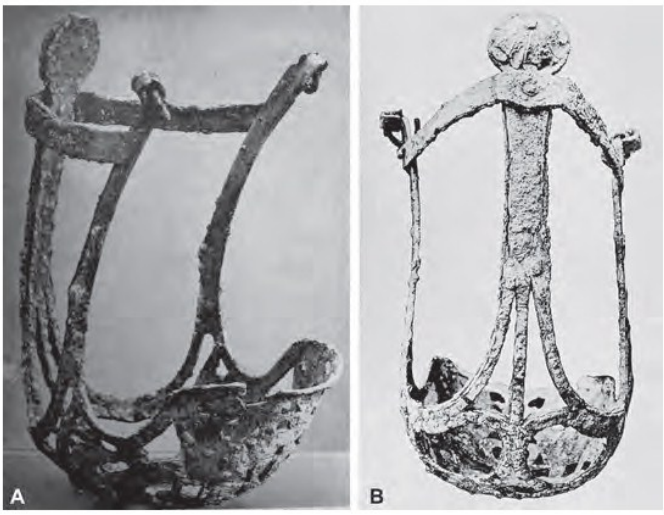

Figure 99
A (Side/Back) and B (Front) - Muzzle from Boeotia, fourth century BC
(Pernice 1896, Figure 1)

Figure 99 is an example of an ancient bronze muzzle found in a grave in Boeotia from the fourth century BC, now in the Staatliche Museum in Berlin. The muzzle would have been fixed to the horse's head with straps (Yalouris 1950, 33 fn.90). Pernice gives the measurements of this muzzle: from the rosette at the top to the bottom is 26 cm, the width between the side pieces is 12.5 cm and the diameter of the bowl at the bottom is 18.5 cm (Pernice 1896, 32 fn.2). This would make the circumference of the bowl of the muzzle 58 cm. This further backs up the theory that the ancient Greek horse was either a large pony or small horse (a *cob*[15]), as the circumference of the bowl of horse muzzles for sale today for a large pony or a *cob* is 58.42 cm (Figure 100) (see section 2.5).

Actual Muzzle Size	**Type of Horse**
Circumference 20" / 5.5" Depth (50.8 cm / 13.97)	**Mini** (fits larger miniature ponies, small Shetlands)
Circumference 22" / 5.75" Depth (55.88 cm / 14.60 cm)	**Pony** (average size ponies)
Circumference 23" / 7" Depth (58.42 cm / 17.78 cm)	**Cob (large ponies, cobs)**
Circumference 26" / 7.5" Depth (66.04 cm / 19.05 cm)	**Horse** (average size horse)
Circumference 28" / 8" Depth (71.12 cm / 20.32 cm)	**Large Horse**

Figure 100
Chart of Muzzle Sizes
(Available at: http://www.equinebarehoofcare.org/grazinmuzzlesizingform.doc.)
(Accessed: 17-04-14)

Figure 91, as reconstructed by Moore, shows the horse on the right side of the section tied to the column and the "straps of a muzzle clearly encase the animal's jaw to prevent him from nipping" (Moore 2004, 41). Another example is the horse in the centre/right in Figure 101. It can be seen clearly when compared with the drawing of Greek muzzles in Figure 102.

[15] A cob is "a short-legged animal with a maximum height of 15.1 hh" (Hendricks 1995, 476).

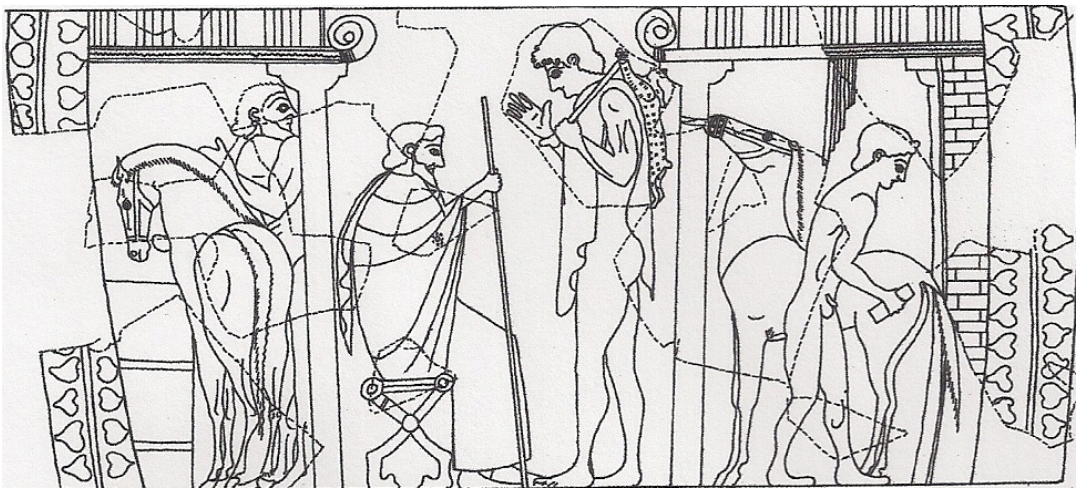

Figure 91
Reconstruction drawing of the panel on the body of an Attic black-figured hydria attributed to the Antimenes Painter showing a stable scene, c. 520 BC.
(Private collection, New York) (Drawing by kind permission of Mary B. Moore)

Figure 101
Muzzles on horses on black figure hydria attributed to the Priamus Painter.
Museo Arqueológico Nacional de Madrid, N. 10920
©Ministerio de Educación, Cultura y Deporte

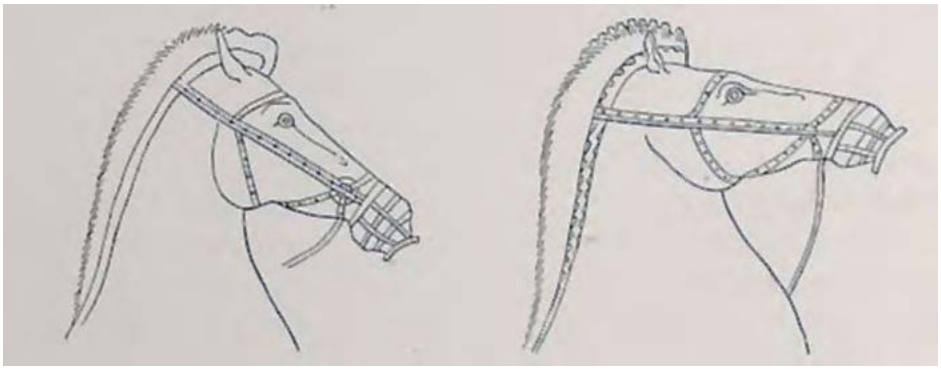

Figure 102 Greek Muzzles (Pernice 1896, 14)

The muzzle could be used with a halter or with a bridle. It was used primarily to stop a horse biting - either people or other animals. This would apply most often to stallions, as they are the most prone to biting. Given that muzzles were in daily use, combined with the evidence stated in section 4.5.1, all point to the conclusion that most cavalry horses were stallions.

A muzzle used over a bridle can also prevent the mouth from opening, thus making full use of the action of the bit. When on campaign, a muzzle would have been used to stop a horse from neighing and betraying the location of the cavalry. A horse can make some noise with a muzzle but not "a full neigh for which a horse distends his nostrils and usually opens his mouth wide" (Hyland 2003, 58).

Xenophon states that the groom must put on a muzzle when taking the horse "out to be groomed or to the rolling-place" (Xen. *Eq*. 5.3). It was customary in Greek times, as it is today, to give the horse a roll in sand after exercise. Horses like to roll for many reasons. In the spring, it helps them to lose their winter coat. After exercise, it allows them to rub those areas that may have been subjected to pressure, and the sand will cover any wet spots, allowing them to dry off quicker. But most of all, "rolling is also an act of sheer enjoyment, and is to be encouraged as natural, healthy, and relaxing" (Cooper 2007, 141). In the *Oeconomicus*, Isomachus has his slave give his horse a roll (Xen. *Oec*. 11.18). Pheidippides in Aristophanes' *Clouds* calls out in his sleep, while dreaming, for his slave to give his horse a roll after a horse race before leading him home (Ar. *Nub*. 32).

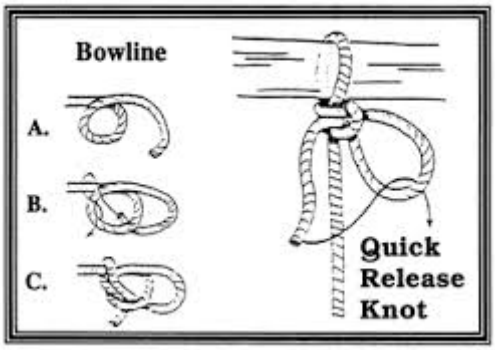

Figure 103
The quick release knot
(Moffitt 1989, 6) (Drawing
by kind permission of
Debbie Moffitt)

Figure 104
The quick release knot tied to
breakable twine
(Blocksdorf 2005, 1)
(Photo by kind permission of
Katherine Blocksdorf)

Xenophon recommends that the horse be tied up "at a place above the head, because when anything irritates his face, the horse instinctively tries to get rid of it by tossing his head upwards; and if he is tied thus he loosens the halter instead of breaking it by tossing up his head" (Xen. *Eq*. 5.4). This method of tying up a horse is illustrated in Figures 91 and 108, but is no longer in use. Today, you would tie your horse up at wither or eye-level, which would be considerably lower than the position espoused by Xenophon. A horse that is tied too high and with too short a rope is in danger of hurting his neck or back should he become distressed and try to pull back, or break loose and flee (Blocksdorf 2005, 1). There should be enough rope to enable the horse to look around, but not enough so that he could get his leg over the rope. In order to stop the horse breaking his halter, the rope should be tied using a *quick release knot*, so that anyone nearby can release the horse quickly (Figure 103) or by tying the horse to twine that will break easily if the horse begins to struggle (Figure 104) (Cooper 2007, 120).

Next, Xenophon addresses the rubbing down or grooming of the horse. He wisely recommends starting with the head and working your way back along the horse's body, "for if the upper parts are not clean, it is idle to clean his lower parts"

(Xen. *Eq*. 5.5). He mentions the *dressing instruments* by which are meant the grooming tools. Figure 105 illustrates the range of grooming instruments in use at the beginning of the twentieth century, which do not differ greatly from those used in antiquity.

Although not described by Xenophon, Pollux (1.185) gives us the following descriptions:

1. The *spathe* - a piece of wood shaped like a feather, used for cleaning the hair.
2. The *psektra* - made of iron with teeth like a saw used for combing.
3. The *sorakis* - made of the woven fibre of the date palm, hollow and empty to fit around the hand. It would smooth down the coat and leave it with a fine sheen.

The *spathe* would correspond to the brushes, numbers 1-3 in Figure 105 (Anderson 1961, 96). The *psektra* would be the curry comb of today, no. 7 in Figure 105, (Morgan 1894, 133) or a mane/tail comb, no. 6 in Figure 105. Both have teeth and are used for combing. The *sorakis* would correspond to the burnisher, no. 4 in Figure 105, used at the end of grooming to give a fine gloss to the coat.

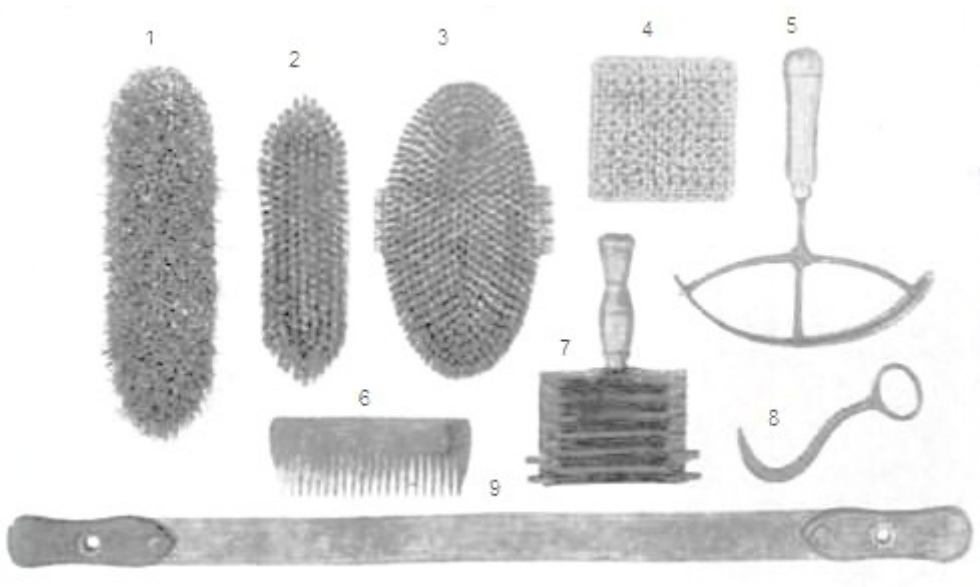

Figure 105
Grooming Tools
1. Dandy-brush 2. Water-brush 3. Body-brush 4. Burnisher 5. Half-moon sweat-scraper 6. Mane/Tail-comb 7. Curry comb 8. Hoof-pick 9. Double-handed sweat-scraper.
(Available at: http://chestofbooks.com/animals/horses/Stable-Management-Exercise/Grooming-Tools-And-Their-Uses.html.) (Accessed: 20-02-13)

Three examples of a *spathe* in ancient art are shown in Figures 106, 107 and 108. In the centre top of Figure 106, a groom is cleaning the back of his horse with a tool that could be a *spathe*. It looks to be made of wood and is in the shape of a feather with some sort of handle on it.

Figure 106
Stone panel from the North-West Palace of Sahurnasirpal, 883-859 BC.
(The British Museum, 124548)
©Trustees of the British Museum

Figure 107
Detail of the tondo of an Attic red-figured cup attributed to Onesimos showing an African groom blowing dust off a grooming tool, sometimes interpreted as a currycomb, c. 490 B.C. H. 9 cm. (The Metropolitan Museum of Art, Gift of Norbert Schimmel Trust, 1989.281.71) (www.metmuseum.org)

The groom in Figure 107 is blowing the dust from a tool that also fits the description of a *spathe*. Moore labels this as a currycomb, but I would be more inclined to think that it is a *spathe*, as there is no evidence of teeth and it does look to be in the shape of a feather. Figure 108 looks like a *spathe* with bristles or it could be a *psektra* with teeth.

Xenophon recommends that the groom get the dirt out of the coat by making *the hair stand up* (Xen. *Eq*. 5.5). Using a piece of wood, which may have grooves or bristles in it, the groom would make *the hair stand up* by working the hair against the way it would naturally lie. Finally, the hair would be smoothed down with the *sorakis.* The hair on the backbone is to only be smoothed with the groom's hands as it is a sensitive part of the horse, and it could be hurt with the use of a wooden or iron tool.

Xenophon observed that the forelock of the horse is used as protection for the eyes from flies or "anything that worries them" (Xen. *Eq*. 5.6). "The fore-lock is the front continuation of the mane. It is a very useful means of protection for a horse's eyes against the attacks of flies, and against the rays of the sun, the great mobility of its hairs prevents it from being an obstruction to the animal's line of sight" (Hayes 1969, 170). Xenophon thought that the gods had given the horse this hair, "as a protection for their eyes" (Xen. *Eq.* 5.6). It has been proven in modern times that this is indeed a function of the forelock. He also observed that the horse's tail worked in the same way and thought that "growth of the tail is to be encouraged in order that the horse may be able to reach as far as possible and drive away anything that worries him" (Xen. *Eq*. 5.7). Again he is in line with the modern definition of the function of the tail. "The chief function which the normal equine tail fulfils, is to drive away flies and other irritating objects which happen to alight on the hind legs, flanks, genital organs, and lower part of the abdomen" (Hayes 1969, 202). Both the forelock and tail would be especially valuable to the horse in a hot climate, such as Greece, with the accompanying flies and other pests that thrive in that environment.

Xenophon mentions in passing that the growth of the mane is also important to give the rider as good a hold as possible; very important when riding bareback. He also states that mares with long manes are reluctant to be covered by asses and "for this reason all breeders of mules [a cross between a mare and an ass] cut off the manes of mares for covering" (Xen. *Eq*. 5.8). This same story is repeated by Aelian:

> *And it is especially the asses of Libya which, being very big, mount mares that have no manes, having been clipped. For those who know about the coupling of horses say that a mare in possession of the glory of her mane would never tolerate such a mate* (Ael. *NA*. 12.16).

Plutarch:

> *It is like those that dock off their mares' tails and clip their manes, and then lead them to a river or pond; for it is reported, that when those mares perceive themselves so ill favourably shorn and disfigured, they lose their natural courage, and will afterwards suffer themselves to be covered by asses* (Plut. *Amat*. 9).

and Pliny:

> *It is recommended that the manes of mares should be cut, so as to humble their pride, in order to make them submit to be covered by the male ass; for when the mane is long, they are liable to be proud and vain* (Plin. *HN*. 10.83).

However, there is absolutely no scientific truth in this. But, it is a good example of the anthropomorphism found in ancient literature. The vanity and self image of aristocratic women at that time was intertwined with their long, flowing, carefully arranged and decorated hair. This was then projected onto the image of the female horse, the mare, and her well-cared-for, long mane. For both aristocratic women and well-bred mares, their hair was their "crowning glory, an ostentatious sexual symbol, artfully and proudly displayed to all, yet untouchable except by their authorized husband/rider or their specially designated maids/grooms" (Griffith 2006b, 310). Hair was an important part of a woman's life in ancient Greece. Hair was pulled out in a tragedy and cut off to honour a death (Kurtz 1971, 144). Women of humble status were portrayed in art with "short, cap-like hair" (Fantham 1994, 109). Aristotle states that "when mares have their manes shorn, their eagerness [for intercourse] tends to slacken off and they take on a somewhat hangdog appearance" (Arist. *Hist.an*. 6.572b.7-10). For the Greeks to produce mules, which were invaluable as beasts of burden, it was necessary to have a noble mare covered by a lowly ass. This brought to the ancient mind the fear of "the deeply repressed, and usually unmentionable, spectre of human miscegenation between male slaves and

free citizen women" (Griffith 2006b, 308). It is surprising that Xenophon would fall for this anthropomorphism. Perhaps the cutting of a mare's mane was unusual, and he sought an explanation for the practice and fell back on the folk wisdom of his time.

Finally, Xenophon advises against washing the legs or the belly of the horse which is a very common practice today. I should imagine it would not have been a common practice in ancient Greece as water would have been a valuable and rare commodity. However, I would have thought that horses near the sea or a river would have been taken for a swim to loosen any dirt. Today most stables, whether for racing or pleasure, have facilities for hosing down the horse, even in the winter, and most would have access to hot water for the job. The horse is then scraped, using tool no. 9 in Figure 103, to remove the water and then walked until dry. However, Xenophon is correct in that a full wash, including shampoo, is not recommended:

> *British weather, even in summer, is unreliable, and washing* [the horse] *removes the oils in the coat and skin which provide natural protection against rain, wind and flies. Wetness caused by rain will not penetrate through to the skin on a horse's back, nor will it affect the coat under his belly. However, shampooing or prolonged washing will wet the horse through to the skin all over his body, leaving him cold at the time and vulnerable to outdoor conditions for days afterwards* (Cooper 2007, 209).

Most often a quick wash with a sponge of the back, belly and legs, with the use of a scraper to remove excess moisture (except on the legs), is sufficient to keep a horse clean after exercise.

Xenophon is correct when he states that the head should only be washed with water, as using a grooming tool would hurt the horse (Xen. *Eq*. 5.6). A horse's head, which is more sensitive than the rest of the horse, must be treated with care. A brush is too severe to use on the horse and, if using one, it would be hard to keep dirt from being brushed into the eyes.

Book 6 opens with advice on how to stand when grooming a horse so as to keep out of danger of the horse's limbs. The groom should always face towards the rear of the horse and approach the horse at the shoulder (Xen. *Eq*. 6.2-3, Cooper 2007, 54). If you are standing at either the front or the back of the horse, you are at the mercy of the horse if he either wishes to lunge forward or kick back (Xen. *Eq*.

6.3). However, Xenophon's instructions are not always carried out, as can be seen in a drawing by Walpole of a fragment of a black-figured cup (Figure 108). The stance of both grooms is incorrect and dangerous. The one cleaning the horse's hoof is in grave danger of getting the hoof into his face, being knocked down, and perhaps trod on by the horse. The groom on the right stands directly behind the horse, with complete disregard for the advice of Xenophon, and is in danger of getting kicked by both hind legs. However, it is interesting to note that both horses are tied up and muzzled as recommended by Xenophon.

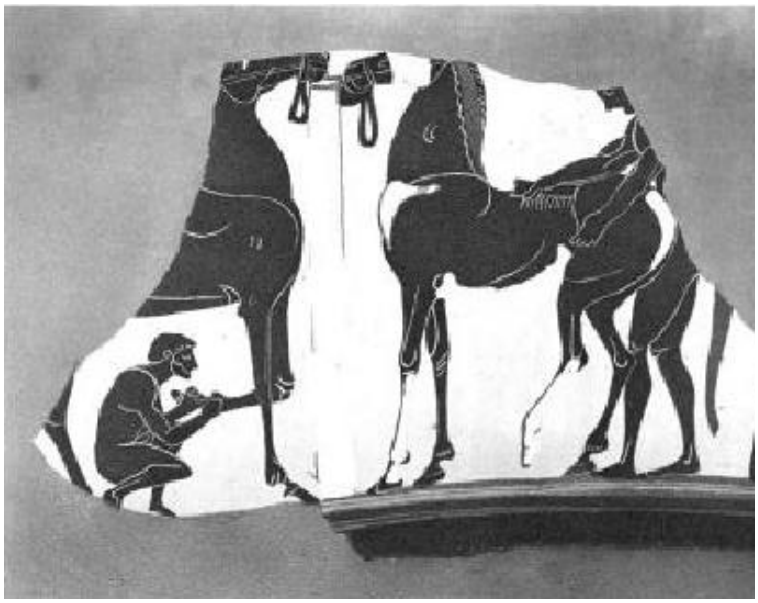

Figure 108
Drawing of a shard of an unattributed Attic black-figured cup showing horses being groomed, c. 520- 500 B.C. Whereabouts unknown (Walpole 1817, 322)

Leading the horse should be done from the side, "a horse that is accustomed to being led from the side will have least power of doing harm either to horses or to men, and will be in the handiest position for the rider should he want to mount quickly" (Xen. *Eq*. 6.6). A horse that trails behind is free to do whatever he likes, as can a horse who is in front on a long lead. Today, the Official Manual of the Pony Club advises that a horse be taught to lead from either side (Cooper 2007, 123).

To put on the bridle, Xenophon has the groom approach the horse from the left side. In today's equestrian parlance, the left side of the horse is known as the *near* side and the right side of the horse, the *off* side. Horses are usually led and mounted from the *near* side, although it is good to have an animal that will tolerate being led and mounted from both sides. Xenophon's method of bridling the horse reads almost word-for-word the method recommended by the Pony Club today.

Xenophon:

> *Then let him throw the reins over the head and drop them on the withers, and next lift the headstall [the whole upper part of the bridle] with the right hand and offer the bit with the left. If he takes the bit, of course the bridle should be put on. But if he refuses to open his mouth, the man must hold the bit to his teeth and put the thumb of the left hand in the horse's jaw. Most horses open the mouth when this is done. If he still resists, the man should squeeze his lip against the tusk; and very few resist when they are treated in this way* (Xen. *Eq*. 6.7-9).

The Pony Club:

> *Place the reins over the horse's head and neck. Standing close to the horse's shoulder on his left side, take hold of the headpiece [same as the headstall above] of the bridle with your right hand. With your left hand under the horse's muzzle, allow the mouthpiece of the bit to rest on your first finger and thumb. Press your thumb gently between the horse's lips on the left side where there is a gap between the teeth. This will encourage him to open his mouth. Keeping your right hand close to his forehead, draw up the bridle, using your left hand to guide the bit gently into the horse's mouth. Your left hand can now help the right hand to pass the headpiece over each ear in turn* (Cooper 2007, 320-321).

The groom should never lead the horse by the rein "as this gives the horse a hard mouth on one side" (Xen. *Eq*. 6.9). The Pony Club recommends that to lead a horse with a bridle on, you "pass the reins over the horse's head and hold them with one hand a short distance from the bit and with one finger dividing them. Hold the buckle end in the other hand" (Cooper 2007, 123). This prevents pressure coming onto the bars of the mouth from one rein only. Another way to lead a horse with a bridle on, is to attach a lead rope to either the back of the noseband or a chin strap, leaving the reins up on the horse's neck.

The position of the bit in the horse's mouth is also of great importance. "If the bit is too high up, it hardens the mouth so that it loses its sensitiveness; and if it lies too low in the mouth, it gives the horse power to take it between his teeth and refuse to obey" (Xen. *Eq*. 6.9). To get this height correct, the bit is adjusted up until

it makes the horse smile, without unduly wrinkling the corners of his mouth (Cooper 2007, 302).

It is also important to train the horse readily to accept the bit when putting on the bridle. Xenophon suggests that the horse is not only fitted with his bridle for work, but is led to his food wearing the bridle, as opposed to a halter, and also wears the bridle when being led home from work (Xen. *Eq*. 6.10-11). This is to ensure that the horse associates taking the bit into his mouth with pleasurable activities. "Willingness to receive the bit is, in fact, so important that a horse that refuses it is quite hopeless" (Xen. *Eq*. 6.10).

There are three ways for the rider to mount the horse bareback. The first, and most desirable for a cavalryman, is to mount from the spring, which will be discussed later in section 4.5.6.

The second is to mount from a mounting block. In order to do this the rider would lead the horse to the side of the block (or a bank, or anything that gives the rider extra height) so that the horse's near or left side is alongside the block. The rider then stands on the block and can either jump onto the back of the horse so that he is lying across the back, and then swing the right leg over, or jump onto the back so that he ends up in a sitting position. There are two mounting blocks shown on the Parthenon Frieze, both on the West Frieze (Figures 109 and 110).

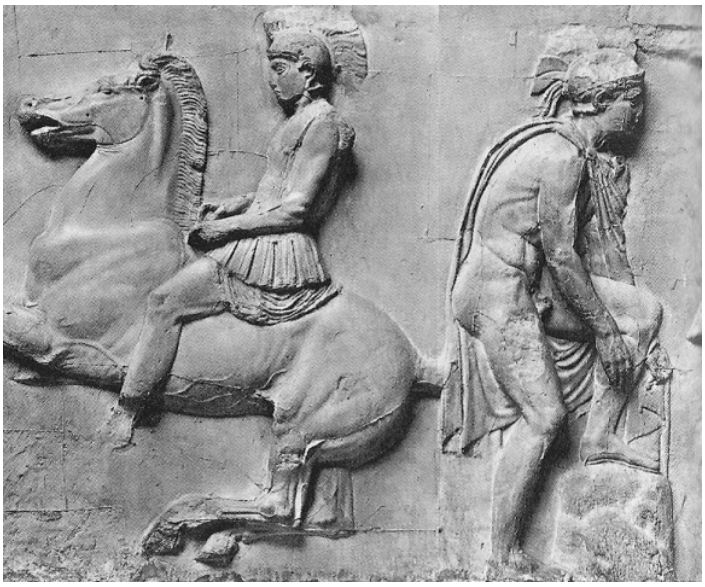

Figure 109
Man with foot on mounting block from the Parthenon, West Frieze VI 12.
©Acropolis Museum, Athens

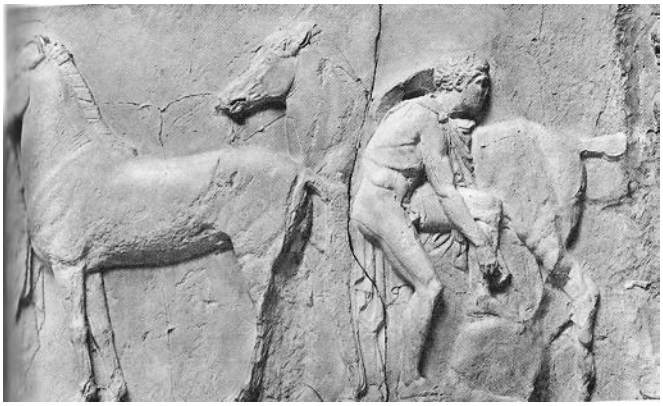

Figure 110
A man with foot on mounting block
from the Parthenon, West Frieze
XV 29.
©Acropolis Museum, Athens

It is possible that mounting blocks were in evidence throughout Greece, both in rural and urban settings. In Italy in the second century BC, Caius Gracchus made it a policy to have mounting blocks along the sides of the roads. “Other stones, too, he placed at smaller intervals from one another on both sides of the road, in order that equestrians might be able to mount their horses from them and have no need of assistance” (Plut. *C.Gracch.* 7.2).

Figure 111
A Leg-Up in the Persian fashion.
(imagine without the saddle)
(Stambaug 2010, 1)
(Photo by kind permission of Shannon Stambaug)

The third way is to avail of a leg-up (Persian fashion) (Figure 111). Xenophon suggests that this may be necessary for an older or injured cavalryman and refers to it as giving a *leg-up in the Persian fashion* (Xen. *Eq.* 6.12 and Xen. *Eq.Mag.* 1.17). Xenophon mentions this in the *Anabasis*, as it was the privilege of Tiribazus, the Satrap of Armenia, when he was in court, to give a leg-up to the King of Persia (Xen. *An*. 4.4.4).

When giving a leg-up, it is best to have a third person hold the horse. The rider faces the near side of the horse and bends his left leg back at the knee. In order to give the leg-up, the helper stands to the left side of the rider, grasps the rider’s

knee with the left hand, and puts his right hand around and under the calf of the rider's leg. At the count of three, the rider gives a jump, the helper lifts the leg up, and the rider can pass the right leg clear over the back of the horse, turn his body to the front and come down (softly) on the horse's back. To accomplish this correctly, the helper must lift the rider straight up, not towards the horse, and the rider must keep his back straight and must not lean forward (Cooper 2007, 19).

The golden rule for Xenophon is that you must never approach a horse in anger; "for anger is a reckless thing, so that it often makes a man do what he must regret" (Xen. *Eq*. 6.13-14). His statement is a precursor to the concept of always having control over your emotions espoused by Aristotle's *Golden Mean* (Arist. *Eth.Eud.* 2.1220b). U.S. Cavalry instructions are in complete agreement with Xenophon, "never punish a horse except at the time he commits an offense, and then only in a proper manner - never in anger" (United States Army 1917, 368). Xenophon uses the example of a horse shying. Many a rider will hit the horse to get it to go past the thing that is making it shy. Xenophon recommends that the groom or rider actually touch the object to show the horse that there is nothing to be afraid of. "To force him with blows only increases his terror; for when horses feel pain in such a predicament, they think that this too is caused by the thing at which they shy" (Xen. *Eq*. 6.14-15). Xenophon was way ahead of his time in having the insight into a horse's psyche that allowed him to formulate this view: a view that has only become widely accepted in the twentieth century. For Xenophon, a vicious horse is the product of an angry groom or rider. He expresses this in the *Oeconomicus*, "when a horse is vicious, we generally find fault with his rider" (Xen. *Oec*. 3.11).

Mary Twelveponies echoed Xenophon nearly word for word in 1982:

> *Green* [inexperienced] *horses and those that are truly scared of some objects shouldn't be hit to try to make them go up the object or through the scary place. This only convinces the horse that he was right to be scared because the thing is hurting him. Let the horse stop and take a good look. Don't try to move him forward until you feel him relax* (Twelveponies 1982, 112).

Xenophon finishes Book 6 by reminding the cavalryman that he needs to know how to mount his horse in a variety of ways (Spence 1993, 45). He already discussed mounting in the Persian manner with a leg-up. Now he mentions the groom getting the horse to crouch, so that the rider can easily mount. There is little

mention of this way of mounting in the Greek literature of this time. It can be done in either of two ways. The first is to have the horse bend the knees thus lowering the shoulders. Curtius, a much later source, tells us that "the king's [Alexander's] horse, whom they called Bucephalas, prized above all other animals by Alexander. (The horse would not allow another man to sit on him and, when the king wished to mount, he would of his own accord bend his knees to receive him, so it was thought that he was aware of his rider's identity)" (Curt. 6.5.18). The second method is to have the horse put his forelegs forward and his hind legs back, thus lowering the centre of the back making it easier to mount. Today this is known as *parking out* the horse (Figure 112). It can be very dangerous as the horse's back is very vulnerable without the legs in their normal position to support it. When you do mount this way you are to imagine an egg on the back of the horse and to sit down on the horse's back without breaking the egg.

Figure 112
Parking Out a Horse
©Ivy Schexnayder 2014

4.5.6 Xenophon's Methods of Mounting and Riding

Book 7 begins with Xenophon's description of the best way to mount the horse. He has the rider place the left hand, holding a leading rein, up by the horse's ears. The right hand, holding the reins loosely, is placed on the withers. He is careful to note that the reins must be held loosely so as not to jerk the bit in the horse's mouth when jumping up onto the back. The rider is to spring up and clear the horse's back with his leg, coming down gently onto the back (Xen. *Eq*. 7.1-2, Xen. *Eq.Mag.* 1.5; 1.17). This is close to impossible unless either the horse is very small or the rider remarkably athletic. Today, most riders would put the left hand on the withers

and jump up so that they lie across the horse's back and then lift up and swing the right leg over the horse's back until seated. In the racing yard that I worked in many years' ago, the jockeys (who were extremely short) would only jump up on the horse's back while the horse was walking, so that they could gain momentum from the movement of the horse. Indeed, the U.S. cavalry in the nineteenth century at their base in West Point, New York, were taught to mount at the gallop (Robertson 1883, 1).

In June, 2006, I made a trip to Greece in search of the ancient Greek horse. In my research, I decided that the modern horse most like that used in Ancient Greece was the Skyrian pony, which still inhabits the island of Skyros (see section 2.6). I brought my daughter and her husband, Brian, an accomplished horseman. I wanted to reconstruct some of Xenophon's processes - mounting, mounting with a spear, the correct seat on a horse, and to show how a chamois cloth would look on the horse.

On arrival on Skyros, we drove across the island to Chora (Skyros town). I was introduced to an American woman, Linde Maroudis, a widow, who had spent years with her husband, a Greek doctor on Skyros, trying to save the Skyrian pony from extinction. Through her, I was put in touch with Manolis, who had a herd of Skyrian ponies in the middle of the island. He had about 10 ponies. They ranged in height from 9 to 11 hh, much too small for Brian to ride (Figures 113 and 114). Manolis used the ponies for children to ride on a small track that he had made through the scrub on the hill.

Figure 113
Brian with a *Skyrian* pony
on Skyros
(Author's photo, 2006)

Figure 114
Brian with a *Skyrian* pony on Skyros
(Author's photo, 2006)

Brian is 5'6" (168 cm) in height, which was the average height of the Greek man in the fourth century BC (Pain 2007, 47). In order to mount these ponies, Brian would only have to put his leg over the pony's back. It would have been cruel to ride these ponies, as they looked young and were in poor condition. I decided to wait until our return to Ireland to take the photos, using a 13.2 hh (137 cm) Connemara pony belonging to friends. According to the skeletal evidence given in Section 2.5.1, this would have been close to the average size of the ancient Greek cavalry mount.

Using the directions in the *Art of Horsemanship*, Brian mounted the pony (Figures 115-118). It is not the way he would normally do it, especially in regard to the hands, but it did work.

> *We will now describe what the rider should do when he has received his horse and is going to mount, if he is to make the best of himself and his horse in riding. First, then, he must hold the lead-rope fastened to the chin-strap or the nose-band ready in the left hand, and so loose as not to jerk the horse whether he means to mount by holding on to the mane near the ears or to spring up with the help of the spear. With his right hand let him take hold of the reins by the withers along with the mane, so that he may not jerk the horse's mouth with the bit in any*

way as he mounts. When he has made his spring in order to mount, he should raise his body with his left hand, while at the same time he helps himself up by stretching out his right; for by mounting in this way he will not present an awkward appearance even from behind by bending his leg. Neither must he touch the horse's back with his knee, but throw the leg right over the off side. Having brought the foot over, he must then let his buttocks down on the horse's back (Xen. *Eq*. 7.1-2).

Figure 115
Preparing to mount
(Author's photo, 2006)

Figure 116
Beginning the spring up
(Author's photo, 2006)

Figure 117
Swinging the leg over
(Author's photo, 2006)

Figure 118
Landing on the back
(Author's photo, 2006)

Figure 119
Mounted with the aid of a spear
(Author's photo, 2006)

Xenophon advises that riders who would normally hold their spear in their right hand and lead the horse with the left hand, should learn to mount from the off

side - doing everything as though reflected in a mirror. In fact, he felt that all riders would benefit from the exercise of mounting from both the near and the off side of the horse, so that they could mount quickly in a battle situation and be ready to fight (Xen. *Eq.* 7.3-4). Brian also mounted with the aid of a spear from the near side as directed by Xenophon, which he found to be quite easy (Xen. *Eq*.7.1) (Figure 119).

Xenophon then describes how the rider should sit on the horse, which is not the way you would sit in a chair but rather upright, as if standing (Xen. *Eq*. 7.5). The rider should allow the leg to stretch straight down, using the thighs as the main contact with the horse. The lower legs should be loose and able to recoil if they should hit against anything. This is the same advice given in 1937 to the English cavalry; "The grip should be that of the knee and thigh, the lower part of the leg hanging down naturally, but kept steady. The body must give to the movements of the horse, with the loins and joints supple" (*Manual of Horsemastership, Equitation and Animal Transport*, 1937, 93). "The efficiency of Xenophon's preferred posture is attested by the fact that it became, and for centuries remained, the standard riding seat in the European world" (Spence 1993, 47; Trench 1970, 28). The body above the hips should be loose and supple so as to withstand long hours on the horse and to be able to stay aboard when pushed or pulled (Xen. *Eq.* 7.5-7) (Figure 120).

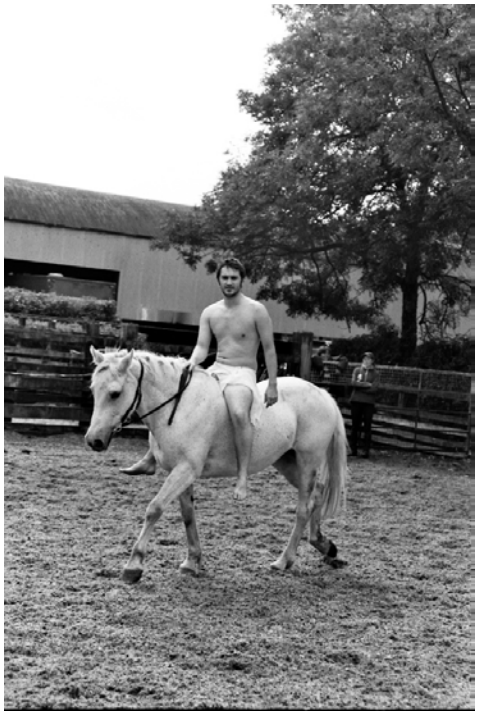

Figure 120
The correct seat according to Xenophon -
Contact with thighs, lower leg swinging loose and upper body relaxed.
(Author's photo, 2006)

To support my theory discussed in section 4.3 of this chapter, I placed a moist chamois cloth on the pony's back to see if it could be seen under the rider, and to see if it was comfortable for the rider. The chamois cloth only measured 63.5 cm. (25 inches) wide by 38.1 cm. (15 inches) long when measured at the longest points (Figure 121) and was cut roughly in the shape of a saddle pad.

Figure 121
The Chamois Cloth
63.5 x 38.1 cms.
(Author's photo, 2006)

A.

Figure 122 A
The chamois cloth in place on the pony's back

B.

Figure 122 B
When the rider sits back down there is little evidence of the chamois cloth

(Author's photos, 2006)

The chamois cloth was barely noticeable when Brian was on the pony's back (Figures 122A and 122B), and he reported back that it did make a difference in the steadiness of his seat, and in the way it prevented the pony's hair from rubbing on his skin. This is by no means positive proof that the Greek cavalrymen used cloth of this sort to protect their skin from the horsehair, but it is a possibility. The fact that a cloth is not visible under the rider on either vase paintings or sculptures, does not mean that a cloth or skin was not sometimes used (Figure 122B). An example of a cloth without the rider can be seen on the vase painting in Figure 88.

4.5.7 Understanding the Horse's Movements

Once up on the horse, the rider must teach the horse to stand until he has everything arranged: his spear and reins (Xen. *Eq*. 7.8) and cloth if using one. This is most important as mounting is the time when a rider is most vulnerable (Hyland 1993, 32). As the British Cavalry manual states, "The aim [when mounting] throughout should be absolute control of the horse and avoidance of accidents" (*Manual of Horsemastership, Equitation and Animal Transport* 1937, 130). Xenophon recommends that the reins be of equal length and neither "weak nor slippery nor thick" (Xen. *Eq.* 7.9). I would presume that the rider would tie his reins together in a knot at the end. This is of utmost importance making it impossible to drop a rein completely and have it drag on the ground where it is very difficult to retrieve. It also allows the rider to hold the reins in one hand, leaving the other free to hold a weapon.

The horse is then to move slowly forward at the walk. He advises the rider to hold his hands high if the horse's head is too low and the reverse if it is too high. Xenophon knew that the way a horse carries its head is a sign of how much *collection* the rider has attained. If the horse's head is either too low or too high, he will be unable to move his hocks under him and gain the *collection* necessary to have a "most graceful carriage" (Xen. *Eq*. 7.11). At the walk, the rider moves slightly at the hips and waist in rhythm with the natural, four beat rhythm of the horse. From the walk, the horse will go into a trot, which is most uncomfortable bareback as it is a two-beat, diagonal leg, jarring rhythm. The horse moves the left hind and right fore together, and then the right hind and left fore together, springing from one diagonal pair of legs to the other, with a moment of suspension between each beat. When trotting, the rider with a saddle and stirrups does a rising trot, which is also called

posting. The rider rises from the saddle on one beat and sits down on the alternate beat (*Manual of Horsemastership, Equitation and Animal Transport* 1937, 77). Riding bareback, the rider must sit to the trot. The two-beat rhythm of the sitting trot can be extremely tiring for the rider who must absorb each beat in the hips and back (Cooper 2007, 26), "when trotting without stirrups, the trooper endeavours to reduce the shock by suppling his back" (United States Army 1917, 87).

Up to recent times the exact movement of a horse's legs at the trot, canter and gallop had been a mystery (Markman 1943, 145-147). In 1878, a photographer named Eadweard Muybridge was hired by Leland Stanford, the former governor of California, to photograph his trotting horse, *Occident*. Stanford had a bet that there was a stage in the trot when a horse has all his feet off the ground at the one time (Solnit 2003, 5-6). Muybridge had perfected a new method of photography because his "camera shutters were a triumph of engineering that made reliable exposures of a fraction of a second for the first time, a speed at which extremely rapid motion could be captured in focus rather than recorded as blurs" (Solnit 2003, 4). He proved that Stanford was correct as seen in the photos on the left hand of Figure 123. Up to this time, artists had represented the horse at the trot with one foot always on the ground.

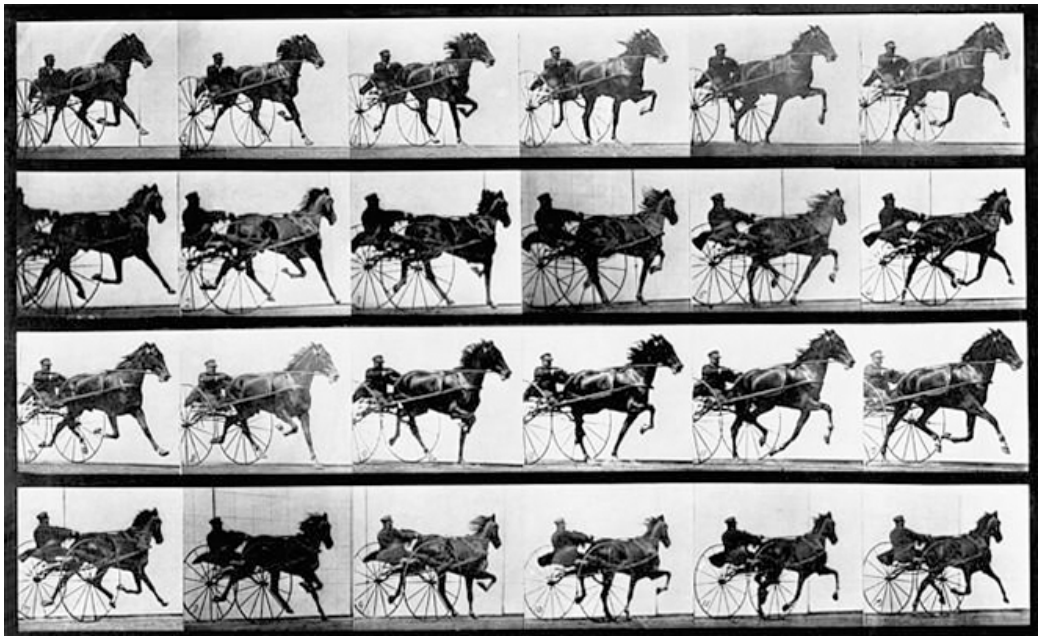

Figure 123
Eadweard Muybridge's 1887 photographs of Nellie Rose trotting
(Muybridge 1979, 1242-1243)

Muybridge then went on to photograph the horse at the canter and gallop. The canter is a three beat pace with three beats to each stride. At the canter one leg is always in the lead. When the left foreleg is leading, the sequence of footfall is:

1. Right hind leg
2. Left hind and right foreleg together
3. Left foreleg (the leading leg) followed by a moment of suspension when all four feet are briefly off the ground.

When the right foreleg is leading, the sequence of footfall is:

1. Left hind leg
2. Right hind and left foreleg together
3. Right foreleg (the leading leg) followed by a moment of suspension (Cooper 2007, 41-42).

Xenophon was able to observe these movements with his naked eye and recommends that the rider moves from the trot to the canter so that the horse will lead with his left foreleg. This would be the most comfortable leg for the rider holding a spear in the right hand, as he would tend to hold the right side of his body slightly behind the left with the weight of the spear (Anderson 1961, 104; Trench 1970, 34).

The gallop is a faster gait than the canter. It is a four beat pace, with four distinct beats to each stride. When the left foreleg is leading, the sequence of footfall is:

1. Right hind leg
2. Left hind leg
3. Right foreleg
4. Left foreleg (the leading leg), followed by a moment of suspension when all four feet are off the ground.

When the right foreleg is leading, the sequence of footfall is:

1. Left hind leg
2. Right hind leg
3. Left foreleg
4. Right foreleg (the leading led), followed by a moment of suspension when all four feet are off the ground (Cooper 2007, 43).

Up to the twentieth century, artists represented a horse galloping with all four legs spread - the forelegs extended out forward the hind legs extended out to the rear as shown in Figure 124.

Figure 124
Baronet with Samuel Chifney, 1794
by George Stubbs (1724-1806)
(Curtis and Tallis 2012, 224)

The artist could not see with the naked eye that one leg was leading. Just as Leland Stanford had an experienced horseman's insight into the workings of a horse's trot, Xenophon instinctually knew that in the canter and gallop, a horse favours one foreleg over the other. Both men, though centuries apart, had astounding insights unavailable to the artist or inexperienced horseman without the aid of the camera.

Figure 125 helps to explain the artistic poses and the actual positions of the horse. Going from left to right, the first and second horses represent the canter, the third and fourth horses, the gallop. The positions of A1 and A2 are those seen on the Parthenon frieze. The position of A4 is that represented in horse paintings up until the late nineteenth century (Figure 124).

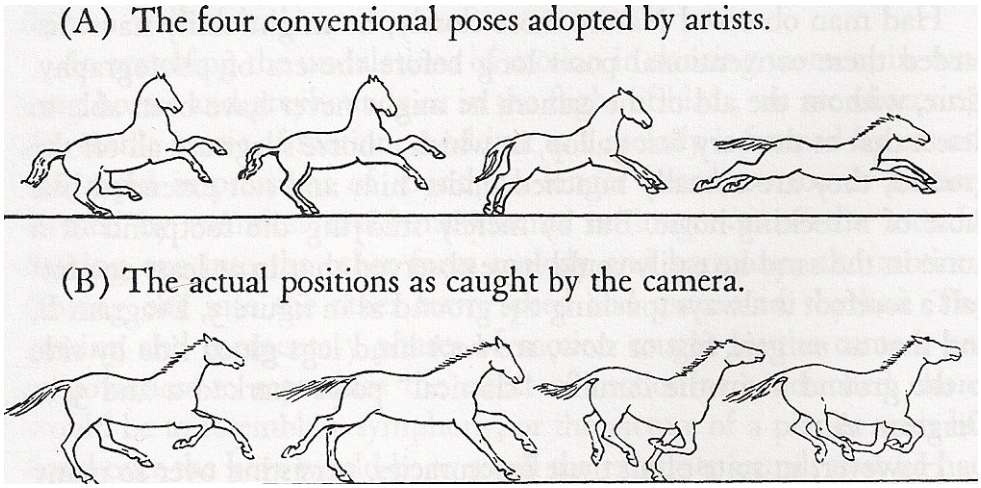

Figure 125
Horse Movement
(Fleitmann 1931, xix)
(Drawing by kind permission of Edward King)

To move from the trot to the canter, Xenophon recommends turning the horse's head in the direction that you want it to lead from: if leading from the left,

turn to the left; if leading from the right, turn to the right. If the rider wants the horse to lead from the left foreleg, he is to turn the horse to the left and urge the horse into the canter "at the instant when he is treading with the right (fore) foot. As he is then on the point of raising the left, and he will begin with it" (Xen. *Eq.* 7.11-12). Here, Xenophon is correct, although today, riders are taught to turn the horse to the left but the horse's head slightly to the right, if you want the left foreleg to lead, and to the right but with the horse's head to the left, if you want the right foreleg to lead.

4.5.8 Exercising the Horse

To exercise the horse, Xenophon recommends riding in small circles in both directions (Xen. *Eq*. 7.13). Today this is termed the *volte*, which is "a circle of six yards [5.5 meters] diameter" (Podhajsky 1967, 123). The exercise arena should consist of a long, straight run with a semi-circle at both ends. The horse should gallop down the straight and then turn in the semi-circle. In order to do this, the horse must be collected and the rider balanced, if not, the horse and rider can fall, especially if the ground is in any way wet (Hyland 2003, 42). As soon as the turn is accomplished, the horse is to gallop at full speed down to the other semi-circle. This is useful in war as "turns are made with a view to pursuit or retreat. It is well therefore to practise increasing the pace after turning" (Xen. *Eq*.7.17). He also recommends resting the horse for a short time after exercise 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 run 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 [in a war situation]" (Xen. *Eq*. 7.18).

In 1908, when James Curle excavated the second century AD Roman fort at Trimontium (Newstead) near Melrose, Scotland, he discovered a riding arena measuring 49 x 15 m. (160 x 50 ft.) (Davies 1969a, 75 fn.31). The narrow width of the arena would be ideal for perfecting the *volte* as described by Xenophon. Even though this is a Roman arena, historically, the Romans borrowed much of their equestrian practices from the Greeks, as can be seen in a comparison of Arrian's *Ars Tactica* and the works of Xenophon (Hyland 1993, 33). The *volte* is a perfect example of this borrowing. Arrian in move 43.2 in the *Ars Tactica*, describes the execution of sharp turns in the attack and retreat in war and in the pursuit of the enemy, Xenophon's *volte*, and refers to it as the Celtic *Toloutegon* (Hyland 1993,

76). This manoeuvre is practised today in America on western quarter horses and is called the *rollback*, which is performed in competitions in an arena measuring 46 x 15 m. (150 x 50 ft.), an even smaller area than that at Trimontium (American Quarter Horse Association 1989, 104). In a *rollback*, the horse, without hesitation, performs a 180-degree turn after halting from a sliding stop, and immediately goes quickly forward again. Here, the quarry is a cow or calf, not a man as in war.

The rider is to dismount after working the horse in the arena - "never among other horses or near a group of people or outside the riding-ground; but let the place where the horse is forced to work be the place where he also receives his reward of ease" (Xen. *Eq*. 7.19). This sentiment is echoed in modern times by Alois Podhajsky, Director of the Spanish Riding School in Vienna for over twenty-five years, when he states:

> *After a successful exercise, it is effective to walk for a while on a loose rein. The horse will soon accept this gesture from the rider - a break from the work - as a reward, and try to merit a repetition* (Podhajsky 1967, 69).

Xenophon does not describe the dismount, but we do have some representations in art. In these paintings and sculptures, the rider has put his right leg over the front of the horse and then slides down with his back to the horse on the *near* (left) side. This only makes sense if the rider is then running to confront an enemy - he can swing the leg over with his weapon in the right hand and jump onto his feet, ready to fight. In reality, the rider would have little control over the horse as he would have to drop the reins to throw the leg over the neck. Also, the ancient rider often is represented as dismounting from the *off* (right) side of the horse as in Figure 126.

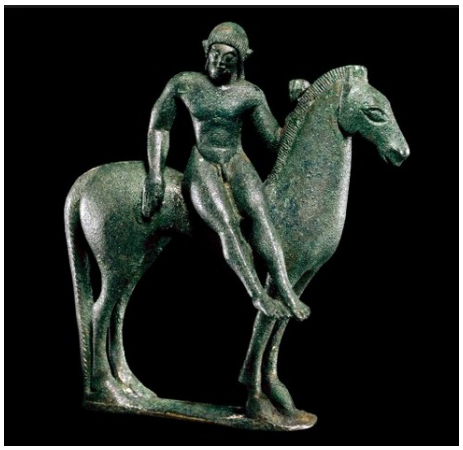

Figure 126
Bronze figure of rider dismounting a horse,
500-480 BC, Etrusco-Campanian
(British Museum, 1873,0820.262a)
©Trustees of the British Museum

In Book 8 Xenophon turns to teaching a horse to safely carry its rider cross country: going up and down hills, jumping over ditches and obstacles (Trench 1970, 29). To date there are no ancient representations of horses jumping, which leads me to believe that this was not a spectator sport but rather an exercise carried out by the cavalry for use solely in war (Anderson 1961, 106). Xenophon has previously recommended that a horse be tested in these skills before purchase (Xen. *Eq*. 3.7). In the *Oeconomicus*, after seeing to all the farm business, Xenophon says: "I usually mount my horse and go through exercises, imitating as closely as I can the exercises needed in warfare. I avoid neither slope nor steep incline, ditch not watercourse, but I use all possible care not to lame my horse when he takes them" (Xen. *Oec*. 11.17). In the *Cavalry Commander*, he states, "those [horses and men] 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" (Xen. *Eq.Mag*. 8.3 also 1.5-6; 1.18). This is also mentioned in the *Cyropaedia* where Cyrus encourages the cavalry to go out hunting to keep them fit for battle (Xen. *Cyr*. 2.4.18-21; 8.8.12). Although Greece is not a land of large banks and ditches as in Ireland and England, the cavalry would still have to negotiate small dry stone walls and hedges of dead thorn bushes used as sheepfolds, dry river channels, and terraces of vines or trees on the lower parts of hills.

In the words of the British Horse Society, "Horses are born with varying degrees of jumping ability. The trainer's task is to develop the horse's ability, giving him the confidence to jump many different types of obstacles" (Print 2011, 197). To teach the horse to jump a ditch, Xenophon recommends the rider jumping over the ditch while holding the horse by a lead rein, and urging it to jump to the other side by pulling on the rein. This is the exact method used by the British cavalry in 1937, "The horse should be led over any small obstacle, such as a tree-trunk or ditch which the man can jump on his feet in front of it" (*Manual of Horsemastership, Equitation and Animal Transport* 1937, 144). If this does not work, he enlists the help of another person to hit the horse quite hard on the rump until he makes the leap over the ditch. As soon as this is accomplished several more times, the rider then mounts the horse and jumps the ditch, working up towards wider ditches. This method of teaching a horse to jump a ditch is still in use today; *The Pony Club Manual of*

Horsemanship advises the rider to “start with tiny, shallow ditches, preferably in a natural fence line, and work up the larger, deeper ones” (Cooper 2007, 93).

Figure 127
Terracotta Panathenaic Prize Amphora
Attributed to the Eucharides Painter
c. 490 BC
(The Metropolitan Museum of Art, Fletcher Fund, 1956, 56.171.3)
(www.metmuseum.org)

Figure 128
A sketch of the horse race band on the Macmillan Aryballos, c. 640 BC
British Museum, 1889.0418.1
(Smith 1890, Pl. II)
©Trustees of the British Museum

Once the rider has mounted, Xenophon urges the rider to goad his horse into taking off and jumping. There is controversy on the translation of the word, *myops* (μύωψ) (Xen. *Eq*. 8.5). Johansen contends that a *myops* is a goad in the form of a short riding crop held in the hand, not a spur, as some have translated it (Johansen 1952, 48; also Vigneron 1968, 84-85). Indeed, there are quite a few vase paintings

showing the use of the whip and none, to my knowledge, showing the spur (Figures 127 and 128).

Figure 129
Close up of the spur straps on the jockey from the Horse and Jockey from Artemision, c. 150 BC. in the National Archaeological Museum, Athens (Photo with kind permission of Deutsches Archäologisches Institut Athens, Neg. No. 80/66)

There is no archaeological evidence for spurs in use during Xenophon's lifetime: "None of the few known spurs from ancient Greece can be dated as early as the classical period" (Anderson 1978, 46). When you think about the size of the ponies, it is not hard to see why the spur was of little use to the Greek cavalryman. A spur is normally attached to the riders ankle, where it is unable to move either up/down or to twist around the foot (as it would if tied onto the rider's calf) as the straps holding it in place go behind the ankle and under the foot, as shown on the Jockey from Artemision[16] c. 150 BC (Figure 129). But, a spur is of no use to a rider, if the rider cannot squeeze the spur into the side of the horse. As most Greek cavalrymen's legs would hang below their horse's belly, they would have to bring their foot up and to the back so high as to make it impossible to maintain their balance and use the spur effectively. Squeezing the horse with the thigh muscles and using a whip or even the end of a spear would have been far more effective.

For hill work, Xenophon recommends teaching the horse on soft ground, and points out that both the Persians and the Odrysians have races downhill and still keep their horses sound (Xen. *Eq*. 8.6). The fact that he mentions training the horses for hill work would suggest that this was not the norm at the time. Xenophon describes hill races in the *Anabasis* when the Greeks had a race where:

> *the riders had to drive their horses down the steep slope, turn them around on the shore, and bring*

[16] It should be noted that this sculpture from 150 BC portrays a very small boy on a racehorse not a cavalryman on a cavalry horse.

> *them back up again to the altar. And on the way down most of the horses rolled over and over, while on the way up, against the exceedingly steep incline, they found it hard to keep on at a walk* (Xen. *An.* 4.8.28).

He also discusses how the rider should sit on the horse for the various movements up and down hill. Going up a hill, the rider should lean forward with the movement and grab a bit of the mane, so that the rider can let the reins go loose and not pull back on the bit in the horse's mouth, "that the horse may not be burdened by his bridle" (Xen. *Eq*. 8.8). This is the way a rider still approaches a climb up a hill, "letting our upper body lean forward until it is parallel to the horse's neck, the hands gripping the middle of its mane" (Seunig 1941, 230).

When coming down a steep incline, Xenophon tells the rider to lean back and support the horse with the reins (Xen. *Eq*. 8.8). Even though one's instinct on riding downhill is to lean back, this is not the advice today. Today, we know that leaning back interferes with the free activity of the horse's back and hindquarters, making the equilibrium of the horse and rider unstable and uncertain - much as leaning away from the turn on a motorcycle can destabilise the motorcycle and cause an accident. The recommended way to ride downhill is as follows:

Figure 130
Downhill Position
Captain C. Stoffel on Tonio
(Seunig 1941, 191 fig.32)

> *In downhill riding the reins allow the horse to stretch and to lift or lower its neck as needed to act as a weight compensator. But they remain in contact in order to be able to prevent any departure from the desired direction...the rider should therefore take descents....with his body supple and leaning forward. In undisturbed harmony with his horse he would slide into the descent along with it. He should*

> *keep his thumbs crossed over the horse's crest in front of the withers. This may aid in supporting, if necessary, the upper body, and may also be useful in jumps involving drops on the far side* (Seunig 1941, 232).

In other words, the rider should keep the upper body straight or slightly forward as the horse descends, not leaning back, giving the horse his head by keeping only a slight contact with the reins so that the horse can balance himself (McNabb 2012, 2) (Figure 130).

In order to make exercise interesting for the horse, Xenophon recommends variation in the place and length of time of the exercise (Xen. *Eq*. 8.9). He has already stated this in the *Oeconomicus*, where he rides the horse out to his farm. After attending to the farm, he then rides him across country, no doubt varying his route to make the exercise more interesting for the horse (Xen. *Oec*. 11.17-19). "Monotony in work is a serious trial to the temper of horses...horses like change of scene, and we should, if possible, humour them in this respect" (Hayes 1968, 340-341). The U.S. cavalry states in their manual: "The length and duration of rides out of doors, as well as the intensity of requirements incident thereto, should vary from day to day; for instance, a long, hard ride should be followed by a shorter and easier one the next day" (United States Army 1971, 354).

Once the cavalrymen are comfortable riding over different types of terrain and obstacles, but have not the access to hunting with the horse, Xenophon devises an exercise to help them practise the use of weapons while travelling at speed over the countryside. They are to chase one another with blunted javelins and spears, and try to hit each other when within shot range. They are also to try and pull one another off the horse, if they should collide; by pulling the adversary, and then pushing him back, making him lose his balance and fall. He also suggests that the adversary can counter-attack by urging his horse forward as soon as he is grabbed, thereby pulling his opponent off his horse. He also advises that the riders learn to keep control of the horses so that in a battle situation, they are able to attack and retreat with ease (Xen. *Eq*. 8.11-12). All of these exercises are to accustom both the horse and the rider to the challenges of battle.

In the final paragraph of Book 8, Xenophon notes that "the gods have given to men the power of instructing one another in their duty by word of mouth, it is obvious that you can teach a horse nothing by word of mouth" (Xen. *Eq*. 8.13).

Therefore, man must devise other ways to teach the horse. Xenophon again states his golden rule of the *Art of Horsemanship*: "If, however you reward him [the horse] when he behaves as you wish, and punish him when he is disobedient, he will best learn to do his duty" (Xen. *Eq*. 8.13). This is still the number one golden rule in horsemanship today, with the emphasis on rewarding the horse, "always remembering that reward is of greater importance than punishment" (Podhajsky 1967, 54).

One of the easiest rewards for the horse is food, but some trainers believe that this spoils the horse, and use instead a method of stroking the horse to reinforce good behaviour. "Horses and dogs, being group animals, seek acceptance. Moreover, the horse is a mutual-grooming species. Horses encourage bonding by nibbling and rubbing one another. Therefore stroking, with or without verbal praise, can be used as a reward in training horses" (Miller and Lamb 2005, 107; also Cooper 2007, 30). This stroking can be on the horse's head, neck, withers or dock of the tail - the rider needs to find the spot that is most appreciated by the horse. Another reward is to slacken the reins, and allow the horse to walk freely after an exercise has been completed successfully. And, once the horse has performed well, the rider should dismount and have the horse led home, as opposed to riding him home, where the groom can reward him with a good roll in the sand (Xen. *Eq*. 6.11; Xen. *Oec*. 11.18). "For rewards there were rest, dismounting, soothing words, the relaxation of pressure on the bit" (Trench 1970, 31). Once the rider has gained the horse's confidence, the horse will become a willing learner.

Punishment should rarely be necessary if the horse has been trained properly. Punishments for a horse would include the use of the voice severely, whips, or the simple repetition of an exercise until success is reached (Trench 1970, 31). Just as the classical philosophers were delving into the mind of man, Xenophon, through pure observation, was able to fathom the mind of the horse, and see that reward was a far better way to train a horse than through losing one's temper and punishment. "Invariably, in fact, as we cannot too often repeat, you must humour your horse whenever he responds to your wishes" (Xen. *Eq*. 10.12). Unlike a man or a dog whose mind works by deduction, the horse uses memory and a direct association of ideas. Seunig explains this phenomenon:

> *For example, a horse shies away from an automobile and is beaten by its rider. We assume*

> *that next time it knows (deduce = draw the conclusion from the punishment) it will be punished if it shies off again; therefore it will cease being shy. But it is entirely wrong to attribute such powers of deduction to the mind of a horse....the next time it encounters an automobile it will shy even more, for it will already have established the direct association of ideas - frightening unknown object (automobile) = blows received when this object appears. Because of its excellent memory, repeated punishment will anchor the association - automobile = beating - as cause and effect so firmly as to turn into an obsession or "auto-suggestion"* (Seunig 1941, 134).

Compare the above with Xenophon's observation:

> *Moreover, when the horse is shy of anything and will not come near it, you should teach him that there is nothing to be afraid of, either with the help of a plucky horse - which is the surest way - or else by touching the object that looks alarming yourself, and gently leading the horse up to it. To force him with blows only increases his terror; for when horses feel pain in such a predicament, they think that this too is caused by the thing at which they shy* (Xen. *Eq.* 6.14-15).

Xenophon knew that horses have long memories and are easily frightened. If, however, the trainer needs to win a struggle with a horse:

> *Punishment should cease the instant the trainer has gained the victory or he will run the risk of engendering a feeling of sullen defiance in the horse. After gaining a victory, the trainer should, by kindness, endeavour to obliterate any sore feelings caused by defeat in the horse's sensitive and nervous spirit* (*Manual of Horsemastership, Equitation and Animal Transport* 1937, 148).

Book 9 deals with the handling of the spirited horse and the sluggish horse. The spirited horse Xenophon compares to an angry man: "Therefore, just as you are least likely to make a man angry if you neither say nor do anything disagreeable to him, so he who abstains from annoying a spirited horse is least likely to rouse his anger" (Xen. *Eq*. 9.2-3). He recommends sitting quietly on this type of horse and only doing slow movements and long rides, as opposed to turning and changing of speed. He is quite right when he explains that frequently riding a spirited horse at a

fast pace will not tire the horse, but have the opposite effect. A spirited horse is one who looks for victory, so should never be raced with another horse if you want to keep him calm. The voice can be used to calm the horse and the rider must never let the horse feel him becoming tense. His advice still stands today. It is generally recommended that a spirited horse be worked for "an hour or two daily at comparatively slow paces" and be given a reduced amount of corn (Wynmalen 1938, 64). However, Xenophon ends by saying that you should never buy a spirited horse for a cavalry mount as the training is just too troublesome.

For the sluggish horse, Xenophon recommends doing the opposite of the methods used for the spirited horse. Although he does not explicitly state it, he would, no doubt, recommend not buying a sluggish horse as a cavalry mount (Xen. *Eq*. 9.12).

4.5.9 Parading the Horse

Up to Book 10, Xenophon has been interested in the buying, training and use of a cavalry horse. In Books 10 and 11, he looks at how the rider can make his horse "look more stately and showy when ridden" (Xen. *Eq*. 10.1). Xenophon wants to replicate the look of a stallion showing off to a mare in the wild, "he raises his neck highest and arches his head most, looking fierce; he lifts his legs freely off the ground and tosses his tail up" (Xen. *Eq*. 10.4). But he warns against the use of the whip and the misuse of the bit in the horse's mouth to achieve this look, as it has to come naturally to the horse to be convincing to the audience.

He begins by explaining the use of the bit. He is referring to what we now call the *snaffle* bit, which consists of a bit mouthpiece (either straight or jointed) and two round rings at either end (Figure 131). Xenophon describes two types of *snaffle* bit, the *rough* and the *smooth* (Xen. *Eq*. 10.6).

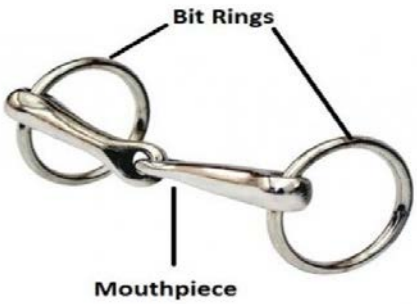

Figure 131
The modern snaffle bit
(after photo available at:
www.bluegrasshorsesupply.com/
shop/catalog/hollow_mouth_loose_
ring_snaffle_bit-1256.html)

Unfortunately, we have few examples of the bits describes by Xenophon because "in Greece bits are very rarely found among grave offerings" (Anderson 1961, 53). However, we do have an example of a *smooth* bit found on the Acropolis in Athens in 1888 dating to c. 490-480 BC (Figure 132) and a *rough* bit dating from the fourth century BC found in a grave in Boeotia (Figure 133). Xenophon uses the word *ἐχινος* or *sea urchin* to describe the round bit of the mouthpiece which contained spines, as you would find on a *sea urchin*, which were sharp points on the *rough* bit and were smooth and rounded on the *smooth* bit. The *ἐχινοι* worked on the bars of the mouth. He also talks of *τροχοί* or *discs* that were actually smaller on the rough bit. These are not visible on the *smooth* bit (Figure 132) but can plainly be seen on the *rough* bit (Figure 133). These lay between the bars and the tongue and were used to keep the horse from grabbing the bit in his teeth. There were also small rings in the middle of the bit (Figure 133):

> *As the horse continually tries to seize the part* [of the bit] *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"* (Xen. *Eq.* 10.9).

If the horse should grab the bit in his teeth, it is disastrous for the rider as he can no longer use the bit on the bars of the mouth effectively, thereby losing all control.

On both types of bit, the reins were attached to the ring at each end. The curved branches were attached by the two small holes to branched straps that connected to the cheek piece and kept the bit in place. This can clearly be seen on the bit in Figure 134. Even though this is from a much earlier era, it gives a very good illustration of this form of bit which was also used in Xenophon's time.

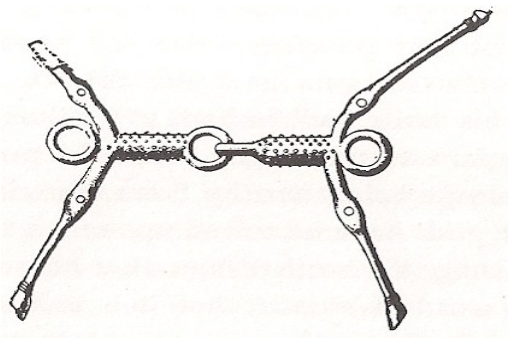

Figure 132
Smooth snaffle bit from Athens,
c. 490-480 BC.
(Lechat 1890, 385)

Figure 133
A Rough Snaffle bit
from Boeotia
c. 4th c. BC now in Berlin
(Pernice 1896, Pl. III)

The *rough* bit (Figure 133) had sharper, more severe points on the *ἐχῖνοι,* which enabled the rider to teach the horse by applying pressure to the bars of the mouth. Xenophon recommended that the rider use the *rough* bit initially and then, when the horse is responding correctly, change to the *smooth* bit.

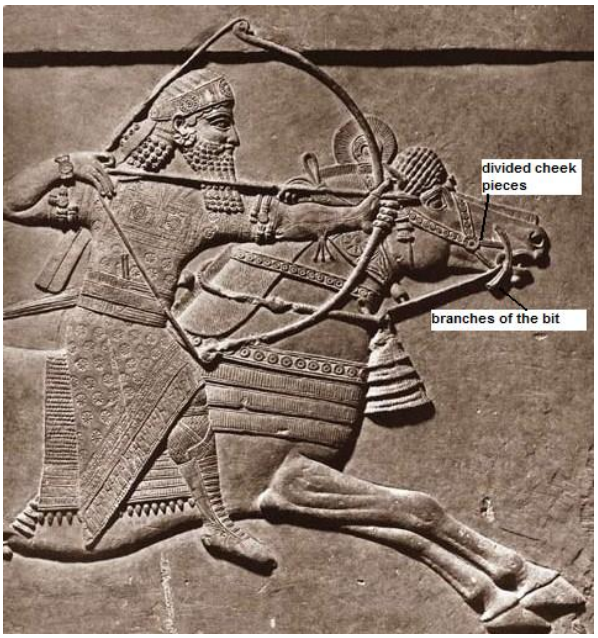

Figure 134
Relief from North Palace at Ninevah
c. 645-635 BC
(British Museum, 124876)
©Trustees of the British Museum

Xenophon notes that a horse will naturally run if he gets loose. “There is plain proof that a horse takes pleasure in going fast: for when he breaks loose a horse never goes at a walking pace, but always runs. He instinctively takes pleasure in this, provided he is not compelled to run too far for his strength” (Xen. *Eq*. 10-14). Echoing the philosophers of his time and the Delphi maxim of μηδὲν ἄγαν (*nothing in excess*), Xenophon states that “nothing in excess is ever pleasing either to horse or man” (Xen. *Eq*. 10.14). Knowing this, Xenophon recommends that the rider should

ease up on the reins, once the horse has accepted the bit, lowered the head and arched the neck as in Figure 135, where the horse's head carriage in the middle would have been the one Xenophon is looking for (Xen. *Eq*. 10.12-13). He also repeats that the horse should never be forced into this position, but coaxed.

It is easy to tell if a horse is carrying his head correctly. You draw a vertical line from the horse's forehead down to the ground. The horse's head is in the correct position, and he is said to be *on the bit*, if his nose is slightly forward of this line as shown in Figure 136, and in the middle horse of Figure 135. The term *overbent* is used when the horse's head is tucked in behind the vertical, as the bottom horse in Figure 135.

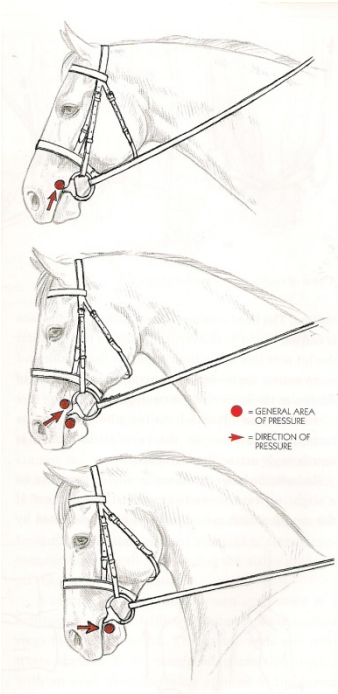

Figure 135
Head Carriage.
The middle horse has the correct head carriage
(Edwards 2000, 53)
©David and Charles

Figure 136
Correct head carriage where the nose is in front of the vertical
(Sandin 2005, 10)
(Photo by kind permission of Theresa Sandin)

The head carriage of the horse is vitally important if the horse is to move with ease while *collected* (see section 4.5.1):

> *In rational, educated riding a primary role of the bit is to govern the impulsion created by the legs and seat, which causes the hind legs to be engaged further under the body with maximum flexion of the joints. The energy, or the propulsive thrust that is produced as a result, can either be contained by the hand, in which case the outline [of the horse] will be shortened, or it can be released to a predetermined degree to lower and lengthen the outline. In both instances the horse is required to work within the frame imposed by the* [rider's] *legs at one end and the hand at the other"* (Edwards 2000 43).

The Fédération Equestre Internationale (FEI), the international governing body of all Olympic equestrian disciplines, describes this as follows in Article 417:

> *The position of the head and neck of a Horse at the collected paces is naturally dependent on the stage of training and, to some degree, on its conformation. It is distinguished by the neck being raised without restraint, forming a harmonious curve from the withers to the poll, which is the highest point, with the nose slightly in front of the vertical* (FEI 2013).

With the correct head carriage, the horse will now "bear himself proudly when ridden" (Xen. *Eq*. 10.15). He will become more beautiful because he has been trained properly, which increases his beauty "through the development of his muscles and the improvement in his carriage and movements (Podhajsky 1967, 97).

> *He bounds forward for very joy with a proud bearing and supple legs, exultant, imitating exactly in every way the graces that he displays before horses. And those who watch the horse when he is like that call him well-bred, a willing worker, worth riding, mettlesome, magnificent, and declare his appearance to be at once pleasing and fiery* (Xen. *Eq*. 10.16-17).

In Book 11, Xenophon describes what we now term, *exercises above the ground*, in order to show off the horse when on parade. The *exercises above the ground* represent the highest level of dressage training and require a lot of work and a very good horse. I agree with Anderson who states, "Xenophon probably addresses this chapter to the richer knight with a large stable, from which one horse could be reserved for high-school work" (Anderson 1961, 123). These exercises include:

1. *Pesade* - “the horse lifts his forehand off the ground with lowered hocks his body forming an angle of forty-five degrees to the ground” (Podhajsky 1967, 269).
2. *Levade* - like the *pesade* only “the height of the body from the ground is reduced and the body held at an angle of thirty degrees to the ground” (Podhajsky 1967, 269).
3. *Courbette* - “a series of low jumps on the hind legs without the forelegs touching the ground” (Podhajsky 1967, 274).
4. *Capriole* - “the horse jumps off the ground and kicks out with his hind legs at the moment his body is horizontal to the ground” (Podhajsky 1967, 272).

Xenophon’s describes the exercise as follows:

> *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 raised the fore-part of his body, so that anyone facing him can see the belly and the sheath* (Xen. *Eq.* 11.3).

Figure 137
The Pesade
(Available at: http://www.le-site-cheval.com/lexique/images/airs-releves1.jpg) (Accessed: 09-08-14)

I think that Xenophon is describing the *pesade* (Figure 137, note that the rider has no stirrups), where the horse’s belly and sheath can be seen by those in front of the horse. However, Anderson (1961, 127) and Hyland (2003, 34) both feel that Xenophon could be referring to a more advanced exercise, the *levade*, which requires

far more skill from the horse and the rider (Figure 138, again the rider has no stirrups).

Figure 138
The Levade
(Available at:
https://www.pinterest.com/source/
feldmanstudio.com/)
(Accessed: 09-08-14)

In the *levade*, the belly and sheath are hard to see from the front of the horse as the angle from the ground is so slight. I think this exercise would have been too advanced for all but a handful of Xenophon's fellow cavalrymen. Of course, both the *pesade* and *levade* are distinguished from rearing, where the horse simply lifts up his forelegs and has more than a forty-five degree angle from the ground.

Xenophon states that some riders accomplish the *pesade* by striking the horse's hocks with a whip, or getting a man to run alongside and strike the horse in the gaskins (Figure 69) (Xen. *Eq*. 11.4). But he considers this to be unnecessary, if the horse is trained sensitively and well.

> *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 [from the rider]* (Xen. *Eq*. 11.6).

Xenophon alludes to the *pesade* as the movement most representative of the horse in art, when he states, "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" (Xen. *Eq*. 11.8). Many of the horses on the Parthenon Frieze strike this pose, one example is the West Frieze, II, 2 and 3, now in the British Museum (Figure 139).

Figure 139
The West Frieze of the Parthenon, II. 2 and 3.
(The British Museum, 1816,0610.47)
©Trustees of the British Museum

The lead horse seems to be coming down from the *pesade* and the second horse to be reaching the height of the movement. Of course, these could also be portraying the canter as seen by the naked eye of the artist (see section 4.5.7). The same seems to hold true of the fragment of a monument found in the Athenian Agora of a tribal victory in the *anthippasia* c. 400 BC (Figure 140). The horses here could just be cantering or all exhibiting the *pesade* at the one time (Donaghy 2009, 347). I am inclined to believe that this is just an artist's conception of a troop of cavalry cantering during the *anthippasia* (Figures 140 and 141) (see section 3.6.1).

Figure 140
Fragment of relief from the Royal Stoa
(Shear 1971, plate 57c)
(Photo by kind permission of the American School of Classical Studies at Athens: Agora Excavations)

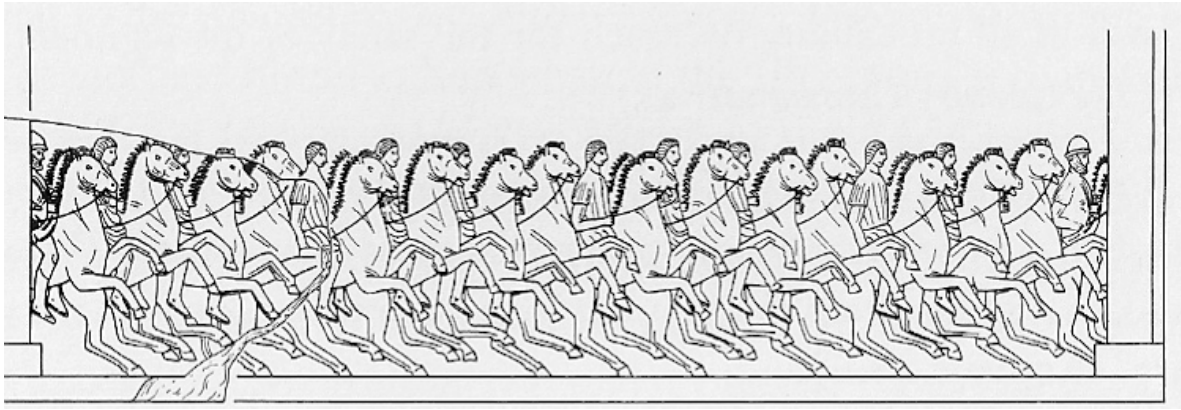

Figure 141
Restoration drawing of the *anthippasia* by W.B. Dinsmoor Jr.
(Camp 1998, 29)
(Photo by kind permission of the American School of Classical Studies at Athens: Agora Excavations)

Hyland thinks that these exercises were useful in war situations, "a warhorse could spring, turn in a confined space, spin so he always faced the enemy, and also launch an aggressive lunge and/or strike with forefeet and teeth" (Hyland 2003, 34). This could be true, but in the process of carrying out a *pesade* or *levade* in a battle situation, the horse would be exposing his belly to possibly fatal wounds, so I am not sure how useful this manoeuvre would be.

Xenophon asks that the colonel or general make sure that in a parade situation he "attach much more importance to making the whole troop behind him worth looking at" (Xen. *Eq*. 11.10). If the general in front is too showy, the troops behind will garner little praise, however, if the general moves at a pace to allow the horses to look most spirited, "all the troop behind you will be worth watching" (Xen. *Eq*. 11.12).

In conclusion, Xenophon states that the cavalryman who buys and trains his horses well, will not only make that horse famous and more valuable, but he will himself become renowned for his ability to produce the ideal cavalry horses. This is all, of course, dependent upon the good favour of the gods (Xen. *Eq*. 11.13).

4.5.10 Arms and Armour

The final book in the *Art of Horsemanship*, Book 12, deals with the way "a man who is to face danger on horseback should be armed" (Xen. *Eq.* 12.1). Xenophon makes several recommendations, but it is not certain how many men or horses used the protection he suggests. At this time, "cavalry equipment was far from standardised" (Snodgrass 1999, 109). As the duties of the cavalry usually

involved “patrols, reconnaissance, ambushes, raids and attacks on stragglers .... for such tactics mobility would seem to be of more importance than protection” (Anderson 1961, 140-141). Although armour for both man and horse existed from the ninth century BC, the evidence for its use is not conclusive. “Greek states did not, as a rule, issue equipment to their citizens, but each man bought himself the best arms and armour he could afford” (van Wees 2004, 52). Of the Athenian cavalry who wore armour, they most often used a breastplate, helmet and boots (Spence 1993, 60; Gaebel 2002, 29). The cavalry did not use shields, which would be too hard to hold along with the reins, a sword, and/or javelin (Anderson 1961, 142).

Xenophon begins with the breastplate. “In the first place his breastplate must be made to fit his [the cavalryman’s] 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” (Xen. *Eq*. 12.1; *Mem*. *3.10.9-15).* It seems that the well fitted breastplate was an expensive piece of equipment. The breastplate should also be shaped in such a way as to allow the wearer to sit down or stoop (Xen. *Eq*. 12.3). *Pinions*, or long narrow strips of metal, were to hang from the bottom of the breastplate to protect the waist and from the arm holes to guard the shoulders and upper arms (Anderson 1961, 143).

He goes on to recommend that the neck be covered with a piece coming up from the breastplate both back and front. This does not seem to have been adopted by the Greek cavalry as there are few examples of this. Morgan states that this was “suggested to Xenophon during his campaign in Persia, and not generally adopted in Greece” (Morgan 1894, 151-152 fn. 60).

Xenophon recommends the Boeotian helmet, “for this, again, affords the best protection without obstructing the sight” (Xen. *Eq*. 12.3) (Figures 142, 143). The Boeotian helmet has:

> *a high-domed crown with a wide sloping rim all round, which, in the later examples at least, is bent in elaborate folds. This rim comes well down over the back of the neck and projects forwards to shield the forehead. But the face, which other Greek helmets protect by fixed or movable cheek pieces and sometimes a long nasal, is left open, so that, as Xenophon says, the vision is unobstructed* (Anderson 1961, 148).

Figure 142
Athenian cavalrymen c. 440 BC.
(Sekunda 1986, Plate D)
©Osprey Publishing Ltd.

Figure 143
Two views of Boeotian type helmet, found in the River Tigris, Iraq
(Ashmolean Museum, AN1977.256)
©Ashmolean Museum, University of Oxford

For the right arm, usually the one wielding a weapon, Xenophon recommends a gauntlet or a vambrace to cover the forearm. This type of arm guard would be like the greave for a leg, which just clips around the arm or leg to give protection. These have been found in Olympia and in southern Italy (Lorimer 1947, 132).

For the left arm, the one holding the reins, Xenophon recommends a *cheir* (χεῖρα), a *hand* or *arm*. This was a type leather tube "which could be expanded to

reach from the shoulder to the fingers" (Snodgrass 1999, 109) in order to protect the entire left arm and even cover "the gap left by the breastplate under the armpit" (Xen. *Eq*. 12.5). He also mentions this in the *Cyropaedia*, περιβραχιονιον or armbands that Panthea brings for Abradatas to wear (Xen. *Cyr*. 6.4.2). This piece of armour would have acted as a replacement for a shield, which would have been too cumbersome for the cavalryman to carry. However "little evidence in art or in other literature exists that this piece was actually used" (Gaebel 2002, 29).

The horse should also be covered with armour. Xenophon mentions head, chest and thigh pieces, along with a covering for the horse's belly (Xen. *Eq*. 12.8). There is very little evidence for armour of this type. "The lack of representation in sculpture or on vases suggests that the use of equine armour was not common in Athens during the classical and early Hellenistic periods" (Spence 1993, 65). Although, there have been finds of "large chamfrains or face-guards [for horses], up to eighteen inches in length, which ... are almost all connected with western Greece, either from having been found there or by their artistic style; one or two have appeared at Olympia" (Snodgrass 1999, 87). As for the chest, thigh and belly pieces, there is little evidence, but, as they were seemingly made of padded cloth, they would have disintegrated with time. Xenophon seems to have picked up the idea of horse armour in Persia. He mentions Cyrus and his horsemen in the *Anabasis*, "These troopers were armed with breastplates and thigh-pieces and all of them except Cyrus with helmets...and all the horses in the squadron with Cyrus had frontlets and breast-pieces" (Xen. *An*. 1.2.6-7).

Figure 144
The Parthenon Frieze
South X-XI, 26-29
©Trustees of the British Museum

Figure 145
The Parthenon Frieze
West II, 2-3
©Trustees of the British Museum

The rider's shins and feet were to be guarded by boots (*embades*, ἐμβάδες) that would be "armour for the shins and covering for the feet at the same time" (Xen. *Eq*. 12.10) (Figure 142). The Parthenon frieze has many examples of *embades*, in fact, most of the cavalrymen are wearing some sort of leg/foot protection (Figures 144 and 145). In Figure 144, both the first and last cavalrymen are wearing quite a substantial knee high boot as is the last cavalryman in Figure 145. There is also an example of boots on a vase by Polygnotos (Figure 146).

Figure 146
Stamnos by Polygnotos c.430-420 BC
(213387, Oxford, Ashmolean Museum, 1916.68)
©Ashmolean Museum, University of Oxford

There is very little written on the footwear of the ancient Greek cavalrymen. The ancient Greeks were used to wearing sandals but the horsemen would have needed more substantial footwear to cover their shins as well. The Thracian cavalrymen wore *embades* that "were made from fawnskin, and (in contrast to Greek and Roman styles) entirely covered the feet and part of the lower leg. The boots were laced up at the front, usually with a number of flaps hanging down from the top. These boots were ideal for the colder climate of the mountains, or for cavalry use" (Webber 2003, 539). "On Athenian reliefs these boots are very hard to detect, as the details of strap-work etc. were normally painted in; but if the toes are not clearly shown in a relief we can be sure it is because the subject is wearing boots" (Sekunda 1986, 18).

Greaves were worn by hoplites to protect their shins. These were "beautiful pieces of workmanship, shaped to the anatomy of the human leg and beaten to

thinness which allowed them to be simply snapped on" (Snodgrass 1999, 53). A good example of greaves, although from Southwest Italy in the fourth century, is shown on a Campanian bail amphora, where the greaves are clearly shown in white (Figure 147). It is interesting to note that the rider, although he is wearing greaves, is barefoot.

Figure 147
Bail amphora, Agrigento R200, Painter of New York GR 1000
(Schneider-Hermann 1996, Pl.130)
(Photo by kind permission of Museo Nazionale, Agrigento)

Greaves would have been hard for the rider to manage on a horse, so I think they would have opted for some type of *embades* to protect the shins. Having said that, the shins would not be so crucial for protection as the chest or neck, as the lower leg of the horseman would be in constant movement, so many of the cavalrymen might have opted for sandals with straps that wound about the leg and fastened at the knee. There are two examples of a horseman fastening his straps on the Parthenon Frieze: West VI 12 and XV 29 (Figures 109 and 110).

Xenophon then looks at the weapons that a cavalryman should carry. He recommends a sabre (*kopis, κοπις*) rather than a sword (*machaira, μάχαιρα*) because the "rider will find the cut with the Persian sabre more efficacious than the thrust with the sword" (Xen. *Eq.* 12.11). By *sabre*, Xenophon is referring to the Persian *kopis* "which seems to have been a shorter version of the more modern cavalry sabre" (Spence 1993, 54).

He also recommends the use of "two Persian javelins of cornel wood"; one to be hurled from a distance and one to be used in close combat (Xen. *Eq*. 12.12). These javelins were shorter and easier to handle than the "spear with a long shaft"

(Xen. *Eq.* 12.12). As has already been noted, in the *Cavalry Commander*, Xenophon believed that the cavalry should be well practised in the throwing of the javelin before going to battle (Xen. *Eq.Mag.*1.21). Xenophon would have remembered a skirmish in 396 BC, when he was fighting under King Agesilaus of Sparta. The Greek cavalry came upon an equal force of Persian cavalry. The Persians charged first and defeated the Greeks. In Xenophon's words "all of the Greeks who struck anyone broke their spears, while the barbarians [Persians] being armed with javelins of cornel-wood, speedily killed twelve men and two horses" (Xen. *Hell*. 3.4.14). He did not forget the lesson he learned that day.

He recommends throwing the javelin from as far away as possible, and then wheeling the horse around to retreat. He had already given advice as to the exercises that the cavalry should use to become proficient in the *Art of Horsemanship* (Xen. *Eq.* 8.10-12). He adds that discharging "the javelin with its point a little upwards...will give the weapon the strongest impetus and the furthest carrying power; it will be most likely to hit the mark" (Xen. *Eq*. 12.13).

He ends the book by saying that these "notes, instructions and exercises which we have set down are intended only for the private person" (Xen. *Eq*. 12.14). He alludes to the *Cavalry Commander* when he states that "what it belongs to a cavalry leader to know and to do has been set forth in another book" (Xen. *Eq*. 12.14).

In conclusion, it is not really clear what protection and weaponry was used by the Athenian cavalry. Xenophon in Book 12 has given us his wish list of the ideal equipment for the cavalryman and his horse. The literary, artistic and archaeological evidence that we have gives us a vast array of possible combinations of protection and weaponry for the Athenian cavalryman in the fifth and fourth centuries BC, but there is no one standard here. Also, it must be remembered that the wealthier cavalrymen could afford more and better equipment. It must also be remembered that the cavalrymen were riding large ponies/small horses that would not have been able to carry the extra weight of too much armour. As Spence states, "Although there is some uncertainty about the proportion of Athenian cavalry who wore protective dress, it seems that breastplate, helmet, and heavy boots were commonly used" (Spence 1993, 60).

4.6 Conclusion

The relationship between man and horse has evolved from the age of Xenophon to the modern day, as human needs have changed. The role of the horse has shifted through time from stock animal to a means of transport and, inevitably, to a useful tool of warfare. In addition, the kind of equipment humans have needed for the horse has changed. Saddles, stirrups and horseshoes were unavailable to ancient cavalrymen, but were not necessary for effective horsemanship. Riding bareback (or possibly with a pad) horse and rider were sensitive to each other's movements, and this could inspire the cavalrymen to become accomplished horsemen; just as bareback riding gave Xenophon a subtle appreciation of both the movement and the temperament of the horse. Ancient Greek cavalry horses, due to the dry environment in which they lived, were able to function without the need for horseshoes. This was not possible in the wetter environment of Northern Europe, where the horseshoe became a necessity in the Middle Ages when the war horse was expected to carry the considerable weight of the knight and his armour. It was at this time that saddles, stirrups and horseshoes came into full use and were essential.

It is significant that the ancient Greeks used the same word for horseman and cavalryman - ἱππεύς. Xenophon wrote the *Art of Horsemanship* for the ἱππεύς of his day. His treatise is a handbook containing the equestrian knowledge he acquired through his years in the cavalry both in Greece and Persia.

Xenophon's observations on the conformation of the horse, on the whole, still hold true. He emphasized that there is no one correct conformation, the conformation has to fit the horse's purpose. There was no reason to buy a horse with the conformation of a racehorse, when heading out to war. He knew those aspects of the horse's conformation that would result in the best cavalry mount. In the *Oeconomicus,* he advises the young cavalryman:

> *Seeing that you are forced to meddle with horses, don't you think that common-sense requires you to see that you are not ignorant of the business, the more so as the self-same horses are both good to use and profitable to sell?* (Xen. *Oec*. 3.9).

Unfortunately, we do not know the training regime that Xenophon would have espoused. Even though he recommends having the horse sent to a professional trainer, the kinds of methods used in Xenophon's time can be inferred from other

literature, both Greek and Roman. Most of these methods are similar to those used today.

Xenophon stresses the importance of a good groom. In an age when the groom would have been of a low status, Xenophon stands out in his championing of the work of the groom. The groom was responsible for the feeding of the horse, and Xenophon knew, as we know today, that the horse's feeding habits can tell a lot about the health of the horse. Xenophon knew that *an ounce of prevention is worth a pound of cure*:

> *It is the same with horses as with men: all distempers in the early stage are more easily cured than when they have become chronic and have been wrongly treated* (Xen. *Eq*. 4.2).

Part of Xenophon's definition of a *good horseman* is one who instructs his groom in the kind treatment of the horse. The grooming tools used in ancient Greece were similar to those used today. The tack - halters, bridles, bits and muzzles - have also remained similar. Of course modern grooming tools and tack are made from different materials, and, in the case of bits, are far less severe. If we take muzzles as an example, although changed in material but not design, they furnish additional information about the size of the ancient Greek cavalry horse. The measurements of the ancient muzzles cited (see section 4.5.5) are consistent with those used on large ponies or cobs. This fact can be taken as evidence to support the theory that the ancient Greek cavalryman rode a large pony.

In all aspects of the horse's care - the grooming, tacking up, leading - the groom can, with the proper management, produce a magnificent cavalry mount. With the wrong handling, the groom can ruin the horse. This is true today. After winning a three day event, a race, or a class in the show ring, the rider often defers all praise to the groom. They know, as did Xenophon, the importance of the groom in producing the horse.

It is unfortunate that so little evidence remains in the ancient Greek world of horse stables. However, we can glean some detail from Xenophon. He describes the physical position of the stable to the house (Xen. *Eq.* 4.1). From the acknowledged evidence we do have of ancient stables, which is far from ideal, it becomes clear that the area of the stable is consistent with that used today to house ponies or small

horses. This further supports my contention that the ancient Greek cavalryman rode a large pony.

Xenophon spends time describing the proper way to mount and ride the horse. The correct horsemanship is underlined by an understanding of the horse's movements. Remarkably, Xenophon was able to observe the correct movement of the horse with his naked eye. It took advancements in photography for modern man to understand this movement. Xenophon gave the horse and rider various exercises to bring them into harmony. When this was achieved, the cavalryman was able ride his mount into battle with confidence. On returning home, he was able to parade his horse before the citizens of Athens, giving his mount "a noble, fierce, and attractive appearance" (Xen. *Eq*. 10.5). In this, Xenophon touches on some of the *exercises above the ground*, which would require a highly competent rider and horse.

Finally, Xenophon discusses the best arms and armour for the cavalryman. This is Xenophon's ideal wish list, as there is little consistency in the types of protection and weaponry actually used by the Athenian cavalry. There seem to be two reasons for this. The first is that the ponies ridden by ancient Greek cavalrymen could not have carried much more weight than that of the rider. The second is that each cavalryman had to purchase his own armour, and many were not rich enough to do this.

The *Art of Horsemanship* is an immensely important work in the history of *classical equitation*. Unfortunately, it has not always been appreciated as such, and I think the following quote sums up why:

> *The subject of the horse generates experts in horsemanship, riding and gear who are novices and amateurs in history or ethnography, as well as historians and ethnographers who write of the horse, but are not horsemen* (Barclay 1980, xi).

Even though classical scholars, most of whom are not horsemen, have held the *Art of Horsemanship* in high esteem, there seems to be a reluctance to study it in any great detail. Perhaps, because they have not brought an equestrian perspective to bear on this work, they have consequently failed fully to appreciate the depth of Xenophon's equestrian knowledge. The history of *classical equitation* began with the theories of Simon and Xenophon, was lost in the Dark and Middle Ages, and re-emerged in the sixteenth century with the writings of Grisone, Pluvinel and la Guérinière. The principles of *classical equitation* set down by these men are still respected and

followed today. In my first chapter (see page 24), I referred to some critics who saw Xenophon as a *Jack of all trades, master of none*. In this chapter, through the lens of equestrian knowledge, Xenophon has emerged, without a doubt, as a master of all things equestrian.

Conclusion

The life of Xenophon (c. 430-354 BC) spans one of the most important periods of Greek history; the period from the Peloponnesian War (431-404 BC) to the Social War (357-355 BC.). He lived to see the end of Athenian hegemony, the birth and spectacular collapse of Spartan power in the fourth century, the rise and rapid decline of Thebes, and the emergence of Macedonian power. During this time, Xenophon wrote historical and biographical works (*Anabasis, Hellenica, Agesilaus*), ethical, political, technical and economic works (*Cyropaedia, Hiero*, the *Constitution of the Lacedaemonians, Ways and Means*, the *Art of Horsemanship* and the *Cavalry Commander*), and a group of *Socratic* works (*Apology, Memorabilia, Symposium,* and *Oeconomicus*).

This thesis has explored two of his works, the *Art of Horsemanship* and the *Cavalry Commander* in great detail. These two works are a testament to the body of knowledge that Xenophon built up throughout his life on horses, riding, and the organization and command of the cavalry.

Cavalry in Xenophon's lifetime had good combat potential. In mobility and flexibility, it was superior to the hoplite phalanx. The cavalry was used for reconnaissance, raids, security for hoplites on the march, pursuing a withdrawing enemy, and protecting its own army in retreat. During a battle, the cavalry was effective in harassing the enemy, in both their flanks and their rear, and could disrupt the cohesion of the phalanx with the missile fire of either javelins or spears.

In the *Cavalry Commander*, Xenophon made several suggestions to improve the Athenian cavalry. One was the inspection of all cavalry mounts on a regular basis; those failing the inspection were to be rejected as cavalry mounts. This was taken on board as Aristotle (*Ath.Pol*. 49.1) attested forty years later. For a horseman, this was an obvious regulation to champion, as cavalrymen could only be as good as the horses they rode. He also recommended the addition of infantry to fight along with the cavalry, which was adopted. His most radical recommendation of opening cavalry enlistment to mercenaries and resident aliens, while rejected, would have been a good idea. This could have been a source of competent horsemen for the cavalry.

The cavalry, however, remained subordinate and inferior to hoplites at this time. This was due to the strong hoplite ethos in Greece, but that was not the only

reason. As shown in this thesis, the horses used in cavalry during this period were ponies not horses. They were too small to intimidate effectively a hoplite phalanx. Xenophon understood this, but used his knowledge to try to mould the cavalry into as effective a force as possible. By training the horse and rider to the best of their ability using skill, motivation and leadership, he hoped to enhance the combat potential of the cavalry.

The first of my primary research questions was focused on the physical characteristics of the ancient Greek cavalry horses. In modern films on ancient Greek history, we are used to seeing the cavalry mounted on powerful, large horses, full of energy, ridden by a cavalryman looking majestic, muscled and competent, e.g. Colin Farrell in the 2004 film, *Alexander* (complete with saddle, girth and stirrups under his blanket) (Figure 146).

Figure 146
Colin Farrell as Alexander the Great
(Available at: http://osullivan60.blogspot.ie/2011/07/movies-i-love-alexander.html)
(Accessed: 10-02-13)

However, the evidence contradicts this image. From the skeletal evidence analysed in Chapter Two, the average size of the ancient Greek horse would be that classified as a pony averaging 13.1 hh (134 cm).

The best candidate for a horse resembling the ancient Greek cavalry horse from the six native Greek horses extant today is the *Skyros* pony. Today they average c. 10.2 hh. However, their diminutive size can be explained by their struggle to survive for the last two millennia on the impoverished island of Skyros. Their conformation is very similar to that of a horse, and, although they are not classified

as such, they are sometimes referred to as *miniature horses*. They are small and light of frame, with an attractive, fine head, not the large, coarse head associated with most ponies. Exceptionally hardy, they have tough feet that rarely require shoeing. They have an even temperament like that of a horse; most ponies are difficult, stubborn, and can be downright nasty in temperament. Many classical scholars agree that the majority of cavalry mounts would have been stallions. My own equestrian experience supports this as stallions can work well as a group, if handled correctly and with no mares present. Studying the horses on the Parthenon Frieze, all appear to be stallions (perhaps some geldings) with only one filly in evidence. As to their conformation, there are definite similarities to the *Skyrian* pony.

The size of the ancient Greek cavalry horse has also been discussed in relation to the remains of ancient stables. The four examples cited: Kassope (3m x 4m) (Hoepfner and Schwander 1994, 157); Olynthos (5m x 2.5m) (Robinson 1930, Fig.120); and the two at Colophon (2m x 2m and 2.6m x 3.4m) (Holland 1944, Pl.11), all are of the correct size recommended today for the stabling of ponies; 3m x 3m (Smith 1967, 17) or 2.7m x 2.7m (Teagasc 2010, 7).

The size of the pony is also reflected in ancient Greek horse muzzles, although they were often made from perishable materials (rope, leather or wicker) (Estallo 2011, 8), there are muzzles made from bronze that have survived. The bronze muzzle from fourth century Boeotia (Estallo 2011, 14) cited in Chapter Four (Figure 99), when measured, has the same bowl circumference as that needed for ponies / cobs today.

The lack of archaeological evidence for spurs during Xenophon's lifetime also points to the size of the ancient Greek cavalry horse. Spurs are attached by straps to the rider's ankle and are used to goad the horse by sticking the spur into the horse's side. The Greek cavalryman's legs would have hung well below the pony's belly, making the use of the spur impossible. If they were riding large horses, this would have been an effective way of making them move forward, but not riding ponies.

The second of my primary research questions focused on ancient Greek cavalry equipment. It is accepted as fact that the ancient Greek cavalry rode without the aid of saddles and stirrups. However, classical scholars continue to see this as a handicap to the effectiveness of the cavalry. A rider, who only knows how to ride bareback, learns to balance and adapt to the various gaits of the horse. Often, today,

riders remove their saddle or drop their stirrups in order to improve their riding skills. Saddles and stirrups are useful pieces of equipment, especially for the average rider, but they are not essential. It must also be remembered that all cavalrymen in ancient Greece and, indeed, the cavalries from all contemporary societies, would have ridden without the benefit of a saddle or stirrups, putting them all on an equal par.

Ancient riders may have used a pad on their horses' back to provide grip and to negate the irritation of horsehair on bare skin. This could be anything from a woven cloth to an animal hide. The hide from the *Rupicapra rupicapra*, or Chamois goat, often used by riders today, is more suitable than woven cloth. A woven cloth pad would be difficult to fix on the back of a horse without a girth or surcingle. And. in ancient times, before the invention of effective buckles and elastic straps, the girth or surcingle would have been extremely difficult to tighten in order to stabilize the pad. The result would have been the pad turning under the horse's belly and the rider falling off. With a chamois cloth, it only needs to be dampened, either with water or the sweat from the horse, to stick to the horse's back, giving the rider a more comfortable and secure ride.

The horseshoe was not invented until long after Xenophon's time. Classical scholars see this lack of horseshoes as a limiting factor to the effectiveness of ancient cavalry. However, the evidence points to just the opposite conclusion. The horses of ancient Greece lived in a climate conducive to the formation of extremely hardwearing hooves; hooves that needed virtually no care or attention. The modern mind-set of many classical scholars cannot imagine horses without shoes. The combination of the wet climate in Western / Northern Europe, the indoor stabling of horses (leading to wet conditions for their hooves), and the heavier horses carrying more weight, have all led to the necessity of horseshoes to prevent the horses from going lame. Horseshoes are being perceived as more and more of a problem today, as the horseshoe is only a device to allow the horse to be used, it does not correct problems with the hoof. In ancient Greece, where the climate was dry and the horses were normally out at pasture, the hoof was hard, naturally trimmed, and caused few problems. The horses they were fighting against would have also been unshod, so neither side had an advantage.

The lack of equipment has often been seen as a hindrance to high quality horsemanship. My contention is that far from hindering the horseman, the lack of

saddles and stirrups encouraged a more sensitive bond between man and horse. This is at the core of my third primary research question. Xenophon understood horses, especially their psychology. This understanding was lost during the Dark and Middle Ages, when horses were subjected to brute force to achieve results. Xenophon, however, knew that a horse responds best if the emphasis is put on rewards for good behaviour rather than punishment for bad. Using his experience as a horseman and a cavalryman, he wrote the *Art of Horsemanship* that would, if followed carefully, produce a proficient horseman, and, therefore, a good cavalryman. Much of this knowledge has proved to be as relevant today as it was in the fifth and fourth centuries BC.

He understood the conformation of the horse, and what type of conformation would make a good cavalry mount. He was able to understand the musculature of the horse through observation, and his ability to connect this with the movement of the horse, as we understand it today, is uncanny. The only part of the horse that he did not seem to understand well was the workings of the *frog* in the horse's hoof. This is understandable, as this is a hidden area of the horse that would need modern technology to truly understand its function.

Xenophon also understood the importance of the groom to the making of the horse. Just as today, he knew that the daily handling of the horse - the grooming, feeding, and tacking-up - was so important to the resultant temperament and health of the horse. He was able to correlate the effects of feeding with illness, such as colic, of wet stable flooring with poor hooves, of non-acceptance of the bit with hardened *bars* of the mouth, and of grooming the horse so as not to injure its sensitive areas.

All of the tenets of *classical equitation* were known to Xenophon, with the exception of the rider's position when going down a steep hill. Xenophon advised the rider to lean back, whereas today, the rider would lean forward to add weight to the horse's forehand. The exercises for the horse espoused by Xenophon are similar to those used today. He understood the *collection* of the horse; the tension between the bit and the rider's hands enabling the rider to get the best performance from the horse. His use of circles, the changing of leads at the canter, and teaching a horse to jump, are all similar to the methods used today. He also had an understanding of the movements of the horse that are termed today as *exercises above the ground*. These

are very precise and difficult to achieve, but Xenophon describes, and presumably could execute, the *pesade*.

Once it is accepted by classical scholars that the ancient Greek cavalry mount was a pony, study of the cavalry can progress in a direction that includes the positives and negatives of men riding such small animals. This is the focus of my fourth primary research question, perhaps the one that still requires further research, and the one most likely to yield significant re-evaluations of ancient Greek cavalry warfare. The fact that they had no saddles or stirrups can be dismissed. The fact that the ponies were unshod can also be taken as irrelevant. Cavalry riding ponies could never have been the dominant fighting force in Greece where the landscape was too poor to produce enough ponies let alone large horses; and the battleground was often unsuited to cavalry. They could never smash through a phalanx. However, cavalry was an efficient force within its metier; the harassing arm of a military force that could move quickly to protect or pursue. Xenophon knew this and endeavoured, by writing the *Cavalry Commander* and the *Art of Horsemanship*, to make the Athenian cavalry into an efficient and necessary branch of their armed forces. Indeed, shortly after Xenophon's death, cavalry warfare in ancient Greece entered a more prominent role with the tactical advances of the Macedonian army.

My personal research journey began with my own equestrian background, and my appreciation of Xenophon's *Art of Horsemanship*. It has taken me on a journey way beyond this one piece of Xenophon's oeuvre. I studied his life and work, the origin of the Greek horse, the Greek cavalry in Xenophon's *Cavalry Commander*, and the decline and revival of *classical equitation*. I am left with an even greater appreciation of the depth of Xenophon's equine knowledge, and profound admiration of his understanding of the physical and psychological workings of the horse.

Appendix I

References to Horses in the Works of Xenophon

(excluding the *Cavalry Commander* and the *Art of Horsemanship*)

Key	
Cyr.	***Cyropaedia***
An.	***Anabasis***
Hell.	***Hellenica***
Oec.	***Oeconomicus***
Ages.	***Agesilaus***
Mem.	***Memorabilia***
Hier.	***Hiero***
Symp.	***Symposium***
Lac.	***Constitution of the Lacedaemonians***
Vect.	***Ways and Means***
There was no mention of horses in the *Apology* or *On Hunting*.	
I am treating the *Art of Horsemanship* and the *Cavalry Commander* separately, as these works are primarily about horses.	

Table 1 - Number of References to Horses in the Works of Xenophon (excluding the *Cavalry Commander* and the *Art of Horsemanship*)											
	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	**Total**
Number of Horses/Men	18	23	22	0	3	0	0	0	0	0	66
Battle and Tactics	18	9	22	0	3	0	0	0	0	0	52
Impress and Intimidate	13	15	9	2	0	0	0	0	0	0	39
Horse and Man	13	0	0	11	0	5	2	2	0	0	33
Honour of Horsemen	14	4	5	2	2	1	0	0	0	0	28
Messengers and Scouts	10	6	6	0	1	0	0	0	0	0	23
Hunting and Exercise	13	4	2	2	1	0	0	0	0	0	22
Plunder/ Burning	11	4	4	0	0	0	0	0	0	0	19
Horses as Gifts/ Tribute	8	9	1	0	0	0	0	0	0	0	18
Fear of No Cavalry	6	7	2	0	1	0	0	0	0	1	17
Armour	10	2	2	0	0	0	0	0	0	0	14
Persians and Chariots	7	4	0	0	1	0	0	0	0	0	12
Pursuit / No Pursuit	4	4	4	0	0	0	0	0	0	0	12
Care of Horse	5	1	2	2	0	1	0	0	0	0	11
Fodder/Stables/Tack	4	5	2	0	0	0	0	0	0	0	11
Horse/Chariot Races	2	1	4	0	1	0	0	1	0	0	9
Leaders Riding	4	4	1	0	0	0	0	0	0	0	9
Surprise Attack	2	2	4	0	0	0	0	0	0	0	8
Cavalrymen	1	0	2	0	1	0	0	0	2	1	7
Position of Cavalry	4	1	0	0	0	0	0	0	0	0	5
Horse as Luxury	1	0	0	1	0	0	2	1	0	0	5
Parades	2	1	1	0	0	0	0	0	0	0	4
Breeding/ Types	1	2	0	1	0	0	0	0	0	0	4
Sacrifice	3	0	0	0	0	0	0	0	0	0	3
Cavalry on Plains	1	0	1	0	1	0	0	0	0	0	3
Prizes	1	0	1	0	1	0	0	0	0	0	3
Escape by Horse	0	1	2	0	0	0	0	0	0	0	3
Selling / Borrowing	0	1	1	0	0	0	0	0	1	0	3
Cavalry Aid / Rescue	0	0	2	0	0	0	0	0	0	0	2
Horse Tracking	0	2	0	0	0	0	0	0	0	0	2
Cavalry Escort	0	0	1	0	1	0	0	0	0	0	2
Pony Express	1	0	0	0	0	0	0	0	0	0	1
Total	177	112	103	21	17	7	4	4	3	2	450

Table 2 - References to Horses in the Works of Xenophon (excluding the *Cavalry Commander* and the *Art of Horsemanship*)											
	Cyr.	***An.***	***Hell.***	***Oec.***	***Ages.***	***Mem.***	***Hier.***	***Symp.***	***Lac.***	***Vect.***	***Total***
Number of Horses/Men	**18**	**23**	**22**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**66**
	1.4.17	1.2.4	1.1.34		2.9						
	2.1.5	1.5.13	1.2.16		2.28						
	2.1.6	1.6.2	1.3.5		3.4						
	2.4.18	1.7.11	1.3.10								
	3.1.33	1.8.5	1.4.21								
	3.2.3	1.8.6	2.4.25								
	4.5.13	1.8.21	3.1.4								
	4.6.2	2.2.7	3.2.2								
	5.2.1	2.5.17	3.2.15								
	5.2.30	3.3.1	3.4.10								
	5.3.24	3.3.6	4.1.3								
	5.4.32	3.3.20	4.2.16-17								
	6.1.26	3.4.2	5.2.14								
	6.1.46	3.4.5	5.2.40								
	6.2.7	3.5.12	5.3.1								
	6.3.12	4.4.21	6.1.8								
	7.4.16	6.2.16	6.1.19								
	8.3.15-18	6.5.7	6.5.23								
		7.4.19	6.5.30-31								
		7.5.22	7.1.20								
		7.6.25	7.2.4								
		7.6.27	7.4.29								
		7.8.15									

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Battle and Tactics	**18**	**9**	**22**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**52**
	1.4.19-20	1.1.18	2.4.26		1.15						
	1.4.23	3.3.10	2.4.32		1.31						
	1.6.6	3.4.4-5	3.4.12		2.2.3						
	2.1.9	4.3.12	4.3.4								
	2.4.16-17	4.3.17	4.5.13								
	3.3.57	4.3.20-21	4.5.16								
	3.3.64-65	6.5.19	4.6.11								
	4.2.7	6.5.24	4.7.6								
	5.3.35	7.3.44	5.2.41								
	6.2.18		5.3.1								
	6.3.34		5.3.3-4								
	6.4.17		5.4.10								
	7.1.19		5.4.44								
	7.1.22		6.7.6								
	7.1.27		7.1.20-21								
	7.1.28		7.1.31								
	7.1.29		7.2.4								
	7.1.31		7.2.14								
	7.1.48		7.4.14								
			7.4.16								
			7.4.26								
			7.5.14-15								
			7.5.24								

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Impress and Intimidate	**13**	**15**	**9**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**39**
	1.4.17	1.5.15	1.1.6	8.4							
	1.6.10	1.6.3	3.2.1	8.6							
	2.4.14	1.8.12	3.2.18								
	2.4.24	1.8.14	3.4.4								
	3.2.5	2.2.14	5.2.27								
	3.3.43	3.3.1	7.2.9								
	4.6.1	3.4.13	7.2.20								
	5.3.25	4.3.3	7.2.22-23								
	5.5.5-6	4.4.5	7.5.24								
	5.5.8	4.7.23-24									
	7.3.6	5.6.8									
	7.5.31	6.1.2									
	8.6.11	7.3.47									
		7.5.29									
		7.7.2									
Horse and Man	**13**	**0**	**0**	**11**	**0**	**5**	**2**	**2**	**0**	**0**	**33**
	1.1.2-3			1.8		2.3.7	6.15	2.10			
	2.1.29			2.11		2.6.7	10.2	4.3			
	2.2.26			3.8		4.2.25					
	4.3.13			3.9-10		4.3.10					
	4.3.15-16			3.11		4.4.5					
	4.3.17			5.5-6							
	4.3.21			5.20							
	4.5.54			9.15							
	5.1.14			10.7							
	5.1.15			11.3-6							
	5.2.17			20.13							
	7.5.62-64										
	8.3.26-33										

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Honour of Horsemen	**14**	**4**	**5**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**28**
	1.3.7	1.9.5	4.1.32	4.7	2.5	3.2.1-15					
	1.3.15	3.4.46-49	4.3.9	11.20	9.6						
	1.4.4	4.4.4	5.2.40								
	1.4.5	7.3.45	5.3.20								
	1.4.8		7.5.16								
	1.4.14										
	1.6.6										
	4.2.1										
	4.2.19										
	4.3.22-23										
	4.6.3										
	7.1.33-38										
	7.4.14										
	8.6.11										
Messengers and Scouts	**10**	**6**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**23**
	3.2.1	1.8.1	1.2.6		2.13						
	4.4.4	1.10.15	3.4.13								
	5.2.21	2.2.15	4.5.7								
	5.3.54	6.3.10	5.1.33								
	5.4.3	6.3.22	5.4.9								
	5.4.4	7.3.43	6.5.52								
	6.3.2										
	6.3.6										
	6.3.12										
	6.3.13										

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Hunting and Exercise	**13**	**4**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**22**
	1.3.14	1.2.7	3.4.16	11.15	1.25						
	1.4.5	1.5.2-3	6.4.10-11	11.17-18							
	1.4.7	1.9.6									
	1.4.8	5.6.15									
	1.4.16										
	1.4.17										
	2.4.16										
	2.4.20										
	5.1.15										
	6.2.4-5										
	8.1.34-35										
	8.1.38-39										
	8.8.12-13										
Plunder / Burning	**11**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**
	3.3.23	4.4.21	1.2.5								
	4.3.3	4.5.24	2.4.4								
	4.4.1	6.3.19	4.6.6								
	4.5.46-48	7.8.22	5.3.1								
	4.5.55										
	5.3.1										
	5.4.16										
	5.5.23										
	6.1.12										
	7.4.11										
	7.4.16										

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Horses as Gifts/ Tribute	**8**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**
	1.3.6-7	1.2.27									
	1.3.14	4.5.34	4.1.39								
	1.4.25	4.5.35									
	5.4.29	4.7.27									
	5.4.32	7.2.2									
	6.1.26	7.2.33									
	8.2.8	7.3.26									
	8.4.24	7.3.32									
		7.8.6									
Fear of No Cavalry	6	7	2	0	1	0	0	0	0	1	17
	4.2.40	2.4.6	3.5.23		1.23-24					4.47	
	4.3.5	3.1.2	7.5.10								
	4.3.8-10	3.2.18-19									
	4.3.14	3.3.16									
	4.5.9-10	3.3.19-20									
	4.5.24	6.3.6-7									
		7.6.26									

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Armour	**10**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**
	1.4.18	1.8.3	7.5.20								
	4.5.58	1.8.9	7.5.22								
	6.1.29										
	6.1.51										
	6.2.17										
	6.4.1										
	6.4.2										
	6.4.16										
	7.1.2										
	7.1.46										
Persians and Chariots	**7**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**12**
	3.3.60	1.7.10-12			1.28						
	5.4.8	1.7.20									
	6.1.27-31	1.8.10									
	6.1.50	1.8.20									
	6.2.7-8										
	6.3.21										
	7.1.47										
Pursuit / No Pursuit	**4**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**
	4.1.11	3.4.4	1.2.16								
	5.4.7	4.3.22-23	5.3.2								
	5.4.16	6.5.28	5.4.54								
	5.5.20	6.6.31	7.5.25								

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Care of Horse	**5**	**1**	**2**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**11**
	4.5.4	4.5.36	2.4.6	12.20		4.1.3					
	6.3.21		7.5.15	13.7							
	8.1.9										
	8.1.38										
	8.6.12										
Fodder/ Stables/Tack	**4**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**
	3.3.27	1.9.27	7.2.10								
	6.1.14	3.4.31	7.2.21								
	6.2.32	3.4.35									
	8.8.19	7.2.21									
		7.7.6									
Horse/Chariot Races	**2**	**1**	**4**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**9**
	8.3.25	4.8.28	1.2.1		9.6			1.2			
	8.3.33		3.2.5								
			3.2.21								
			7.4.29								
Leaders Riding	**4**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**
	4.1.7	6.5.13	5.2.29								
	5.3.55	7.3.36									
	5.3.59	7.3.39									
	7.1.18	7.7.11									
Surprise Attack	**2**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**
	5.4.4	1.5.12	3.4.21-22								
	5.4.15-16	2.5.32-33	4.1.17-19								
			4.8.18								
			5.4.39								

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Cavalrymen	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**7**
	4.5.41		5.2.21		2.25				10.2	2.5	
			6.4.10-12						10.4		
Position of Cavalry	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
	4.2.27	3.4.25									
	5.3.41-42										
	5.3.57										
	6.3.2										
Horse as Luxury	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**5**
	1.3.3			2.6			2.2	9.7			
							9.11				
Parades	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
	8.3.10	1.2.16-18	6.4.31								
	8.3.15-18										
Breeding/ Types	**1**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
	1.3.3	4.5.36		18.3-4							
		5.3.11									
Sacrifice	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
	7.3.7										
	8.3.12										
	8.3.24										
Cavalry on Plains	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**
	8.5.23		7.2.12		1.29						

	Cyr.	*An.*	*Hell.*	*Oec.*	*Ages.*	*Mem.*	*Hier.*	*Symp.*	*Lac.*	*Vect.*	*Total*
Prizes	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**
	8.3.23		4.2.5		1.25						
Escape by Horse	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
		1.9.31	1.1.10								
			6.4.32								
Selling / Borrowing	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**
		7.8.2	3.4.17						6.3		
Cavalry Aid / Rescue	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
			6.5.14								
			7.5.15								
Horse Tracking	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
		1.6.1									
		1.7.17									
Cavalry Escort	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**
			3.3.10		2.13						
Pony Express	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
	8.6.17-18										
Total	**177**	**112**	**103**	**21**	**17**	**7**	**4**	**4**	**3**	**2**	**450**

Appendix II
The Surviving First Chapter
of Simon's Work

If one desires to know this subject well, it seems to me that the shape of the horse is the first thing.

To begin with the country of birth, you must know that, so far as Greece is concerned, Thessaly is the best.

As to size there are three accepted terms, - large, small, and good-sized, or, if you like, moderate; and it is obvious which size each of the terms will fit. But moderate size is best in every animal.

I cannot tell a good horse from his colour; however, it seems to me that a mane which is of the same colour throughout and of fine hair is generally the best, and besides it is most unlike that of the ass and the mule.

A point second to none in consideration is that the horse must be short above and long below, so that the distance shall be short from the withers to the haunches, but as long as possible from the hind legs to the fore; next, that he must be sound-footed. A good hoof for a horse is the light and handy sort, neither broad nor too high, and having little flesh but thick horn. The sound is also a sign of the good hoof; for the hollow sort has more of the cymbal ring than the full and fleshy.

Let him have supple pasterns and no stiffness of the fetlock joints; his hanks should be shaggy, with the parts about the back sinew and the shank sinewy and with as little flesh as possible up to the knee. Above, however, the leg should be fleshier and stouter. Let the space between the two legs be as wide as possible, for then he can throw out his legs without interfering.

His chest should be neither too narrow nor too broad, and his shoulder blade very large and very broad indeed.

Let the neck be slender near the jaw, supple, flattened back to the rear, but bending down to the front from the slenderest part.

The head should be advanced, and the neck not short. Let him have a high poll, and a head flat-nosed but light; the nostrils should be very large, the jaws slender and a match for each other, the eyes large, very prominent and bright, the ears and teeth small, the jaw as small as possible, and the part between the neck and the jaw very slender.

The withers and seat should be very large, the sides very broad and deep, and the loins supple (you can tell that the loin is supple if he does not stand on both his hind legs at the same time, but is constantly changing from one to the other), the haunch very large and broad, the flank very small.

The gaskins should not be very fleshy; and he should have small stones.

Between the hams he should not be prominent nor full, but only rather swelling a little, and the breech should be very small and well out of sight.

Let him hold his tail high, and have it thick at the back and long.

This for the shape of the horse. He is by far the best that has all these points; and second is he that has the majority of them, including those which are of the most service.

The colt begins to be driven two years after birth. About this time he sheds his first teeth, when he is thirty months old; the second a year after, the last in another year or in less time; and he is at his prime for swiftness and courage at six years old (Morgan 1894, 107-110 - from the primary manuscript in Emmanuel College, Cambridge).

(A Greek edition with German translation and apparatus is to be found in Widdra 2007, 171-173).

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